

CITY OF RAMSEY

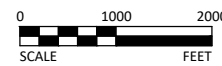
CONSTRUCTION PLANS FOR

THE COR GRADING IMPROVEMENTS

CITY PROJECT NUMBER 23-20

SANITARY SEWER, WATERMAIN, STORM SEWER, SITE GRADING, POND EXCAVATION WITH CLAY LINER,
AND TURF ESTABLISHMENT
JULY, 2023

MAP OF THE
CITY OF RAMSEY
ANOKA COUNTY, MN



MAP LEGEND

PROJECT LIMITS

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL, 1-800-252-1166 OR 651-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."



SHEET NUMBER	SHEET TITLE
GENERAL	
1	TITLE SHEET
2	LEGEND
3	LOCATION PLAN
CIVIL	
4	EXISTING CONDITIONS & REMOVAL PLAN
5 - 14	TABLES, DETAILS, TYPICAL SECTIONS
15 - 18	EROSION CONTROL PLAN, SWPPP
19 - 25	GRADING PLAN
26 - 28	SANITARY & WATER PLAN & PROFILE
29 - 36	STORM SEWER PLAN & PROFILE
THIS PLAN SET CONTAINS 36 SHEETS.	

1

Approved: Anoka County Engineer _____ Date _____

Approved: City Engineer / Director of Public Works _____ Date _____

⚡ BM=870.29 TNH STATION 702+96 - 872' LT FERRET STREET & BUNKER LAKE BLVD, SE DITCH	PROJECT DATUM: HORIZONTAL: ANOKA COUNTY COORDINATES (1996 ADJUSTMENT)	RECORD DRAWING INFORMATION
	VERTICAL: NAVD 88	OBSERVER:
		CONTRACTOR:
		DATE:

CITY OF RAMSEY, MINNESOTA THE COR GRADING IMPROVEMENTS		SHEET 1 OF 36
TITLE SHEET		

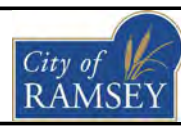
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Kevin P. Kielb
 KEVIN P. KIELB, P.E.
 LIC. NO. 23211 DATE 07/21/2023



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DESIGNED	JDG/ZFL	NO.	0	ISSUED FOR	BID	DATE	07/21/2023
DRAWN	JDG/ICB/MAJ	1	ADD 2				07/28/2023
CHECKED	KPK						
CLIENT PROJ. NO.	23-20						

EXISTING TOPOGRAPHIC SYMBOLS

	ACCESS GRATE		REGULATION STATION GAS
	AIR CONDITION UNIT		SATELLITE DISH
	ANTENNA		SIGN NON TRAFFIC
	AUTO SPRINKLER CONNECTION		SIGN TRAFFIC
	BARRICADE PERMANENT		SIGNAL CONTROL CABINET
	BASKETBALL POST		SOIL BORING
	BENCH		SIREN
	BIRD FEEDER		TELEPHONE BOOTH
	BOLLARD		TILE INLET
	BUSH		TILE OUTLET
	CATCH BASIN RECTANGULAR CASTING		TILE RISER
	CATCH BASIN CIRCULAR CASTING		TRANSFORMER-ELECTRIC
	CURB STOP		TREE-CONIFEROUS
	CLEAN OUT		TREE-DEAD
	CULVERT END		TREE-DECIDUOUS
	DRINKING FOUNTAIN		TREE STUMP
	DOWN SPOUT		TRAFFIC ARM BARRIER
	FILL PIPE		TRAFFIC SIGNAL
	FIRE HYDRANT		TRASH CAN
	FLAG POLE		UTILITY MARKER
	FLARED END / APRON		VALVE
	FUEL PUMP		VALVE POST INDICATOR
	GRILL		VALVE VAULT
	GUY WIRE ANCHOR		VAULT
	HANDHOLE		VENT PIPE
	HANDICAP SPACE		WATER SPIGOT
	IRRIGATION SPRINKLER HEAD		WELL
	IRRIGATION VALVE BOX		WETLAND DELINEATED MARKER
	LIFT STATION CONTROL PANEL		WETLAND
	LIFT STATION		WET WELL
	LIGHT ON POLE		YARD HYDRANT
	LIGHT-GROUND		
	MAILBOX		

PROPOSED TOPOGRAPHIC SYMBOLS

	CLEANOUT
	MANHOLE
	LIFT STATION
	STORM SEWER CIRCULAR CASTING
	STORM SEWER RECTANGULAR CASTING
	STORM SEWER FLARED END / APRON
	STORM SEWER OUTLET STRUCTURE
	STORM SEWER OVERFLOW STRUCTURE
	CURB BOX
	FIRE HYDRANT
	WATER VALVE
	WATER REDUCER
	WATER BEND
	WATER TEE
	WATER CROSS
	WATER SLEEVE
	WATER CAP / PLUG
	RIP RAP
	DRAINAGE FLOW
	TRAFFIC SIGNS

