

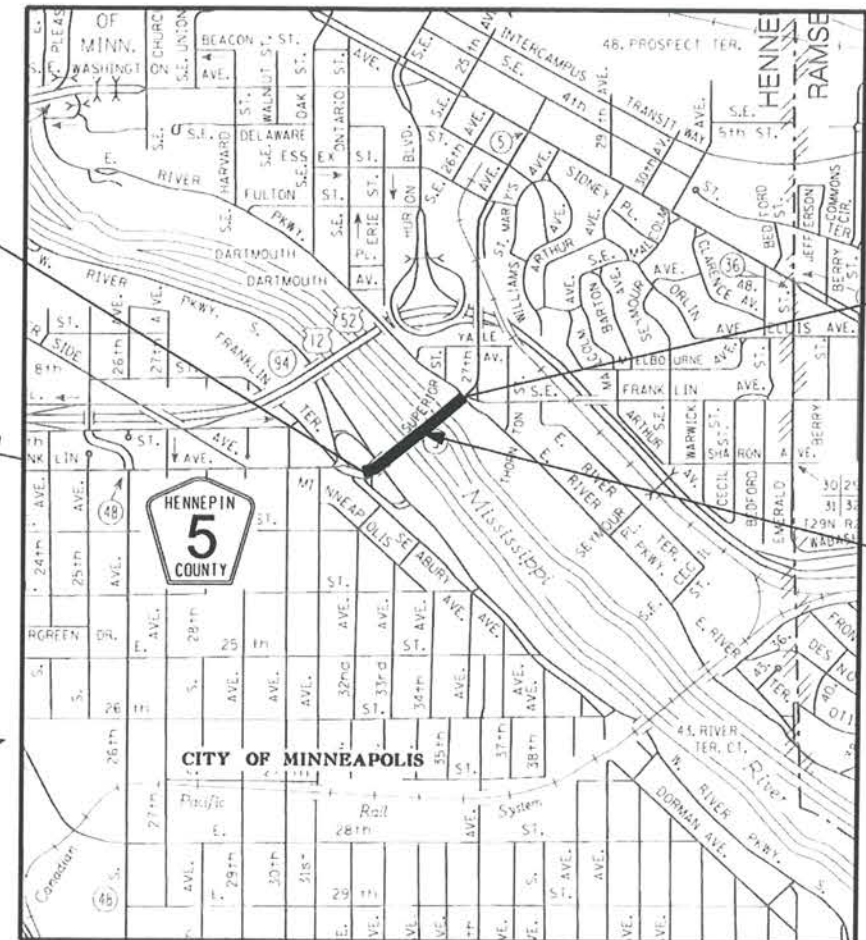
MINNESOTA DEPARTMENT OF TRANSPORTATION
 COUNTY OF HENNEPIN
 DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN FOR BRIDGE NO. 2441 REHABILITATION, BRIDGE APPROACH PANEL,
 BITUMINOUS SURFACING, CONCRETE WALK, CURB AND GUTTER, LIGHTING, AND DRAINAGE
 COUNTY STATE AID HIGHWAY NO. 05 (FRANKLIN AVE.)

STATE PROJECT NO. 027-605-029
 FROM: WEST RIVER PKWY, TO: EAST RIVER PKWY AND 27TH AVE. SE,
 OVER: WEST RIVER PKWY & MISSISSIPPI RIVER, IN THE CITY OF: MINNEAPOLIS

GROSS LENGTH	1288.03 FEET	0.244 MILES
BRIDGE LENGTH	1049.94 FEET	0.199 MILES
EXCEPTION LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	238.09 FEET	0.045 MILES

NOTE: BRIDGE LENGTH INCLUDES JUMP SPANS ON EITHER END OF BRIDGE



I HEREBY CERTIFY THAT THIS AS-BUILT 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.
 SIGNED *Travis F. Konda* DATE 09 MAY 17
 LICENSED PROFESSIONAL ENGINEER
 NAME: TRAVIS F. KONDA LIC NO. 48851

MINN. PROJ. NO. STPM 2714 (124)

GOVERNING SPECIFICATIONS
 THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", THE 2014 EDITION OF THE "MATERIALS LAB SUPPLEMENTAL SPECIFICATIONS FOR CONSTRUCTION" AND ALL SUPPLEMENTS THERETO, SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-4	STATEMENT OF ESTIMATED QUANTITIES
5	EARTHWORK SUMMARY AND STANDARD PLATES
6-7	MISCELLANEOUS TABULATIONS
8	TYPICAL SECTION
9-22	STANDARD PLANS
23-24	INPLACE UTILITY TABULATIONS
25-26	INPLACE UTILITY PLAN
27-28	REMOVAL PLAN
29	ALIGNMENT PLAN AND TABULATION
30-31	CONSTRUCTION PLAN
32-33	CONSTRUCTION PLAN DETAILS
34	PROFILE
35-36	TEMPORARY EROSION CONTROL PLAN
37	SWPPP NOTES
38	DRAINAGE PLAN
39	DRAINAGE PROFILES AND TABULATION
40	PLANTING PLAN/TURF ESTABLISHMENT
41-42	STAGING AREA
SS1 - SS4	PERMANENT SIGNING AND STRIPING PLAN
SL1 - SL7	STREET AND NAVIGATION LIGHTING PLAN
TC1 - TC20	TRAFFIC CONTROL PLAN
B1 - B116,	BRIDGE PLANS
B116A, B116B	
B117-B163	
B163A	
B164-B176	

THIS PLAN CONTAINS 252 SHEETS

APPROVED	<i>James J. Gember</i>	6/18/14
HENNEPIN COUNTY DIRECTOR, TRANSPORTATION DEPARTMENT AND COUNTY ENGINEER		DATE
RECOMMENDED FOR APPROVAL	<i>D. J. K. [Signature]</i>	6/18/14
HENNEPIN COUNTY DESIGN DIVISION ENGINEER		DATE
APPROVED	<i>Steve Koth</i>	6/18/14
CITY ENGINEER, PUBLIC WORKS DIRECTOR CITY OF MINNEAPOLIS		DATE
	<i>D. J. K. [Signature]</i>	6/20/14
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE-AID AND FEDERAL AID RULES/POLICY		DATE
	<i>D. J. K. [Signature]</i>	6/20/14
STATE AID ENGINEER: APPROVED FOR STATE AID AND FEDERAL AID FUNDING		DATE
RECOMMENDED FOR APPROVAL	<i>Nancy Danenberg</i>	8/14/14
STATE BRIDGE ENGINEER		DATE

PLAN SYMBOLS

COUNTY LINE	---
SECTION LINE	---
QUARTER LINE	---
SIXTEENTH LINE	---
NEW RIGHT OF WAY LINE	---
PRESENT RIGHT OF WAY LINE	---
PROPERTY LINE (EXCEPT LAND LINES)	---
VACATED PLATTED PROPERTY	---
CORPORATE OR CITY LIMITS	---
TRUNK HIGHWAY CENTER LINE	---
RETAINING WALL	---
RAILROAD	---
WATER LINE	---
WEAVER CORNER	---
DRAINAGE DITCH	---
DRAIN TILE	---
CULVERT	---
GUARD RAIL	---
BARBED WIRE FENCE	---
CHAIN LINK FENCE	---
STONE WALL OR FENCE	---
HEDGE	---
RAILROAD CROSSING SIGN	---
MARSH	---
WOODS	---
ORCHARD	---
BRUSH	---
NURSERY	---
CATCH BASIN	---
FIRE HYDRANT	---
OVERPASS (HIGHWAY OVER)	---
UNDERPASS (HIGHWAY UNDER)	---
BRIDGE	---
BUILDING	---
IRON PIPE OR ROD	---
MONUMENT (STONE, CONCRETE OR METAL)	---
SMALL SIGN	---
TEMP EASEMENT	---
LIGHTING EASEMENT	---
PERMANENT EASEMENT	---
DRAINAGE EASEMENT	---

UTILITY SYMBOLS

POWER POLE	---
TELEPHONE POLE	---
ANCHOR	---
STEEL TOWER	---
STREET LIGHT	---
TELEVISION CABLE RISER	---
WATER MAIN	---
CONDUIT	---
TELEPHONE CABLE IN CONDUIT	---
ELECTRIC CABLE IN CONDUIT	---
TELEPHONE MANHOLE	---
ELECTRIC MANHOLE	---
BURIED TELEPHONE CABLE	---
BURIED ELECTRIC CABLE	---
STORM SEWER	---
SEWER MANHOLE	---
SANITARY SEWER	---
GAS MAIN	---
TELEVISION CABLE	---

SECTION SYMBOLS

SECTION 5	---
SECTION 6	---
SECTION 7	---
SECTION 8	---
SECTION 9	---
SECTION 10	---
SECTION 11	---
SECTION 12	---
SECTION 13	---

PROJECT LOCATION
 HENNEPIN COUNTY
 MNDOT METRO DISTRICT

SCALES

PLAN	VARIES
PROFILE	1" = 100' HORIZ. 1" = 10' VERT.
DRAIN PROFILE	1" = 20' HORIZ. 1" = 10' VERT.
INDEX MAP	1" = 2000'

DESIGN DESIGNATION

R 20	1,050,000
ADT (CURRENT YEAR) 2011	9,900
ADT (DESIGN YEAR) 2035	13,200
DHV (DESIGN HR. VOL.)	-
D (DIRECTIONAL DISTR.)	-
T (HEAVY COMMERCIAL)	3.6%
SOIL FACTOR	-
PAVEMENT DESIGN	10 TON
DESIGN SPEED	35 MPH
BASED ON	STOPPING SIGHT DISTANCE
HEIGHT OF EYE	3.5'
HEIGHT OF OBJECT	2.0'
FUNCTIONAL CLASSIFICATION	A-MINOR ARTERIAL RELIEVER
NO. OF TRAFFIC LANES	2-11' (WEST END); 4-11' (EAST END)
NO. OF PARKING LANES	0
SHOULDER WIDTH	2' (WEST END); 1' (EAST END)

DESIGN CRITERIA FOR BICYCLES NOT MET AT TRAIL ON NORTH SIDE OF FRANKLIN AVENUE (STA 8+63, 26' LT TO STA 8+93, 45' LT) THEREFORE: STOP CONDITION.

I HEREBY CERTIFY THAT SHEETS 1-39, 41-42, SS1-SS4 WERE 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.
Karen L. Allen
 KAREN L. ALLEN, PROFESSIONAL ENGINEER
 HNTB CORPORATION
 LICENSE NO. 16119 DATE 6/17/2014

TITLE SHEET SHEET 01 / 42
 C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

STATEMENT OF ESTIMATED QUANTITIES

NOTE	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	(P)	UNIT	PROJECT TOTAL	FEDERAL PARTICIPATING		FEDERAL NON-PARTICIPATING
								FEDERAL & STATE BRIDGE BOND ELIGIBLE S.P. 027-605-029	FEDERAL ELIGIBLE S.P. 027-605-029	STATE AID ELIGIBLE S.P. 027-605-029
							EST.	EST.	EST.	
			2021.501	MOBILIZATION		LUMP SUM	1	0.89	0.06	0.05
①			2031.501	FIELD OFFICE TYPE D		EACH	1	0.89	0.06	0.05
			2041.610	TRAINEES		hour	3,600		3,600	
①			2101.511	CLEARING AND GRUBBING		LUMP SUM	1			1
	N	TC2	2102.502	PAVEMENT MARKING REMOVAL		LIN FT	5,455			5,455
	A	6	2104.501	REMOVE PIPE SEWERS		LIN FT	85			85
	A	6	2104.501	REMOVE CURB & GUTTER		LIN FT	803			803
	T	SL1	2104.501	REMOVE ASBESTOS-BONDED PIPES		LIN FT	96			96
	A	6	2104.503	REMOVE BITUMINOUS WALK		SQ FT	238			238
	A	6	2104.503	REMOVE CONCRETE SIDEWALK		SQ FT	2,414			2,414
	A	6	2104.503	REMOVE CONCRETE MEDIAN		SQ FT	753			753
	A	6	2104.505	REMOVE PAVEMENT	(P)	SQ YD	845			845
	T	SL1	2104.509	REMOVE LUMINAIRE		EACH	10			10
	A	6	2104.509	REMOVE MANHOLE OR CATCH BASIN		EACH	2			2
	A	6	2104.509	REMOVE SIGN TYPE C		EACH	8			8
	A	6	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	156			156
	A	6	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	633			633
	S	SS2	2104.523	SALVAGE HISTORIC PLAQUE		EACH	1			1
	T	SL1	2104.523	SALVAGE LIGHT STANDARD		EACH	12			12
	T	SL1	2104.523	SALVAGE LUMINAIRE		EACH	2			2
	Q	SS2	2104.523	SALVAGE SIGN TYPE C		EACH	10			10
	S	SS2	2104.523	SALVAGE SIGN TYPE SPECIAL		EACH	1			1
		5	2105.501	COMMON EXCAVATION	(P)	CU YD	411			411
		5	2112.604	SUBGRADE PREPARATION	(P)	SQ YD	630			630
	C	6	2211.503	AGGREGATE BASE (CV) CLASS 5	(P)	CU YD	212			212
	C	6	2232.501	MILL BITUMINOUS SURFACE (2.0")		SQ YD	730			730
	B	6	2301.541	INTEGRANT CURB DESIGN V6		LIN FT	6			6
	C	6	2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	99			99
	C	6	2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,F)		TON	119			119
	C	6	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)		TON	90			90
		B3	2401.501	STRUCTURAL CONCRETE (3Y43)	(P)	CU YD	315	315		
		B3	2401.501	STRUCTURAL CONCRETE (3Y46)	(P)	CU YD	67	67		
		B3	2401.513	TYPE MOD P-2 RAILING CONCRETE (3Y46)		LIN FT	1,424 1,440	1,427 1,440		
		B3	2401.541	REINFORCEMENT BARS (EPOXY COATED)		POUND	107,286 107,582	107,286 107,582		
		B3	2401.541	REINFORCEMENT BARS (STAINLESS STEEL)	(P)	POUND	610	610		
		B3	2401.601	STRUCTURE EXCAVATION		LUMP SUM	1	1		
		B3	2401.601	FOUNDATION PREPARATION PIER 2		LUMP SUM	1	1		
		B3	2401.601	FOUNDATION PREPARATION PIER 3		LUMP SUM	1	1		
		B3	2402.521	STRUCTURAL STEEL (3310)	(P)	POUND	6,110 8,850	6,110 8,850		
		B3	2402.521	STRUCTURAL STEEL (3361)	(P)	POUND	17,005 16,978	17,005 16,978		
	M	39	2402.546	FLOOR DRAIN TYPE B701		EACH	4	4		
		B3	2402.584	STRUCTURAL TUBE RAILING DESIGN T-1	(P)	LIN FT	2,205 2,221	2,205 2,221		
		B3	2402.591	EXPANSION JOINT DEVICES TYPE 4	(P)	LIN FT	425	425		
		B3	2402.601	DRAINAGE SYSTEM BRIDGE DECK		LUMP SUM	1	1		
		B3	2404.618	PREMIXED POLYMER CONCRETE (PPC) WEARING COURSE	(P)	SQ FT	70,199	70,199		
		B3	2405.601	PRECAST ELEMENT ERECTION EQUIPMENT		LUMP SUM	1	1		
		B3	2405.601	PRECAST DECK PANELS		LUMP SUM	1	1		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 1	(P)	EACH	1	1		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 2	(P)	EACH	1	1		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 3	(P)	EACH	1	1		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 4	(P)	EACH	19	19		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 5	(P)	EACH	1	1		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 6	(P)	EACH	1	1		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 7	(P)	EACH	1	1		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 8	(P)	EACH	3	3		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 9	(P)	EACH	1	1		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 10	(P)	EACH	1	1		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 11	(P)	EACH	1	1		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 12	(P)	EACH	1	1		

NOTES
 ① SEE SPECIAL PROVISIONS.
 (P) PLAN QUANTITY



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Karen L. Allen
 KAREN L. ALLEN, PROFESSIONAL ENGINEER
 16119 LICENSE NO.
 8/14/2014 DATE

DESIGN BY: NPE
 CAD BY: NTT
 CHECKED BY: KLA
 LAST REVISION: 05/23/2016

STATEMENT OF ESTIMATED QUANTITIES (1 OF 4)
 C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 02R3
 42

STATEMENT OF ESTIMATED QUANTITIES

NOTE	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	(P)	UNIT	PROJECT TOTAL	FEDERAL PARTICIPATING		FEDERAL NON-PARTICIPATING
								FEDERAL & STATE BRIDGE BOND ELIGIBLE S.P. 027-605-029	FEDERAL ELIGIBLE S.P. 027-605-029	STATE AID ELIGIBLE S.P. 027-605-029
								EST.	EST.	EST.
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 13	(P)	EACH	2	2		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 14	(P)	EACH	2	2		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 15	(P)	EACH	4	4		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 16	(P)	EACH	2	2		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 17	(P)	EACH	4	4		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 18	(P)	EACH	2	2		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 19	(P)	EACH	2	2		
		B3	2405.602	PRECAST CONCRETE SUBSTRUCTURE CAP BEAM, TYPE 20	(P)	EACH	1	1		
		B3	2405.603	PRECAST CONCRETE ORNAMENTAL RAILING	(P)	LIN FT	2,117 2,122	2,117 2,122		
		B3	2405.603	PRECAST TYPE MODIFIED P-2 RAILING CONCRETE (3Y46)		LIN FT	764	764		
		B3	2406.553	BRIDGE APPROACH PANELS	(P)	SQ YD	253	253		
		B3	2433.502	REMOVE CONCRETE		CU YD	1,474		1,474	
		B3	2433.505	REMOVE CONCRETE BRIDGE DECK	(P)	SQ FT	69,897		69,897	
		B3	2433.506	REMOVE CONCRETE SIDEWALK	(P)	LIN FT	2,102		2,102	
		B3	2433.506	REMOVE BRIDGE RAIL	(P)	LIN FT	2,291		2,291	
		B3	2433.516	ANCHORAGES TYPE 1	(P)	EACH	129	129		
		B3	2433.516	ANCHORAGES TYPE 2		EACH	2,562	2,562		
		B3	2433.516	ANCHORAGES TYPE 3	(P)	EACH	12	12		
		B3	2433.516	ANCHORAGES TYPE 4	(P)	EACH	464	464		
		B3	2433.601	MOCK-UPS - CONCRETE SURFACE REPAIRS		LUMP SUM	1	1		
		B3	2433.601	MOCK-UPS - EMBEDDED GALVANIC ANODES		LUMP SUM	1	1		
		B3	2433.601	MOCK-UPS - ROUT AND SEAL CRACK REPAIR		LUMP SUM	1	1		
		B3	2433.601	MOCK-UPS - CONCRETE COATING		LUMP SUM	1	1		
		B3	2433.601	TEMPORARY STRUCTURAL SUPPORT		LUMP SUM	1			1
		B3	2433.602	CONCRETE SURFACE REPAIR TYPE E		EACH	2	2		
		B3	2433.603	CONCRETE SURFACE REPAIR TYPE F		LIN FT	4,238	4,238		
		B3	2433.603	CONCRETE SURFACE REPAIR TYPE L		LIN FT	4,221	4,221		
		B3	2433.603	ARCHITECTURAL CONCRETE TEXTURE (ARCH CORNER BOARD FORM)		LIN FT	259	259		
		B3	2433.603	ARCHITECTURAL CONCRETE TEXTURE (ANODE BOARD FORM)		LIN FT	191	191		
		B3	2433.603	ROUT AND SEAL CRACKS		LIN FT	2,642	2,642		
		B3	2433.618	CONCRETE SURFACE REPAIR TYPE A		SQ FT	6,000	6,000		
		B3	2433.618	CONCRETE SURFACE REPAIR TYPE B		SQ FT	1,448	1,448		
		B3	2433.618	CONCRETE SURFACE REPAIR TYPE C		SQ FT	759	759		
		B3	2433.618	CONCRETE SURFACE REPAIR TYPE D		SQ FT	631	631		
		B3	2433.618	CONCRETE SURFACE REPAIR TYPE G		SQ FT	5,882	5,882		
		B3	2433.618	CONCRETE SURFACE REPAIR TYPE H		SQ FT	544	544		
		B3	2433.618	CONCRETE SURFACE REPAIR TYPE J		SQ FT	292	292		
		B3	2433.618	CONCRETE SURFACE REPAIR TYPE K		SQ FT	292	292		
		B3	2433.618	CONCRETE SURFACE REPAIR TYPE M		SQ FT	296	296		
		B3	2433.618	CONCRETE SURFACE REPAIR TYPE N		SQ FT	1,178	1,178		
		B3	2433.618	ARCHITECTURAL CONCRETE TEXTURE (BOARD FORM)		SQ FT	1,311	1,311		
		B3	2433.618	HISTORIC CONCRETE SURFACE TREATMENT	(P)	SQ FT	329,731	329,731		
	M	39	2503.511	6" DUCTILE IRON PIPE SEWER		LIN FT	64	64		
	M	39	2503.541	15" RC PIPE SEWER DES 3006		LIN FT	137 152	120 135		17
		B3	2504.601	WATERMAIN HANGER SYSTEM		LUMP SUM	1			1
	M	39	2506.501	CONST DRAINAGE STRUCTURE DESIGN F		LIN FT	19 9	19 9		
	M	39	2506.501	CONST DRAINAGE STRUCTURE DESIGN 66-4020		LIN FT	11	11		
	D	7	2506.516	CASTING ASSEMBLY		EACH	7	7		
	I,K	23,24	2506.522	ADJUST FRAME AND RING CASTING		EACH	2			2
		B101	2506.602	PLUG & ABANDON DRAINAGE STRUCTURE		EACH	1			1
	M	39	2506.602	CONNECT INTO EXISTING MANHOLE		EACH	1			1
	B	6	2521.501	4" CONCRETE WALK		SQ FT	3,912			3,912
	B	6	2521.501	6" CONCRETE WALK		SQ FT	906			906
	B	6	2531.501	CONCRETE CURB & GUTTER DESIGN SPECIAL		LIN FT	182			182
	B	6	2531.501	CONCRETE CURB & GUTTER DESIGN B612		LIN FT	264			264
	B	6	2531.501	CONCRETE CURB & GUTTER DESIGN B624		LIN FT	234			234
	B	6	2531.501	CONCRETE CURB & GUTTER DESIGN B660		LIN FT	44			44
	B	6	2531.618	TRUNCATED DOMES		SQ FT	168			168

(P) PLAN QUANTITY



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Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER
 LICENSE NO. **16119** DATE **8/14/2014**

DESIGN BY: NPE
 CAD BY: NTT
 CHECKED BY: KLA
 LAST REVISION: 03/10/2016

STATEMENT OF ESTIMATED QUANTITIES (2 OF 4)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 03R2
 42

STATEMENT OF ESTIMATED QUANTITIES

NOTE	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	(P)	UNIT	PROJECT TOTAL	FEDERAL PARTICIPATING		FEDERAL NON-PARTICIPATING
								FEDERAL & STATE BRIDGE BOND ELIGIBLE S.P. 027-605-029	FEDERAL ELIGIBLE S.P. 027-605-029	STATE AID ELIGIBLE S.P. 027-605-029
								EST.	EST.	EST.
	N	TC2	2533.507	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337		LIN FT	230			230
③	N	TC2	2533.603	RELOCATE PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337 - SPECIAL		LIN FT	65			65
③	N	TC2	2533.603	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337 - SPECIAL		LIN FT	185			185
③	N	TC2	2533.603	RELOCATE PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337 - ANCHORED - SPECIAL		LIN FT	1,260			1,260
③	N	TC2	2533.603	PORTABLE PRECAST CONCRETE BARRIER DESIGN 8337 - ANCHORED - SPECIAL		LIN FT	3,505			3,505
	S	SS2	2540.602	INSTALL HISTORIC PLAQUE		EACH	1			1
		B151	2545.509	CONDUIT SYSTEM (SIGNALS)		LUMP SUM	1	1		
	V	SL1	2545.511	LIGHTING UNIT TYPE SPECIAL 1		EACH	2	2		
	V	SL1	2545.511	LIGHTING UNIT TYPE SPECIAL 2		EACH	26			26
	U	SL1	2545.515	LIGHT FOUNDATION DESIGN SPECIAL		EACH	2			2
④	U	SL1	2545.521	2" RIGID STEEL CONDUIT		LIN FT	2,938 2,920	2,597		103 341 323
	U	SL1	2545.523	2" NON-METALLIC CONDUIT		LIN FT	150	150		
	V	SL1	2545.531	UNDERGROUND WIRE 1 COND NO 8		LIN FT	15,500	15,500		
	W	SL1	2545.541	SERVICE CABINET -TYPE A (MOD)		LUMP SUM	1			1
		B3	2545.553	HANDHOLE		EACH	4			4
	W	SL1	2545.601	TEMPORARY LIGHTING SYSTEM		LUMP SUM	1	1		
	W	SL1	2545.601	ELECTRICAL LIGHTING SYSTEM (NAVIGATION)		LUMP SUM	1			1
	U	SL1	2545.603	1" LIQUIDTIGHT FLEXIBLE CONDUIT		LIN FT	100	100		
	U	SL1	2550.602	JUNCTION BOX (SPECIAL)		EACH	26	26		
	N	TC2	2554.615	IMPACT ATTENUATOR		AMBY	5			5
	N	TC2	2557.517	VEHICULAR GATE-DOUBLE		EACH	2			2
①			2557.603	TEMPORARY FENCE DESIGN SPECIAL		LIN FT	300			300
	N	TC2	2557.603	CHAIN LINK SAFETY FENCE		LIN FT	610			610
	N	TC2	2557.603	RELOCATE TEMPORARY FENCE		LIN FT	145			145
②			2563.601	TRAFFIC CONTROL		LUMP SUM	1			1
	N	TC2	2563.602	MEDIAN BARRIER DELINEATOR		EACH	157			157
	R	SS2	2564.531	SIGN PANELS TYPE C		SQ FT	61			61
	Q	SS2	2564.537	INSTALL SIGN TYPE C		EACH	14			14
	Z	SS2	2564.552	HAZARD MARKER X4-2		EACH	6			6
	Q	SS2	2564.602	INSTALL SIGN COLLAR		EACH	6			4
	S	SS2	2564.602	INSTALL SIGN TYPE SPECIAL		EACH	1			1
	U	SL1	2565.602	SPECIAL HANDHOLE		EACH	2			2
②			2571.502	DECIDUOUS TREE 1.5" CAL CONT		TREE	5			5
②			2571.502	DECIDUOUS TREE 2.5" CAL CONT		TREE	5			5
②	Y	7	2571.602	TREE PROTECTION TYPE 1		LIN FT	1,517			1,517
②	Y	7	2571.602	TREE PROTECTION TYPE 2		LIN FT	650			650
	E	7	2573.502	SILT FENCE, TYPE SD		LIN FT	219			219
	E	7	2573.502	SILT FENCE, TYPE MS		LIN FT	285			285
	E	7	2573.505	FLOTATION SILT CURTAIN TYPE MOVING WATER		LIN FT	263			263
	E	7	2573.530	STORM DRAIN INLET PROTECTION		EACH	22			22
	E	7	2573.533	SEDIMENT CONTROL LOG TYPE STRAW		LIN FT	1,214			1,214
②			2573.550	EROSION CONTROL SUPERVISOR		LUMP SUM	1			1
②	M	39	2573.602	SEDIMENT CONTROL STRUCTURE		EACH	1			1
		5	2574.525	COMMON TOPSOIL BORROW		CU YD	330			330
	F	7	2575.501	SEEDING		ACRE	0.75			0.75
	F	7	2575.502	SEED MIXTURE 25-131		POUND	75			75
	F	7	2575.502	SEED MIXTURE 36-211		POUND	15			15
	F	7	2575.505	SODDING TYPE SALT TOLERANT		SQ YD	436			436
	E	7	2575.523	EROSION CONTROL BLANKETS CATEGORY 4		SQ YD	4,806			4,806
	E	7	2575.571	RAPID STABILIZATION METHOD 3		MGAL	4			4
	N	TC2	2581.501	REMOVABLE PREFORM PAVEMENT MARKING TAPE		LIN FT	5,715			5,715
	N	TC2	2581.603	REMOVABLE PREFORM PLASTIC MASK (BLACK)		LIN FT	205			205
	P	SS2	2582.501	PAVEMENT MESSAGE (RIGHT ARROW) POLY PREFORM-GROUND IN		EACH	3			3
	P	SS2	2582.501	PAVEMENT MESSAGE (LEFT-THRU ARROW) POLY PREFORM-GROUND IN		EACH	1			1
	P	SS2	2582.501	PAVEMENT MESSAGE (BIKE SYMBOL) EPOXY		EACH	10			10
	P	SS2	2582.501	PAVEMENT MESSAGE (BIKE LANE ARROW) EPOXY		EACH	10			10
	P	SS2	2582.502	4" SOLID LINE WHITE-POLY PREFORM-GROUND IN		LIN FT	2,375			2,375
	P	SS2	2582.502	4" DOUBLE SOLID LINE YELLOW-POLY PREFORM-GROUND IN		LIN FT	1,164			1,164

NOTES

- ① TEMPORARY FENCE FOR FIELD OFFICE PERIMETER.
- ② SEE SPECIAL PROVISIONS.
- ③ INCLUDES INTEGRAL SAFETY FENCE.
- (P) PLAN QUANTITY
- ④ SEE SHEETS 30A AND 31 FOR ADDITIONAL LOCATIONS



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Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119 **8/14/2014**
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STATEMENT OF ESTIMATED QUANTITIES (3 OF 4)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET

04R2

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STATEMENT OF ESTIMATED QUANTITIES										
NOTE	TAB	SHEET NO.	ITEM NO.	ITEM DESCRIPTION	(P)	UNIT	PROJECT TOTAL	FEDERAL PARTICIPATING		FEDERAL NON-PARTICIPATING
								FEDERAL & STATE BRIDGE BOND ELIGIBLE S.P. 027-605-029	FEDERAL ELIGIBLE S.P. 027-605-029	STATE AID ELIGIBLE S.P. 027-605-029
							EST.	EST.	EST.	EST.
	P	SS2	2582.502	4" SOLID LINE WHITE-EPOXY		LIN FT	2,648			2,648
	P	SS2	2582.502	4" DOTTED LINE WHITE-EPOXY		LIN FT	646			646
	P	SS2	2582.502	12" STOP LINE WHITE-EPOXY		LIN FT	31			31
	P	SS2	2582.503	CROSSWALK MARKING-POLY PREFORM-GROUND IN		SQ FT	192			192
①	P	SS2	2582.618	PAVEMENT MARKING SPECIAL		SQ FT	585 330			585 330

NOTES
 ① MARKING FOR BIKE LANE.
 (P) PLAN QUANTITY

CONSTRUCTION / SOILS NOTES

- SELECTED GRADING MATERIALS ON THIS PROJECT SHALL CONSIST OF MATERIALS REMOVED FROM THE EXCAVATION WITH THE EXCEPTION OF TOPSOIL, ORGANIC SOILS AND OTHER UNSUITABLE MATERIAL. GRADING GRADE IS DEFINED AS THE BOTTOM OF THE AGGREGATE BASE.
- SUBGRADE SHALL BE BACKFILLED IMMEDIATELY AFTER EXCAVATION TO HELP OFFSET ANY STABILITY PROBLEMS DUE TO WATER SEEPAGE OR STEEP SLOPES.
- STRIP AND REUSE AS SLOPE DRESSING ALL TOPSOIL, WHERE PRESENT, IN AREAS DISTURBED BY CONSTRUCTION.
- ALL EXCAVATED MATERIAL THAT IS UNSUITABLE OR NOT REQUIRED FOR EMBANKMENT CONSTRUCTION OR FOR TOPSOIL, INCLUDING BITUMINOUS SURFACING AND CONCRETE ITEMS, SHALL BE DISPOSED OF BY THE CONTRACTOR AT NO EXPENSE TO THE COUNTY, OUTSIDE OF THE RIGHT OF WAY, SUBJECT TO THE PROVISIONS OF 2104.3D3 AND 2105.3I.
- UNSUITABLE MATERIAL AND DEBRIS SHALL NOT BE PLACED ADJACENT TO ANY STRUCTURE.
- WHERE PROPOSED ROADWAYS MATCH INPLACE ROADWAYS. PROVIDE A VERTICAL NOTCH THROUGH THE INPLACE SURFACING TO THE BOTTOM OF THE PROPOSED BASE AND THEN A 1:20 TAPER INTO THE BOTTOM OF THE SUBGRADE. THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING OF THE INPLACE PAVEMENT.
- ORDINARY COMPACTION SHALL BE REQUIRED FOR TEMPORARY PAVEMENT. MAXIMUM DENSITY METHOD SHALL BE REQUIRED FOR ALL OTHER BITUMINOUS SURFACING.
- COMPACTION FOR THE GRADING PORTION OF ROADWAY CONSTRUCTION SHALL BE BY QUALITY COMPACTION METHOD.
- EXCESS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT LIMITS (INCIDENTAL WORK - NO DIRECT COMPENSATION).
- SOIL CONDITIONS AT THE TOP OF GRADING SUBGRADE WILL VARY. WHEN THE EXPOSED SUBGRADE IS NONGRANULAR IT MAY BE HIGHLY SUSCEPTIBLE TO DISTURBANCE FROM CONSTRUCTION TRAFFIC. IN AN UNDISTURBED CONDITION, THESE SOILS ARE CONSIDERED SUITABLE FOR SUPPORT OF THE NEW EMBANKMENT CONSTRUCTION. IF THEY ARE DISTURBED, SUBCUTTING OR STABILIZATION WILL BE REQUIRED. IF THE CONTRACTOR'S METHOD OF EXCAVATION CAUSES DISTURBANCE TO THE SOILS AT AND BELOW THE TOP OF SUBGRADE IN LOCATIONS NOT SHOWN TO BE SUBCUT IN THE PLANS, SUBCUTTING TO UNDISTURBED SOILS OR STABILIZATION OF THE INTENDED TOP OF GRADING SUBGRADE ELEVATION WILL BE AT THE EXPENSE OF THE CONTRACTOR WITH NO DIRECT MEASUREMENT OR COMPENSATION.
- ALL EMBANKMENT GRADING MATERIALS SHOULD BE EITHER UNIFORM SOIL TYPES OR SUFFICIENTLY MIXED AND BLENDED TO BE UNIFORM.
- ALL TEMPORARY EROSION CONTROL DEVICES MUST BE IN PLACE PRIOR TO DISTURBING EXISTING TERRAIN.
- THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
- CONTRACTOR MUST CONTACT GOPHER STATE ONE CALL BEFORE CONSTRUCTION BEGINS; TOLL FREE AT (800)252-1166 OR AT (651)454-0002.

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT	
MNDOT STANDARD PLATES	
PLATE NO	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR REINFORCED CONCRETE PIPE
3133D	RIPRAP AT RCP OUTLETS
3145G	CONCRETE PIPE OR PRECAST BOX CULVERT TIES
4000J	MANHOLE OR CATCH BASIN (MASONRY, FIELD CONSTRUCTED) - DESIGN A
4002F	MANHOLE OR CATCH BASIN (MASONRY, FIELD CONSTRUCTION) - DESIGN C
4005M	MANHOLE OR CATCH BASIN TYPE A & B CONE SECTIONS PRECAST - DESIGN F
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010H	CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE)
4011E	PRECAST CONCRETE BASE
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) - CASTING NO. 715 & 716
4132F	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE) - CASTING NO. 805
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816
7000E	INTEGRANT CURB DESIGN B, DESIGN V, AND DESIGN D
7020K	CONCRETE CURB DESIGN B, DESIGN V, DESIGN S, DESIGN DR AND DESIGN BR
7035N	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7038A	DETECTABLE WARNING SURFACE (TRUNCATED DOMES)
7100H	CONCRETE CURB AND GUTTER
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8337C	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER (TYPE "F")

PLATE NO	CITY OF MINNEAPOLIS STANDARD PLATES
ROAD-1006	B660 CURB AND GUTTER
ROAD-1008	PARKWAY VERTICAL CURB AND GUTTER
ROAD-1010	SAW CUT AT CURB AND GUTTER REMOVAL
ROAD-4001	SIGN COLLAR REPLACEMENT
TRAF-1710	HANDHOLE - SIGNAL/ST. LIGHT - 18" DIA.X30" - STEEL INSTALLATION DETAIL
TRAF-1715	HANDHOLE - SIGNAL/ST. LIGHT - 18" DIA.X30" - STEEL
TRAF-3206-R2	STANDARD - ST. LIGHT - 3M-30' GALVANIZED STEEL
TRAF-3072-R1	FOUNDATION - ST. LIGHT - 30' - SQUARE CAP
TRAF-3125	ANCHOR ROD - ST. LIGHT - 1"X56"
TRAF-3160	BASE - ST. LIGHT - TRANSFORMER 30'
TRAF-3619	WIRING - ST. LIGHT - STANDARD BRIDGE 120V
TRAF-3631-R2	WIRING - ST. LIGHT/SIGNAL - SERVICE CABINET CBD
TRAF-7660	SYMBOLS - PAVEMENT MARKINGS - BIKE/STRAIGHT ARROW
TRAF-7662-R1	SYMBOLS - PAVEMENT MARKINGS - BIKE/LEFT TURN ARROW

EARTHWORK SUMMARY

COMMON EXC. (EV) = 411 CU YD { TOPSOIL 209 CU YD
 COMMON 202 CU YD

SUBGRADE PREP (EV) = 630 CU YD { SUBGRADE PREP 630 CU YD
 COMMON TOPSOIL BORROW 330 CU YD

BASIS OF ESTIMATED QUANTITIES

EARTHWORK SHRINKAGE FACTOR	130% - REG
WEARING AND NON-WEARING BITUMINOUS MIXTURE	113 POUNDS PER SQ. YD. PER 1" THICKNESS
BITUMINOUS MATERIAL FOR TACK COAT	0.07 GAL. PER SQ. YD.

STATEMENT OF ESTIMATED QUANTITIES (4 OF 4)



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EARTHWORK SUMMARY AND STANDARD PLATES

**C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029**

SHEET

05R

42

REMOVAL TABULATION										A
LOCATION	REMOVE PIPE SEWERS	REMOVE CURB AND GUTTER	REMOVE BITUMINOUS WALK	REMOVE CONCRETE SIDEWALK	REMOVE CONCRETE MEDIAN	REMOVE PAVEMENT	REMOVE MANHOLE OR CATCH BASIN	REMOVE SIGN TYPE C	SAW CONCRETE PAVEMENT (FULL DEPTH)	SAW BIT PAVEMENT (FULL DEPTH)
	LIN FT	LIN FT	SQ FT	SQ FT	SQ FT	SQ YD	EACH	EACH	LIN FT	LIN FT
FRANKLIN AVENUE										
WEST APPROACH	85	711	238	1435	753	633	2	6	33	509
EAST APPROACH		92		979		212		2	123	124
TOTAL	85	803	238	2414	753	845	2	8	156	633

TABULATION INDEX		
TABULATION	TAB	SHEET NO
REMOVAL TABULATION	A	6
CONCRETE TABULATION	B	6
SURFACING MATERIALS TABULATION	C	6
CASTING SCHEDULE	D	7
TEMPORARY EROSION CONTROL TABULATION	E	7
PLANTING / TURF ESTABLISHMENT TABULATION	F	7
INPLACE STORM SEWER DATA	I	23
INPLACE WATER MANHOLE DATA	J	23
INPLACE SANITARY SEWER DATA	K	24
OTHER UTILITIES DATA	L	24
UNDERGROUND CONSTRUCTION DATA PIPE SEWERS	M	39
TRAFFIC CONTROL	N	TC2
PERMANENT MARKING	P	SS2
SALVAGE AND INSTALL SIGN TYPE C	Q	SS2
SIGN PANEL TYPE C	R	SS2
SALVAGE AND INSTALL SIGN (OTHER)	S	SS2
LIGHTING REMOVALS	T	SL1
LIGHTING CONDUIT AND FOUNDATIONS	U	SL1
WIRING	V	SL1
LIGHTING LUMP SUM	W	SL1
TREE PROTECTION	Y	7
DELINEATORS	Z	SS2

CONCRETE TABULATION								B
LOCATION	4" CONCRETE WALK	6" ^① CONCRETE WALK	INTEGRANT CURB DESIGN V6	CONCRETE CURB & GUTTER B660	CONCRETE CURB & GUTTER B624	CONCRETE CURB & GUTTER B612	CONCRETE CURB & GUTTER DESIGN SPECIAL ^②	TRUNCATED DOMES
	SQ FT	SQ FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ FT
FRANKLIN AVENUE								
WEST APPROACH	2933	846	6		178	264	182	168
EAST APPROACH	979	60		44	56			
TOTAL	3912	906	6	44	234	264	182	168

- ① PEDESTRIAN RAMPS PER STD PLAN. INCLUDES 4' LANDING AREA.
 ② PARKWAY C&G, SEE CITY OF MINNEAPOLIS STANDARD PLATE ROAD-1008

SURFACING MATERIALS TABULATION					C
LOCATION	AGGREGATE BASE (CV) CLASS 5	MILL BITUMINOUS SURFACE (2.0")	BITUMINOUS MATERIAL FOR TACK COAT	TYPE SP 12.5 WEARING COURSE MIX (3,F) (SPWEB340F)	TYPE SP 12.5 NON WEARING COURSE MIX (3,B) (SPWEB330B)
	CU YD	SQ YD	GALLON	TON	TON
FRANKLIN AVENUE					
WEST APPROACH	172	514	77	89	78
EAST APPROACH	40	217	22	30	12
TOTAL	212	730	99	119	90



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MISCELLANEOUS TABULATIONS (1 OF 2)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET

06

42

CASTING SCHEDULE				D
	B-9	A-7D	B-13	
FRAME				
STD. PLATE	4132	4101	4125	
CASTING NO.	805	700-7	806	
COVER OR GRATE				
STD. PLATE	4154	4110	4154	
CASTING NO.	816	715	816	
CURB BOX				
STD. PLATE			4133	
CASTING NO.			824	
NO. REQUIRED	4	1	2	

TEMPORARY EROSION CONTROL TABULATION								E
LOCATION	SILT FENCE, TYPE MS	FLOTATION SILT CURTAIN, TYPE MOVING WATER	STORM DRAIN INLET PROTECTION	SEDIMENT CONTROL LOG TYPE STRAW	RAPID STABILIZATION METHOD ① 3	EROSION CONTROL BLANKET CATERGORY 4	SILT FENCE, TYPE SD	
	LIN FT	LIN FT	EACH	LIN FT	M GALLON	SY	LIN FT	
FRANKLIN AVENUE		139						
WEST APPROACH	285		18	679	2	1573	116	
EAST APPROACH		124	4	535	2	1587	103	
TOTAL	285	263	22	1214	4	3160	219	

PLANTING/TURF ESTABLISHMENT TABULATION						F
LOCATION	SODDING TYPE SALT TOLERANT	SEEDING	SEED MIXTURE TYPE 36-211 ⑥	SEED MIXTURE TYPE 25-131 ②	EROSION CONTROL BLANKET CATERGORY 4	
	SQ YD	ACRE	POUND	POUND	SY	
FRANKLIN AVENUE					1646	
WEST APPROACH	436	0.75	15	75		
EAST APPROACH						
TOTAL	436	0.75	15	75	1646	

TREE PROTECTION ③			Y
LOCATION	TREE ④ PROTECTION TYPE 1	TREE ⑤ PROTECTION TYPE 2	
	LIN FT	LIN FT	
FRANKLIN AVENUE			
WEST APPROACH	965	650	
EAST APPROACH	552		
TOTAL	1517	650	

NOTES:
 ① INCLUDES:
 TYPE HYDRAULIC MULCH PLACED AT 350 LBS PER 1000 GAL OF SLURRY MIX,
 SEED MIXTURE 22-111 PLACED AT 10 LBS PER 1000 GAL OF SLURRY MIX,
 TYPE 3 SLOW RELEASE FERTILIZER 10-10-10 PLACED AT
 A RATE OF 50 LBS PER 1000 GAL OF SLURRY MIX,
 WATER PLACED AT A RATE OF 875 GAL PER 1000 GAL OF SLURRY MIX.
 APPLY AT 6,000 GAL PER ACRE.

② PLACED AT 220 LBS PER ACRE.

③ SEE SPECIAL PROVISIONS EXHIBITS A AND B FOR LOCATION.

④ CHAIN LINK FENCE - 6' HIGH.

⑤ CONSTRUCTION FENCE.

⑥ PLACED AT 34.5 LBS PER ACRE.



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MISCELLANEOUS TABULATIONS (2 OF 2)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET

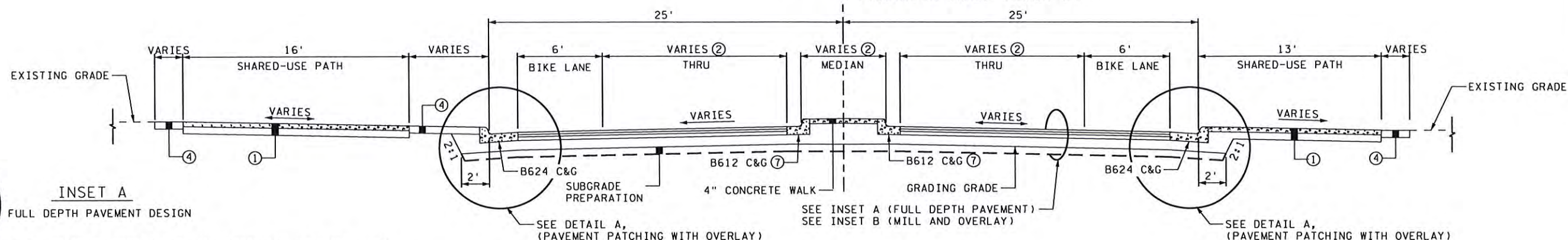
07R

42

PROPOSED FRANKLIN AVE. (WEST APPROACH)

STA. 8+08.48 TO 9+45.00②

CL FRANKLIN AVE. (CSAH 5)



INSET A

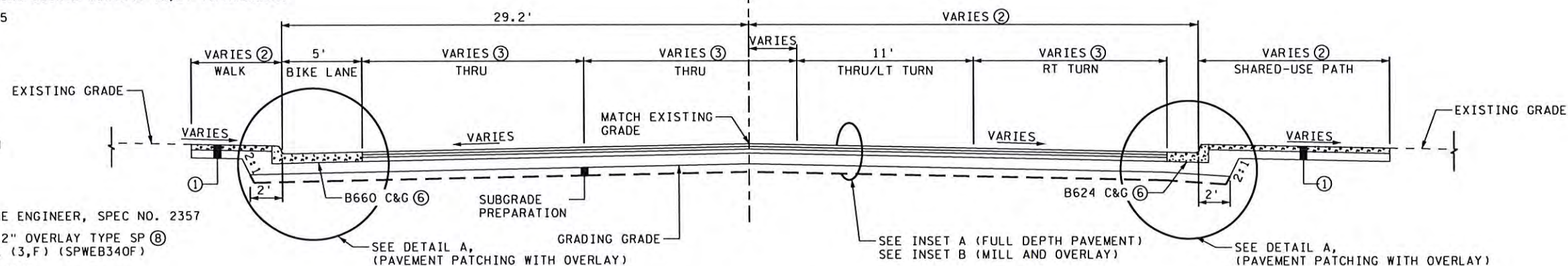
FULL DEPTH PAVEMENT DESIGN

- TACK COATS AS DIRECTED BY THE ENGINEER, SPEC NO. 2357
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,F) (SPWEB340F)⑧
- 2" TYPE SP 12.5 NON-WEARING COURSE MIXTURE (3,B) (SPNWB330B)
- 3" TYPE SP 12.5 NON-WEARING COURSE MIXTURE (3,B) (SPNWB330B)
- 8" AGGREGATE BASE - CL. 5
- 6" SUBGRADE PREPARATION

PROPOSED FRANKLIN AVE. (EAST APPROACH)

STA. 20+52.59 TO 20+96.51②

CL FRANKLIN AVE. (CSAH 5)



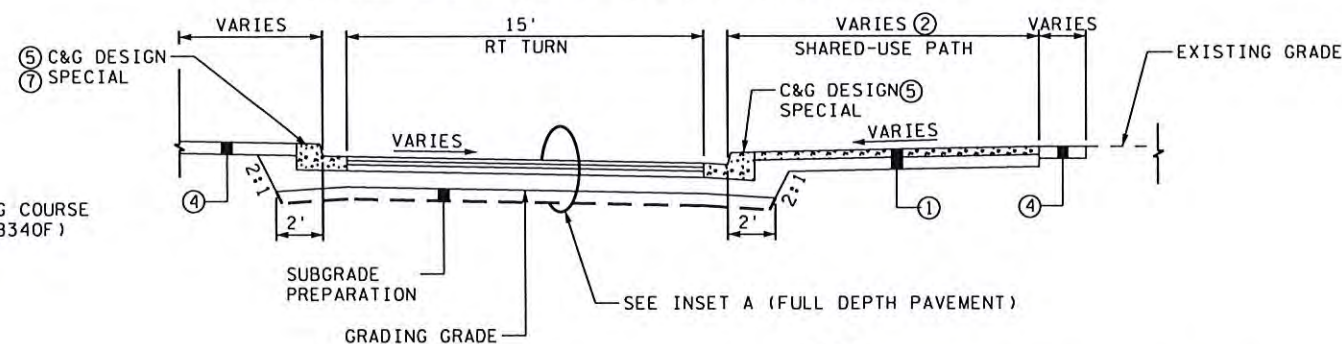
INSET B

MILL AND OVERLAY DESIGN

- TACK COAT AS DIRECTED BY THE ENGINEER, SPEC NO. 2357
- 2" MILL EXISTING PAVEMENT, 2" OVERLAY TYPE SP ⑧
- 12.5 WEARING COURSE MIXTURE (3,F) (SPWEB340F)
- 5" EXISTING BITUMINOUS PAVEMENT
- 17" EXISTING AGGREGATE BASE

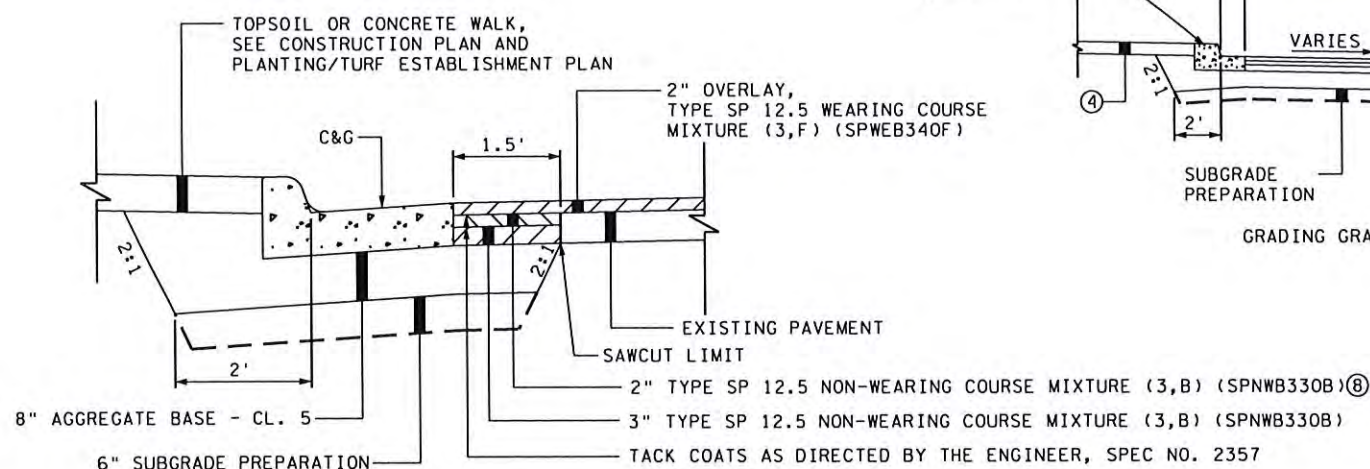
PROPOSED WEST RIVER PKWY RAMP

* (FROM) WEST RIVER PKWY SECTION SHOWN. (TO) WEST RIVER PKWY MILL & OVERLAY WORK TO FOLLOW INSET B. SEE CONSTRUCTION PLAN.



DETAIL A

PAVEMENT PATCHING WITH OVERLAY



NOTES

FULL DEPTH PAVEMENT SECTIONS SHOWN FOR REPRESENTATION. SEE CONSTRUCTION PLANS FOR LOCATIONS OF DIFFERING PAVEMENT CONSTRUCTION. SEE INSETS AND DETAIL 'A' FOR PAVEMENT STRUCTURE.

ALL SLOPES ARE FT/FT UNLESS NOTED OTHERWISE.

- ① 4" CONCRETE WALK ON TOP OF 6" AGGREGATE BASE CL.5.
- ② SEE CONSTRUCTION PLAN FOR VARIATIONS.

- ③ SEE SIGNING PLAN FOR VARIATIONS.
- ④ 6" MINIMUM TOPSOIL, SEE PLANTING/TURF ESTABLISHMENT PLAN FOR TURF ESTABLISHMENT.
- ⑤ PARKWAY C&G, SEE CITY OF MINNEAPOLIS STD PLATE ROAD-1008.
- ⑥ SEE CONSTRUCTION DETAILS FOR VARIATIONS IN GUTTER CROSS SLOPE.
- ⑦ GUTTER CROSS SLOPE TO MATCH ADJACENT ROADWAY CROSS SLOPE.
- ⑧ WEAR COURSE SHALL BE NOMINALLY 1/4" HIGHER THAN CURB LIP.



