

# MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

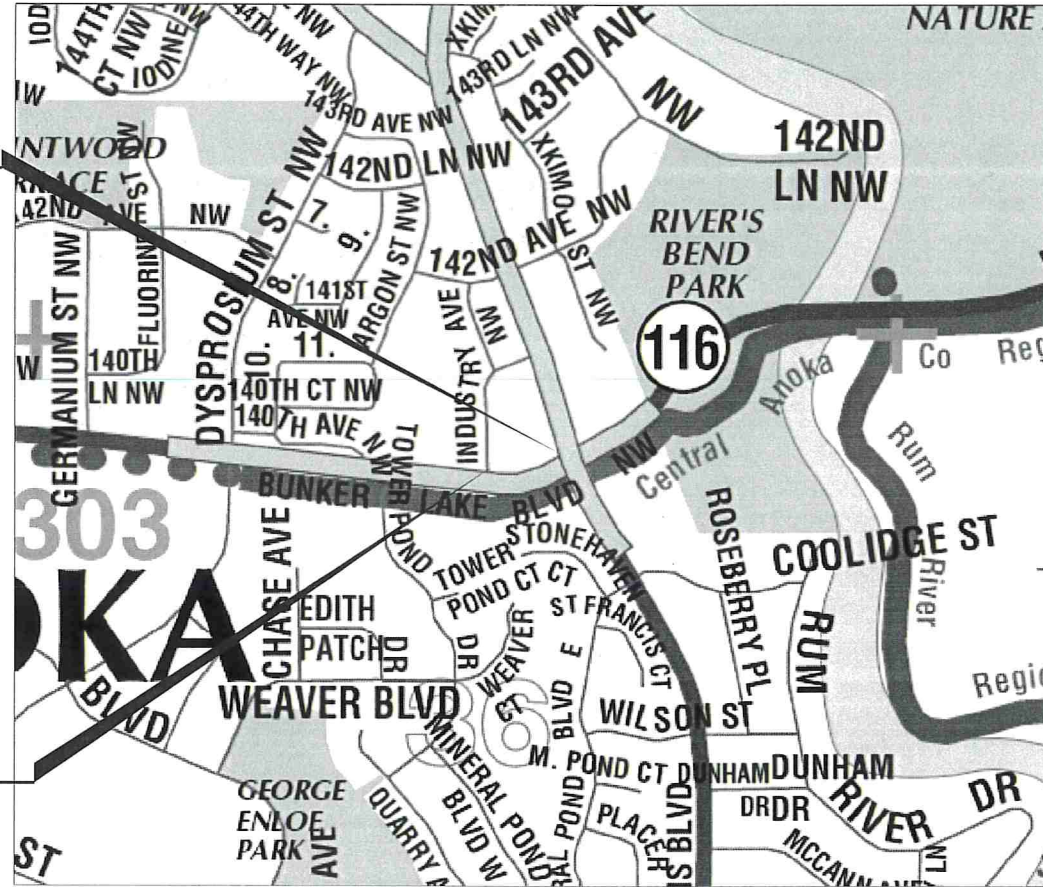
CONSTRUCTION PLAN FOR \_\_\_\_\_ BITUMINOUS SURFACING, CURB & GUTTER, CATCH BASIN, AND BITUMINOUS TRAIL

LOCATED ON CSAH 116 BETWEEN INDUSTRY AVE AND ST. FRANCIS BLVD (HWY 47)

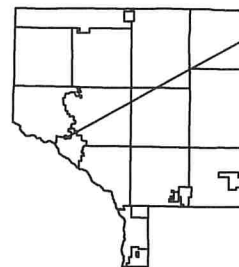
	CSAH 116	
GROSS LENGTH	413.00 FEET	0.080 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	413.00 FEET	0.080 MILES

END CP 22-14-116  
CSAH 116, STA: 16+10.00

BEGIN CP 22-14-116  
CSAH 116, STA: 11+97.00



## PROJECT LOCATION



CITY OF RAMSEY  
ANOKA COUNTY  
MN/DOT TRANSPORTATION DISTRICT - METRO  
SECTION 36  
TOWNSHIP 32 NORTH  
RANGE 25 WEST

Approved  ANOKA COUNTY ENGINEER

May 11, 2022

### GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

THIS PLAN CONTAINS 8 SHEETS

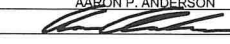
### INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	DRAINAGE TABULATION
4-5	TYPICAL SECTIONS
6	DETAILS
7	REMOVAL PLAN
8	CONSTRUCTION PLAN

### DESIGN DESIGNATION (CSAH 116)

ESAL 20	511,769	FUNCTIONAL CLASSIFICATION	MINOR COLLECTOR
R VALUE	50	NO. OF TRAFFIC LANES	2
ADT (2022)	4332	DESIGN SPEED	55 MPH
PROJ. ADT (2042)	4332	STOPPING SIGHT DISTANCE BASED ON:	
PROJ. HCADT (2042)	256	HEIGHT OF EYE	3.5'
SOIL FACTOR	N/A	HEIGHT OF OBJECT	2.0'
TON DESIGN	10	DESIGN SPEED NOT ACHIEVED AT:	
		STA.	TO STA.
			MPH

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

PRINT NAME: AARON P. ANDERSON  
SIGNATURE:   
DATE: 04-07-2022 LICENSE NO. 58657

DRAWN BY: SPH DATE: 1/27/2022  
DESIGN BY: SPH DATE: 1/27/2022  
CHECKED BY: CSO DATE: 2/25/2022



ANOKA COUNTY  
HIGHWAY DEPT.