SURVEY SYMBOLS

	BENCHMARK LOCATION		CAST IRON MONUMENT
	CONTROL POINT		STONE MONUMENT
	MONUMENT FOUND		

EXISTING TOPOGRAPHIC LINES

	RETAINING WALL
	FENCE
	FENCE-DECORATIVE
	GUARD RAIL
	TREE LINE
	BUSH LINE

SURVEY LINES

	CONTROLLED ACCESS
	BOUNDARY
	CENTERLINE
	EXISTING EASEMENT LINE
	PROPOSED EASEMENT LINE
	EXISTING LOT LINE
	PROPOSED LOT LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	SETBACK LINE
	SECTION LINE
	QUARTER LINE
	SIXTEENTH LINE
	TEMPORARY EASEMENT

EXISTING UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE

PROPOSED UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	PIPE CASING
	TRENCHLESS PIPE (PLAN VIEW)
	TRENCHLESS PIPE (PROFILE VIEW)

GRADING INFORMATION

	EXISTING CONTOUR MINOR
	EXISTING CONTOUR MAJOR
	PROPOSED CONTOUR MINOR
	PROPOSED CONTOUR MAJOR
	PROPOSED GRADING LIMITS / SLOPE LIMITS
	PROJECT LIMITS
	PROPOSED SPOT ELEVATION
	RISE:RUN (SLOPE)

HATCH PATTERNS

	BITUMINOUS		GRAVEL
	CONCRETE		

EXISTING PRIVATE UTILITY LINES

NOTE:
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	UNDERGROUND FIBER OPTIC
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS
	UNDERGROUND COMMUNICATION
	OVERHEAD ELECTRIC
	OVERHEAD COMMUNICATION
	OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL :

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-02.

UTILITY QUALITY LEVELS:

QUALITY LEVEL D: PROVIDES THE MOST BASIC LEVEL OF INFORMATION. IT INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS. RECORDS MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICES MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASES, CONSTRUCTION PLANS, ETC.

QUALITY LEVEL C: INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. INCLUDES QUALITY LEVEL D ACTIVITIES.

QUALITY LEVEL B: INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND COLLECTING THE INFORMATION THROUGH A SURVEY METHOD. INCLUDES QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL A: PROVIDES THE HIGHEST LEVEL OF ACCURACY. IT INVOLVES LOCATING OR POTHOLING UTILITIES AS WELL AS ACTIVITIES IN QUALITY LEVELS B, C, AND D. THE LOCATED FACILITY INFORMATION IS SURVEYED AND MAPPED AND THE DATA PROVIDES PRECISE PLAN AND PROFILE INFORMATION.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GRAV	GRAVEL	RSC	RIGID STEEL CONDUIT
ADJ	ADJUST	GU	GUTTER	RT	RIGHT
ALT	ALTERNATE	GV	GATE VALVE	SAN	SANITARY SEWER
B-B	BACK TO BACK	HDPE	HIGH DENSITY POLYETHYLENE	SCH	SCHEDULE
BIT	BITUMINOUS	HH	HANDHOLE	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL	CLASS	MAX	MAXIMUM	TYP	TYPICAL
CLVT	CULVERT	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VERT	VERTICAL
C.O.	CHANGE ORDER	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CON	CONCRETE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
CSP	CORRUGATED STEEL PIPE	NTS	NOT TO SCALE	WM	WATERMAIN
DIA	DIAMETER	NWL	NORMAL WATER LEVEL		
DIP	DUCTILE IRON PIPE	OHW	ORDINARY HIGH WATER LEVEL		
DWY	DRIVEWAY	PC	POINT OF CURVE	AC	ACRES
E	EXTERNAL CURVE DISTANCE	PCC	POINT OF COMPOUND CURVE	CF	CUBIC FEET
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CV	COMPACTED VOLUME
ELEV	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CY	CUBIC YARD
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	EA	EACH
ER	END RADIUS	PERM	PERMANENT	EV	EXCAVATED VOLUME
ESMT	EASEMENT	PI	POINT OF INTERSECTION	LB	POUND
EX	EXISTING	PL	PROPERTY LINE	LF	LINEAR FEET
FES	FLARED END SECTION	PRC	POINT OF REVERSE CURVE	LS	LUMP SUM
F-F	FACE TO FACE	PT	POINT OF TANGENT	LV	LOOSE VOLUME
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE PIPE	SF	SQUARE FEET
F&I	FURNISH AND INSTALL	PVMT	PAVEMENT	SV	STOCKPILE VOLUME
FM	FORCEMAIN	R	RADIUS	SY	SQUARE YARD
FO	FIBER OPTIC	R/W	RIGHT-OF-WAY		
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE		
GRAN	GRANULAR	RET	RETAINING		

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LIC. NO. 23211 DATE 07/21/2023



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DRAWN	JDG/ICB/MAJ	1	ADD 2	07/28/2023			
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CLIENT PROJ. NO.	23-20						

CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS

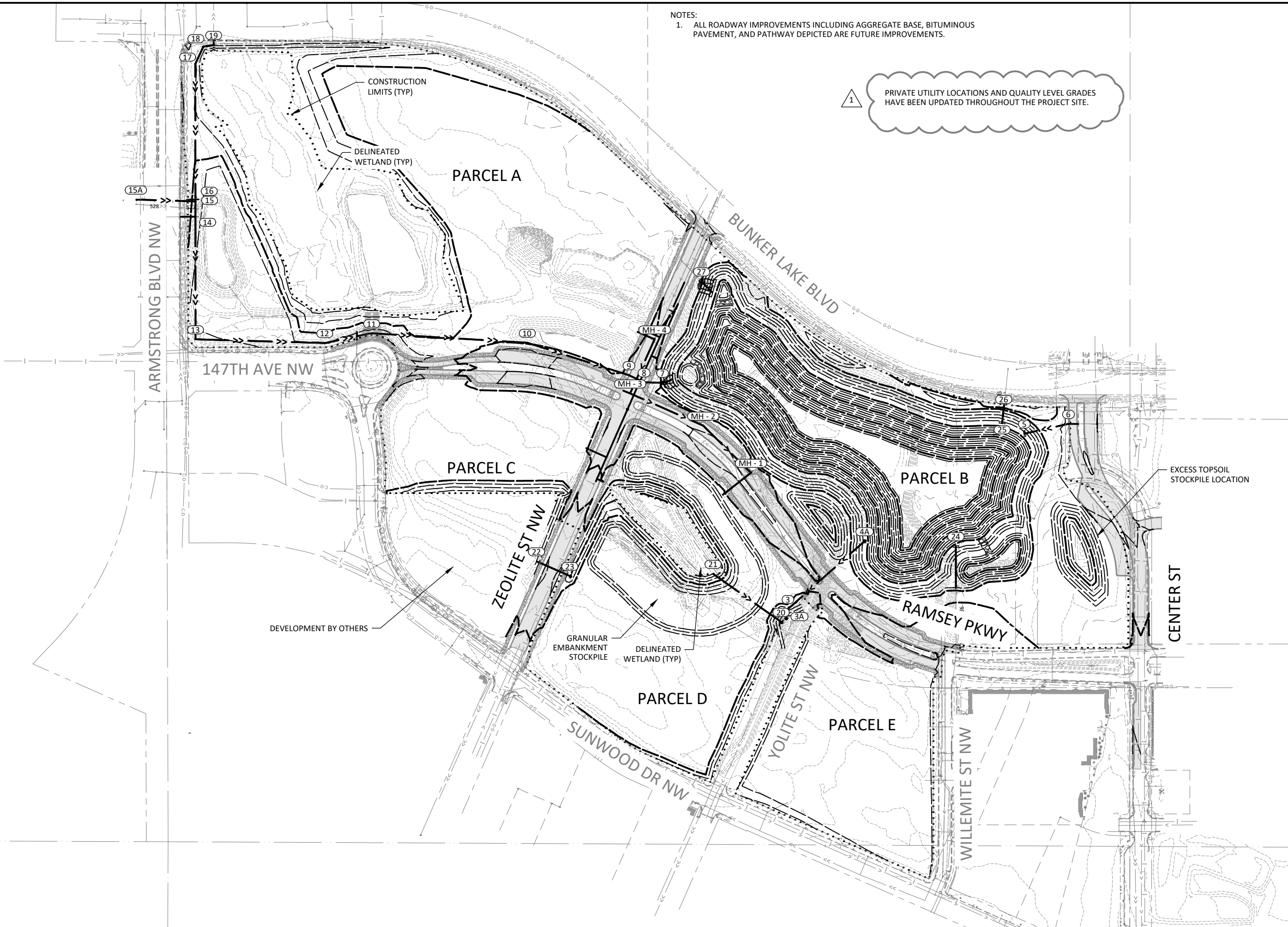
LEGEND

SHEET 2 OF 36

NOTES:
 1. ALL ROADWAY IMPROVEMENTS INCLUDING AGGREGATE BASE, BITUMINOUS PAVEMENT, AND PATHWAY DEPICTED ARE FUTURE IMPROVEMENTS.



PRIVATE UTILITY LOCATIONS AND QUALITY LEVEL GRADES HAVE BEEN UPDATED THROUGHOUT THE PROJECT SITE.



