MINNESOTA DEPARTMENT OF TRANSPORTATION

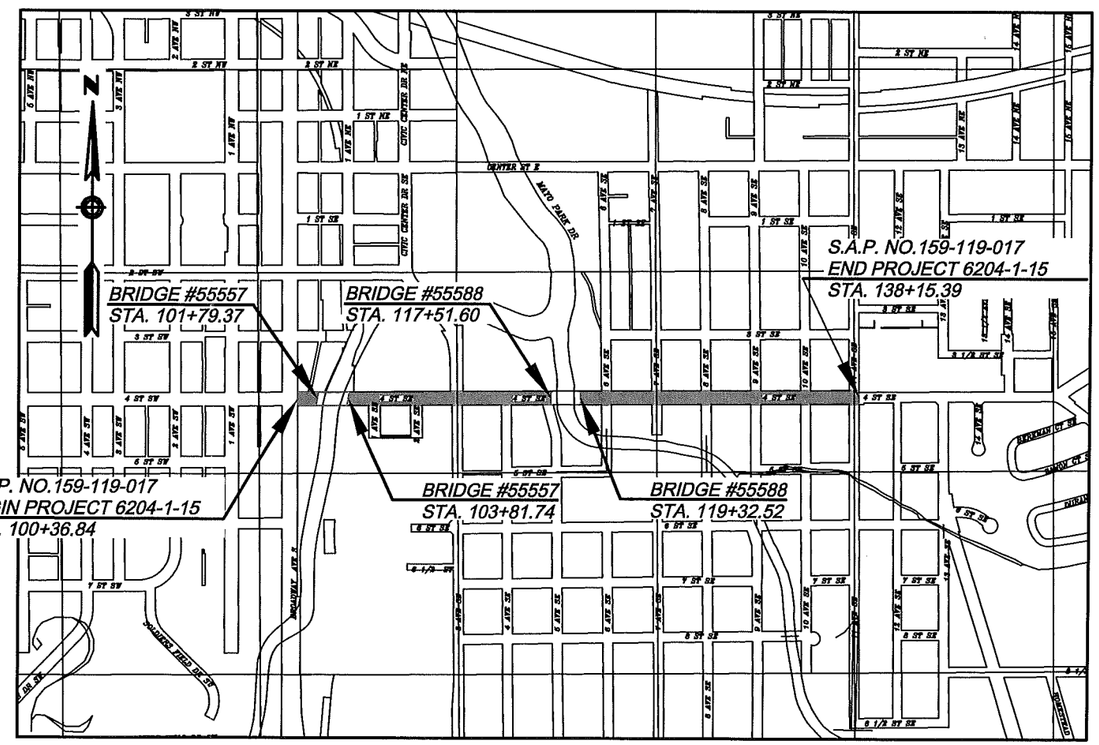
City of Rochester, Minnesota

Department Of Public Works

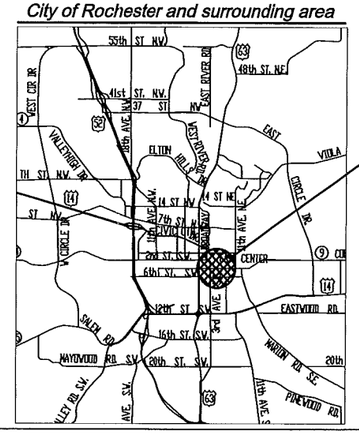
CONCRETE PAVEMENT REHIBLITATION ON 4TH STREET
SOUTH FROM SOUTH BROADWAY TO 11TH AVENUE SE

TOWNSHIP 106 **RANGE** 14 **SECTION** 1 & 2

GROSS LENGTH	3778.55	FEET	0.716 MILES
BRIDGES LENGTH	383.29	FEET	0.073 MILES
EXCEPTION LENGTH	383.29	FEET	0.073 MILES
NET LENGTH	3395.26	FEET	0.643 MILES



City of Rochester and surrounding area



APPROXIMATE PROJECT LOCATION

LEGAL DESCRIPTION:
From NW Cor of NE 1/4 OF NE 1/4 Section 2 T106 R14 South 832.01' then East 233.30' to a point of Begining to a point from NW Cor of NE 1/4 of NW 1/4 Section 1 T106 R14 South 830.96' then East 65.02'

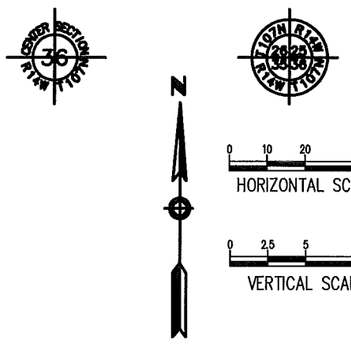
PROJECT LOCATION
OLMSTED COUNTY
ROCHESTER DISTRICT

CONVENTIONAL SIGNS AND ABBREVIATIONS

CORPORATE LIMITS	
SECTION LINE	
RIGHT OF WAY LINE (STATE)	
PROPERTY LINE (STREET)	
ADDITION LINE	
SURVEY LINE	
CENTER LINE	
WIRE FENCE	
STONE WALL OR FENCE	
HEDGE	
GUARD RAIL	
CREEK OR RIVER	
DRY RUN	
RAILROAD	
RAILROAD RIGHT OF WAY LINE	
CURB & GUTTER INP.	
SIDEWALK INP.	
SANITARY SEWER INP.	
STORM SEWER INP.	
WATERMAIN, GATEVALVE & BOX INP.	
ELECTRIC UNDERGROUND INP.	
TELEPHONE UNDERGROUND INP.	
STEAM MAIN INP.	
GAS MAIN INP.	
CURB INP.	
HYDRANT INP.	
TELEPHONE, POWER POLES	
LIGHT POLES	
TRAFFIC SIGNAL	
FIRE ALARM BOX	
RAILROAD CROSSING SIGN	RXR
RAILROAD CROSSING BELL	
TREE	
STUMP	
BUILDING	1-S-F
IRON PIPE	
STONE MONUMENT	
MANHOLE INP.	
BRICK INP.	
BRIDGE INP.	
CULVERT INP.	
CATCH BASIN INP.	
CURB & GUTTER CONST.	
SIDEWALK CONST.	
SANITARY, STORM SEWER CONST.	
WATERMAIN CONST.	
MANHOLE CONST.	
CATCH BASIN CONST.	
HYDRANT CONST.	
CROSS	
TEE	
TAPPING MACHINE SLEEVE & VALVE	
BEND, ELBOW	
INCREASER, DECREASER	
CONCRETE	
SAND	
CRUSHED ROCK	R
BITUMINOUS	
CLEAR & GRUB TREE	
SW, C&G, CONC BASE, DRWY-REMOVE(GRD & ALIGN)	
SW, C&G, CONC BASE, DRWY-REMOVE(CONDEMED SW)	
SOIL BORING LOCATION	NO.2

ACRE	A.
ADJUST	ADJ.
AGGREGATE	AGG.
APPROACH	APP.
BENCH MARK	B.M.
BITUMINOUS	BIT.
BRIDGE	BR.
BUILDING	BLDG.
CAST IRON PIPE	C.I.P.
CATCH BASIN	C.B.
CENTER LINE	℄
CENTER TO CENTER	C TO C
CLAY SEWER PIPE	C.S.P.
CONCRETE	CONC.
CONSTRUCT	CONST.
CORNER	COR.
CORRUGATED METAL PIPE	C.M.P.
CORRUGATED METAL PIPE ARCH	C.M.P.-A
CRUSHED ROCK	CR. RK.
CURB & GUTTER	C & G
DEFLECTION LEFT	D L
DEFLECTION RIGHT	D R
DEGREE OF CURVE	D
DELTA OR INTERSECTION ANGLE	Δ
DRIVE	DR.
DRIVEWAY	DRWY.
DROP INLET	D.I.
DUCTILE IRON PIPE	D.I.P.
EAST	E.
ELEVATION	EL.
EMBANKMENT	EMB.
ENTRANCE	ENT.
EQUATION	EQ.
ESTIMATE	EST.
EXCAVATION	EXC.
EXPANSION	EXP.
FLOW LINE	F.L.
FOOT	FT.
FOUNDATION	FD'N.
FRAME	FR.
FURNISH AND INSTALL	F. & I.
GALLON	GAL.
GATEVALVE	GV
GRATE	GR.
HIGH WATER	H.W.
HIGHWAY	HWY.
HORIZONTAL	HORIZ.
HYDRANT	HYD.
INLET	INL.
INPLACE	INPL.
INSTALL	INST.
INVERT	INV.
IRON PIPE	I. P.
JUNCTION	JCT.
LEFT	LT.
LENGTH OF CURVE	L.
LINEAL	LIN.
LOW WATER	L.W.
MANHOLE	M.H.
MINIMUM	MIN.
MISCELLANEOUS	MISC.
MONUMENT	MON.
NORTH	N.
NORTH EAST	N.E.
NORTH WEST	N.W.
NUMBER	NO.
OUTLET	OUTL.
PERFORATED	PERF.
POINT OF CURVATURE	P.C.
POINT OF INTERSECTION	P.I.
POINT OF TANGENCY	P.T.
POINT ON TANGENT	P.O.T.
RADIUS, ROCK, RANGE	R.
RAILROAD	R.R.
REINFORCED	REINF.
REINFORCED CONCRETE PIPE	R.C.P.
RETURN	RET.
RIGHT	RT.
SANITARY	SAN.
SEWER	SEW.
SIDEWALK, SOUTH WEST	S.W.
SOUTH	S.
SOUTH EAST	S.E.
SPECIFICATION, SPECIAL	SPEC.
STANDARD	STD.
STATION	STA.
STORM, STATE, STUCCO	ST.
STREET, STONE, STEEL	ST.
SUBDRAIN	SD,SUBD
SURFACE	SURF.
TANGENT	TAN.
TURNING POINT, TELEPHONE POLE	T.P.
VARIABLE	VAR.
VEHICULAR MEASURE	V.M.
VERTICAL	VERT.
VERTICAL CURVE	V.C.
VETRIFIED	VIT.
WEST, WATER	W.

NOTE: SECTION NUMBERS READ FROM SOUTH



GOVERNING SPECIFICATIONS

State of Minnesota
The 2016 edition of the Minnesota Department of Transportation "Standard Specifications for Construction" shall govern except as modified by special provision.

All traffic control devices shall conform and be installed in accordance with the most recent edition of "Minnesota Manual on Uniform Traffic Control Devices" (MN MUTCD) and part VI, "Field Manual for Temporary Traffic Control Zone Layouts".

"City of Rochester Standard Specifications for Utility and Street Construction" 4/25/13

UTILITY QUALITY LEVEL

The subsurface utility information in this plan is utility quality level D. This quality level was determined according to the guidelines of CI/ASCE 38-2, entitled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data."

ADT (Current Year)	2017	14,620
ADT (Future Year)	2037	15,620
HCADT (Future Year)	2037	3.57%
DESIGN LOADING		10 - TON
R - VALUE		10
SIGMA N_{18} (20)		1,712,000
FUNCTIONAL CLASSIFICATION		MINOR ARTERIAL
NO. AND WIDTH OF TRAFFIC L/		4 @ 11 FT
NO. AND WIDTH OF PARKING L		1 @ 10 FT
DESIGN SPEED		30 MPH

BASED ON SIGHT DISTANCE	STOPPING
HEIGHT OF EYE	3.5 FT
HEIGHT OF OBJECT	2.0 FT
STOP CONDITION AT:	

DESIGN SPEED NOT ACHIEVED AT:
STA. ____ TO ____ ____ MPH

INDEX TO PLANS

Sheet Title	Sht. No.
TITLE SHEET	1
ESTIMATED QUANTITIES	2
TYPICAL SECTIONS	3
DETAILS	2, 4 - 12
TABULATIONS	13 - 14
GRADING	15 - 18
STRIPING	19 - 22

This plan contains 22 Total sheets

City of Rochester, Minnesota
Department Of Public Works

201 4th Street S.E.
Room 108 - City Hall
Rochester, MN 55904
Phone: (507) 328-2400
Fax: (507) 328-2401

Calvin Feine 10-25-16
Calvin Feine, Design Technician — Date

Russell Kelm
Russell Kelm, Design Engineer: 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.
Date: 10-25-16 — Registration Number 24667

Approved: Douglas Nelson, Assist. City of Rochester Engineer — Date
Richard W. Freese 6/25/16
Approved: Richard Freese, City of Rochester Engineer — Date

Recommended for Approval: — Date
Frank Pohl 10/28/16
District State Aid Engineer: Reviewed for Compliance with State-Aid Rules/Policy — Date
Frank Pohl 10/28/2016
State Aid Engineer: Approved for State Aid Funding — Date

S.A.P. No. 159-119-017
Project No 6204-1-15 J 7295
Sheet 1 of 22 Sheets

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ELECTRONIC FILE

ESTIMATED QUANTITIES

NOTES	TAB	SHT NO.	ITEM NO.	DESCRIPTION	UNITS	PARTICIPATING	NON-PARTICIPATING	STORM SEWER	TOTAL ESTIMATE
				1 STREET (350)					
			2021.501/00010	MOBILIZATION	LS	0.98	0.02		1.00
	C	13	2104.501/00022	REMOVE CURB & GUTTER	L F	526			526
	C	13	2104.503/00121	REMOVE BITUMINOUS PAVEMENT	S F	79			79
	C	13	2104.505/00108	REMOVE CONCRETE DRIVEWAY PAVEMENT	S Y	34			34
	C	13	2104.511/00011	SAWING CONCRETE PAVEMENT (FULL DEPTH)	L F	167			167
	C	13	2104.513/00011	SAWING BIT PAVEMENT (FULL DEPTH)	L F	47			47
1			2105.507/00010	SUBGRADE EXCAVATION	C Y	50			50
1			2211.501/00050	AGGREGATE BASE CLASS 5	TON	100			100
	G	13	2211.503/00050	AGGREGATE BASE (CV) CLASS 5	C Y	6			6
	F	13	2301.538/00010	DOWEL BAR	EACH	239			239
	G	13	2301.541/00208	INTEGRANT CURB DESIGN B6	L F	292			292
	F	13	2302.602/00030	DRILL & GROUT REINF BAR (EPOXY COATED)	EACH	383			383
	F	13	2302.603/00609	JOINT REPAIR (TYPE E8)	L F	254			254
	F	13	2302.603/11000	JOINT REPAIR (TYPE A1)	L F	34610			34610
	F	13	2302.603/34010	FULL DEPTH REPAIR (TYPE CD-LV)	L F	1008			1008
	F	13	2302.604/00130	PAVEMENT REPLACEMENT (TYPE CX)	S Y	863			863
	F	13	2302.608/00210	SUPPLEMENTAL REINF BARS (EPOXY COATED)	LB	68			68
	F	13	2302.618/21000	PARTIAL DEPTH REPAIR (TYPE BA)	S F	5191			5191
	F	13	2302.618/25000	PARTIAL DEPTH REPAIR (TYPE BE)	S F	779			779
	F	13	2302.618/31010	SPOT FULL DEPTH REPAIR (TYPE C1-LV)	S F	465			465
	G	13	2360.501/13200	TYPE SP 9.5 WEARING COURSE MIX (3;B)	TON	2			2
	G	13	2360.502/23200	TYPE SP 12.5 NON WEAR COURSE MIX (3;B)	TON	4			4
1			2504.602/00034	ADJUST VALVE BOX	EACH	1			1
	A,H	13,14	2506.516/00010	CASTING ASSEMBLY	EACH	11			11
	A,H	13,14	2506.522/00011	ADJUST FRAME & RING CASTING	EACH	6			6
	H	14	2506.602/00002	RECONSTRUCT DRAINAGE STRUCTURE	EACH	2			2
	G	13	2531.501/02320	CONCRETE CURB & GUTTER DESIGN B624	L F	229			229
	G	13	2531.507/00070	7" CONCRETE DRIVEWAY PAVEMENT	S Y	34			34
2			2563.601/00010	TRAFFIC CONTROL	LS	0.98	0.02		1.00
	F	13	2565.602/61717	SAWCUT LOOP DETECTOR 6' X 6'	EACH	7			7
	H	14	2573.530/00010	STORM DRAIN INLET PROTECTION	EACH	23			23
	D	13	2574.525/00010	COMMON TOPSOIL BORROW	C Y	5			5
	D	13	2575.505/00060	SODDING TYPE MINERAL	S Y	63			63
	J	13	2582.501/40000	PAVT MSSG EPOXY GR IN (WR)	S F	1284			1284
	J	13	2582.502/40104	4" SOLID LINE EPOXY GR IN (WR)	L F	2194			2194
	J	13	2582.502/40124	24" SOLID LINE EPOXY GR IN (WR)	L F	96			96
	J	13	2582.502/40204	4" BROKEN LINE EPOXY GR IN (WR)	L F	1410			1410
	J	13	2582.502/40304	4" DOTTED LINE EPOXY GR IN (WR)	L F	28			28
	J	13	2582.502/40404	4" DBLE SOLID LINE EPOXY GR IN (WR)	L F	2374			2374
	J	13	2582.503/40000	CROSSWALK EPOXY GR IN (WR)	S F	480			480
				2 PED FACILITIES (550)					
	C	13	2104.503/00021	REMOVE CONCRETE WALK	S F	154			154
	G	13	2521.501/00050	5" CONCRETE WALK	S F	53			53
	G	13	2521.501/00060	6" CONCRETE WALK	S F	101			101
	G	13	2531.618/00010	TRUNCATED DOMES	S F	8			8
				3 SANITARY SEWER (250)					
	A	13	2104.509/00101	REMOVE MANHOLE	EACH		2		2
	E	13	2506.502/00302	CONST DRAINAGE STRUCTURE DESIGN SPEC 2	EACH		2		2

1 INCLUDES AS A TOKEN AMOUNT NOT SUBJECT TO THE PROVISIONS OF 1402

2 THIS ITEM INCLUDES ALL TRAFFIC CONTROL ITEMS NECESSARY FOR CONTROL OF TRAFFIC DURING CONTRACTORS OPERATIONS, INCLUDING ASSOCIATED SIGNAL AND TRAFFIC CONTROL DEVICES FOR LANE CLOSURES AND FLAGGING OPERATIONS AS NECESSARY. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

STANDARD DETAIL PLATES

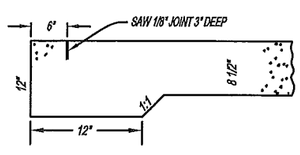
CITY OF ROCHESTER

NO.	DETAIL PLATE
1-01 I	STRUCTURE TYPE 1
1-02 I	STRUCTURE TYPES 2 AND 2A
1-07 B	MANHOLE WATERPROOFING
1-11 I	CASTING REFERENCE NUMBERS
1-12 B	STANDARD CASTING ASSEMBLIES
1-13 C	STRUCTURE ADJUSTING RINGS
2-01 E	CONCRETE CURB & GUTTER
2-06 D	CURB & GUTTER REINFORCEMENT AT CATCH BASINS
2-08 E	CONCRETE DRIVE APPROACH TYPE A
7-05 A	INLET PROTECTION

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT

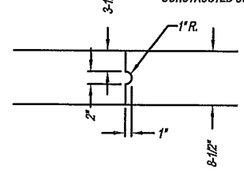
STATE OF MINNESOTA

NO.	DETAIL PLATE
1103K	Typical Dowel Bar Assembly
8000J	Channelizers

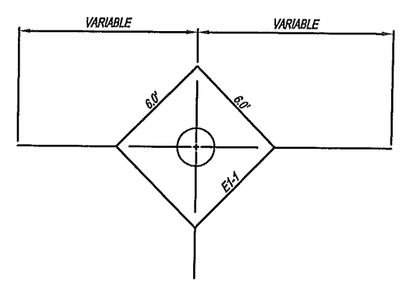


THICKENED EDGE WITH TEMPORARY HEADER

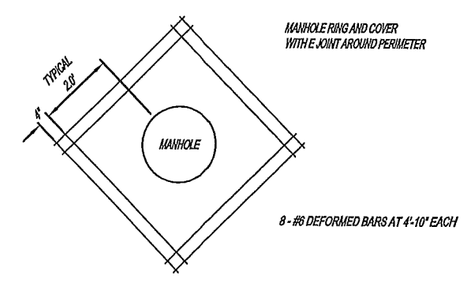
NOTE:
ALL L2K AND L2KT JOINTS SHALL BE CONSTRUCTED USING THIS KEYWAY.