COUNTY PROJECT 22-14-116

TITLE SHEET

Sheet 1 of 8 Sheets

NO	DATE	BY	CKD	APPR	REVISION
	05/09/2022				6:57:27 AM

NAME: P:\22-01-00\CSAH\_116\_(PATH\_AT\_47)\Base\Proposed\TITLE.dgn

### STATEMENT OF ESTIMATED QUANTITIES

Notes	Item Number	ITEM DESCRIPTION	Unit	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
	2104.502	REMOVE METAL APRON	EACH	1
	2104.502	SALVAGE SIGN	EACH	3
	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	465
	2104.503	REMOVE CURB AND GUTTER	LIN FT	13
2	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	116
2	2104.518	REMOVE BITUMINOUS WALK	SQ FT	3350
	2105.607	COMMON EXCAVATION	CU YD	101
	2105.607	GRANULAR BORROW (LV)	CU YD	191
	2130.523	WATER	MGALLON	3
3	2211.509	AGGREGATE BASE CLASS 5	TON	276
	2232.504	MILL BITUMINOUS SURFACE (2.0")	SQ YD	56
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	11
4	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3;B)	TON	58
	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (3;C)	TON	74
6	2506.502	CASTING ASSEMBLY	EACH	1
1,5	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	3.2
	2531.503	CONCRETE CURB AND GUTTER DESIGN B424	LIN FT	387
7,8	2563.601	TRAFFIC CONTROL	LUMP SUM	1
9	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20
	2564.502	INSTALL SIGN	EACH	3
10	2573.502	STORM DRAIN INLET PROTECTION	EACH	3
	2573.503	SEDIMENT CONTROL LOG TYPE COMPOST	LIN FT	450
	2574.507	COMMON TOPSOIL BORROW	CU YD	118
11	2575.508	HYDRAULIC REINFORCED FIBER MATRIX	POUND	400
12	2582.503	4" SOLID LINE MULTI-COMPONENT	LIN FT	410

#### BASIS OF PLANNED QUANTITIES

2357	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD
2211	AGGREGATE BASE CLASS 5	1.8 TONS / CU YD
2360	ALL BITUMINOUS PAVEMENT	115 LBS / SQ YD / IN THICKNESS
2575	SEED MIXTURE 25-121	61 LBS / ACRE
2574	FERTILIZER TYPE 3	350 LBS / ACRE
2575	HYDRAULIC REINFORCED FIBER MATRIX	3900 LBS / ACRE

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

#### MNDOT STANDARD PLATES

PLATE NO.	DESCRIPTION
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4024A	48" DIA. PRECAST SHALLOW DEPTH CATCH BASIN - DESIGN SD
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4132G	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE) - CASTING NO. 805
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
8000K	TEMPORARY CHANNELIZERS (3 SHEETS)

#### CONSTRUCTION NOTES


1	REFERENCE DETAILS (PAGE 5)
2	REFERENCE DETAILS (PAGE 5) FOR REMOVAL DETAILS
3	GRAVEL BASE FOR BITUMINOUS WALK AND SHOULDER.
4	ITEM FOR BITUMINOUS TRAIL
5	ITEM INCLUDES BITUMINOUS PATCHING AROUND NEW CURB, STORM STRUCTURE REPAIRS, AND ANY POTHOLES.
6	PAY HEIGHT IS MEASURED FROM INVERT OF OUTLET PIPE TO TOP OF PRECAST CONCRETE STRUCTURE PLUS AN ALLOWANCE OF 0.70 FEET FOR THE DEPTH OF THE CONCRETE BASE, REGARDLESS OF ITS ACTUAL THICKNESS. CONCRETE ADJUSTMENT RINGS ARE INCIDENTAL. CONNECTIONS TO EXISTING STORM SEWER ARE INCIDENTAL.
7	ITEM INCLUDES FULL REPLACEMENT OF CASTING ADJUSTMENT RINGS. SEE STORM TABULATIONS FOR RING HEIGHTS. CASTINGS IN ROADWAY SHALL BE INSTALLED BETWEEN BASE AND WEAR LIFT PAVING
8	CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
9	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO, AND BE INSTALLED IN ACCORDANCE WITH, THE MOST CURRENT REVISION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL LAYOUT/PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST 14 DAYS PRIOR TO COMMENCING WORK.
10	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
11	ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT SHALL HAVE INLET PROTECTION.
12	TYPE 3 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. SEE "BASIS OF PLANNED QUANTITIES" FOR APPLICATION RATES.
13	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING. CANNOT BE INSTALLED SOONER THAN 48 HOURS.