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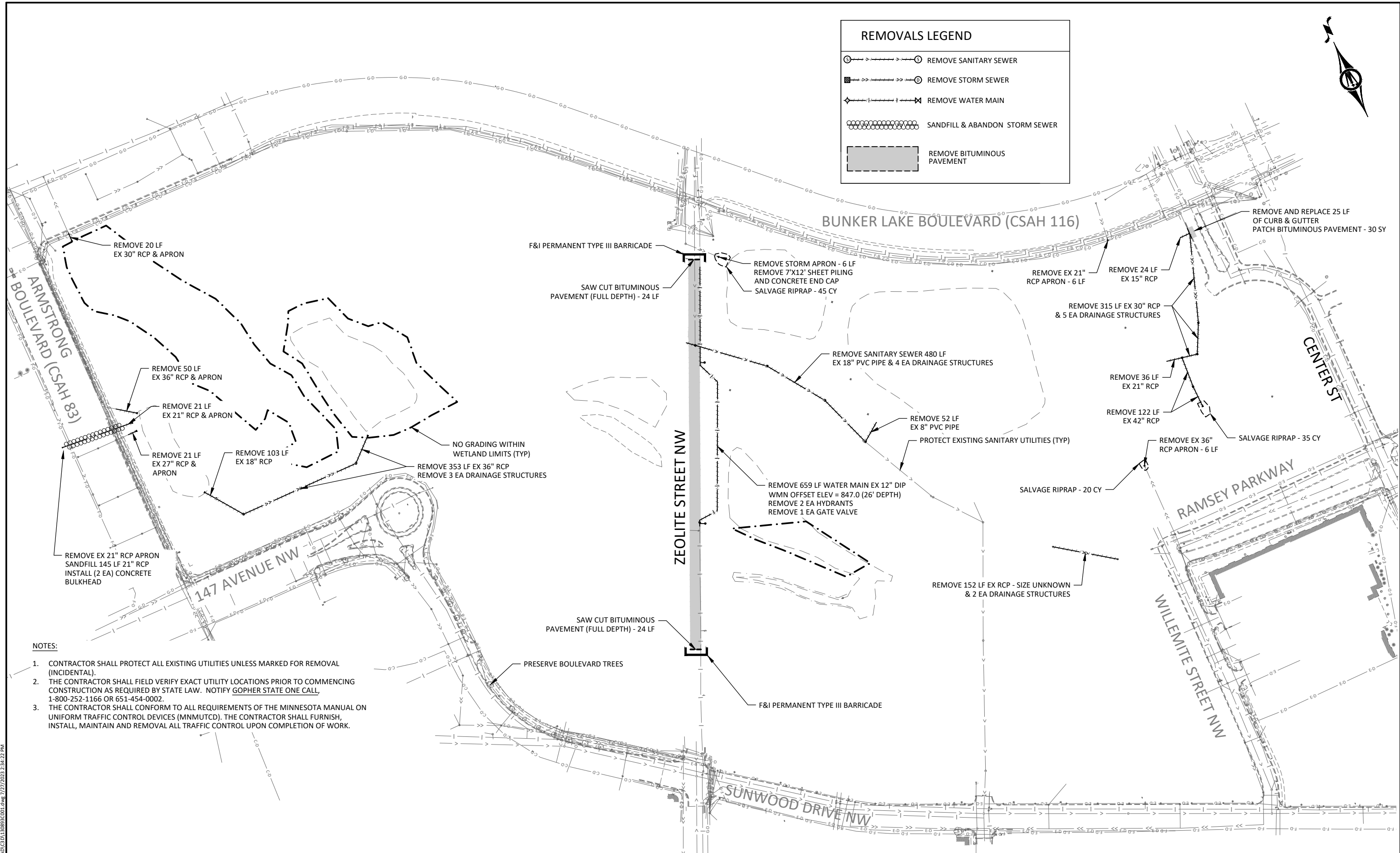
CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 GENERAL
 LOCATION PLAN

SHEET
 3
 OF
 36



REMOVALS LEGEND

- REMOVE SANITARY SEWER
- REMOVE STORM SEWER
- REMOVE WATER MAIN
- SANDFILL & ABANDON STORM SEWER
- REMOVE BITUMINOUS PAVEMENT



- NOTES:**
- CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES UNLESS MARKED FOR REMOVAL (INCIDENTAL).
 - THE CONTRACTOR SHALL FIELD VERIFY EXACT UTILITY LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL, 1-800-252-1166 OR 651-454-0002.
 - THE CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MNMUTCD). THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVAL ALL TRAFFIC CONTROL UPON COMPLETION OF WORK.



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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 EXISTING CONDITIONS & REMOVAL PLAN