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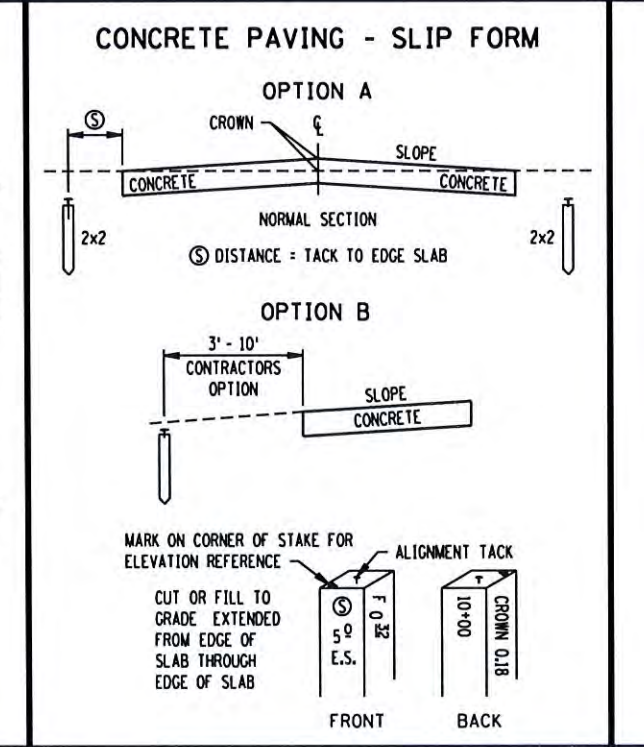
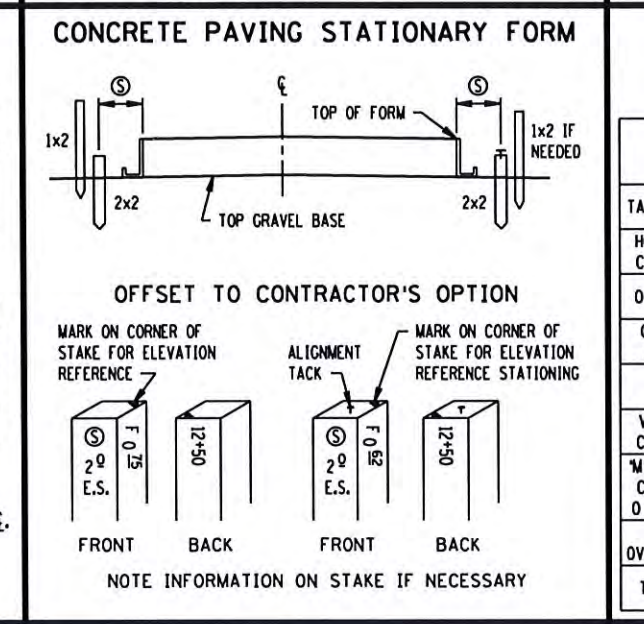
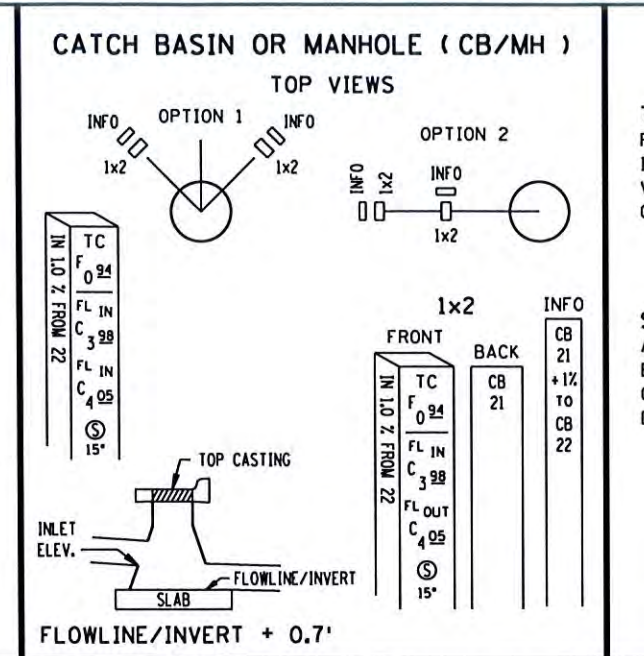
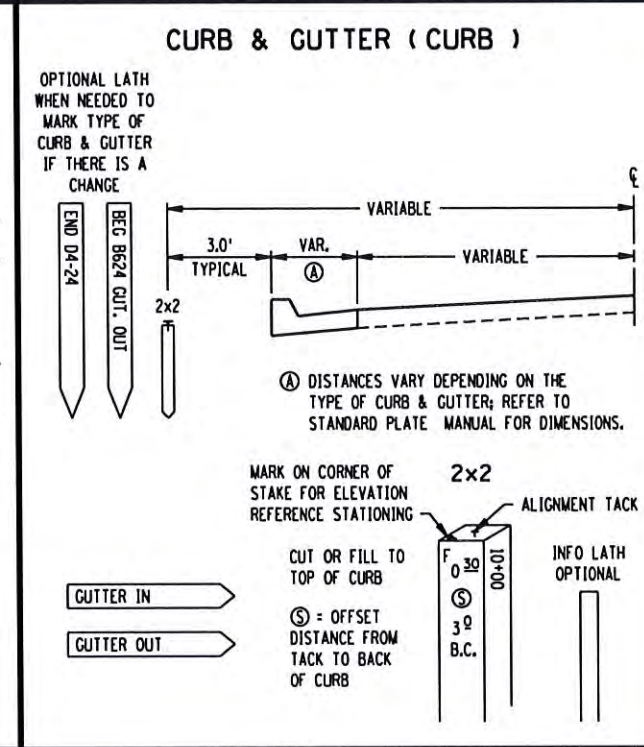
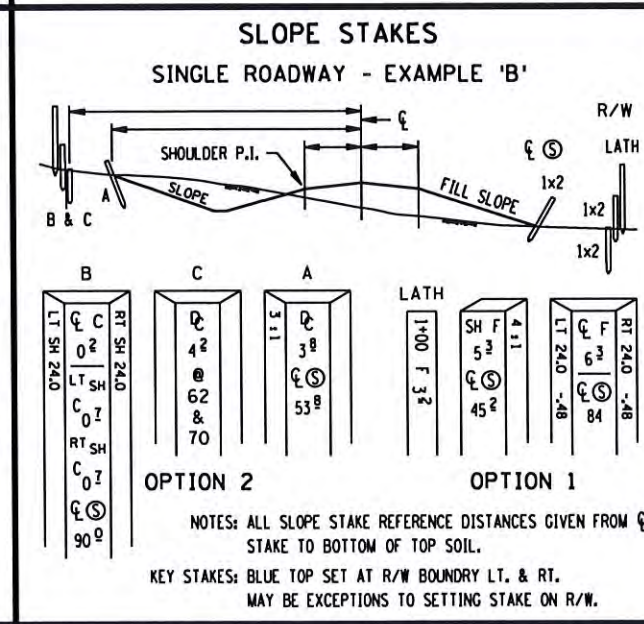
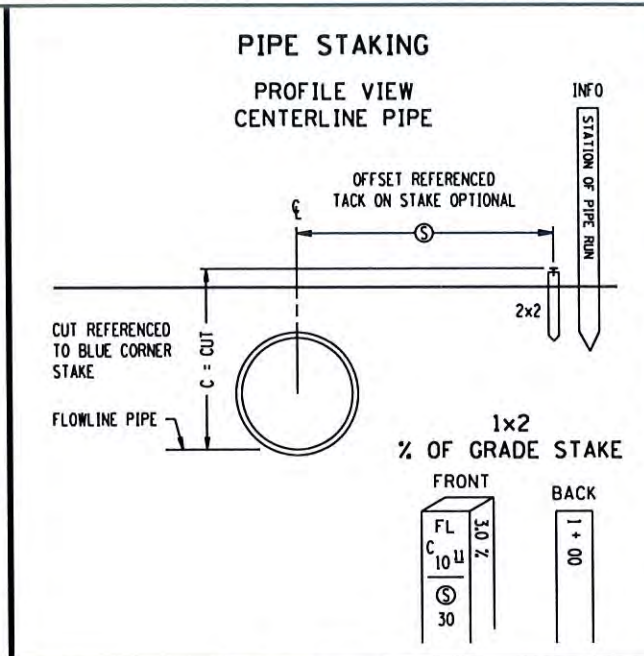
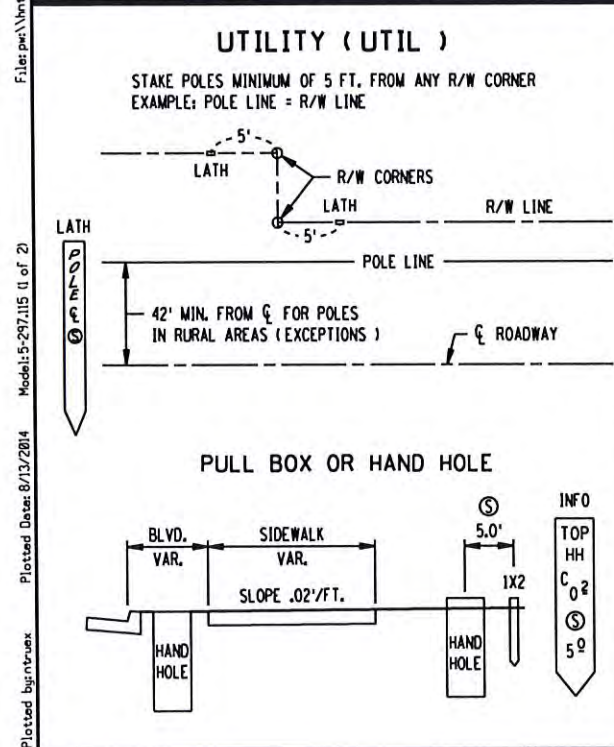
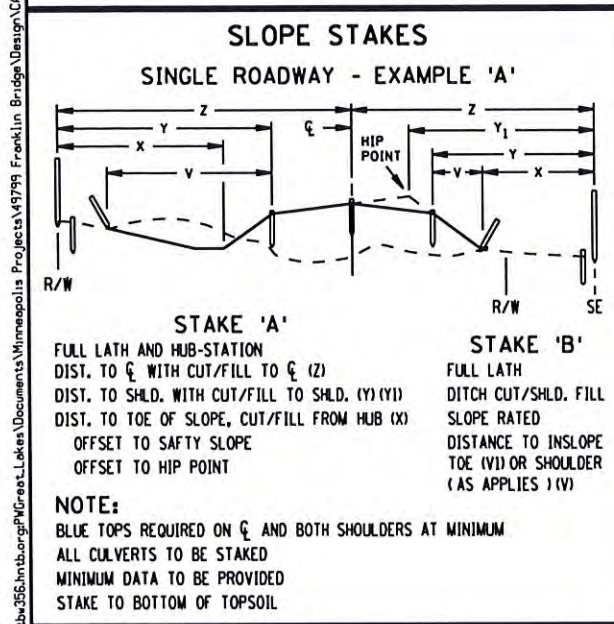
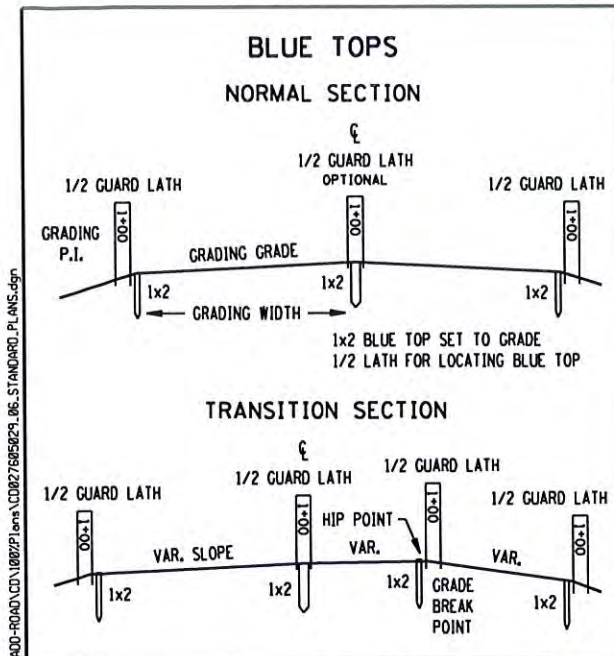
16119 8/14/2014
LICENSE NO. DATE

DESIGN BY: NPE
CAD BY: NTT
CHECKED BY: KLA
LAST REVISION:

TYPICAL SECTION
C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
08
42

Plotter: d:\nt\user... Model: 5-297.115 (1 of 2) ... Date: 8/13/2014 ...



STANDARD STAKES

TYPES: REFERENCE (REF) INFORMATIONAL (INFO) VISIBILITY (VIS) GUARD (GUARD)

SIZES:
A = 2" X 2" X VAR. REF/INFO/GUARD
B = 1" X 2" X VAR. REF/INFO/GUARD
C = 1" X 2" X VAR. REF LATH INFO/VIS/GUARD
D = 1x2 OR LATH = INFO STAKES

RECOMMENDED STAKING INTERVALS

FIGURE A

	SLOPE STAKES	SUB GRADE B.T.	CLASS MATERIAL B.T.	CONC PAVT	CL & GR LIMITS	MUCK EXC.	R/W	TEMP. EASE.
TANGENT	100	100	100	50	50	ALL CORNERS	100	ALL CORNERS
HORIZ. CURVE								
0 - 3'	100	100	100	50	50	ALL CORNERS	100	ALL CORNERS
OVER 3'	100	50	50	25	25	ALL CORNERS	100	ALL CORNERS
VERT. CURVE								
M' 100' CHORD	100	100	100	50	50			
M' OVER .25	100	50	50	25	25			
TRAN.		50	50					

UTILITY (UTIL)

STAKE POLES MINIMUM OF 5 FT. FROM ANY R/W CORNER. EXAMPLE: POLE LINE = R/W LINE.

42' MIN. FROM ϕ FOR POLES IN RURAL AREAS (EXCEPTIONS)

PULL BOX OR HAND HOLE

BLVD. VAR. SIDEWALK VAR. SLOPE .02'/FT.

5.0' OFFSET TO HAND HOLE

ABBREVIATIONS

BBL = BARREL (PIPE)	HH = HANDHOLE
B.C. = BACK CURB	HP = HIP POINT
C & G = CURB & GUTTER	LT = LEFT
C = CUT	MH = MANHOLE
CAP = CORR. ALUM. PIPE	NB = NORTHBOUND
CB = CATCH BASIN	⊙ = OFFSET
ϕ = CENTERLINE	PAR = PARCEL
CL & GR = CLEAR & GRUB	% = PERCENT GRADE
CMP = CORR. METAL PIPE	P.E. = PERM. EASEMENT
COR = CORNER	RAD = RADIUS POINT
CR = CROWN	RCP = REINF. CONC. PIPE
CSP = CORR. STEEL PIPE	RP = REFERENCE POINT
ϕ = DITCH CUT	RSC = REINF. SECT. CONC.
D.E. = DRAINAGE EASEMENT	RT = RIGHT
DI = DROP INLET	R/W = RIGHT OF WAY
EB = EASTBOUND	SB = SOUTHBOUND
E.M. = EDGE BITUMINOUS MAT	SCP = SECT. CONC. PIPE
E.S. = EDGE CONCRETE SLAB	SH = SHOULDER
F = FILL	TC = TOP CASTING OR TOP CURB
FF = FRONT FACE	T.E. = TEMP. EASEMENT
FL = FLOW LINE	3 : 1 = SLOPE (EXAMPLE)
FL IN = FLOWLINE INLET	WB = WESTBOUND
FL OUT = FLOWLINE OUTLET	WP = WORKING POINTS
GR = GRADE	
GW = GRADING WIDTH	

STAKING TOLERANCES (FEET)

	HORIZONTAL	VERTICAL
CONSTRUCTION LIMITS	± 1.5	
CLEARING & GRUBBING	2.0	
SLOPE STAKES	2.0	± 0.2
KEY STAKES	0.2	0.03
DRAINAGE STAKES	0.05	0.05
CURB & GUTTER	0.07	0.03
PAVING	0.05	0.03
ALIGNMENT	0.07	
UTILITY	0.10	0.05
STRUCTURAL	0.02	0.02
GUARD RAIL	0.5	
BUILDINGS	0.04	
O.H. SIGNS	0.05	0.05
MUCK EXCAVATION LIMITS	2.0	
R/W B-POINTS	0.10	
NOISE WALLS	1.0	0.5

THE TOLERANCES ARE RELATIVE TO PROJECT DATUM

DISCLAIMER

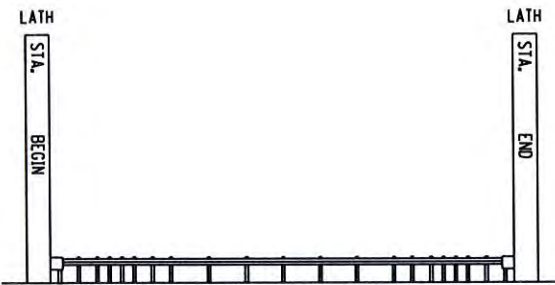
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STANDARD SHEET NO. 5-297.115 (1 OF 2)
STANDARD APPROVED: DECEMBER 21, 1994

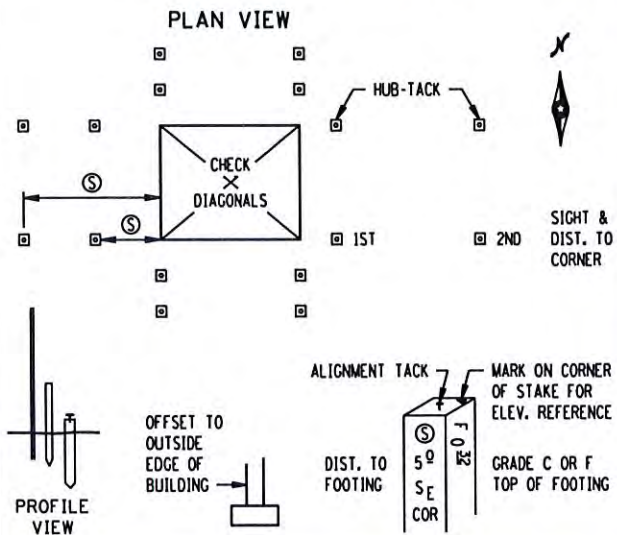
STATE PROJ. NO. 027-605-029 (C.S.A.H. 5) SHEET NO. 9 OF 42 SHEETS

Plotted by: ntr-uax Plot Date: 8/13/2014 Model: 5-297.115 12 of 21 File: p:\c\h\nhb\256\hnborg\p\c\res\lakas\Documents\Minneapolis Projects\49799 Franklin Bridge Design\CRD-Road\CD\1807\Plans\CD027999B29_06_STANDARD_PLANS.dgn

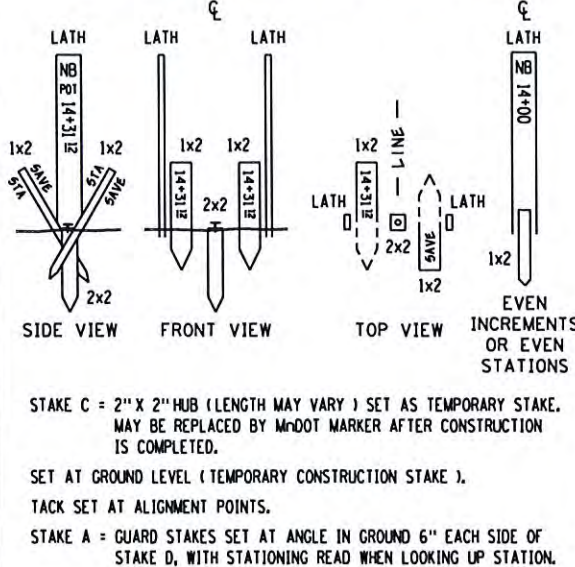
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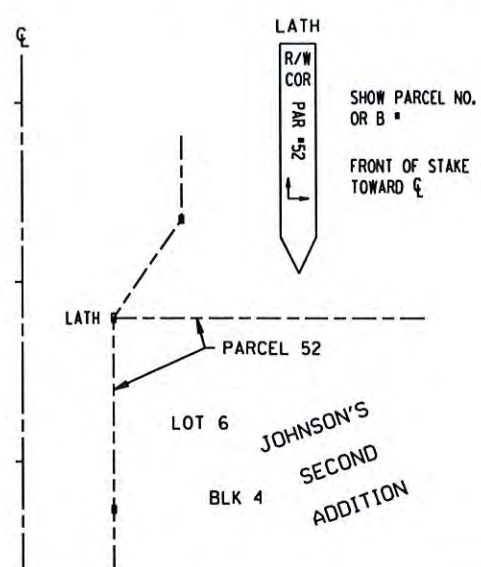
BUILDING (BUILD) FOUNDATION / FOOTING



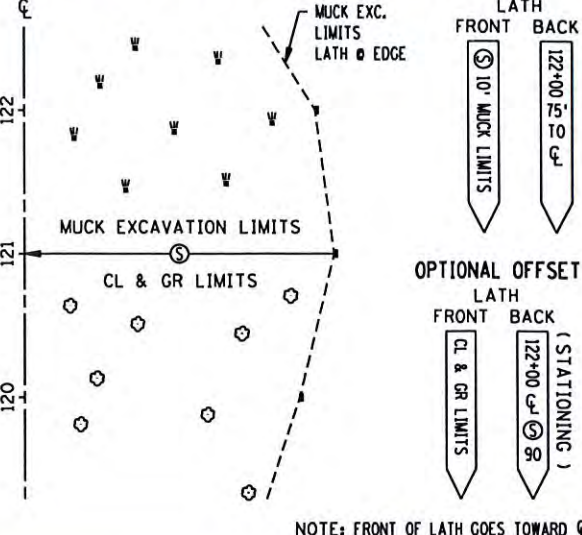
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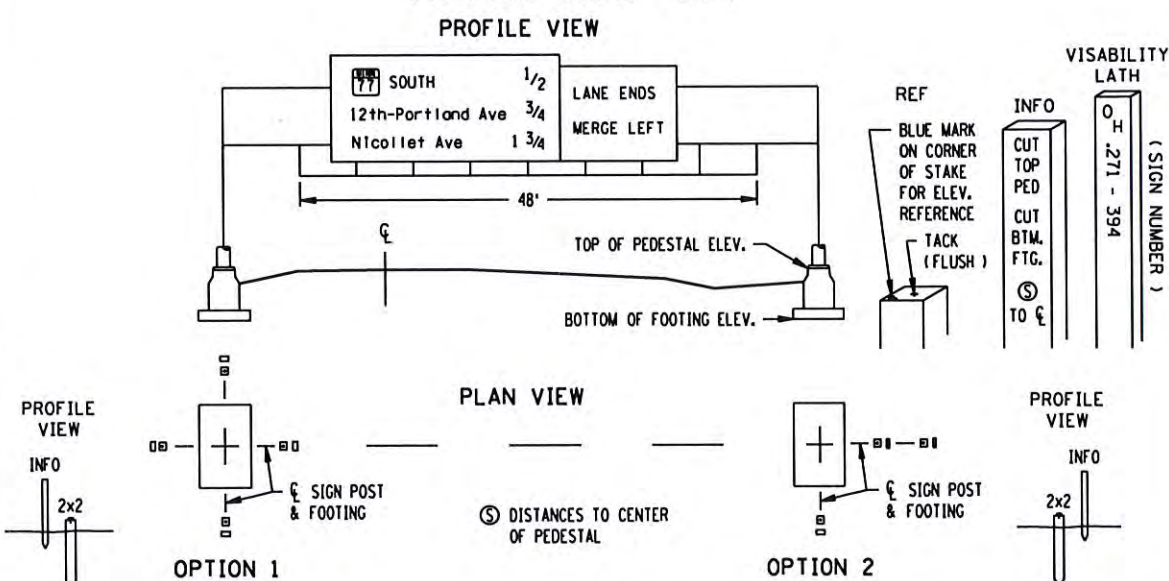
R/W & TEMP. EASEMENT (R/W)



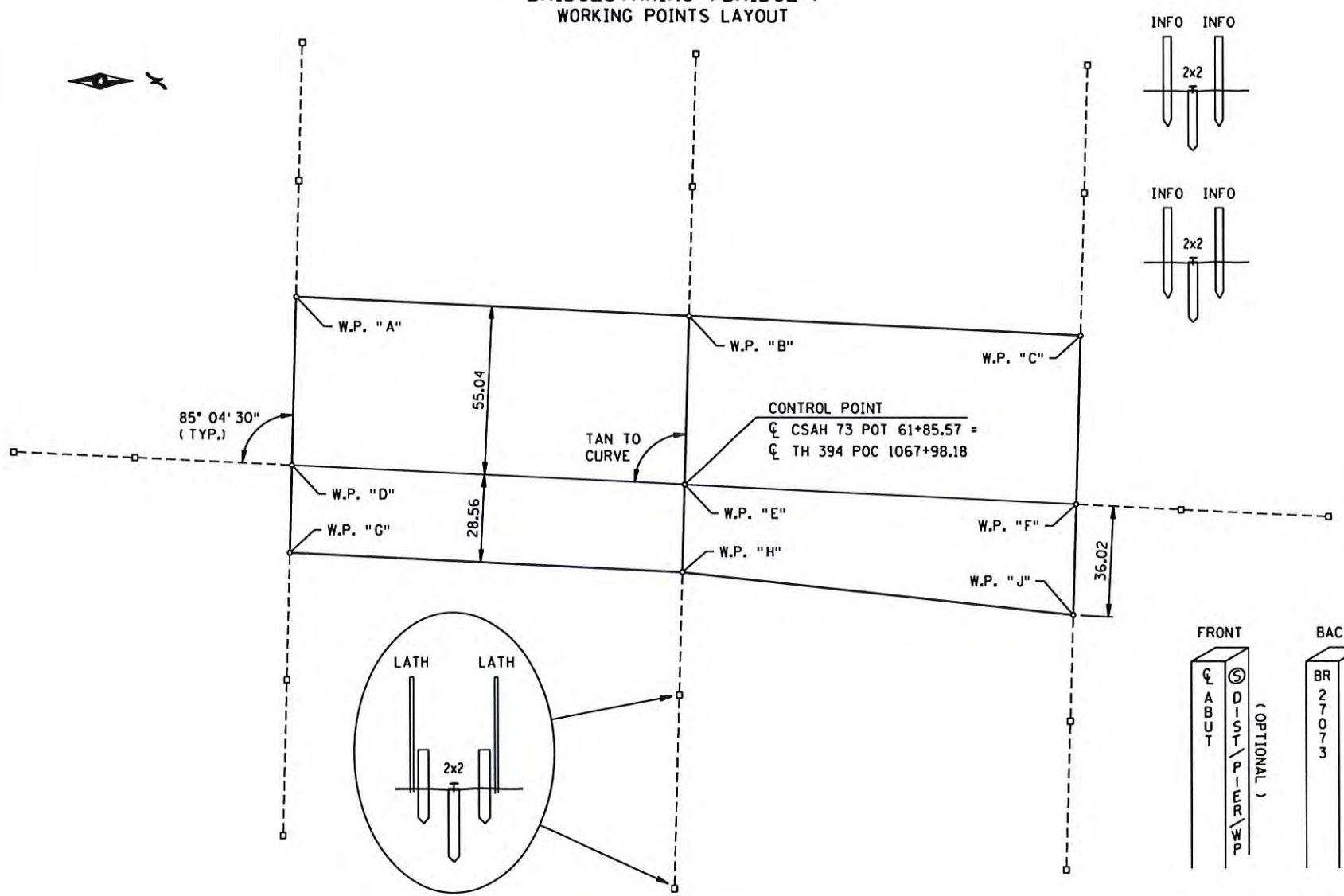
CLEAR & GRUBBING LIMITS (CLEAR) OR MUCK EXCAVATION LIMITS (MUCK)



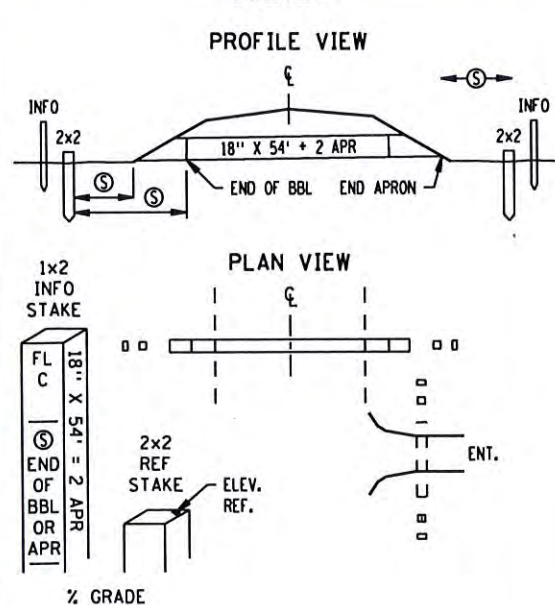
OVERHEAD SIGNS (SIGN)



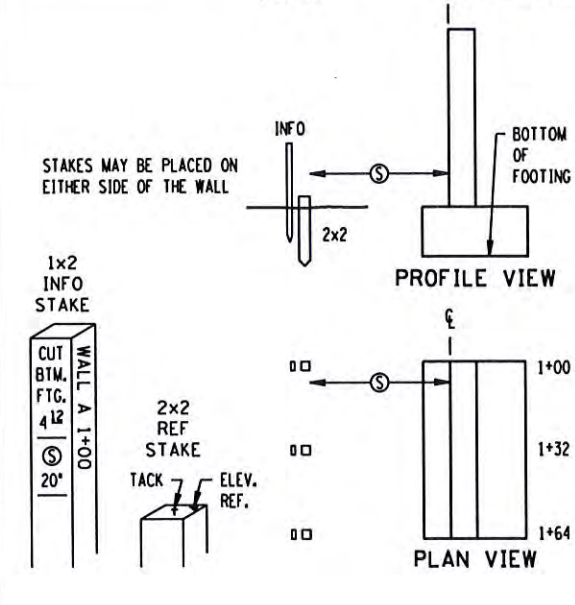
BRIDGESTAKING (BRIDGE) WORKING POINTS LAYOUT



CULVERT

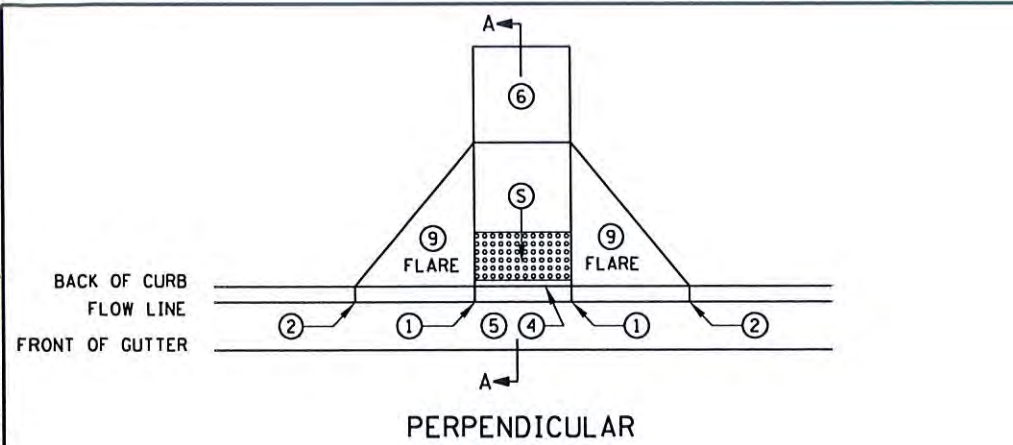


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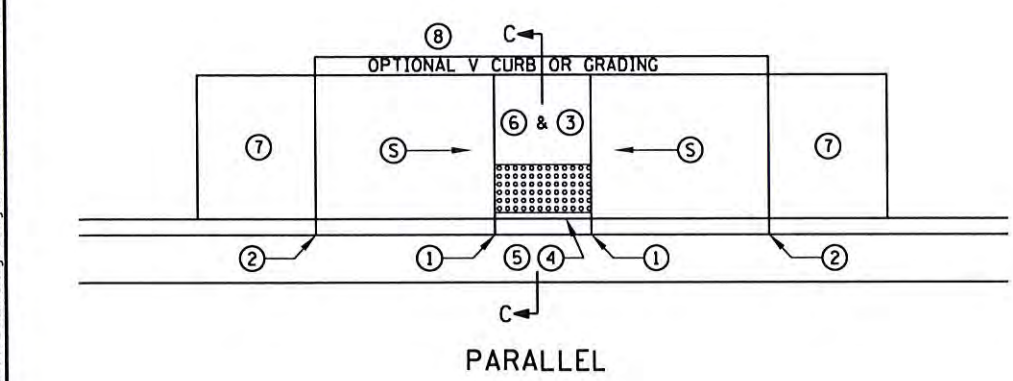


STANDARD SHEET NO. 5-297.115 (2 OF 2)	TITLE: STAKING INFORMATION SHEET
STANDARD APPROVED: DECEMBER 21, 1994	
STATE PROJ. NO. 027-605-029 (C.S.A.H. 5) SHEET NO. 10 OF 42 SHEETS	

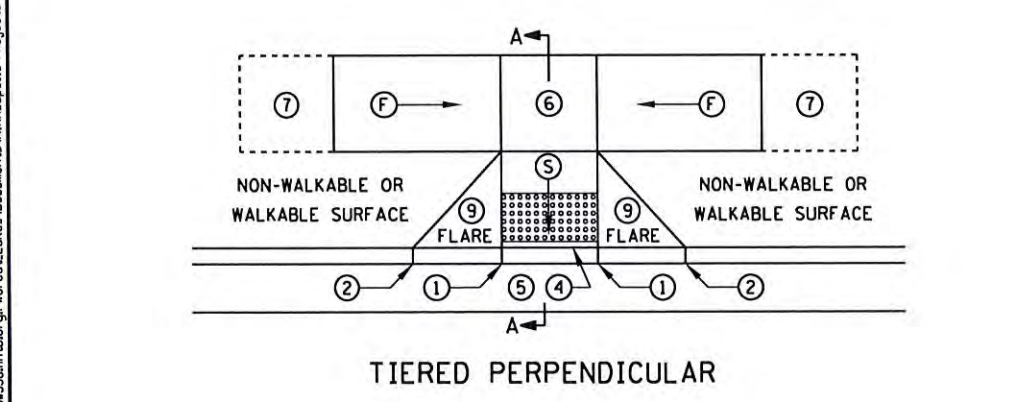
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 Plotted Date: 8/13/2014
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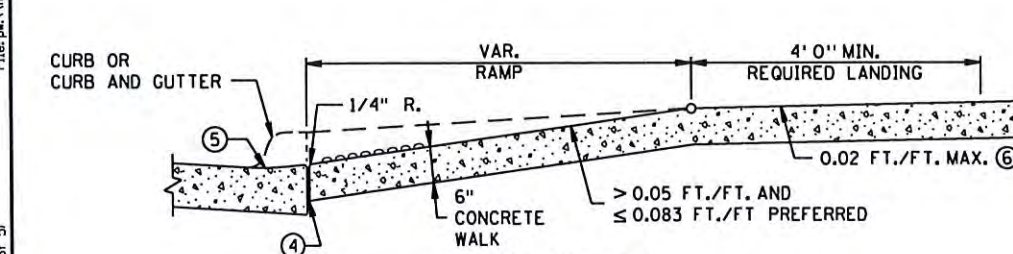
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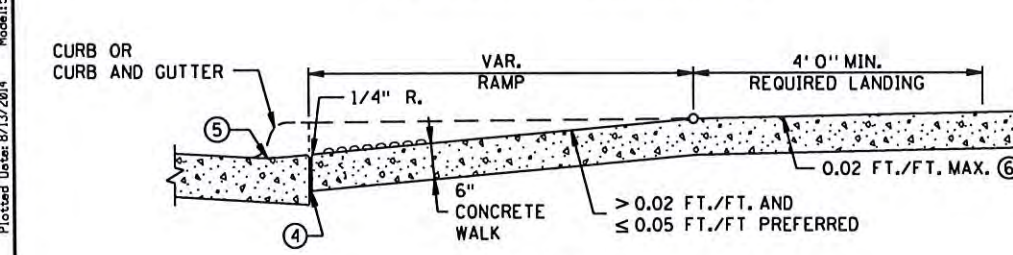
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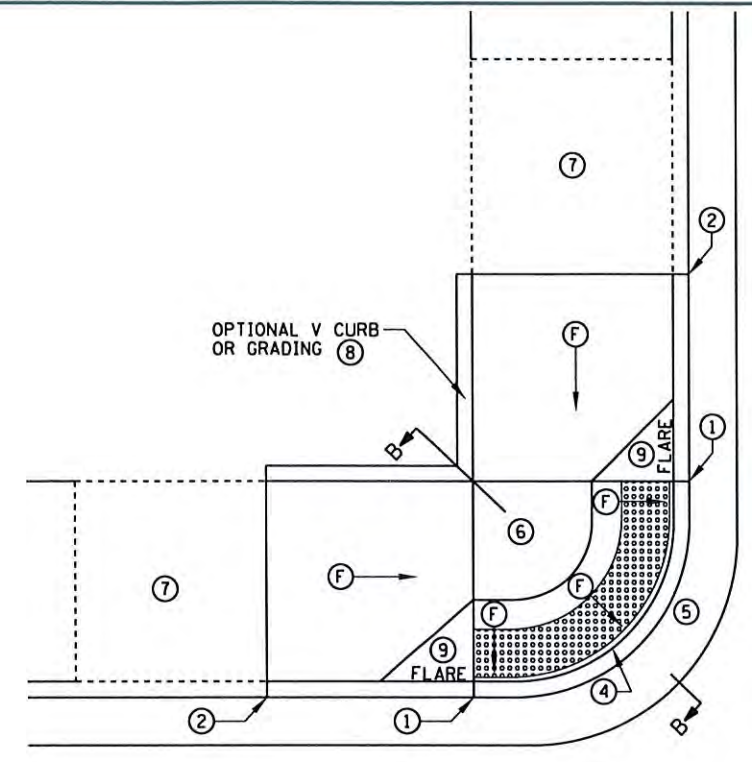
TIERED PERPENDICULAR



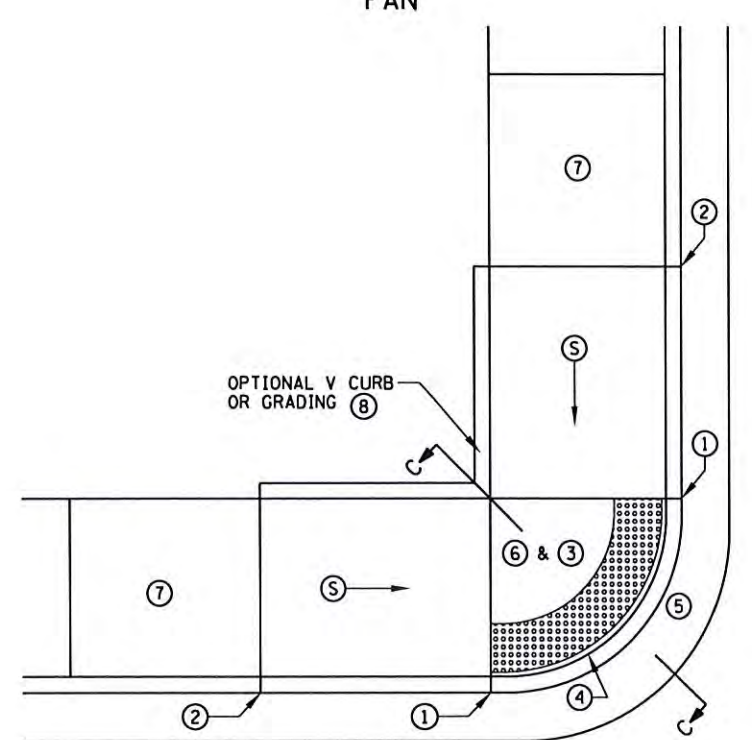
SECTION A-A
PERPENDICULAR/TIERED/DIAGONAL



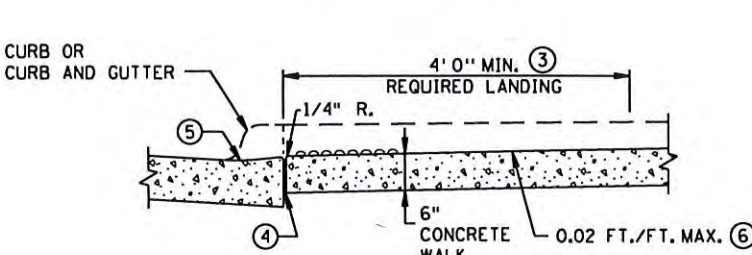
SECTION B-B
FAN



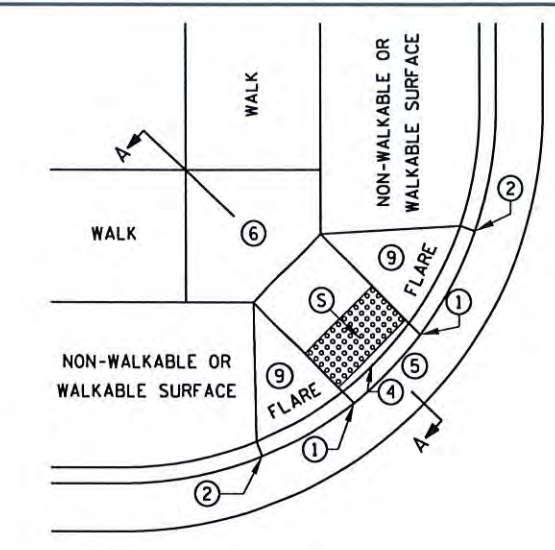
FAN



DEPRESSED CORNER



SECTION C-C
PARALLEL/DEPRESSED CORNER



DIAGONAL 10

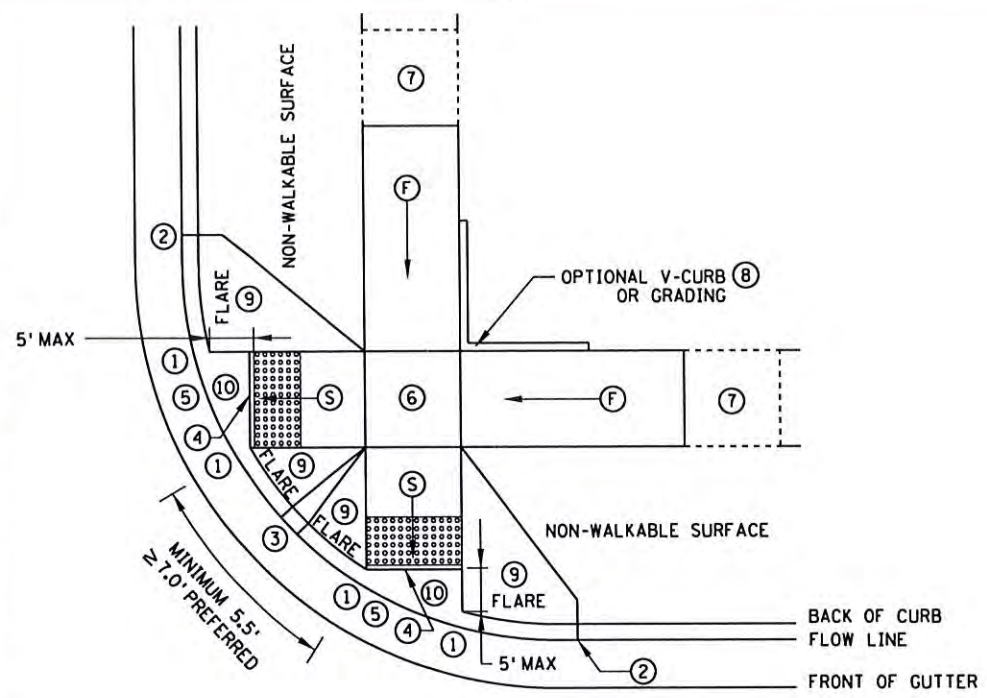
- NOTES:**
- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
 - INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.
 - SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
 - CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.
 - ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.
 - TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.
 - ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.
 - TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
 - 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.
 - SEE STANDARD PLATE 7038 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- 1 0" CURB HEIGHT.
 - 2 FULL CURB HEIGHT.
 - 3 DETECTABLE WARNINGS MAY BE PART OF 4' X 4' LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
 - 4 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
 - 5 SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.
 - 6 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.
 - 7 IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.
 - 8 V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. SEE SHEET 5 OF 5.
 - 9 SEE SHEET 4 OF 5, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
 - 10 DIAGONAL RAMPS SHOULD ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
S	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%
F	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

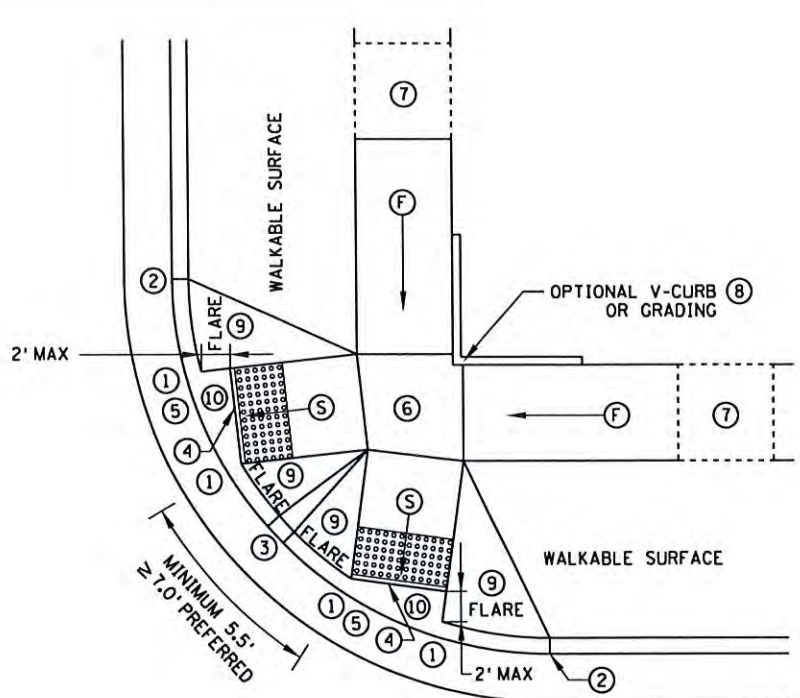
STANDARD PLAN SHEET NO.
5-297.250 (1 OF 5)
STANDARD APPROVED:
APRIL 10, 2013

PEDESTRIAN CURB RAMP DETAILS

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 Model: 5-297.250 12 of 51
 Plotted Date: 8/13/2014
 Plotted by: hmb

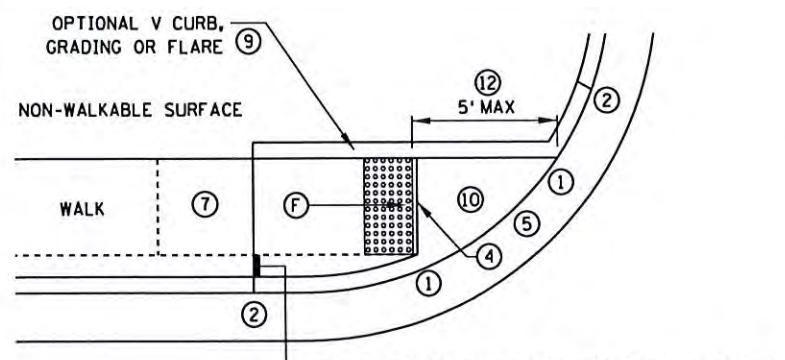


ADJACENT TO NON-WALKABLE SURFACE



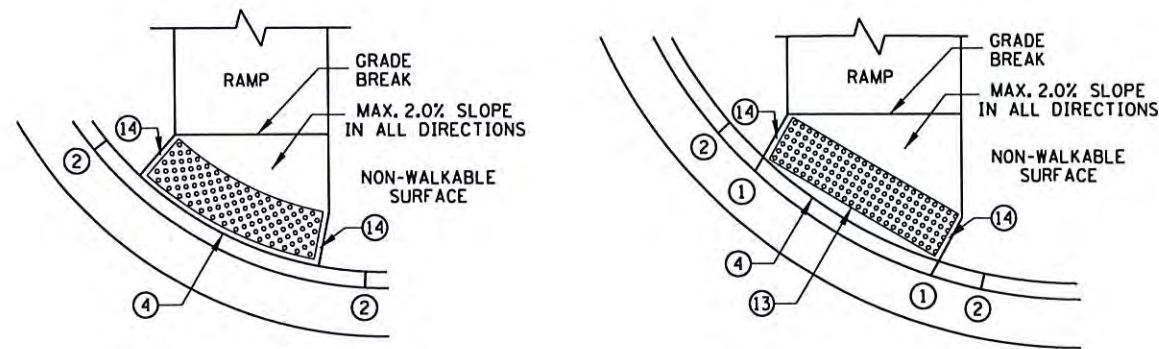
ADJACENT TO WALKABLE SURFACE

COMBINED DIRECTIONAL 15

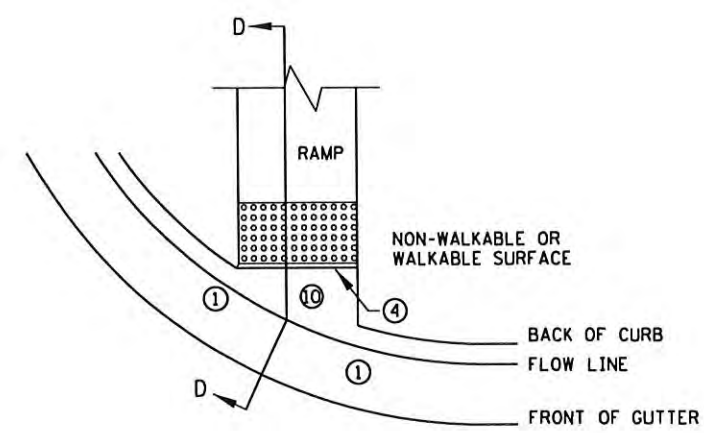


ONE-WAY DIRECTIONAL

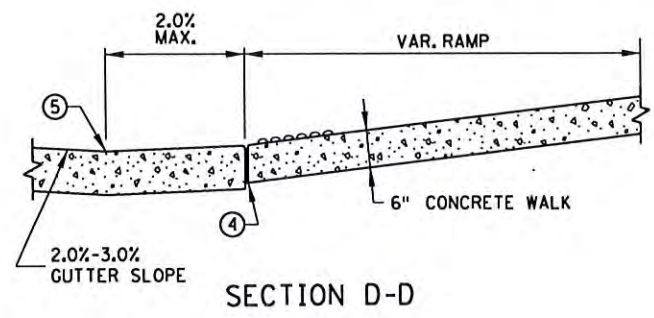
IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.



DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED



CURB FOR DIRECTIONAL RAMPS 11



SECTION D-D

NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30' OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.
- TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.
- ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.
- TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.
- SEE STANDARD PLATE 7038 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- 1 0" CURB HEIGHT.
- 2 FULL CURB HEIGHT.
- 3 3" MINIMUM CURB HEIGHT, 4" PREFERRED.
- 4 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MIN. TO 6" MAX. FROM THE BACK OF CURB.
- 5 SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.
- 6 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.
- 7 IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.
- 8 V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- 9 SEE SHEET 4 OF 5, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
- 10 MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
- 11 TO BE USED FOR ALL DIRECTIONAL RAMPS.
- 12 PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
- 13 RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
- 14 WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- 15 FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

S INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%

F INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

STANDARD PLAN SHEET NO.
5-297.250 (2 OF 5)
STANDARD APPROVED:
APRIL 10, 2013

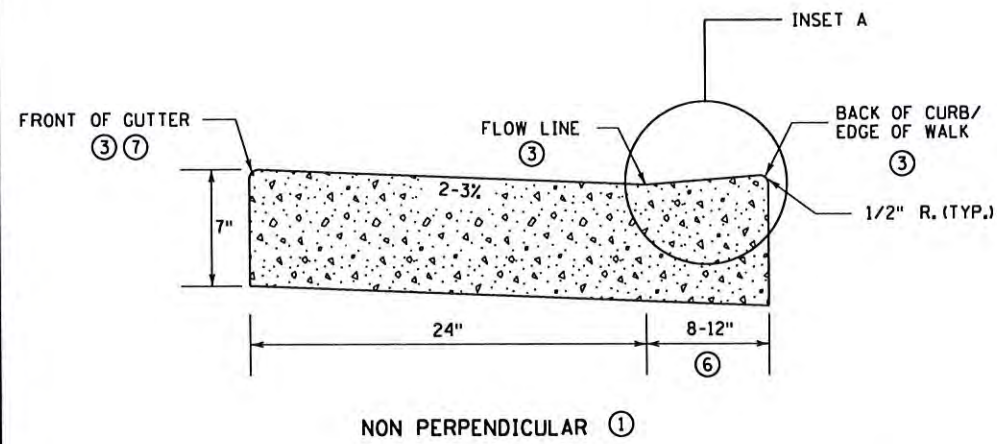
PEDESTRIAN CURB RAMP DETAILS

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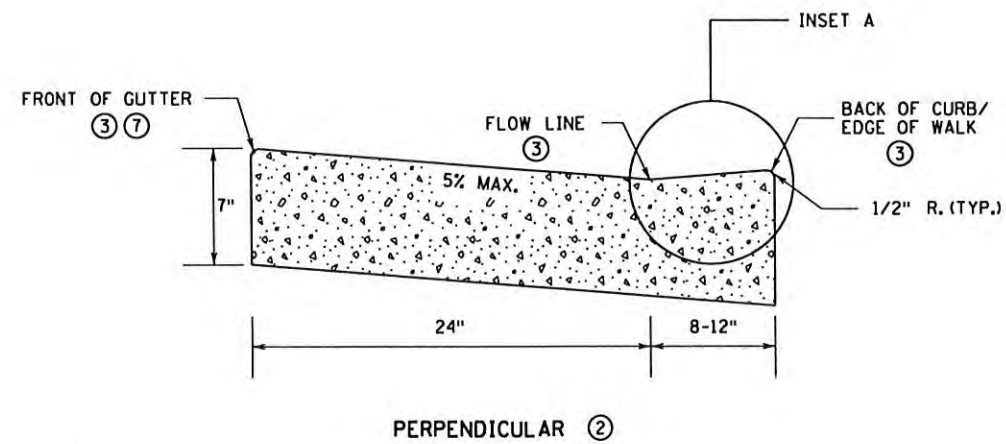
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PlotDate: 8/13/2014

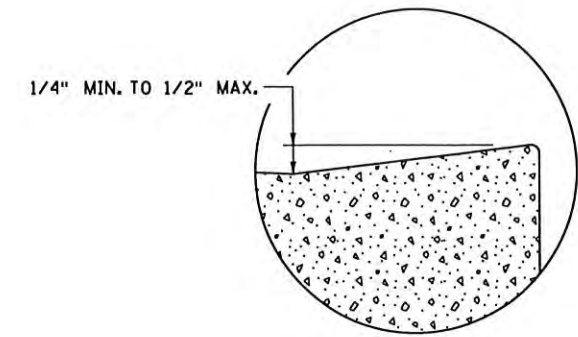
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NON PERPENDICULAR ①

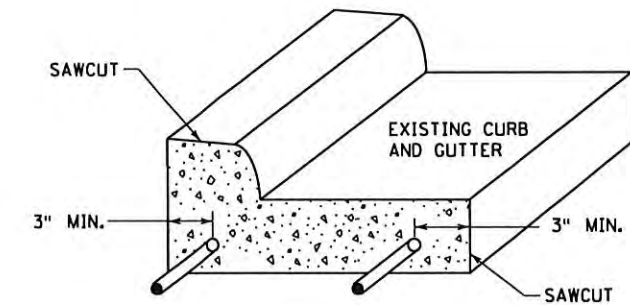
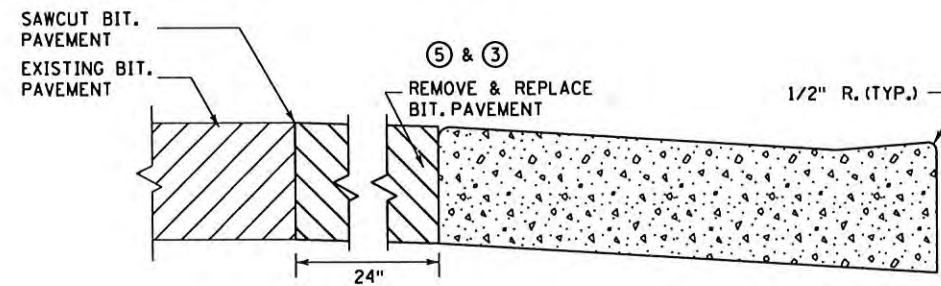
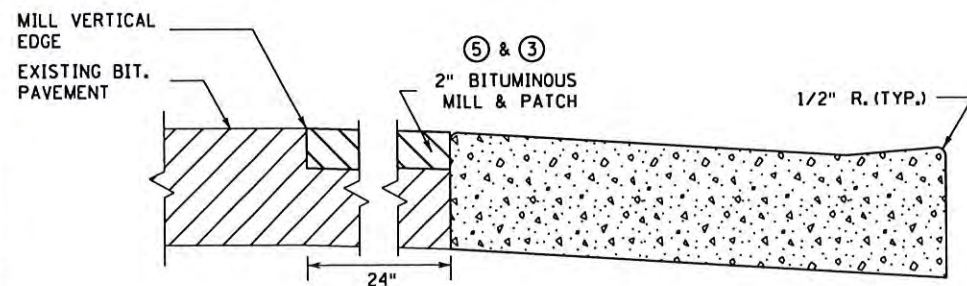


PERPENDICULAR ②

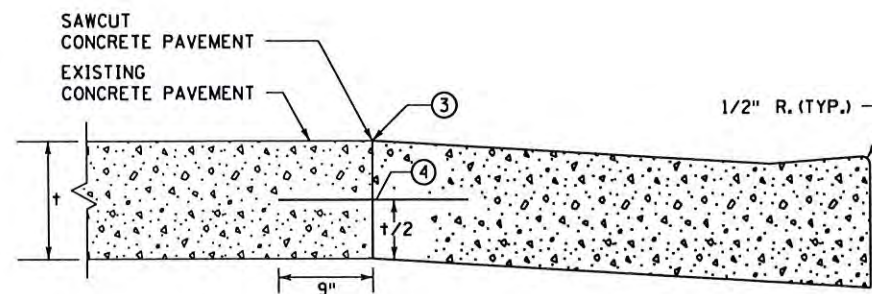
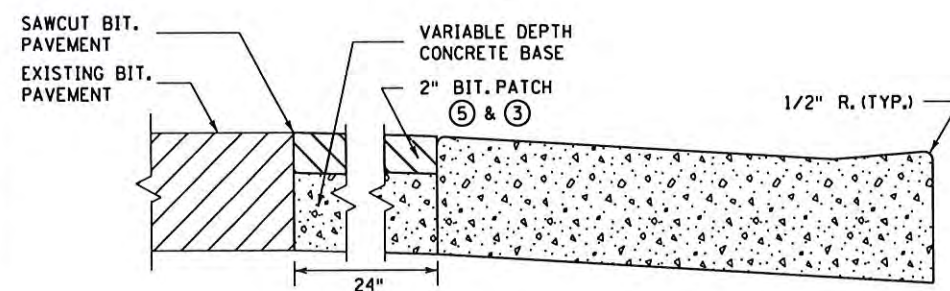


INSET A

PEDESTRIAN ACCESS ROUTE
CURB & GUTTER DETAIL



CURB AND GUTTER REINFORCEMENT ⑧
FOR USE ON CURB RAMP RETROFITS



PAVEMENT TREATMENT OPTIONS
IN FRONT OF CURB & GUTTER
FOR USE ON CURB RAMP RETROFITS

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS, DEPRESSED CORNERS, & ONE WAY AND COMBINED DIRECTIONALS.

② FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMP.

③ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4\".

④ DRILL AND GROUT NO. 4 EPOXY-COATED 18\" LONG TIE BARS AT 30\" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT.

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. PAR GUTTER SHALL NOT BE OVERLAID.

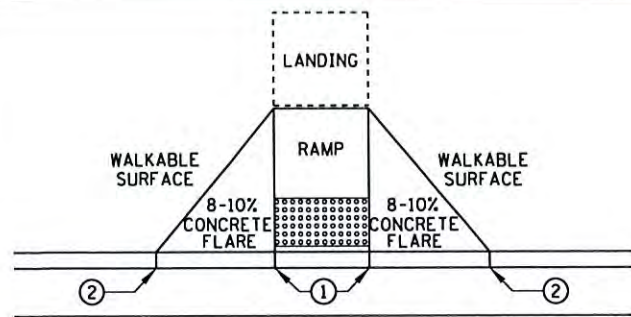
⑧ WHERE PLAN SPECIFIES, DRILL AND GROUT 2 - NO. 4 X 12\" LONG REINFORCEMENT BARS (EPOXY COATED).

STANDARD PLAN SHEET NO.
5-297.250 (3 OF 5)
STANDARD APPROVED:
APRIL 10, 2013

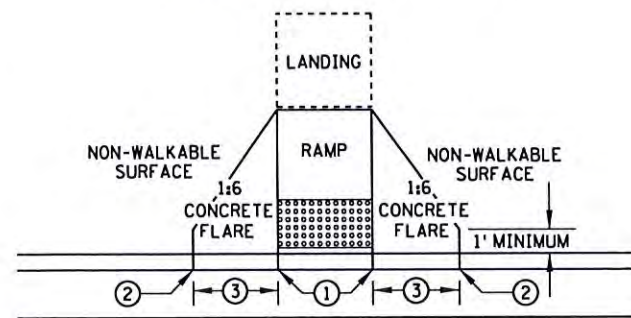
PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. 027-605-029 (C.S.A.H. 5) SHEET NO. 13 OF 42 SHEETS

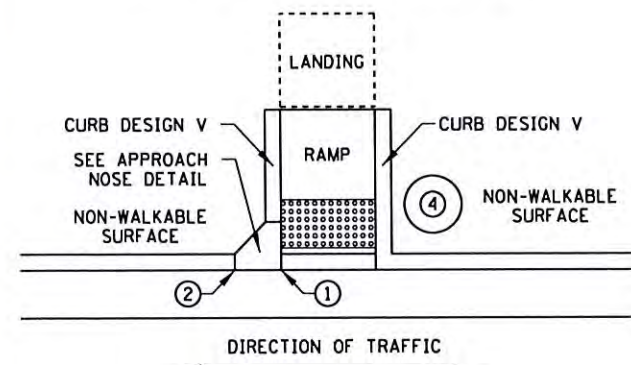
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 Model: 5-297.250 (4 of 5)
 Plotted by: nrbjux
 Plotted Date: 8/13/2014



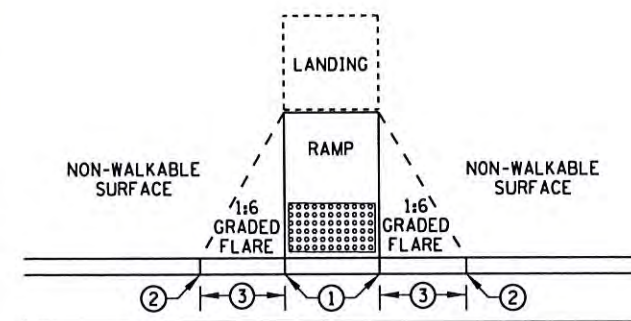
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

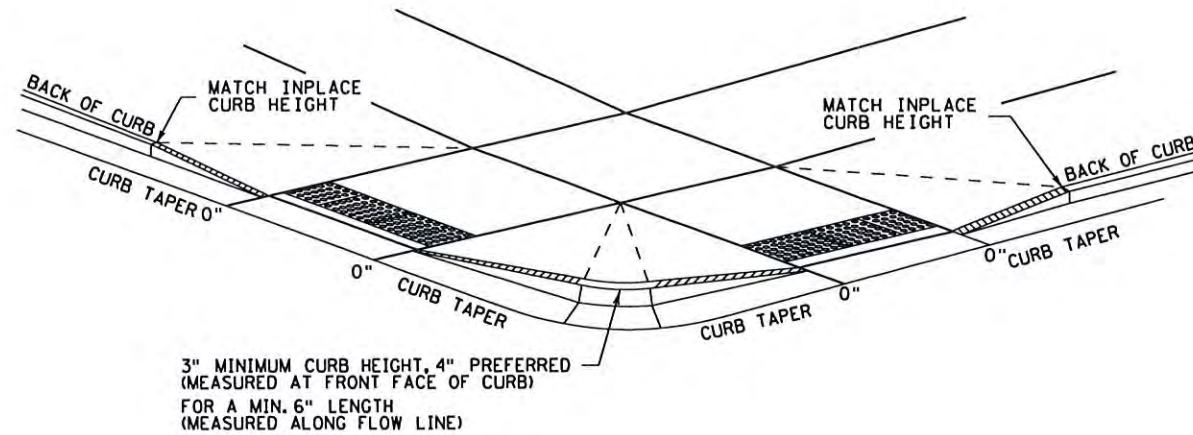


RETURNED CURB

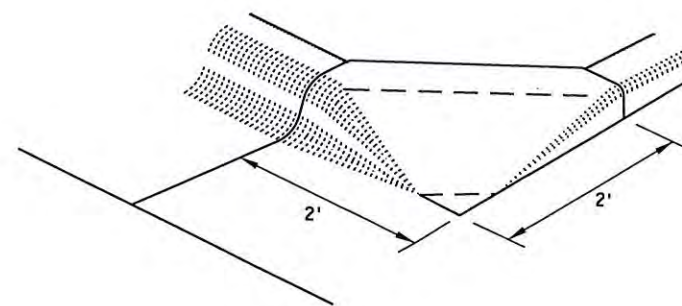


GRADED FLARES

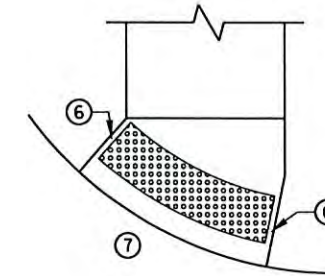
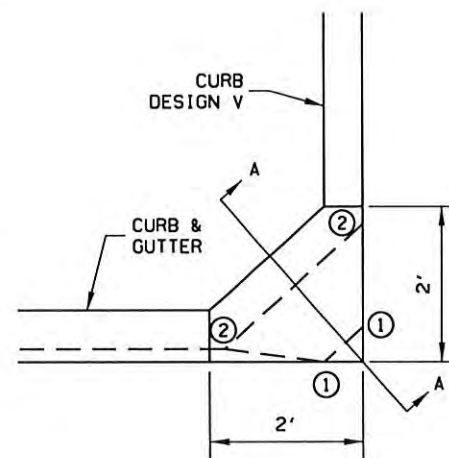
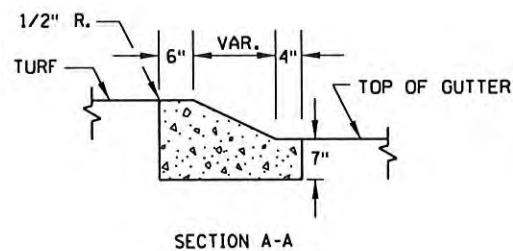
TYPICAL SIDE TREATMENT OPTIONS ⑤



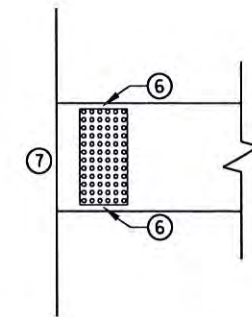
DETECTABLE EDGE WITH
CURB AND GUTTER ⑧



APPROACH NOSE DETAIL
FOR DOWNSTREAM SIDE OF TRAFFIC



RADIAL DETECTABLE WARNING



RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING. WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER. CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

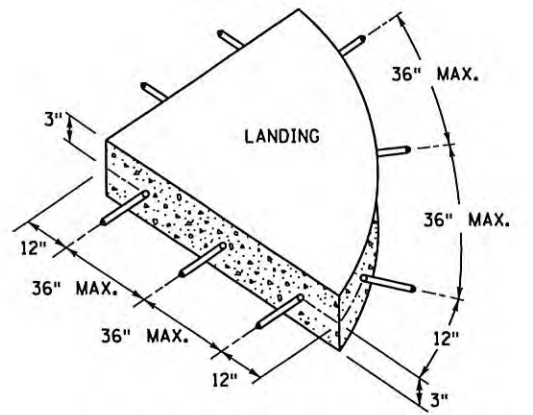
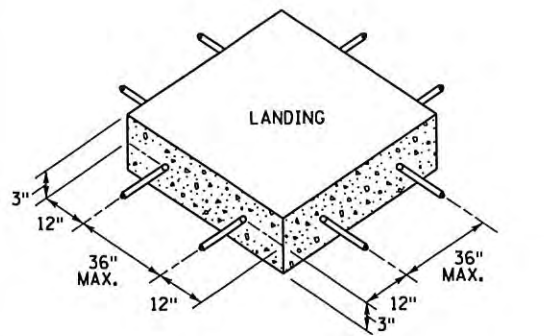
- ① 0" CURB HEIGHT.
- ② FULL CURB HEIGHT.
- ③ 2' - 3' FLARE.
- ④ IMMOVABLE OBJECT OR OBSTRUCTION.
- ⑤ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED ON ALL RAMPS AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF ROADWAY TO PROVIDE VISUAL CONTRAST.
- ⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

STANDARD PLAN SHEET NO.
5-297.250 (4 OF 5)
STANDARD APPROVED:
APRIL 10, 2013

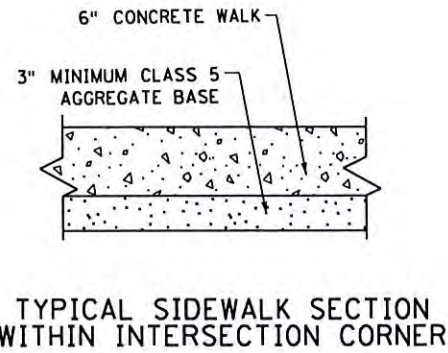
PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. 027-605-029 (C.S.A.H. 5) SHEET NO. 14 OF 42 SHEETS

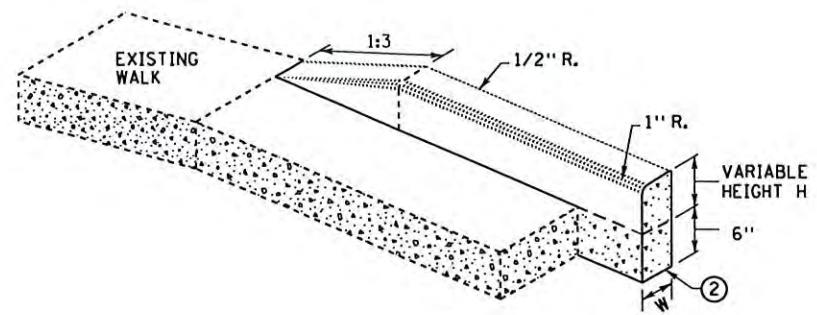
Plotted Date: 8/13/2014 Model: 5-297.250 (5 of 5) File: p:\v\h\h\356\h\356\p\m\craos\l\lekas\Documents\Minnesota\Projects\497999\Franklin_Bridge\Design\CADD\ROAD\CD\1007\PI\ons\10072795829_06_STANDARD_PLANS.dgn



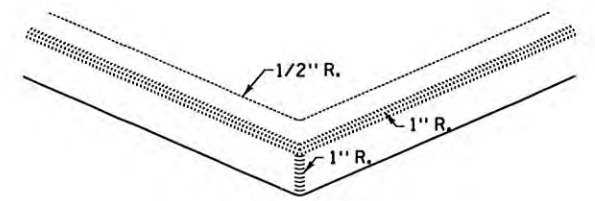
SIDEWALK REINFORCEMENT ⑤ ⑥



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

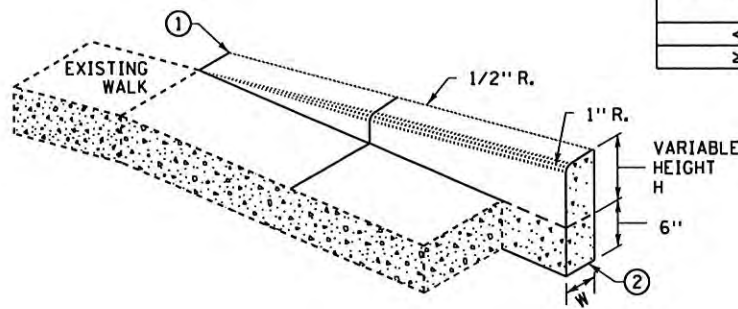


V CURB ADJACENT TO LANDSCAPE CURB WITHIN SIDEWALK LIMITS

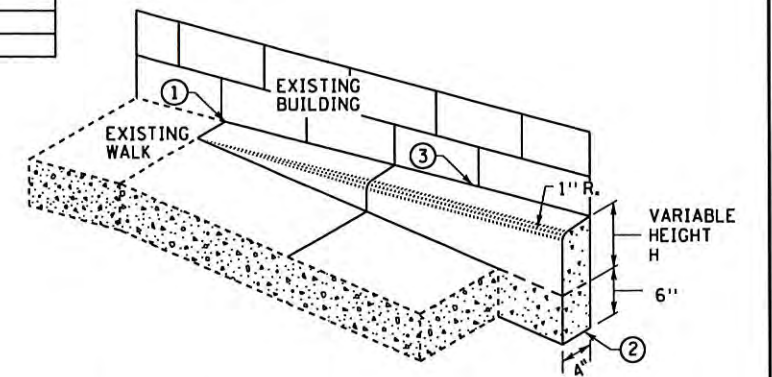


V CURB INTERSECTION

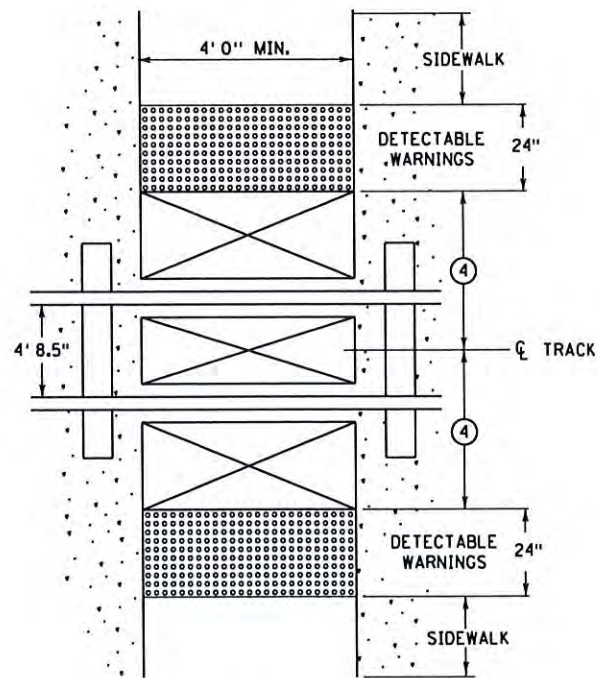
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



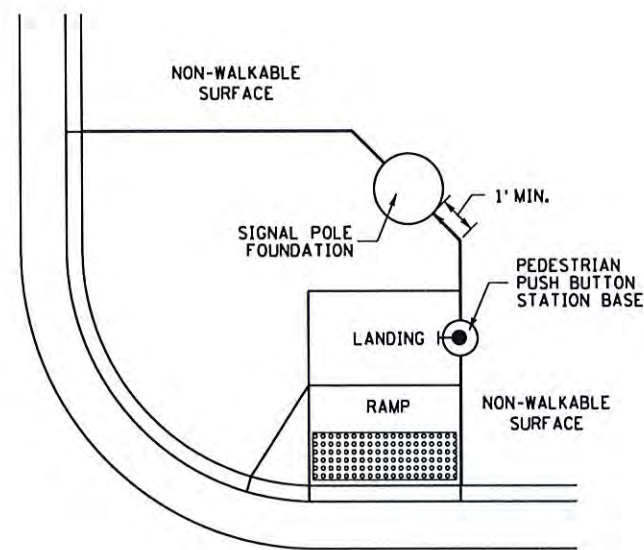
V CURB ADJACENT TO LANDSCAPE CURB OUTSIDE SIDEWALK LIMITS



V CURB ADJACENT TO BUILDING OR BARRIER



RAILROAD CROSSING PLAN VIEW



CONCRETE WALK EDGES ADJACENT TO CONCRETE STRUCTURES

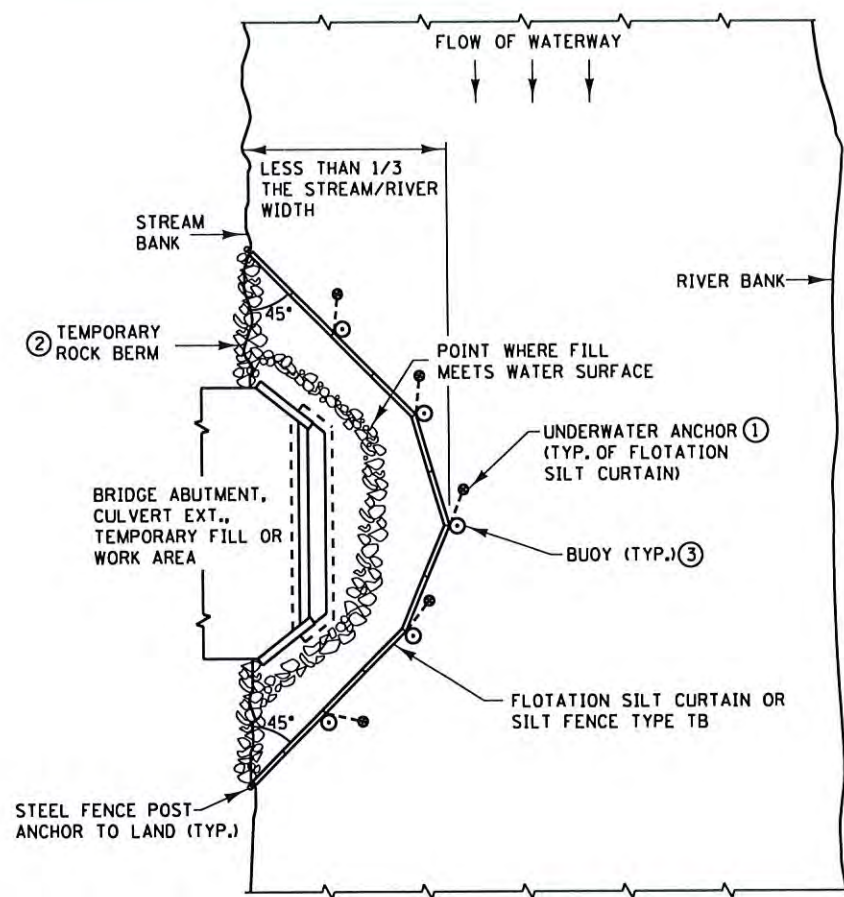
NOTES:

- ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.
- WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.
- V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.
- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
- ④ EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 15' MAXIMUM FROM THE CENTERLINE OF THE TRACK. WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 17" - 19" FROM THE APPROACHING SIDE OF THE GATE ARM.
- ⑤ WHEN PLAN SPECIFIES, DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAX. CENTER TO CENTER (EPOXY COATED).
- ⑥ TO ENSURE RAMP AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET WHEN LANDINGS ARE CAST SEPARATELY.

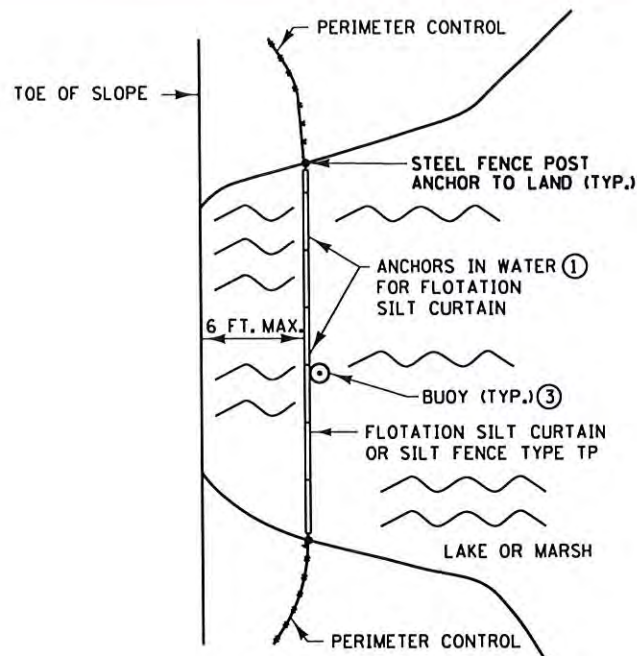
STANDARD PLAN SHEET NO. 5-297.250 (5 OF 5)
STANDARD APPROVED: APRIL 10, 2013

PEDESTRIAN CURB RAMP DETAILS

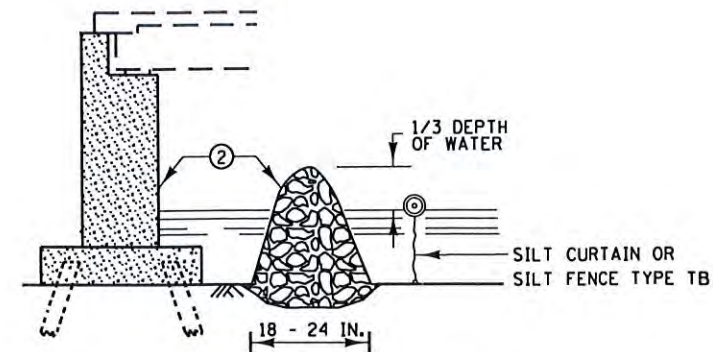
Plotted Date: 8/13/2014 Model: 5-297,405 (1 of 7) Plotted by: r-n-r-n-ux



PLAN VIEW FOR STREAM ⑤



PLAN VIEW FOR LAKE OR MARSH ⑤

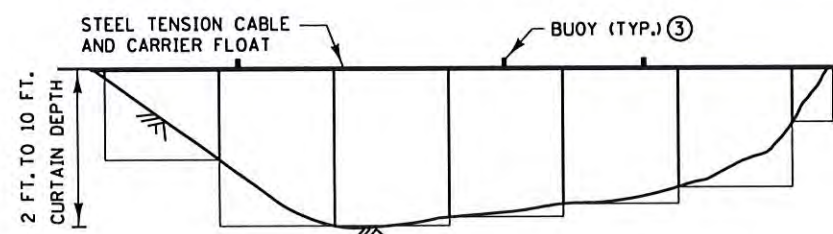


TEMPORARY ROCK BERM FOR SEDIMENT CONTROL

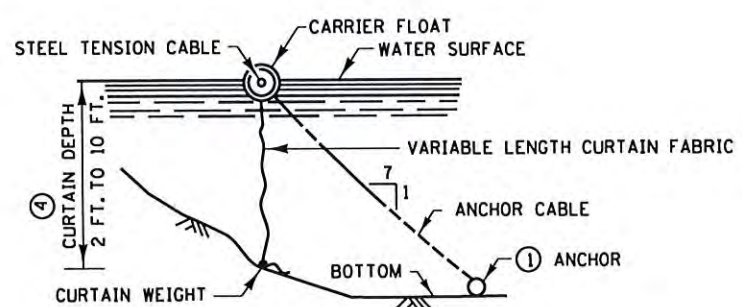
INSTALLATION GUIDELINES SILT FENCE TYPE TB
MINIMUM WATER DEPTH: 1 FT.
MAXIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.

INSTALLATION GUIDELINES FLOTATION SILT CURTAIN TYPE: STILL WATER
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 2 FT./SEC.
MAXIMUM WAVE HEIGHT: 1 FT

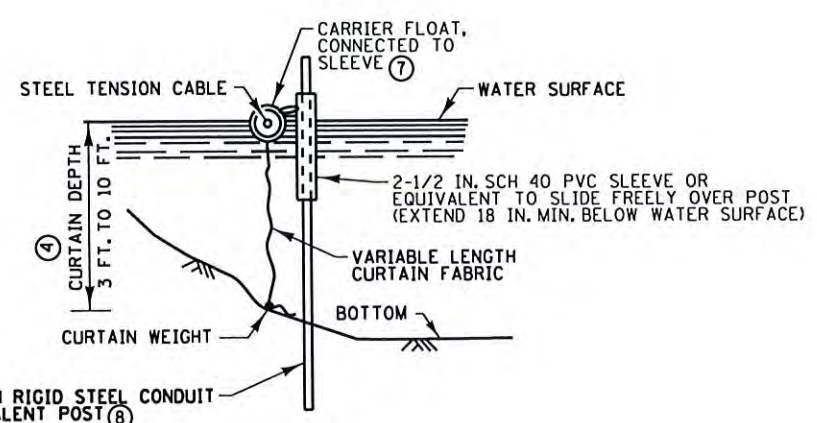
INSTALLATION GUIDELINES FLOTATION SILT CURTAIN TYPE: MOVING WATER
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.
MAXIMUM WAVE HEIGHT: 2 FT.



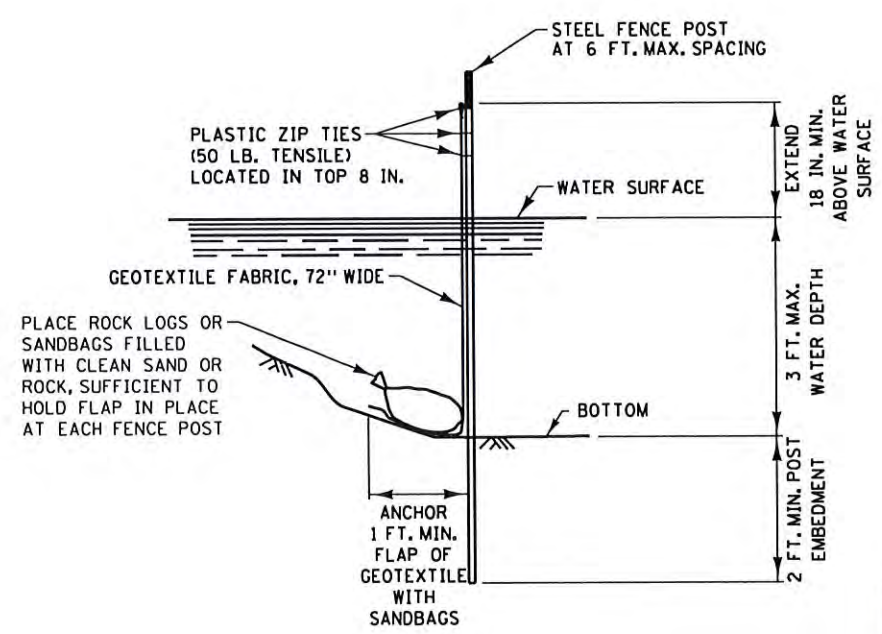
FRONT VIEW FOR FLOTATION SILT CURTAIN



FLOTATION SILT CURTAIN



ALTERNATE FLOTATION SILT CURTAIN



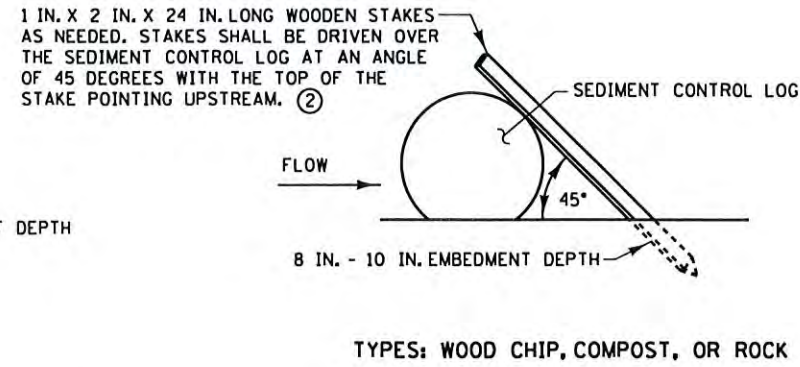
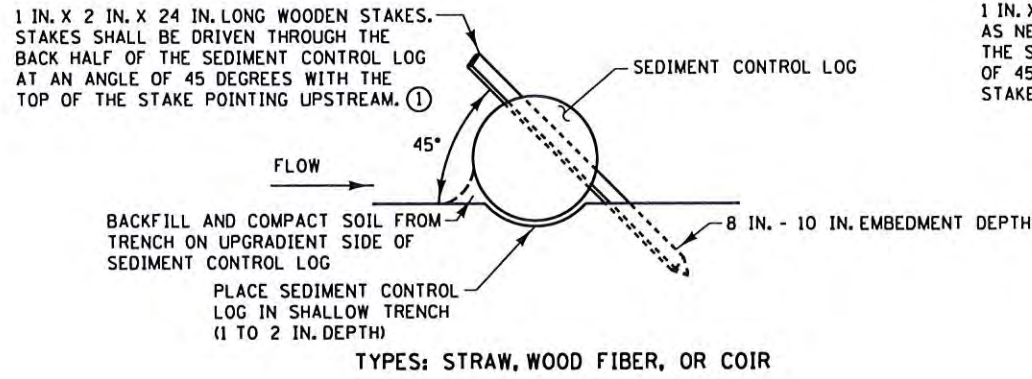
SILT FENCE TYPE TB ⑥

NOTES:

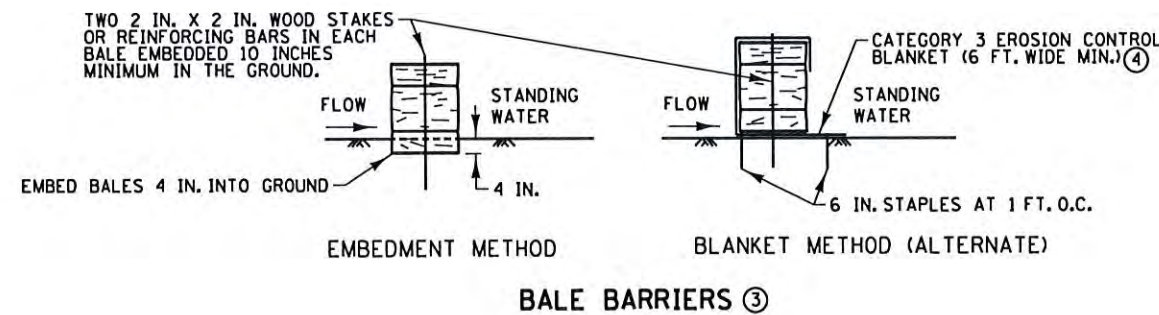
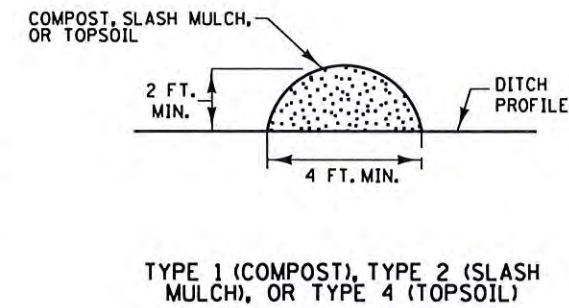
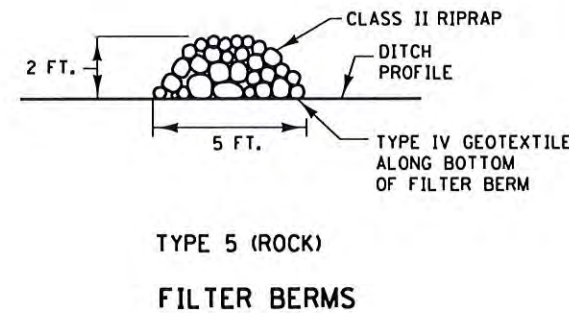
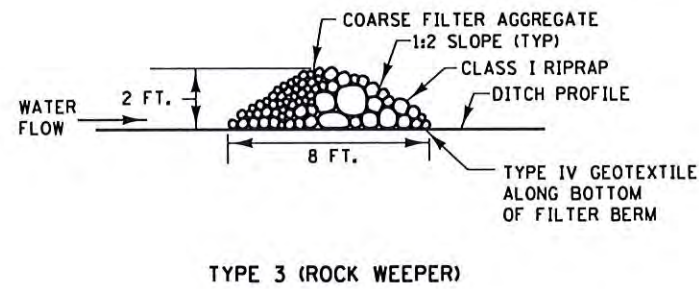
- SEE SPECS. 2573, 3886, 3887 & 3893.
- ① FOR ANCHOR SPACING AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.
- ② IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT A BRIDGE, CULVERT, OR SLOPE, A TEMPORARY ROCK BERM CONSTRUCTED FROM THE RIPRAP CAN BE USED TO PROVIDE ADDITIONAL PROTECTION. WHEN THE WORK IS COMPLETE THE RIPRAP CAN THEN BE MOVED TO THE PERMANENT LOCATION INDICATED IN THE PLANS. THE TEMPORARY ROCK BERM IS INCIDENTAL.
- ③ ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.
- ④ MINIMUM WATER DEPTH APPLIES TO THE DEEPEST POINT ALONG THE FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB FOR DETERMINING APPLICABILITY OF FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB.
- ⑤ SILT CURTAIN SHOULD BE REMOVED WHEN THE AREA CONTRIBUTING DIRECT RUNOFF HAS BEEN TEMPORARILY OR PERMANENTLY STABILIZED. SILT CURTAIN SHOULD ALSO BE REMOVED BEFORE WINTER IF ICE UP OR ICE FLOW IS ANTICIPATED.
- ⑥ EMBED POST INTO BOTTOM A MINIMUM OF 40% OF THE WATER DEPTH (INCLUDING WAVE HEIGHT), BUT IN NO CASE SHALL EMBEDMENT BE LESS THAN 2 FEET.
- ⑦ ANCHOR FLOAT MUST BE CONNECTED SECURELY TO SLEEVE WITH A MINIMUM TENSILE STRENGTH OF 100 LBS. CONNECTION METHOD MUST ALLOW FOR SLEEVE TO MOVE FREELY ON POST.
- ⑧ PROVIDE SUFFICIENT NUMBER OF POST ANCHORS TO MAINTAIN SILT CURTAIN POSITION.

STANDARD SHEET NO. 5-297,405 (1 OF 7)	TITLE: TEMPORARY SEDIMENT CONTROL SILT CURTAIN OR SILT FENCE TYPE TB
STANDARD APPROVED: DECEMBER 11, 2013	
STATE PROJ. NO. 027-605-029 (CSAH 5) SHEET NO. 16 OF 42 SHEETS	

Files: p:\projects\256\hmb\org\p\GreatLakes\Documents\Minneapolis Projects\19799 Franklin Bridge Design\CAD\ROAD\CD\1887\Plans\CD02769524_06_51\ROAD_P\ANS.dgn
 Model: 5-297.405 (2 of 7)
 Plotted Date: 8/13/2014
 Plotted by: jntwex



SEDIMENT CONTROL LOGS



NOTES:

SEE SPECS. 2573, 3149, 3874, 3882, 3886, & 3897.

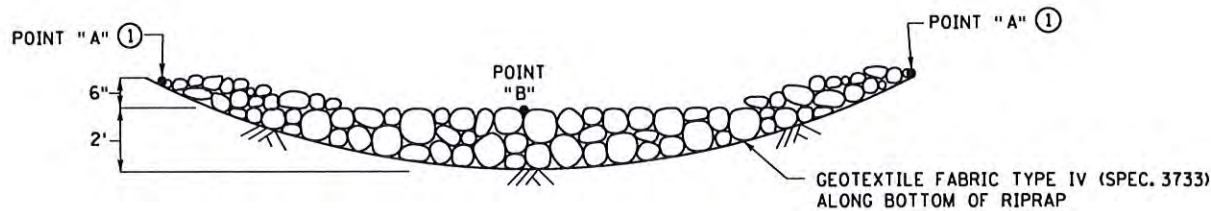
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1 FOOT FOR DITCH CHECKS OR 2 FEET FOR OTHER APPLICATIONS.
- ② PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.
- ③ TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6 INCH MAX. DEPTH), BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14 IN. X 18 IN. X 36 IN. LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
- ④ INSTEAD OF TRENCHING, PLACE BALE ON THE BLANKET AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

STANDARD SHEET NO.
5-297.405 (2 OF 7)

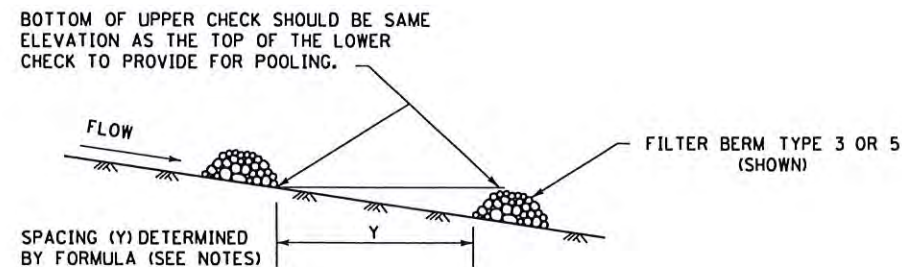
STANDARD APPROVED:
DECEMBER 11, 2013

TEMPORARY SEDIMENT CONTROL
FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS

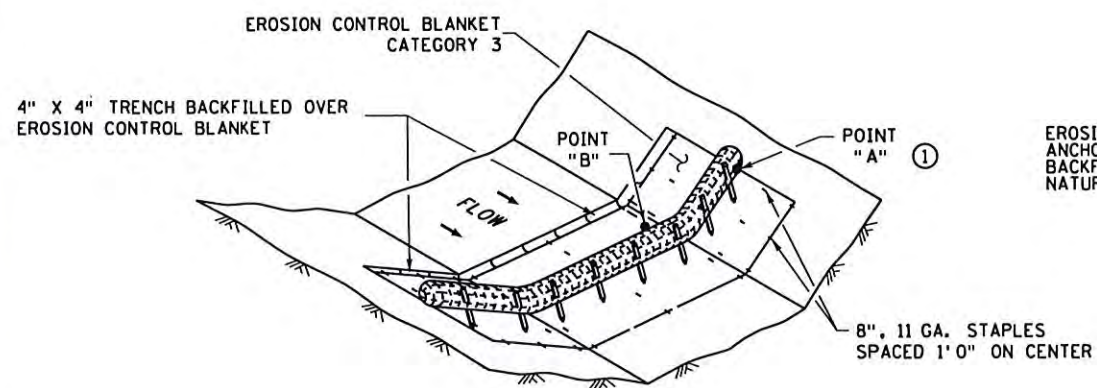
STATE PROJ. NO. 027-605-029 (C.S.A.H. 5) SHEET NO. 17 OF 42 SHEETS



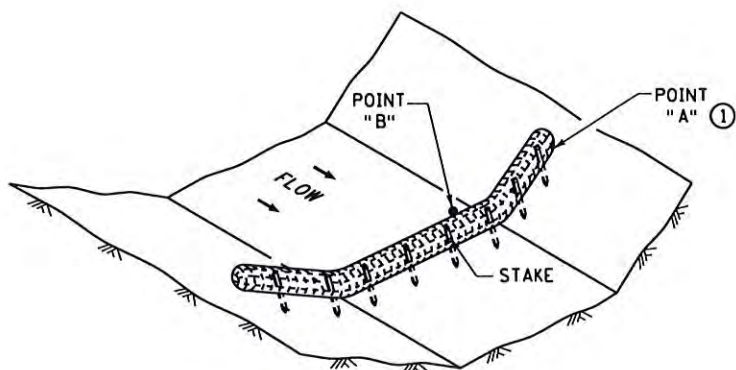
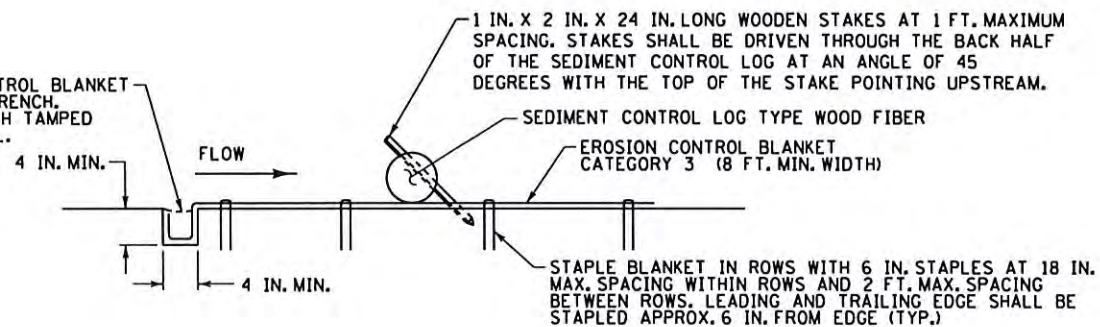
ROCK DITCH CHECKS
FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) (2)(3)
 (FOR USE ON ROUGH GRADED AREAS)



DITCH CHECK SPACING
 (FOR ALL FILTER BERM TYPES)



SEDIMENT CONTROL LOG TYPE BLANKET SYSTEM (4)



SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST (5)
 (FOR USE ON ROUGH GRADED AREAS)

NOTES:

SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.

FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.

APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT)}}{\% \text{ CHANNEL SLOPE}} \times 100$$

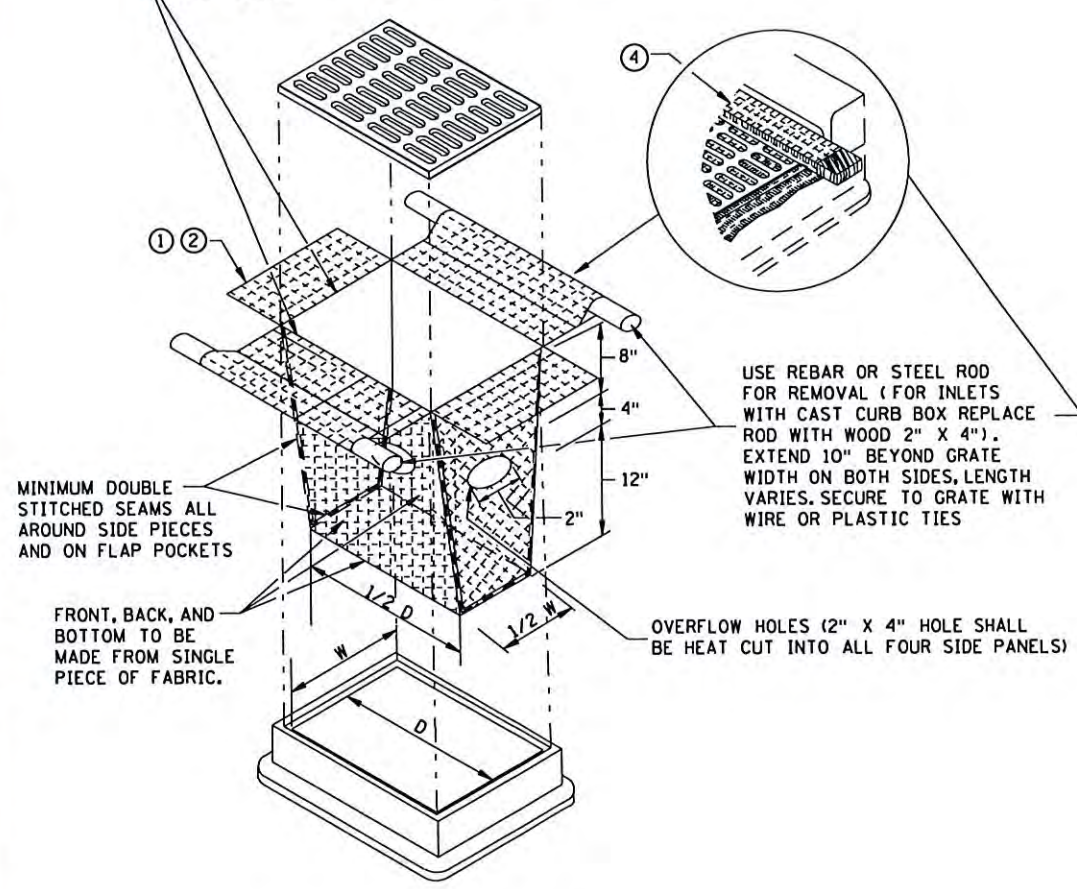
- (1) POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- (2) PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.
- (3) DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC..
- (4) DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC..
- (5) DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC..

STANDARD SHEET NO. 5-297.405 (3 OF 7)	TEMPORARY SEDIMENT CONTROL DITCH CHECK
STANDARD APPROVED: DECEMBER 11, 2013	
STATE PROJ. NO. 027-605-029 (CSAH 5) SHEET NO. 18 OF 42 SHEETS	

Plotted by: ntr:uek
 Plotted Date: 8/13/2014
 Model: 5-297.405 (3 of 7)
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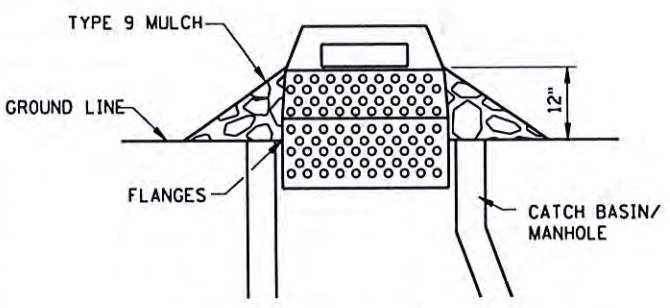
Plotted by: ntrunx
 Plotted Date: 8/13/2014
 Model: 5-297.405 (4 of 7)
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 User: CD108271
 Date: 8/13/2014
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INLET SPECIFICATIONS AS PER THE PLAN
 DIMENSION LENGTH AND WIDTH TO MATCH
 FLAP POCKET



FILTER BAG INSERT ③

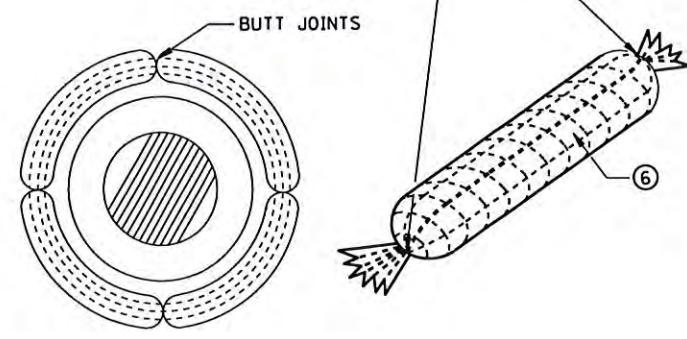
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)



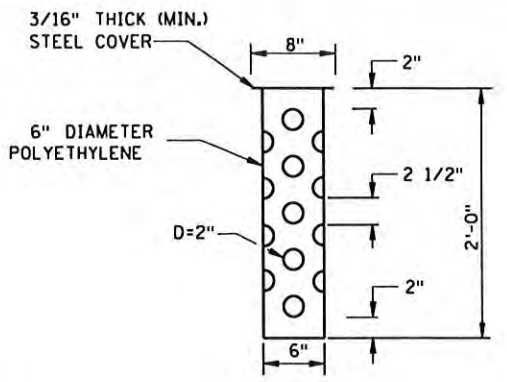
SEDIMENT CONTROL INLET HAT

NOTE:
 THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.

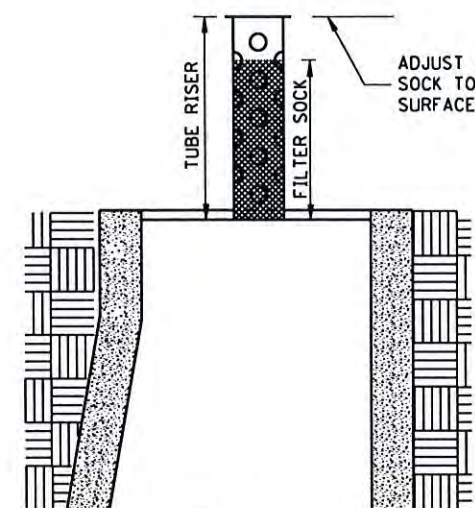
ENDS SECURELY CLOSED TO PREVENT LOSS OF OPEN GRADED AGGREGATE FILL. SECURED WITH 50 PSI. ZIP TIE.