NO	DATE	BY	CKD	APPR	REVISION

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**ANOKA COUNTY  
HIGHWAY DEPT.**

COUNTY PROJECT 22-14-116

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 8 Sheets

STORM DRAINAGE TAB															
NUMBER	TYPE	ACTION	NEW CASTING TYPE	FURNISH AND INSTALL CASTING ASSEMBLY	RING HEIGHT (INCIDENTAL)	REMOVE STRUCTURE	GROUT CATCH BASIN OR MANHOLE	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48"	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60"	CONSTRUCT DRAINAGE STRUCTURE DESIGN 72"	CONSTRUCT DRAINAGE STRUCTURE SPECIAL	CONNECT TO EXISTING STORM SEWER (INCIDENTAL)	NOTES
				EACH	LIN FT	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	
100	48-4020		B-9	1						2.5				1	

CASTING ASSEMBLIES SUMMARY						
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	DESCRIPTION	NOTES	QUANTITY
B-9	805	816		4132		1
ALL CASTING HEIGHTS ARE TO BE VERIFIED IN THE FIELD ALL MANHOLE COVERS SHOULD BE LABELED AS STORM OR SANITARY NEW CASTINGS TO BE INSTALLED AFTER ASPHALT MILLING IS COMPLETED MANHOLE CASTINGS TO BE RECESSED 1/4" FROM TOP OF FINISHED MAT						

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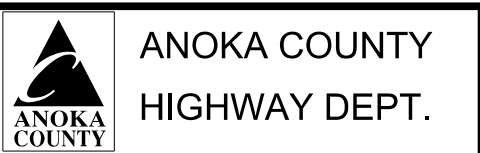
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COUNTY PROJECT 22-14-116

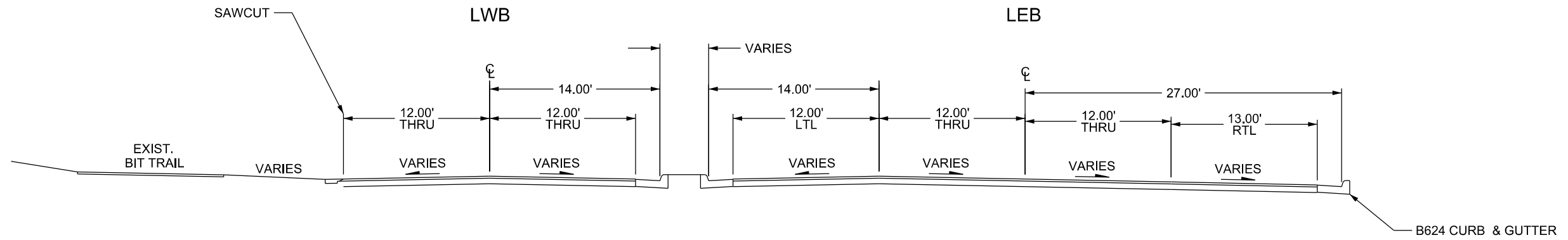
DRAINAGE  
TABULATION

Sheet 3 of 8 Sheets

### CSAH 116 - BUNKER LAKE BLVD

EXISTING SECTION

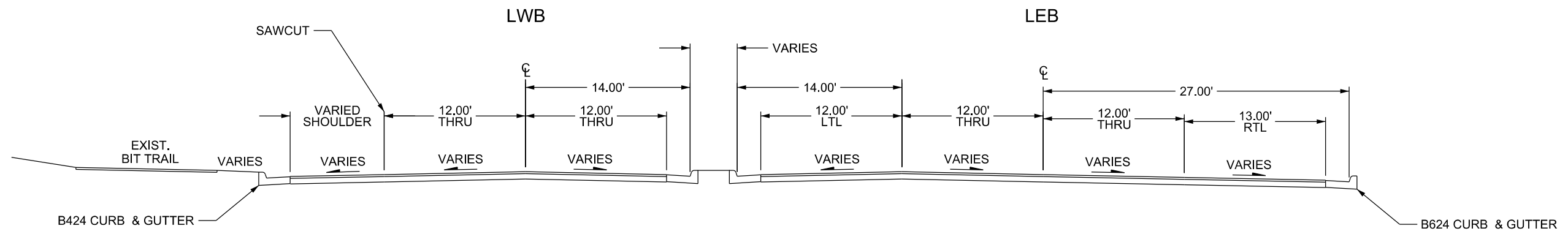
11+97.00 - 15+73.00



### CSAH 116 - BUNKER LAKE BLVD

EXISTING SECTION

15+73.00 - 16+10.00



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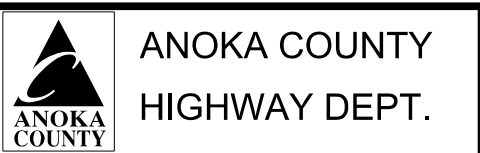
SIGNATURE: *[Signature]*