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STATEMENT OF ESTIMATED QUANTITIES			
ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
1	MOBILIZATION	LUMP SUM	1
2	REMOVE MANHOLE OR CATCH BASIN (STORM)	EACH	10
3	REMOVE SHEET PILING AND CONCRETE END CAP	EACH	1
4	REMOVE MANHOLE (SANITARY)	EACH	4
5	REMOVE GATE VALVE & BOX	EACH	1
6	REMOVE HYDRANT	EACH	2
7	REMOVE STORM PIPE	LIN FT	1,235
8	REMOVE SANITARY PIPE	LIN FT	532
9	REMOVE WATERMAIN	LIN FT	659
10	REMOVE AND REPLACE CURB & GUTTER	LIN FT	25
11	SAW CUT BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	48
12	REMOVE BITUMINOUS PAVEMENT	SQ YD	2,440
13	BITUMINOUS PATCH SPECIAL	SQ YD	30
14	SALVAGE & REINSTALL RIPRAP	CU YD	100
15	EXCAVATION - COMMON (EV)	CU YD	366,900
16	EXCAVATION - SUBGRADE (EV)	CU YD	5,550
17	COMMON EMBANKMENT (CV)	CU YD	284,250
18	DEWATERING	LUMP SUM	1
19	EXCAVATION SPECIAL (EV)	CU YD	160,920
20	EMBANKMENT SPECIAL (CV)	CU YD	146,310
21	CLAY LINER (CV) (P)	CU YD	26,100
22	STOCKPILE EXCESS TOPSOIL (SV)	CU YD	10,470
23	STREET SWEEPER (WITH PICKUP BROOM)	HOURL	25
24	SKID LOADER	HOURL	50
25	15" CMP APRON	EACH	2
26	15" RC PIPE APRON	EACH	2
27	21" RC PIPE APRON	EACH	1
28	24" RC PIPE APRON	EACH	1
29	30" RC PIPE APRON	EACH	1
30	36" RC PIPE APRON	EACH	1
31	TRENCHLESS STORM SEWER	LIN FT	136
32	8" CONCRETE HEADWALL	EACH	3
33	15" CMP	LIN FT	100
34	15" RC PIPE SEWER CLASS V	LIN FT	217
35	21" RC PIPE SEWER CLASS IV	LIN FT	47
36	24" RC PIPE SEWER CLASS III	LIN FT	448
37	30" RC PIPE SEWER CLASS IV	LIN FT	417
38	36" RC PIPE SEWER CLASS III	LIN FT	122
39	48" RC PIPE SEWER CLASS III	LIN FT	1,715
40	CONNECT TO EXISTING STORM SEWER	EACH	7
41	6" DIP WATERMAIN CL 53	LIN FT	32
42	8" DIP WATERMAIN CL 52	LIN FT	120
43	12" DIP WATERMAIN CL 52	LIN FT	620
44	6" GATE VALVE AND BOX	EACH	2
45	8" GATE VALVE AND BOX	EACH	2
46	12" GATE VALVE AND BOX	EACH	3
47	HYDRANT	EACH	2
48	WATERMAIN FITTINGS	LBS	1,700
49	CONNECT TO EXISTING WATER MAIN	EACH	3
50	CONNECT TO EXISTING SANITARY SEWER	EACH	2
51	CLEAN & VIDEO TAPE PIPE SEWER	LIN FT	740
52	8" PVC PIPE SEWER	LIN FT	170
53	18" PVC PIPE SEWER	LIN FT	570
54	4" INSULATION	SQ YD	20
55	CONSTRUCT SANITARY SEWER MANHOLE	LIN FT	47
56	CONSTRUCT DRAINAGE STRUCTURE DES 48-4020	LIN FT	20
57	CONSTRUCT DRAINAGE STRUCTURE DES 60-4020	LIN FT	11
58	CONSTRUCT DRAINAGE STRUCTURE DES 72-4020	LIN FT	31
59	CONSTRUCT DRAINAGE STRUCTURE DES 84-4020	LIN FT	18
60	CONSTRUCT DRAINAGE STRUCTURE DES 108-4020	LIN FT	22
61	CONSTRUCT DRAINAGE STRUCTURE DES 60-4022	LIN FT	12
62	CONSTRUCT DRAINAGE STRUCTURE DESIGN 84-4022	LIN FT	15
63	CONSTRUCT DRAINAGE STRUCTURE - OUTLET CONTROL STRUCTURE (5' DIA)	EACH	1
64	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (SPLITTER STRUCTURE 7)	EACH	1
65	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (SPLITTER STRUCTURE 27)	EACH	1

66	CASTING ASSEMBLY, STORM	EACH	15
67	CASTING ASSEMBLY, SANITARY	EACH	4
68	ADJUST FRAME & RING CASTING	EACH	10
69	RANDOM RIPRAP CLASS III	CU YD	85
70	TRAFFIC CONTROL	LUMP SUM	1
71	F&I PERMANENT TYPE III BARRICADES	EACH	2
72	EROSION CONTROL SUPERVISOR	LUMP SUM	1
73	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1
74	STORM DRAIN INLET PROTECTION	EACH	48
75	SILT FENCE, TYPE MS	LIN FT	9,190
76	TEMPORARY STABILIZATION	ACRE	50
77	TOPSOIL PLACEMENT (CV)	CU YD	39,400
78	ROLLED EROSION PREVENTION CATEGORY 20	SQ YD	15,500
79	SEED MIXTURE 25-141	POUND	3,700
80	SEED MIXTURE 34-263	POUND	70
81	SEED MIXTURE 38-631	POUND	70
82	HYDRAULIC MULCH MATRIX	POUND	117,300
83	SEED MIXTURE NATIVE GRASS - CUSTOM	POUND	60
84	WATER FOR DUST CONTROL	MGAL	2,000