PAVEMENT KEYWAY



TYPICAL BOX OUT DETAIL AT MANHOLE



TYPICAL REINFORCEMENT AT MANHOLES

Revision comment: —
Revised: —

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.
Date: 10-14-16 Lic. No. 24697

City of Rochester, Minnesota
Department Of Public Works
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2400
FAX: (507) 328-2401

Title: ESTIMATED QUANTITIES AND DETAILS ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 2 of 22 Sheets

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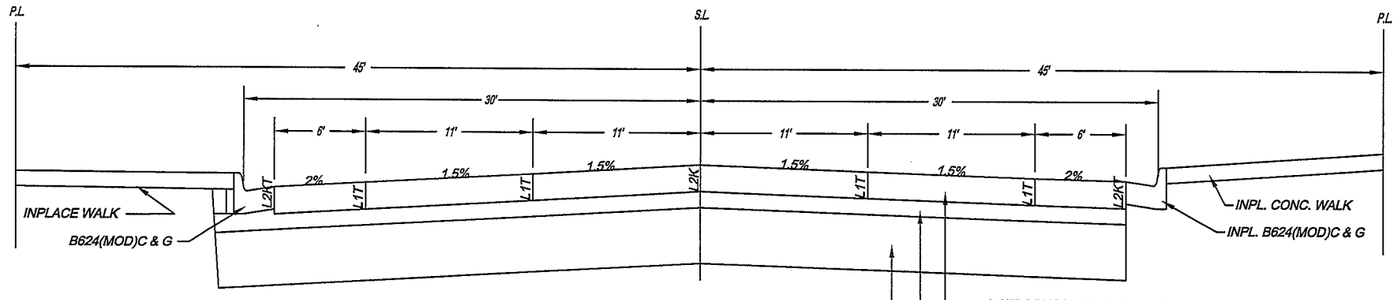
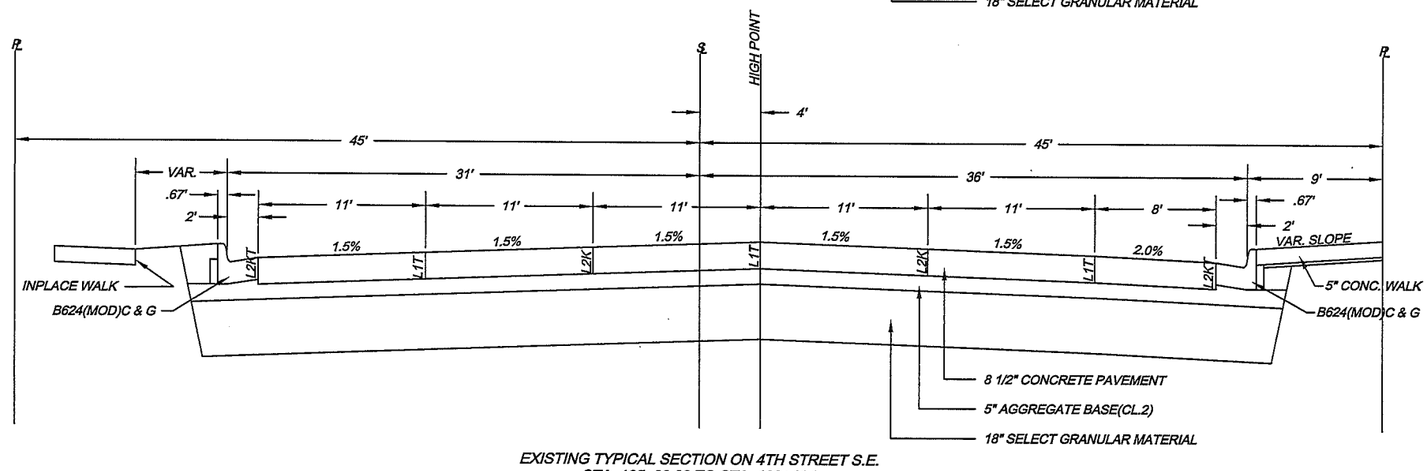


EXISTING TYPICAL SECTION ON 4TH STREET S.E.
STA. 100+36.84 TO STA. 105+00.00



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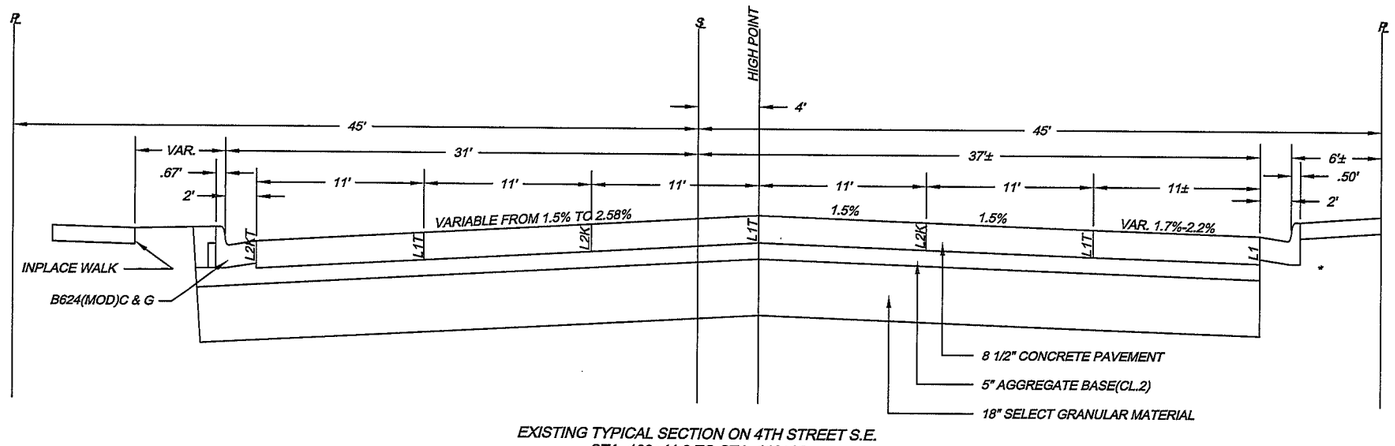
STA. 105+00.00 TO STA. 109+41.3



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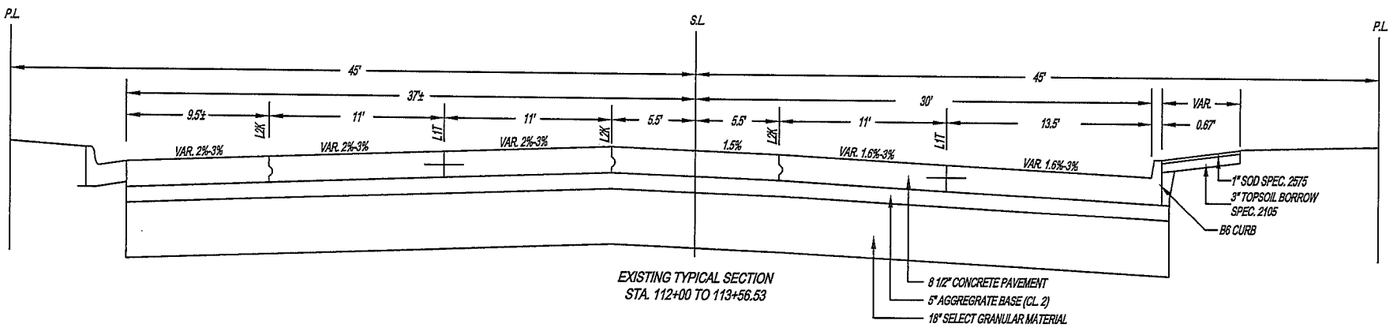
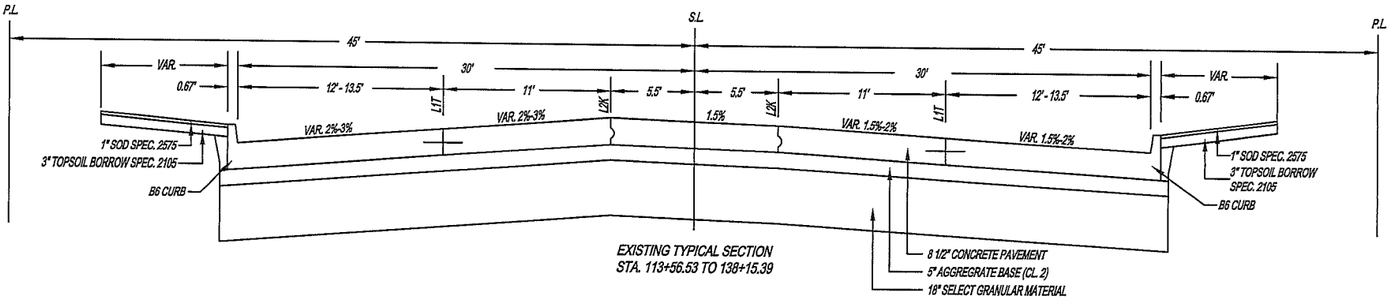
STA. 109+41.3 TO STA. 112+00



EXISTING TYPICAL SECTION
STA. 112+00 TO 113+56.53



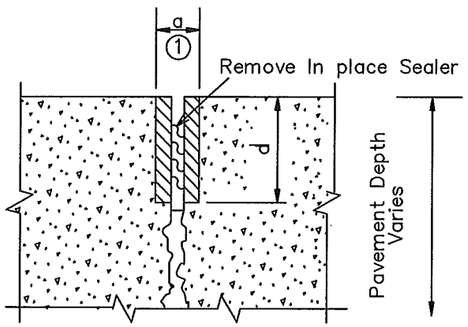
EXISTING TYPICAL SECTION
STA. 113+56.53 TO 138+15.39

S.A.P. No. 159-119-017 Project No. 6204-1-15 J7295 Sheet 3 of 22 Sheets	Designer: CWF Checker: RJK	Title: TYPICAL SECTIONS ON 4TH STREET SE FROM SOUTH BROADWAY TO 5TH AVENUE SE	City of Rochester, Minnesota Department Of Public Works	201 4th Street S.E. Rochester, MN 55904 Phone: (507) 328-2400 FAX: (507) 328-2401	Revision comment: — Revised: — 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. Russell J. Klun Date: 10-14-16 Lic. No. 24687

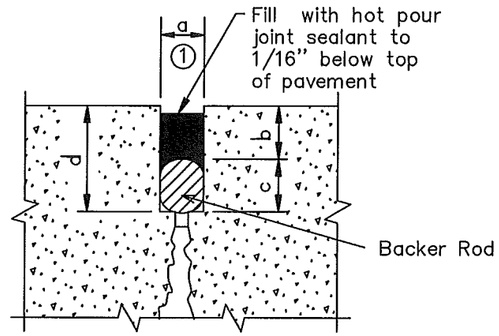
VARIABLE WIDTH JOINT CRACK REPAIR / JOINT REPAIR (TYPE A1)

DESCRIPTION: IN NEWLY CONSTRUCTED REPAIRS OR IN PLACE JOINTS OR CRACKS.
SAW, CLEAN, SEAL TRANSVERSE AND / OR LONGITUDINAL PAVEMENT JOINTS OR CRACKS.

SECTION REMOVAL



SECTION INSTALLATION



AREA TO BE REMOVED BY SAWING, IN PLACE JOINT OR CRACK MAY CONTAIN JOINT SEALER

NOTES

* On roadways with posted speed limits of 45 mph or greater the maximum recommended "a" dimension is 5/8 inch. (1)

JOINT WIDTH (INCHES)	SEALANT BEAD THICKNESS (INCHES)	BACKER ROD DIAMETER (INCHES)	MINIMUM JOINT DEPTH (INCHES)	ESTIMATED QUANTITY	ESTIMATED QUANTITY
a	b	c	d	(ft/gal)	(lb/lf)
1/4	1/4	3/8	11/16	268	0.035
3/8	3/8	1/2	15/16	119	0.079
1/2	1/2	5/8	1-3/16	67	0.140
5/8	5/8	3/4	1-7/16	43	0.219
3/4	3/4	7/8	1-11/16	30	0.316
7/8	7/8	1.0	1-15/16	22	0.430
1.0	1.0	1-1/8	2-3/16	17	0.562
1-1/8	1-1/8	1-1/4	2-7/16	13	0.711
1-1/4	1-1/4	1-3/8	2-11/16	11	0.877

WORK TO BE DONE

1. Remove in place joint sealant, if applicable.
2. Saw both joint faces to configuration shown then immediately water flush the joint or crack.
3. Clean and dry joint or crack by sandblasting and air blasting.
4. Furnish and install backer rod of appropriate diameter in joint or crack opening. Furnish and install backer rod when joints are 1/4" wide or greater.
5. Fill joint or crack with Joint and Crack Sealer (Specification 3725 Hot Poured).
6. To prevent tracking of the Joint and Crack Sealer use tissue paper if necessary.

BASIS OF PAYMENT

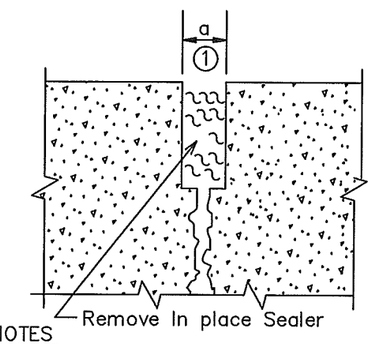
2302 Joint Repair (Type A1) (Lin. Ft.)

DATE: NOV-14-2011

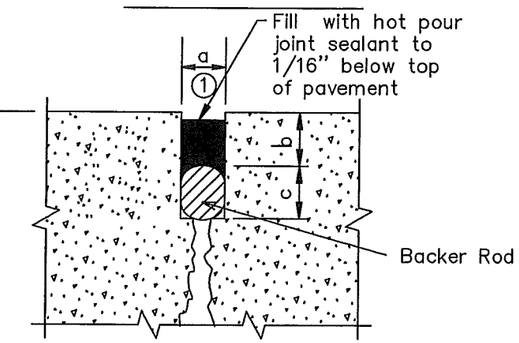
VARIABLE WIDTH IN PLACE JOINT OR CRACK REPAIR / JOINT REPAIR (TYPE A2)

DESCRIPTION: REMOVE IN PLACE JOINT SEALER, CLEAN AND SEAL TRANSVERSE AND / OR LONGITUDINAL PAVEMENT JOINTS OR CRACKS.

SECTION REMOVAL



SECTION INSTALLATION



NOTES

* On roadways with posted speed limits of 45 mph or greater the maximum recommended "a" dimension is 3/4 inch. (1)

JOINT WIDTH (INCHES)	SEALANT BEAD THICKNESS (INCHES)	BACKER ROD DIAMETER (INCHES)	MINIMUM JOINT DEPTH (INCHES)	ESTIMATED QUANTITY	ESTIMATED QUANTITY
a	b	c	d	(ft/gal)	(lb/lf)
1/4	1/4	3/8	11/16	268	0.035
3/8	3/8	1/2	15/16	119	0.079
1/2	1/2	5/8	1-3/16	67	0.140
5/8	5/8	3/4	1-7/16	43	0.219
3/4	3/4	7/8	1-11/16	30	0.316
7/8	7/8	1.0	1 15/16	22	0.430
1.0	1.0	1 1/8	2 3/16	17	0.562
1 1/8	1 1/8	1 1/4	2 7/16	13	0.711
1 1/4	1 1/4	1 3/8	2 11/16	11	0.877

WORK TO BE DONE

1. Remove in place joint sealant, if applicable.
2. Clean and dry joint or crack by sandblasting and air blasting.
3. Furnish and install backer rod of appropriate diameter in joint or crack opening. Furnish and install backer rod when joints are 1/4" wide or greater.
4. Fill joint or crack with Joint and Crack Sealer (Specification 3725 Hot Poured).
5. To prevent tracking of the Joint and Crack Sealer use tissue paper if necessary.

BASIS OF PAYMENT

2302 Joint Repair (Type A2) (Lin. Ft.)

DATE: NOV-14-2011

Revision comment: –
Revision: –

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.
Russell J. Klein Date: 10-14-16 Lic. No. 24667

City of Rochester, Minnesota
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2450
FAX: (507) 328-3401

Title: DETAILS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017 J7295
Project No. 6204-1-15
Sheet 4 of 22 Sheets

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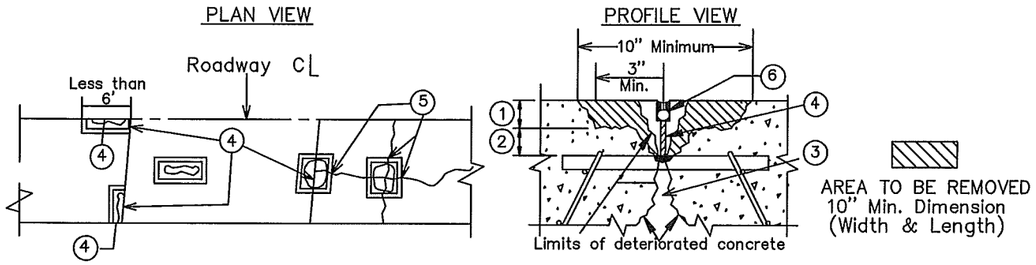
PARTIAL DEPTH REPAIR (TYPE BA)

DESCRIPTION: REMOVE CONCRETE, REESTABLISH JOINTS AND CRACKS, FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS AND CRACKS.



NOTES

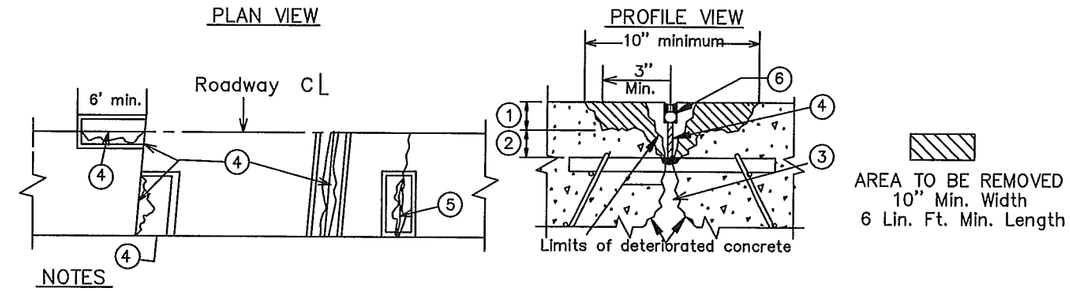
* Joint and crack reestablishment is required. Furnish and install preformed joint filler prior to concrete placement.
* Sawing for the initial joint establishment is not allowed.
* Furnish preformed joint filler of a width equal to the existing transverse joint or crack 1/4" minimum thickness (Standard Spec. 3702). (4) Wax coated cardboard is allowed on cracks that are 1/4" or less in width. (5)
* Chipping hammers are limited to a maximum weight of 35 pounds.