DATE: 04-07-2022 LICENSE NO. 58657

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COUNTY PROJECT 22-14-116

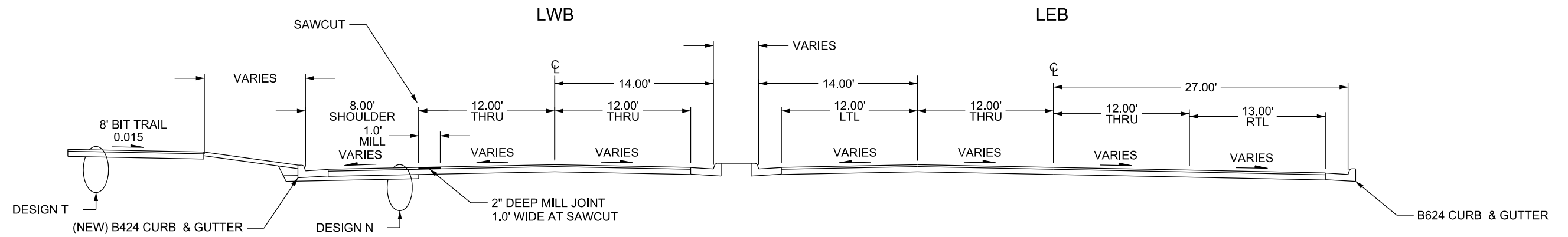
TYPICAL SECTIONS

Sheet 4 of 8 Sheets

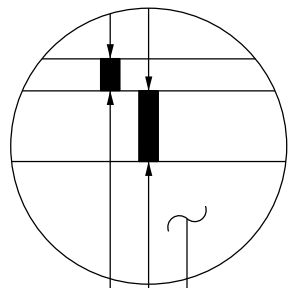
### CSAH 116 - BUNKER LAKE BLVD

#### PROPOSED SECTION

11+97.00 - 16+10.00

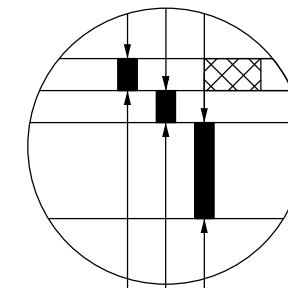


#### DESIGN T TRAIL SECTION



2.5" BITUMINOUS WEAR (SPWEA340B)  
4.0" AGGREGATE BASE  
INPLACE SUBGRADE

#### DESIGN N SHOULDER



2.0" BITUMINOUS WEAR (SPWEB340C)  
2.0" BITUMINOUS WEAR (SPWEB340C)  
6" AGGREGATE BASE, CLASS 5

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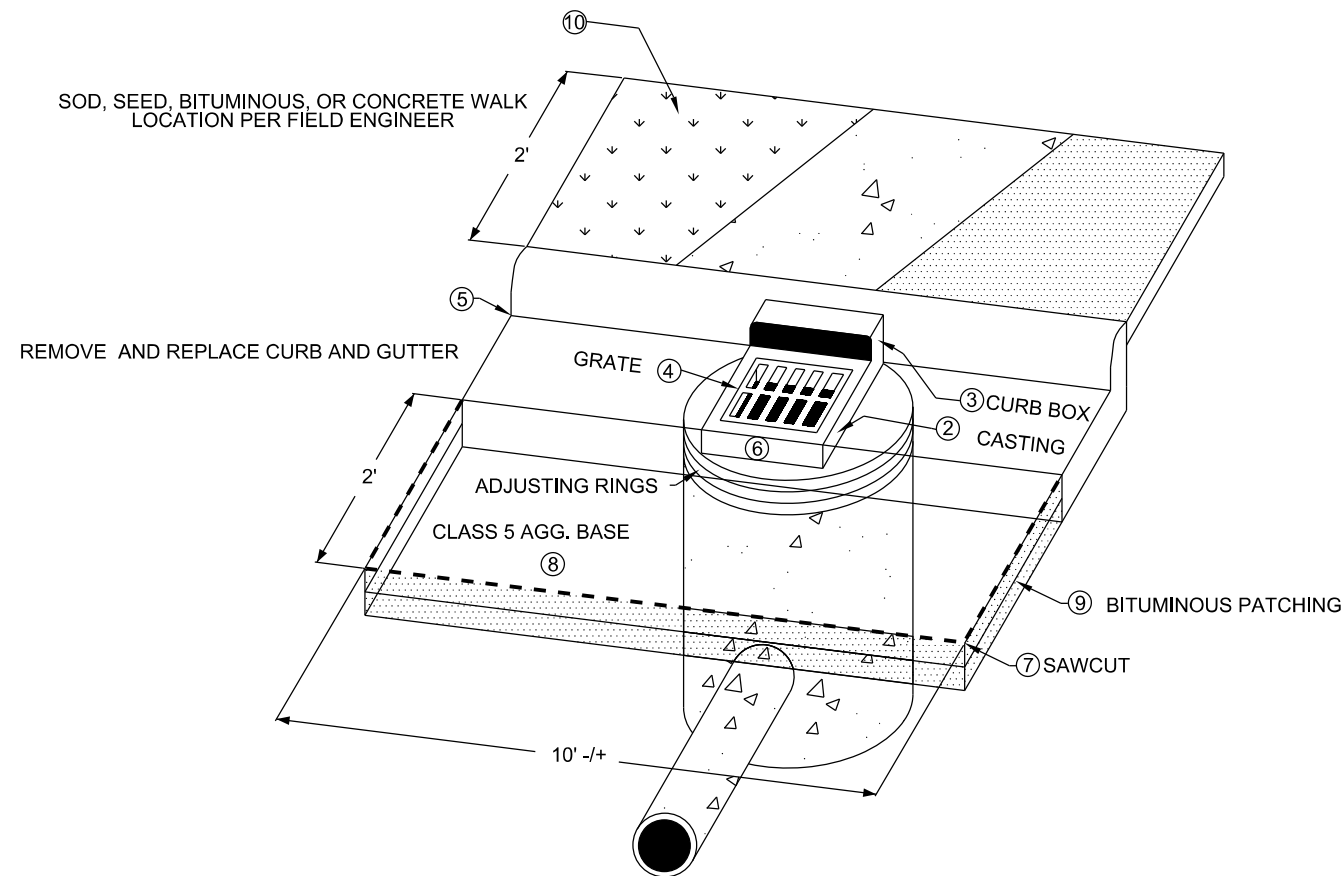