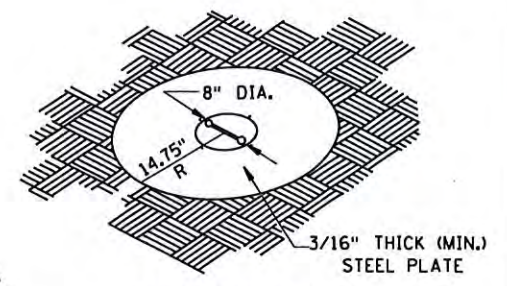
ROCK LOG/COMPOST LOG



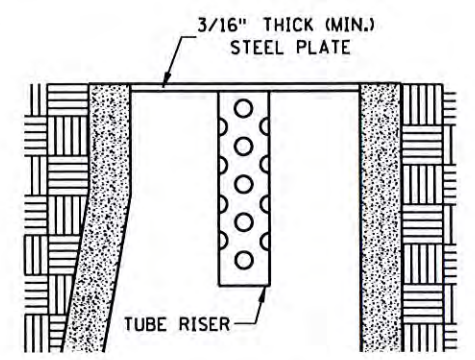
TUBE RISER



SECTION (UP POSITION)

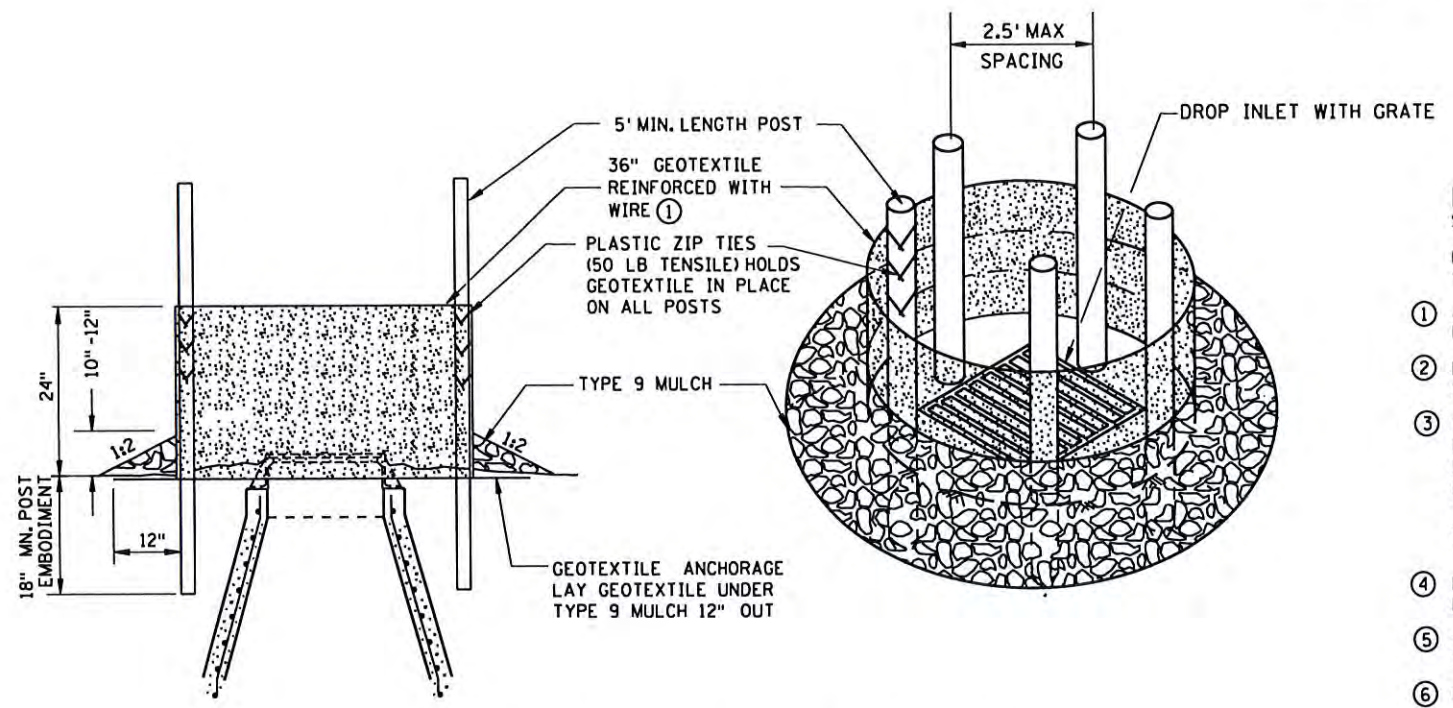


PERSPECTIVE VIEW



SECTION (DOWN POSITION)

POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM

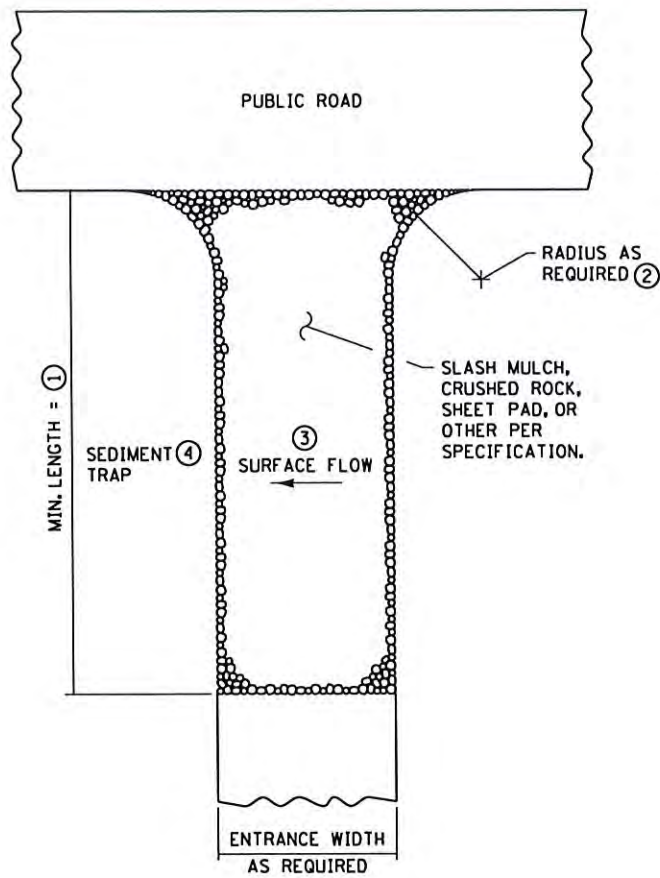
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

NOTES:

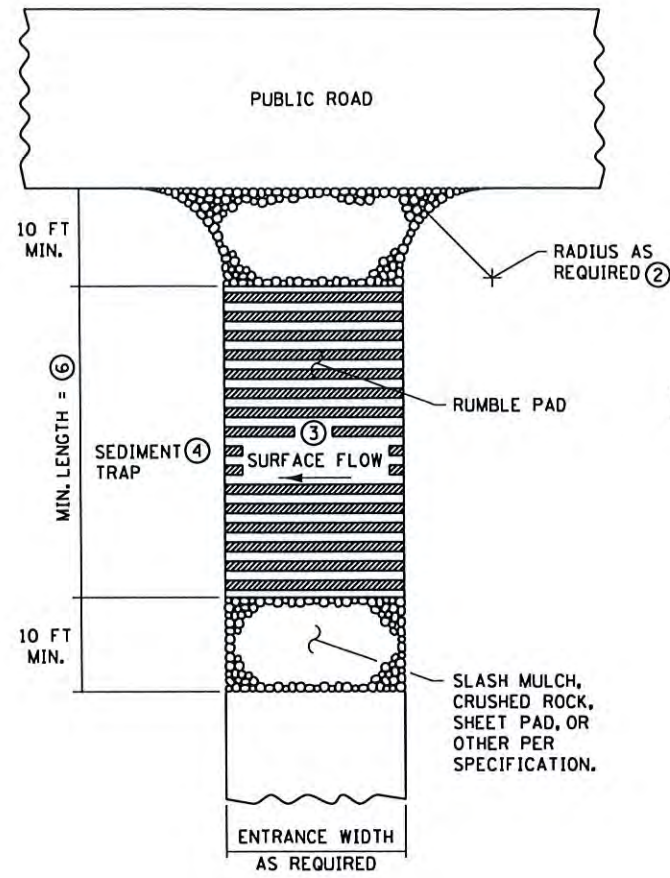
- SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED TRAFFIC FLOW.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:
 DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

STANDARD SHEET NO. 5-297.405 (4 OF 7)	TITLE: TEMPORARY SEDIMENT CONTROL STORM DRAIN INLET PROTECTION
STANDARD APPROVED: DECEMBER 11, 2013	
STATE PROJ. NO. 027-605-029 (C.S.A.H. 5) SHEET NO. 19 OF 42 SHEETS	

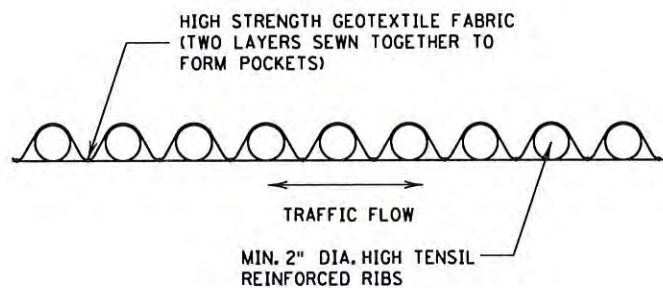
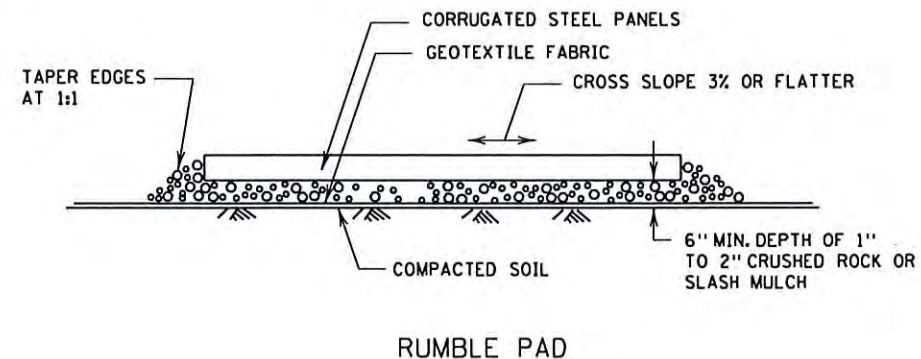
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 Plotted Date: 8/13/2014 Model: 5-297.405 15 of 71
 Plotted by: trux



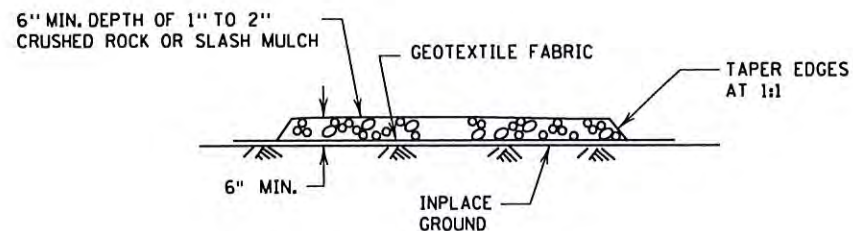
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



SHEET PAD



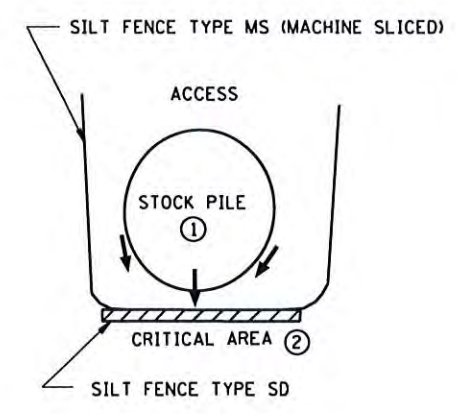
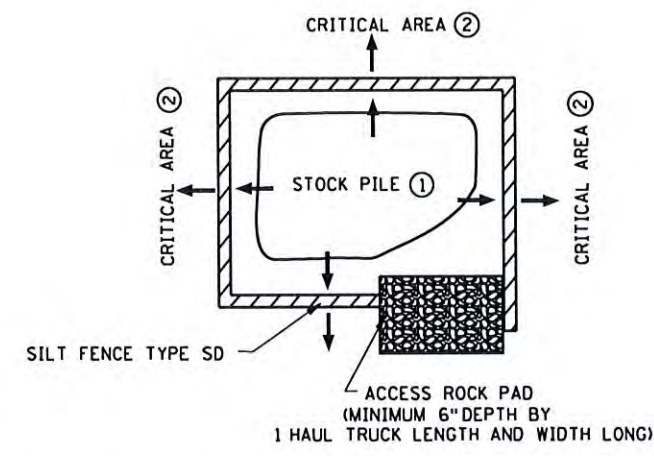
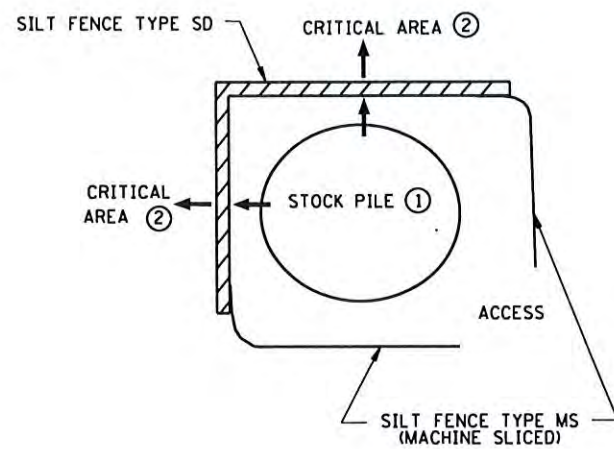
SLASH MULCH OR CRUSHED ROCK

NOTES:

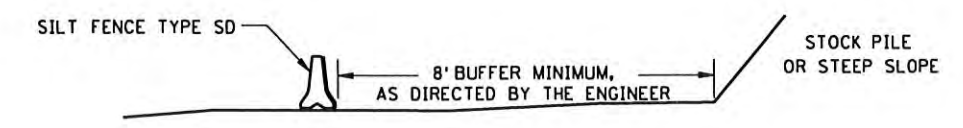
- SEE SPECS. 2573 & 3882.
- ① MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
 - ② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
 - ③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
 - ④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
 - ⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
 - ⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
 - ⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

STANDARD SHEET NO. 5-297.405 (5 OF 7)	TITLE: TEMPORARY SEDIMENT CONTROL CONSTRUCTION EXITS
STANDARD APPROVED: DECEMBER 11, 2013	
STATE PROJ. NO. 027-605-029 (C.S.A.H. 5) SHEET NO. 20 OF 42 SHEETS	

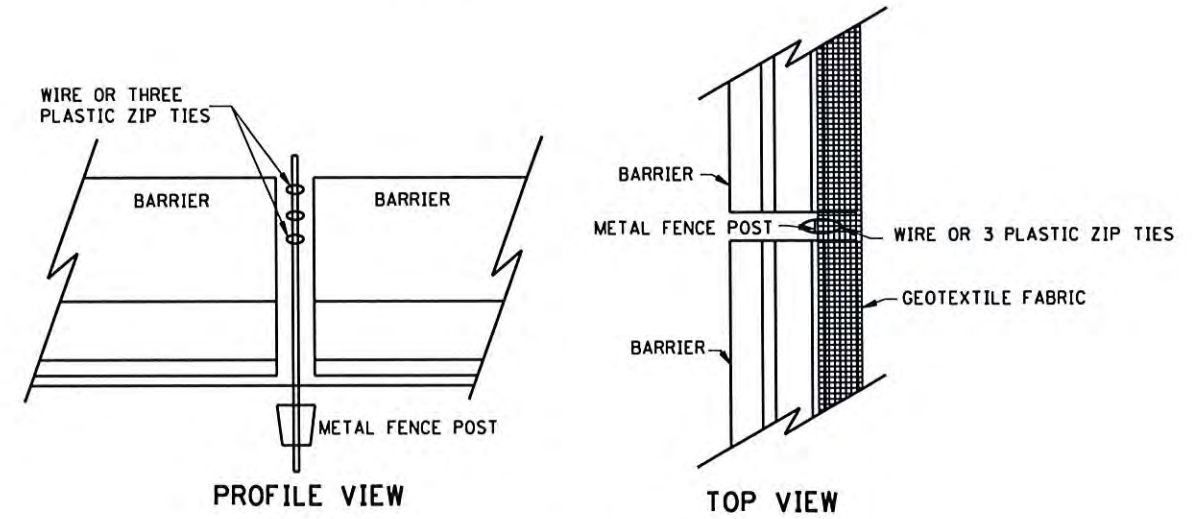
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 Model: 5-297,405 (7 of 7)
 Plotted Date: 8/13/2014
 Plotted by: mtrux



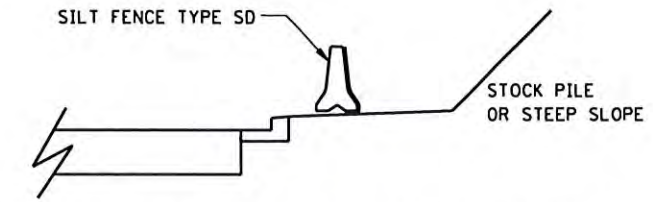
STOCK PILE CONTAINMENT



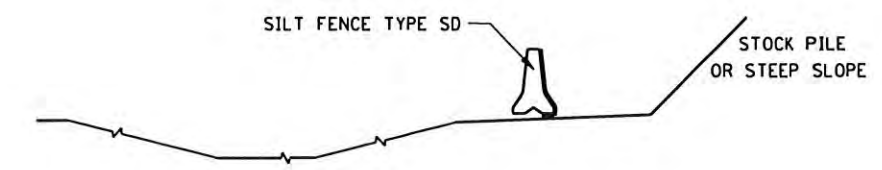
STOCKPILE SEDIMENT CONTROL



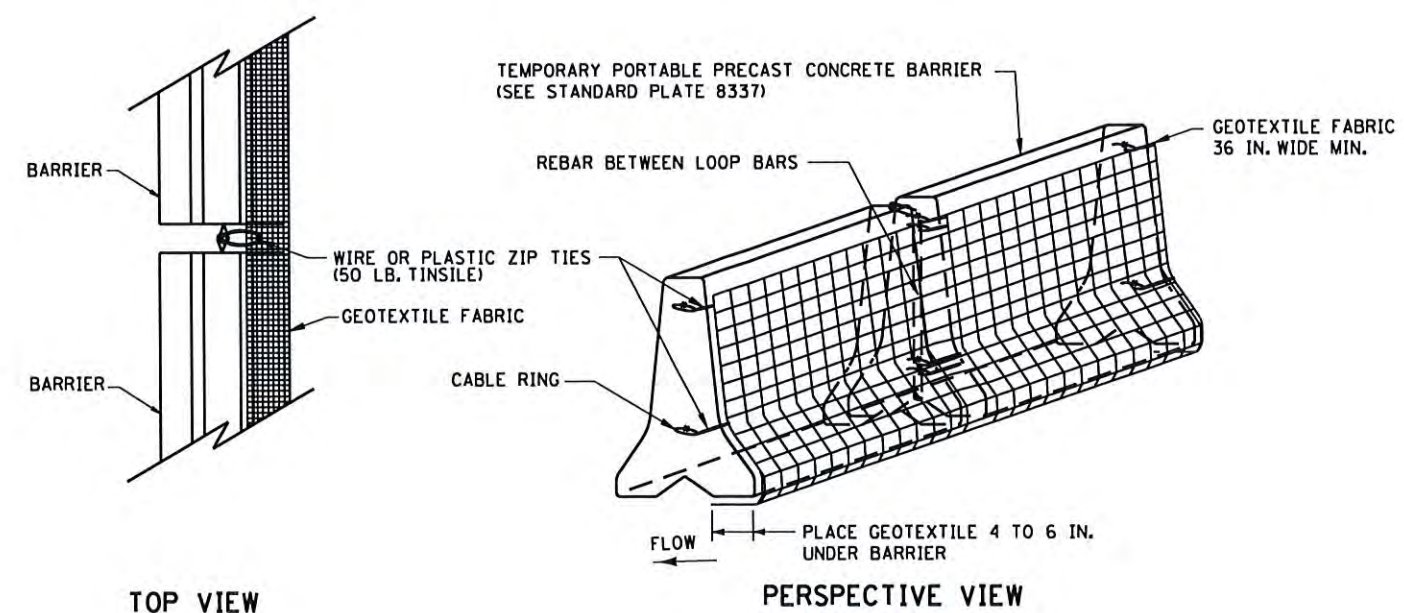
SILT FENCE TYPE SD (SUPER DUTY) BARRIER WITHOUT LOOP BARS



CURB AND GUTTER PROTECTION SYSTEM



DITCH PROTECTION SYSTEM



SILT FENCE TYPE SD (SUPER DUTY) BARRIER WITH LOOP BARS

NOTES:

- SEE SPECS. 2533, 2573 & 3886.
- SILT FENCE TYPE SD USED TO PROTECT CRITICAL AREAS FROM SHEET FLOW, AND AREAS WHERE OTHER SILT FENCES CANNOT BE INSTALLED. MAXIMUM CONTRIBUTING AREA: 1 ACRE.
- PLACE SILT FENCE TYPE SD ALONG A CONSTANT ELEVATION.
- SILT FENCE TYPE SD CAN UTILIZE EITHER A CONCRETE, OR WATER FILLED, TEMPORARY MEDIAN BARRIER.
- ① PLACING STOCK PILES NEXT TO AN ENVIRONMENTALLY SENSITIVE AREA IS NOT RECOMMENDED. WHEN THERE ARE NO FEASIBLE ALTERNATIVES, PLACE SILT FENCE SD AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- ② CRITICAL AREAS INCLUDE WETLANDS, JUDICIAL DITCHES, STREAMS, WATER BODIES, AND OTHER AREAS REQUIRING PROTECTION.

STANDARD SHEET NO. 5-297,405 (7 OF 7)	TITLE: TEMPORARY SEDIMENT CONTROL SUPER DUTY SILT FENCE
STANDARD APPROVED: DECEMBER 11, 2013	
STATE PROJ. NO. 027-605-029 (C.S.A.H. 5) SHEET NO. 22 OF 42 SHEETS	

INPLACE STORM SEWER DATA													I
STRUCT. NO.	TYPE OF STRUCT.	STATION	LOCATION	INPLACE TOP OF RING	FLOW LINE	FLOWS TO	OUTFALL PIPE SIZE	OUTFALL PIPE LENGTH	PROPOSED TOP OF RING	CASTING ASSEMBLY	REMOVE STORM MH OR CB	REMOVE PIPE SEWER	REMARKS
				ELEV.	ELEV.		IN.	FT.	ELEV.		EACH	EACH	
1	IMH	7+85	51' LT	822.39	808.49	IMH 3	30" HDPE	130					LEAVE AS IS
2	IMH	7+99	1' LT	822.54	812.64	ICB 6	12" CLAY	32					LEAVE AS IS
3	IMH	9+27	16' LT	822.39	759.79	RIVER	24"x54"OTH ①		822.39				ADJUST ②
4	IMH	10+65	0'	789.72	781.52	RIVER	12" CMP ①						SEE BRIDGE PLANS FOR ABANDONMENT
6	ICB	7+93	32' LT	821.38	818.48	IMH 1	8" PVC	21					LEAVE AS IS
7	ICB	8+00	4' RT	821.68	816.06	IMH 2	15" RCP	5					LEAVE AS IS
8	ICB	9+50	29' LT	822.08	819.07	IMH 3	12" RCP	25			1	25	SEE REMOVAL PLAN
9	ICB	9+59	28' RT	822.18	819.18	ICB 8	12" RCP	59			1	59	SEE REMOVAL PLAN
10	ICB	10+61	24' LT	823.38		IMH 4	8" DIP						SEE BRIDGE PLANS FOR REMOVAL
11	ICB	10+61	24' RT	823.40		IMH 4	8" DIP						SEE BRIDGE PLANS FOR REMOVAL
12	ICB	10+68	24' LT	823.47		ICB 10	8" DIP	7					SEE BRIDGE PLANS FOR REMOVAL
13	ICB	10+68	24' RT	823.48		ICB 11	8" DIP	7					SEE BRIDGE PLANS FOR REMOVAL
14	ICB	12+77	24' LT	828.12		RIVER	8" DIP						SEE BRIDGE PLANS FOR REMOVAL
15	ICB	12+77	24' RT	828.14		RIVER	8" DIP						SEE BRIDGE PLANS FOR REMOVAL
16	ICB	13+01	24' LT	828.75		ICB 14	8" DIP	24					SEE BRIDGE PLANS FOR REMOVAL
17	ICB	13+01	24' RT	828.83		ICB 15	8" DIP	24					SEE BRIDGE PLANS FOR REMOVAL
18	ICB	17+12	24' LT	828.02		ICB 20	8" DIP	24					SEE BRIDGE PLANS FOR REMOVAL
19	ICB	17+12	24' RT	828.06		ICB 21	8" DIP	24					SEE BRIDGE PLANS FOR REMOVAL
20	ICB	17+36	24' LT	827.17		RIVER	8" DIP						SEE BRIDGE PLANS FOR REMOVAL
21	ICB	17+36	24' RT	827.19		RIVER	8" DIP						SEE BRIDGE PLANS FOR REMOVAL
22	ICB	19+45	24' LT	819.85		ICB 24	8" DIP	7					SEE BRIDGE PLANS FOR REMOVAL
23	ICB	19+45	24' RT	819.83		ICB 25	8" DIP	7					SEE BRIDGE PLANS FOR REMOVAL
24	ICB	19+52	24' LT	819.67		RIVER	8" DIP						SEE BRIDGE PLANS FOR REMOVAL
25	ICB	19+52	24' RT	819.63		RIVER	8" DIP						SEE BRIDGE PLANS FOR REMOVAL
26	ICB	10+04	110' LT	788.08	784.83	ICB 28		25					LEAVE AS IS
27	ICB	10+05	93' RT	791.49	788.41	ICB 26	12" RCP	203					LEAVE AS IS
28	ICB	10+28	116' LT	787.98	784.28	RIVER	12" CMP						LEAVE AS IS
29	ICB	10+30	94' RT	791.26	788.86	ICB 27		24					LEAVE AS IS
30	ICB	20+91	286' LT	807.23									LEAVE AS IS
31	ICB	21+01	265' LT	807.19									LEAVE AS IS
32	ICB	21+28	265' LT	806.94									LEAVE AS IS
33	ICB	21+30	260' LT	807.03									LEAVE AS IS
34	ICB	21+04	256' LT	807.18									LEAVE AS IS
35	ICB	21+86	210' RT	810.05									LEAVE AS IS

INPLACE WATER MANHOLE DATA							J
STRUCT. NO.	TYPE OF STRUCT.	STATION	LOCATION	INPLACE TOP OF RING	OUTFALL PIPE SIZE	REMARKS	
				ELEV.	IN.		
WATER MAIN (48" STEEL) HUNG FROM BENEATH BRIDGE DECK. SEE BRIDGE PLANS FOR PROTECTION							
40	WTR	12+85	28' LT	829.13		MH ON BRIDGE (ACCESS TO CATWALK)	
41	WTR	17+28	28' LT	828.18		MH ON BRIDGE (ACCESS TO CATWALK)	
42	WTR	20+73	70' RT	814.86	48" STEEL	VAULT	
43	WTR	20+65	75' RT	815.01	48" STEEL	VAULT	
44	WTR	20+68	77' RT	814.85	48" STEEL	VAULT	
45	WTR	20+80	72' RT	814.51	48" STEEL	VAULT	

NOTES

- ① FIELD VERIFY LOCATION OF OUTLET AND PROTECT FROM DAMAGE.
- ② SEE CONSTRUCTION DETAILS FOR PROPOSED ELEVATIONS.



I HEREBY CERTIFY THAT SHEETS 1-39, 41-42, SS1-SS4 WERE 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.

Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119 8/14/2014
 LICENSE NO. DATE

DESIGN BY: NPE
 CAD BY: NTT
 CHECKED BY: KLA
 LAST REVISION: _____

INPLACE UTILITY TABULATIONS (1 OF 2)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 23
 42

INPLACE SANITARY SEWER DATA													K
STRUCT. NO.	TYPE OF STRUCT.	STATION	LOCATION	INPLACE TOP OF RING	FLOW LINE	FLows TO	OUTFALL PIPE SIZE	OUTFALL PIPE LENGTH	PROPOSED TOP OF RING	CASTING ASSEMBLY	REMOVE MH	REMOVE PIPE SEWER	REMARKS
				ELEV.	ELEV.		IN.	FT.	ELEV.	EACH	EACH	LIN. FT.	
50	ISMH	7+79	71' LT	822.09	802.59	ISMH 51	27.5"X41.3" BRICK	94					
51	ISMH	8+88	39' LT	822.29	801.79	ISMH 52	36" VCP	16					PROTECT
52	ISMH	8+77	27' LT	821.87	744.27	INTERCEPTOR	36" VCP	20	822.39				SHAFT TO 102" MCES INTERCEPTOR, ADJUST
53	ISMH	19+83	75' RT	758.60	746.60	-	72"						
54	ISMH	21+63	15' RT	813.04		ISMH 53	TUNNEL	190					SHAFT
55	ISMH	21+70	33' RT	812.86		INTERCEPTOR		89					LEAPING WEIR (REMOVED 1997)
56	ISMH	21+73	14' RT	812.93		ISMH 54,55		10, 20					OVERFLOW WEIR (SEALED 1997)

OTHER UTILITIES DATA					L
FROM STATION - LOCATION	TO STATION - LOCATION	TYPE	OWNERSHIP	REMARKS	
6+82 - 89' LT	8+56 - 89' LT	POWER OVERHEAD	A	OK AS IS	
6+82 - 89' LT	7+65 - 38' LT	POWER OVERHEAD	A	OK AS IS	
7+65 - 38' LT	7+54 - 35' RT	POWER OVERHEAD	A	OK AS IS	
8+56 - 89' LT	9+23 - 65' LT	POWER BURIED	B	OK AS IS	
9+23 - 65' LT	9+39 - 59' LT	POWER BURIED	B	OK AS IS	
9+39 - 59' LT	9+45 - 34' LT	POWER BURIED	B	REMOVE - SEE LIGHTING PLAN	
9+45 - 34' LT	9+62 - 34' RT	POWER BURIED	B	REMOVE - SEE LIGHTING PLAN	
9+45 - 34' LT	20+94 - 33' LT	POWER BURIED	B	REMOVE - SEE BRIDGE PLANS	
9+62 - 34' RT	20+73 - 54' RT	POWER BURIED	B	REMOVE - SEE BRIDGE PLANS	
20+73 - 54' RT	20+92 - 41' RT	POWER BURIED	B	OK AS IS	
20+73 - 54' RT	21+27 - 146' RT	POWER BURIED	B	OK AS IS	
20+92 - 41' RT	20+94 - 33' LT	POWER BURIED	B	PROTECT	
20+93 - 45' RT	20+99 - 37' LT	POWER BURIED	B	PROTECT	
20+94 - 33' LT	20+99 - 37' LT	POWER BURIED	B	PROTECT	
6+27 - 57' LT	9+12 - 44' LT	FIBER OPTIC BURIED	C	PROTECT	
6+39 - 95' LT	9+05 - 54' LT	FIBER OPTIC BURIED	C	PROTECT	
6+29 - 99' LT	9+05 - 54' LT	FIBER OPTIC BURIED	C	PROTECT	
8+56 - 89' LT	8+76 - 81' LT	FIBER OPTIC BURIED	D	OK AS IS	
8+76 - 81' LT	8+79 - 46' LT	FIBER OPTIC BURIED	D	PROTECT	
8+56 - 89' LT	8+79 - 46' LT	FIBER OPTIC BURIED	D	PROTECT	
8+79 - 46' LT	10+00 - 12' LT	FIBER OPTIC BURIED	D	RELOCATE (BY OTHERS)	
10+00 - 12' LT	20+14 - 12' LT	FIBER OPTIC BURIED	D	RELOCATE (BY OTHERS)	
20+14 - 12' LT	20+80 - 43' LT	FIBER OPTIC BURIED	D	RELOCATE (BY OTHERS)	
20+80 - 43' LT	21+83 - 19' LT	FIBER OPTIC BURIED	D	PROTECT	
9+12 - 44' LT	9+37 - 52' RT	FIBER OPTIC BURIED	C	PROTECT	
9+37 - 52' RT	20+69 - 37' RT	FIBER OPTIC BURIED	C	RELOCATE (BY OTHERS)	
20+69 - 37' RT	21+52 - 36' RT	TELEPHONE BURIED	C	PROTECT	
20+69 - 37' RT	21+68 - 134' LT	TELEPHONE BURIED	C	PROTECT	
20+64 - 51' RT	21+70 - 19' RT	TELEPHONE BURIED	U	PROTECT	

OWNERSHIP CODE

A = XCEL
 B = CITY OF MINNEAPOLIS
 C = CENTURYLINK
 D = CENTURYLINK CLEC/COMCAST/TWTELECOM/ZAYO
 U = UNKNOWN

MINNEAPOLIS DEPT. OF PUBLIC WORKS

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 612-673-3617
 KELLY MORIARITY
 KELLY.MORIARITY@MINNEAPOLISMN.GOV

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 612-673-2743
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 BOB STRONG
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 MICHAEL.DAHLE@ZAYO.COM

METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES

651-602-4503
 SCOTT DENTZ
 S.DENTZ@METC.STATE.MN.US



I HEREBY CERTIFY THAT SHEETS 1-39, 41-42, SS1-SS4 WERE 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.

Karen L. Allen
 KAREN L. ALLEN, PROFESSIONAL ENGINEER

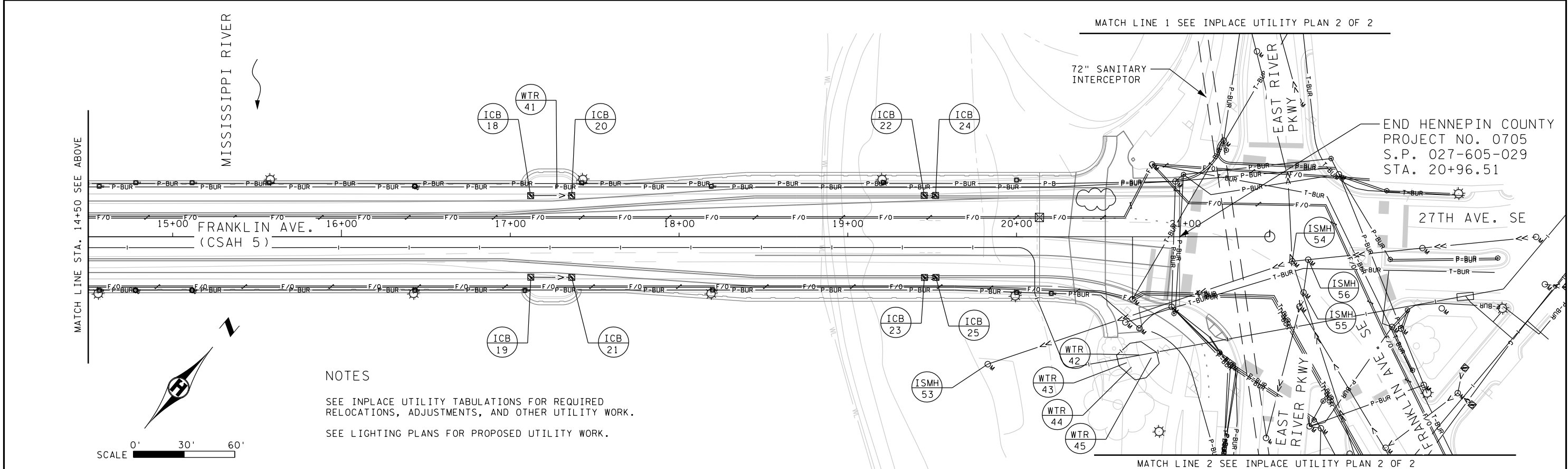
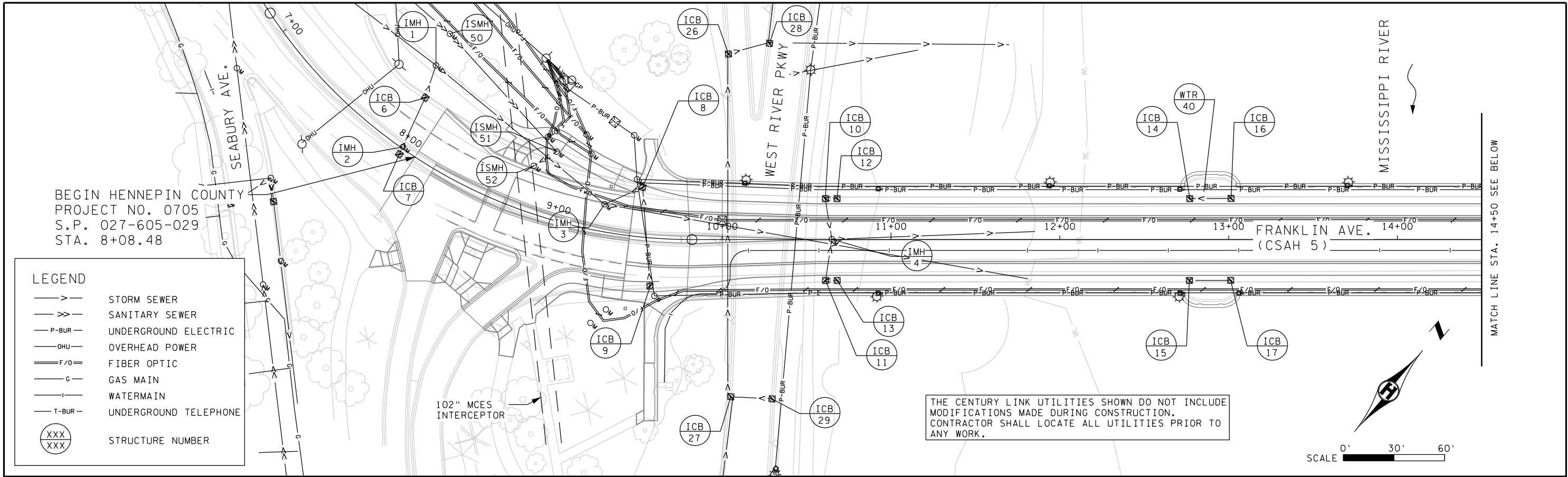
16119 8/14/2014
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 LAST REVISION:

INPLACE UTILITY TABULATIONS (2 OF 2)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

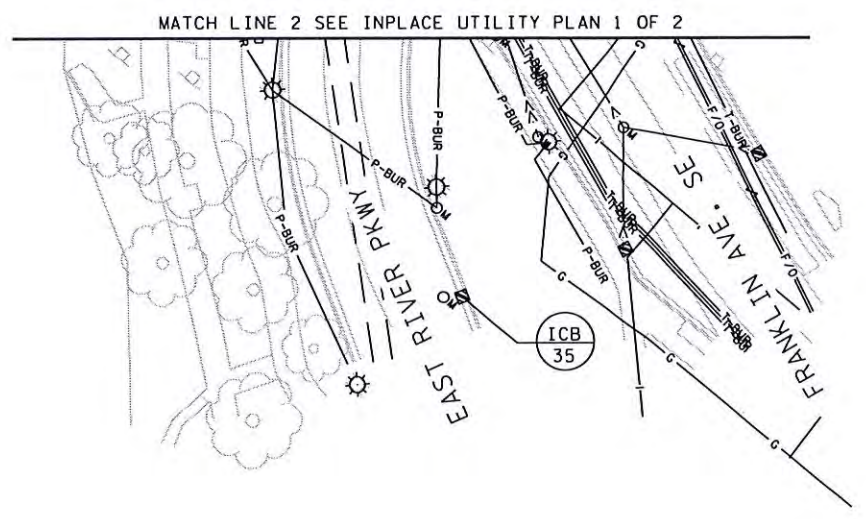
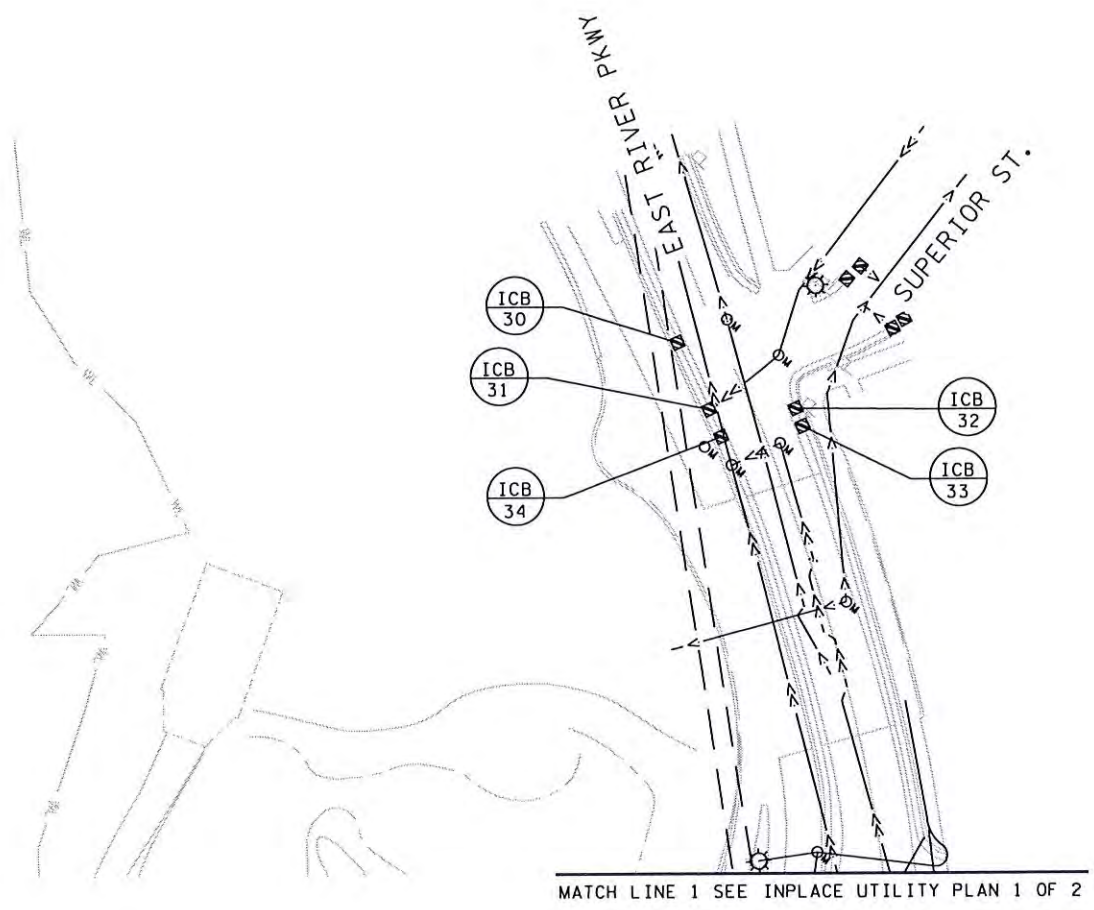
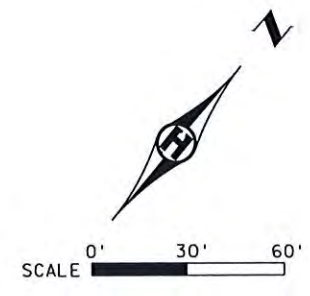
SHEET
 24
 42



	I HEREBY CERTIFY THAT SHEETS 1-39, 41-42, SS1-SS4 WERE 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. KAREN L. ALLEN, PROFESSIONAL ENGINEER <small>HNTB CORPORATION</small>	16119 <small>LICENSE NO.</small>	8/14/2014 <small>DATE</small>	DESIGN BY: NPE CAD BY: NTT CHECKED BY: KLA LAST REVISION: 05/23/2016	INPLACE UTILITY PLAN (1 OF 2) C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705 BRIDGE 2441 S.P. 027-605-029	SHEET 25R2 42
	HENNEPIN COUNTY PROJECT NO. 0705 S.P. 027-605-029 STA. 8+08.48					

LEGEND

	STORM SEWER
	SANITARY SEWER
	UNDERGROUND ELECTRIC
	OVERHEAD POWER
	FIBER OPTIC
	GAS MAIN
	WATERMAIN
	UNDERGROUND TELEPHONE
	STRUCTURE NUMBER



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Karen L. Allen
 KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119 8/14/2014
 LICENSE NO. DATE

DESIGN BY: NPE
 CAD BY: NTT
 CHECKED BY: KLA
 LAST REVISION:

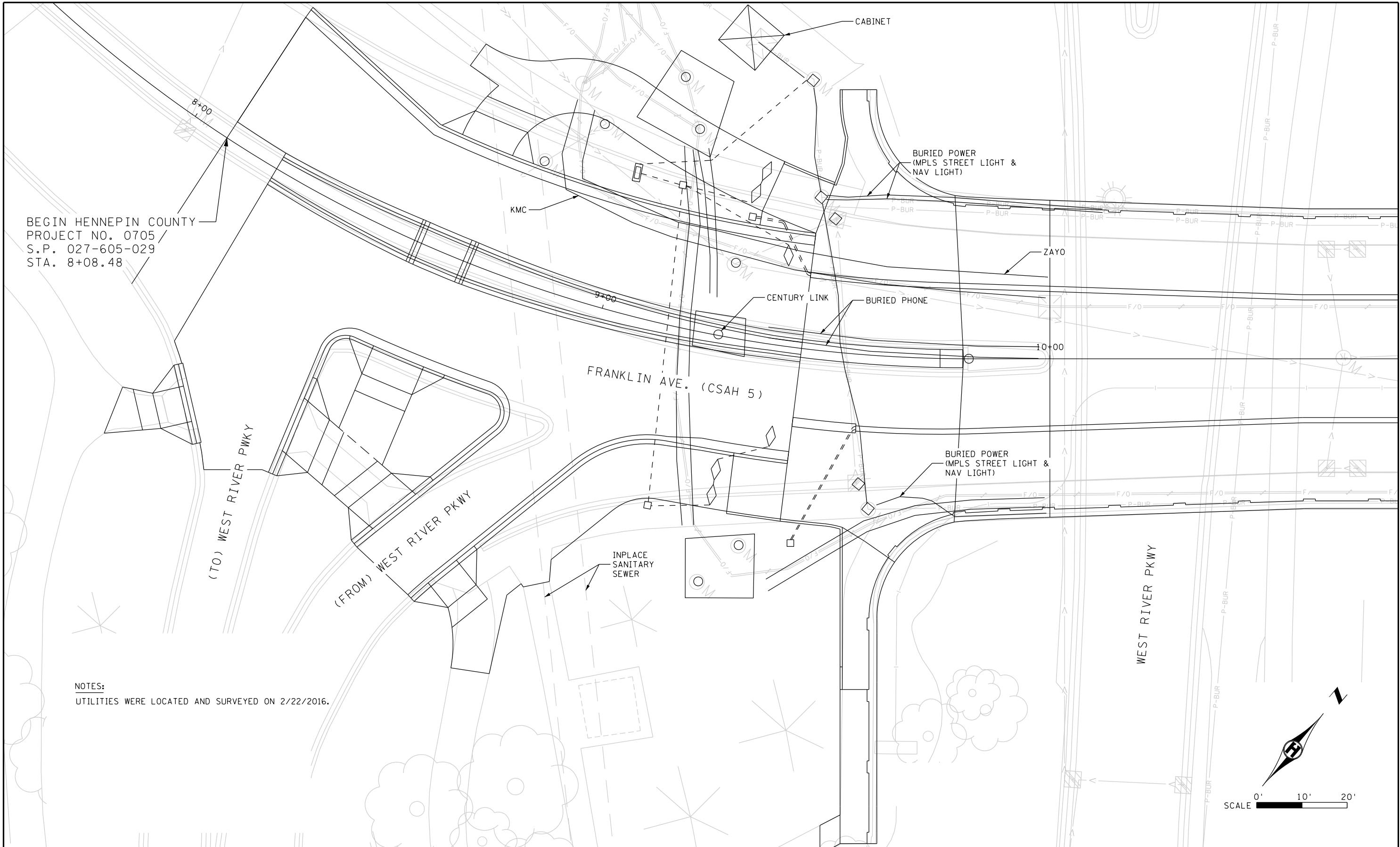
INPLACE UTILITY PLAN (2 OF 2)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET

26

42



BEGIN HENNEPIN COUNTY
 PROJECT NO. 0705
 S.P. 027-605-029
 STA. 8+08.48

NOTES:
 UTILITIES WERE LOCATED AND SURVEYED ON 2/22/2016.



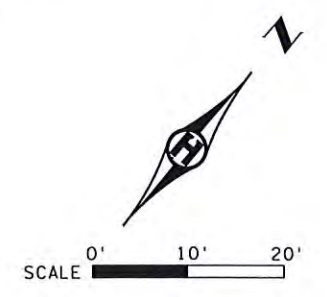
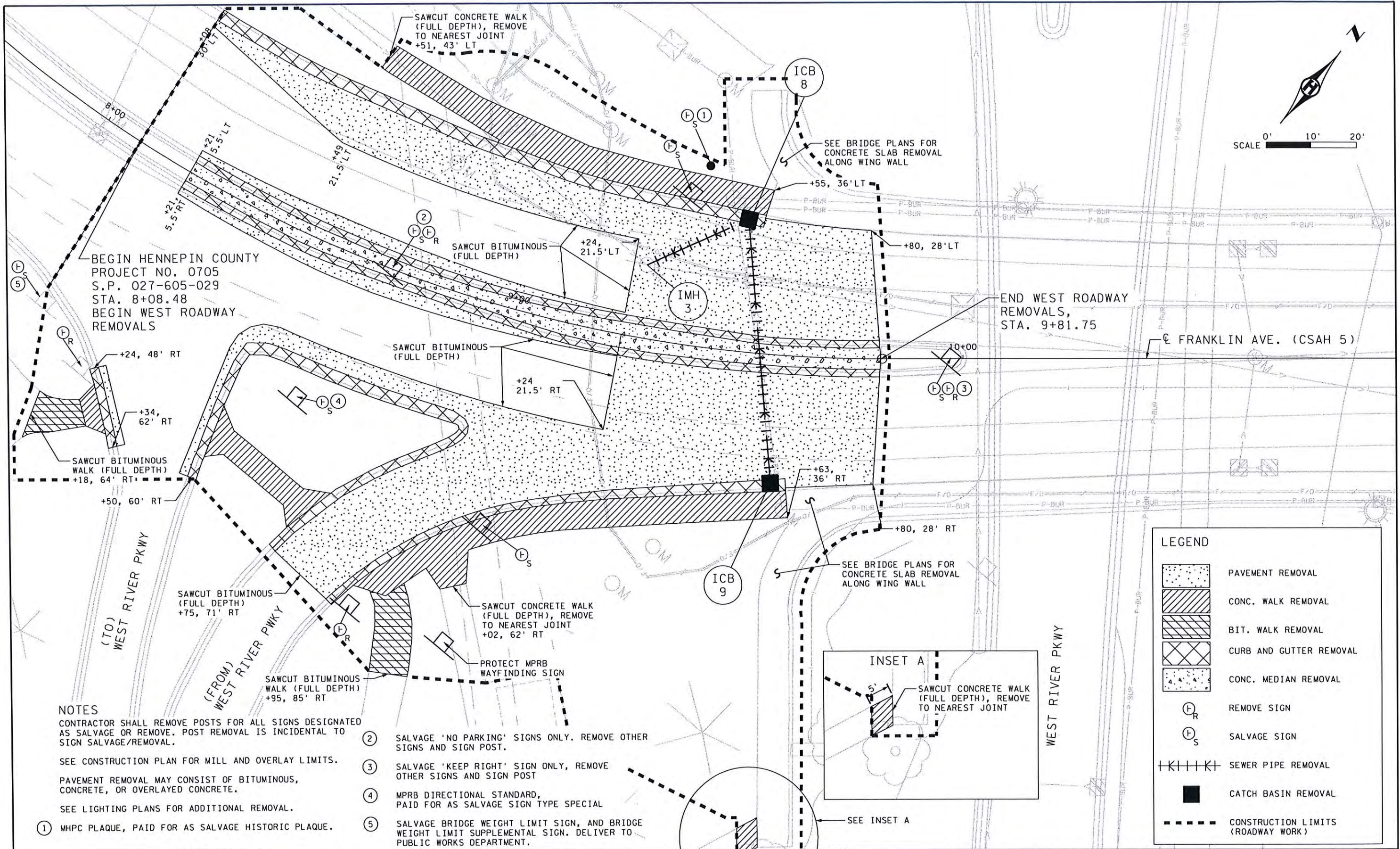
AS-BUILT - UPDATED UTILITY LOCATIONS

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET

26A

42



BEGIN HENNEPIN COUNTY
PROJECT NO. 0705
S.P. 027-605-029
STA. 8+08.48
BEGIN WEST ROADWAY
REMOVALS

END WEST ROADWAY
REMOVALS,
STA. 9+81.75

LEGEND	
	PAVEMENT REMOVAL
	CONC. WALK REMOVAL
	BIT. WALK REMOVAL
	CURB AND GUTTER REMOVAL
	CONC. MEDIAN REMOVAL
	REMOVE SIGN
	SALVAGE SIGN
	SEWER PIPE REMOVAL
	CATCH BASIN REMOVAL
	CONSTRUCTION LIMITS (ROADWAY WORK)

NOTES

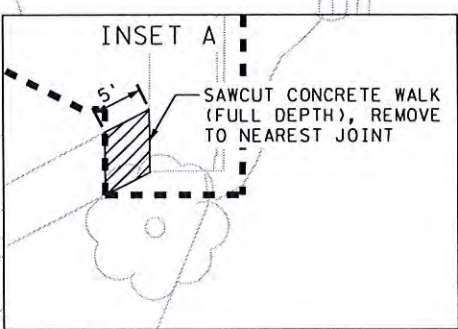
CONTRACTOR SHALL REMOVE POSTS FOR ALL SIGNS DESIGNATED AS SALVAGE OR REMOVE. POST REMOVAL IS INCIDENTAL TO SIGN SALVAGE/REMOVAL.

SEE CONSTRUCTION PLAN FOR MILL AND OVERLAY LIMITS.

PAVEMENT REMOVAL MAY CONSIST OF BITUMINOUS, CONCRETE, OR OVERLAYED CONCRETE.

SEE LIGHTING PLANS FOR ADDITIONAL REMOVAL.

- ① MHPC PLAQUE, PAID FOR AS SALVAGE HISTORIC PLAQUE.
- ② SALVAGE 'NO PARKING' SIGNS ONLY. REMOVE OTHER SIGNS AND SIGN POST.
- ③ SALVAGE 'KEEP RIGHT' SIGN ONLY, REMOVE OTHER SIGNS AND SIGN POST
- ④ MPRB DIRECTIONAL STANDARD, PAID FOR AS SALVAGE SIGN TYPE SPECIAL
- ⑤ SALVAGE BRIDGE WEIGHT LIMIT SIGN, AND BRIDGE WEIGHT LIMIT SUPPLEMENTAL SIGN. DELIVER TO PUBLIC WORKS DEPARTMENT.



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KAREN L. ALLEN, PROFESSIONAL ENGINEER

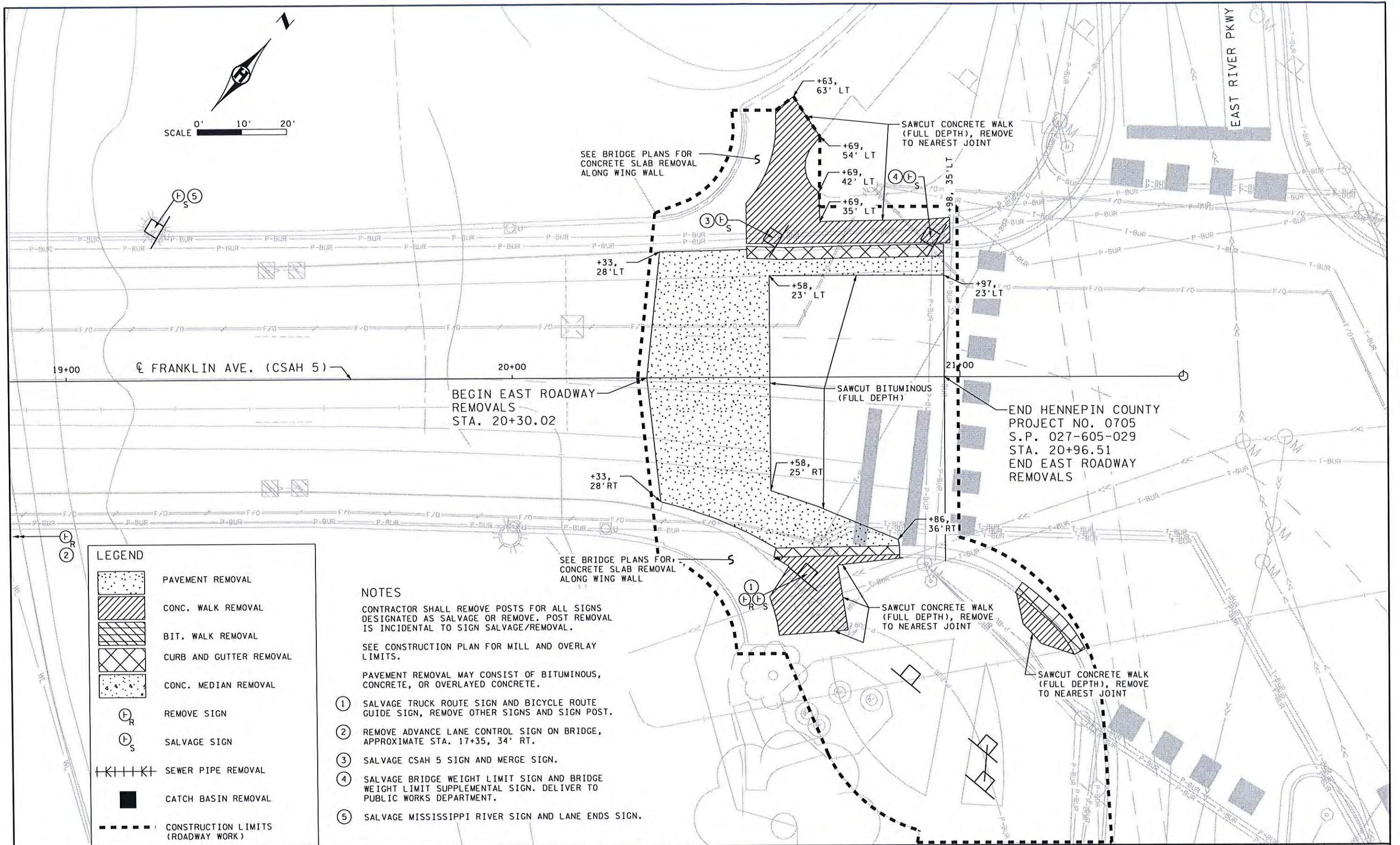
16119 8/14/2014
LICENSE NO. DATE

DESIGN BY: NPE
CAD BY: NTT
CHECKED BY: KLA
LAST REVISION:

REMOVAL PLAN (1 OF 2)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
27
42



LEGEND

	PAVEMENT REMOVAL
	CONC. WALK REMOVAL
	BIT. WALK REMOVAL
	CURB AND GUTTER REMOVAL
	CONC. MEDIAN REMOVAL
	REMOVE SIGN
	SALVAGE SIGN
	SEWER PIPE REMOVAL
	CATCH BASIN REMOVAL
	CONSTRUCTION LIMITS (ROADWAY WORK)

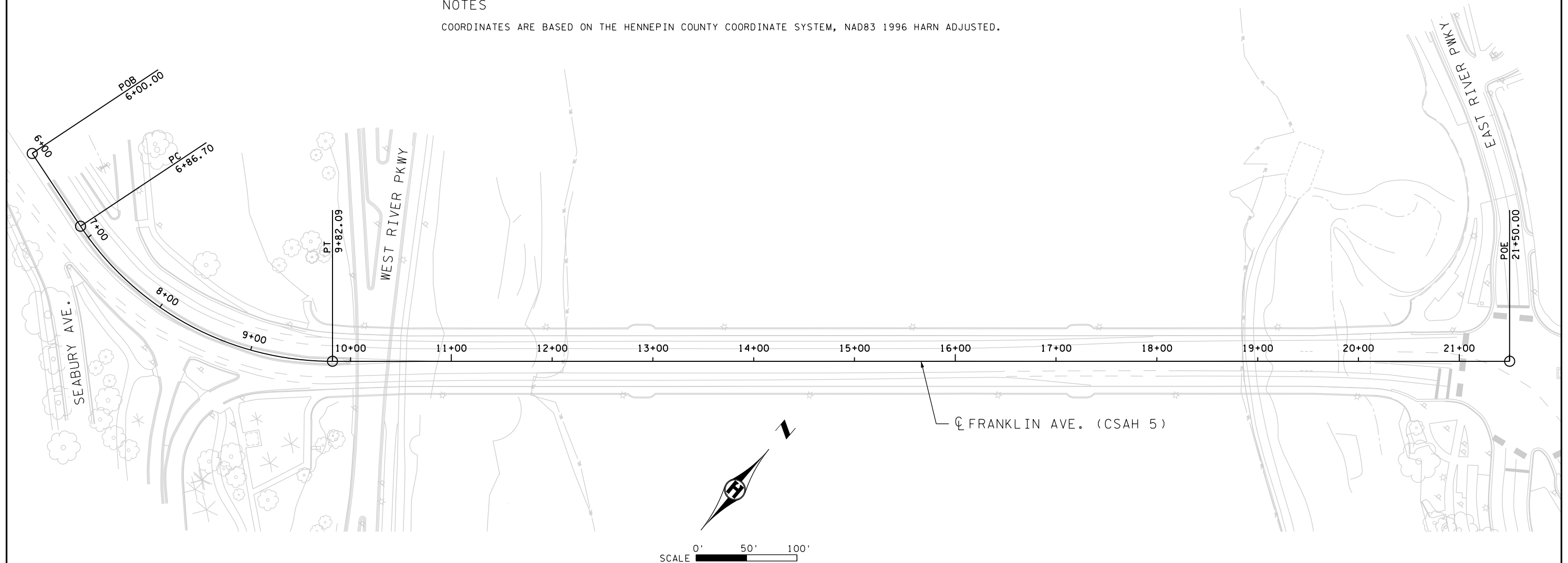
- NOTES**
- CONTRACTOR SHALL REMOVE POSTS FOR ALL SIGNS DESIGNATED AS SALVAGE OR REMOVE. POST REMOVAL IS INCIDENTAL TO SIGN SALVAGE/REMOVAL.
- SEE CONSTRUCTION PLAN FOR MILL AND OVERLAY LIMITS.
- PAVEMENT REMOVAL MAY CONSIST OF BITUMINOUS, CONCRETE, OR OVERLAYED CONCRETE.
- ① SALVAGE TRUCK ROUTE SIGN AND BICYCLE ROUTE GUIDE SIGN, REMOVE OTHER SIGNS AND SIGN POST.
 - ② REMOVE ADVANCE LANE CONTROL SIGN ON BRIDGE, APPROXIMATE STA. 17+35, 34' RT.
 - ③ SALVAGE CSAH 5 SIGN AND MERGE SIGN.
 - ④ SALVAGE BRIDGE WEIGHT LIMIT SIGN AND BRIDGE WEIGHT LIMIT SUPPLEMENTAL SIGN. DELIVER TO PUBLIC WORKS DEPARTMENT.
 - ⑤ SALVAGE MISSISSIPPI RIVER SIGN AND LANE ENDS SIGN.