WORK TO BE DONE	BASIS OF PAYMENT
1. Remove all concrete to limits shown in detail, including all unsound concrete by milling and chipping hammers. (2) Taper all sides of the repair 30 – 60° from vertical and to a minimum depth of 2". (1)	
2. If the end of the dowel bar is exposed, remove the dowel.	
3. Clean exposed surface by sandblasting and air blasting.	
4. Place duct tape as a bond breaker on exposed dowel bars.	
5. Provide joint compression relief in the void below the exposed dowel bar by furnishing and placing clean concrete sand level with the top of the dowel bars. 3 ○	2302 Partial Depth Repair (Type BA) (Sq. Ft.)
5A. Provide joint compression relief above the dowel bars by furnishing and installing preformed joint filler. (4)	
AND / OR	
6. Reestablish the crack through the repair by furnishing and installing wax coated cardboard. (5)	
7. Apply bonding grout immediately prior to concrete placement. Re–sandblast and air blast if the bonding grout dries before the concrete is placed.	
8. Furnish & place Concrete Mix Number 3U18. Vibrate, finish to grade and slope, edge addjacent to joint filler, and texture. Seal edges with grout and apply cure.	
9. Saw and seal joints and cracks in accordance with. Joint Repair (Type A1) detail. (6) (Incidental)	

DATE: NOV–14–2011

JOINT AND CRACK REPAIR (TYPE B3)

DESCRIPTION: REMOVE CONCRETE, REESTABLISH JOINTS AND CRACKS, FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS AND CRACKS.



NOTES

* Joint and crack reestablishment is required. Furnish and install preformed joint filler prior to concrete placement.
* Sawing for the initial joint establishment is not allowed when placed over random cracks.
* Furnish preformed joint filler of a width equal to the existing transverse joint or crack 1/4" minimum thickness (Standard Spec. 3702). (4) Wax coated cardboard is allowed on cracks that are 1/4" or less in width. (5)
* Chipping hammers are limited to a maximum weight of 35 pounds.

WORK TO BE DONE	BASIS OF PAYMENT
1. Remove all concrete to limits shown in detail, including all unsound concrete by milling and chipping hammers. (2) Taper all sides of the repair 30 – 60° from vertical and to a minimum depth of 2". (1)	
2. If the end of the dowel bar is exposed, remove the dowel.	
3. Clean exposed surface by sandblasting and air blasting	
4. Place duct tape as a bond breaker on exposed dowel bars.	
5. Provide joint compression relief in the void below the exposed dowel bar by furnishing and placing clean concrete sand level with the top of the dowel bars. 3 ○	2302 Joint and Crack repair (Type B3) (Lin. Ft.)
6. Provide joint compression relief above the dowel bars by furnishing and installing preformed joint filler. (4)	
AND / OR	
6A. Reestablish the crack through the repair by furnishing and installing wax coated cardboard. (5)	
7. Apply bonding grout immediately prior to concrete placement. Re–sandblast and air blast if the bonding grout dries before the concrete is placed.	
8. Furnish & place Concrete Mix Number 3U18. Vibrate, finish to grade and slope, edge addjacent to joint filler, Seal edges with grout and apply cure.	
9. Saw and seal joints and cracks in accordance with. Joint Repair (Type A1) detail. (6) (Incidental)	

DATE: NOV–14–2011

Revision comment: –
Revised: –

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Date: 10-14-16 Lic. No. 24667

City of Rochester, Minnesota
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2450
FAX: (507) 328-2401

Title: DETAILS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 5 of 22 Sheets

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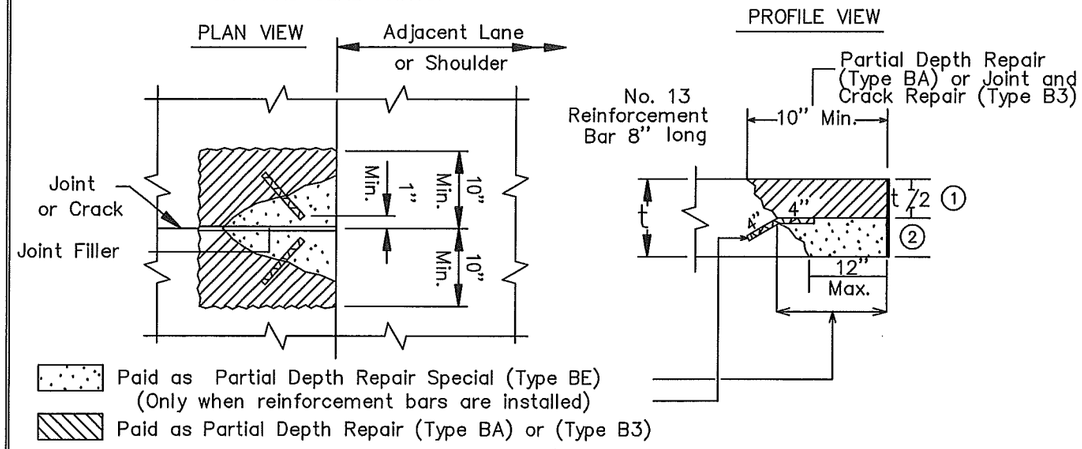
PARTIAL DEPTH REPAIR SPECIAL (TYPE BE)

DESCRIPTION: REMOVE CONCRETE, INSTALL REINFORCEMENT BARS, FURNISH & PLACE CONCRETE, SAW AND SEAL JOINTS.



NOTES

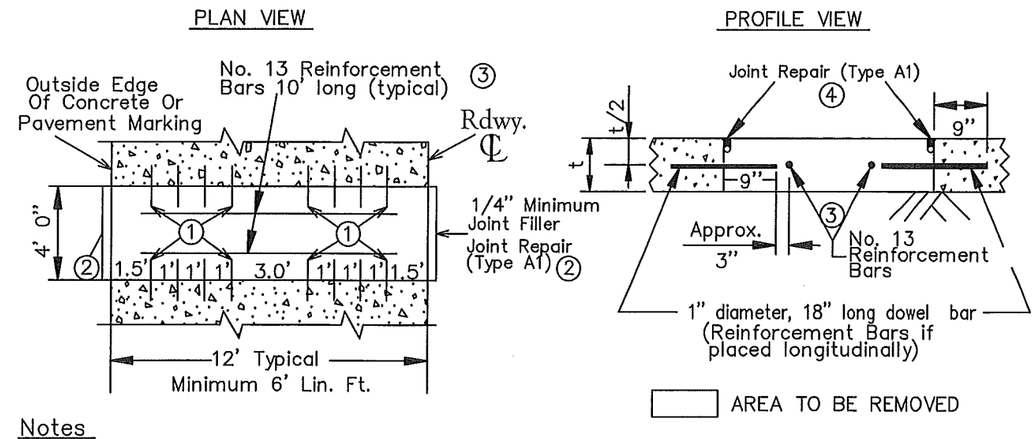
* Do not use this repair in the wheel paths, use the Full Depth Repair (Type CD).
* Joint and crack reestablishment is required. Furnish and install preformed joint filler prior to concrete placement.
* Sawing for the initial joint establishment is not allowed.
* Furnish joint filler in a single piece for the full depth of the repair.
* Furnish preformed joint filler of a width equal to the existing transverse joint or cracks 1/4" minimum thickness (Standard Spec. 3702). Wax coated cardboard is allowed on cracks that are 1/4" or less in width.
* Chipping hammers are limited to a maximum weight of 35 pounds.

WORK TO BE DONE	BASIS OF PAYMENT
1. See Partial Depth Repair (Type BA) or Crack and Joint Repair (Type B3) details for additional information.	2302 Partial Depth Repair (Type BA) (Sq. Ft.) OR 2302 Crack and Joint Repair (Type B3) (Lin. Ft.)
2. Remove all concrete to limits shown in the details, including all unsound concrete. by milling and ① chipping hammers. ② 3. Clean exposed surface by sandblasting and air blasting. 4. Remove in place reinforcement bars and dowel bars as needed. 5. Furnish and install reinforcement bars. 6. Reestablish the crack through the repair by furnishing and installing wax coated cardboard. 7. Apply bonding grout immediately prior to concrete placement. Re-sandblast and air blast if the bonding grout dries before the concrete is placed. 8. Furnish. place, and vibrate Concrete Mix No. 3U18.	2302 Partial Depth Repair Special (Type BE) (Sq. Ft.) (minimum of 1 Sq. Ft)

DATE: NOV-14-2011

FULL DEPTH REPAIR (TYPE CD-HV)

DESCRIPTION: REMOVE CONCRETE, PLACE REINFORCEMENT BARS AND DOWELS, FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS.



Notes

* When repairing random cracks on newly constructed concrete pavements, contact the Concrete Engineering Unit for recommendations.
* When the roadway width is 16' or greater, add an additional set of 4 dowels. Furnish and Install additional dowels at mid point of the roadway.
* This repair is also used on tied longitudinal joints (2' on each side of the joint). Replace dowels with 18" long No. 13 epoxy coated reinforcement bars. Furnish and install reinforcement bars (epoxy coated) at 2' Centers. Install 1/2" joint filler at the up and down stream ends of the longitudinal repair. ②
* If repair is placed over an existing skewed contraction joint, match existing contraction joint skew, unless otherwise allowed by the Engineer.

WORK TO BE DONE	BASIS OF PAYMENT
1. Saw cut to full depth and remove concrete pavement. Restore and compact in place base. 2. Drill in place concrete for dowels or epoxy coated reinforcement bars (long. repairs). ① 3. Furnish and install dowels or reinforcement bars Secure the dowel bars or reinforcement bars to the in place concrete by using an approved non shrink grout or epoxy. ① Coat free end of dowel bars with a form coating material meeting Spec. 3902. 4. Clean the vertical surfaces of the in place concrete. 5. Furnish and install joint filler. ② 6. Furnish and place Concrete Mix Number 3A32. 7. Furnish and install reinforcement bars in plastic concrete, 3" from end of dowel bar at mid depth. ③ 8. Vibrate, finish to grade and slope, edge, texture, and apply cure. 9. Saw and seal joints in accordance with Joint Repair (Type A1) detail. ② ④ (Incidental)	2302 Full Depth Repair (Type CD-HV) (Lin. Ft.)

DATE: NOV-14-2011

Revision comment: –
Revision: –

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. Date: 10-14-16 Lic. No. 24967

City of Rochester, Minnesota
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2450
FAX: (507) 328-2401

Title: DETAILS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017 J7295
Project No. 6204-1-15
Sheet 6 of 22 Sheets

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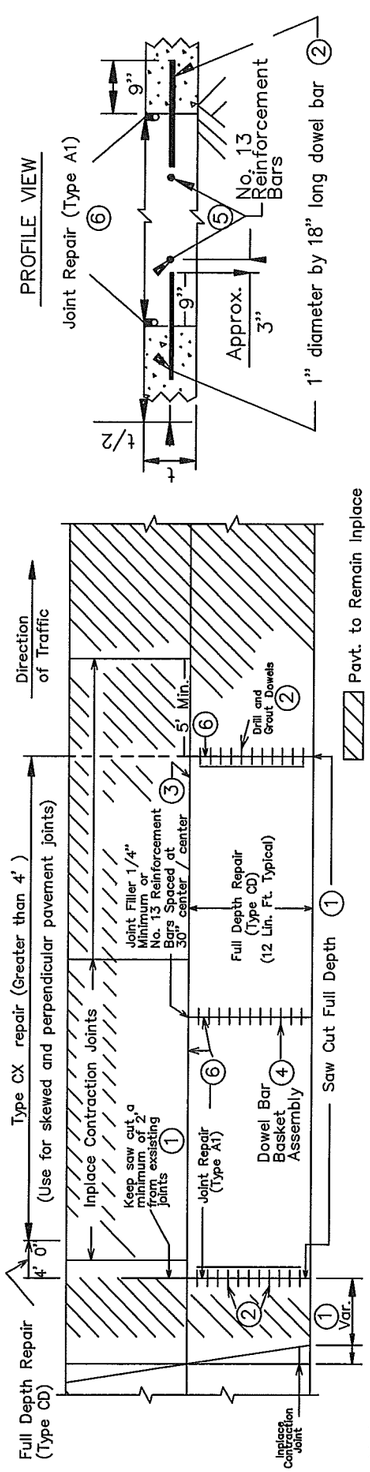
PAVEMENT REPLACEMENT (TYPE CX)

DESCRIPTION: REMOVE CONCRETE, RESTORE AND COMPACT BASE, PLACE DOWELS AND REINFORCEMENT BARS, FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS.



Notes

* Place saw cut at least 2' up stream or 5' down stream from any transvers joints in the adjacent lane.
* Dowel bar basket required when length of the repair exceeds 15'. On longer repairs place dowel bar baskets at 15' C. to C. ④

WORK TO BE DONE

1. See Full Depth Repair (Type CD) for additional information.
2. Saw full depth & remove in place concrete pavement. Restore and compact in place base. 1 ②
3. Drill in place concrete for dowel bars. Eliminate inside 5 dowels for (Type CD–LV) repairs
4. Furnish and install dowels. Secure dowels to the in place concrete with a approved non shrink grout or epoxy bonding agent. 2 ◯ Coat free end of dowels with a form coating material meeting Spec. 3902.
5. If matching the in place transverse joints, drill and grout reinforcement bars into the adjacent lane. Drill and grout reinforcement bars not require if repair length is under 75'. ③
5a. If isolating the in place transverse joints from the pavement replacement, furnish and install 1/4" joint filler between the adjacent lane and the repair. 3 ◯
6. Place dowel bar basket assemblies as needed. 4 ◯
7. Clean vertical surfaces of in place concrete.
8. Place reinforcing bars over culverts as needed, See Standard Plate 1070.
9. Furnish and place Concrete Mix Number 3A32.
10. Furnish and install reinforcement bars in plastic concrete, 3" from end of dowel bar at mid-depth. ⑤
11. Vibrate, finish to grade and slope, edge, texture, and apply cure.
12. Green saw joints over dowel bar baskets. 4 ◯
13. Saw and seal joints in accordance with Joint Repair (Type A1) detail. ⑥ (Incidental)

BASIS OF PAYMENT

2302 Full Depth Repair (Type CD) (Lin.Ft.)
2302 Drill and Grout Reinforcement Bars (Epoxy Coated) (Each)
2302 Dowel Bar (Each)
2302 Supplemental Reinforcement Bars (Epoxy Coated) (Pound)
2302 Pavement Replacement (Type CX) (Sq. Yd.)

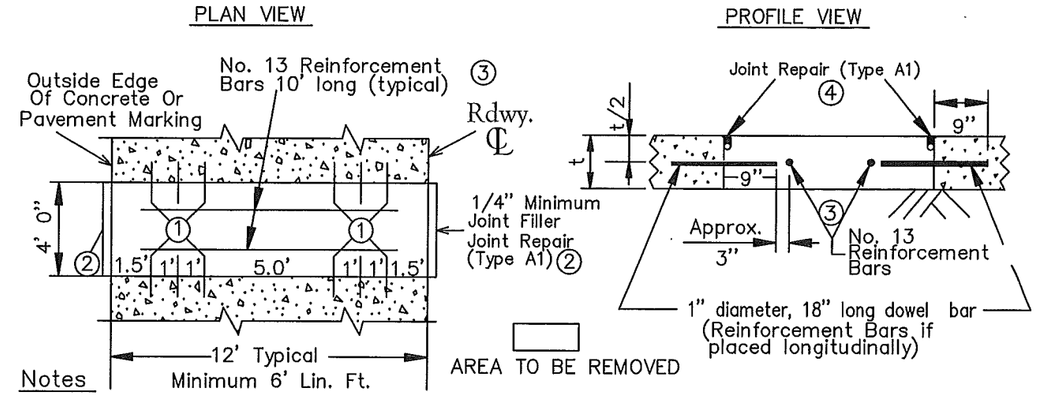
DATE: NOV–01–2012

S.P. NO.

SHEET OF SHEETS

FULL DEPTH REPAIR (TYPE CD–LV)

DESCRIPTION: REMOVE CONCRETE, PLACE REINFORCEMENT BARS AND DOWELS, FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS.



Notes

* When repairing random cracks on newly constructed concrete pavements, contact the Concrete Engineering Unit for recommendations.
* When the roadway width is 16' or greater, add an additional set of 4 dowels. Install additional dowels at mid point of the roadway.
* This repair is also used on tied longitudinal joints (2' on each side of the joint). Replace dowels with 18" long No. 13 epoxy coated reinforcement bars. Furnish and install reinforcement bars (epoxy coated) at 2' Centers. Install 1/2" joint filler at the up and down stream ends of the longitudinal repair. ②
* If repair is placed over an existing skewed contraction joint, match existing contraction joint skew, unless otherwise allowed by the Engineer.

WORK TO BE DONE

1. Saw cut to full depth and remove concrete pavement. Restore and compact in place base.
2. Drill in place concrete for dowels or epoxy coated reinforcement bars (long. repairs). ①
3. Furnish and install dowels or reinforcement bars Secure the dowel bars or reinforcement bars to the in place concrete by using an approved non shrink grout or epoxy. ① Coat free end of dowel bars with a form coating material meeting Spec. 3902.
4. Clean the vertical surfaces of the in place concrete.
5. Furnish and install joint filler. ②
6. Furnish and place Concrete Mix Number 3A32.
7. Furnish and install reinforcement bars in plastic concrete, 3" from end of dowel bar at mid depth. ③
8. Vibrate, finish to grade and slope, edge, texture, and apply cure.
9. Saw and seal joints in accordance with Joint Repair (Type A1) detail. ② ④ (Incidental)

BASIS OF PAYMENT

2302 Full Depth Repair (Type CD–LV) (Lin. Ft.)

DATE: NOV–14–2011

Revision comment: –
Revised: –

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Date: 10-14-16 Lic. No. 24667

City of Rochester, Minnesota
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Phone: (507) 328-2430
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Title: DETAILS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 6TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 7 of 22 Sheets

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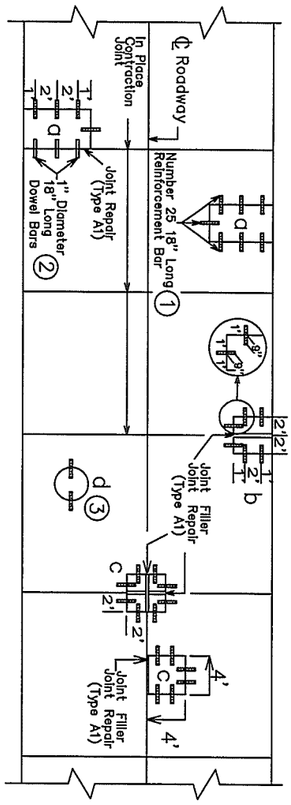
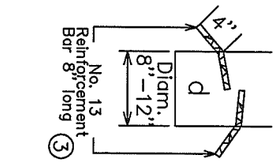
SPOT FULL DEPTH REPAIR TYPE (C1–LV)

DESCRIPTION: SAW CONCRETE, REMOVE CONCRETE, PLACE REINFORCING AND DOWELS AS REQUIRED. FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS.