COUNTY PROJECT 22-14-116

TYPICAL SECTIONS  
Sheet 5 of 8 Sheets

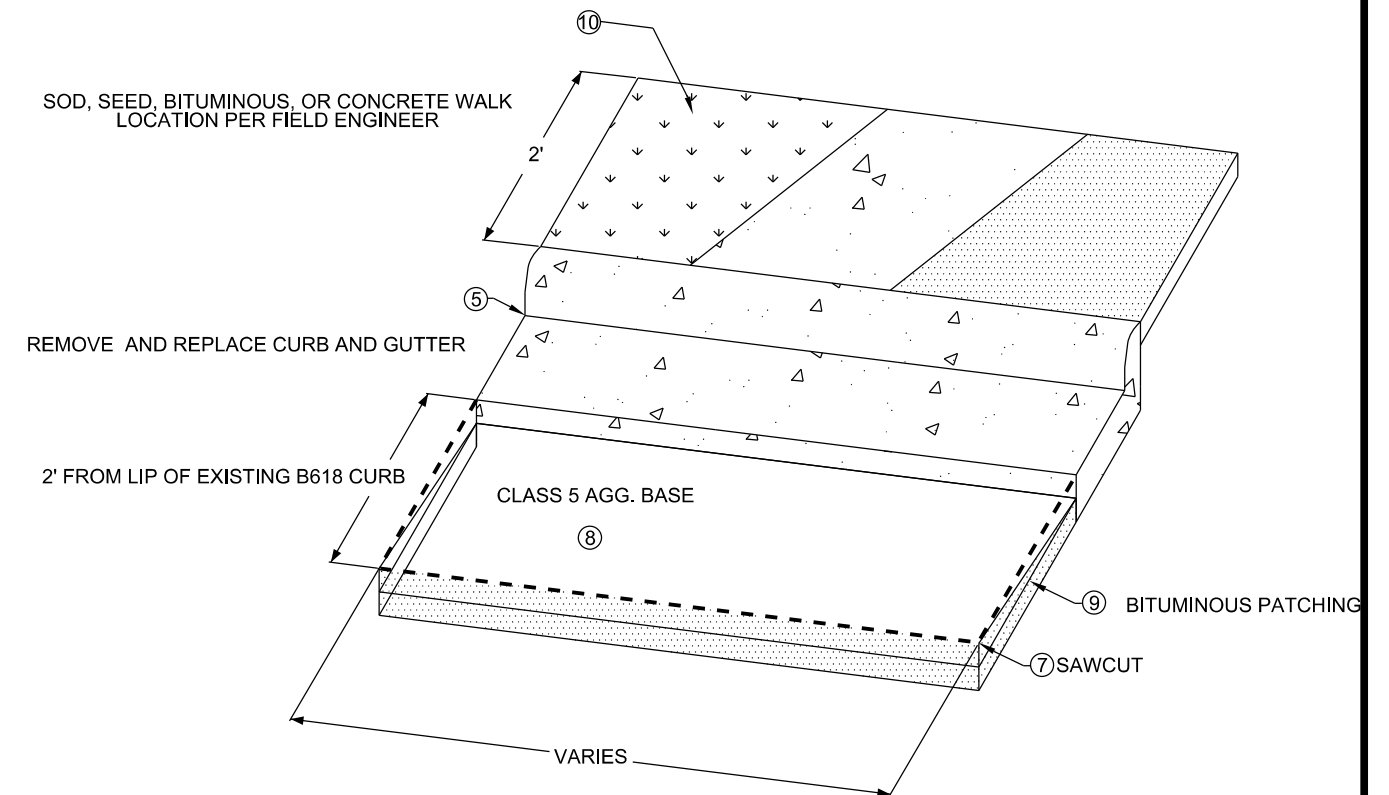
### CATCH BASIN DETAIL

SEE STRUCTURE TAB FOR LOCATION  
(PAGE 8)



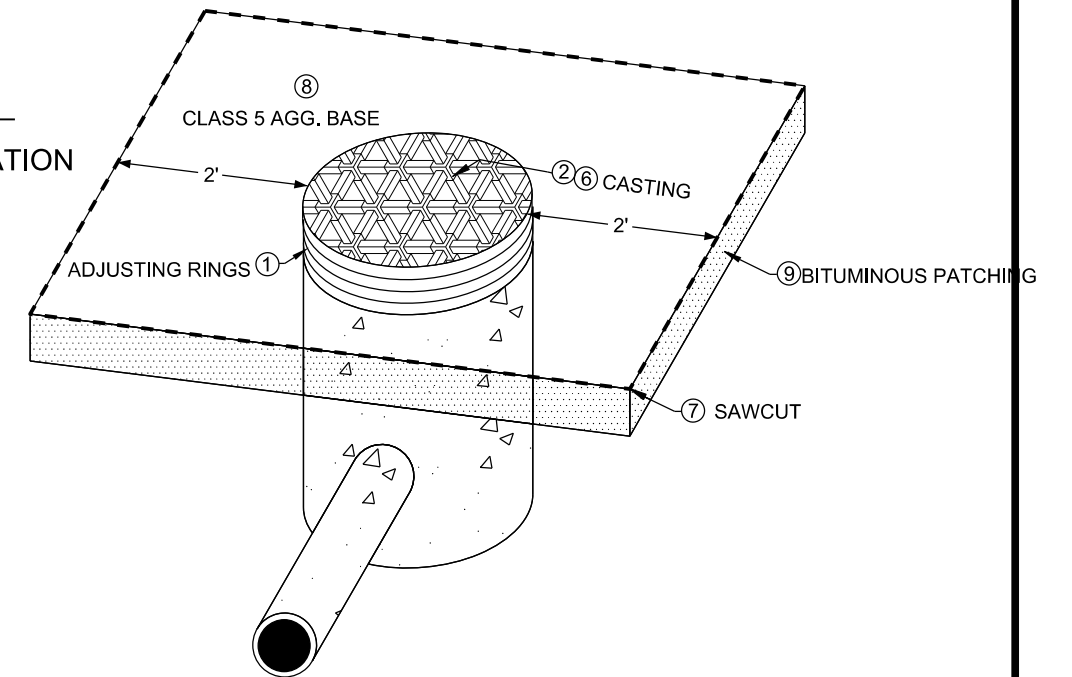
### NEW CURB DETAIL

SEE PLAN FOR LOCATION



### MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION  
(PAGE 8)



### NOTES

FOR TRAFFIC CONTROL AT CATCH BASIN AND MANHOLE REPAIRS REFER TO THE MINNESOTA MANUAL ON TEMPORARY TRAFFIC CONTROL LAYOUTS FIELD MANUAL.

- ① CONCRETE ENCASED CONCRETE ADJUSTING RINGS STANDARD PLATE 4026A
- ② RING AND FRAME CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ③ CURB BOX MATCHES CASTING REFERENCE CHART FOR CASTING TYPE
- ④ GRATE CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ⑤ CONCRETE CURB AND GUTTER DESIGN B STANDARD PLATE 7100H, FORM CURB TO FIT CASTING
- ⑥ INSTALLATION OF CATCH BASIN OR MANHOLE CASTINGS; REFERENCE STANDARD PLATE PER TYPE OF CASTING
- ⑦ SAWCUT BITUMINOUS PAVEMENT / CONCRETE CURB FULL DEPTH.
- ⑧ ADD AND COMPACT AGGREGATE BASE CLASS 5 AROUND REPAIRED STRUCTURE. ITEM INCIDENTAL TO ENTIRE STRUCTURE REPAIR
- ⑨ REMOVE VARIABLE DEPTH BITUMINOUS, PATCH WITH 2, 2" LIFTS OF BITUMINOUS, TOP LIFT SHOULD TAPER TO BOTTOM LIFT AT CURB.
- ⑩ REPLACE DISTURBED AREA BEHIND CATCH BASIN WITH EITHER SOD (RESIDENTAL AREAS), EROSION CONTROL BLANKET, BITUMINOUS, OR CONCRETE