	I HEREBY CERTIFY THAT SHEETS 1-39, 41-42, SS1-SS4 WERE 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. KAREN L. ALLEN, PROFESSIONAL ENGINEER	16119 LICENSE NO.	8/14/2014 DATE	DESIGN BY: NPE CAD BY: NTT CHECKED BY: KLA LAST REVISION:	REMOVAL PLAN (2 OF 2)	SHEET 28 42
	C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705 BRIDGE 2441 S.P. 027-605-029					

ALIGNMENT TABULATION									
ALIGNMENT: FRANKLIN AVE. (CSAH 5)									
TYPE	STATION	AZIMUTH	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	NORTH (Y)	EAST (X)
POB	6+00.00	106°24'46.54"						162587.0615	540740.5973
PC	6+86.70							162562.5622	540823.7693
PI	8+47.61		56°24'51.79" LT	19°05'54.94"	300.00	160.91	295.39	162517.0967	540978.1194
CC								162850.3373	540908.5366
PT	9+82.09	49°59'54.76"						162620.5289	541101.3788
POE	21+50.00							163371.2696	541996.0306

NOTES

COORDINATES ARE BASED ON THE HENNEPIN COUNTY COORDINATE SYSTEM, NAD83 1996 HARN ADJUSTED.



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Karen L. Allen

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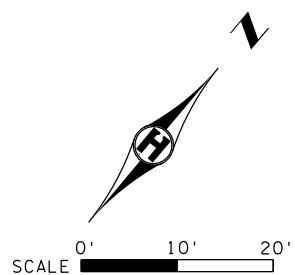
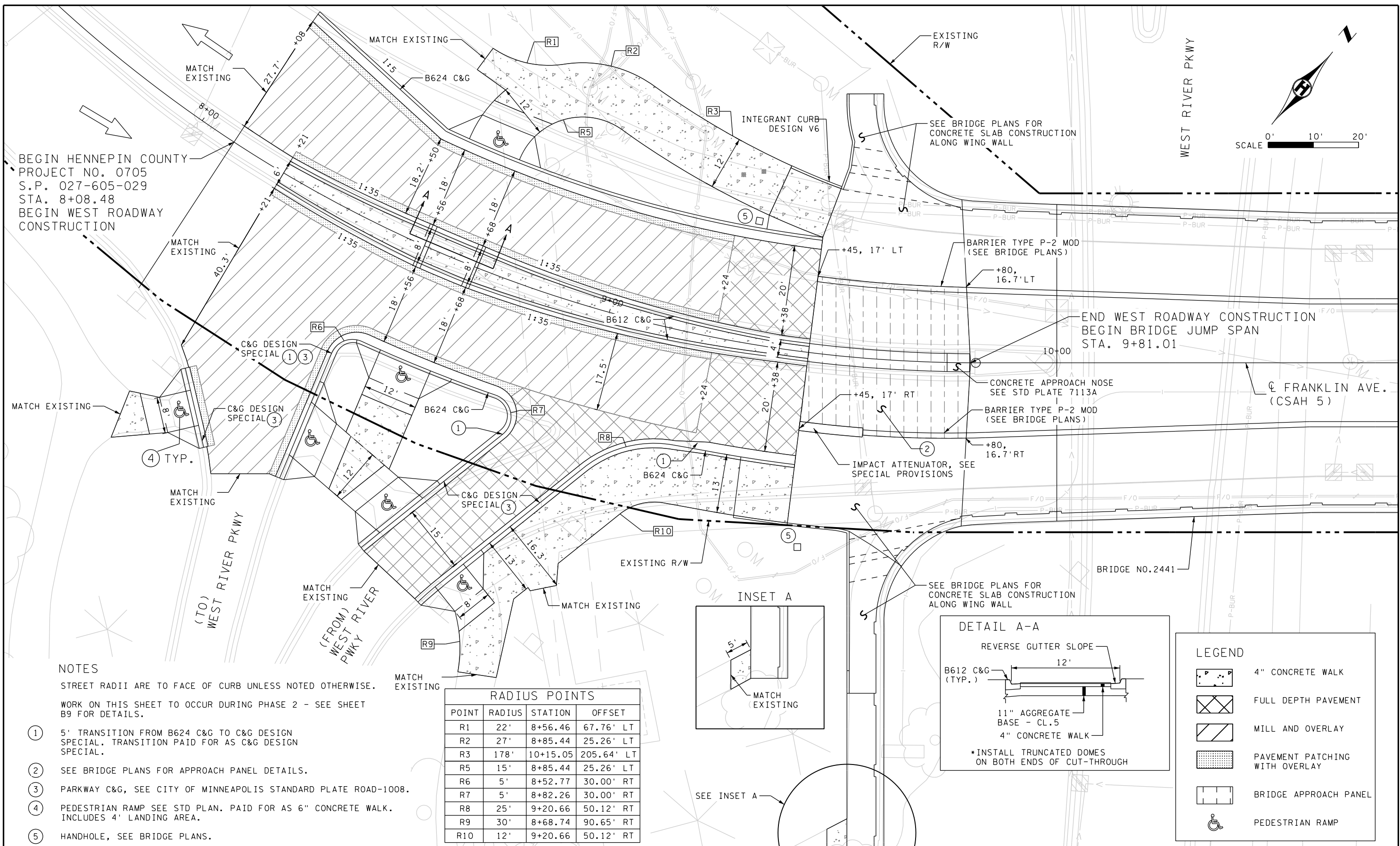
16119
LICENSE NO.

8/14/2014
DATE

DESIGN BY: NPE
CAD BY: NTT
CHECKED BY: KLA
LAST REVISION: 4/2/2015

ALIGNMENT PLAN AND TABULATION
C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
29R
42



BEGIN HENNEPIN COUNTY
PROJECT NO. 0705
S.P. 027-605-029
STA. 8+08.48
BEGIN WEST ROADWAY
CONSTRUCTION

END WEST ROADWAY CONSTRUCTION
BEGIN BRIDGE JUMP SPAN
STA. 9+81.01

NOTES

STREET RADII ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.

WORK ON THIS SHEET TO OCCUR DURING PHASE 2 - SEE SHEET B9 FOR DETAILS.

- ① 5' TRANSITION FROM B624 C&G TO C&G DESIGN SPECIAL. TRANSITION PAID FOR AS C&G DESIGN SPECIAL.
- ② SEE BRIDGE PLANS FOR APPROACH PANEL DETAILS.
- ③ PARKWAY C&G, SEE CITY OF MINNEAPOLIS STANDARD PLATE ROAD-1008.
- ④ PEDESTRIAN RAMP SEE STD PLAN. PAID FOR AS 6" CONCRETE WALK. INCLUDES 4' LANDING AREA.
- ⑤ HANDHOLE, SEE BRIDGE PLANS.

RADIUS POINTS			
POINT	RADIUS	STATION	OFFSET
R1	22'	8+56.46	67.76' LT
R2	27'	8+85.44	25.26' LT
R3	178'	10+15.05	205.64' LT
R5	15'	8+85.44	25.26' LT
R6	5'	8+52.77	30.00' RT
R7	5'	8+82.26	30.00' RT
R8	25'	9+20.66	50.12' RT
R9	30'	8+68.74	90.65' RT
R10	12'	9+20.66	50.12' RT



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Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER
 LICENSE NO. **16119** DATE **8/14/2014**

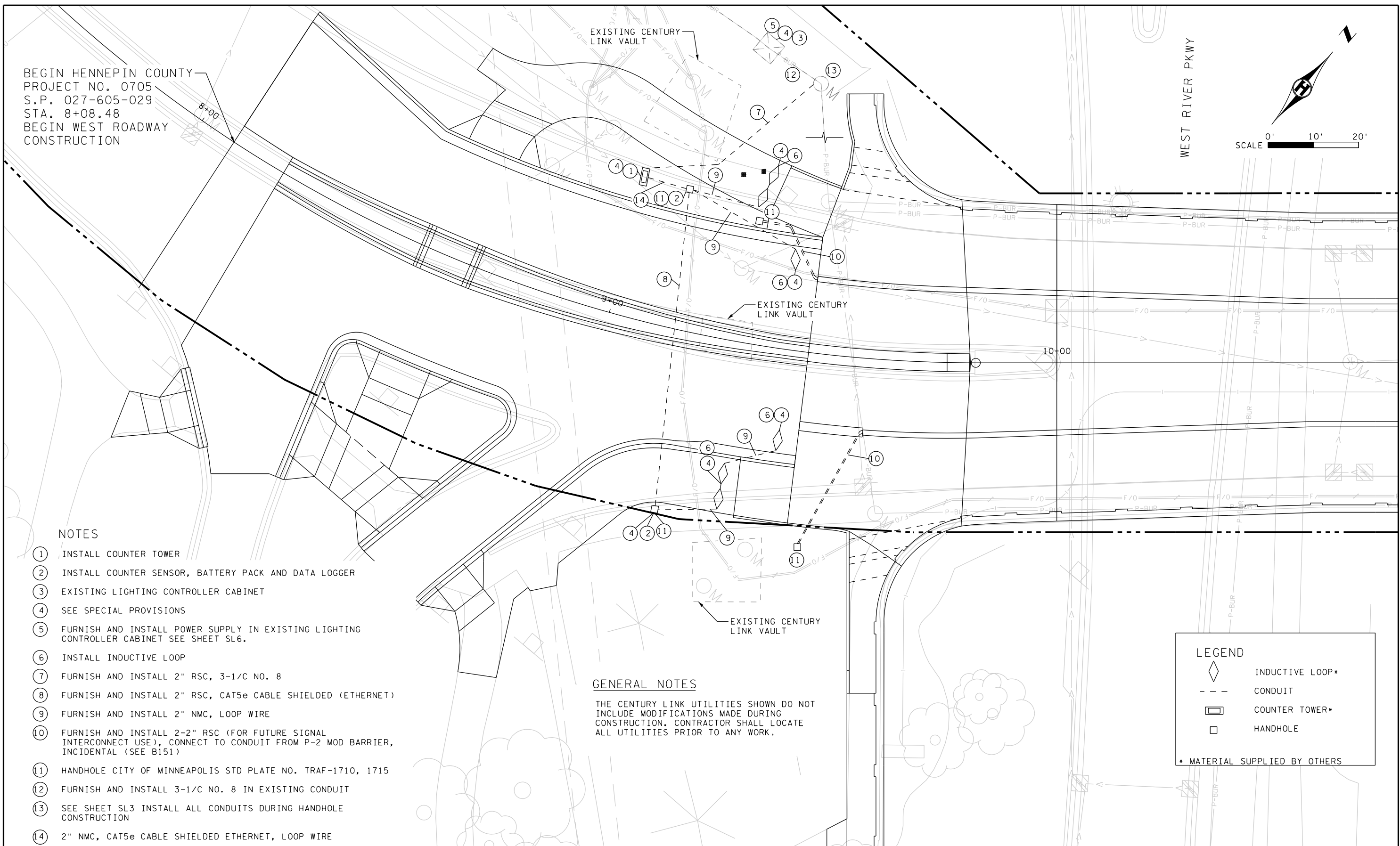
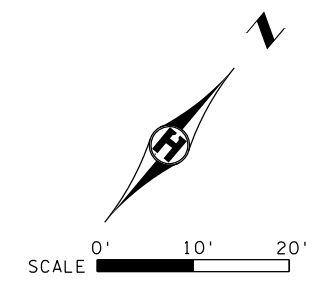
DESIGN BY: NPE
CAD BY: NTT
CHECKED BY: KLA
LAST REVISION: 03/10/2016

CONSTRUCTION PLAN (1 OF 2)
C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
30R2
42

BEGIN HENNEPIN COUNTY
 PROJECT NO. 0705
 S.P. 027-605-029
 STA. 8+08.48
 BEGIN WEST ROADWAY
 CONSTRUCTION

WEST RIVER PKWY



NOTES

- ① INSTALL COUNTER TOWER
- ② INSTALL COUNTER SENSOR, BATTERY PACK AND DATA LOGGER
- ③ EXISTING LIGHTING CONTROLLER CABINET
- ④ SEE SPECIAL PROVISIONS
- ⑤ FURNISH AND INSTALL POWER SUPPLY IN EXISTING LIGHTING CONTROLLER CABINET SEE SHEET SL6.
- ⑥ INSTALL INDUCTIVE LOOP
- ⑦ FURNISH AND INSTALL 2" RSC, 3-1/C NO. 8
- ⑧ FURNISH AND INSTALL 2" RSC, CAT5e CABLE SHIELDED (ETHERNET)
- ⑨ FURNISH AND INSTALL 2" NMC, LOOP WIRE
- ⑩ FURNISH AND INSTALL 2-2" RSC (FOR FUTURE SIGNAL INTERCONNECT USE), CONNECT TO CONDUIT FROM P-2 MOD BARRIER, INCIDENTAL (SEE B151)
- ⑪ HANDHOLE CITY OF MINNEAPOLIS STD PLATE NO. TRAF-1710, 1715
- ⑫ FURNISH AND INSTALL 3-1/C NO. 8 IN EXISTING CONDUIT
- ⑬ SEE SHEET SL3 INSTALL ALL CONDUITS DURING HANDHOLE CONSTRUCTION
- ⑭ 2" NMC, CAT5e CABLE SHIELDED ETHERNET, LOOP WIRE

GENERAL NOTES

THE CENTURY LINK UTILITIES SHOWN DO NOT INCLUDE MODIFICATIONS MADE DURING CONSTRUCTION. CONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO ANY WORK.

LEGEND

- ◇ INDUCTIVE LOOP*
 - - - CONDUIT
 - ▭ COUNTER TOWER*
 - HANDHOLE
- * MATERIAL SUPPLIED BY OTHERS



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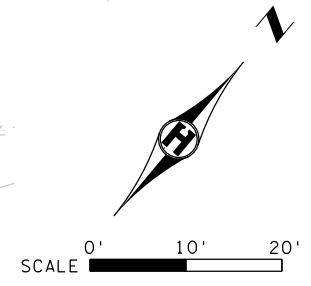
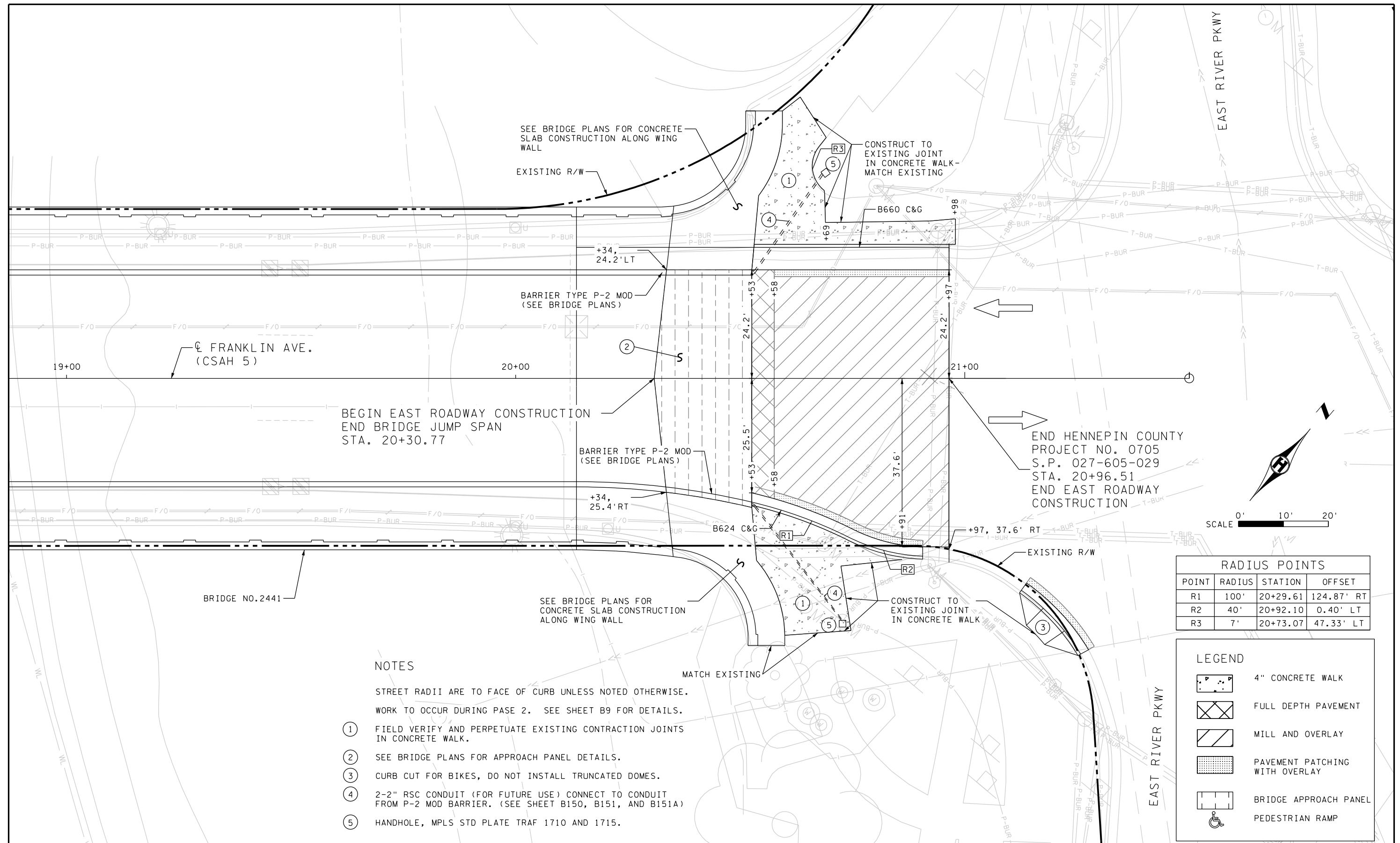
16119 3/10/2016
 LICENSE NO. DATE

DESIGN BY: KLA
 CAD BY: CTW
 CHECKED BY: KLA
 LAST REVISION:

CONDUIT AND WIRNG PLAN BIKE COUNTER AND FUTURE TMS

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 30A
 42



RADIUS POINTS			
POINT	RADIUS	STATION	OFFSET
R1	100'	20+29.61	124.87' RT
R2	40'	20+92.10	0.40' LT
R3	7'	20+73.07	47.33' LT

LEGEND	
	4" CONCRETE WALK
	FULL DEPTH PAVEMENT
	MILL AND OVERLAY
	PAVEMENT PATCHING WITH OVERLAY
	BRIDGE APPROACH PANEL
	PEDESTRIAN RAMP

- NOTES**
- STREET RADII ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
 - WORK TO OCCUR DURING PASE 2. SEE SHEET B9 FOR DETAILS.
 - ① FIELD VERIFY AND PERPETUATE EXISTING CONTRACTION JOINTS IN CONCRETE WALK.
 - ② SEE BRIDGE PLANS FOR APPROACH PANEL DETAILS.
 - ③ CURB CUT FOR BIKES, DO NOT INSTALL TRUNCATED DOMES.
 - ④ 2-2" RSC CONDUIT (FOR FUTURE USE) CONNECT TO CONDUIT FROM P-2 MOD BARRIER. (SEE SHEET B150, B151, AND B151A)
 - ⑤ HANDHOLE, MPLS STD PLATE TRAF 1710 AND 1715.



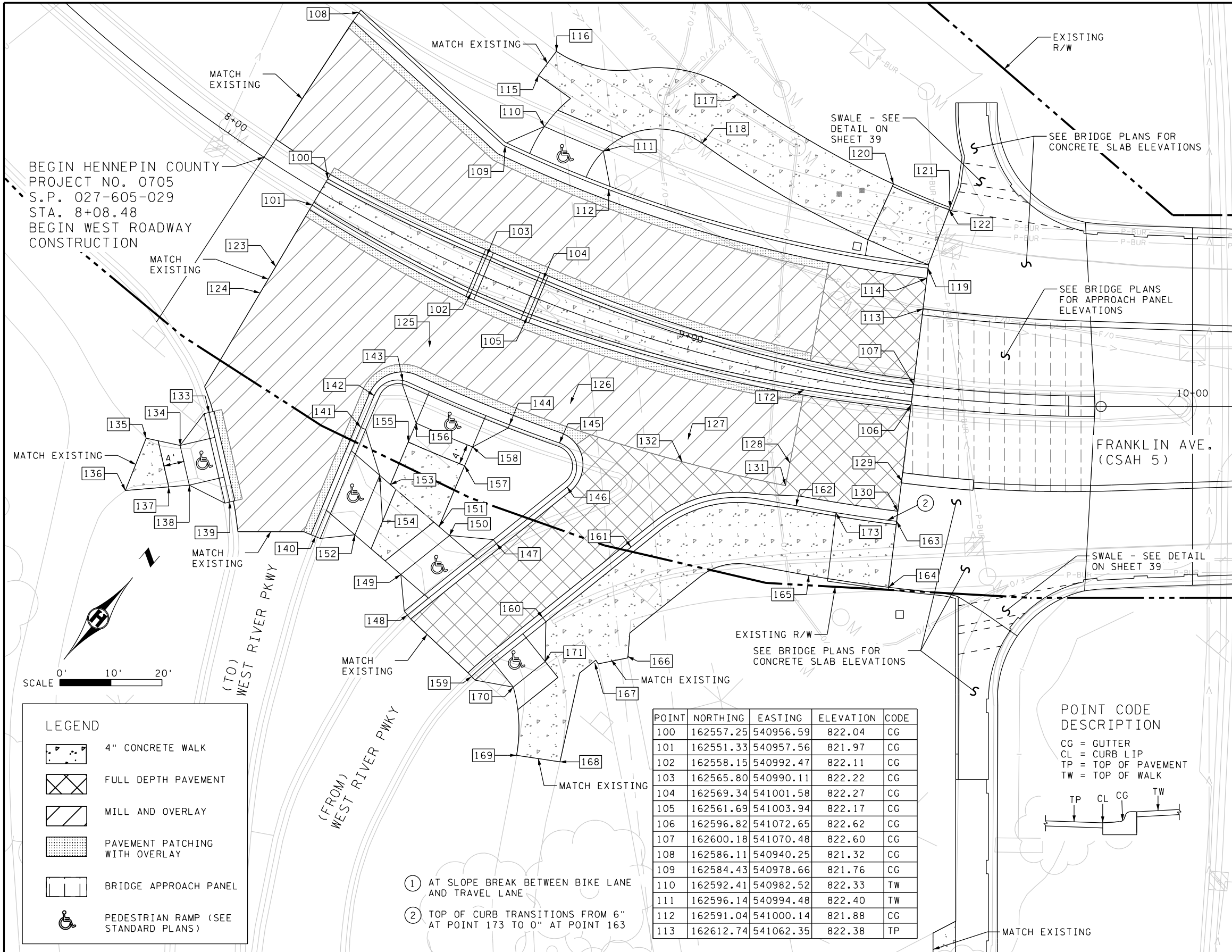
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KAREN L. ALLEN, PROFESSIONAL ENGINEER
 16119 LICENSE NO. 8/14/2014 DATE

DESIGN BY: NPE
CAD BY: NTT
CHECKED BY: KLA
LAST REVISION: 05/23/2016

CONSTRUCTION PLAN (2 OF 2)
C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
31R3
42



POINT	NORTHING	EASTING	ELEVATION	CODE
114	162617.81	541059.07	822.28	CL
115	162599.34	540975.21	822.31	TW
116	162605.22	540974.85	822.45	TW
117	162621.72	541007.44	822.29	TW
118	162609.75	541008.32	822.29	TW
119	162619.49	541057.98	822.25	CG
120	162627.57	541042.24	822.71	TW
121	162631.36	541053.63	822.72	TW
122	162630.89	541053.79	822.01	TW
123	162537.51	540959.83	822.46	TP
124	162531.59	540960.80	822.49	TP
125	162544.82	540993.10	822.56	TP
126	162554.07	541021.31	822.71	TP
127	162563.39	541043.27	822.65	TP
128	162572.83	541061.77	822.61	TP
129	162584.26	541080.79	822.54	TP
130	162579.19	541084.06	822.51	CL
131	162568.89	541063.95	822.54	TP
132	162559.32	541045.18	822.62	TP
133	162507.24	540968.20	822.17	CG
134	162498.64	540967.99	822.66	TW
135	162495.43	540962.00	822.76	TW
136	162484.96	540965.45	822.95	TW
137	162490.98	540971.51	822.69	TW
138	162493.83	540974.38	822.61	TW
139	162496.41	540982.58	822.05	CG
140	162502.00	540999.80	821.77	CG
141	162524.10	540992.88	822.21	CG
142	162530.55	540990.86	822.33	CG
143	162536.44	540993.27	822.45	CG
144	162543.22	541014.85	822.58	CG
145	162546.79	541024.66	822.59	CG
146	162541.14	541031.35	822.28	CG
147	162523.75	541027.87	821.76	CG
148	162501.81	541023.49	821.55	CG
149	162507.07	541017.40	822.11	TW
150	162519.04	541019.79	822.21	TW
151	162519.08	541017.10	822.26	TW
152	162507.24	541005.49	822.35	TW
153	162519.25	541004.48	822.52	TW
154	162519.29	541001.72	822.57	TW
155	162527.89	541001.82	822.70	TW
156	162531.71	541000.64	822.78	TW
157	162531.43	541013.28	822.77	TW
158	162535.25	541012.10	822.85	TW
159	162500.67	541040.86	821.34	CG
160	162518.45	541044.15	821.54	CG
161	162540.19	541048.50	821.97	CG
162	162567.20	541068.09	822.38	CG
163	162577.51	541085.15	822.50	TW
164	162566.60	541092.22	822.50	TW
165	162558.35	541078.79	822.78	TW
166	162523.34	541061.74	822.46	TW
167	162518.22	541057.66	822.37	TW
168	162498.99	541064.88	822.75	TW
169	162494.51	541057.56	822.48	TW
170	162504.33	541048.48	821.91	TW
171	162512.18	541050.03	822.00	TW
172	162585.61	541054.72	822.45	CG
173	162571.18	541074.96	822.93	TW

LEGEND

- 4" CONCRETE WALK
- FULL DEPTH PAVEMENT
- MILL AND OVERLAY
- PAVEMENT PATCHING WITH OVERLAY
- BRIDGE APPROACH PANEL
- PEDESTRIAN RAMP (SEE STANDARD PLANS)

POINT	NORTHING	EASTING	ELEVATION	CODE
100	162557.25	540956.59	822.04	CG
101	162551.33	540957.56	821.97	CG
102	162558.15	540992.47	822.11	CG
103	162565.80	540990.11	822.22	CG
104	162569.34	541001.58	822.27	CG
105	162561.69	541003.94	822.17	CG
106	162596.82	541072.65	822.62	CG
107	162600.18	541070.48	822.60	CG
108	162586.11	540940.25	821.32	CG
109	162584.43	540978.66	821.76	CG
110	162592.41	540982.52	822.33	TW
111	162596.14	540994.48	822.40	TW
112	162591.04	541000.14	821.88	CG
113	162612.74	541062.35	822.38	TP

POINT CODE DESCRIPTION

CG = GUTTER
 CL = CURB LIP
 TP = TOP OF PAVEMENT
 TW = TOP OF WALK

- ① AT SLOPE BREAK BETWEEN BIKE LANE AND TRAVEL LANE
- ② TOP OF CURB TRANSITIONS FROM 6" AT POINT 173 TO 0" AT POINT 163



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Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119 8/14/2014
 LICENSE NO. DATE

DESIGN BY: NPE
CAD BY: NTT
CHECKED BY: KLA
LAST REVISION: 03/10/2016

CONSTRUCTION DETAILS (1 OF 2)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

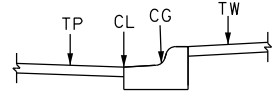
SHEET
32R
42

POINT	NORTHING	EASTING	ELEVATION	CODE
201	163308.65	541921.41	816.40	TP
202	163311.87	541925.24	816.23	TP
204	163335.28	541953.14	815.00	TP
206	163327.17	541905.88	815.94	CL
207	163331.00	541902.66	815.85	CG
210	163355.40	541939.52	814.13	CL
211	163359.23	541936.31	813.90	CG
212	163360.84	541929.07	814.55	TW
213	163345.78	541911.66	815.75	TW
214	163351.08	541906.84	816.01	TW
215	163353.41	541901.46	816.45	TW
216	163356.51	541899.85	816.45	TW
217	163360.40	541899.63	816.10	TW
218	163363.57	541889.41	816.10	TW
219	163358.65	541888.35	816.53	TW
222	163287.55	541939.12	815.85	CG
224	163302.80	541976.00	*	CG
225	163278.47	541946.74	816.33	TW
226	163289.41	541963.47	815.61	TW
227	163269.55	541963.81	816.02	TW
228	163279.84	541974.42	815.26	TW
229	163338.41	541896.44	816.53	TW
230	163364.82	541933.10	814.16	TW
231	163311.09	541997.72	813.66	CG
232	163308.70	542016.96	812.94	CG
233	163305.16	542009.47	813.63	TW
234	163305.86	542003.59	813.86	TW

* MATCH EXISTING

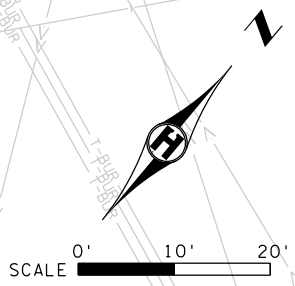
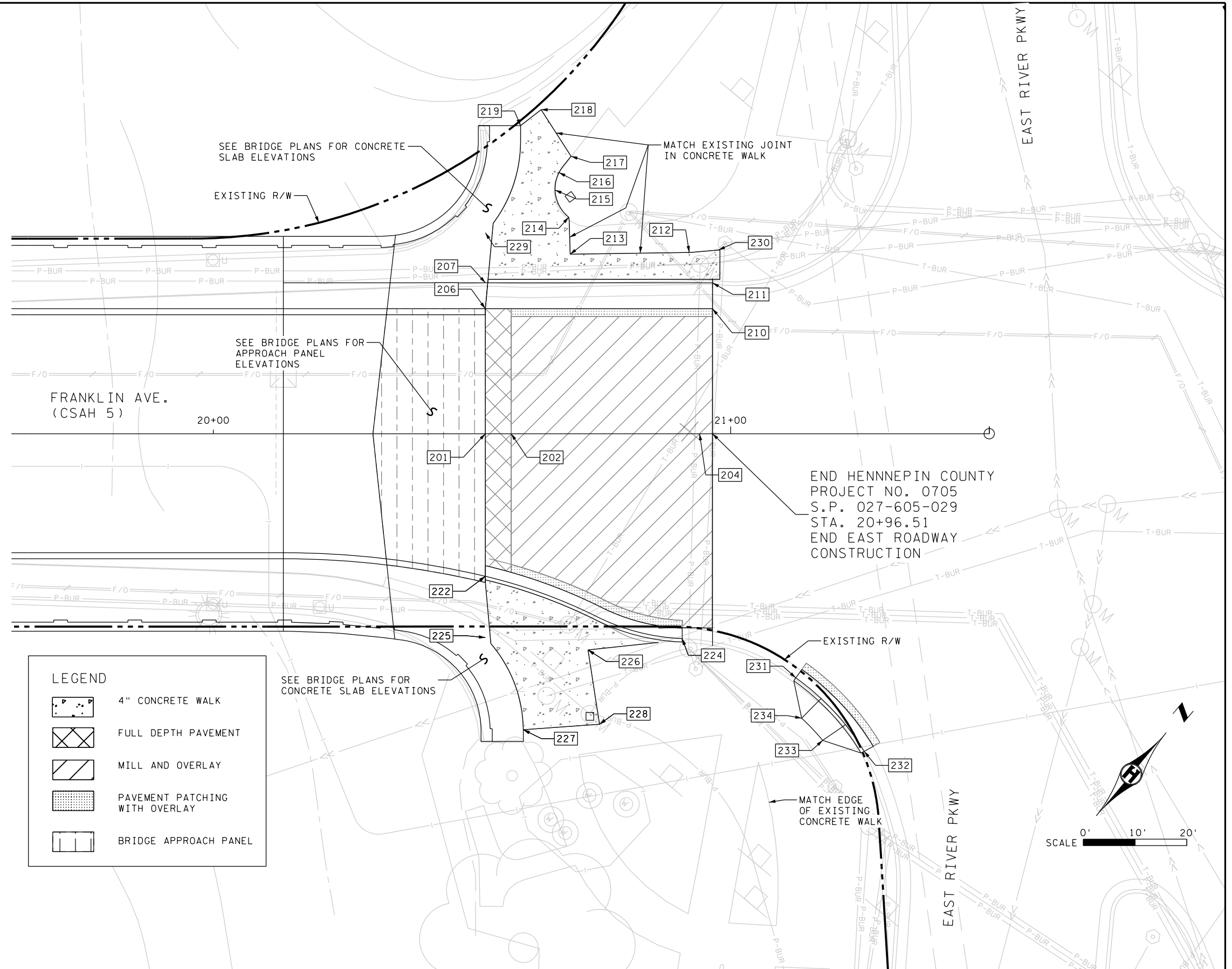
POINT CODE DESCRIPTION

CG = GUTTER
 CL = CURB LIP
 TP = TOP OF PAVEMENT
 TW = TOP OF WALK

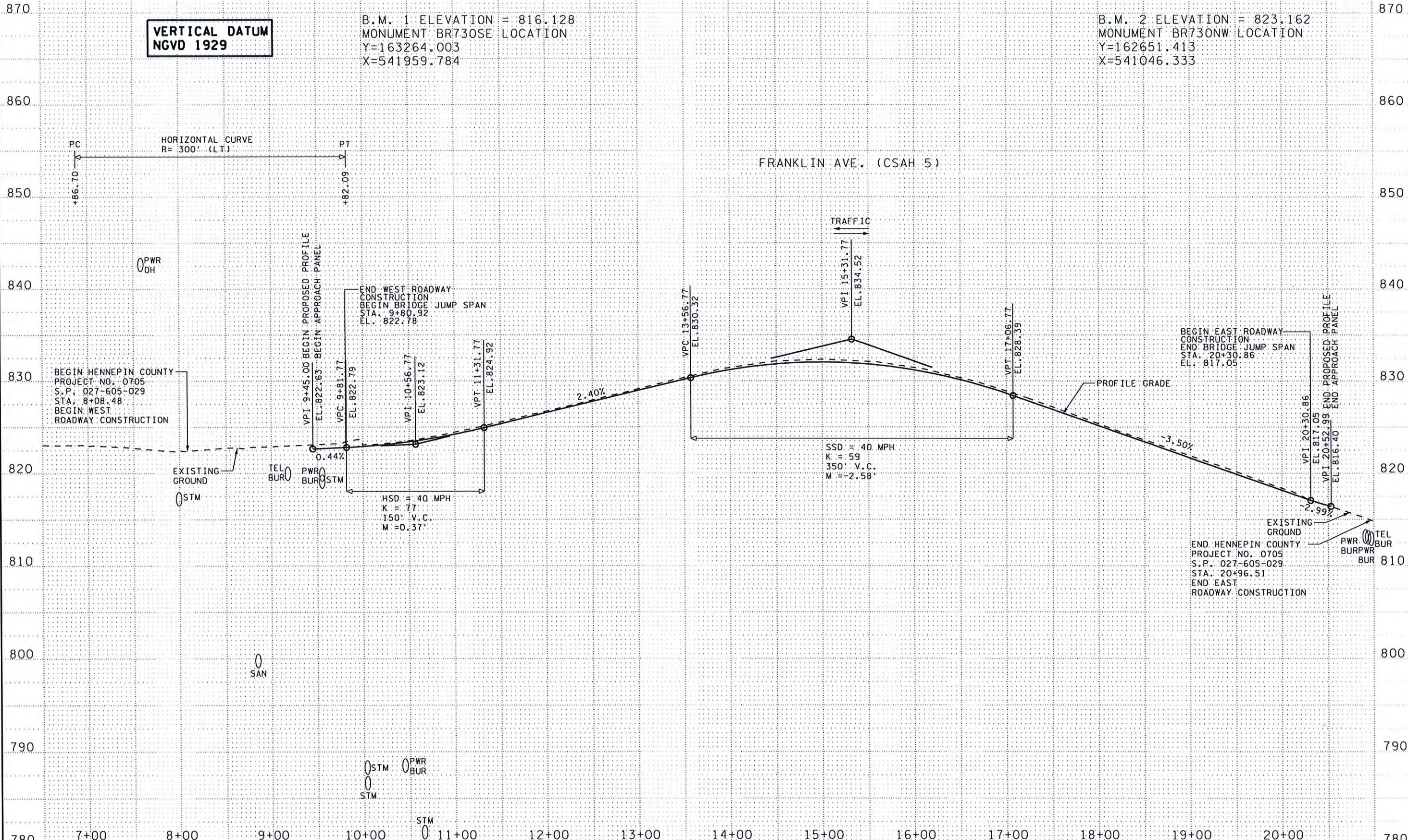


LEGEND

- 4" CONCRETE WALK
- FULL DEPTH PAVEMENT
- MILL AND OVERLAY
- PAVEMENT PATCHING WITH OVERLAY
- BRIDGE APPROACH PANEL



	I HEREBY CERTIFY THAT SHEETS 1-39, 41-42, SS1-SS4 WERE 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. <div style="text-align: center; margin-top: 10px;"> KAREN L. ALLEN, PROFESSIONAL ENGINEER </div>	DESIGN BY: NPE CAD BY: NTT CHECKED BY: KLA LAST REVISION: 05/23/2016	CONSTRUCTION DETAILS (2 OF 2) C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705 BRIDGE 2441 S.P. 027-605-029	SHEET 33R2 <hr/> 42
	<div style="display: flex; justify-content: space-around;"> 16119 8/14/2014 </div> <p style="text-align: center; font-size: small;">LICENSE NO. DATE</p>			



**VERTICAL DATUM
NGVD 1929**

B.M. 1 ELEVATION = 816.128
MONUMENT BR730SE LOCATION
Y=163264.003
X=541959.784

B.M. 2 ELEVATION = 823.162
MONUMENT BR730NW LOCATION
Y=162651.413
X=541046.333

FRANKLIN AVE. (CSAH 5)

BEGIN HENNEPIN COUNTY
PROJECT NO. 0705
S.P. 027-605-029
STA. 8+08.48
BEGIN WEST
ROADWAY CONSTRUCTION

END WEST ROADWAY
CONSTRUCTION
BEGIN BRIDGE JUMP SPAN
STA. 9+80.92
EL. 822.78

BEGIN EAST ROADWAY
CONSTRUCTION
END BRIDGE JUMP SPAN
STA. 20+30.86
EL. 817.05

END HENNEPIN COUNTY
PROJECT NO. 0705
S.P. 027-605-029
STA. 20+96.51
END EAST
ROADWAY CONSTRUCTION

SSD = 40 MPH
K = 59
350' V.C.
M = -2.58'

HSD = 40 MPH
K = 77
150' V.C.
M = 0.37'



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Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

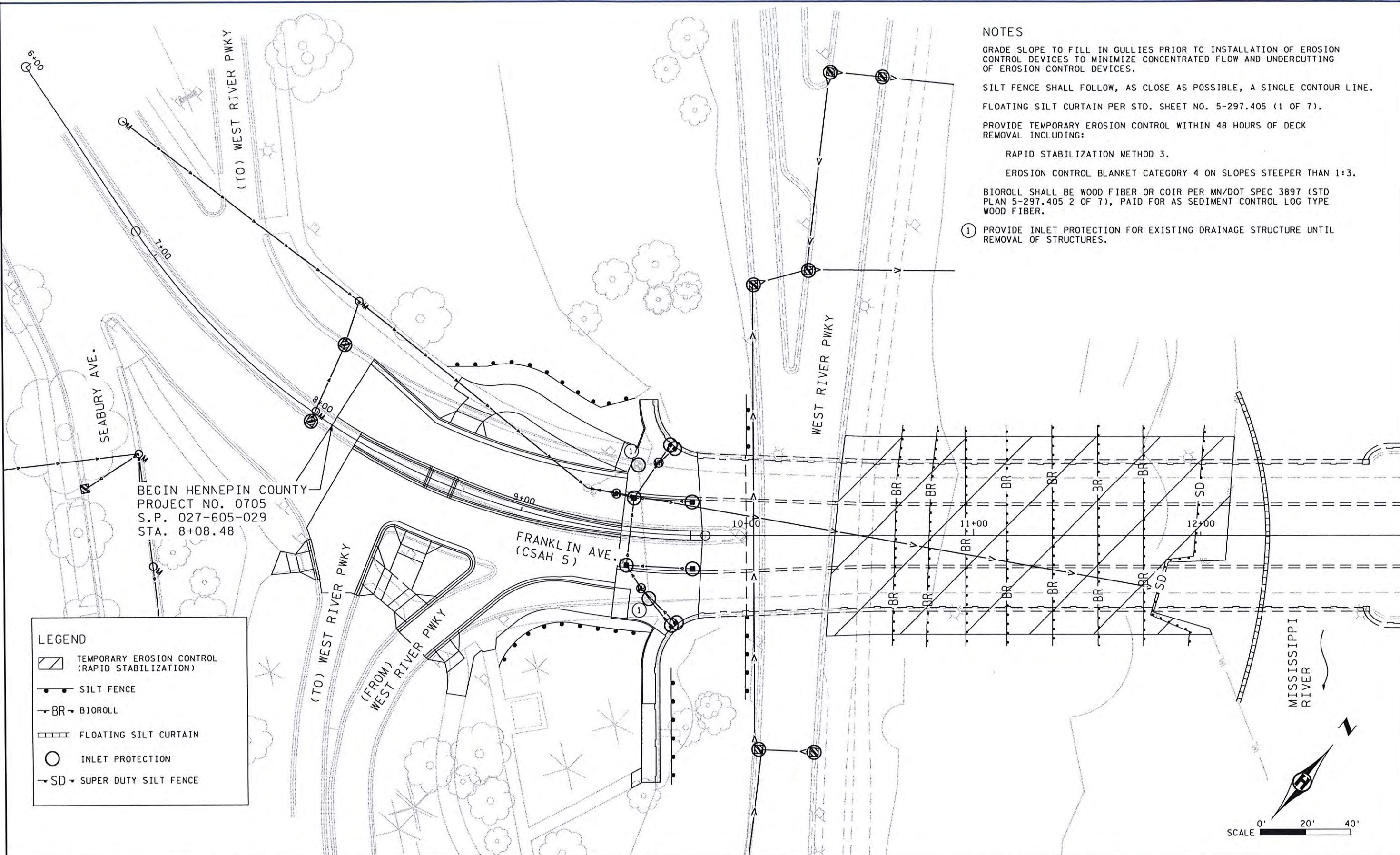
16119 8/14/2014
LICENSE NO. DATE

DESIGN BY: NPE
CAD BY: NTT
CHECKED BY: KLA
LAST REVISION:

PROFILE

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
34
42



NOTES

GRADE SLOPE TO FILL IN GULLIES PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES TO MINIMIZE CONCENTRATED FLOW AND UNDERCUTTING OF EROSION CONTROL DEVICES.

SILT FENCE SHALL FOLLOW, AS CLOSE AS POSSIBLE, A SINGLE CONTOUR LINE.

FLOATING SILT CURTAIN PER STD. SHEET NO. 5-297.405 (1 OF 7).

PROVIDE TEMPORARY EROSION CONTROL WITHIN 48 HOURS OF DECK REMOVAL INCLUDING:

RAPID STABILIZATION METHOD 3.

EROSION CONTROL BLANKET CATEGORY 4 ON SLOPES STEEPER THAN 1:3.

BIOROLL SHALL BE WOOD FIBER OR COIR PER MN/DOT SPEC 3897 (STD PLAN 5-297.405 2 OF 7), PAID FOR AS SEDIMENT CONTROL LOG TYPE WOOD FIBER.

① PROVIDE INLET PROTECTION FOR EXISTING DRAINAGE STRUCTURE UNTIL REMOVAL OF STRUCTURES.

LEGEND

- TEMPORARY EROSION CONTROL (RAPID STABILIZATION)
- SILT FENCE
- BR → BIOROLL
- FLOATING SILT CURTAIN
- INLET PROTECTION
- SD → SUPER DUTY SILT FENCE

BEGIN HENNEPIN COUNTY
PROJECT NO. 0705
S.P. 027-605-029
STA. 8+08.48



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Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119 8/14/2014
LICENSE NO. DATE

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LAST REVISION:

TEMPORARY EROSION CONTROL PLAN (1 OF 2)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
35
42

NOTES

GRADE SLOPE TO FILL IN GULLIES PRIOR TO INSTALLATION OF EROSION CONTROL DEVICES TO MINIMIZE CONCENTRATED FLOW AND UNDERCUTTING OF EROSION CONTROL DEVICES.

SILT FENCE SHALL FOLLOW, AS CLOSE AS POSSIBLE, A SINGLE CONTOUR LINE.

FLOATING SILT CURTAIN PER STD. SHEET NO. 5-297.405 (1 OF 7).

PROVIDE TEMPORARY EROSION CONTROL WITHIN 48 HOURS AFTER DECK REMOVAL INCLUDING:

RAPID STABILIZATION METHOD 3.

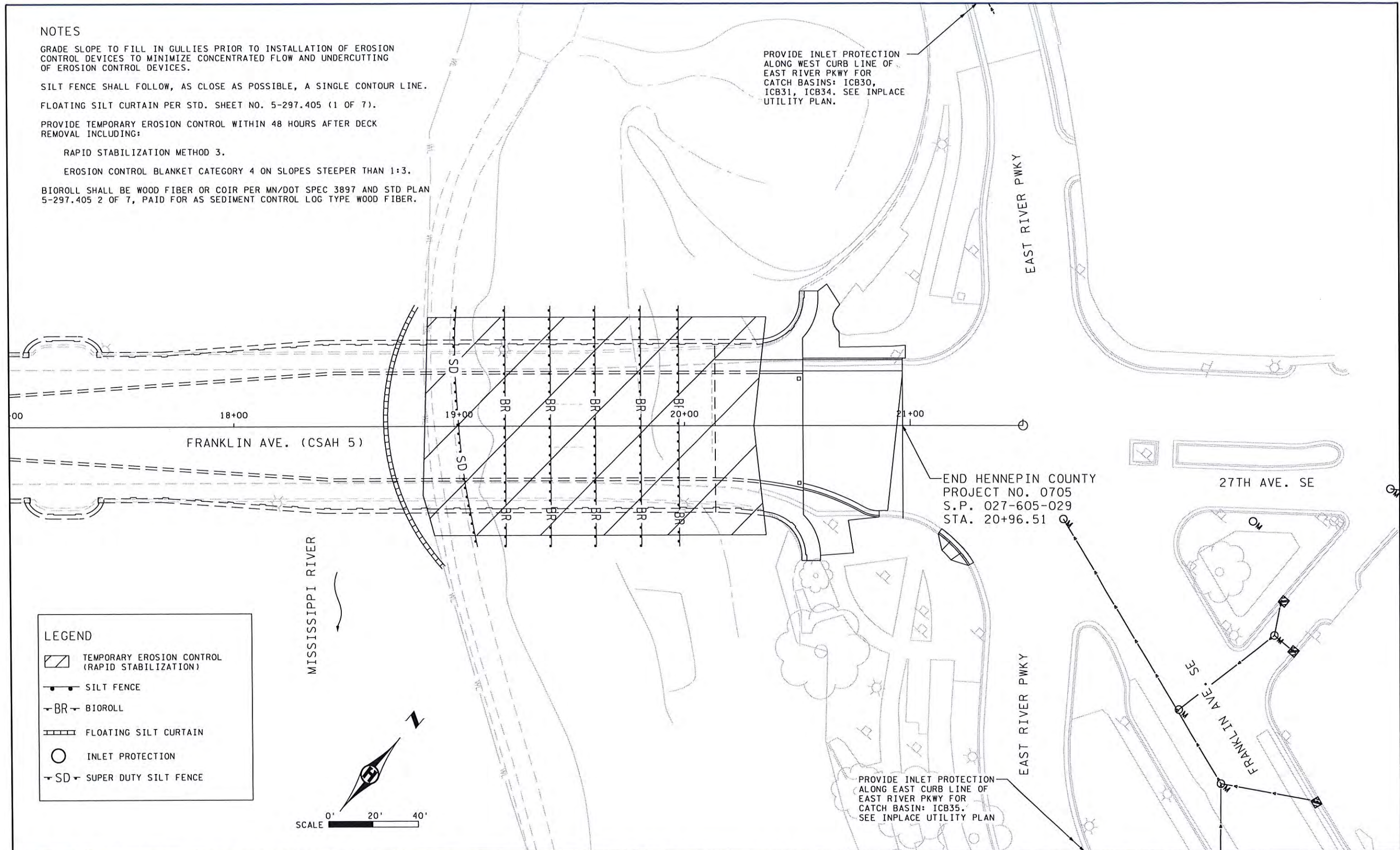
EROSION CONTROL BLANKET CATEGORY 4 ON SLOPES STEEPER THAN 1:3.

BIOROLL SHALL BE WOOD FIBER OR COIR PER MN/DOT SPEC 3897 AND STD PLAN 5-297.405 2 OF 7, PAID FOR AS SEDIMENT CONTROL LOG TYPE WOOD FIBER.

PROVIDE INLET PROTECTION ALONG WEST CURB LINE OF EAST RIVER PKWY FOR CATCH BASINS: ICB30, ICB31, ICB34. SEE INPLACE UTILITY PLAN.

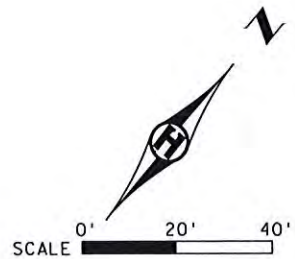
END HENNEPIN COUNTY PROJECT NO. 0705 S.P. 027-605-029 STA. 20+96.51

PROVIDE INLET PROTECTION ALONG EAST CURB LINE OF EAST RIVER PKWY FOR CATCH BASIN: ICB35. SEE INPLACE UTILITY PLAN



LEGEND

- TEMPORARY EROSION CONTROL (RAPID STABILIZATION)
- SILT FENCE
- BIOROLL
- FLOATING SILT CURTAIN
- INLET PROTECTION
- SUPER DUTY SILT FENCE



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Karen L. Allen
 KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119
 LICENSE NO.

8/14/2014
 DATE

DESIGN BY: KLA
 CAD BY: NTT
 CHECKED BY: KLA
 LAST REVISION:

TEMPORARY EROSION CONTROL PLAN (2 OF 2)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 36
 42

SWPPP NOTES

PROJECT DESCRIPTION:

S.P. 027-605-029 AND BRIDGE 2441 IN MINNEAPOLIS, HENNEPIN COUNTY, MN.

MISSISSIPPI RIVER IS AN IMPAIRED WATER AS DEFINED BY THE MINNESOTA POLLUTION CONTROL AGENCY.

HENNEPIN COUNTY PROJECT ENGINEER AND THE CONTRACTOR ARE RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE AND DURING CONSTRUCTION.

THE PROJECT RESULTS IN INCREASE IN IMPERVIOUS AREA OF 0.05 AC. THERE ARE NO LAND FEATURE CHANGES.

AGENCY CONTACTS:

MN PCA
651-757-2119
TECHNICAL CONTACT:
KAREN KROMAR

DNR AREA HYDROLOGIST:

JACK GLEASON
Jack.Gleason@state.mn.us
1200 WARNER ROAD
ST. PAUL, MN 55106
651-259-5845

1. THE CONTRACTOR SHALL HAVE CERTIFIED EROSION CONTROL SUPERVISOR(S) (ECS) THAT SHALL BE RESPONSIBLE FOR THE INSTALLATION, INSPECTION AND MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL. THE CERTIFIED EROSION CONTROL SUPERVISOR SHALL PREPARE THE REQUIRED WEEKLY EROSION CONTROL INSPECTION REPORTS.

THE CERTIFIED EROSION CONTROL SUPERVISOR SHALL BE CERTIFIED TO HAVE COMPLETED AND PASSED THE EXAMINATION FOR THE TWO-DAY EROSION/SEDIMENT CONTROL SITE MANAGEMENT TRAINING COURSE, PROVIDED BY THE UNIVERSITY OF MINNESOTA, DEPARTMENT OF BIOSYSTEMS AND AGRICULTURAL ENGINEERING.

ONE SUPERVISOR MUST BE PRESENT ON THE PROJECT DURING INSTALLATION OF EROSION CONTROL AND SEDIMENT CONTROL MEASURES, AND AVAILABLE TO THE PROJECT WITHIN 72 HOURS ALL OTHER TIMES.

2. THE CONTRACTOR SHALL HAVE A CERTIFIED EROSION/SEDIMENT CONTROL INSTALLER (ECI) (AT LEAST ONE CERTIFIED INSTALLER AT THE TIME OF INSTALLATION) SHALL BE PRESENT FOR THE FOLLOWING EROSION CONTROL ACTIVITIES: SEEDING; SODDING; MULCHING; SILT FENCE OR OTHER PERIMETER SEDIMENT CONTROL DEVICE INSTALLATIONS; EROSION CONTROL BLANKET INSTALLATION; HYDRAULIC SOIL STABILIZER INSTALLATION; SILT CURTAIN INSTALLATION; DITCH CHECK INSTALLATION; STORM DRAIN INLET PROTECTION; RIPRAP PLACEMENT; COMPOST INSTALLATION; AND EROSION STABILIZATION MAT INSTALLATION.

THE ECI SHALL BE CERTIFIED TO HAVE COMPLETED AND PASSED THE EXAMINATION FOR THE ONE-DAY EROSION/SEDIMENT CONTROL INSPECTOR/INSTALLER TRAINING COURSE, PROVIDED BY THE UNIVERSITY OF MINNESOTA, DEPARTMENT OF BIOSYSTEMS AND AGRICULTURAL ENGINEERING. THE ECI SHALL REPORT TO THE ECS.

3. ALL EXPOSED SOIL AREAS MUST HAVE TEMPORARY EROSION PROTECTION OR PERMANENT COVER YEAR ROUND.

4. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE BUT IN NO CASE LATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS BEEN TEMPORARILY OR PERMANENTLY CEASED. THE CONTRACTOR SHALL FOLLOW THE METHODS IN MNDOT SPEC. SECTION 2575.3.N RAPID STABILIZATION.

5. TEMPORARY SEDIMENT BASIN MUST BE USED FOR DRAINAGE LOCATIONS THAT SERVE AN AREA OF 5 ACRES OR MORE.

6. NORMAL WETTED PERIMETER OF DITCHES THAT DRAIN WATER FROM OR AROUND A SITE MUST BE STABILIZED WITHIN 200 FEET OF PROPERTY EDGES OR POINT OF DISCHARGE TO SURFACE WATER WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.

7. PIPE OUTLETS MUST HAVE TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.

8. NO UNBROKEN SLOPE LENGTHS OF GREATER THAN 75 FEET FOR SLOPES WITH A GRADE OF STEEPER THAN 3H:1V.

9. ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILITISE THE PROPER FACILITIES.

10. THE CONTRACTOR SHALL INSPECT THE SITE AT LEAST EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS OF A RAINFALL GREATER THAN 0.5 INCHES IN 24 HOURS. ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION SHALL BE RECORDED IN WRITING AND THESE RECORDS SHALL BE RETAINED WITH SWPPP IN ACCORDANCE WITH PART II.D OF THE NPDES PERMIT. ALL NON-FUNCTIONING BMPS SHALL BE REPLACED, REPAIRED, OR SUPPLEMENTED WITH BMPS AS DIRECTED BY THE ECS OR THE PROJECT ENGINEER. EROSION CONTROL DEVICES SHALL BE REPLACED AT THE BEGINNING OF EACH NEW CONSTRUCTION SEASON.