PLAN VIEW



SECTION



AREA TO BE REMOVED

Repair Dimensions

a) Exterior Edge, 3' 6" x 6' min. for a one half lane repair.
b) Exterior edge at a joint location, 4' x 4' min. size.
c) Interior edge at centerline, 4' x 4' min. size.
d) Gas line or exploratory core hole 4" diameter minimum size and 12" diameter maximum size.

WORK TO BE DONE

1. Saw cut to full depth and remove concrete pavement. Restore and compact in place base.
2. Drill in place concrete at 2' C. to C.: for No. 25 epoxy coated reinforcement bars, ① 1" dowel bars ② or, No. 13 epoxy coated reinforcement bars. ③
3. Furnish and install epoxy coated reinforcement bars or dowel bars. Secure the reinforcement bars or dowel bars to the in place concrete by using an approved non shrink grout or epoxy. Coat free end of dowel bars with a form coating material meeting Specification 3902.
4. Clean the vertical surfaces of the in place concrete.
5. Furnish and install joint filler.
6. Furnish and place Concrete Mix Number 3A32 or furnish and place 3U18 for core hole "d" repairs.
7. Vibrate, finish to grade and slope, edge, texture, and apply cure.
8. Saw and seal joints in accordance with Joint Repair (Type A1) detail. (Incidental)

BASIS OF PAYMENT

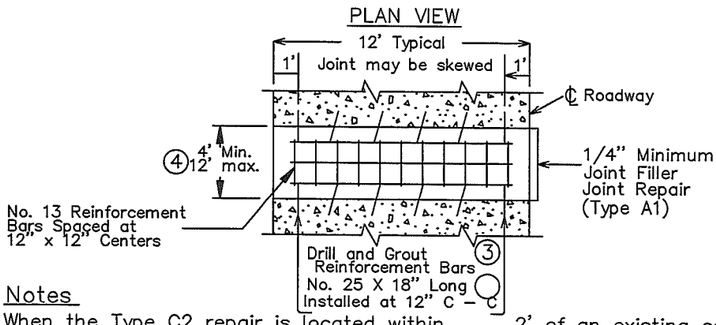
2302 Spot Full Depth Repair (Type C1–LV) (Sq. Ft.)

DATE: NOV–14–2011

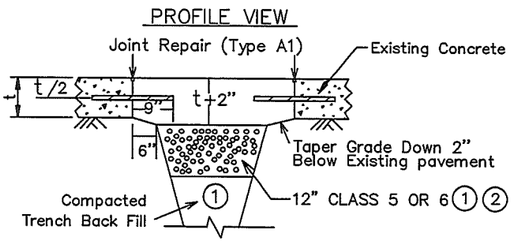
UTILITY TRENCH FULL DEPTH REPAIR (TYPE C2–LV)

DESCRIPTION: SAW FULL DEPTH AND REMOVE CONCRETE, FURNISH AND INSTALL REINFORCEMENT BARS, FURNISH AND PLACE CONCRETE, SAW OR FORM JOINTS, SAW AND SEAL JOINTS.

PLAN VIEW



PROFILE VIEW



AREA TO BE REMOVED 12" CLASS 5 OR 6

Notes

* When the Type C2 repair is located within 2' of an existing contraction joint, widen the Type C2 repair as needed to remove the existing contraction joint. When a contraction joint is removed, replace the No. 25 reinforcement bars with 1" diameter dowels bars. Drill and grout dowels in accordance with the Full Depth Repair (Type CD–LV or CD–HV).
* Check the plan for method of compaction. If a method of compaction is not stated in the plans use the quality compaction method in accordance with MN/DOT Specification 2105. ①
* Construct Class 5 or 6 aggregate base in accordance with MN/DOT Specification 2211. Class 5 or 6 aggregate is incidental to the Utility Trench Full Depth Repair (Type C2). ②
* Furnish and installed No. 25 reinforcement bars either straight or skewed at 20. ° ③
* When the length of the repair exceeds 12', Contact the Concrete Engineering Unit for recommendations. ④

WORK TO BE DONE

1. Saw cut full depth and remove concrete pavement.
2. Excavate utility trench, back fill utility trench with in situ soils. Back fill trench to 14" below the bottom of existing pavement.
3. Furnish and place 12" class 5 or 6 aggregate base.
4. Drill in place concrete for No. 25 epoxy coated reinforcement bars.
5. Furnish and install epoxy coated reinforcement bars. Secure the reinforcement bars to the in place concrete with an approved non – shrink grout or epoxy bonding agent.
6. Furnish and install preformed joint filler.
7. Furnish and install No. 13 epoxy coated reinforcement bars spaced at 12" C to C.
8. Furnish & place Concrete Mix Number 3A32. Vibrate, finish to grade and slope, edge forms and joint filler, apply texture and cure.
9. Saw and seal joints in accordance with Joint Repair (Type A1) detail. (Incidental)

BASIS OF PAYMENT

2302 Utility Trench Full Depth Repair (Type C2) (Sq. Yd.)

S.P. NO. DATE: NOV–14–2011 SHEET OF SHEETS

Revision comment: –
Revised: –

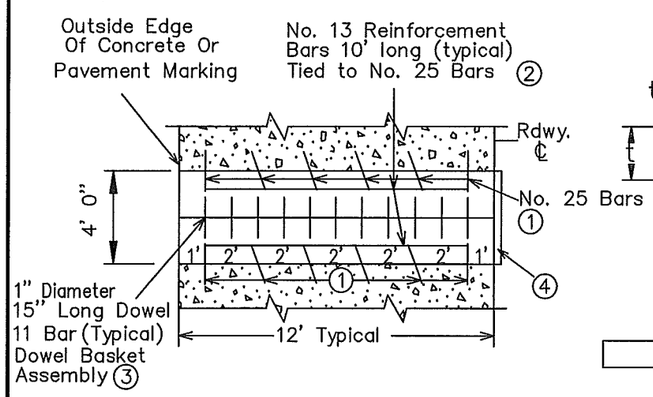
S.A.P. No. 159-119-017 Project No. 6204-1-15 J7295 Sheet 8 of 22 Sheets	Designer: CWF Checker: RJK	Title: DETAILS FOR CONCRETE PAVEMENT REHIBLITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE	City of Rochester, Minnesota 201 4th Street S.E. Rochester, MN 55904 Phone: (507) 328-2450 FAX: (507) 328-2401

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.
Russell J. Klun Date: 10-14-16 Lic. No. 24667

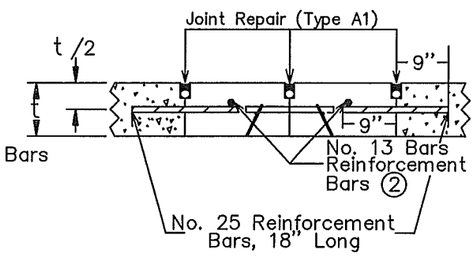
FULL DEPTH REPAIR (TYPE CA–LV)

DESCRIPTION: SAW CONCRETE, REMOVE CONCRETE. PLACE REINFORCING AND DOWELS BAR ASSEMBLY, FURNISH AND PLACE CONCRETE, SAW AND SEAL JOINTS.

PLAN VIEW



PROFILE VIEW



AREA TO BE REMOVED
Minimum dimension – 1 lane wide

Notes

* The Contractor may use the Full Depth Repair (Type CD–LV) in lieu of the Full Depth Repair (Type CA–LV).
* The No. 25 reinforcement bars maybe skewed at 20° or straight at the discretion of the Contractor. ①
* For skewed repairs, eliminate a tie bar at centerline edge with acute angle.

WORK TO BE DONE

1. Saw cut to full depth and remove concrete pavement. Restore and compact in place base.
2. Drill in place concrete at 2' Cto C for No. 25 epoxy coated reinforcement bars. ①
3. Furnish and install epoxy coated reinforcement bars Secure the reinforcement bars to the in place concrete by using an approved non shrink grout or epoxy. ①
4. Furnish and install reinforcement bars tied to No. 25 bars. ②
5. Furnish and install 1" diameter by 15" long dowel bar basket. Coat dowel bars with a form coating material meeting Spec. 3902 ③
6. Furnish and install joint filler. ④
7. Furnish and place Concrete Mix Number 3A32. Vibrate, finish to grade, slope, edge, texture, and apply cure.
8. Saw and seal joints in accordance with Joint Repair (Type A1) detail. (Incidental)

BASIS OF PAYMENT

2302 Full Depth Repair (Type CA–LV), (lin. ft.)

DATE: NOV–14–2011

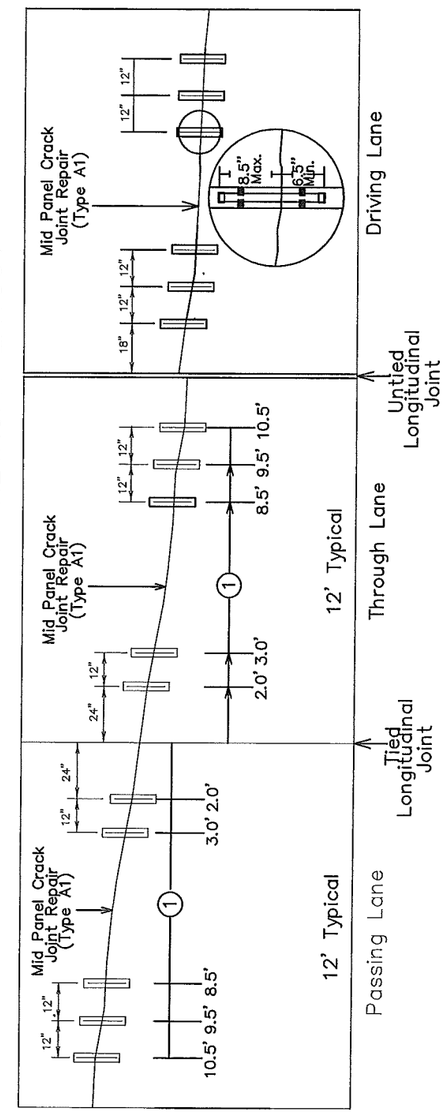
DOWEL BAR RETROFIT

DESCRIPTION: THIS REPAIR IS INTENDED TO BE USED TO ESTABLISH/RESTORE LOAD TRANSFER AT TRANSVERSE JOINTS OR CRACKS.

Sheet 1 of 2

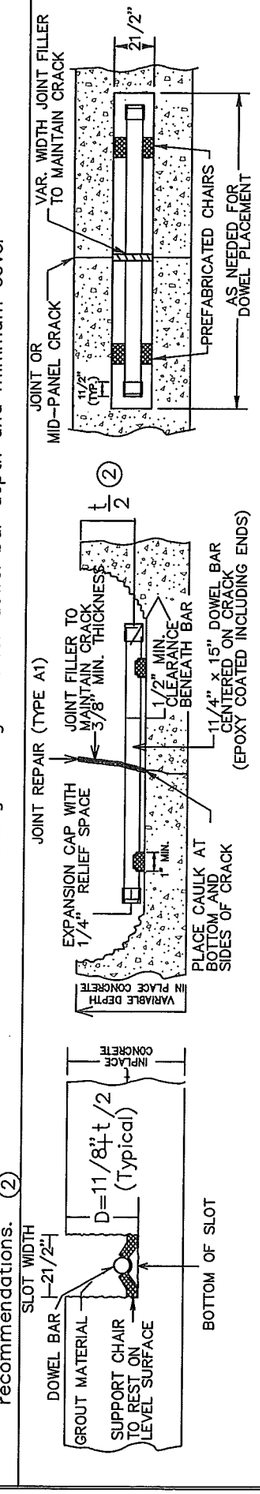
TYPICAL DOWEL BAR RETROFIT LAYOUT

PLAN VIEW



Notes:

* Not recommended for cracks that are 3/4" or greater in width, use Full Depth Repair (Type CD)
* Chipping hammers are limited to a maximum weight of 35 pounds.
* Move retrofit dowels as needed to avoid in place dowel bars. ①
* Always measure from the roadway center line for dowel bar offsets.
* For pavements of 8" or under contact the Concrete Engineering Unit for dowel bar depth and minimum cover recommendations. ②



DATE: NOV–14–2011

Revision comment: –
Revised: –

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.
Russell J. Klus Date: 10-14-16 Lic. No. 24667

City of Rochester, Minnesota
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2409
FAX: (507) 328-2401

Title: DETAILS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 9 of 22 Sheets

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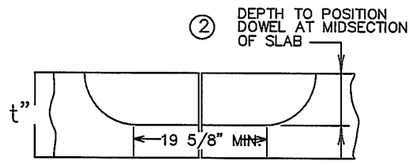
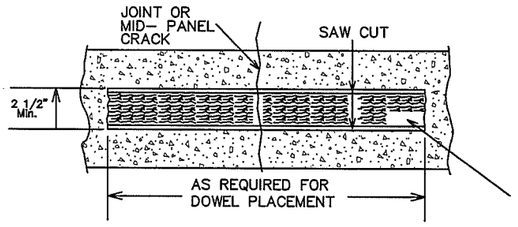
DOWEL BAR RETROFIT DETAILS
Sheet 2 of 2

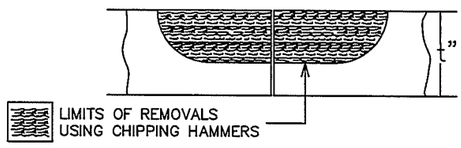
STEP 1
SAW SLOT FOR EACH DOWEL BAR.
(AVOID IN– PLACE DOWEL BARS)



STEP 1 AND 2
PLAN VIEW



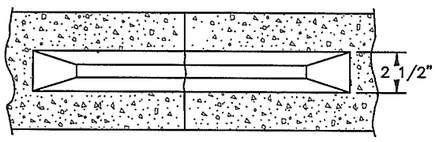
STEP 2
REMOVE CONCRETE BETWEEN SAW CUTS, INCLUDING CONCRETE TO FORM KERF.



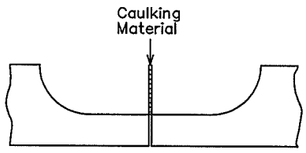
STEP 3
CLEAN EXPOSED SURFACES INSIDE THE SLOT BY SANDBLASTING, AIR BLASTING, AND VACUUM.

NOTE

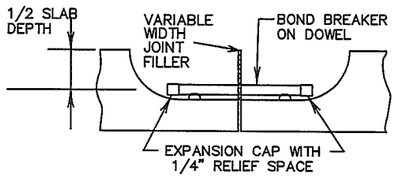
CONTINUE TO SANDBLAST UNTIL THE VERTICAL SIDES ARE ROUGH TO THE TOUCH.



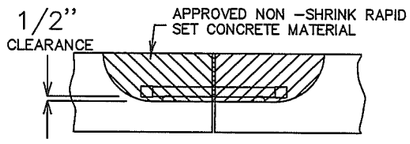
STEP 4
TO KEEP THE PATCHING MATERIAL FROM LEAKING INTO THE JOINT OR CRACK. SEAL THE CRACK WITHIN THE SLOT WITH CAULKING MATERIAL. PLACE THE JOINT FILLER IN CONJUNCTION WITH THE CRACK SEALER.



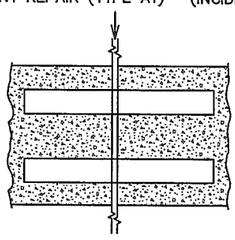
STEP 5
FURNISH AND INSTALL DOWEL BARS ALIGN DOWELS PARALLEL WITH THE PAVEMENT SURFACE AND CENTERLINE OF THE ROADWAY. FURNISH AND INSTALL JOINT FILLER TO MAINTAIN CRACK THROUGH THE SLOT.



STEP 6
MOISTEN INSIDE OF SLOT WITH WATER.
(STANDING WATER IS NOT ALLOWED)
FURNISH AND PLACE APPROVED NON –SHRINK RAPID SET CONCRETE MATERIAL FOR DOWEL BAR RETROFIT REPAIRS, AND APPLY CURE.
(EDGING ONLY REQUIRED ALONG THE JOINT FILLER)



STEP 7
SAW AND SEAL THE JOINT OR CRACK THE ENTIRE ENTIRE WIDTH OF THE LANE IN ACCORDANCE WITH WITH JOINT REPAIR (TYPE A1) (INCIDENTAL)



BASIS OF PAYMENT

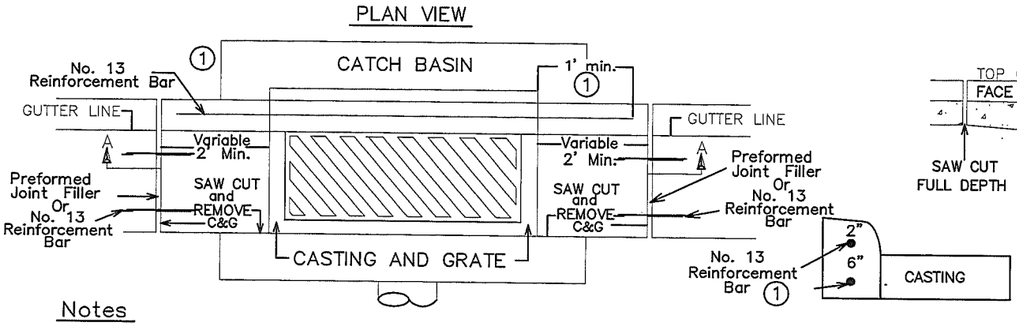
2302 RETROFIT DOWEL BAR (EACH)

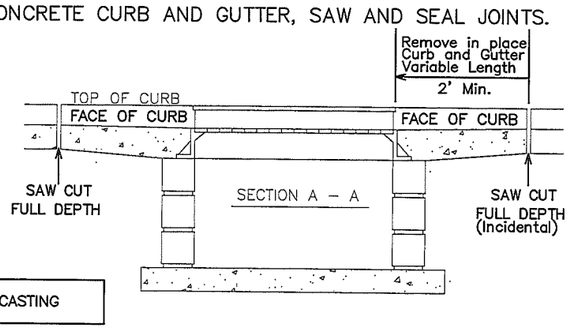
DATE: NOV–14–2011

CATCH BASIN REPAIR

DESCRIPTION: SAW AND REMOVE IN PLACE CURB AND GUTTER, RESTORE AND COMPACT BASE, DRILL AND GROUT REINFORCEMENT BARS ADJUST FRAME OR RING CASTINGS, PLACE FORMS FOR CURB AND GUTTER, PLACE CONCRETE CURB AND GUTTER, SAW AND SEAL JOINTS.