EARTHWORK SUMMARY TABLE NOTES:

- PAID FOR AS EXCAVATION - COMMON. TOPSOIL EXCAVATION DEPTHS ARE BASED ON SOIL BORINGS (SEE PROJECT MANUAL).
- EXCAVATION BELOW TOPSOIL STRIPPING TO PROPOSED SUBGRADE (BOTTOM OF PROPOSED TOPSOIL, BOTTOM OF CLAY LINER, AND BOTTOM OF FUTURE ROAD SECTIONS).
- 4" OF TOPSOIL ACROSS FUTURE STREET DEVELOPMENT AND 6" OF TOPSOIL IN POND PROPERTY (EXCLUDING BELOW NWL).
- ASSUMES 1.10 SHRINKAGE FACTOR.
- PLACEMENT OF EMBANKMENT ANTICIPATING HOLD-DOWN FOR TOPSOIL PLACEMENT.
- PAID FOR AS COMMON EMBANKMENT.
- STOCKPILE EXCESS ONSITE AS SHOWN ON PLANS AND AS DIRECTED BY THE ENGINEER.
- CONTRACTOR SHALL EXCAVATE IN PLACE SOILS TO DEPTHS SHOWN ON PLANS AND RECOMPACT TO 98% DENSITY AS DIRECTED BY THE ENGINEER IN THE FIELD. CONTRACTOR SHALL NOTIFY ENGINEER IF ORGANIC SOILS ARE ENCOUNTERED.
- INCLUDES TOPSOIL EXCAVATION AND REGULAR EXCAVATION.
- INCLUDES EXCESS EMBANKMENT MATERIAL GENERATED AND EXCESS TOPSOIL.
- ASSUMES 1.15 SWELL FACTOR.

GENERAL GRADING/EARTHWORK NOTES:

- SPOT ELEVATIONS AND CONTOUR LABELS REPRESENT FINISHED GROUND SURFACE AND FUTURE ROADWAY FINISHED GROUND SURFACE.
- CONTRACTOR SHALL IMPORT AND INSTALL CLAY LINER.
- NO GRADING MATERIAL IS ANTICIPATED TO BE HAULED OFF SITE. ALL EXCESS MATERIAL WILL BE STOCKPILED OR USED AS EMBANKMENT ON SITE AS DIRECTED BY THE ENGINEER.
- SUBGRADE EXCAVATION SHALL BE COMPLETED IN THE AREAS DISPLAYED ON SHEET 24, AS DIRECTED BY THE ENGINEER.
- ALL REMOVALS SHALL BE DISPOSED OF OFF SITE.

STRUC NO.	Size	TYPE	Detail	CASTING ASSEMBLY TYPE
3	5'	MH	STO-1	R-1733
3A	30"	APRON		
4A	5'	OCS	C	
6	5'	CBMH	STO-1	R-3067-VB
7		SPLITTER		
8	6'	CBMH	STO-1	R-3067-VB
9	6'	CBMH	STO-1	R-3067-VB
10	6'	MH	STO-1	R-2560-E
11	6'	MH	STO-3	R-1733
12	6'	MH	STO-3	R-1733
13	9'	MH	STO-3	R-1733
14	7'	MH	STO-1	R-1733
15	7'	MH	STO-1	R-1733
15A	24"	APRON		
16	9'	MH	STO-1	R-1733
17	4'	MH	STO-1	R-1733
18	4'	MH	STO-1	R-1733
19	5'	MH	STO-1	R-1733
20	15"	APRON		
21	15"	APRON		
22	15"	APRON		
23	15"	APRON		
24	36"	APRON		
25	21"	APRON		
26	4'	MH	STO-3	R-1733
27		SPLITTER		

SEQ NOTES:

- PAYMENT FOR CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (SPLITTER STRUCTURE) SHALL BE AT THE UNIT PRICE BID PER EACH STRUCTURE COMPLETE IN PLACE, AS SPECIFIED AND DETAILED ON THE PLANS. THE AMOUNT BID INCLUDES ALL WORK AND MATERIALS REQUIRED TO COMPLETE THE STRUCTURE, AND DETAILS ON THE PLANS. THE AMOUNT BID INCLUDES ALL WORK AND MATERIALS REQUIRED TO COMPLETE THE STRUCTURE, MATERIALS INCLUDE BUT NOT LIMITED TO MANHOLE, BAFFLE, HEADWALL, HDPE PIPE, GRANULAR BEDDING, AND CONCRETE RECEIVING BASE.