11. SILT FENCE SHALL BE REPLACED WITHIN 24 HOURS OF INSPECTION WHEN SEDIMENT REACHES 1/3 OR MORE THE HEIGHT OF FENCE.

12. TEMPORARY PERIMETER CONTROL BMPS SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT SOIL DISTURBANCE. THESE DEVICES SHALL REMAIN INPLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED IN ACCORDANCE WITH PART IV.G OF THE PERMIT. THE TIMING OF SEDIMENT CONTROL DEVICES MAY BE ADJUSTED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING AND GRUBBING. ANY SHORT TERM ACTIVITY SHALL BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED. HOWEVER, THE SEDIMENT CONTROL DEVICES SHALL BE INSTALLED BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE ACTIVITY IS NOT COMPLETE.

13. EXPOSED SOIL AREAS MUST HAVE THE FOLLOWING EROSION CONTROL MEASURES:
- SILT FENCE MUST BE INSTALLED AT THE DOWNSLOPE EDGE OF EXPOSED SOIL.
- BIOROLL, EITHER STRAW OR WOOD FIBER, MEETING MNDOT SPEC 3897 SHALL BE PLACED AT THE UPSLOPE SIDE OF THE SILT FENCE.
- PLACE TEMPORARY ROCK BERM AT WATER'S EDGE PER STANDARD PLAN NO. 5-297.405 (1 OF 4)
- PLACE FLOATING SILT CURTAIN PER STANDARD PLAN NO. 5-297.405 (1 OF 4) AT THE DOWNSTREAM SIDE OF THE TEMPORARY ROCK BERM.

14. DEWATERING RELATED TO CONSTRUCTION ACTIVITY THAT MAY HAVE TURBID OR SEDIMENT LADEN DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE WHENEVER POSSIBLE. DISCHARGE FROM THE TEMPORARY OR PERMANENT SEDIMENTATION BASIN MUST BE VISUALLY CHECKED TO ENSURE ADEQUATE TREATMENT IS OBTAINED IN THE BASIN AND THAT NUISANCE CONDITIONS WILL NOT RESULT FROM DISCHARGE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO ENTERING (MISSISSIPPI) RIVER, IT MUST BE TREATED WITH THE APPROPRIATE BMPS SUCH THAT THE DISCHARGE DOES NOT ADVERSLY AFFECT THE RECEIVING WATERS. THE CONTRACTOR MUST ENSURE THAT THE DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC BAGS, PLASTIC SHEETING, OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES. ADEQUATE SEDIMENTATION CONTROL MEASURES ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS.

15. NO RIVER BED DISTURBANCE OF THE MISSISSIPPI RIVER IS ALLOWED DURING MARCH 15 THROUGH JUNE 15.

16. NO FUEL OR CHEMICAL (STORAGE) TANK (MORE THAN 60 GALS) MAY BE STORED ON THE PROJECT AREA.

17. THE CONTRACTOR SHALL SUBMIT A SITE PLAN AS DESCRIBED IN MNDOT SPEC. 1717 AS REQUESTED BY THE ENGINEER. THE CONTRACTOR SHALL ALLOW FOR 24 HOURS OF REVIEW BY MNDOT.

18. THE CONTRACTOR SHALL PREVENT THE SPREAD OF AQUATIC AND NOXIOUS ORGANISMS USING BEST MANAGEMENT PRACTICES DEVELOPED BY STATE AND FEDERAL AGENCIES, MNDOT SPEC. 1717, AND SITE PLANNING BY VISUAL INSPECTION PROCESS FOR ALL EQUIPMENT IN CONTACT WITH RIVER BANKS, SURFACE WATERS, AND RIVER BOTTOM SOILS.

19. THE CONTRACTOR SHALL SUBMIT A DREDGE DISPOSAL PLAN FOR APPROVAL BY THE ENGINEER. THE PLAN SHALL INCLUDE HOW THE MATERIAL WILL BE DISPOSED AND THE LOCATION OF DISPOSAL SITE. THE CONTRACTOR'S SWPPP SHALL ACCOUNT FOR AND PROVIDE EROSION CONTROL FOR THE DISTURBANCE OF THE LAND, INCLUDING HAUL ROADS AND STAGING AREA DUE TO DISPOSAL OF DREDGE MATERIAL.

20. THE CONTRACTOR SHALL PROVIDE INLET PROTECTION FOR STORM SEWER INLETS RECIEVING RUNOFF FROM THE PROJECT PER STD SHEET NO. 5-297.405.

21. FOR AREAS WHERE TREES ARE TO BE REMOVED, (PER WORK ZONE PLAN SHEET) CONTRACTOR TO LEAVE EXISTING GROUND COVER AND REMAINING ROOTS TO MITIGATE POTENTIAL FOR EROSION.

22. AS SHOWN ON THE PLANS, THE DISTURBED AREA IS AS FOLLOWS:

WEST APPROACH CONSTRUCTION	0.27 AC
EAST APPROACH CONSTRUCTION	0.07 AC
WEST SIDE UNDER BRIDGE WITH BRIDGE DECK OFF - (ASSUMING 15 FOOT DISTURBANCE NORTH AND SOUTH EITHER SIDE OF BRIDGE)	0.34 AC
EAST SIDE UNDER BRIDGE WITH BRIDGE DECK OFF	0.15 AC
TOTAL:	0.83 AC

AS SHOWN ON THE PLANS, THE DISTURBED AREA IS BELOW ONE ACRE THRESHOLD FOR PCA NPDES PERMIT. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AN NPDES PERMIT IF THEIR CONSTRUCTION DISTURBS MORE THAN ONE ACRE.



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Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119 8/14/2014
LICENSE NO. DATE

DESIGN BY: KLA
CAD BY: NTT
CHECKED BY: KLA
LAST REVISION: 10/08/2014

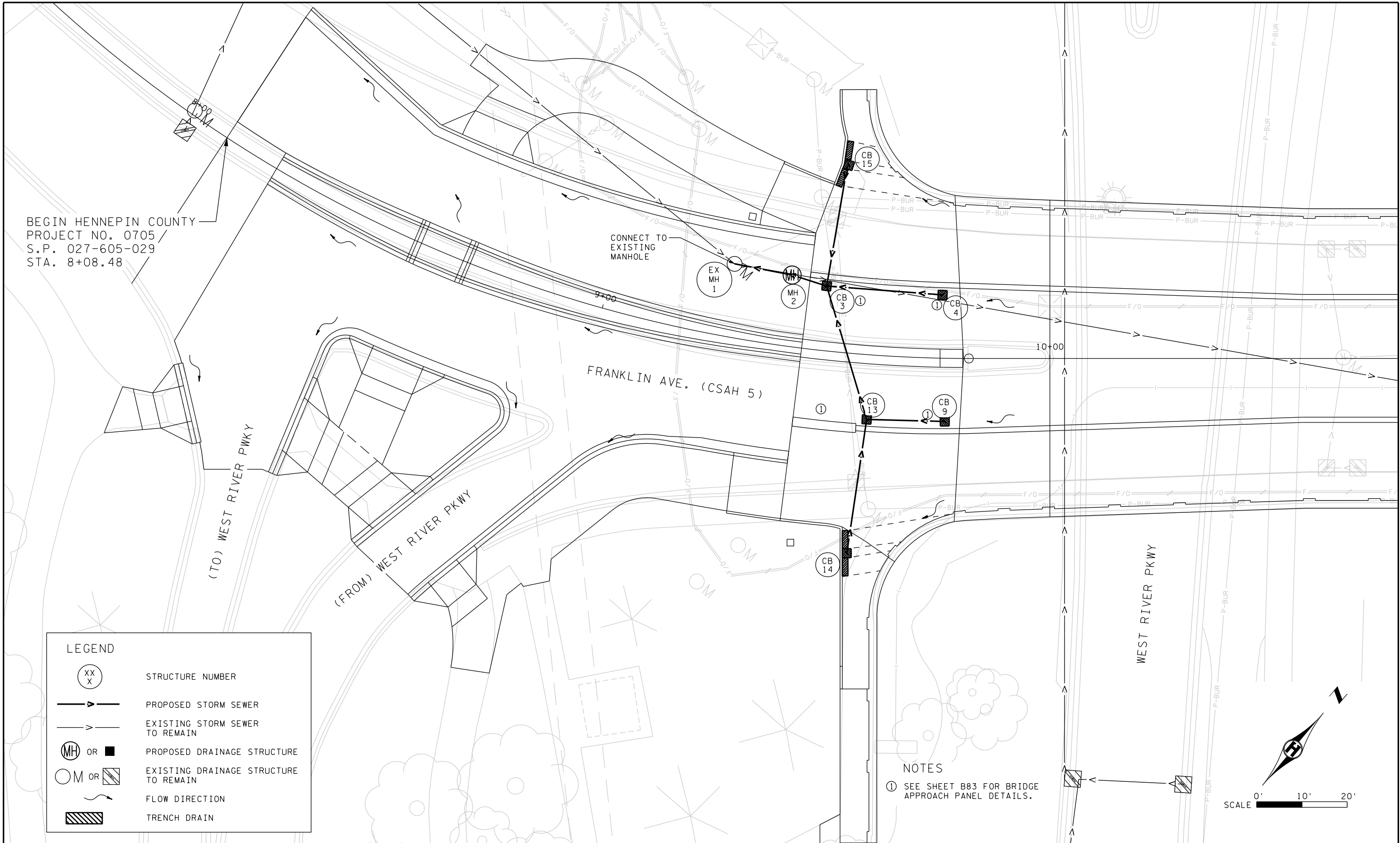
SWPPP NOTES

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET

37R

42



BEGIN HENNEPIN COUNTY
 PROJECT NO. 0705
 S.P. 027-605-029
 STA. 8+08.48

FRANKLIN AVE. (CSAH 5)

(TO) WEST RIVER PKWY

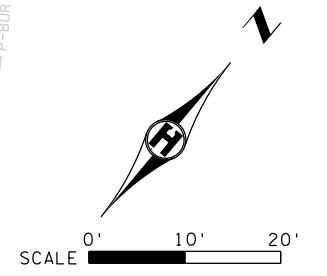
(FROM) WEST RIVER PKWY

WEST RIVER PKWY

LEGEND

- XX
X STRUCTURE NUMBER
- PROPOSED STORM SEWER
- EXISTING STORM SEWER TO REMAIN
- MH OR PROPOSED DRAINAGE STRUCTURE
- M OR EXISTING DRAINAGE STRUCTURE TO REMAIN
- FLOW DIRECTION
- TRENCH DRAIN

NOTES
 ① SEE SHEET B83 FOR BRIDGE APPROACH PANEL DETAILS.



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Karen L. Allen

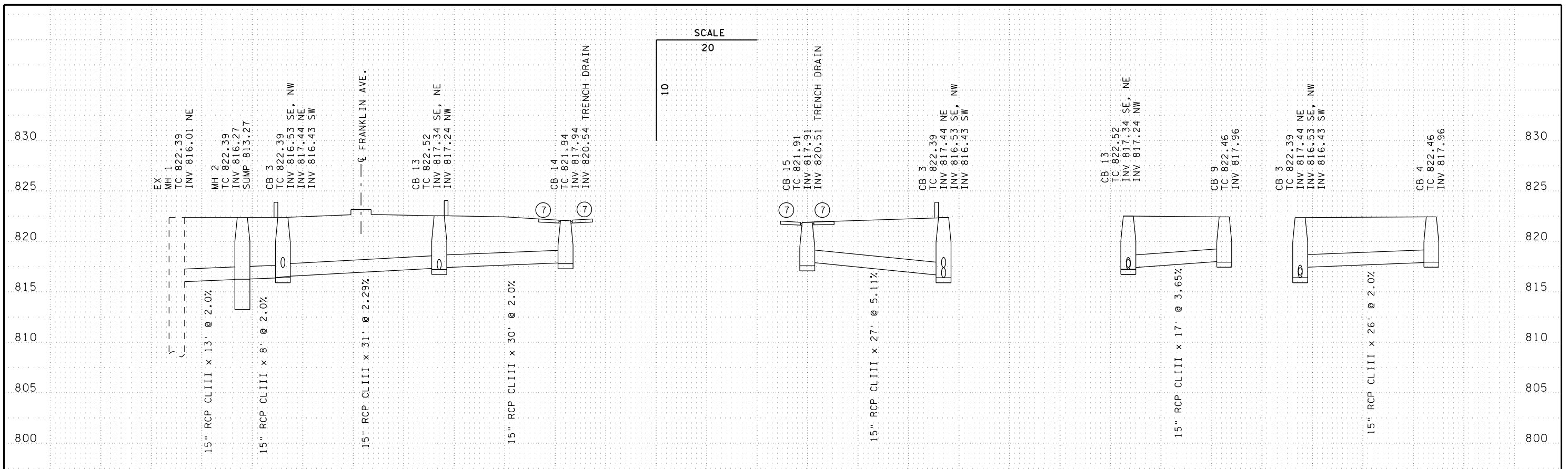
KAREN L. ALLEN, PROFESSIONAL ENGINEER **16119** **8/14/2014**
 LICENSE NO. DATE

DESIGN BY: KLA
CAD BY: NTT
CHECKED BY: KLA
LAST REVISION: 03/10/2016

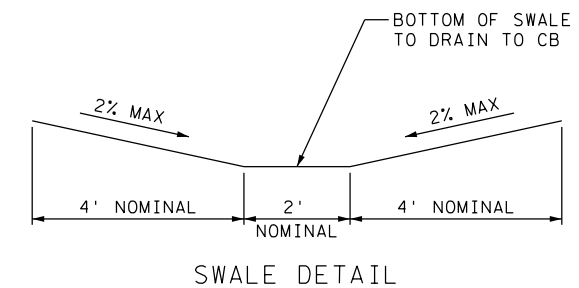
DRAINAGE PLAN

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
38R
42



UNDERGROUND CONSTRUCTION DATA PIPE SEWERS												M		
STRUCT NO.	STATION (4)	LOCATION (4)	DRAINS TO	CONSTRUCT STRUCTURE DESIGN				CASTING ASSEMBLY (2)	FLOOR DRAIN TYPE B701	DUCTILE IRON 6 IN LF	REINFORCED CONCRETE DESIGN 3006 CLIII 15 IN LF	CONNECT INTO EXISTING MANHOLE EACH	TRENCH DRAIN (7) LF	REMARKS
				F	66-4020	N	SEDIMENTATION CONTROL STRUCTURE							
				LF	LF	LF	EACH							
EX MH 1	9+27.0	16.2' LT	OUTLET								1			
MH 2	9+40.7	15.8' LT	EX MH 1				1	1 A-7D		13				
CB 3	9+49.0	14.0' LT	MH 2		6.0			1 B-9		8			12.4' LT (6)	
CB 4	9+76.0	14.0' LT	CB 3	4.5 (3)				1 B-9		26			13.1' LT (6)	
MH 5	9+59	31.1' LT	CB 3	4.9				1 A-7D		19				
CB 6	9+67	37.7' LT	MH 5						1 (1)					
CB 7	9+65	39.2' LT	MH 5						1 (1)					
CB 8	9+49	14.8' RT	CB 3		5.3			1 B-9		30				
CB 9	9+77.0	14.0' RT	CB 13	4.5 (3)				1 B-9		17			13.1' RT (6)	
MH 10	9+56	24.3' RT	CB 8	4.6				1 A-7D		12				
CB 11	9+70	38.4' RT	CB 10						1 (1)					
CB 12	9+69	40.1' RT	CB 10						1 (1)					
CB 13	9+60.5	14.0' RT	CB 3		5.3			1 B-9		31			12.4' RT (6)	
CB 14	9+58.6	44.6' RT	CB 13			4.0		1 B-13		30		8 (5)		
CB 15	9+51.3	41.4' LT	CB 3			4.0		1 B-13		27		8 (5)		
TOTALS				9.0	11.3	8.0	1	7	0	0	152	1	16	



- (1) INCLUDES 2 - 22.5 DEGREE BENDS INCIDENTAL TO PIPE. NOT USED
- (2) SEE SHEET 7 FOR CASTING ASSEMBLY SCHEDULE.
- (3) TYPE B CONE REQUIRED.
- (4) STATION/LOCATION TO CENTER OF CASTING.
- (5) 4' TRENCH DRAIN ON EITHER SIDE OF CB INLET. CONNECTOR PIPE INCIDENTAL.
- (6) OFFSET TO CENTER OF STRUCTURE
- (7) TRENCH DRAIN SHALL BE NEENAH R-4995-A2 OR APPROVED EQUAL WITH TYPE M GRATE. BOTTOM OUTLET. CONNECT TO CB 14 OR CB 15.



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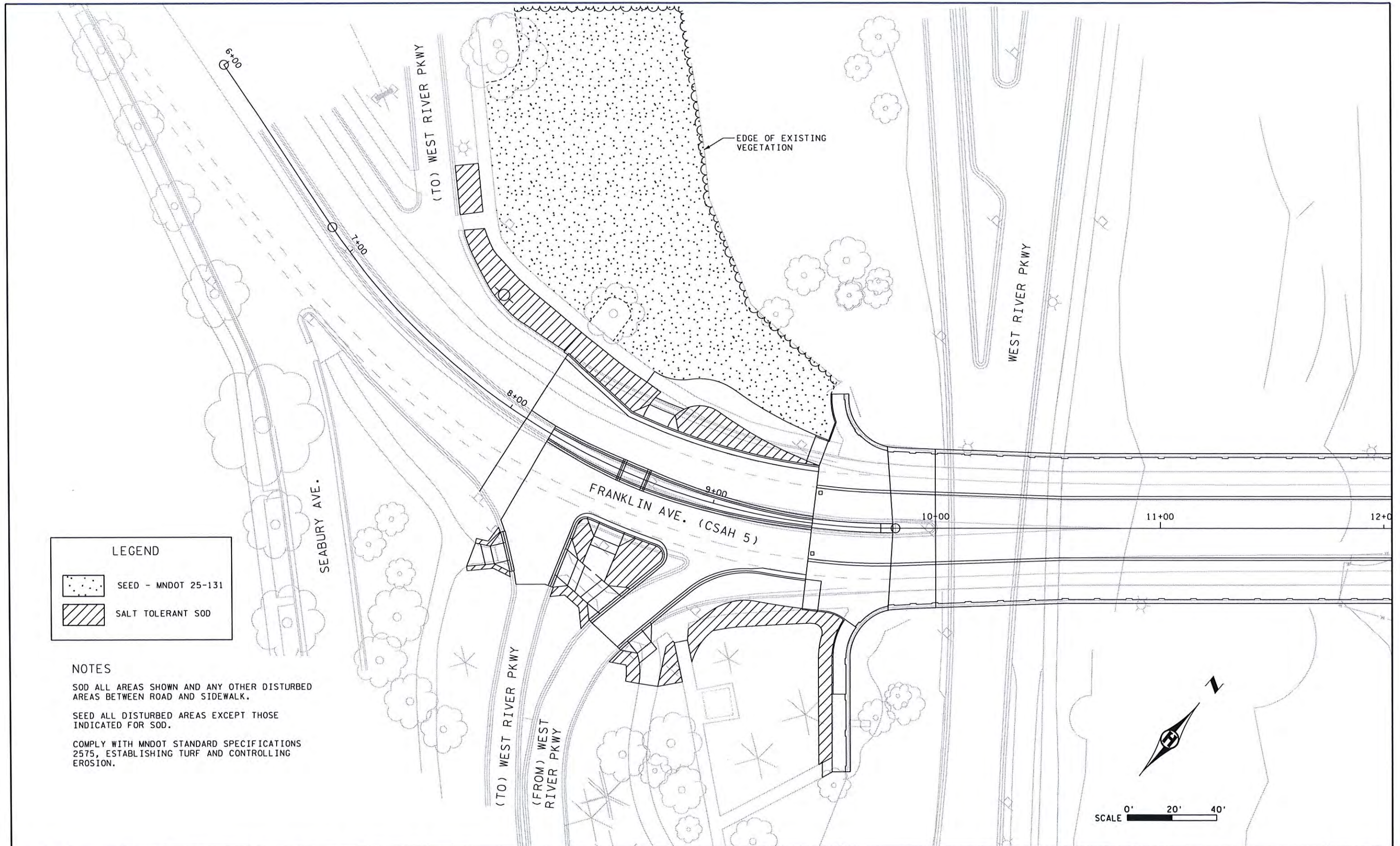
Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER
 16119 LICENSE NO. 8/14/2014 DATE

DESIGN BY: KLA
 CAD BY: NTT
 CHECKED BY: KLA
 LAST REVISION: 03/10/2016



DRAINAGE PROFILES AND TABULATION

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 39R
 42



LEGEND

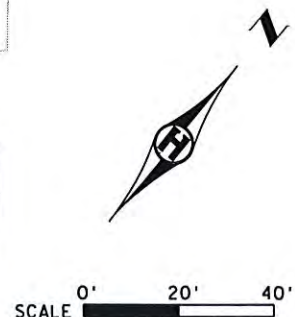
-  SEED - MNDOT 25-131
-  SALT TOLERANT SOD

NOTES

SOD ALL AREAS SHOWN AND ANY OTHER DISTURBED AREAS BETWEEN ROAD AND SIDEWALK.

SEED ALL DISTURBED AREAS EXCEPT THOSE INDICATED FOR SOD.

COMPLY WITH MNDOT STANDARD SPECIFICATIONS 2575, ESTABLISHING TURF AND CONTROLLING EROSION.



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

D. Hellekson
 DIANE L. HELLEKSON, PROFESSIONAL LANDSCAPE ARCHITECT

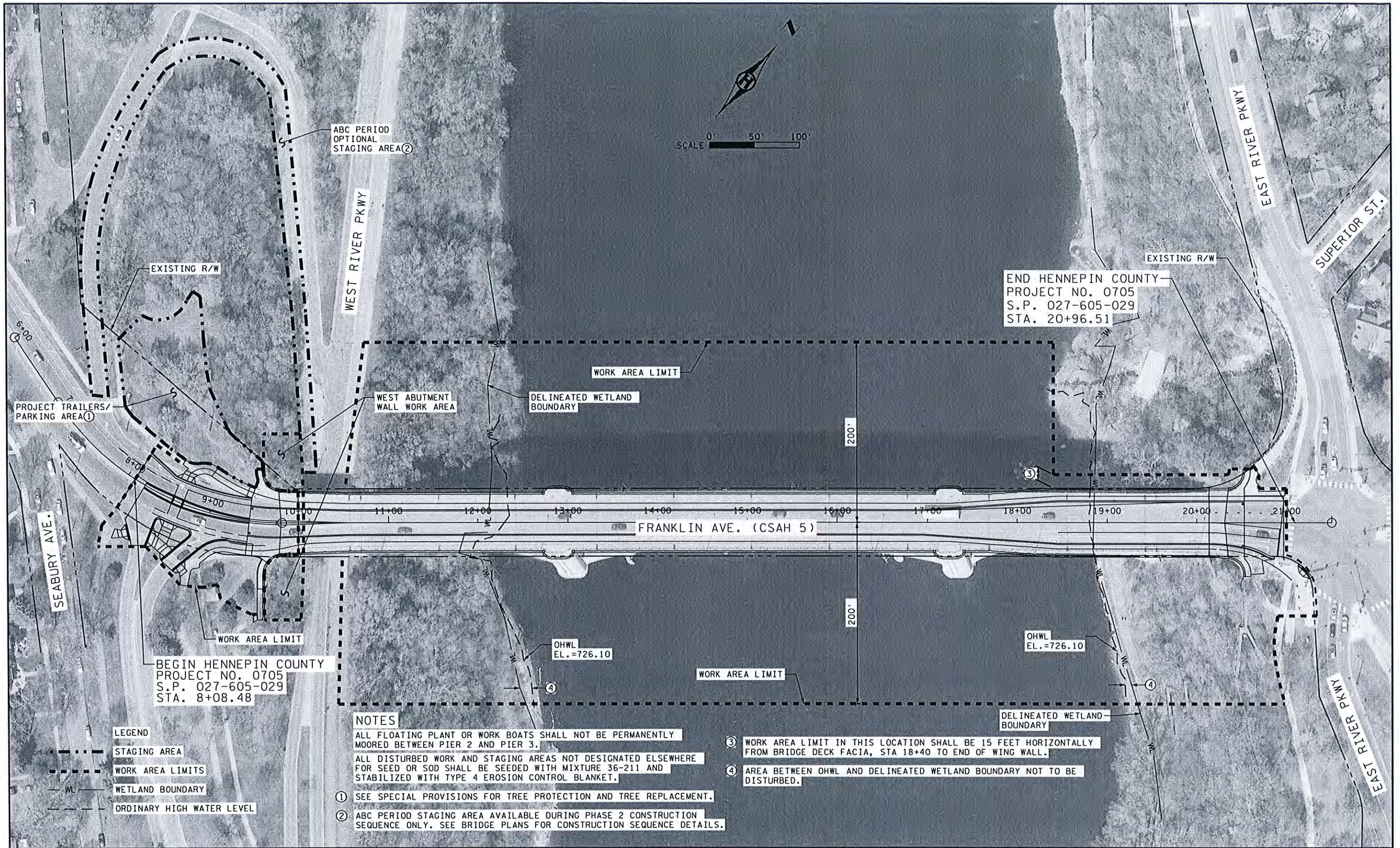
43682 8/14/2014
 LICENSE NO. DATE

DESIGN BY: DLH
 CAD BY: NTT
 CHECKED BY: DLH
 LAST REVISION:

PLANTING/TURF ESTABLISHMENT

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 40
 42



LEGEND

- - - - - STAGING AREA
- - - - - WORK AREA LIMITS
- WL - WETLAND BOUNDARY
- - - - - ORDINARY HIGH WATER LEVEL

NOTES

ALL FLOATING PLANT OR WORK BOATS SHALL NOT BE PERMANENTLY MOORED BETWEEN PIER 2 AND PIER 3.

ALL DISTURBED WORK AND STAGING AREAS NOT DESIGNATED ELSEWHERE FOR SEED OR SOD SHALL BE SEEDED WITH MIXTURE 36-211 AND STABILIZED WITH TYPE 4 EROSION CONTROL BLANKET.

① SEE SPECIAL PROVISIONS FOR TREE PROTECTION AND TREE REPLACEMENT.

② ABC PERIOD STAGING AREA AVAILABLE DURING PHASE 2 CONSTRUCTION SEQUENCE ONLY. SEE BRIDGE PLANS FOR CONSTRUCTION SEQUENCE DETAILS.

③ WORK AREA LIMIT IN THIS LOCATION SHALL BE 15 FEET HORIZONTALLY FROM BRIDGE DECK FACIA, STA 18+40 TO END OF WING WALL.

④ AREA BETWEEN OHWL AND DELINEATED WETLAND BOUNDARY NOT TO BE DISTURBED.



I HEREBY CERTIFY THAT SHEETS 1-39, 41-42, SS1-SS4 WERE 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.

Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119 8/14/2014
 LICENSE NO. DATE

DESIGN BY: NPE
CAD BY: NTT
CHECKED BY: KLA
LAST REVISION:

FRANKLIN WORK AREA AND STAGING AREA LIMITS

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 41
 42



- LEGEND**
- - - STAGING AREA
 - - - WORK AREA LIMITS
 - WL WETLAND BOUNDARY
 - - - ORDINARY HIGH WATER LEVEL

NOTES

SEE SPECIAL PROVISIONS FOR TREE PROTECTION REQUIREMENTS.

ALL DISTURBED WORK AND STAGING AREAS NOT DESIGNATED ELSEWHERE FOR SEED OR SOD SHALL BE SEEDED WITH MIXTURE 36-211 AND STABILIZED WITH TYPE 4 EROSION CONTROL BLANKET.

CONTRACTOR SHALL COORDINATE THEIR USE OF BOHEMIAN FLATS STAGING AREA WITH MPRB.

MPRB RESERVES RIGHT TO USE A PORTION OF BOHEMIAN FLATS FOR STORAGE OF MPRB MATERIALS.



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Karen L. Allen
 KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119 LICENSE NO. 8/14/2014 DATE

DESIGN BY: NPE
 CAD BY: NTT
 CHECKED BY: KLA
 LAST REVISION:

BOHEMIAN FLATS STAGING AREA

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 42
 42

PERMANENT SIGNING AND STRIPING PLAN
STRIPING NOTES AND GUIDELINES

GENERAL INFORMATION

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR SHALL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

POLY PREFORM GENERAL INFORMATION

THE INSTALLERS OF THIS MATERIAL SHALL CARRY A CARD CERTIFYING THAT THEY HAVE ATTENDED A TRAINING SESSION THAT ADDRESSES SURFACE PREPARATIONS AND ALL APPLICATION REQUIREMENTS AND TECHNIQUES NECESSARY FOR SUCCESSFUL APPLICATION.

POLY PREFORM APPLICATION OF MARKING
GROUND IN (GROOVED) PAVEMENT

THE GROOVE SHALL BE ALLOWED TO DRY A MINIMUM OF 24 HOURS AFTER GROOVE CLEANING, REMOVAL OF WATER, AND PRIOR TO PAVEMENT MARKING APPLICATION IF WATER IS USED IN THE GROOVING PROCESS. THE GROOVE SHALL BE CLEAN AND DRY FOR THE PROPER APPLICATION OF THE PAVEMENT MARKING. ONE DRY PASS WITH A PICKUP SWEEPER WILL BE REQUIRED PRIOR TO AIR BLASTING THE GROOVE IF TRAFFIC IS PRESENT.

AIR TEMPERATURE SHALL BE A MINIMUM OF 40 DEGREES FAHRENHEIT. SURFACE TEMPERATURE SHALL BE A MINIMUM OF 40 DEGREES FAHRENHEIT.

A SURFACE PREPARATION ADHESIVE MAY BE REQUIRED - WHEN USING TAPE PRODUCTS, SURFACE PREPARATION ADHESIVE P-50 IS REQUIRED WHEN TAPE APPLICATION OCCURS OUTSIDE OF THE SEASON BETWEEN JUNE 1 AND SEPTEMBER 1. SURFACE PREPARATION ADHESIVE SHALL BE APPLIED ACCORDING TO MANUFACTURERS RECOMMENDATIONS.

TAPE SHALL BE INSTALLED AND TAMPED AS PER MANUFACTURES RECOMMENDATIONS. USE OF TAMPER CARTS WITH A 200 POUND LOAD RECOMMENDED. TAPE APPLICATION IN A GROOVE WILL REQUIRE TAMPING WITH A TAMPER CART ROLLER CUT TO FIT IN THE GROOVE. USE A MODIFIED TAMPER CART ROLLER IF NECESSARY. A TYPICAL MODIFIED ROLLER WILL HAVE A 4 INCH WIDTH AND A 1/4 INCH DEPTH. USE OF A VEHICLE TIRE TO TAMP TAPE IN A GROOVE IS ACCEPTABLE FOR WAFFLE PATTERN TYPES (3M PRODUCTS 380I, 380WR ES, 380IES, AND 270 ES).

POLY PREFORM GROOVED SPECIFICATIONS

THE PAVEMENT SURFACE SHALL BE GROOVED TO THE DIMENSIONS AND DEPTH AS SPECIFIED IN THE SPECIAL PROVISIONS.

INTERSECTION MARKINGS, LEGENDS, AND SYMBOLS MAY REQUIRE USE OF WIDER CUTTING HEADS TO REDUCE THE NUMBER OF RIDGES FORMED BY MULTIPLE PASSES WITH THE CUTTING HEAD. THE HEIGHT OF THE RIDGES SHOULD BE LESS THAN 20 PERCENT OF THE GROOVE DEPTH. SMALLER EQUIPMENT MAY BE REQUIRED TO ACHIEVE A GROOVE AT THE RECOMMENDED DEPTH WHEN WORKING NEAR OBSTACLES SUCH AS CURBS OR MEDIANS.

INTERIM DEVICES (TEMP. TAPE, RAISED TABS, OR OTHER DELINEATION OR CHANNELIZATION DEVICES) SHALL DELINEATE THE PROPOSED MARKING AREAS IF THE ROADWAY IS OPEN TO TRAFFIC.

EPOXY

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.




THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

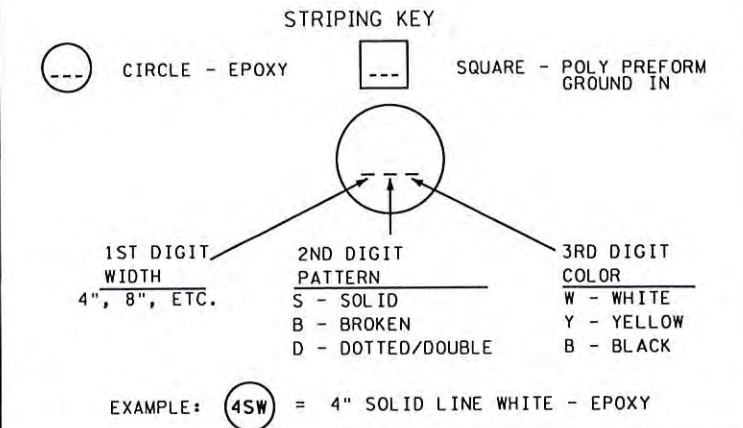
AN EPOXY RESIN LINE 4 INCHES WIDE AND 15 MILS THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.


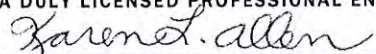
OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

STRIPING SYMBOLS & MATERIALS LEGEND

-  PAVEMENT MESSAGE (THRU/LEFT ARROW)
POLY PREFORM GROUND IN
-  PAVEMENT MESSAGE (RIGHT ARROW)
POLY PREFORM GROUND IN
-  PAVEMENT MESSAGE (BIKE LANE)
EPOXY



	I HEREBY CERTIFY THAT SHEETS 1-39, 41-42, SS1-SS4 WERE 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.	DESIGN BY: <u>NPE</u>	PERMANENT SIGNING AND STRIPING NOTES	SHEET
	 KAREN L. ALLEN, PROFESSIONAL ENGINEER	CAD BY: <u>NTT</u>		
	LICENSE NO. <u>16119</u> DATE <u>8/14/2014</u>	CHECKED BY: <u>KLA</u>	BRIDGE 2441 S.P. 027-605-029	SS4
	LAST REVISION: _____			

PERMANENT MARKING

P

STATION TO STATION	PAVEMENT MESSAGE (RIGHT ARROW) POLY PREFORM	PAVEMENT MESSAGE (LEFT/THRU) POLY PREFORM	PAVEMENT MESSAGE (BIKE SYMBOL) EPOXY	PAVEMENT MESSAGE (BIKE LANE THRU ARROW) EPOXY	PAVEMENT MESSAGE (BIKE LANE LEFT ARROW) EPOXY	CROSSWALK MARKING POLY PREFORM	12" STOP LINE WHITE EPOXY	4" SOLID LINE WHITE-POLY PREFORM	4" DOUBLE SOLID LINE YELLOW-POLY PREFORM	4" SOLID LINE WHITE-EPOXY	4" DOTTED LINE WHITE-EPOXY	PAVEMENT MARKING SPECIAL	8" DOTTED LINE WHITE - EPOXY
	EACH	EACH	EACH	EACH	EACH	SQ FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ FT	LIN FT
7+00 - 9+80.92	-	-	-	-	-	-	-	-	-	-	-	-	-
LEFT	1	-	2	1	1	96	-	111	-	105	286	-	-
CENTER	-	-	-	-	-	-	-	-	-	-	-	-	-
RIGHT	-	-	2	2	-	96	-	94	-	117	213	330	-
FROM W. RIVER PKWY TO FRANKLIN AVE EB	-	-	-	-	-	-	-	-	-	-	-	-	55
9+80.92 - 20+30.86	-	-	-	-	-	-	-	-	-	-	-	-	-
LEFT	-	-	2	2	-	-	-	1034	75	1054	52	-	-
CENTER	-	-	-	-	-	-	-	-	976	-	-	-	-
RIGHT	1	-	2	2	-	-	-	1056	74	1191	-	-	-
20+30.86 - 20+96.51	-	-	-	-	-	-	-	-	-	-	-	-	-
LEFT	-	-	1	1	-	-	-	-	-	63	62	-	-
CENTER	-	-	-	-	-	-	-	-	39	-	-	-	-
RIGHT	1	1	1	1	-	-	31	80	-	118	33	-	-
TOTAL	3	1	10	9	1	192	31	2375	1164	2648	646	330	55

SALVAGE AND INSTALL SIGN TYPE C

Q

SIGN NO.	QTY	POSTS		MTG HT (1)	PANEL SIZE INCH	PANEL LEGEND
		NO. & TYPE	LENGTH (4) FEET			
C-3(2)	1	1-0	9.0	6	30X30	STOP
C-4(2)(6)	3	1-U	8.0	6	12X18	NO PARKING
C-6(2)	1	1-0	9.0	6	24X30	KEEP RIGHT
C-7(3)	1	-	-	6	30X24	MISSISSIPPI RIVER
C-8(3)	1	-	-	7	24X30	TRUCK ROUTE
C-9(3)	1	-	-	7	60X24	BICYCLE ROUTE GUIDE SIGN
C-10(2)	1	1-0	12.5	7	24X24	COUNTY ROUTE MARKER
C-11	1	-	-	7	36X36	MERGE
TOTAL	10	4	38.5	-	-	

SALVAGE AND INSTALL SIGN (OTHER)

S

SIGN NO.	QTY	DESCRIPTION
S-1(5)(15)	1	MPRB GRAND ROUNDS DIRECTIONAL STANDARD
S-2(5)(16)	1	MHPC HISTORIC PLAQUE

SALVAGE SIGN NOTES

SEE REMOVAL PLAN FOR SALVAGED SIGN LOCATIONS. INSTALL LOCATIONS SHOWN ON SHEET SS4 ARE APPROXIMATE. HENNEPIN COUNTY WILL MARK LOCATIONS IN THE FIELD AT TIME OF PLACEMENT. SEE CITY OF MINNEAPOLIS STANDARDS FOR TYPE O-POSTS.

- (1) MINIMUM MOUNTING HEIGHT (TO BOTTOM OF LOWEST SIGN).
- (2) TYPE O-POSTS IN CONCRETE SHALL BE MOUNTED WITH SIGN COLLAR ASSEMBLY. SEE SHEET SS3 FOR DETAIL, USE 15 INCH COLLAR.
- (3) LIGHT POST MOUNTED, SEE SHEET SL6 FOR TRAFFIC SIGN CLAMP DETAILS.
- (4) POST LENGTH IS APPROXIMATE. ASSUMES 6-INCH EMBEDMENT DEPTH BELOW FINISHED GRADE.
- (5) SEE SPECIAL PROVISIONS.
- (6) NO PARKING SIGNS LOCATED IN MEDIAN SHALL BE MOUNTED BACK TO BACK.

SIGN PANELS TYPE C

R

SIGN NO.	QTY	POSTS		MTG HT (7)	PANEL (11)			CODE NO.	PANEL LEGEND
		NO. & TYPE	LENGTH (10) FEET		SIZE INCH	AREA SQ FT	TOTAL AREA SQ FT		
C-101 (9)	6	1-U	-	7	30X30	6.25	37.5	W11-15	BIKE/PED XING
C-102 (9)	2	-	11.0	7	24X12	2.00	4.00	W16-9P	AHEAD
C-103	4	4-U	11.5	7	24X18	3.00	12.00	W16-7P	DOWN ARROW (LEFT)
C-105(9)(12)	2	-	-	7	36X30	7.50	7.50	R3-30DA/B	THRU/LEFT-DBL RIGHT
TOTAL	14	5	22.5	-	-	-	61.00		

DELINEATORS

Z

SIGN NO.	QTY	POSTS		MTG HT (7) FEET	CODE NO.	PANEL LEGEND
		NO. & TYPE	LENGTH (10) FEET			
D-1	2	2-0	6.0	4	X4-2	OBJECT MARKER (14)
D-2 (8)	(13) 4	1-0	6.0	4	X4-2	OBJECT MARKER (14)
TOTAL	6	3				

NEW SIGN NOTES

SEE MNDOT STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGNS. SIGN LOCATIONS SHOWN ON SHEET SS4 ARE APPROXIMATE. HENNEPIN COUNTY WILL MARK LOCATIONS IN THE FIELD AT TIME OF PLACEMENT. SEE CITY OF MINNEAPOLIS STANDARDS FOR TYPE O-POSTS.

- (7) MINIMUM MOUNTING HEIGHT (TO BOTTOM OF LOWEST SIGN).
- (8) TYPE O-POSTS IN CONCRETE SHALL BE MOUNTED WITH SIGN COLLAR ASSEMBLY. SEE SHEET SS3 FOR DETAIL, USE 15 INCH COLLAR.
- (9) LIGHT POST MOUNTED, SEE SHEET SL6 FOR TRAFFIC SIGN CLAMP DETAILS.
- (10) POST LENGTH IS APPROXIMATE. ASSUMES 6-INCH EMBEDMENT DEPTH BELOW FINISHED GRADE.
- (11) CONTRACTOR SHALL VERIFY SIGN PANEL SIZES AND DESIGN, MATCH CURRENT HENNEPIN COUNTY AND CITY OF MINNEAPOLIS STANDARDS PRIOR TO FABRICATION.
- (12) SEE SHEET SS3 FOR SIGN PANEL DETAILS.
- (13) OBJECT MARKERS SHALL BE MOUNTED BACK TO BACK.
- (14) PAID FOR AS HAZARD MARKER X4-2 EACH.
- (15) PAID FOR AS INSTALL SIGN TYPE SPECIAL.
- (16) PAID FOR AS INSTALL HISTORIC PLAQUE.



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Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119 8/14/2014
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LAST REVISION: 03/10/2016

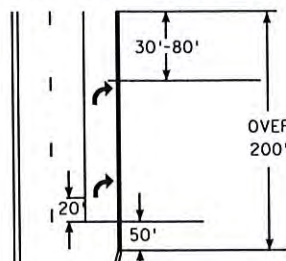
PERMANENT SIGNING AND STRIPING TABULATION

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET

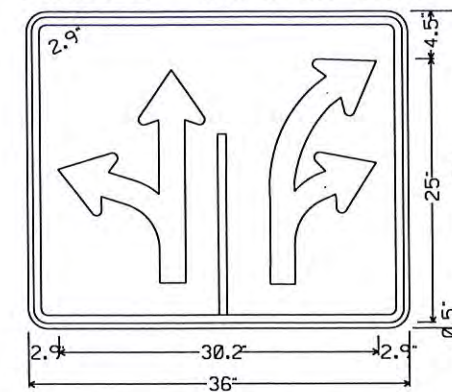
SS2R
SS4

TYPICAL MESSAGE PLACEMENT FOR TURN LANES



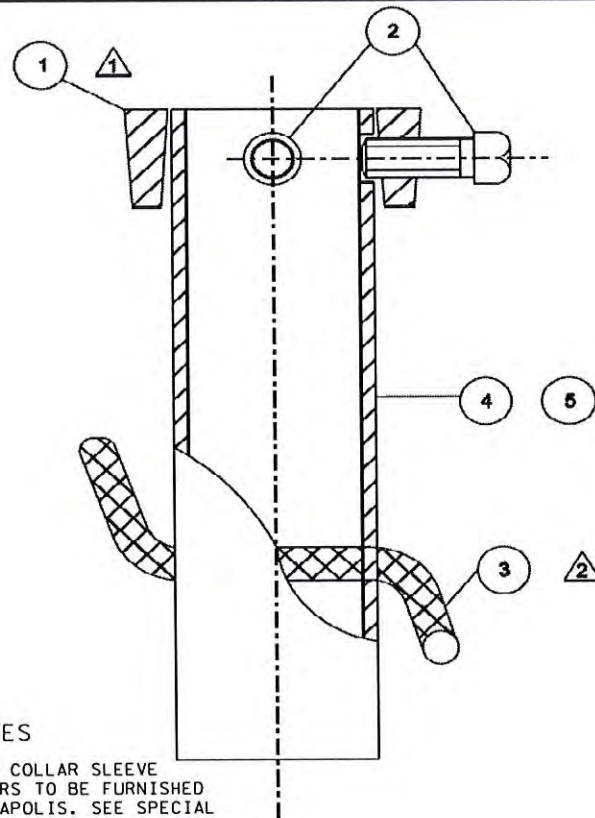
NOTE
ARROWS SHALL BE
INSTALLED ONLY AT
THE LOCATIONS SHOWN
IN THE SIGNING
AND STRIPING PLANS

THRU/LEFT - DBL RIGHT SIGN



BLACK ON WHITE
1.9" RADIUS, 0.8" BORDER,
0.5" INDENT

SIGN DETAIL C-105



SIGN COLLAR NOTES

INSTALL 15 INCH SIGN COLLAR SLEEVE ASSEMBLY, SIGN COLLARS TO BE FURNISHED BY THE CITY OF MINNEAPOLIS. SEE SPECIAL PROVISIONS.

QTY.	ITEM	P/N	PART NAME	DETAILS
	1	TRAF-5120	COLLAR	
	2	PURC.	SET SCREW, SQ. HD., CUP PT.	5/8"-11"x1 1/2" ZINC OR CAD. PL.
	3	-	RE-BAR	#4x8" 2
	4	TRAF-5130-1	SLEEVE	15"
	5	TRAF-5130-2	SLEEVE	30"

- 1 COLLAR PLACED WITH WIDE FACE TOWARDS SCREW END OF ASSEMBLY.
- 2 REBAR BENT AT APPROX. 90° AT APPROX. 2" FROM EACH END.

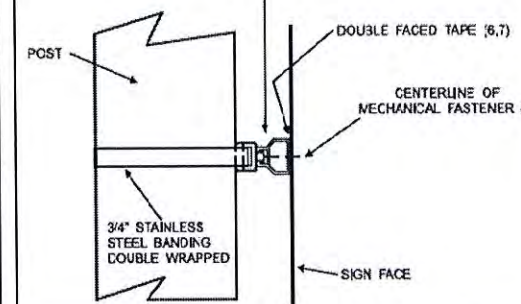
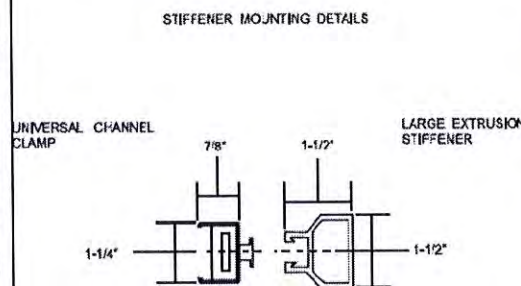
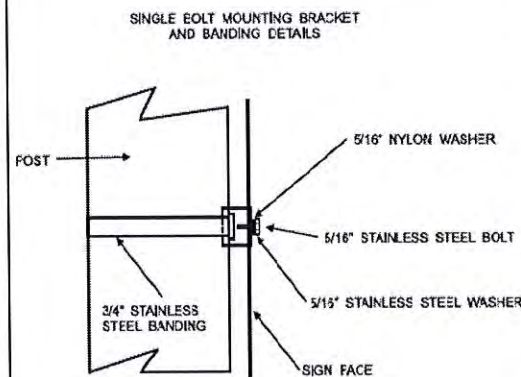
NO SCALE

MINNEAPOLIS
DEPARTMENT OF PUBLIC WORKS

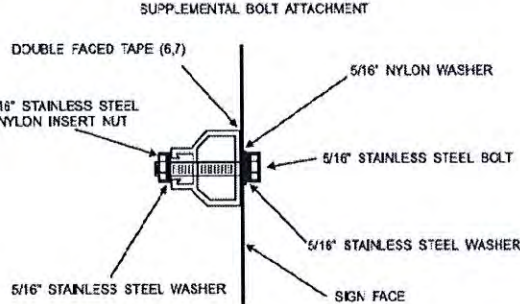
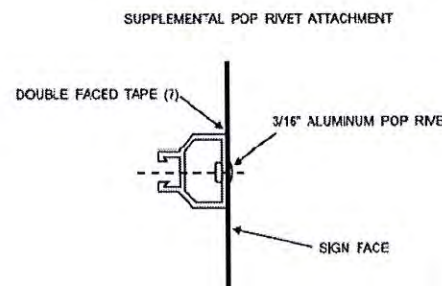
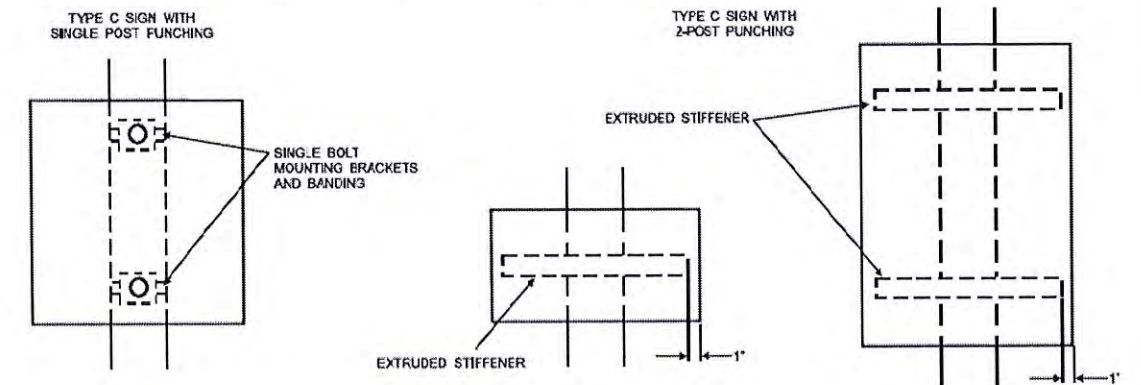
DRAWN: LPK DATE: 1/1/11
APPROVED: DRP DATE: 1/1/11

COLLAR - SIGN
2" SIGN POST - ASSEMBLY

STANDARD
PLATE
NO.
TRAF-5110



ALTERNATE TYPE C & D SIGN MOUNTING SYSTEM



NOTES:

1. FOR DETAILS AND NOTES NOT SHOWN, SEE TYPE C AND D SIGN DETAILS.
2. FOR BACK TO BACK INSTALLATION, ROTATE STIFFENERS FOR ONE PANEL 180 DEGREES SUCH THAT PANELS CAN BE MOUNTED AT THE SAME ELEVATION.
3. THE APPROVED STIFFENER IS THE SIGNFIX LARGE EXTRUSION SX10130, MADE OF 6061-T6 ALUMINUM ALLOY OR APPROVED EQUAL.
4. HORIZONTAL SPACING OF STIFFENERS SHALL BE ACCORDING TO THE PUNCH CODES AS SHOWN IN THE MVDOT STANDARD SIGNS MANUAL.
5. MOUNTING HOLES ARE NOT REQUIRED ON SIGNS SMALLER THAN 6.3 SQUARE FEET, EXCEPT ON SINGLE POST PUNCHED SIGNS.
6. ON SIGNS SMALLER THAN 6.3 SQUARE FEET, STIFFENERS ARE TO BE ATTACHED TO SIGNS WITH 3M VHB (VERY HIGH BOND) OR APPROVED EQUAL DOUBLE-FACED TAPE.
7. ON SIGNS LARGER THAN 6.3 SQUARE FEET, STIFFENERS SHALL BE ATTACHED TO SIGNS USING 3M VHB (VERY HIGH BOND) OR APPROVED EQUAL DOUBLE-FACED TAPE AND SUPPLEMENTED WITH MECHANICAL FASTENERS, EITHER 3/16" DIAMETER POP RIVETS OR 5/16" DIAMETER BOLTS.
8. THE APPROVED POLE MOUNTING PRODUCT IS THE ULTRA-LOK SYSTEM OF BANDITDEX, INC. USING 0.75" X 0.030" BANDING STRAPS OF TYPE 201 1/4" HARD STAINLESS STEEL, DOUBLE-WRAPPED AROUND THE POLE, OR APPROVED EQUAL.
9. BAND PRE-TENSION SHALL NOT EXCEED 1300 POUNDS.
10. ALL HARDWARE SHALL BE COMPATIBLE WITH THE APPROVED STIFFENER AND MOUNTING SYSTEMS.

MNDOT TRAFFIC ENGINEERING MANUAL
FIGURE 6.3E



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Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

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PERMANENT SIGNING AND STRIPING DETAILS

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
SS3
SS4

BEGIN HENNEPIN COUNTY
PROJECT NO. 0705
S.P. 027-605-029
STA. 8+08.48

SIGNING NOTES

SEE SHEET SS2 FOR SIGN PANEL NOS.

- ① FURNISH AND INSTALL
- ② INSTALL SALVAGED SIGN
- ③ INSTALL SALVAGED MPRB DIRECTIONAL SIGN.
- ④ INSTALL SALVAGED HISTORIC PLAQUE.
- ⑤ GREEN EPOXY TO DELINEATE BIKE LANE PAID FOR AS PAVEMENT MARKING SPECIAL.
- ⑥ 4" LINE PLACED 1' FROM BARRIER, UNLESS SHOWN OTHERWISE

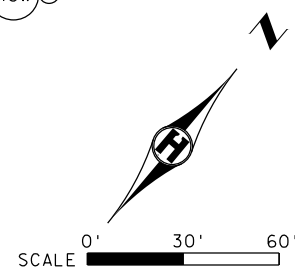
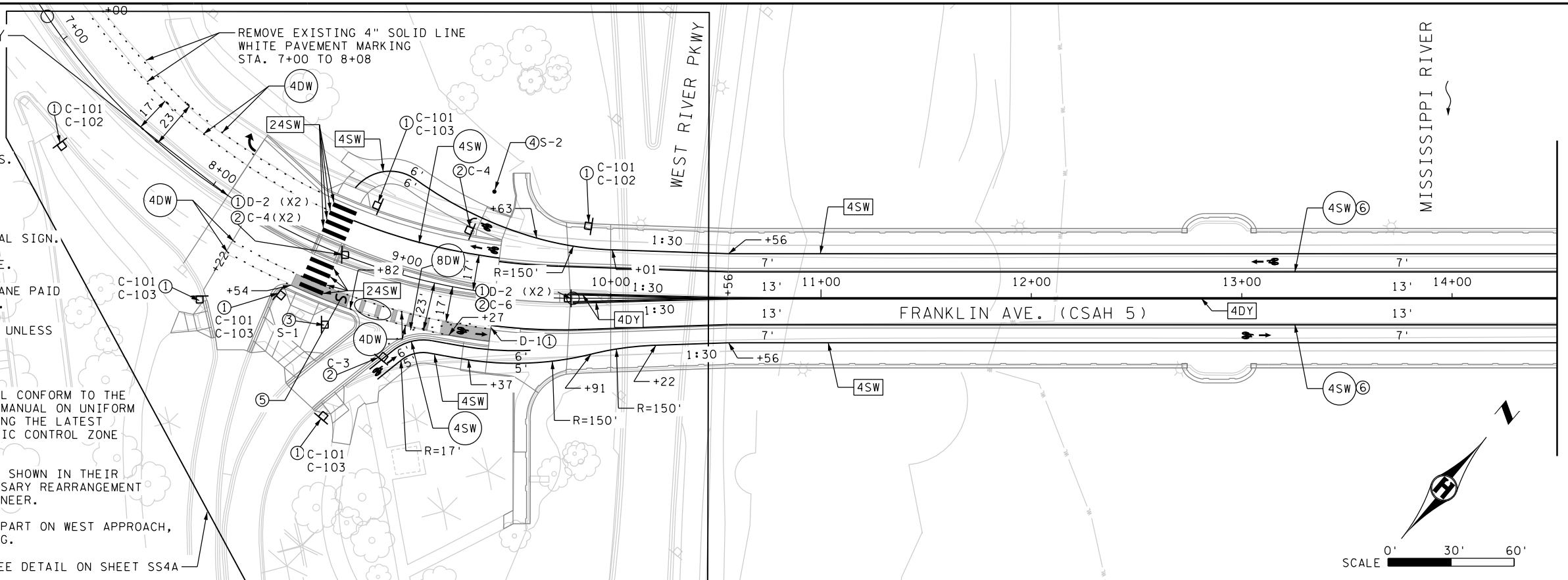
STRIPING NOTES

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

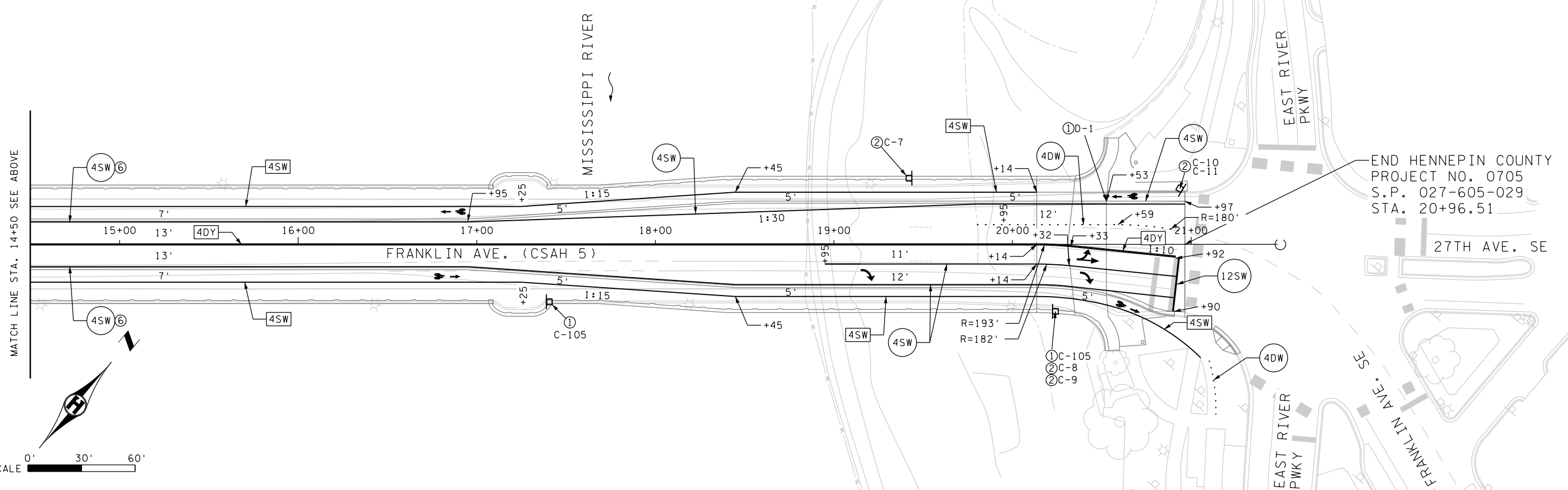
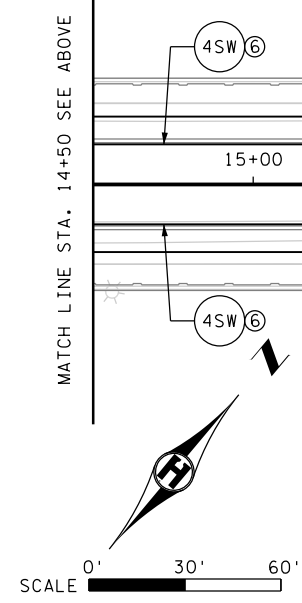
ALL PAVEMENT MARKING SYMBOLS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS. ANY NECESSARY REARRANGEMENT SHALL BE AS DIRECTED BY THE ENGINEER.