PLAN VIEW





Notes

* This detail is intended to fix sunken catch basins and the adjacent curb and gutter.
* If the existing curb is integral with the concrete pavement, saw pavement full depth parallel to the curb face and at a offset distance equal to or greater than the width of the casting.
* If concrete curb extends in back off the casting. Place 2 No. 13 reinforcement bars behind the casting. Extend reinforcement bars at least 1' foot beyond the limits of the casting. 1

WORK TO BE DONE

1. Define curb and gutter for removal. Remove any low spots that do not have positive flow into the catch basin.
2. Saw cut curb and gutter full depth. (Incidental)
3. Remove the in place curb and gutter. Do not damage the casting assembly during curb and gutter removals.
4. Salvage casting, remove deteriorated rings, add adjusting rings as needed, set casting, grout rings and casting.
5. When the existing pavement is concrete, drill and grout No. 13 reinforcement bars, 18" long, installed at 2' centers and placed 9" into existing concrete pavement.
6. Compact in place base and set forms for curb and gutter.
7. Furnish and place Concrete Mix Number 3A32.
8. Vibrate, finish to grade and slope, edge, texture, and apply cure.
9. Saw and seal longitudinal joints in accordance with Joint Repair (Type A1). (Incidental)

BASIS OF PAYMENT

2104	Remove Curb and Gutter (Lin. Foot)
2506	Adjust Frame or Ring Casting (Each)
2302	Drill and Grout Reinforcement Bars (Epoxy Coated)(Each)
2531	Concrete Curb and Gutter, Design _____ (Lin. Foot)

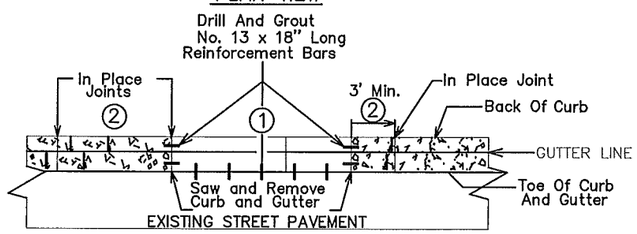
DATE: NOV–14–2011

S.A.P. No. 159-119-017 Project No. 6204-1-15 J7295 Sheet 10 of 22 Sheets	Designer: CWF Checker: RJK	Title: DETAILS FOR CONCRETE PAVEMENT REHIBLITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE	City of Rochester, Minnesota	201 4th Street S.E. Rochester, MN 55904 Phone: (507) 328-2450 FAX: (507) 328-2401	Revision comment: — Revised: — 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. Russell A. Klun Date: 10-14-16 Lic. No. 24667

CURB AND GUTTER REPAIR

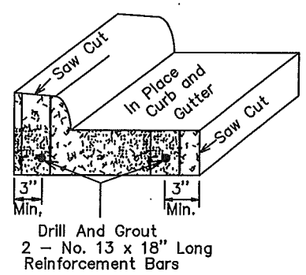
DESCRIPTION: REMOVE CONCRETE. RESTORE BASE. PLACE REINFORCING STEEL. FURNISH AND PLACE CONCRETE. REFORM JOINTS AS NECESSARY.

PLAN VIEW



AREA TO BE REMOVED

CROSS SECTION VIEW



Notes

* When the existing pavement is concrete, drill and grout reinforcement bars at 30" C to C. (1)
* Locate saw cut to leave a minimum of 3' of in place curb and gutter between an existing joint and the proposed saw cut. If the 3' minimum can not be maintained, place the saw cut over the existing joint. (2)

WORK TO BE DONE

1. Saw cut curb and gutter full depth. (Incidental)
2. Remove curb and gutter, restore and compact in place base.

— 2104 Remove Concrete Curb and Gutter (Lin. Ft.)

3. Drill in place concrete pavement and curb and gutter for No. 13 epoxy coated reinforcement bars.
4. Furnish and install epoxy coated reinforcement bars. Secure the reinforcement bars to the in place concrete by using an approved non shrink grout or epoxy bonding agent.

— 2302 Drill and Grout Reinforcement Bars (Epoxy Coated) (Each)

5. Clean the vertical surfaces of the in place concrete.
6. Furnish and place Concrete Mix Number 3A32.
7. Vibrate, finish to grade and slope, edge, texture, and apply cure.
8. Restore joints by green sawing or hand tooling the plastic concrete to match the in place joint pattern.

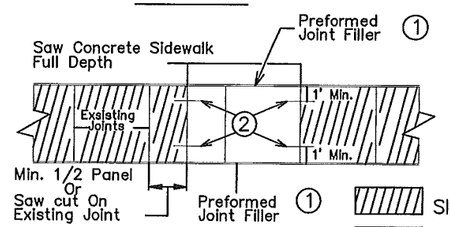
— 2531 Concrete Curb and Gutter, Design _____ (Lin. Ft.)

DATE: NOV–14–2011

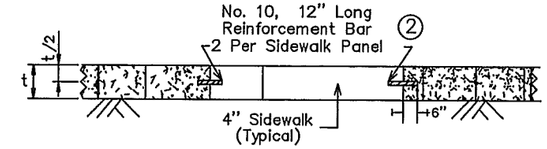
REPAIR SIDEWALK OR MEDIAN WALK

DESCRIPTION: REMOVE CONCRETE. RESTORE BASE. PLACE REINFORCING STEEL. FURNISH AND PLACE CONCRETE. REFORM JOINTS AS NECESSARY.

PLAN VIEW



PROFILE VIEW



SIDEWALK TO REMAIN IN PLACE

SIDEWALK TO BE REMOVED

Notes

* Place preformed joint filler when sidewalk is placed adjacent to concrete curb and gutter. See Standard Plate 7035 for further information on joint filler placement and joint layout. (1)
* Where the sidewalk doubles as a driveway, place 6" Concrete Driveway Pavement for private driveways or 8" Conctete Driveway Pavement for commercial driveways. See Standard Plate 7035 for further information.

WORK TO BE DONE

1. Saw cut concrete walk full depth. (Incidental)
2. Remove concrete sidewalk, restore and compact in place base.

— 2104 Remove Sidewalk (Sq. Ft.)

3. Drill in place concrete sidewalk for No. 10 epoxy coated reinforcement bars.
4. Furnish and install two epoxy coated reinforcement bars at each end of the removal area. Secure the reinforcement bars to the in place concrete by using an approved non shrink grout or epoxy bonding agent. (2)

— 2302 Drill and Grout Reinforcement Bars (Epoxy Coated) (Each)

5. Clean the vertical surfaces of the in place concrete.
6. Furnish and install joint filler.
7. Furnish and place Concrete Mix Number 3A32.
8. Vibrate, finish to grade and slope, edge, texture, and apply cure.
9. Restore joints by green sawing or hand tooling the plastic concrete to match the in place joint pattern.

— 2521_____ inch Concrete Walk (Sq. Ft.)

And / Or

2531_____ inch Concrete Driveway Pavement (Sq. Yd.)

DATE: NOV–14–2011

BASIS OF PAYMENT

Revision comment: –
Revised: –

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.
Russell A. Klein Date: 10-14-16 Lic. No. 24997

City of Rochester, Minnesota
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2450
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Title: DETAILS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 11 of 22 Sheets

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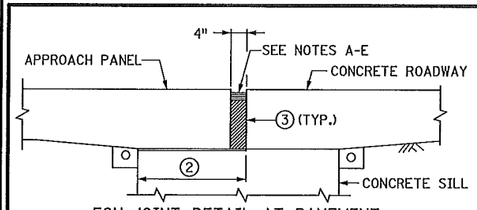
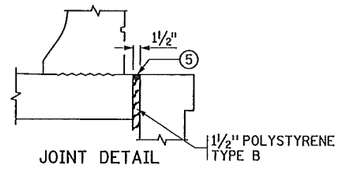
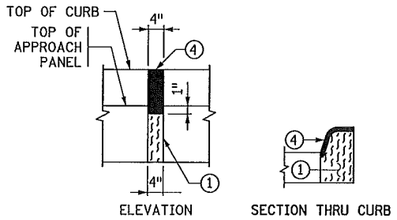
EXPANSION JOINTS



E8H JOINT DETAIL AT PAVEMENT

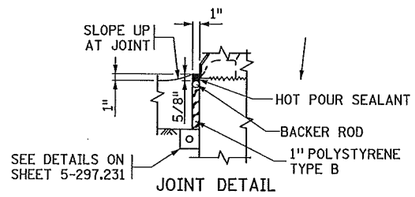


JOINT DETAIL
(CONCRETE BARRIER ON APPROACH PANEL)



ELEVATION SECTION THRU CURB

E8H JOINT AT CURB



JOINT DETAIL
(CONCRETE BARRIER ON WINGWALL)

EXPANSION JOINT NOTES:

① PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.

② PLACE PLASTIC SHEETING SPEC. 3756 AS APPROVED BY THE ENGINEER TO BREAK BOND. COVER AREA SHOWN IN DETAIL. SEE SILL DETAILS ON STANDARD PLAN 5-297.227.

③ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING PRIOR TO SEALING THE JOINT.

④ HOT POUR JOINT SEALER SPEC. 3725. TOP OF SEALER FLUSH TO 1/8 INCH BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION E8H JOINTS FLUSH WITH SURFACE (+ 1/8 INCH OR - 1/8 INCH).

⑤ SEAL WITH SELF-LEVELING SILICONE PER MNDOT 3722.

E8H PRESSURE RELIEF JOINT MATERIAL INSTALLATION INSTRUCTIONS:

SEE MNDOT APPROVED/QUALIFIED PRODUCTS LIST.

FURNISH AND INSTALL JOINT MATERIAL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE FOLLOWING:

(A) EXPANSION JOINT FILLER MATERIALS USED FOR A 4 INCH PRESSURE RELIEF JOINT CONSISTS OF A PREFORMED FOAM PRODUCT HAVING MINIMUM DIMENSIONS OF 4.5 INCHES IN WIDTH (MAY BE LAMINATED) AND 8 INCHES IN DEPTH, AND A MINIMUM LENGTH OF 10 FEET. WHEN THE CONCRETE DEPTH IS GREATER THAN THE DEPTH OF THE PRESSURE RELIEF MATERIAL, FILL THE VOID BELOW THE MATERIAL WITH POLYSTYRENE. FURNISH AND INSTALL THE JOINT MATERIAL UNDER COMPRESSION WITH A LUBRICANT ADHESIVE APPLIED TO THE CONCRETE CONTACT SURFACES.

(B) SAW OR FORM THE JOINTS 4 INCHES WIDE BY THE FULL-DEPTH OF THE PANEL. INSPECT TO ASSURE THAT THE INSIDE WALLS OF THE JOINT HAVE BEEN SANDBLASTED, ARE DRY, SMOOTH AND FREE OF DEBRIS AND LOOSE PARTICLES. APPLY TAPE TO THE TOP 1 INCH OF THE INSIDE WALLS TO PREVENT THE LUBRICANT ADHESIVE FROM CONTAMINATING THE CONCRETE BONDING SURFACES OF THE SUBSEQUENTLY PLACED HOT POUR JOINT SEALER.

(C) PAINT THE INSIDE WALLS OF THE JOINT WITH LUBRICANT ADHESIVE AT THE RATE OF 1 GALLON PER 50 LINEAL FEET OF JOINT.

(D) PINCH THE BOTTOM OF THE MATERIAL TOGETHER AND PUSH IT DOWN INTO THE JOINT. WALK THE MATERIAL DOWN INTO THE JOINT; USE A SLEDGEHAMMER AND A 2 X 4 IF NECESSARY. APPLY LUBRICANT ADHESIVE TO THE ENDS OF THE PREFORMED FOAM MATERIAL WHEN BUTTING TWO PIECES TOGETHER.

(E) FURNISH AND INSTALL THE FOAM RELIEF JOINT MATERIAL TO A DEPTH OF APPROXIMATELY 7/8 INCH BELOW THE FINISHED CONCRETE SURFACE. AFTER INSTALLATION, REMOVE THE TAPE AND FILL THE VOID ON TOP OF THE FOAM MATERIAL WITH APPROXIMATELY 1/2 INCH OF HOT POUR JOINT SEALER (MNDOT 3723 OR 3725) TO A LEVEL OF 3/8 INCH +/- 1/4 INCH BELOW THE FINISHED CONCRETE SURFACE. THE HOT POUR JOINT SEALER SHOULD ONLY SLIGHTLY MELT INTO THE FOAM JOINT MATERIAL (TO PREVENT EXCESSIVE MELTING OF THE JOINT MATERIAL, PLACE THE HOT POUR SEALER AT THE LOWER END OF THE TEMPERATURE SPECIFICATION). CHECK FOR CORRECT TEMPERATURE BY PLACING HOT POUR SEALER ON A SAMPLE OF WASTE FOAM MATERIAL.

SIDEWALK COVER PLATE

GENERAL NOTES:

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION PER Mn/DOT SPEC. 3394
GALVANIZE FASTENERS PER Mn/DOT SPEC.3392.

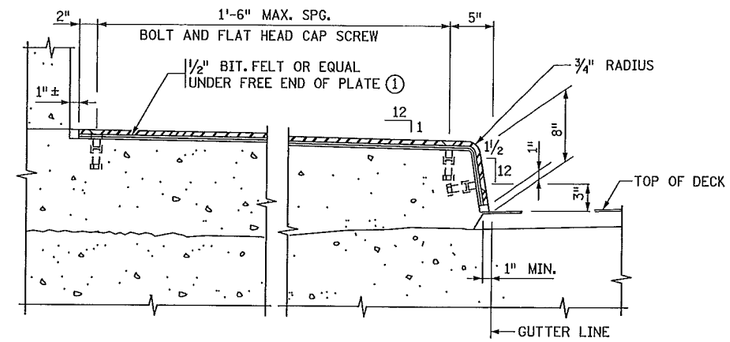
STRUCTURAL STEEL SHALL COMPLY WITH Mn/DOT SPEC. 3306 OR Mn/DOT SPEC. 3309.

SHOP DRAWING SUBMITTALS REQUIRED PER Mn/DOT SPEC. 2471.

CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF PLATE.

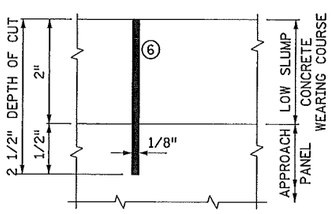
FURNISHING AND INSTALLING SIDEWALK COVER PLATE IS INCIDENTAL.

① USE LARGEST SINGLE PIECE POSSIBLE. USE OF SMALL PIECES OR SCRAPS SECURED TOGETHER IS PROHIBITED.

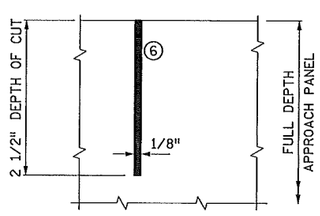


SECTION THROUGH SIDEWALK

JOINT DETAILS



C2H & L1TH WITH CONCRETE WEARING COURSE ⑥
(SAWED & SEALED PER SPEC. 3725)



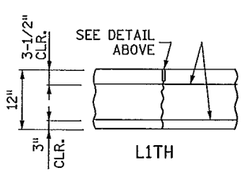
C2H & L1TH WITHOUT CONCRETE WEARING COURSE ⑥
(SAWED & SEALED PER SPEC. 3725)

JOINT NOTES:

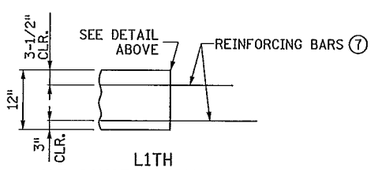
⑤ PERMISSIBLE CONSTRUCTION JOINT. AP616E BARS AT 12-INCH SPACING AT MID DEPTH OF SLAB, PARALLEL TO THE CENTERLINE OF THE ROADWAY. AP616E BARS ARE 5'-0" LONG. PLACE THE BAR WITH 2'-0" ON ONE SIDE OF THE JOINT AND 3'-0" ON THE OPPOSITE SIDE OF THE JOINT. ALTERNATE THE 2'-0" AND 3'-0" DIMENSION AS SHOWN ON THE PLAN.

⑥ CLEAN AND DRY FULLY CURED JOINT FACES BY SANDBLASTING PRIOR TO SEALING THE JOINT.

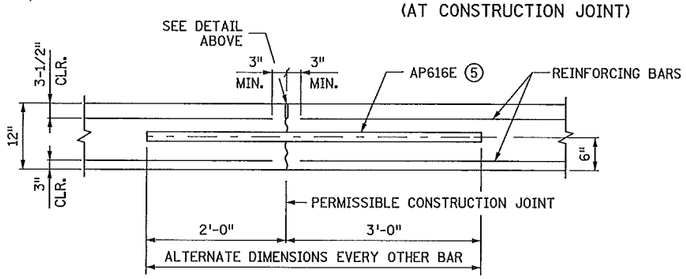
⑦ WHEN CONSTRUCTING A L1TH JOINT UNDER STAGED CONSTRUCTION, EXTEND NO. 4 BARS 1'-8" AND NO. 5 BARS 2'-1" PAST THE EDGE OF THE FIRST CONCRETE POUR. CONSTRUCT L1TH JOINT ACCORDING TO DETAIL SHOWN AFTER ADJACENT POUR IS COMPLETE.



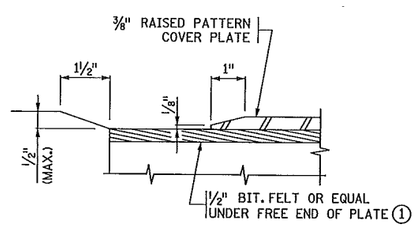
L1TH



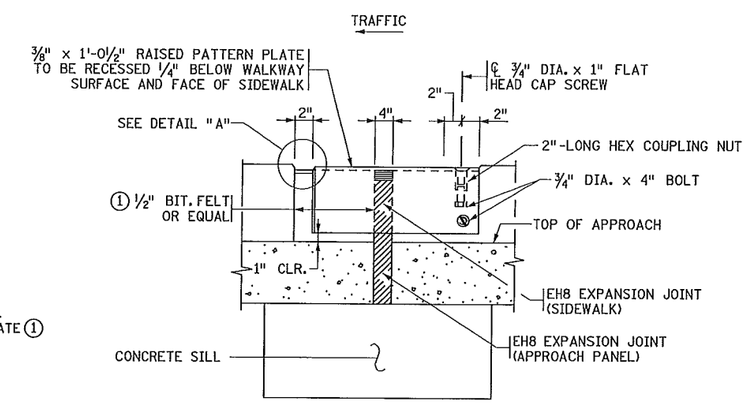
L1TH
(AT CONSTRUCTION JOINT)



SECTION AT C2H-D JOINT ⑤



DETAIL "A"



SIDEWALK ELEVATION

STANDARD PLAN SHEET NO. 5-297.229	TITLE: BRIDGE APPROACH PANEL JOINT DETAILS	
STANDARD APPROVED: DECEMBER 20, 2011		
REVISION DATE 3-22-2013	STATE PROJ. NO.	(TH) SHEET NO. OF SHEETS

Revision comment: –
Revised: –

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.
Date: 10-14-16 Lic. No. 24667

City of Rochester, Minnesota
Department Of Public Works
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2400
FAX: (507) 328-2401

Title: DETAILS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 12 of 22 Sheets

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INPLACE SANITARY SEWER STRUCTURES "A"

STATION-LOCATION	STRUCT TYPE	INPLACE CASTING ELEV.	ADJ FRAME & RING	NEW CASTING ELEV.	CASTING ASSEMBLY	CASTING TYPE	REMOVE MH	INL EL.	INL EL.	INV EL.	OUTL EL.	REMARKS
100+11.4-C.L.	MH	1001.78								979.23-W&N		
104+41.0-0.7' LT	MH	995.90					1			988.65		
108+42.5-C.L.	MH	996.23					1			987.47		
111+13.1-C.L.	MH	991.42			1	1				984.4	984.30-N	
111+18.6-34.1' LT	MH	990.91			1	1			982.23-S	981.4		
114+39.5-34.7' LT	MH	987.70							982.53-E		982.19-W	
114+48.1-0.9' LT	MH	987.70		987.70	1	1			983.60-S		982.3-8" N	
116+25.7-34.6' LT	MH	989.00							983.31-SE		983.27-W	
117+16.2-41.5' RT	MH	990.43							983.66-S		983.61-NW	
120+28.5-1.0' LT	MH	988.91									982.7-E	
121+05.2-1.3' LT	MH	988.27	1	988.27				982.58-E	982.43-W		982.38-N	
124+35.1-0.7' LT	MH	994.10						986.73-N	984.25-S	983.75		
127+65.2-1.7' LT	MH	997.02						990.02-N	985.50-S	985.08		
130+95.1-1.1' LT	MH	998.04						987.63-N	987.13-S	987.13		
134+26.0-0.5' LT	MH	1000.04						992.68-N	988.41-S	988.41		
137+48.8-0.2' LT	MH	1003.41						990.77-S	989.71-N	989.71		
			1		3		2					