NOTES	DESCRIPTION	THE COR EARTHWORK SUMMARY									
		VOLUME (CY)					TOTAL				
		PARCEL A	PARCEL B	PARCEL C	PARCEL D	PARCEL E	RAMSEY PARKWAY	ZEOLITE STREET	YOLITE STREET	TOTAL	
SITE EXCAVATION											
1	TOPSOIL STRIPPING (EV)	21,100	9,400	5,900	6,900	4,400	3,800	600	900	53,000	
1, 2	EXCAVATION - COMMON (EV)	3,700	304,500	100	300	200	2,600	2,500	0	313,900	
	TOTAL	24,800	313,900	6,000	7,200	4,600	6,400	3,100	900	366,900	
EXCAVATE & RE-COMPACT											
8	EXCAVATION SPECIAL (EV)	17,650	43,890	13,580	45,250	29,500	11,050	0	0	160,920	
8	EMBANKMENT SPECIAL (CV)	16,050	39,900	12,350	41,140	26,820	10,050	0	0	146,310	
	SUBGRADE EXCAVATION (EV)	0	0	0	3,050	2,500	0	0	0	5,550	
TOPSOIL BALANCE											
3	TOPSOIL REQUIRED (CV)	13,900	7,500	3,200	7,400	4,700	2,000	700	0	39,400	
4	SUITABLE TOPSOIL FROM STRIPPING (CV)	19,200	8,600	5,400	6,300	4,000	3,500	600	900	48,500	
4,7	EXCESS TOPSOIL (CV)	5,300	1,100	2,200	-1,100	-700	1,500	-100	900	9,100	
GRADING MATERIAL BALANCE											
	CLAY LINER (CV) (P)	0	26,100	0	0	0	0	0	0	26,100	
4,10	EMBANKMENT MATERIAL GENERATED (CV)	3,400	276,900	100	300	200	2,400	2,300	0	285,600	
4,5,6	COMMON EMBANKMENT REQUIRED (CV)	72,800	27,200	32,800	101,350	37,800	11,500	600	200	284,250	
EARTHWORK QUANTITIES TO SEQ											
9	EXCAVATION - COMMON (EV)	24,800	313,900	6,000	7,200	4,600	6,400	3,100	900	366,900	
	EXCAVATION - SUBGRADE (EV)	0	0	0	3,050	2,500	0	0	0	5,550	
	COMMON EMBANKMENT (CV)	72,800	27,200	32,800	101,350	37,800	11,500	600	200	284,250	
	EXCAVATION SPECIAL (EV)	17,650	43,890	13,580	45,250	29,500	11,050	0	0	160,920	
	EMBANKMENT SPECIAL (CV)	16,050	39,900	12,350	41,140	26,820	10,050	0	0	146,310	
	CLAY LINER (CV) (P)	0	26,100	0	0	0	0	0	0	26,100	
11	STOCKPILE EXCESS TOPSOIL (SV)	6,100	1,270	2,530	-1,270	-810	1,730	-120	1,040	10,470	
	TOPSOIL PLACEMENT (CV)	13,900	7,500	3,200	7,400	4,700	2,000	700	0	39,400	

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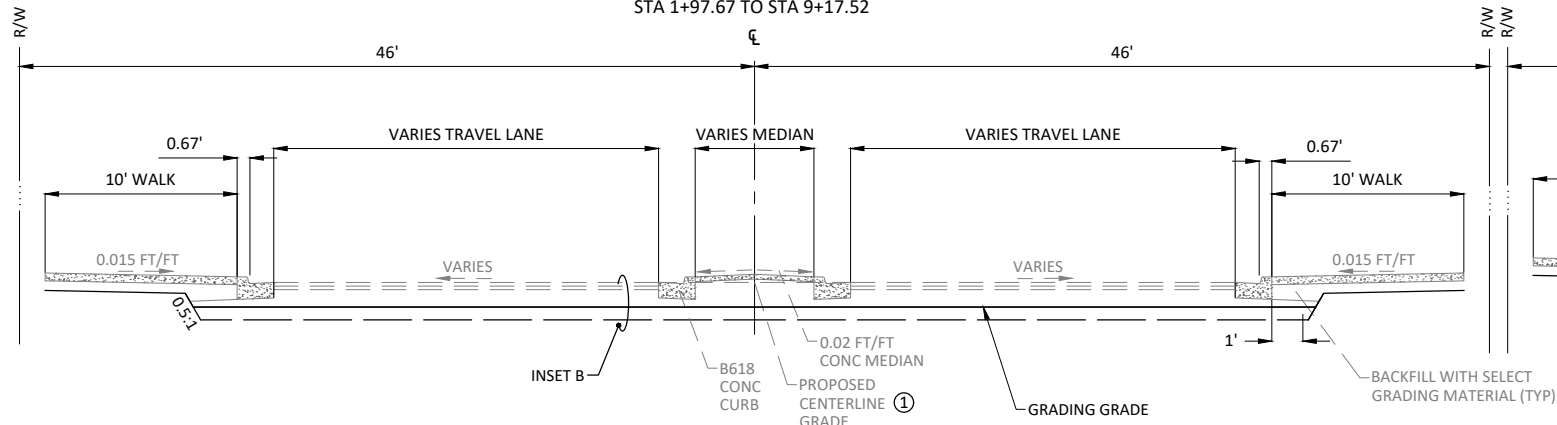