CROSSWALK LINES ARE SPACED 28" APART ON WEST APPROACH, AND PAID FOR AS CROSSWALK MARKING.

SEE SHEET SS1 FOR LEGEND. SEE DETAIL ON SHEET SS4A



MATCH LINE STA. 14+50 SEE BELOW



END HENNEPIN COUNTY
PROJECT NO. 0705
S.P. 027-605-029
STA. 20+96.51



I HEREBY CERTIFY THAT SHEETS 1-39, 41-42, SS1-SS4 WERE 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.

Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

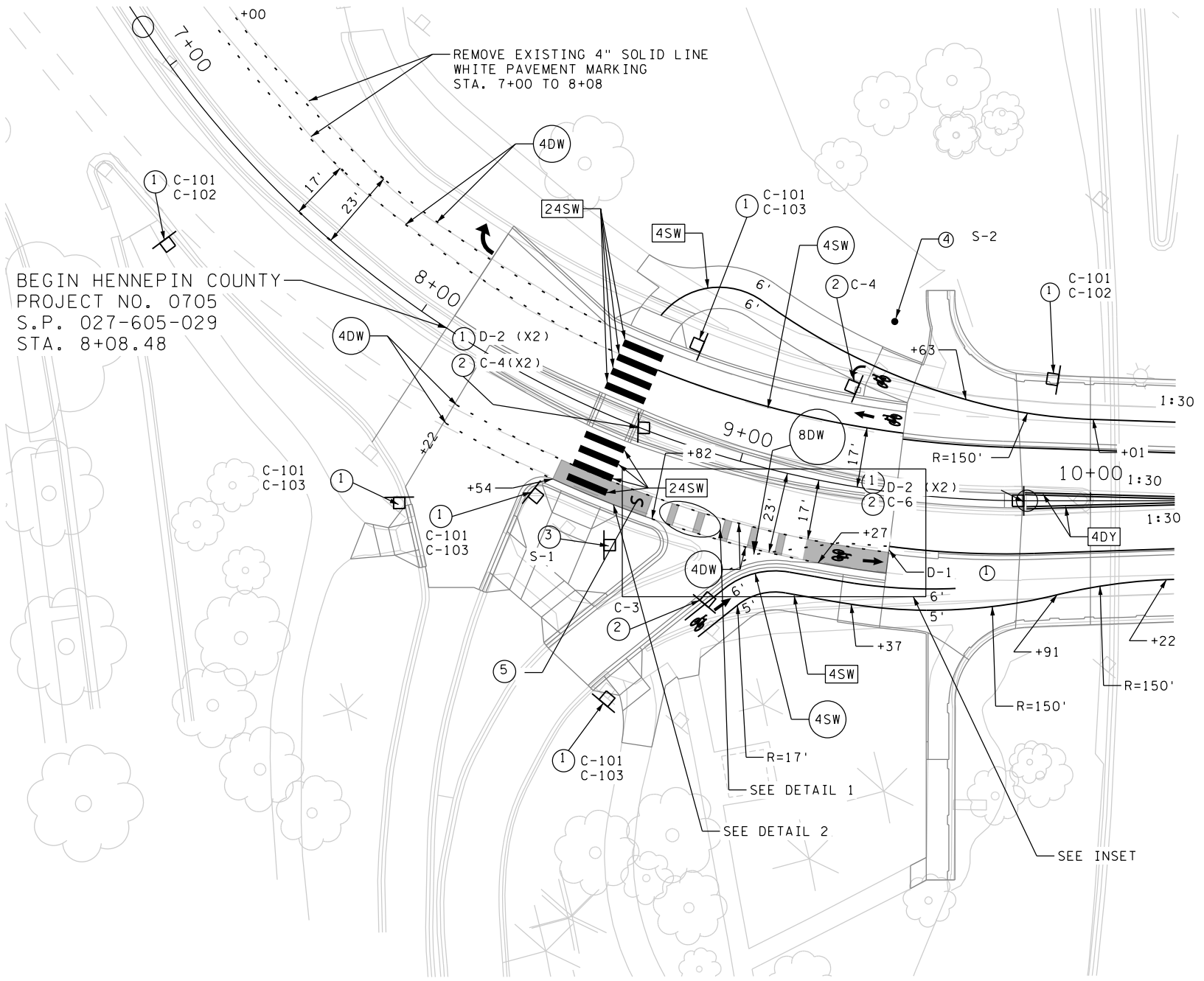
16119 8/14/2014
LICENSE NO. DATE

DESIGN BY: NPE
CAD BY: NTT
CHECKED BY: NPE
LAST REVISION: 05/23/2016

PERMANENT SIGNING AND STRIPING PLAN

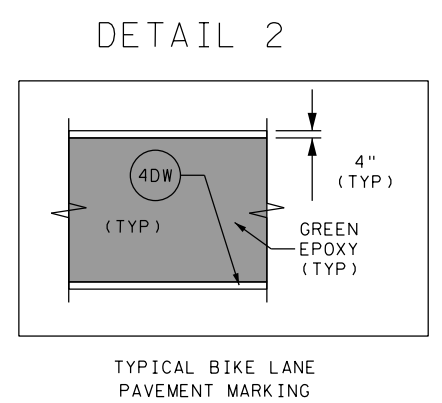
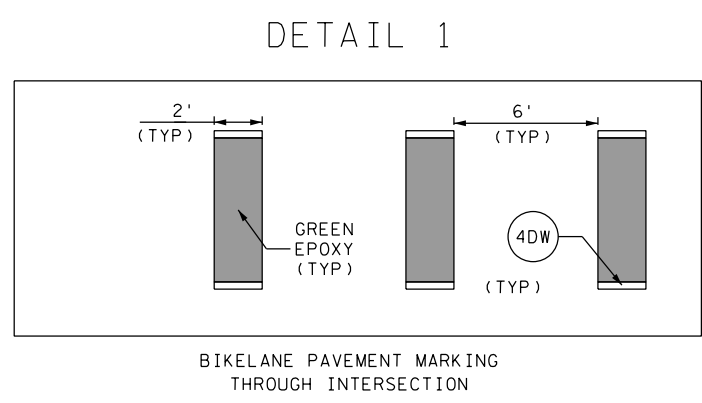
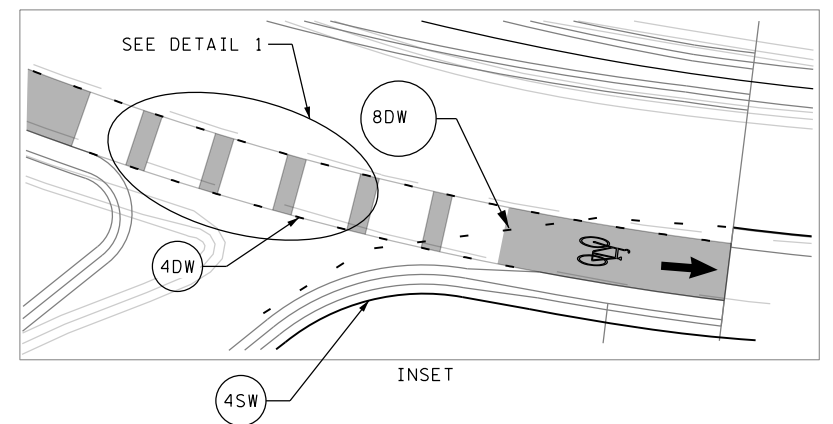
C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
SS4R2
SS4



BEGIN HENNEPIN COUNTY
PROJECT NO. 0705
S.P. 027-605-029
STA. 8+08.48

REMOVE EXISTING 4" SOLID LINE
WHITE PAVEMENT MARKING
STA. 7+00 TO 8+08



SIGNING NOTES

- SEE SHEET SS2 FOR SIGN PANEL NOS.
- ① FURNISH AND INSTALL
 - ② INSTALL SALVAGED SIGN
 - ③ INSTALL SALVAGED MPRB DIRECTIONAL SIGN.
 - ④ INSTALL SALVAGED HISTORIC PLAQUE.
 - ⑤ GREEN EPOXY TO DELINEATE BIKE LANE PAID FOR AS PAVEMENT MARKING SPECIAL.

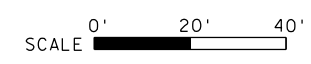
STRIPING NOTES

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Karen L. Allen
KAREN L. ALLEN, PROFESSIONAL ENGINEER

16119 3/10/2016
LICENSE NO. DATE

DESIGN BY: NPE
CAD BY: CTW
CHECKED BY: KLA
LAST REVISION:

PERMANENT SIGNING AND STRIPING DETAIL PLAN

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
SS4A
SS4

REMOVAL PLAN NOTES

- ALL REMOVED NAVIGATIONAL LIGHTING ASSEMBLIES, LIGHT POLES, MAST ARMS, AND FULL CUT-OFF STREET LIGHTING LUMINAIRES ARE TO BE SALVAGED. ALL NON-CUT OFF LUMINAIRES, AND ALL OBSOLETE HPS BULBS ARE TO BE DISPOSED OF BY THE CONTRACTOR. LIGHT POLES AND LUMINAIRES BEING SALVAGED SHALL BE INDIVIDUALLY MEASURED. DISPOSAL OF STREET LIGHT LUMINAIRES SHALL BE INDIVIDUALLY MEASURED AND INCLUDES INCIDENTAL REGULATED WASTE REMOVAL FOR BALAST AND HID BULBS. SALVAGE OF NAVIGATION LIGHTING SYSTEM IS INCLUDED IN PAY ITEM FOR NAVIGATION LIGHTING SYSTEM.
- COUNTY TO DOCUMENT EXISTING CONDITION OF SALVAGEABLE EQUIPMENT IN PRESENCE OF REPRESENTATIVE OF HENNEPIN COUNTY; FIELD VISIT MUST BE COORDINATED WITH THE ENGINEER AT LEAST TWO WEEKS BEFORE REMOVING EXISTING LIGHTING EQUIPMENT. CONTRACTOR IS RESPONSIBLE FOR CONDITION OF ALL MATERIAL THAT IS TO BE SALVAGED FROM RECEIPT OF NOTICE TO PROCEED UNTIL THE TIME IT IS ACCEPTED TO STORAGE BY THE CITY OF MINNEAPOLIS. CONTRACTOR DELIVERY LOCATION ANTICIPATED TO BE CITY OF MINNEAPOLIS, 300 BORDER AVE. NORTH, MINNEAPOLIS, MN 55405.
- WHERE EXISTING CONDUIT AND CABLING IS SHOWN TO BE REPLACED, CONTRACTOR MAY REMOVE EXISTING WIRE AT OWN EXPENSE. EXISTING CONDUIT AND CABLING REMOVAL ON BRIDGE IS INCIDENTAL TO BRIDGE CONSTRUCTION.
- THE EXISTING LIGHTING CONTROLLER FOR BRIDGE ROADWAY AND NAVIGATION LIGHTS IS TO REMAIN. CONTRACTOR TO CONFIRM RESISTANCE TO EARTH FOR THE CONTROLLER GROUND ROD TO BE LESS THAN OR EQUAL TO 10 OHMS; CONTRACTOR TO SUBMIT A TEST RECORD FORM (WITH ACCEPTANCE CRITERIA CLEARLY INDICATED) AND A FALL OF POTENTIAL TEST PROCEDURE FOR APPROVAL AT LEAST TWO WEEKS BEFORE CONDUCTING TEST. GROUND RESISTANCE TESTING IS INCLUDED IN THE "SERVICE CABINET - TYPE A (MOD)" PAY ITEM.
- CONTRACTOR TO COORDINATE WITH CITY ELECTRICAL UTILITY COORDINATOR MR. DAVE PREHALL, THROUGH THE ENGINEER, AT LEAST TWO WEEKS BEFORE ANY POWER DOWN OF THE EXISTING LIGHTING CONTROLLER.
- STREET LIGHTING ALONG BRIDGE DOES NOT NEED TO BE MAINTAINED WHEN THE BRIDGE IS CLOSED TO TRAFFIC; HOWEVER, WHEN THE BRIDGE IS OPEN TO TRAFFIC THE CONTRACTOR MUST MAINTAIN THE EXISTING ROADWAY LIGHTING SYSTEM IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 2545.3.B. TEMPORARY LIGHTING SHALL MAINTAIN AN AVERAGE OF 0.8 TO 1.2 FOOT CANDLES. AT ENGINEER'S REQUEST CONTRACTOR SHALL CONFIRM LIGHT LEVELS USING A CALIBRATED LIGHT METER AND CALCULATE THE AVERAGE ILLUMINATION BASED ON A GRID OF DATA POINTS. ILLUMINATION GRID TO CONSIST OF A SET OF 2 POINTS IN EACH LANE, TEN FEET SEPERATING THE SETS, SETS TO EXTEND BETWEEN TWO LIGHT SOURCES. BID PRICE FOR "TEMPORARY LIGHTING SYSTEM" TO INCLUDE AT LEAST TWO LIGHT LEVEL CONFIRMATIONS - NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ADDITIONAL TESTING IF THE ENGINEER BELIEVES THE LIGHT LEVELS ARE BELOW REQUIREMENTS.
- CONTRACTOR TO REMOVE TRANSITE CONDUITS AND CONNECTING HANDHOLES. TRANSITE CONTAINS ASBESTOS SO REMOVAL REQUIRES SPECIAL REMEDIATION WHICH IS PAID FOR UNDER "REMOVE ASBESTOS-BONDED PIPE".

CONDUIT PLAN NOTES

- EXISTING CONDUIT BETWEEN LIGHTING CONTROLLER AND NEW HANDHOLE IS TO BE REUSED. CONTRACTOR TO REMOVE EXISTING CONDUCTORS, REAM CONDUIT CLEAN, AND SEAL CONDUIT ENDS UNTIL NEW CONDUCTORS CAN BE INSTALLED.
- SEE CITY OF MINNEAPOLIS STANDARD PLATES TRAF-1710 AND TRAF-1715 FOR CONSTRUCTION OF HANDHOLES.
- NEW CONDUIT CONNECTION TO HANDHOLE MUST BE DRILLED, HAMMERING IS NOT ACCEPTABLE. SEAL OPENING AROUND CONDUIT PENETRATION WITH MORTAR.
- NAVIGATION LIGHTING MUST BE MAINTAINED FOR OPERATION FROM DUSK TO DAWN EVERY DAY WITHOUT EXCEPTION, IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 2545.3.B AND 33 CFR 118.65. NEW LIGHTS TO BE INSTALLED WHERE EXISTING ARE NOW LOCATED, EXISTING CONDUIT AND CONDUCTORS WILL BE REMOVED BY CONSTRUCTION. MAINTAINING POWER TO NAVIGATION LIGHTING SYSTEM DURING CONSTRUCTION IS INCLUDED IN THE "TEMPORARY LIGHT SYSTEM" PAY ITEM. FINAL MOUNTING AND CONDUIT ROUTING UP TO CONTRACTOR. SEE SHEET B1 FOR LOCATION OF NAVIGATION LIGHTING ASSEMBLIES.
- FOR TEMPORARY CONDUCTORS, CONTRACTOR HAS OPTION TO TEMPORARILY INSTALL EXPOSED SHEDULE 80 PVC CONDUIT PROVIDED IT IS SECURED IN A MANNER MEETING ELECTRICAL CODE REQUIREMENTS AND PERMITTED BY ELECTRICAL INSPECTOR. CONTRACTOR MAY ALSO USE SOLAR POWERED NAVIGATION LIGHT FIXTURES RATHER THAN INSTALLING TEMPORARY WIRING.
- SEE EMBEDDED JUNCTION BOX DETAIL ON SHEET SL5 FOR CONDUIT ROUTING TO ROADWAY LIGHT POLES AND TO NAVIGATION LIGHTING ASSEMBLIES.
- EXPANSION/DEFLECTION COUPLINGS MUST BE USED TO CONNECT CONCRETE SLABS AT EXPANSION JOINTS, BRIDGE APPROACH SLABS, AND ALL OTHER LOCATIONS WHERE THERE MAY BE DIFFERENTIAL MOVEMENT. THIS DOES NOT INCLUDE CONNECTIONS BETWEEN PRE-CAST BRIDGE SLABS WHERE LIQUID TIGHT FLEXIBLE METAL CONDUIT "JUMPERS" SHALL BE USED. SEE "ELECTRICAL LIGHTING SYSTEM" SPECIFICATION SECTION SL-2 FOR ADDITIONAL REQUIREMENTS.
- FOR BIDDING, SEE CITY OF MINNEAPOLIS STANDARD PLATES TRAF-3072-R1 AND TRAF-3125 FOR CONSTRUCTION OF LIGHT POLE FOUNDATIONS OFF OF BRIDGE. PRIOR TO CONSTRUCTION, CONTACT MINNEAPOLIS TRAFFIC AND PARKING SERVICES FOR CURRENT PLATE.

CONDUIT PLAN NOTES (CONTINUED)

- WHERE PLANS CALL FOR INTERCEPTING EXISTING CONDUIT AND ATTACHING TO A NEW HANDHOLE, NOTE THAT THE SIZE OF THE EXISTING CONDUIT IS UNKNOWN. CONTRACTOR TO PROVIDE LISTED COUPLING AS NECESSARY; COUPLING INCIDENTAL TO CONDUIT INSTALLATION.
- COORDINATE INSTALLATION OF CONDUIT BETWEEN EMBEDDED JUNCTION BOX AND HANDHOLES WITH INSTALLATION OF SIDEWALK AND STRUCTURAL CONCRETE (I.E. SIDEWALKS THAT ARE INTEGRAL WITH BRIDGE WINGWALLS).
- INSTALL EMPTY CONDUITS TO CONNECT BRIDGE ROADWAY LIGHTING CIRCUITS TO THE INTERSECTION ROADWAY LIGHTING CIRCUITS ON EAST END OF BRIDGE. INSTALL 1/4" NYLON PULL ROPE AND ONE #8 GROUND WIRE THEN SEAL BOTH ENDS WATER TIGHT WITH REMOVABLE PLUG. NYLON ROPE AND PLUGS INCIDENTAL TO CONDUIT INSTALLATION. TERMINATE GROUND WIRE ON GROUND ROD IN HANDHOLE. BID PRICE FOR GROUND WIRE TO INCLUDE FURNISHING AND INSTALLING A GROUND ROD IF NONE EXISTS.
- MAINTENANCE OF ROADWAY LIGHTING DURING CONSTRUCTION IS INCLUDED IN THE TEMPORARY LIGHTING SYSTEM PAY ITEM.
- MINIMUM DEPTH OF NEW CONDUIT CROSSING FRANKLIN AVE. IS 24" BELOW LOWEST POINT OF ROAD.
- NAVIGATION LIGHTING SYSTEM (ELEC. LIGHT SYS (BR NAVIGATION LANTERN)) INCLUDES INSTALLATION OF NEW NAVIGATION LIGHTING ASSEMBLIES AND ALL CONDUIT (PVC COATED RIGIT METAL CONDUIT AND FLEXIBLE LIQUID TIGHT CONDUIT) BEYOND THE JUNCTION BOX EMBEDDED IN THE PILASTERS. CONDUCTORS TO THE NAVIGATION LIGHTING ASSEMBLIES ARE MEASURED SEPERATELY.

WIRING PLAN NOTES

- NAVIGATION LIGHTING CONDUCTORS WILL SHARE CONDUIT RUN WITH ROADWAY LIGHTING CONDUCTORS FROM THE LIGHTING CONTROLLER TO JUNCTION BOX EMBEDDED IN RAILING CLOSET TO EACH NAVIGATION LIGHT ASSEMBLY.
- WHERE NAVIGATION LIGHTING CONDUCTORS SHARE A CONDUIT WITH ROADWAY LIGHTING CONDUCTORS ONLY ONE GROUNDING CONDUCTOR IS NEEDED.
- THE CITY OF MINNEAPOLIS DOES NOT PERMIT BELOW GRADE SPLICES.
- SEE SHEETS SL6 AND SL7 FOR DECORATIVE LIGHT POLE TO BE INSTALLED ON BRIDGE FOR BIDDING. SEE CITY OF MINNEAPOLIS STANDARD PLATE TRAF-3206 (LATEST REVISION) FOR TWO LIGHT POLES THAT ARE TO BE INSTALLED ON THE WEST BRIDGE APPROACH. PRIOR TO CONSTRUCTION, CONTACT MINNEAPOLIS TRAFFIC AND PARKING SERVICES FOR CURRENT PLATE.
- CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:
A PHASE = RED WIRE
B PHASE = BLACK WIRE
NEUTRAL = WHITE WIRE
GROUND = GREEN WIRE
- DESIGNATOR HH-2 IS NO LONGER USED.
- PAY ITEMS FOR LIGHTING UNIT TYPE SPECIAL 1 AND 2 INCLUDE MAST, ARM, LUMINAIRE, AND ALL OTHER ACCESSORIES SUCH AS POLE CAPS, TRANSFORMER BASE, DECORATIVE RINGS, AND HARDWARE.

REMOVAL TABULATION					T
STATION TO STATION	SALVAGE LIGHT-STANDARD	SALVAGE LUMINAIRE-	REMOVE LUMINAIRE	REMOVE ASBESTOS-BONDED PIPE	
	EACH	EACH	EACH	LF	
FRANKLIN AVE.	12	2	10	96	
TOTAL	12	2	10	96	

CONDUIT AND FOUNDATIONS							U
STATION TO STATION	LIGHT FOUNDATION DESIGN - SPECIAL	JUNCTION BOX (SPECIAL)	2" RIGID STEEL CONDUIT	1" LIQUID TIGHT FLEXIBLE METAL CONDUIT	2" NON-METALLIC CONDUIT	SPECIAL HANDHOLE	
	EACH	EACH	LF	LF	LF	EACH	
FRANKLIN AVE.	2	26	2700	100	150	2	
TOTAL	2	26	2700	100	150	2	

WIRING TABULATION				V
STATION TO STATION	LIGHTING UNIT TYPE SPECIAL 1	LIGHTING UNIT TYPE SPECIAL 2	UNDERGROUND WIRE 1 COND NO 8	
	EA	EA	LF	
FRANKLIN AVE.	2	26	15500	
TOTAL	2	26	15500	

LUMP SUM LIGHTING TABULATION				W
STATION TO STATION	TEMPORARY LIGHTING SYSTEM	SERVICE CABINET-TYPE A (MOD)	ELECTRICAL LIGHTING SYSTEM (NAVIGATION)	
	LS	LS	LS	
FRANKLIN AVE.	1	1	1	
TOTAL	1	1	1	



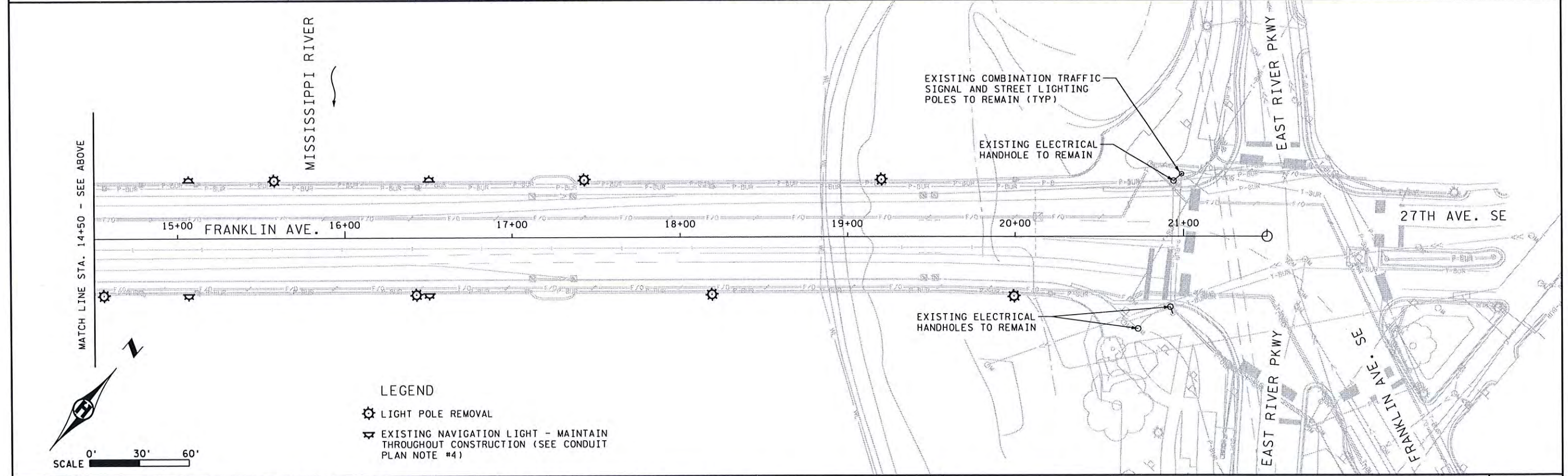
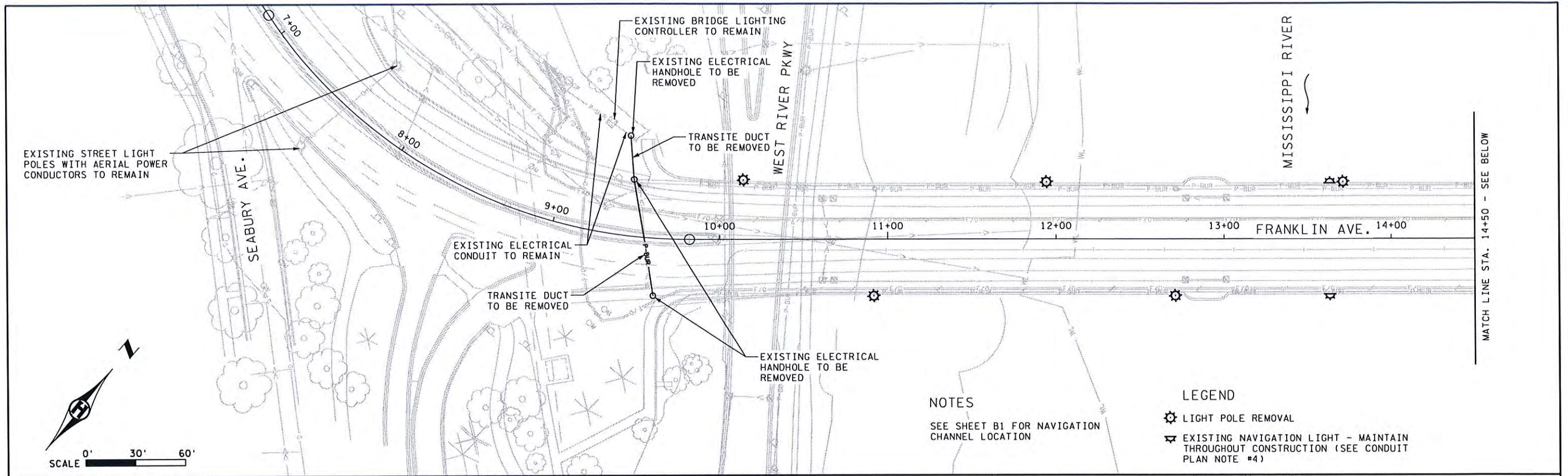
I HEREBY CERTIFY THAT SHEETS SL1-SL7 WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Matthew Durning
MATTHEW DURNING, PROFESSIONAL ENGINEER
 47834 LICENSE NO. 8/14/2014 DATE

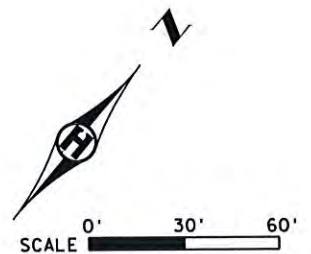
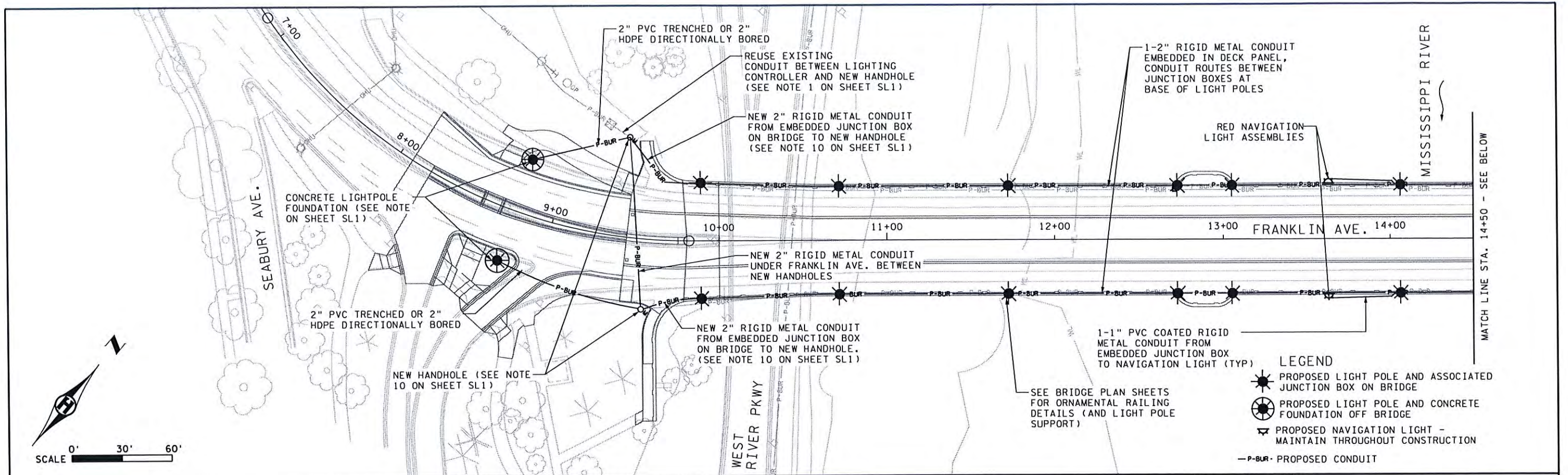
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STREET AND NAVIGATION LIGHTING NOTES
 C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

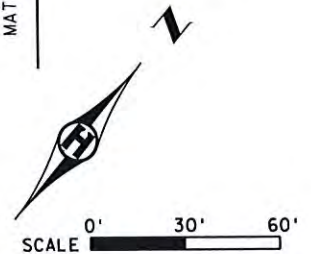
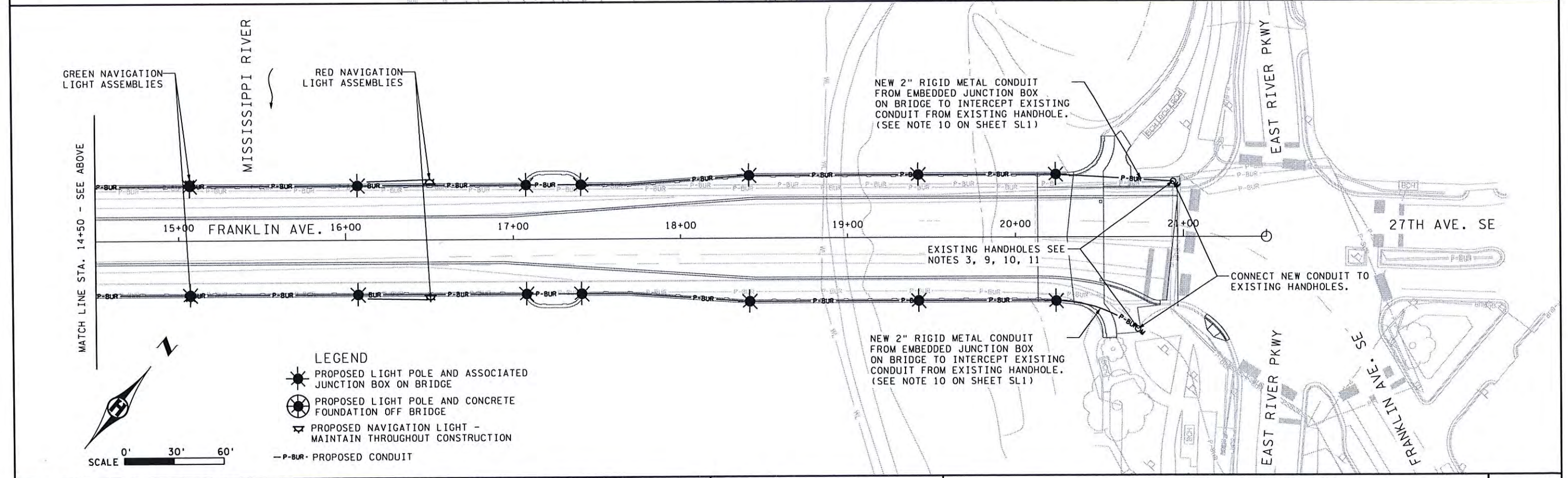
SHEET
 SL1
 SL7



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	 MATTHEW DURNING, PROFESSIONAL ENGINEER		CAD BY: NTT		
47834 8/14/2014		CHECKED BY: JFC	SL7		
LICENSE NO. DATE		LAST REVISION:			



- LEGEND**
- PROPOSED LIGHT POLE AND ASSOCIATED JUNCTION BOX ON BRIDGE
 - PROPOSED LIGHT POLE AND CONCRETE FOUNDATION OFF BRIDGE
 - PROPOSED NAVIGATION LIGHT - MAINTAIN THROUGHOUT CONSTRUCTION
 - P-BUR - PROPOSED CONDUIT



- LEGEND**
- PROPOSED LIGHT POLE AND ASSOCIATED JUNCTION BOX ON BRIDGE
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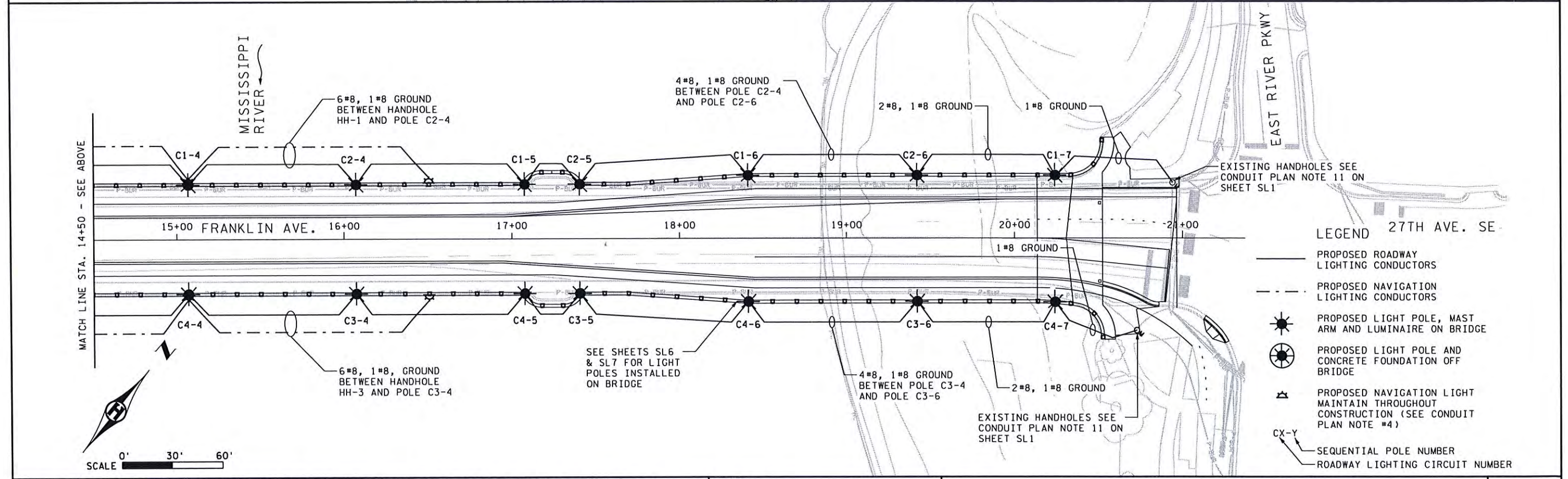
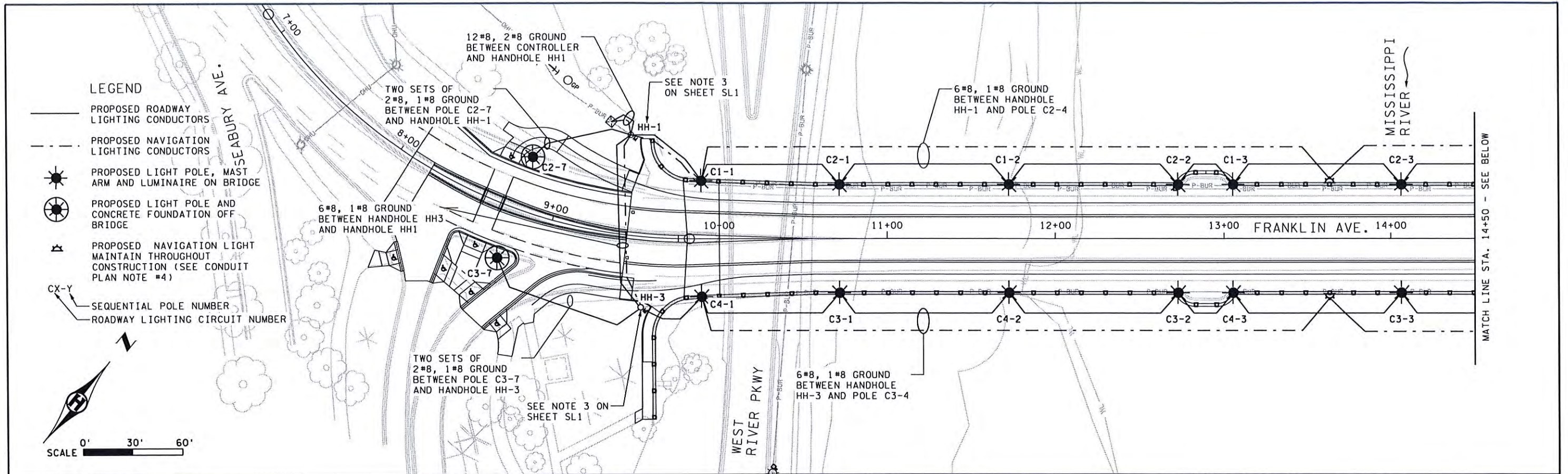
47834 8/14/2014
 LICENSE NO. DATE

DESIGN BY: MCD
 CAD BY: NTT
 CHECKED BY: JFC
 LAST REVISION:

STREET AND NAVIGATION LIGHTING CONDUIT PLAN

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 SL3
 SL7



I HEREBY CERTIFY THAT SHEETS SL1-SL7 WERE 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.

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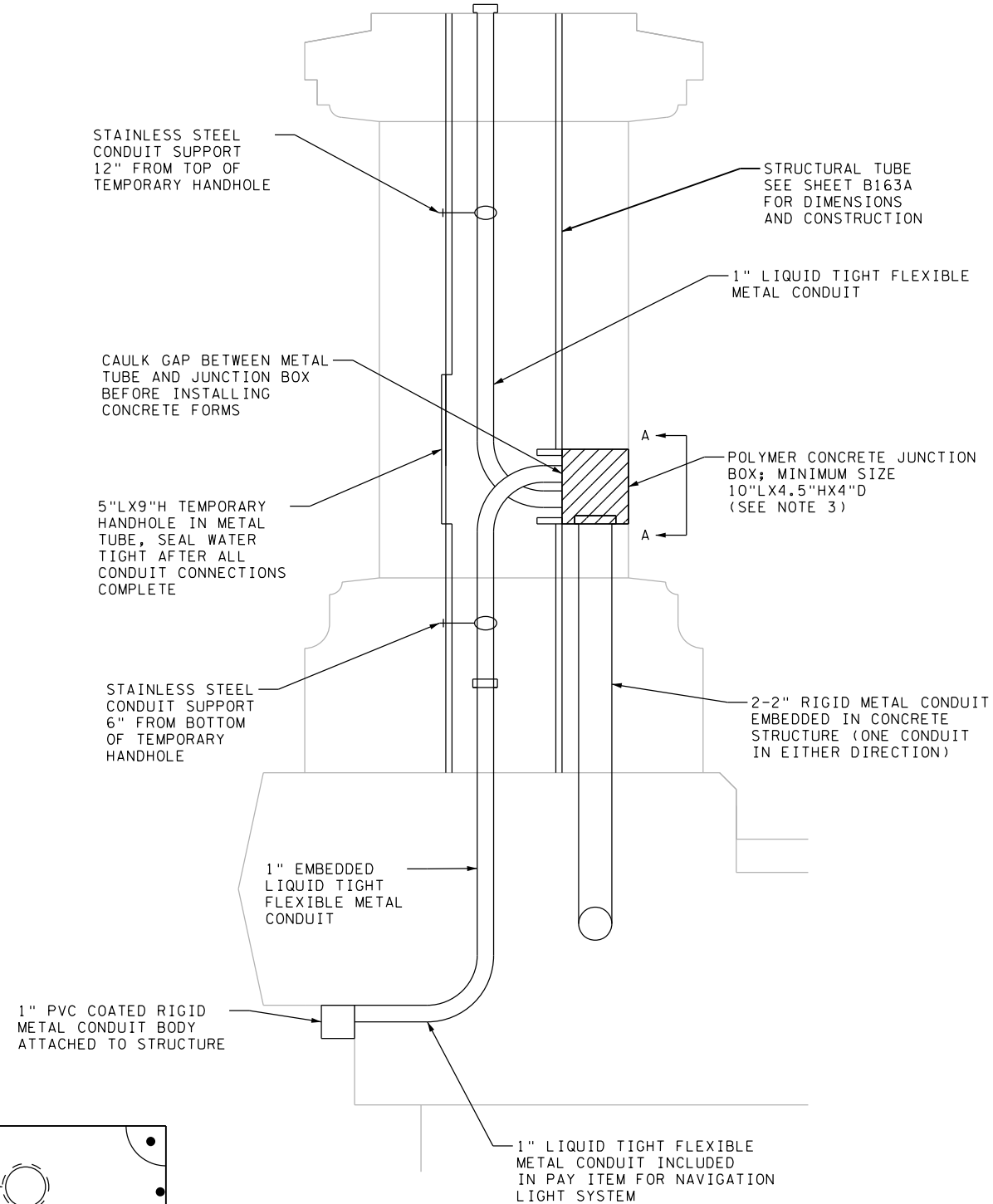
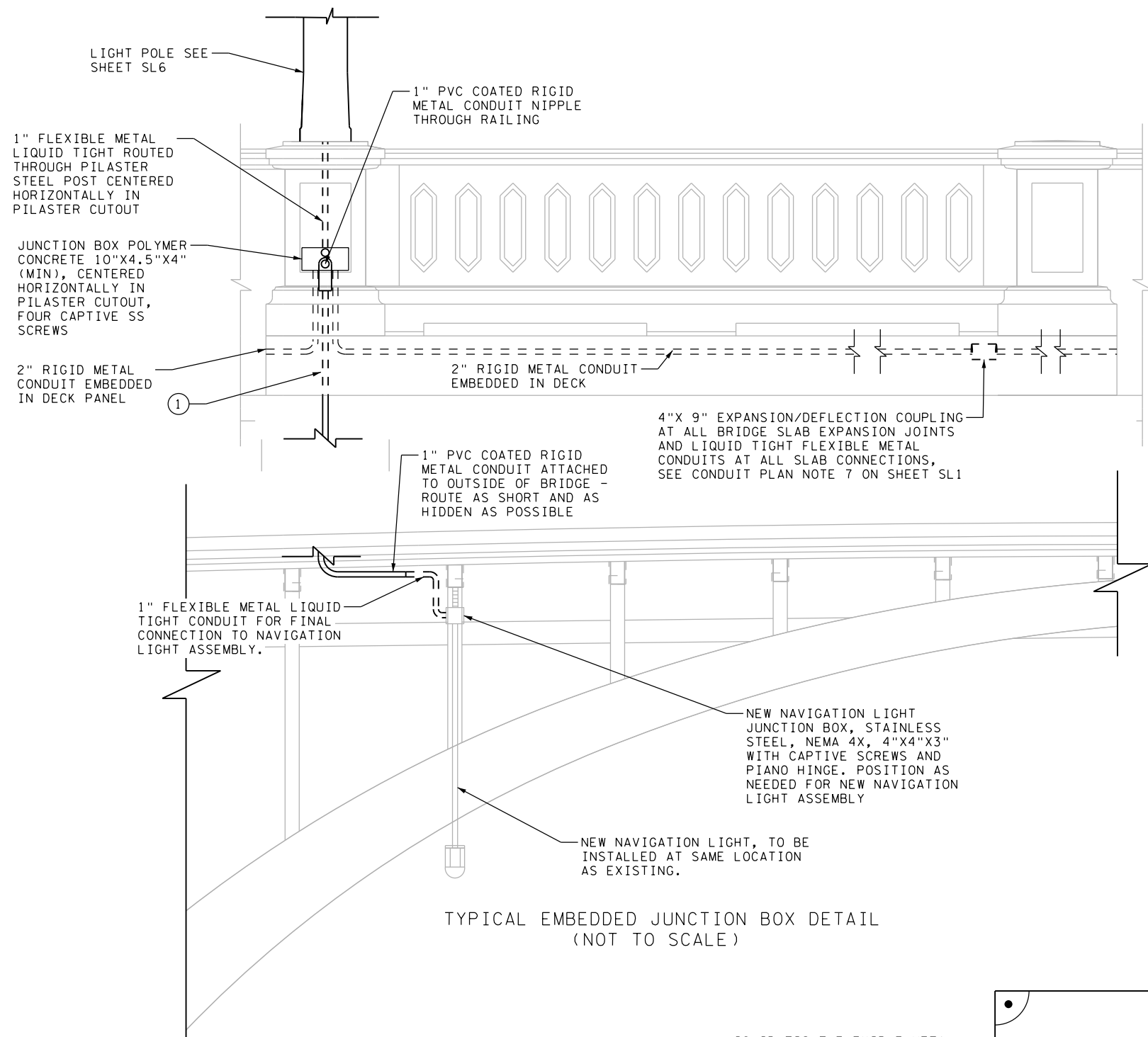
47834 8/14/2014
 LICENSE NO. DATE

DESIGN BY: MCD
 CAD BY: NTT
 CHECKED BY: JFC
 LAST REVISION:

STREET AND NAVIGATION LIGHTING WIRING PLAN

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

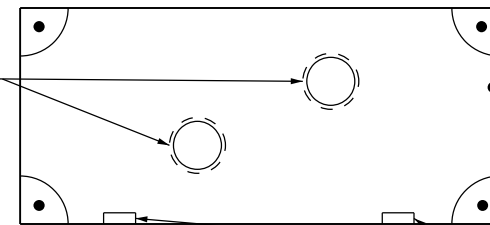
SHEET
 SL4
 SL7



NOTES

1. 1" FLEXIBLE METAL LIQUID TIGHT ROUTED THROUGH PILASTER STEEL POST BEFORE TRANSITIONING TO 1" PVC COATED RIGID METAL CONDUIT BODY ATTACHED TO OUTSIDE OF BRIDGE.
2. SEE B157 FOR BRIDGE DETAILS; COORDINATE CONDUIT INSTALLATION WITH CONCRETE FORMING.
3. FACE OF JUNCTION BOX SHALL FLUSH WITH FACE OF PILASTER.
4. CONTRACTOR TO POSITION STRUCTURAL TUBE PENETRATIONS FOR CONDUIT SUPPORTS ALONG CIRCUMFERENCE OF TUBE AS WILL FACILITATE INSTALLATION.

LIQUID TIGHT FLEXIBLE METAL CONDUIT COUPLINGS; NOTE COUPLING NEEDS TO SPAN GAP BETWEEN METAL TUBE TO INSIDE JUNCTION BOX



INSULATED GROUNDING BUSHINGS BONDED TO EQUIPMENT. GROUND WITH GREEN #8 (TYP)



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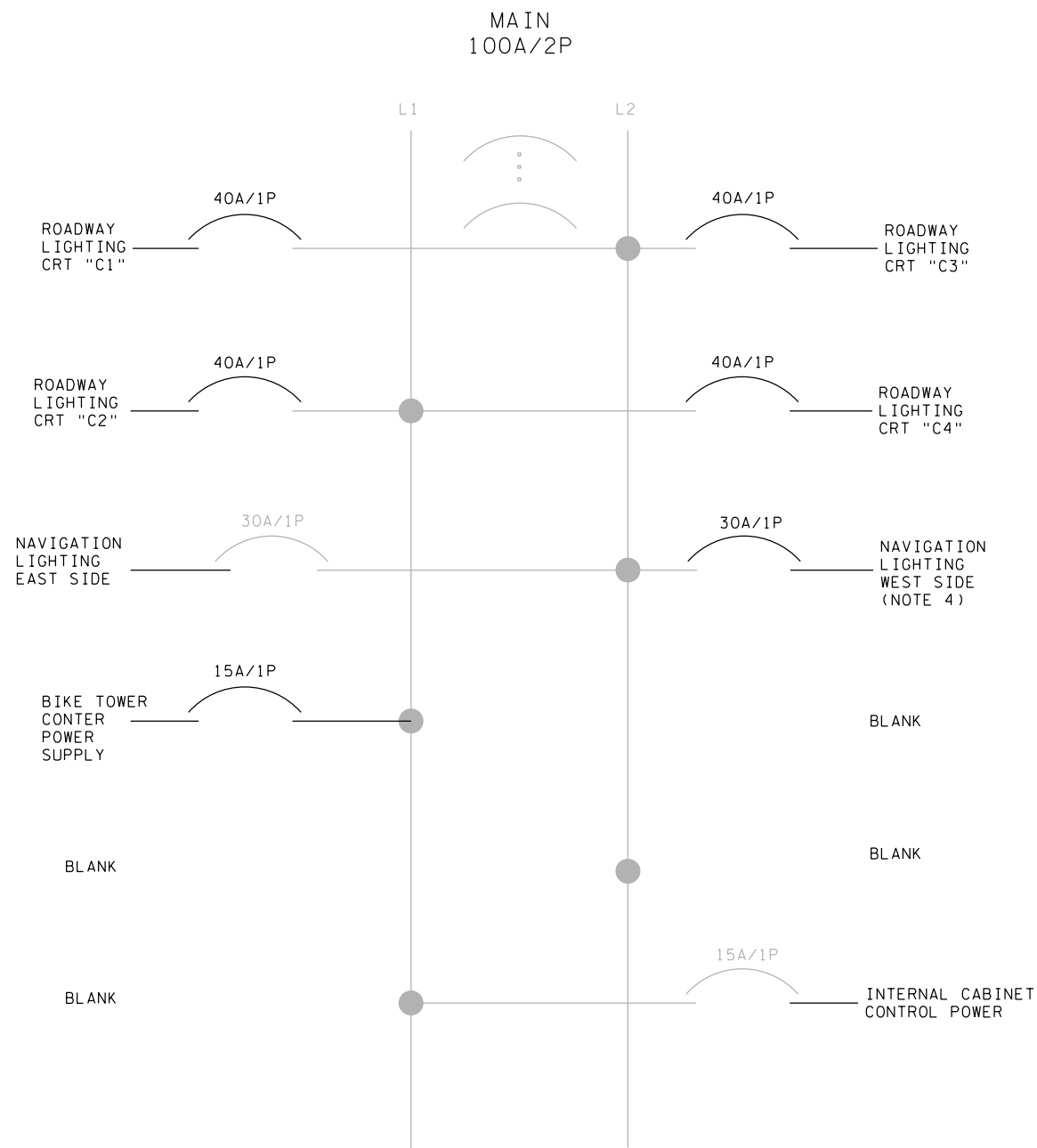
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 CHECKED BY: JFC
 LAST REVISION: 11/24/2015

STREET AND NAVIGATION LIGHTING DETAILS (1 OF 3)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET

SL5R
 SL7



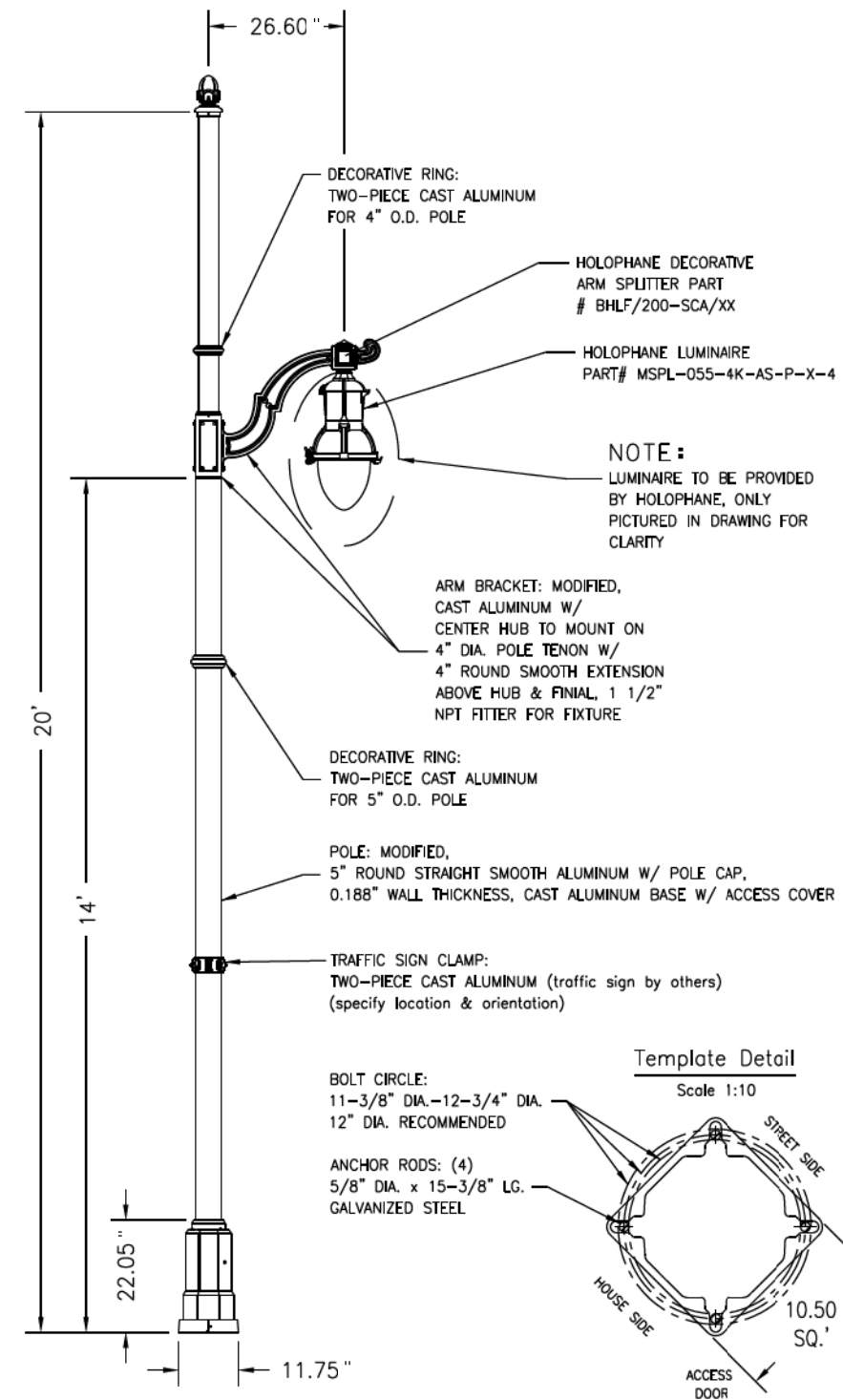
CONTROLLER PARTIAL WIRING DIAGRAM

NOTES

1. REVIEW WIRING OF ROADWAY LIGHTING CIRCUITS BEFORE COMMENCING FIELD WORK.
2. UPDATE LABELING IN CONTROLLER TO MATCH CIRCUIT LABELING IN FIELD.
3. SEE CITY OF MINNEAPOLIS PLATE TRAF-3631 FOR FULL WIRING DIAGRAM.
4. PROVIDE SIX NEW BREAKERS.