NOTES: REPLACE CASTING INCLUDES MANHOLE WATERPROOFING
CASTING TO BE TYPE 1

REMOVE CONC. WALK, CURB & GUTTER "C"

LOCATION FROM	LOCATION TO	SAW CUT BIT. (FULL DEPTH)	SAW CUT CONC. (FULL DEPTH)	REMOVE C&G (1)	REMOVE BIT.	REMOVE CONC. DRIVE	REMOVE CONC WALK
		LIN FT	LIN FT	LIN FT	SQ FT	SQ YD	SQ FT
S. BDWY	1ST AVE SE	12.99		24.57	21.76	3.75	
1ST AVE SE	2ND AVE SE	13.01			22.24		
2ND AVE SE	3RD AVE SE			80.19		29.38	
3RD AVE SE	4TH AVE SE		16.00	27.46			
4TH AVE SE	BRIDGE #55588			83.22			
BRIDGE #55588	6TH AVE SE	20.99		47.46	34.04		
6TH AVE SE	7TH AVE SE		59.00	84.35			
7TH AVE SE	8TH AVE SE		41.54	66.74			
8TH AVE SE	9TH AVE SE		10.00	30.48			
9TH AVE SE	10TH AVE SE			40.64			153.34
10TH AVE SE	11TH AVE SE		39.70	40.69			
TOTALS	TOTALS	47	167	526	79	34	154

CONSTRUCT SANITARY SEWER STRUCTURES "E"

NO.	STATION-LOCATION	SPEC. 2 6'-10'	CAST. EL.	CAST ASSEM	DEPTH	C-INL EL	C-INL EL	C-OUTL EL	REMARKS
NO. 1	104+41.0-0.7' LT	1	995.90	1	7.25			988.65 E	
NO. 2	108+42.5-C.L.	1	996.23	1	8.76	987.47-S	987.47-W	987.47 E	
		2							

NOTE: FOR SPEC. 2 SEE CITY OF ROCHESTER DETAIL PLATE 1-02

SOD AND TOPSOIL "D"

4TH ST SE FROM	4TH ST SE TO	SODDING	TOPSOIL
		SQ YD	CU YD
S. BDWY	1ST AVE		
1ST AVE	2ND AVE		
2ND AVE	3RD AVE		
3RD AVE	4TH AVE	5.2	0.4
4TH AVE SE	BRIDGE #55588	14.9	1.2
BRIDGE #55588	6TH AVE SE		
6TH AVE SE	7TH AVE SE	16.0	1.3
7TH AVE SE	8TH AVE SE	11.0	0.9
8TH AVE SE	9TH AVE SE	2.6	0.2
9TH AVE SE	10TH AVE SE	5.9	0.5
10TH AVE SE	11TH AVE SE	7.0	0.6
	TOTALS	63	5

NOTE: TOPSOIL CALCULATED AT 3" DEPTH

INPLACE WATERMAIN FITTINGS "B"

STATION	OFFSET LT	OFFSET RT	MANHOLE	GATE VALVE	HYD	CURB BOX	REMARKS
100+62.6		34.7'			X		
100+62.8		25.0'		X			
100+65.6		7.6'		X			
101+48.1	15.3'			X			
101+66.1	6.6'			X			
101+70.8	9.3'			X			
104+96.5	23.9'			X			
105+40.2		58.9'			X		
105+44.7		58.9'		X			
105+64.9		55.5'		X			
108+18.5		62.6'			X		
108+21.2		62.6'		X			
108+34.8		67.3'		X			
108+37.3	25.5'			X			
108+41.0	12.9'			X			
110+38.6	12.8'			X			
110+42.0	19.7'			X			
110+42.2	33.2'				X		
111+87.5	16.0'			X			
112+43.2	32.0'					X	
112+88.5	18.7'			X			
114+30.6	13.1'			X			
114+30.6		64.8'		X			
114+61.7		47.6'		X			
114+68.6		47.6'			X		
114+73.3		11.0'		X			
117+13.5		5.5'		X			
117+17.2		28.6'				X	
120+41.6		13.2'		X			
121+19.8	52.1'			X			
121+27.9	52.1'				X		
121+35.5		11.0'		X			
123+97.3		11.0'		X			
124+11.8	48.3'				X		
124+21.3	48.3'			X			
127+29.9		11.0'		X			
127+42.3	42.3'				X		
127+51.3	42.3'			X			
127+54.3	1.3'			X			
130+60.6		11.0'		X			
130+72.6	49.1'				X		
130+81.4	49.1'			X			
130+84.4	3.6'			X			
133+91.8		11.0'		X			
134+03.7	48.9'				X		
134+12.1	48.9'			X			
134+15.8	2.5'			X			
137+21.8		11.0'		X			
137+26.2	48.9'				X		
137+33.9	49.0'			X			
138+10.8		9.9'		X			

CONCRETE REPAIR TABULATION "F"

4TH STREET FROM	4TH STREET TO	JOINT REPAIR (TYPE E8)	JOINT REPAIR (TYPE A1)	FULL DEPTH REPAIR (TYPE CD-LV)	SPOT FULL DEPTH REPAIR (TYPE C1-LV)	PAVEMENT REPLACEMENT (TYPE CX)	PARTIAL DEPTH REPAIR (TYPE BA)(1)	PARTIAL DEPTH REPAIR (TYPE BE)(2)	DOWEL BAR	REBAR (EPOXY COATED)	DRILL & GROUT REBAR	SAW CUT LOOP DETECTORS
		LIN FT	LIN FT	LIN FT	SQ FT	SQ YD	SQ FT	SQ FT	EACH	LBS	EACH	EACH
S BDWY	1ST AVE SE	126	3418	147	144	132	513	77	66	17.37	30	
1ST AVE SE	2ND AVE SE		2841	254	36	66	426	64	33	7.35	19	
2ND AVE SE	3RD AVE SE		3236	36	72	27	485	73	11	7.35	10	1
3RD AVE SE	4TH AVE SE		3467	104	111	80	520	78		10.42	38	2
4TH AVE SE	BRIDGE #55588	64	2907	124		233	436	65	74	18.46	94	
BRIDGE #55588	6TH AVE SE	64	1725	56		90	259	39		6.77	32	
6TH AVE SE	7TH AVE SE		3183	127		52	477	72			26	
7TH AVE SE	8TH AVE SE		3182	30	22	76	477	72	33		58	
8TH AVE SE	9TH AVE SE		3316	44		43	497	75	11		27	
9TH AVE SE	10TH AVE SE		3277	39		46	492	74	11		24	
10TH AVE SE	11TH AVE SE		4059	46	80	19	609	91			25	4
	TOTALS	254	34610	1008	465	863	5191	779	239	68	383	7

NOTES: (1) PARTAIL DEPTH REPAIR TYPE BA IS 15% OF JOINT REPAIR TYPE A1
(2) PARTAIL DEPTH REPAIR TYPE BE IS 15% OF PARTAIL DEPTH REPAIR TYPE BA

CONST. CONC. WALK, CURB, C&G,DRIVE, BIT. "G"

LOCATION FROM	LOCATION TO	TYPE SP 9.5 WEARING SPWEA340B (1)(2)	TYPE SP 12.5 NON-WEARING SPNWB340B (1)(3)	AGG. BASE CL. 2 (4)	6" CONC. CURB	CONC. B624 C&G	7" CONC. DRIVEWAY	TRUMCATED DOMES	5" CONC WALK	6" CONC WALK
		TON	TON	CU YD	LIN FT	LIN FT	SQ YD	SQ FT	SQ FT	SQ FT
S. BDWY	1ST AVE SE	1.40	2.79	3.68		24.57	3.75			
1ST AVE SE	2ND AVE SE	0.21	0.42	0.55						
2ND AVE SE	3RD AVE SE					80.19	29.38			
3RD AVE SE	4TH AVE SE				19.46	8.00				
4TH AVE SE	BRIDGE #55588				83.22					
BRIDGE #55588	6TH AVE SE	0.32	0.64	0.84	47.46					
6TH AVE SE	7TH AVE SE				37.35	47.00				
7TH AVE SE	8TH AVE SE				35.20	31.54				
8TH AVE SE	9TH AVE SE				24.42	6.00				
9TH AVE SE	10TH AVE SE				40.64			8.00	53.00	100.34
10TH AVE SE	11TH AVE SE				4.00	31.70				
TOTALS	TOTALS	2	4	6	292	229	34	8	53	101

(1) QUANTITIES COMPUTED AT A RATE OF 113/LBS/SQ YD/INCH
(2) TO BE PLACED AT DEPTH OF 1 1/2"
(3) TO BE PLACE AT A DEPTH OF 2 1/2"
(4) TO BE PLACE AT A DEPTH OF 8"

PAVEMENT STRIPING (J)

FROM	TO	PAVEMENT MESSAGE LEFT ARROW(1)	PAVEMENT MESSAGE RIGHT ARROW(1)	CROSSWALK	PAVEMENT MESSAGE R R XING	4" SOLID LINE WHITE	12" SOLID LINE WHITE	4" BROKEN LINE WHITE	4" BROKEN LINE YELLOW	4" SOLID LINE YELLOW	4" DB SOLID LINE YELLOW	24" SOLID LINE WHITE	4" DOTTED LINE WHITE
		SQ FT	SQ FT	SQ FT	SQ FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT
S. BDWY	1ST AVE SE	96	48		204	352.0	121.4	60.0			481.3	50.9	28
1ST AVE SE	2ND AVE SE	192			408	64.0		100	100	420.0			
2ND AVE SE	3RD AVE SE	96	48			313.9	258.7	90			189.5		
3RD AVE SE	4TH AVE SE	96	48			373.1	256.6	110			249.9		
4TH AVE SE	BRIDGE #55588							160	120	520.0			
BRIDGE #55588	6TH AVE SE							90			142.0		
6TH AVE SE	7TH AVE SE							120			265.8		
7TH AVE SE	8TH AVE SE							120			270.7		
8TH AVE SE	9TH AVE SE							120			268.9		
9TH AVE SE	10TH AVE SE							120			257.8		
10TH AVE SE	11TH AVE SE	48		480		151.0	117.1	100			248.1	44.2	
	TOTALS	528	144	480	612	1254	754	1190	220	940	2374	98	28

NOTE: (1) QUANTITY BASE ON 48 SQ FT PER ARROW

Revision comment: —
Revised: —

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.
Date: 10-14-16 Lic. No. 24687

City of Rochester, Minnesota
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Title: TABULATIONS FOR CONCRETE PAVEMENT REHIBILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 13 of 22 Sheets

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INPLACE STORM SEWER STRUCTURES "H"

STATION-LOCATION	STRUCT TYPE	INPLACE CASTING ELEV.	ADJ FRAME & RING	NEW CASTING ELEV.	CASTING ASSEMBLY	CASTING TYPE	RECONST STRUCT.	INLET PROTECTION TYPE 2	INL. EL.	INL. EL.	INL. EL.	OUTL. EL.	REMARKS
101+49.5-22.1' RT	MH				1	1						992.88-W&S	
104+25.0-20.5' RT	MH	996.00		996.00	1	1					988.66-W	988.66-E	
105+30.7-31.0' LT	CB	994.88						1				990.23-S	
105+30.7-20.5' RT	MH	994.76		994.76	1	1			989.78-S	989.72-N	989.51-E	989.51-W	
105+30.7-31.0' RT	CB	994.88						1			989.93-SE	989.93-N	
105+49.2-54.4' RT	CB	994.84										990.19-NE	
105+84.9-20.5' RT	MH	995.05		995.05	1	1					990.04-S	989.64-W	
105+85.2-54.6' RT	CB	995.06										990.38-N	
108+24.9-56.2' RT	CB	996.08										991.43-E	
108+60.6-20.5' RT	MH	995.90		995.90	1	1					990.73-S	990.33-E	
108+60.9-56.2' RT	CB	995.88									991.09-W	991.09-N	
110+48.4-31.0' LT	CB	991.90						1				988.70-SE	
110+64.7-39.2' RT	CB	990.91						1				987.50-N	
110+70.0-21.3' RT	MH	991.76		991.76	1	1				986.69-S&NW	987.30-E	987.30-E	
110+86.8-66.1' RT	CB	990.91										986.91-E	
111+07.6-74.2' RT	MH	991.49								988.21-W	986.23-S	986.13-NE	
111+32.1-21.6' RT	MH	990.95		990.95	1	1				985.81-W	985.8-S	984.70-N	
111+34.4-74.1' LT	MH	990.27									984.03-S	984.69-N	
111+40.7-57.8' RT	CB	990.36										986.67-NW	
112+61.5-23.0' RT	MH	988.90									984.14-S	984.04-E	
113+91.9-23.0' RT	MH	997.00								982.49-S	981.69-W	981.59-E	
113+91.5-30.0' RT	CB	986.91						1				982.91-E	
114+20.0-58.4' RT	CB	986.66										992.66-N	
114+37.0-23.0' RT	MH	987.44									981.14-W	981.04-E	
114+45.1-30.0' LT	CB	986.89						1				992.89-SE	
114+64.0-58.7' RT	CB	986.80									982.23-W	982.03-N	
114+65.0-16.5' RT	MH	987.54								980.90-W	981.61-S	980.50-E	
114+90.5-30.0' RT	CB	987.05					1	1				983.05-NE	REBUILD TOP 20" OF STRUCURE
114+93.5-30.0' RT	CB	987.05					1	1				983.05-NE	REBUILD TOP 20" OF STRUCURE
114+94.8-18.7' RT	MH	987.40		987.40	1	1					982.9-S	981.0-N	
120+51.9-52.0' LT	MH	988.30							983.56-SE	982.00-S	981.80-E	981.60-W	
120+55.5-30' LT	CB	987.66						1				983.12-N	
120+70.8-30' RT	CB	987.39	1	987.39				1				983.64-SE	
120+77.7-47.5' LT	MH												
120+85.0-60.1' LT	CB	987.08									984.00-E	982.50-W	
120+88.3-47.3' RT	DI MH												
121+24.3-16.9' LT	MH												
121+24.3-47.1' RT	CB	987.94								983.97-SE	983.97-NE	983.97-NW	
121+25.1-59.4' LT	CB	987.08										984.20-W	
121+41.5-27.1' RT	CB	987.95	1	987.95				1				984.21-NW	
121+52.6-29.9' LT	CB	987.75						1				984.12-W	
124+16.6-58.7' LT	CB	992.95										989.65-SE	
124+39.5-30' LT	MH	993.86							989.46-NW	989.46-N	989.46-E	989.46-S	
124+40.5-27.5' RT	MH	993.61	1	993.61						989.25-E	989.23-N	989.23-S	
124+52.6-58.2' LT	CB	994.67										989.67-SW	
124+67.1-27.1' RT	CB	993.38	1	993.38				1				989.38-W	
124+81.0-29.9' LT	CB	993.85						1				989.85-W	
127+46.6-58.6' LT	CB	996.31									992.12-E	992.05-S	
127+47.0-17.9' LT	MH	996.70									991.44-N	991.44-S	
127+50.1-45.1' RT	MH	996.68								991.82-N	991.69-E	991.08-S	
127+82.6-58.1' LT	CB	997.12										992.47-W	
128+00.1-27.1' RT	CB	996.38	1	996.38				1				993.05-SW	
128+11.4-29.9' LT	CB	996.16						1				992.25-S	
130+47.7-29.8' LT	CB	997.00						1				993.00-S	
130.77.2-17.9' LT	MH	997.68									993.01-E	993.01-W	
131+12.8-58.1' LT	CB	997.52										993.57-SE	
131+14.1-52.6' RT	CB												
131+30.9-27.2' RT	CB	996.97						1			993.64-NE	993.55-N	
131+31.5-17.8' LT	MH	997.50								993.33-S	993.22-W	993.22-E	
131+41.2-29.8' LT	CB	997.19						1				993.41-SW	
134+07.4-17.3' LT	MH	999.81								994.53-N	994.53-W	994.33-E	
134+07.6-58.7' LT	CB	999.55									995.43-W	995.23-S	
134+43.6-58.7' LT	CB	999.78										995.78-E	
134+62.0-27.6' RT	CB	998.93						1				995.91-N	
134+62.1-17.3' LT	MH	1000.12								994.65-S	994.65-NE	994.55-E	
134+71.4-29.7' LT	CB	999.81						1				995.81-SE	
137+28.4-58.2' LT	CB	1002.29									998.48-W	998.29-S	
137+28.7-17.7' LT	MH	1002.72								998.26-N	998.26-E	998.06-S	
137+35.6-57.2' RT	MH	1002.28									997.76-N	997.76-S	
137+67.0-56.9' RT	CB	1002.00										998.00-W	
137+68.4-64.0' LT	CB	1002.88										998.88-E	
138+05.0-25.5' LT	CB	1002.63						1			998.88-W	998.86-E	
138+11.9-25.3' LT	CB	1002.63						1				998.85-E	
			5		8		2	23					

NOTES: CASTING TO BE TYPE 1

INPLACE UTILITY STRUCTURES "I"

STATION-LOCATION	STRUCT TYPE	CASTING ELEV	ADJUST CASTING	REMARKS
99+98.7-36.5' RT	TEL	1002.25		
101+34.2-47.5' LT	TEL			
101+37.6-16.6' LT	TEL			
101+49.5-22.1' RT	ELEC			
105+65.0-29.1' RT	ELEC	994.81	1	
105+84.0-22.9' LT	TEL	994.89		
108+02.0-34.0' LT	ELEC	996.10		
108+41.0-30.0' RT	ELEC	995.91		
110+92.9-21.8' LT	TEL	991.26		
110+94.8-32.0' RT	TEL	991.39		
111+07.8-31.7' RT	ELEC	991.28		
111+23.4-46.7' LT	ELEC	990.73		
111+24.2-35.8' RT	ELEC	990.98		
113+53.9-33.7' RT	ELEC	988.32		
114+17.9-42.7' LT	STEAM	998.02		
114+26.7-23.0' LT	TEL	987.15		
114+54.8-35.9' RT	ELEC	987.07		
116+89.6-20.5' LT	TEL	989.42		
116+97.5-20.3' LT	TEL	989.55		
117+25.2-42.4' LT	STEAM			
119+58.8-53.4' LT	STEAM	990.92		
120+62.0-37.9' LT	TEL	988.30		
120+97.6-35.3' RT	STEAM	987.41	1	
121+12.2-23.7' RT	ELEC	987.70		
121+23.1-26.9' LT	TEL	987.81		
124+07.5-34.8' RT	STEAM	993.42		
124+12.2-20.1' RT	ELEC	992.91	1	
127+40.3-20.8' RT	ELEC	996.19	1	
130+76.3-34.5' RT	STEAM	997.09	1	
131+16.5-22.0' RT	ELEC	997.45		
134+51.3-22.8' RT	ELEC	999.29	1	
137+13.6-21.4' RT	ELEC	1001.96		
137+49.7-31.4' RT	STEAM	1002.69		
137+75.7-69.1' LT	TEL			
			6	TOTALS