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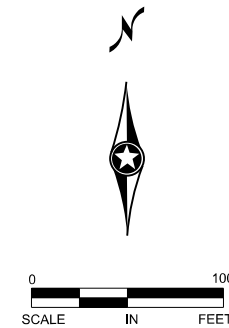
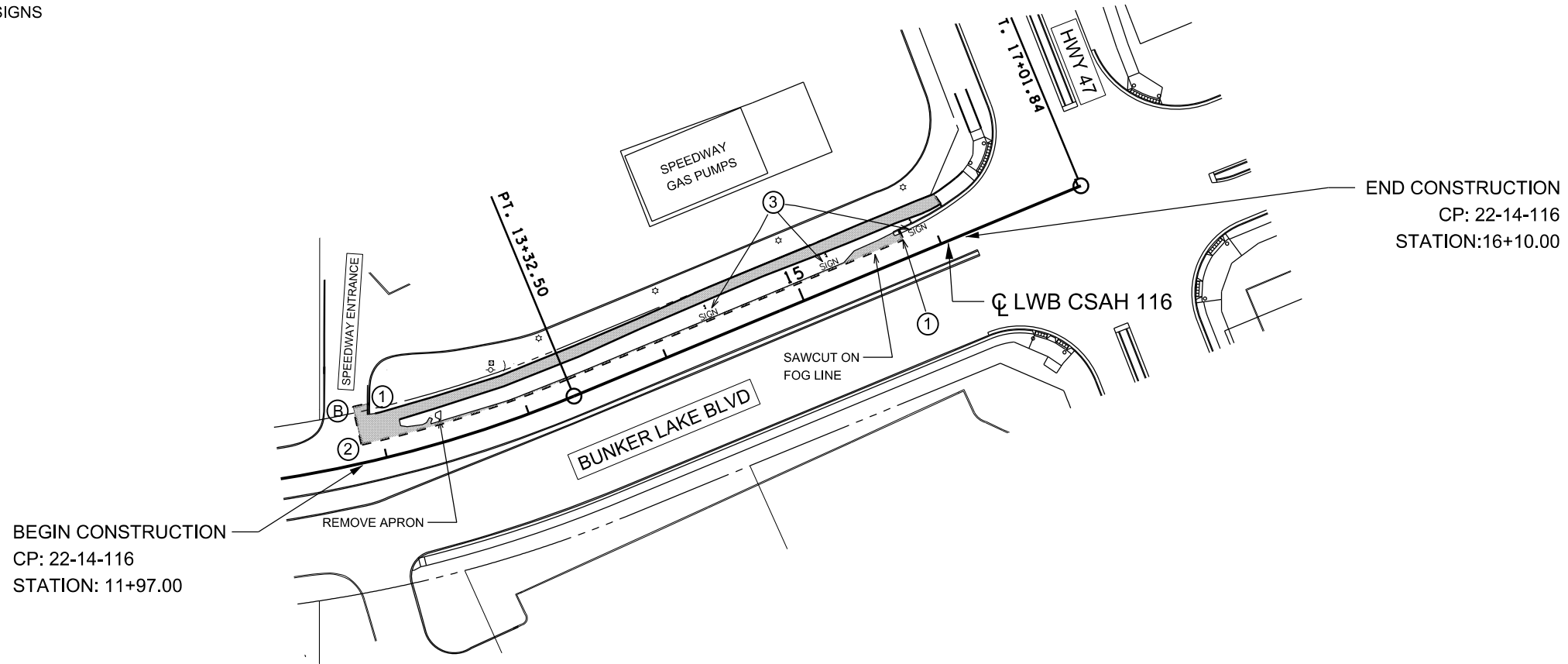
ANOKA COUNTY  
 HIGHWAY DEPT.

COUNTY PROJECT 22-14-116

DETAILS  
 Sheet 6 of 8 Sheets



- ① CONCRETE SAWCUT FOR CURB AND GUTTER REMOVAL SHALL BE INCIDENTAL TO CURB AND GUTTER REMOVAL
- ② MILL BITUMINOUS SURFACE (2.0") ALONG SAWCUT, 1' WIDE
- ③ SALVAGE EXISTING SIGNS