Ordering Guide:
 CA12058: ARM BRACKET
 CA12058A: 4" CLAMP COLLAR
 CA12058B: 5" CLAMP COLLAR
 CA12058C: TRAFFIC SIGN CLAMP
 CP12058: POLE

COLOR:
 CUSTOM RAL7015
 70% GLOSS



PRODUCT APPROVALS	
HADCO	JLN
CUST.	
<p>NOTICE: THIS DRAWING IS FOR REFERENCE ONLY. CHECK FOR LATEST REVISION PRIOR TO ORDERING</p> <h1 style="font-size: 2em;">Full Specification Drawing</h1> <p>(Complete Assembly)</p>	
JOB NAME: Franklin Avenue Bridge	
REP. TERRITORY: 104	DRAWN BY: SMK
SCALE: 1:30	DATE: 08/29/13
DRAWING NUMBER: C12058-DWG01	
REP: TSR Lighting	
REV: I	PCN: 14-022
BY: SMK	DATE: 05/06/14



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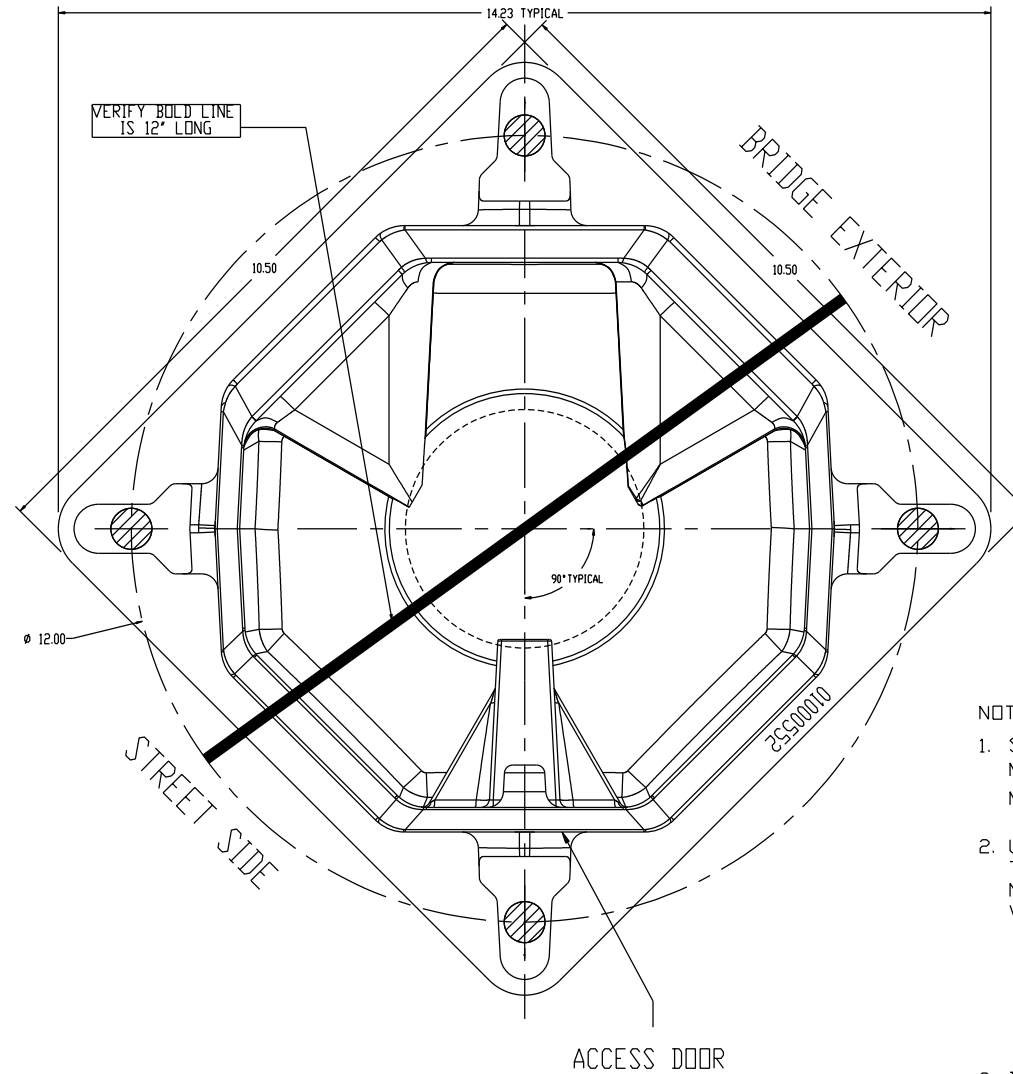
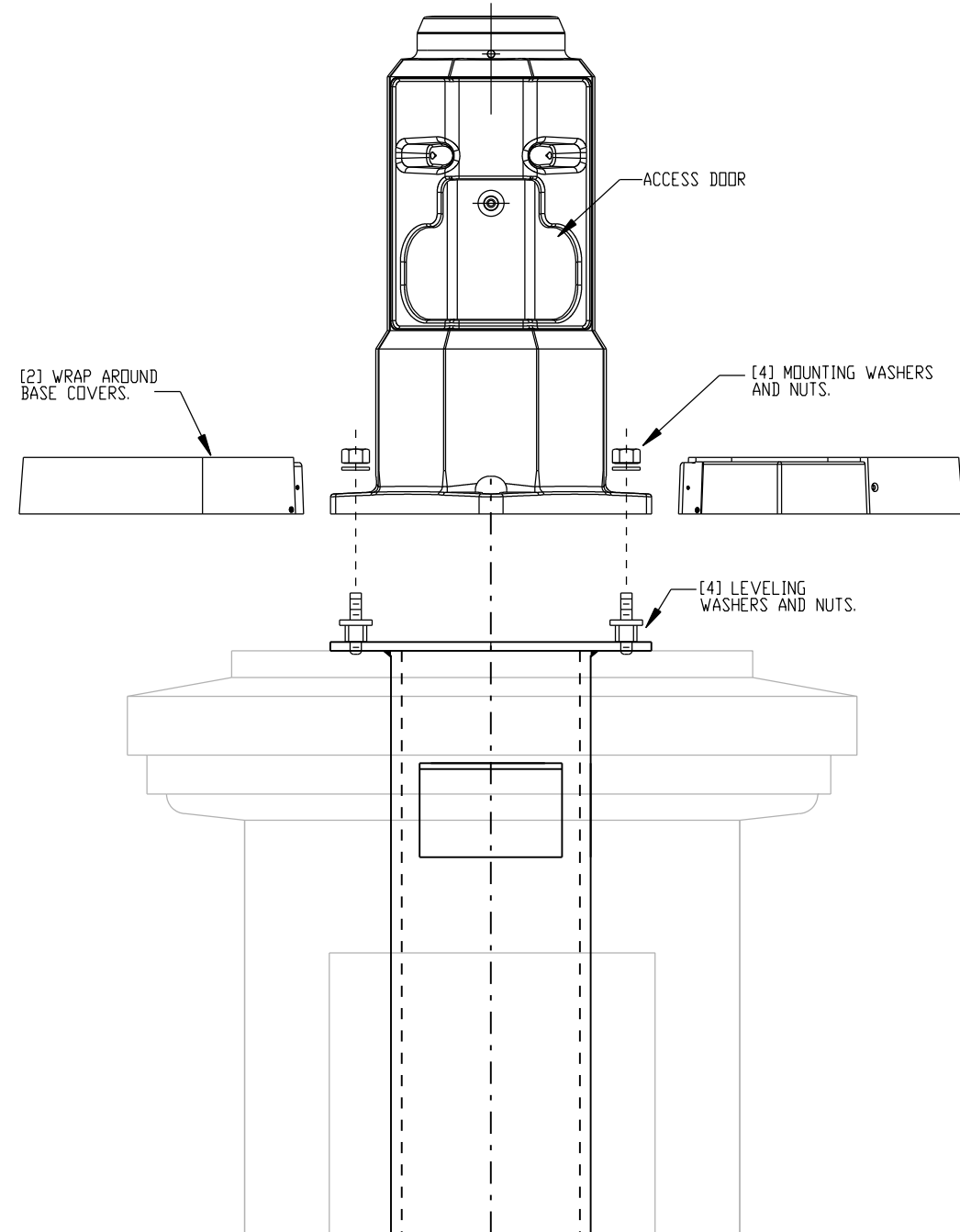
47834 8/14/2014
 LICENSE NO. DATE

DESIGN BY: MCD
 CAD BY: NTT
 CHECKED BY: MLS
 LAST REVISION: 03/10/2016

STREET AND NAVIGATION LIGHTING DETAILS (2 OF 3)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 SL6R2
 SL7



TOP SECTIONED VIEW

NOTES:

1. SUGGESTED BOLT CIRCLE; 12 INCH DIAMETER
MAXIMUM BOLT CIRCLE; 12³/₄ INCH DIAMETER
MINIMUM BOLT CIRCLE; 11³/₈ INCH DIAMETER.
2. USING LEVELING NUTS IS STRONGLY RECOMMENDED TO MOUNT THE POST BASE. IF FOUNDATION IS NOT LEVEL, INCREASE "X" DIMENSION ACCORDINGLY WHEN USING LEVELING NUTS WITH WASHERS.

X= 2⁵/₈ INCHES WITH LEVELING NUTS. WITH USE OF LEVELING NUTS, GAP BETWEEN BASE COVER AND CONCRETE COULD BE UP TO⁵/₈ INCHES.
X= 2 INCHES WITHOUTH LEVELING NUTS.
3. IF USING GROUTING TO CONCEAL GAP BETWEEN BASE AND FOUNDATION, ALLOW FOR WATER DRAINAGE.
4. BASE COVER DIMENSIONS:
2³/₈ INCHES HIGH (INTERNALLY),
11³/₄ INCHES SQUARE,
16⁵/₈ INCHES ACROSS CORNERS.



I HEREBY CERTIFY THAT SHEETS SL1-SL7 WERE 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.

Matthew Durning
MATTHEW DURNING, PROFESSIONAL ENGINEER

47834 8/14/2014
LICENSE NO. DATE

DESIGN BY: MCD
CAD BY: NTT
CHECKED BY: MLS
LAST REVISION: 11/24/2015

STREET AND NAVIGATION LIGHTING DETAILS (3 OF 3)

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET

SL7R

SL7

NOTES & GUIDELINES

GENERAL INFORMATION:

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNMUTCD.
5. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROLS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING.
6. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTANT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MNMUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MN/DOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS".

BARRICADES SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MN/DOT APPROVED PRODUCT LIST FOR BARRICADE SHEETING. NOTE THAT ASTM TYPE VII SHEETING IS NOT ALLOWED ON BARRICADES AFTER JANUARY 1, 2010.
5. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.

PAVEMENT MARKING:

1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. PAINT, POLYMER LANE TAPE AND/OR TRPM'S ARE ACCEPTABLE TEMPORARY STRIPING ALTERNATIVES ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER. GENERALLY, ONLY PAINT WILL BE USED BEFORE MAY 1ST OR WHEN THE OTHER MANUFACTURERS' SPECIFICATIONS CAN NOT BE MET.
3. TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHOULD BE USED TO SUPPLEMENT THE LONG TERM (MORE THAN 3 DAYS) EDGELINES ON ALL TRANSITION AREAS WHEN THE CONDITIONS ARE WITHIN THE MANUFACTURERS' SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND INSTALLATION OF TEMPORARY AND FINAL STRIPING. MN/DOT TRAFFIC PERSONNEL WILL ASSIST IN THE SPOTTING OF TRANSITION AREAS, GOES AND TAPERS.

BARRIER & DELINEATION:

1. TOP MOUNTED BARRIER DELINEATORS WILL HAVE A **MINIMUM OF 24 SQ. IN.** OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10' OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF THE TRAFFIC ENGINEER REQUIRES SIDE MOUNTED BARRIER DELINEATORS, THEY WILL HAVE A MINIMUM OF 12 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING AND ONE HALF THE BID PRICE.

CONSTRUCTION INFORMATION SIGNING:

1. THE CONTRACTOR SHALL USE CONSTRUCTION INFORMATION SIGNING AS SHOWN IN THE PLAN AND WHICH ARE TO BE USED AS FOLLOWS:

G20-X1 CLOSURE NOTICE SIGNS PAIRED WITH G20-X3 WORK ENDS SIGNS TO DISPLAY THE CORRECT START DATE AND AN ESTIMATED FINISH DATE AS APPROVED BY THE PROJECT ENGINEER.

G20-X2 WORK ZONE ADVANCE NOTICE SIGNS WITH THE CORRECT STARTING DATE DISPLAYED BEFORE WORK BEGINS. ONCE WORK BEGINS, THE START DATE LEGEND SHALL BE COVERED BY THE SUGGESTED PLAQUE CONTAINED IN THIS PLAN. IF NO ALTERNATE MESSAGE IS SUGGESTED OR IF DIRECTED BY THE PROJECT ENGINEER, THE CORRECT ESTIMATED FINISH DATE, MONTH, OR SEASON SHALL BE DISPLAYED.

CONSTRUCTION INFORMATION SIGNING NOT VISIBLE TO THE MOTORING PUBLIC ONCE WORK BEGINS WILL BE MOVED BY THE CONTRACTOR TO A SITE IN ADVANCE OF THE WORK ZONE OR CLOSURE AS DIRECTED BY THE PLAN OR PROJECT ENGINEER.

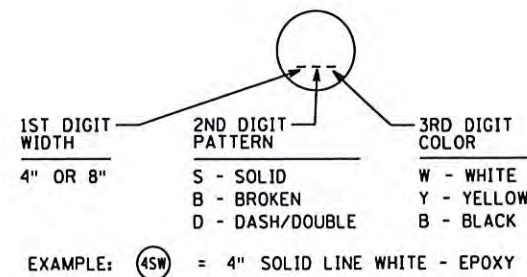
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	WORK AREA
	TEMPORARY CONSTRUCTION AREA/TEMPORARY PAVEMENT
	TRAFFIC CONTROL SIGN
	TYPE III BARRICADE =
	DRUM-LIKE CHANNELIZER = (25' SPACING UNLESS OTHERWISE NOTED)
	TYPE A FLASHING WARNING LIGHT
	ANCHORED CONCRETE BARRIER WITH DELINEATORS AT 30' SPACING & WITH FENCING SYSTEM (6' HEIGHT) MOUNTED ON CONCRETE BARRIER
	IMPACT ATTENUATOR
	EXISTING/IN-PLACE SIGN

STRIPING KEY

	CIRCLE - EPOXY		SQUARE - POLY PREFORM
	TRIANGLE - PAINT		
	PENTAGON - REMOVEABLE PREFORM PAVEMENT MARKING TAPE		



INDEX

TRAFFIC CONTROL SHEET NO	DESCRIPTIONS
TC1	TITLE SHEET
TC2	PAY ITEM TABULATION SHEET
TC3	TRAFFIC CONTROL TABULATION SHEET
TC4 - TC5	TRAFFIC CONTROL SIGN DETAILS
TC6 - TC9	TRAFFIC CONTROL DETOUR PLANS
TC10 - TC11	TRAFFIC CONTROL PHASE 1
TC12 - TC13	TRAFFIC CONTROL PHASE 2
TC14 - TC15	TRAFFIC CONTROL PHASE 3
TC16 - TC17	TRAFFIC CONTROL PHASE 4
TC18 - TC20	TRAFFIC CONTROL DETAILS



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.

Michael E. Kotila
MICHAEL E. KOTILA, PROFESSIONAL ENGINEER

19254 8/13/2014
LICENSE NO. DATE

DESIGN BY: CMJ
CAD BY: MTT
CHECKED BY: MEK
LAST REVISION: _____

TRAFFIC CONTROL TITLE SHEET

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET

TC1
TC20

TRAFFIC CONTROL - QUANTITIES SUMMARY (PAY ITEMS)							N
ITEM	UNIT	PHASE 1	PHASE 2	PHASE 3	PHASE 4	TOTAL QUANTITIES	
PAVEMENT MARKING REMOVAL	L F	5455				5455	
REMOVABLE PREFORMED PLASTIC MASK (BLACK)	L F	150	55			205	
CHAIN LINK SAFETY FENCE	LF		610			610	
RELOCATE TEMPORARY FENCE	LF			145		145	
VEHICULAR GATE-DOUBLE	EACH		2			2	
PORTABLE PRECAST CONC BARRIER DES 8337	LF		215		15	230	
(3) RELOCATE PORTABLE PRECAST CONC BARRIER DES 8337 - SPECIAL	LF				65	65	
(3) PORTABLE PRECAST CONC BARRIER DES 8337 - SPECIAL	LF	95		65	25	185	
(3) RELOCATE PORTABLE PRECAST CONC BARRIER DES 8337 - ANCHORED - SPECIAL	LF			1260		1260	
(3) PORTABLE PRECAST CONC BARRIER DES 8337 - ANCHORED - SPECIAL	LF	3505				3505	
IMPACT ATTENUATOR	AMBY	4		1		5	
MEDIAN BARRIER DELINEATOR	EA	117		40		157	
(1) 4" SOLID LINE WHITE-REM POLY PREFORM	L F	2440		185		2625	
(1) 4" SOLID LINE YELLOW-REM POLY PREFORM	L F	365		185		550	
(1) (2) 4" DOUBLE SOLID LINE YELLOW-REM POLY PREFORM	L F	2230		310		2540	

SPECIFIC NOTES:

- (1) TO BE PAID FOR UNDER 2581 REMOVABLE PREFORM PAVEMENT MARKING TAPE.
- (2) TABULATED QUANTITY IS 2 TIMES THE LENGTH MEASURED IN THE PLAN.
- (3) INCLUDES INTEGRAL SAFETY FENCE



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Michael E. Kotila
 MICHAEL E. KOTILA, PROFESSIONAL ENGINEER

19254 8/13/2014
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DESIGN BY: CMJ
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 LAST REVISION: _____

TRAFFIC CONTROL PAY ITEM TABULATION

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 TC2
 TC20

TRAFFIC CONTROL SIGNS / DEVICES (INCIDENTAL TO LUMP SUM TRAFFIC CONTROL)				NOTES
SIGN OR DEVICE	CODE NO.	COLOR	SIZE	
	R1-1	WHITE ON RED	30" x 30"	
	R3-1	BLACK & RED ON WHITE	24" x 24"	
	R3-2	BLACK & RED ON WHITE	24" x 24"	
	R3-5a	BLACK ON WHITE	30" x 36"	
	R3-6R	BLACK ON WHITE	30" x 36"	
	R3-30AA	BLACK ON WHITE	36" x 30"	
	R3-30AC	BLACK ON WHITE	36" x 30"	
	R3-30AD	BLACK ON WHITE	36" x 30"	
	R5-6	BLACK ON WHITE	18" x 18"	
	R9-3	BLACK ON WHITE	18" x 18"	
	R9-9	BLACK ON WHITE	30" x 18"	
	R9-9a	BLACK ON WHITE	24" x 18"	
	R9-11bL	BLACK ON WHITE	48" x 18"	
	R9-11bR	BLACK ON WHITE	48" x 18"	
	R11-2	BLACK ON WHITE	48" x 30"	
	R11-4	BLACK ON WHITE	60" x 30"	
	M1-6	WHITE AND YELLOW ON BLUE	24" x 24" 36" x 36"	
	M3-2a	WHITE ON BLUE	24" x 12" 36" x 18"	
	M3-2	BLACK ON WHITE	24" x 12"	
	M3-4a	WHITE ON BLUE	24" x 12" 36" x 18"	
	M3-4	BLACK ON WHITE	24" x 12"	
	M4-8	BLACK ON ORANGE	24" x 12" 36" x 18"	

TRAFFIC CONTROL SIGNS / DEVICES (INCIDENTAL TO LUMP SUM TRAFFIC CONTROL)				NOTES
SIGN OR DEVICE	CODE NO.	COLOR	SIZE	
	M4-8a	BLACK ON ORANGE	24" x 18"	
	M4-9mL	BLACK ON ORANGE	30" x 24"	
	M4-9mS	BLACK ON ORANGE	30" x 24"	
	M4-9mATL	BLACK ON ORANGE	30" x 24"	
	M4-9mR45	BLACK ON ORANGE	30" x 24"	
	M4-9mAR45	BLACK ON ORANGE	30" x 24"	
	M4-9mATR	BLACK ON ORANGE	30" x 24"	
	M4-9mR	BLACK ON ORANGE	30" x 24"	
	M4-9maL	BLACK ON ORANGE	30" x 24"	
	M4-9maR	BLACK ON ORANGE	30" x 24"	
	M4-9maT	BLACK ON ORANGE	30" x 24"	
	M4-9mbL	BLACK ON ORANGE	30" x 24"	
	M4-9mbR	BLACK ON ORANGE	30" x 24"	
	M4-9mbT	BLACK ON ORANGE	30" x 24"	
	M4-9mcL	BLACK ON ORANGE	30" x 24"	
	M4-9mcR	BLACK ON ORANGE	30" x 24"	
	M4-9mcT	BLACK ON ORANGE	30" x 24"	
	M4-10R	BLACK ON ORANGE	48" x 18"	
	M4-10L	BLACK ON ORANGE	48" x 18"	
	M5-1aL	WHITE ON BLUE	21" x 15"	
	M5-1aR	WHITE ON BLUE	21" x 15"	
	M5-2aL	WHITE ON BLUE	21" x 15"	

TRAFFIC CONTROL SIGNS / DEVICES (INCIDENTAL TO LUMP SUM TRAFFIC CONTROL)				NOTES
SIGN OR DEVICE	CODE NO.	COLOR	SIZE	
	M5-2aR	WHITE ON BLUE	21" x 15"	
	M5-4	BLACK ON WHITE	24" x 18"	
	M6-1aL	WHITE ON BLUE	21" x 15"	
	M6-1aR	WHITE ON BLUE	21" x 15"	
	M6-2aL	WHITE ON BLUE	21" x 15" 30" x 24"	
	M6-2aR	WHITE ON BLUE	21" x 15" 30" x 24"	
	M6-3a	WHITE ON BLUE	21" x 15"	
	W1-2L	BLACK ON ORANGE	30" x 30"	
	W13-1P	BLACK ON ORANGE	18" x 18"	
	W20-2	BLACK ON ORANGE	36" x 36"	
	W20-3	BLACK ON ORANGE	36" x 36"	
	W20-3a	BLACK ON ORANGE	18" x 18"	
	W20-100P	BLACK ON ORANGE	24" x 18"	
	W20-X4	BLACK ON ORANGE	36" x 36"	
	W20-X9	BLACK ON ORANGE	36" x 36"	
	G20-X1	BLACK ON ORANGE	54" x 48"	
	TYPE "A" FLASHER	-	-	
	REFLECTORIZED DRUM	WHITE ON ORANGE	-	
	TYPE III	WHITE ON ORANGE	8'	

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.



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.

Michael E. Kotila
MICHAEL E. KOTILA, PROFESSIONAL ENGINEER

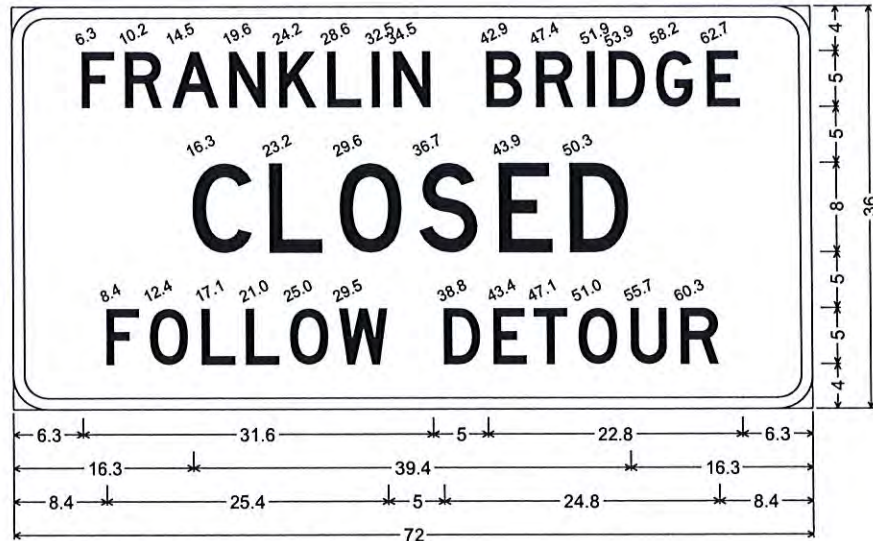
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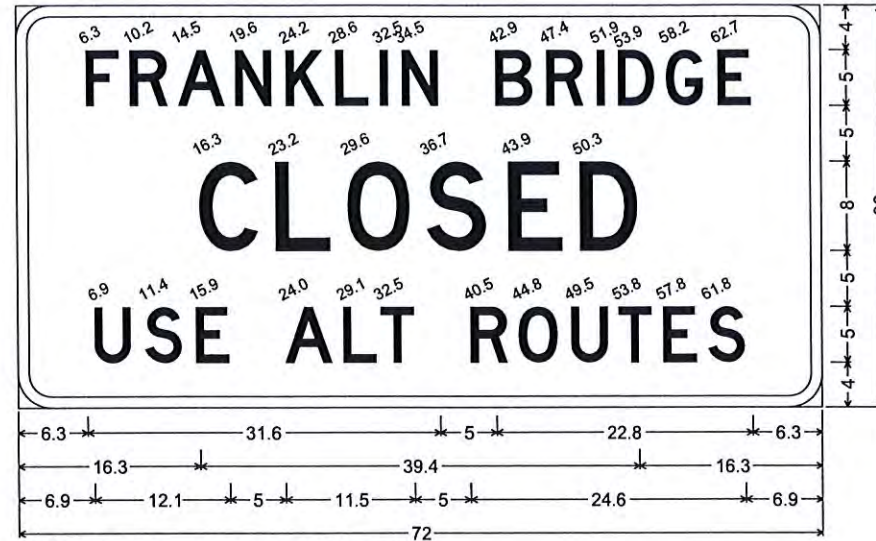
TRAFFIC CONTROL TABULATION SHEET

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

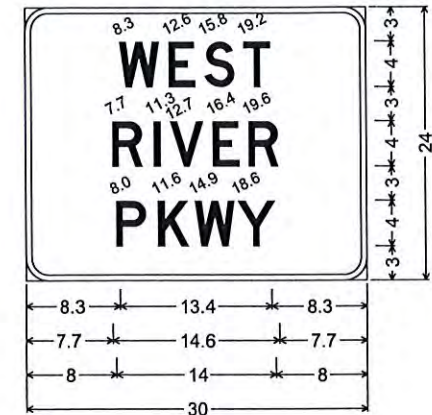
TC3
TC20



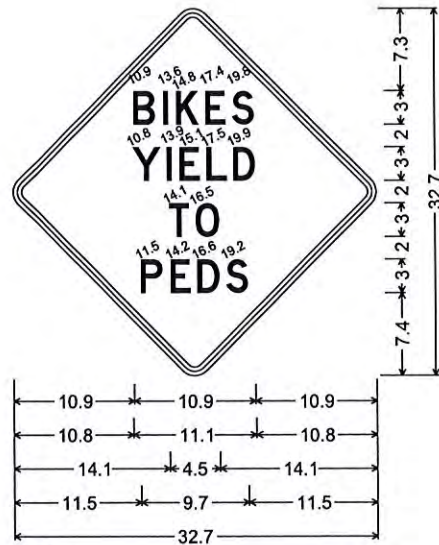
DT-1; 3.0" Radius, 1.0" Border, Black on Orange;
[FRANKLIN BRIDGE] D; [CLOSED] D; [FOLLOW DETOUR] D;



DT-2; 3.0" Radius, 1.0" Border, Black on Orange;
[FRANKLIN BRIDGE] D; [CLOSED] D; [USE ALT ROUTES] D;



DT-3;
2.0" Radius, 0.5" Border, Black on Orange;
[WEST] D; [RIVER] D; [PKWY] D;



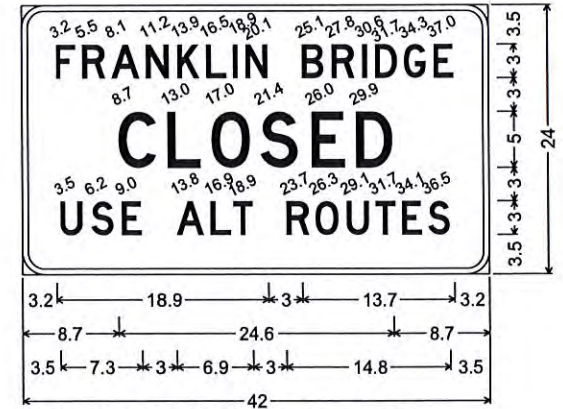
DT-4;
24.0" across sides 1.5" Radius, 0.4" Border, 0.4" Indent, Black on Orange;
[BIKES] D; [YIELD] D; [TO] D;
[PEDS] D;



DT-5;
2.0" Radius, 0.5" Border, Black on Orange;
[FRANKLIN] D; [AVE] D;



DT-6;
2.0" Radius, 0.5" Border, Black on Orange;
[FRANKLIN] D; [BRIDGE] D;
[CLOSED] D;



DT-7; 2.0" Radius, 0.5" Border, Black on Orange;
[FRANKLIN BRIDGE] D; [CLOSED] D;
[USE ALT ROUTES] D;



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Michael E. Kotila
MICHAEL E. KOTILA, PROFESSIONAL ENGINEER

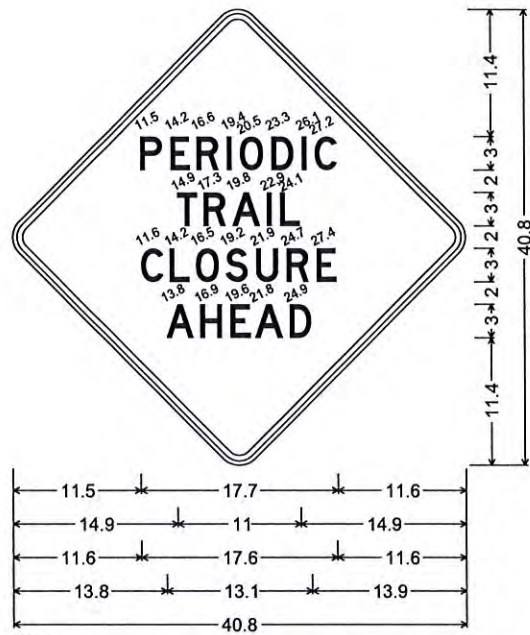
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CAD BY: MTT
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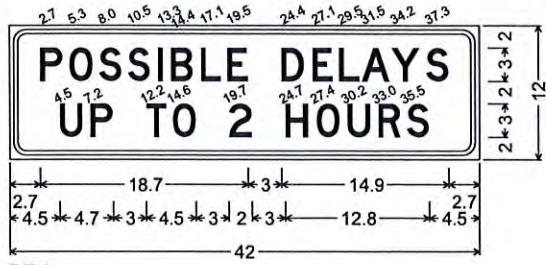
TRAFFIC CONTROL SIGN DETAILS

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

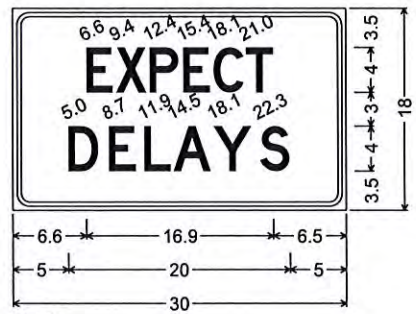
SHEET
TC4
TC20



DT-8;
 30.0" across sides 2.0" Radius, 0.5" Border, 0.4" Indent, Black on Orange;
 [PERIODIC] D; [TRAIL] D; [CLOSURE] D;
 [AHEAD] D;



DT-9;
 1.5" Radius, 0.4" Border, 0.4" Indent, Black on Orange;
 [POSSIBLE DELAYS] D; [UP TO 2 HOURS] D;



DT-11;
 0.4" Border, 0.4" Indent, Black on Orange;
 [EXPECT] D specified length;
 [DELAYS] D;



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.

Michael E. Kotila
 MICHAEL E. KOTILA, PROFESSIONAL ENGINEER

19254
 LICENSE NO.

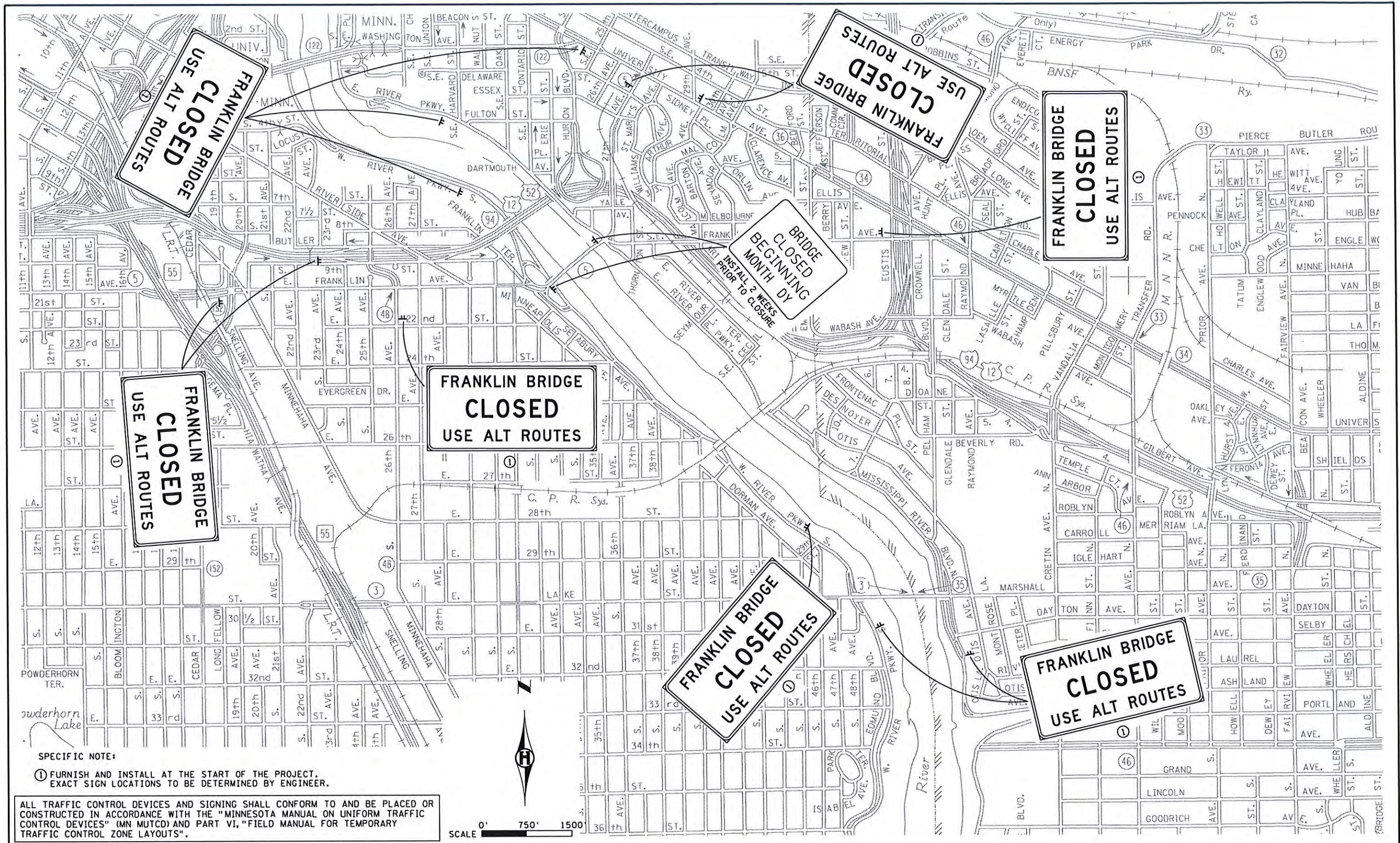
8/13/2014
 DATE

DESIGN BY: CMJ
 CAD BY: MTT
 CHECKED BY: MEK
 LAST REVISION:

TRAFFIC CONTROL SIGN DETAILS

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 TC5
 TC20



SPECIFIC NOTE:
 ① FURNISH AND INSTALL AT THE START OF THE PROJECT. EXACT SIGN LOCATIONS TO BE DETERMINED BY ENGINEER.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO AND BE PLACED OR CONSTRUCTED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".



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Michael E. Kotila
 MICHAEL E. KOTILA, PROFESSIONAL ENGINEER

19254 8/13/2014
 LICENSE NO. DATE

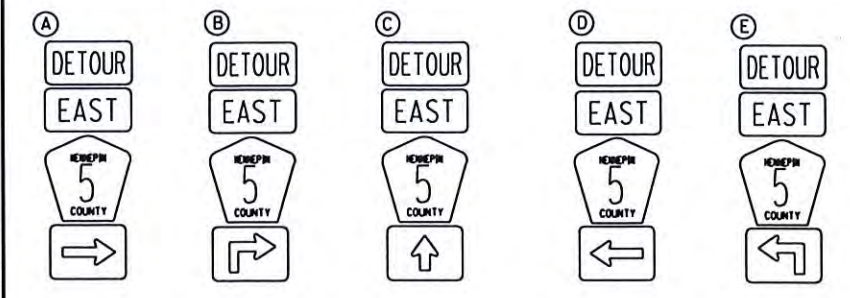
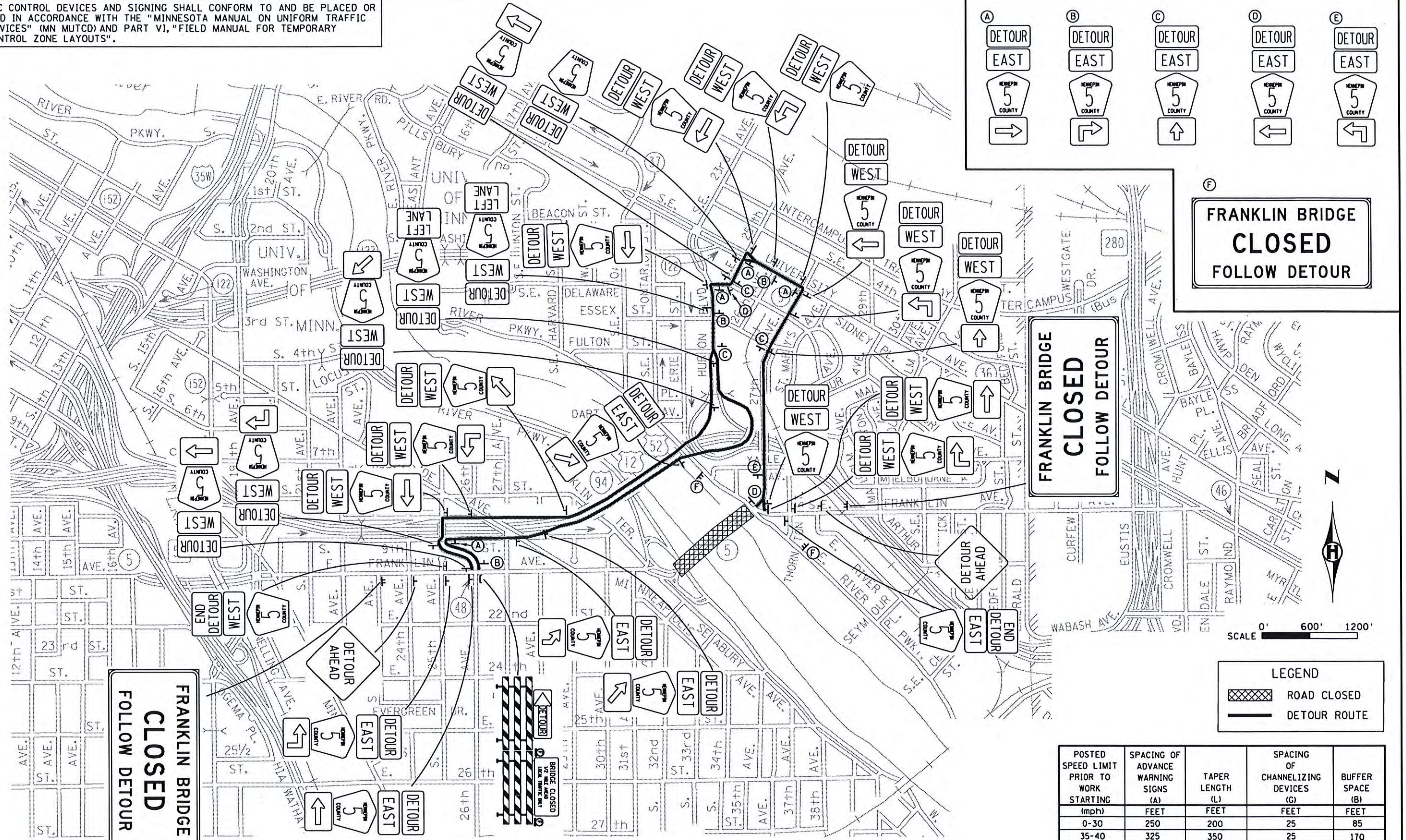
DESIGN BY: CMJ
 CAD BY: MTT
 CHECKED BY: MEK
 LAST REVISION:

CLOSURE ADVANCED WARNING

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 TC6
 TC20

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO AND BE PLACED OR CONSTRUCTED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".



**FRANKLIN BRIDGE
CLOSED
FOLLOW DETOUR**

**FRANKLIN BRIDGE
CLOSED
FOLLOW DETOUR**

**FRANKLIN BRIDGE
CLOSED
FOLLOW DETOUR**

LEGEND

- ROAD CLOSED
- DETOUR ROUTE

POSTED SPEED LIMIT PRIOR TO WORK STARTING (mph)	SPACING OF ADVANCE WARNING SIGNS (A) FEET	TAPER LENGTH (L) FEET	SPACING OF CHANNELIZING DEVICES (G) FEET	BUFFER SPACE (B) FEET
0-30	250	200	25	85
35-40	325	350	25	170
45-50	400	600	50	280
55	750	700	50	335
60-65	1000	800	50	485



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Michael E. Kotila
MICHAEL E. KOTILA, PROFESSIONAL ENGINEER

19254 LICENSE NO. 8/13/2014 DATE

DESIGN BY: CMJ
CAD BY: MTT
CHECKED BY: MEK
LAST REVISION:

CSAH 5 DETOUR PLAN



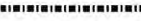

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
BRIDGE 2441 S.P. 027-605-029

SHEET
TC7
TC20

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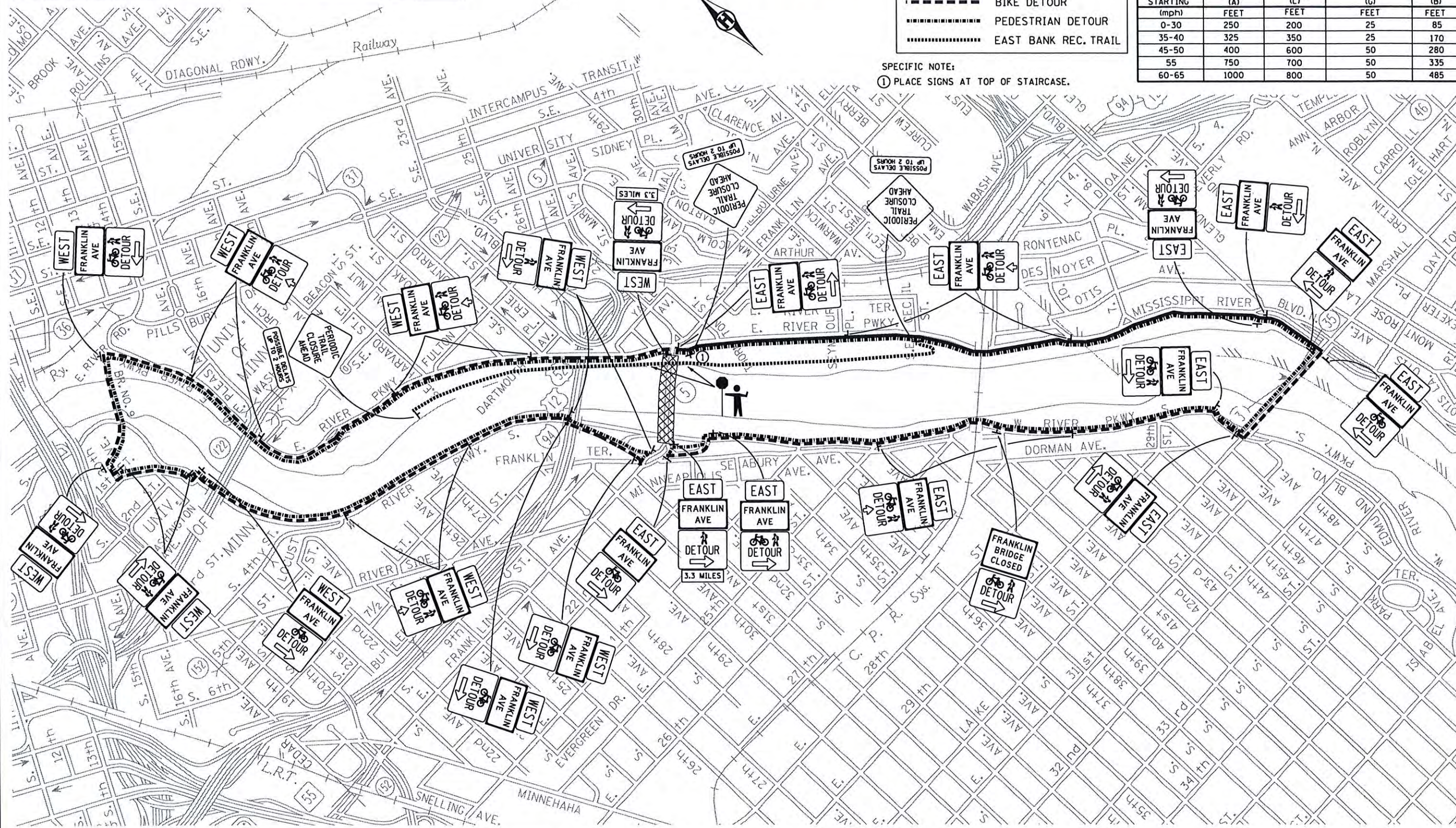
SCALE 0' 600' 1200'

LEGEND

-  ROAD CLOSED
-  BIKE DETOUR
-  PEDESTRIAN DETOUR
-  EAST BANK REC. TRAIL

POSTED SPEED LIMIT PRIOR TO WORK STARTING (mph)	SPACING OF ADVANCE WARNING SIGNS (A) FEET	TAPER LENGTH (L) FEET	SPACING OF CHANNELIZING DEVICES (C) FEET	BUFFER SPACE (B) FEET
0-30	250	200	25	85
35-40	325	350	25	170
45-50	400	600	50	280
55	750	700	50	335
60-65	1000	800	50	485

SPECIFIC NOTE:
 ① PLACE SIGNS AT TOP OF STAIRCASE.



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.

Michael E. Kotila
 MICHAEL E. KOTILA, PROFESSIONAL ENGINEER

19254 8/13/2014
 LICENSE NO. DATE

DESIGN BY: CMJ
 CAD BY: MTT
 CHECKED BY: MEK
 LAST REVISION:

BIKES & PEDESTRIAN DETOUR PLAN

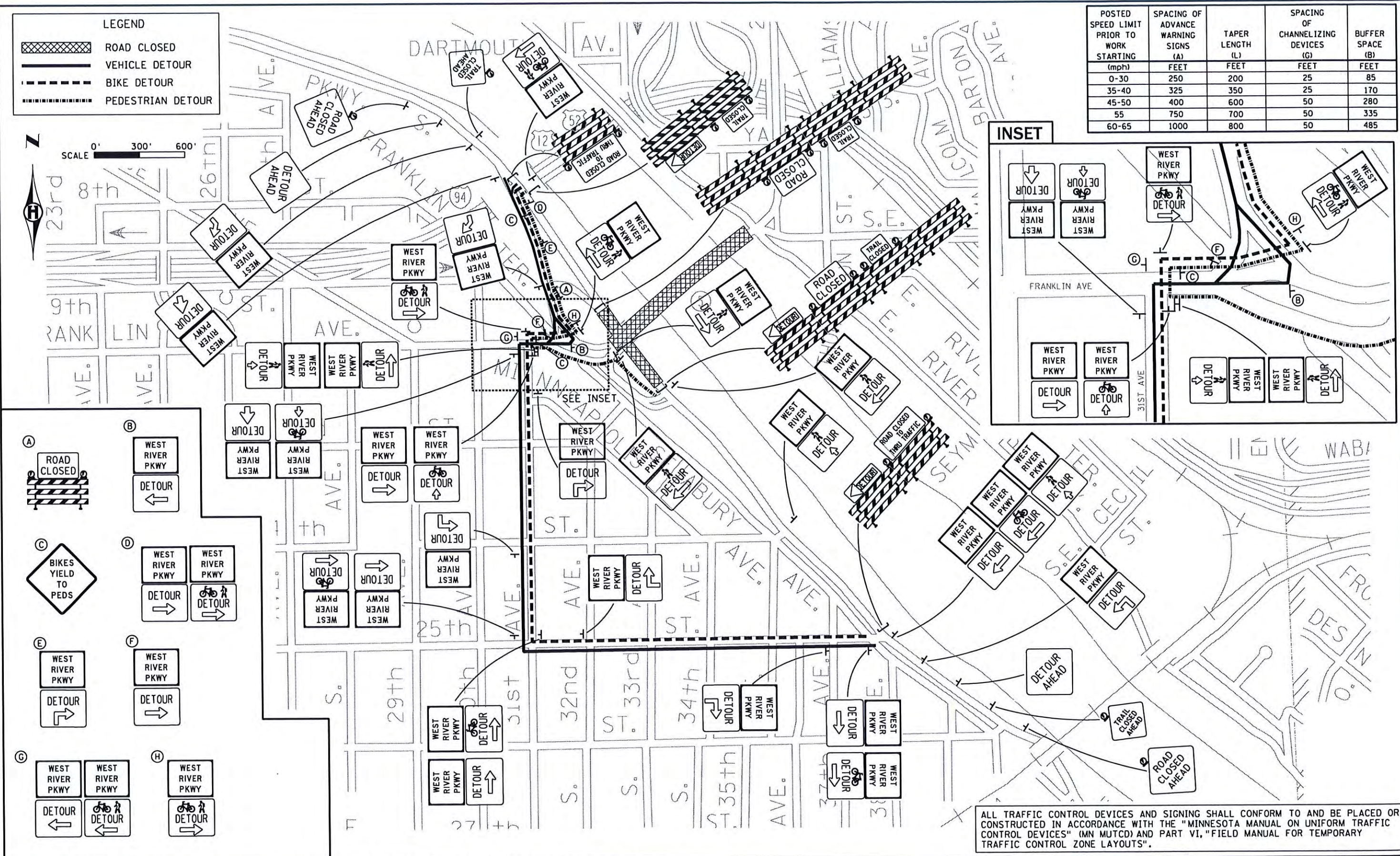
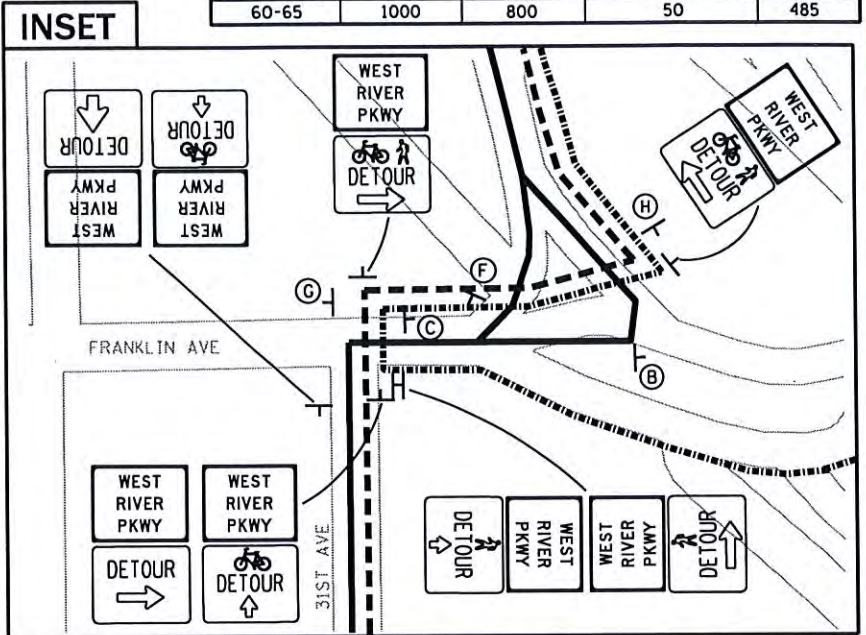
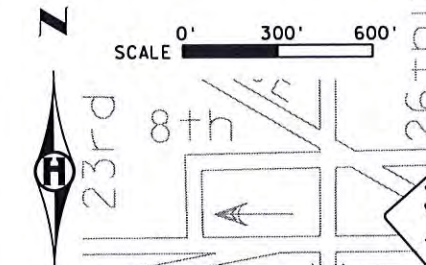
C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 TC8
 TC20

POSTED SPEED LIMIT PRIOR TO WORK STARTING (mph)	SPACING OF ADVANCE WARNING SIGNS (A) FEET	TAPER LENGTH (L) FEET	SPACING OF CHANNELIZING DEVICES (G) FEET	BUFFER SPACE (B) FEET
0-30	250	200	25	85
35-40	325	350	25	170
45-50	400	600	50	280
55	750	700	50	335
60-65	1000	800	50	485

LEGEND

	ROAD CLOSED
	VEHICLE DETOUR
	BIKE DETOUR
	PEDESTRIAN DETOUR



ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO AND BE PLACED OR CONSTRUCTED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".



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

Michael E. Kotila
 MICHAEL E. KOTILA, PROFESSIONAL ENGINEER

19254 8/13/2014
 LICENSE NO. DATE

DESIGN BY: CMJ
 CAD BY: MTT
 CHECKED BY: MEK
 LAST REVISION:

W RIVER PARKWAY DETOUR PLAN

C.S.A.H. 5 / HENNEPIN COUNTY PROJECT 0705
 BRIDGE 2441 S.P. 027-605-029

SHEET
 TC9
 TC20