NOTE: ALL ADJUSTCASTINGS BY OTHERS

Revision comments: —

Reason: —

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Date: 10-14-16 Lic. No. 24967

City of Rochester, Minnesota
Department Of Public Works
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2400
FAX: (507) 328-2401

Title: TABULATIONS FOR CONCRETE PAVEMENT REHIBILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 5TH AVENUE SE

Designer: CWF

Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 14 of 22 Sheets

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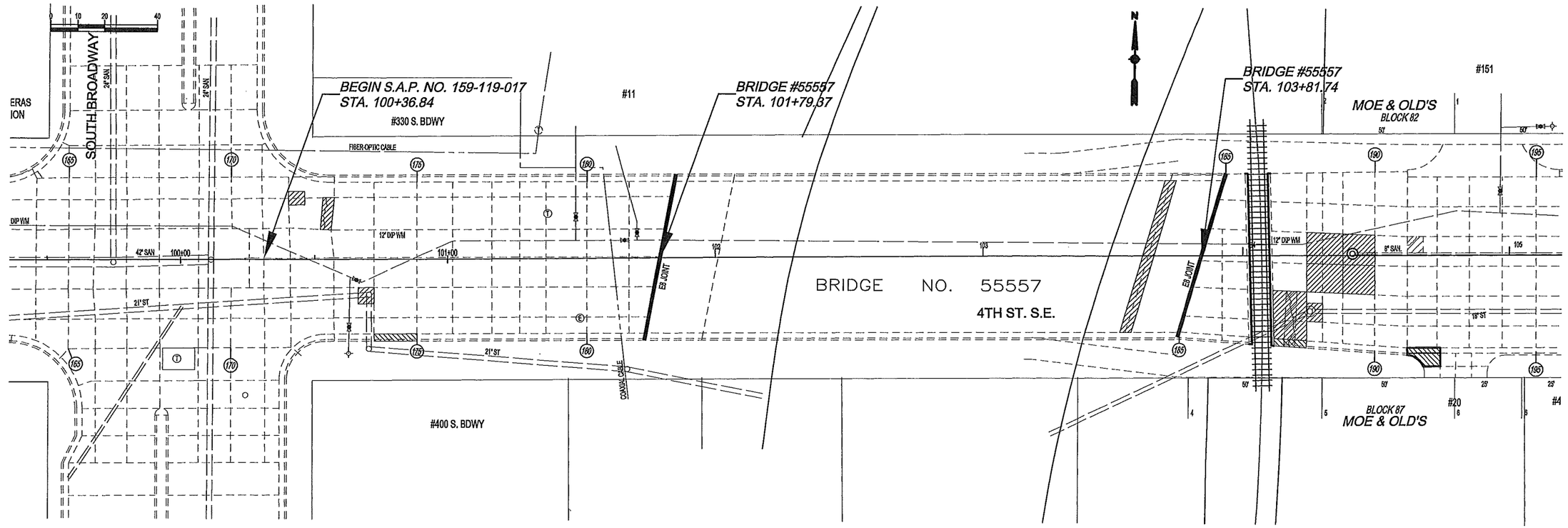

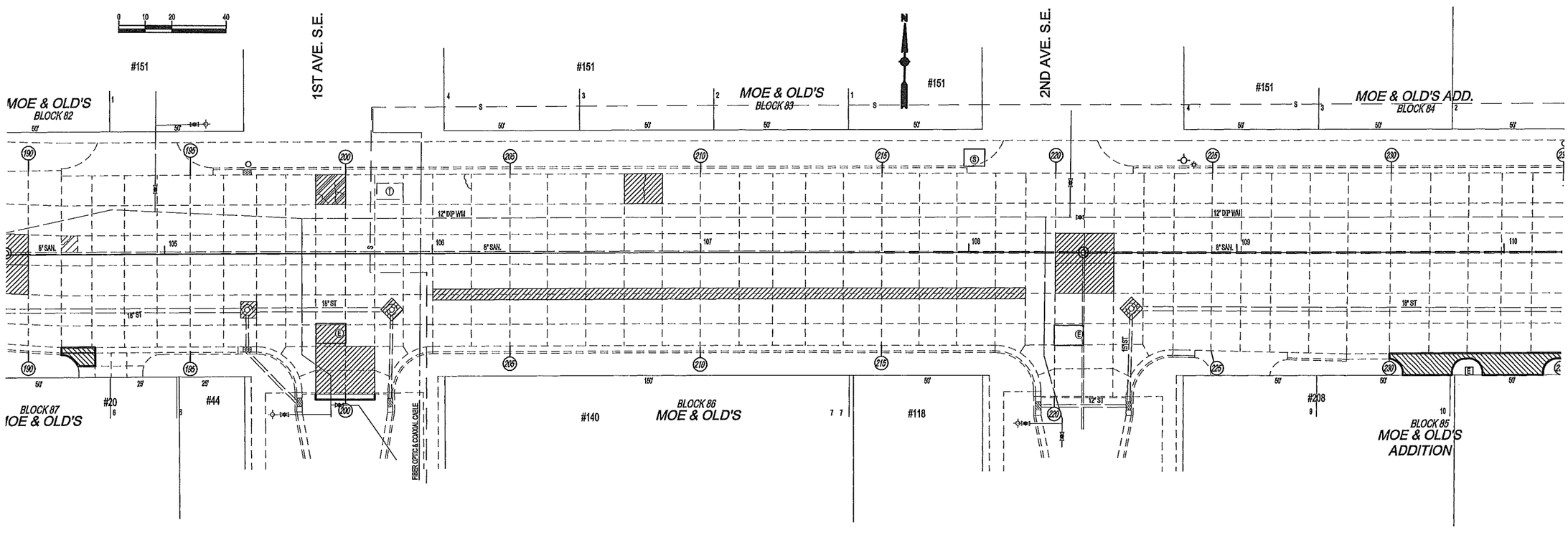

Revision comment: –
Revised: –

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.
Date: 10-14-16 Lic. No. 24067

City of Rochester, Minnesota
Department Of Public Works
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2450
FAX: (507) 328-2401

Title: GRADING PLANS FOR CONCRETE PAVEMENT REHIBILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 11TH AVENUE SE

Designer: CMF
Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 15 of 22 Sheets

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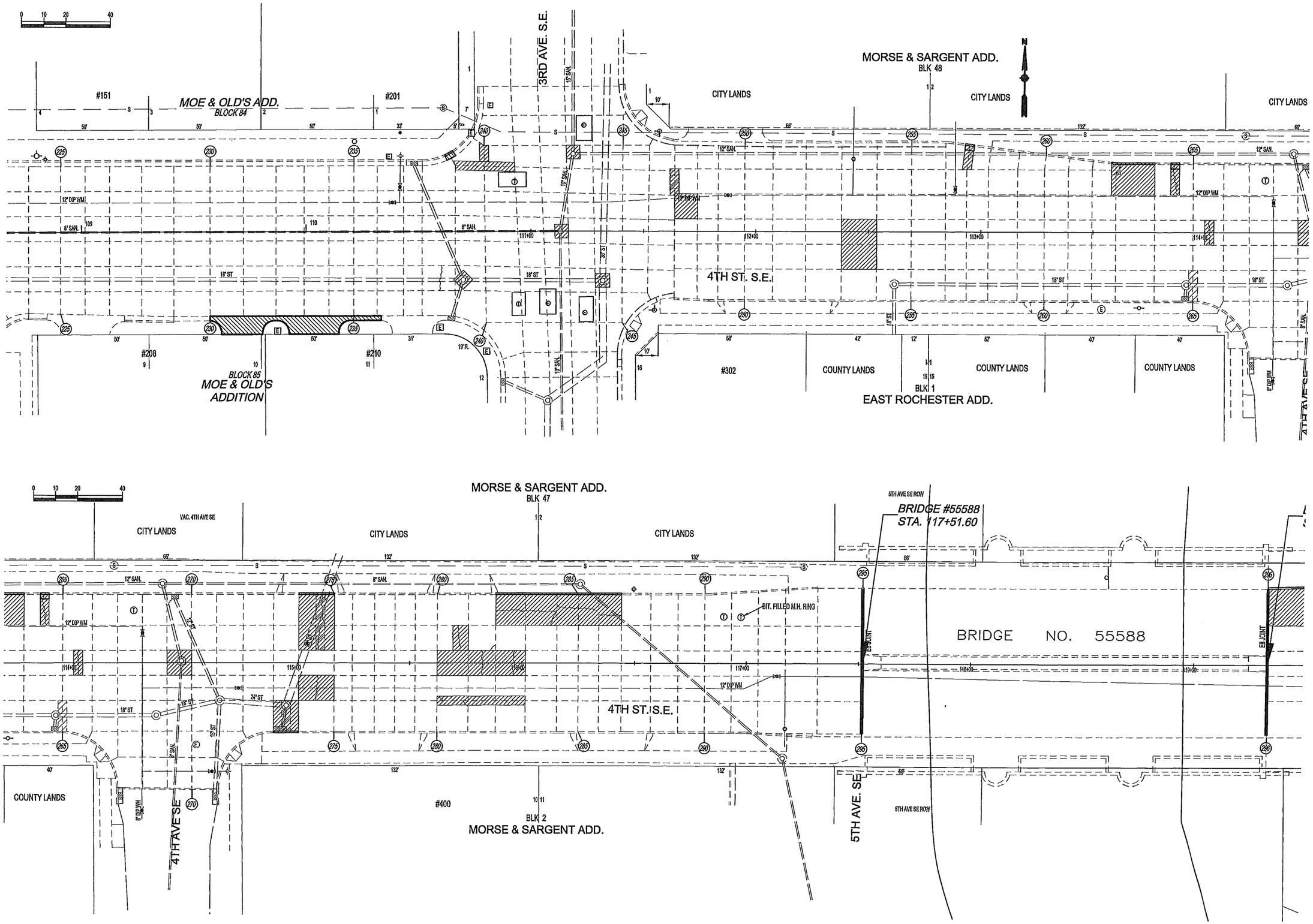

Revision comment: –

Reissued: –

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Date: 10-14-16 Lic. No. 24657

City of Rochester, Minnesota
Department Of Public Works

201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2450
FAX: (507) 328-2601

Title: GRADING PLANS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 11TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017 J7295
Project No. 6204-1-15
Sheet 16 of 22 Sheets

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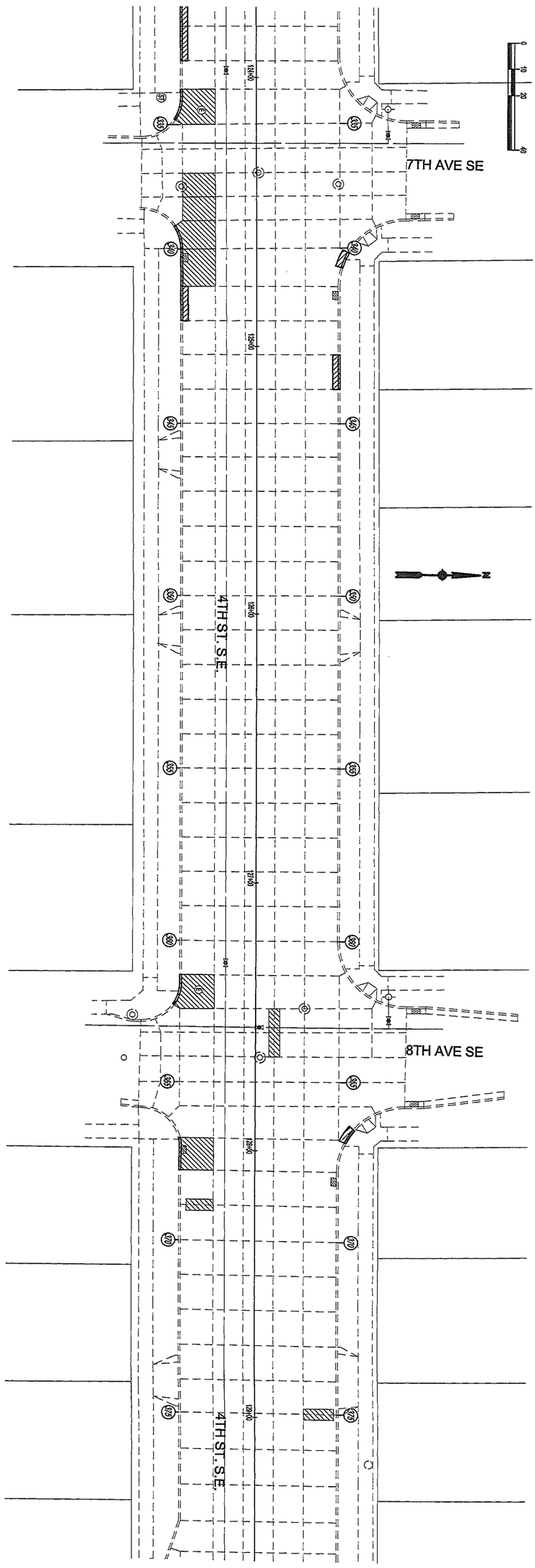

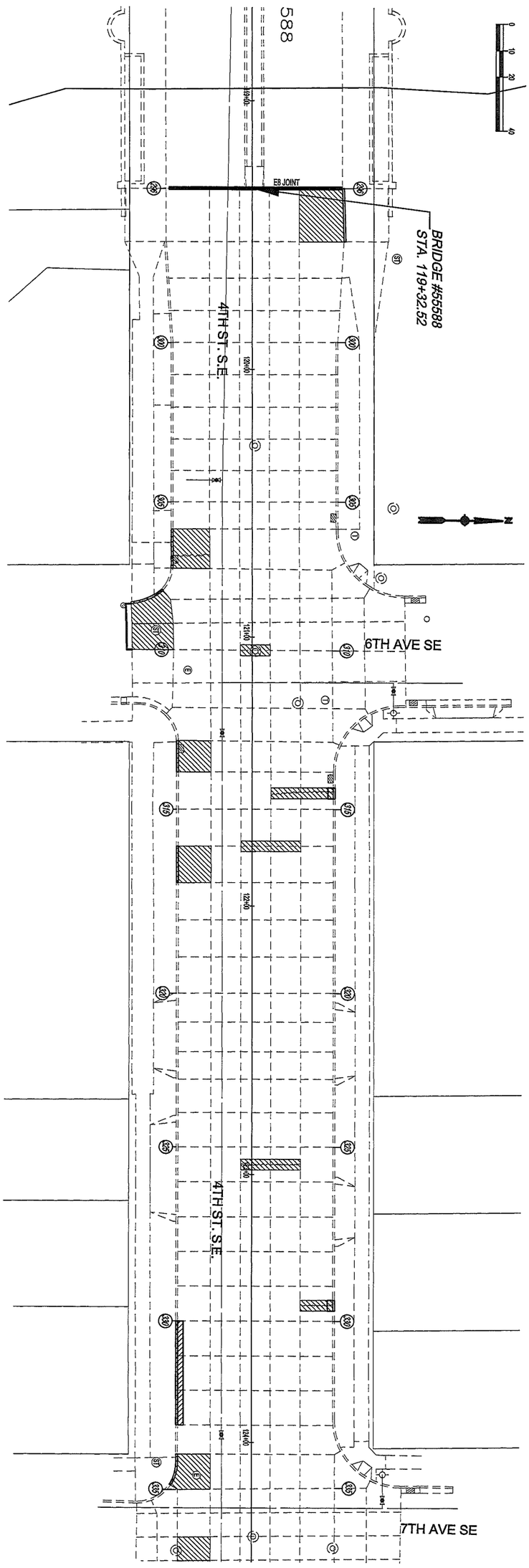

S.A.P. No. 159-119-017 Project No. 6204-1-15 J7295 Sheet 17 of 22 Sheets	Designer: CWF Checker: RJK	Title: GRADING PLANS FOR CONCRETE PAVEMENT REHIBLITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 11TH AVENUE SE	City of Rochester, Minnesota Department Of Public Works	201 4th Street S.E. Rochester, MN 55904 Phone: (507) 328-2450 FAX: (507) 328-2401

Revision comment: —

Revised: —

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Russell J. Klun Date: 10-14-16 Lic. No. 24667