LEGEND		
ⓑ	BITUMINOUS	REMOVE BITUMINOUS WALK/PAVEMENT
ⓐ	CATCH BASIN	R / W
- - -	SAWCUT	
ⓐ	SEWER NUMBER LABEL	

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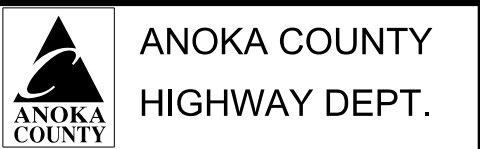
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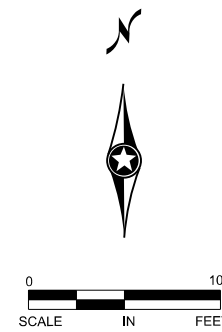
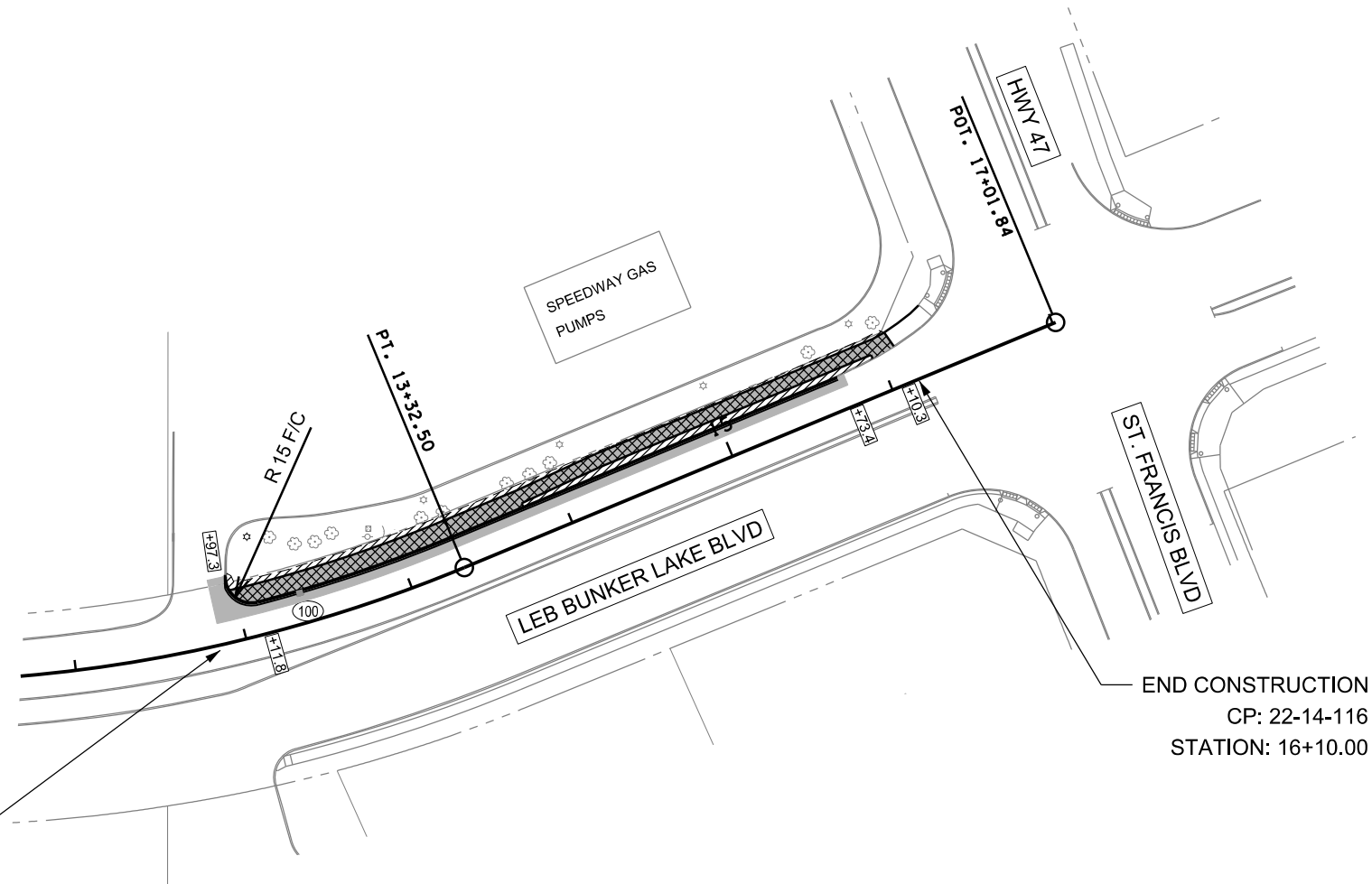
COUNTY PROJECT 22-14-116

REMOVAL PLAN

STA 11+97 TO 16+10

Sheet 7 of 8 Sheets

BEGIN CONSTRUCTION  
CP: 22-14-116  
STATION: 11+97.00



LEGEND			
Ⓟ	BITUMINOUS		BITUMINOUS PAVING (SPWEB340C)
Ⓛ	CATCH BASIN		BITUMINOUS WALK (SPWEA340B)
---	SAWCUT		RESTORATION AREA
Ⓢ	SEWER NUMBER LABEL		
			R/W

NO	DATE	BY	CKD	APPR	REVISION	
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ANOKA COUNTY HIGHWAY DEPT.

COUNTY PROJECT 22-14-116

CONSTRUCTION PLAN  
STA 11+97 TO 16+10  
Sheet 8 of 8 Sheets