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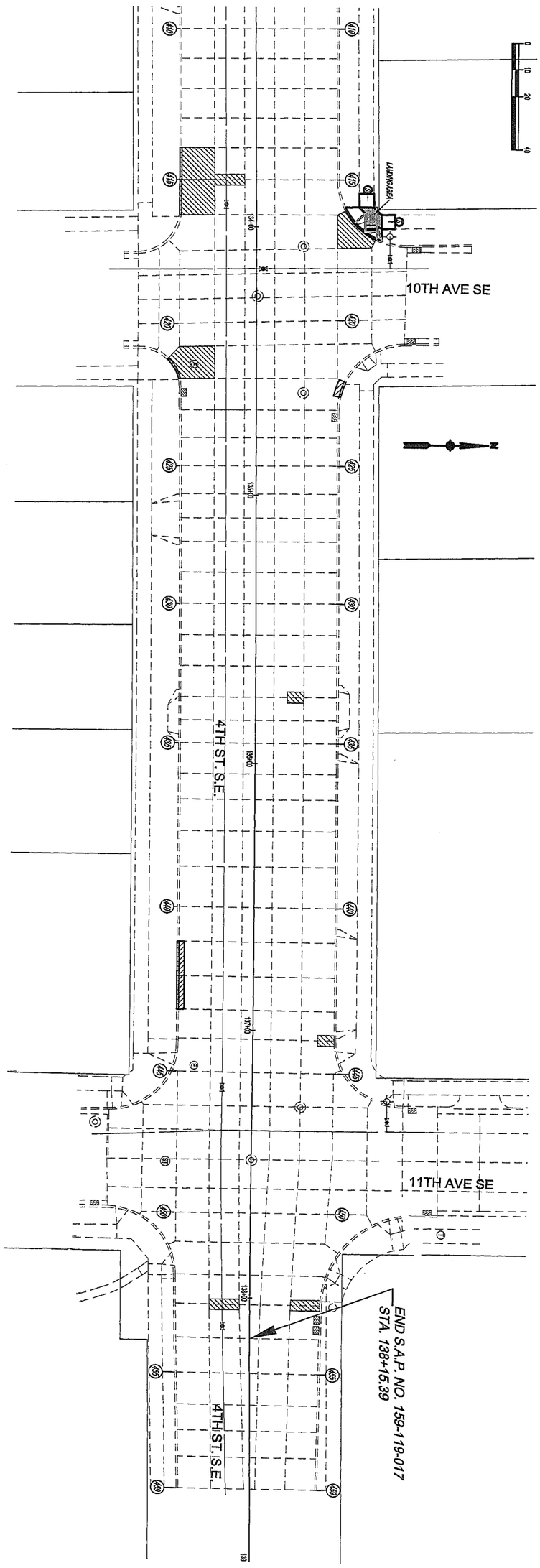
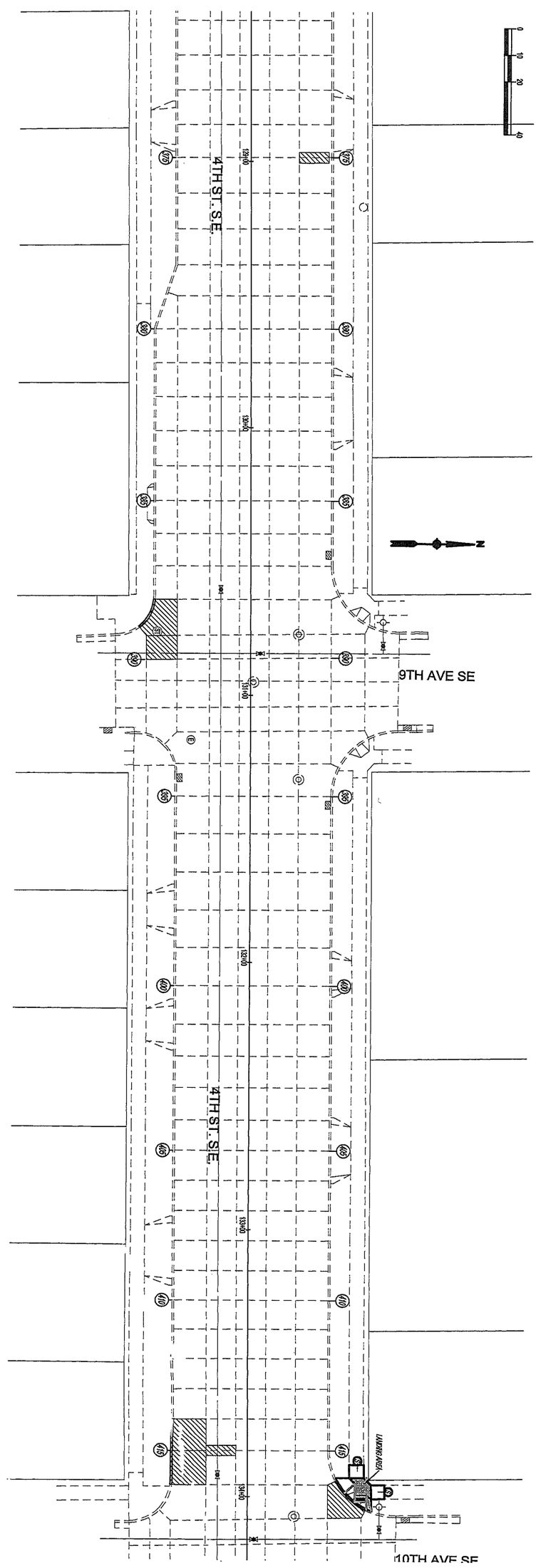
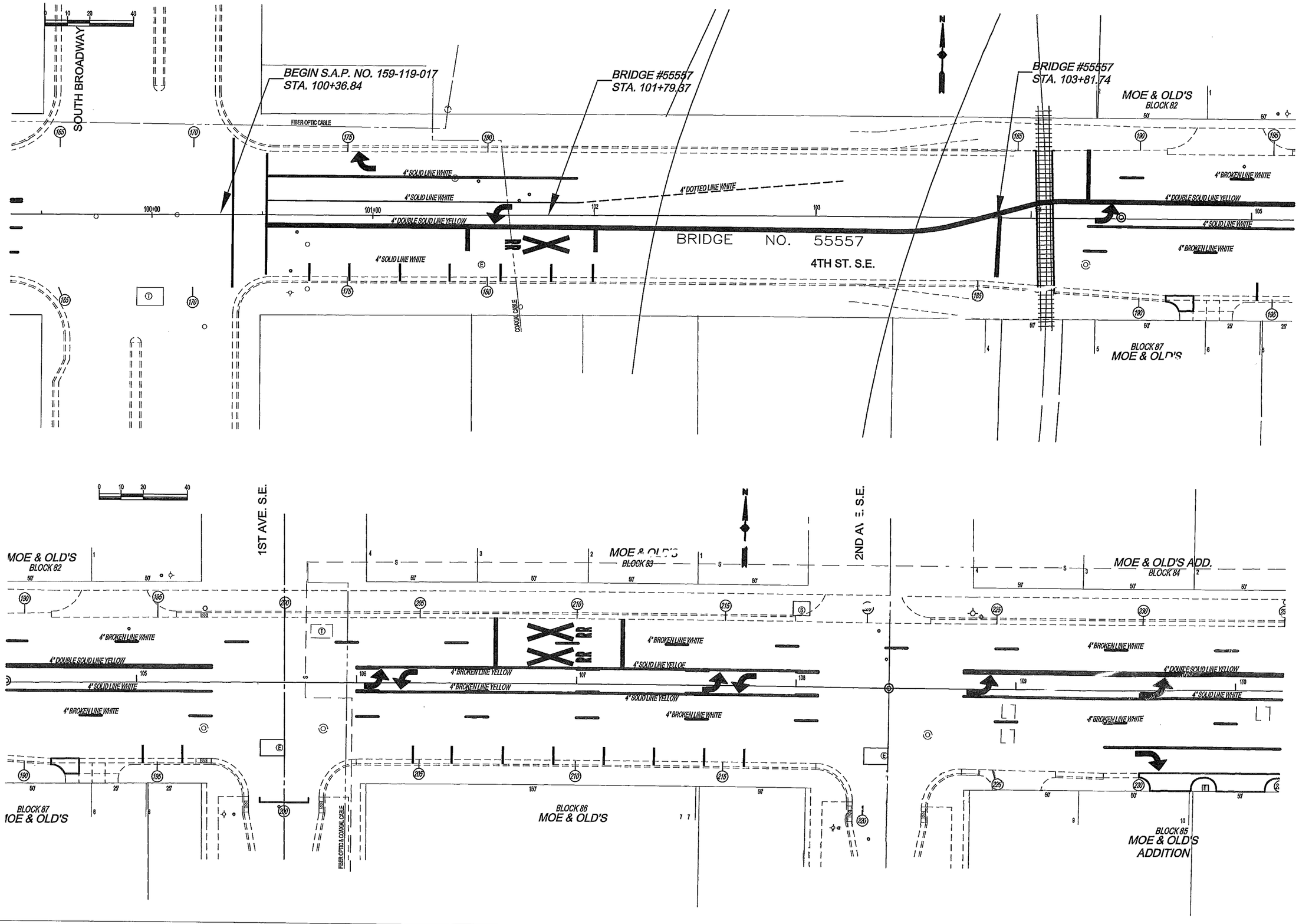




S.A.P. No. 159-119-017 Project No. 6204-1-15 J7295 Sheet 18 of 22 Sheets	Designer: CWF Checker: RJK	Title: GRADING PLANS FOR CONCRETE PAVEMENT REHIBLITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 11TH AVENUE SE	City of Rochester, Minnesota Department Of Public Works	201 4th Street S.E. Rochester, MN 55904 Phone: (507) 328-2450 FAX: (507) 328-2401	Revision comment: — Revised: — 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. Russell J. Klun Date: 10-14-16 Lic. No. 24667



Revision comments: –

Revision#: –

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Russell J. Klein Date: 10-14-16 Lic. No. 24067

City of Rochester, Minnesota
Department Of Public Works
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2409
FAX: (507) 328-2401

Title: STRIPING PLANS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 11TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 19 of 22 Sheets

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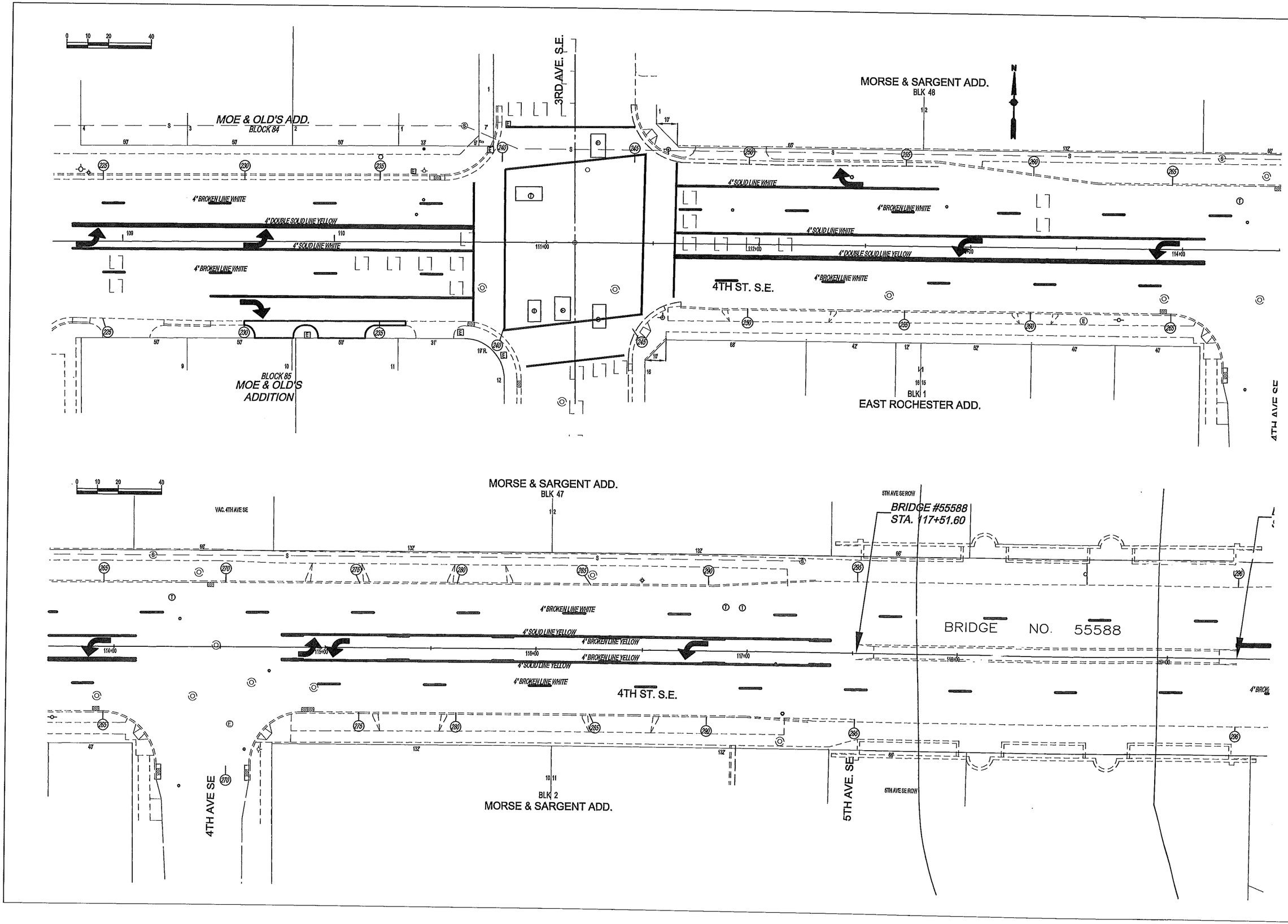

Revision comment: –
Revised: –

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Date: 10-14-16 Lic. No. 24667

City of Rochester, Minnesota
Department Of Public Works
201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2459
FAX: (507) 328-2401

Title: STRIPING PLANS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SO. FROM SOUTH BROADWAY TO 11TH AVENUE SE

Designer: CWF
Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J7295
Sheet 20 of 22 Sheets

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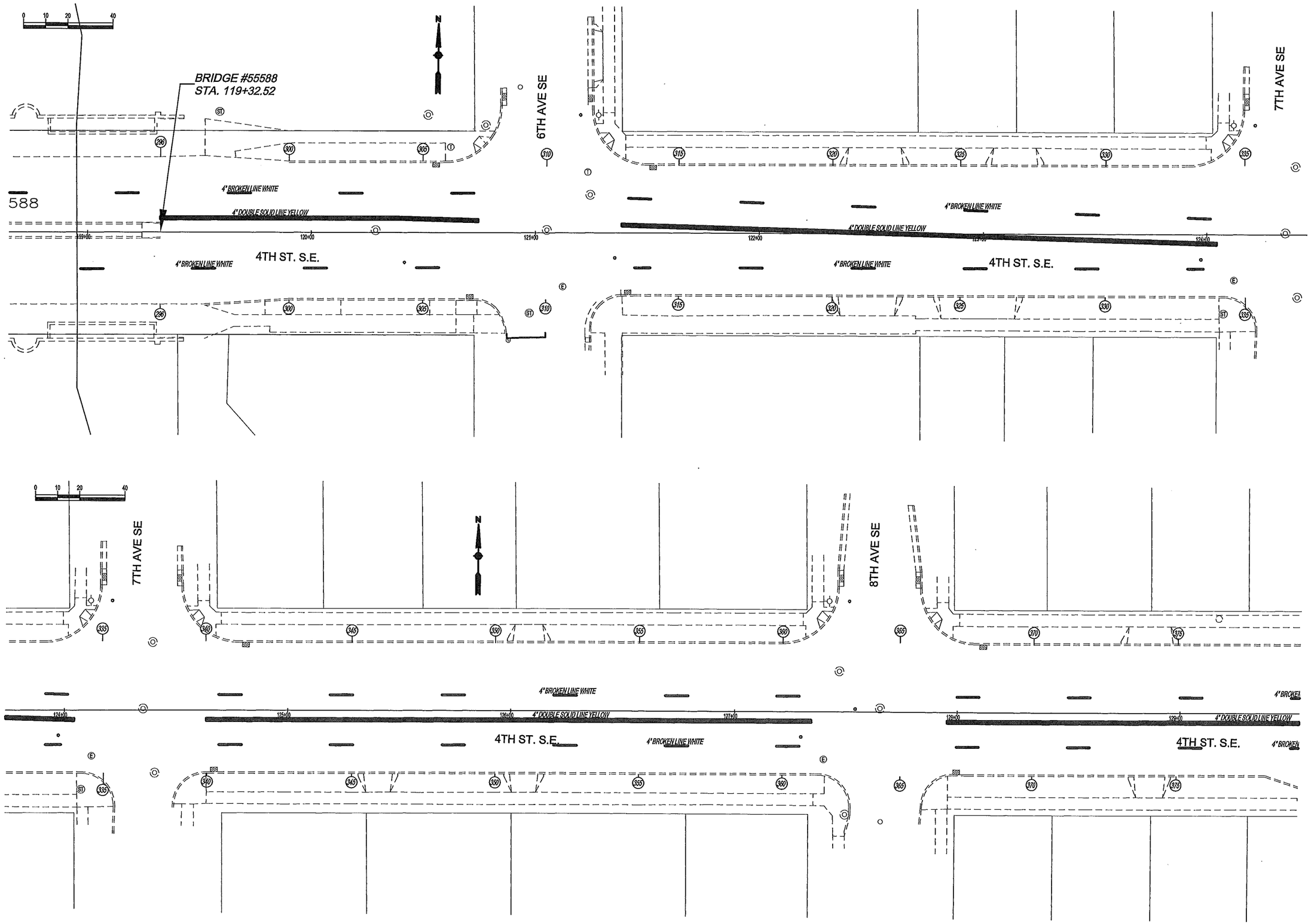

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Revision comment: –

Revised: –

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Date: 10-14-16 Lic. No. 24667

City of Rochester, Minnesota
Department Of Public Works

201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-3450
FAX: (507) 328-2401

Title: STRIPING PLANS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 11TH AVENUE SE

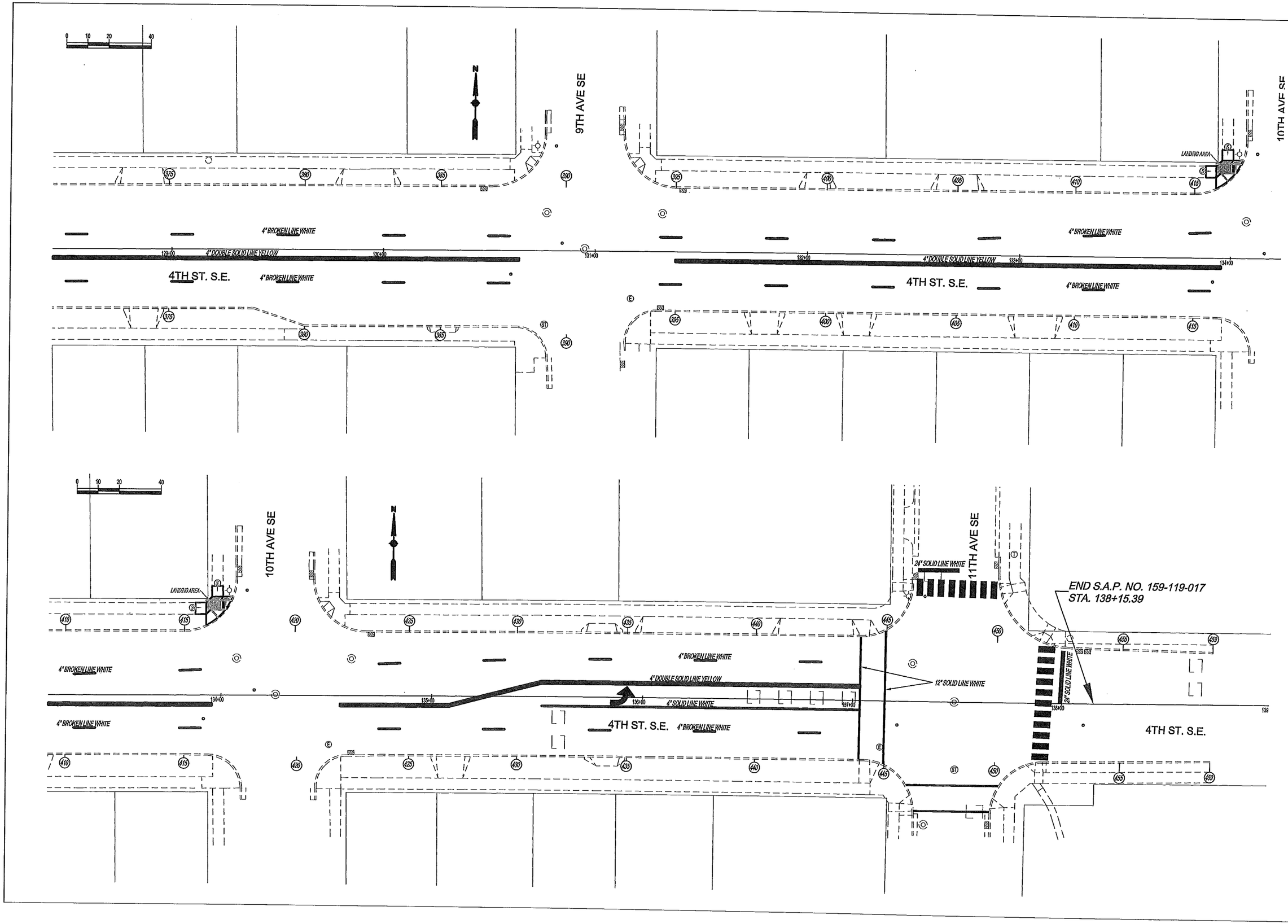
Designer: CWF

Checker: RJK

S.A.P. No. 159-119-017

Project No. 6204-1-15 J 7295

Sheet 21 of 22 Sheets



Revision comment: –

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Date: 10-14-16 Lic. No. 24667

City of Rochester, Minnesota
Department Of Public Works

201 4th Street S.E.
Rochester, MN 55904
Phone: (507) 328-2400
FAX: (507) 328-2401

Title: STRIPING PLANS FOR CONCRETE PAVEMENT REHABILITATION ON 4TH STREET SOUTH FROM SOUTH BROADWAY TO 11TH AVENUE SE

Designer: GWF

Checker: RJK

S.A.P. No. 159-119-017
Project No. 6204-1-15 J 7295
Sheet 22 of 22 Sheets

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