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JDG/ICB/MAJ	1	ADD 2	07/28/2023
CHECKED	2	ADD 3	08/01/2023
KPK			
CLIENT PROJ. NO.	23-20		

CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
TABLES
STATEMENT OF ESTIMATE QUANTITIES & EARTHWORK SUMMARY

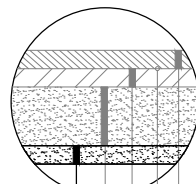
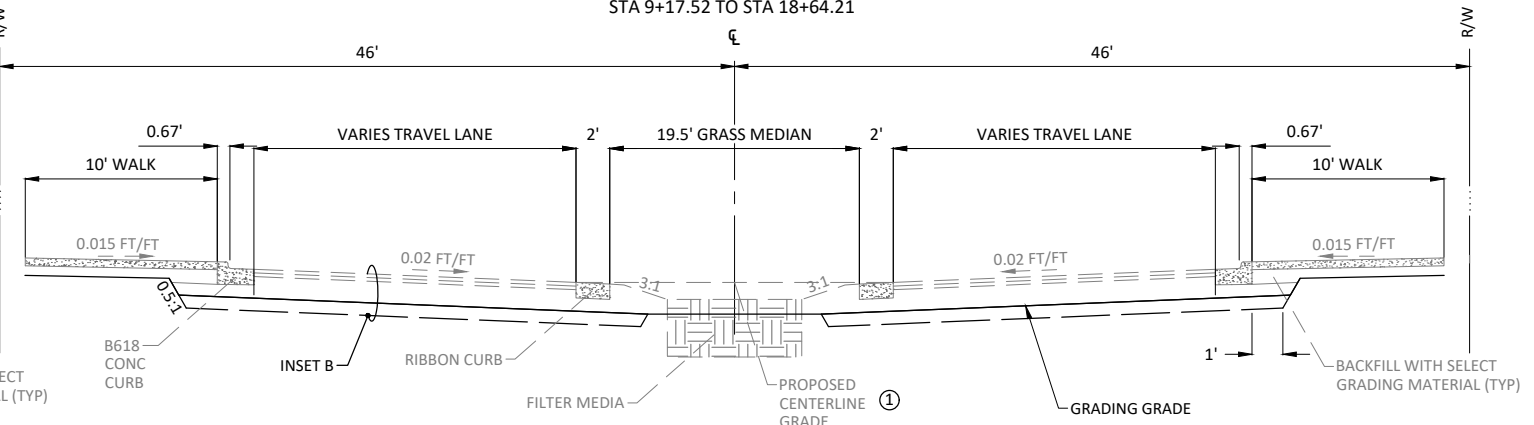
TYPICAL SECTION
RAMSEY PARKWAY - CROWNED GRASS MEDIUM (SUPERELEVATED PAVEMENT SECTION)
 NOT TO SCALE

STA 1+97.67 TO STA 9+17.52



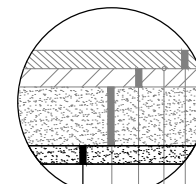
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RAMSEY PARKWAY - DEPRESSED GRASS MEDIUM
 NOT TO SCALE

STA 9+17.52 TO STA 18+64.21



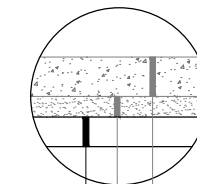
- 2" TYPE SP 9.5 WEARING COURSE (SPWEA340C) (2360) ①
- BITUMINOUS TACK COAT (2357) (INCIDENTAL)
- 3" TYPE SP 12.5 NON WEARING COURSE (SPNWB330C) (2360)
- 6" AGGREGATE BASE CL 5, MOD (2211)
- SUBGRADE PREPARATION (2112) (INCIDENTAL)

INSET A - BITUMINOUS ROADWAY
 NOT TO SCALE



- 4.0" TYPE SP 9.5 WEARING COURSE - 2 LIFTS (SPWEA340C) (2360) ①
- BITUMINOUS TACK COAT (2357) (INCIDENTAL)
- 2.0" TYPE SP 12.5 NON WEARING COURSE (SPNWB330C) (2360)
- 12" AGGREGATE BASE CL 5, MOD (2211)
- SUBGRADE PREPARATION (2112) (INCIDENTAL)

INSET B - BITUMINOUS ROADWAY
 NOT TO SCALE



- 6" CONCRETE WALK (2521) ①
- 4" AGGREGATE BASE CL 5, MOD (2211) (SEE STR-26)
- SUBGRADE PREPARATION (2112) (INCIDENTAL)

PEDESTRIAN RAMP
 NOT TO SCALE

- NOTES:**
1. FUTURE IMPROVEMENTS BY OTHERS.
 2. DIMENSIONS SHOWN ARE NOT TO SCALE.
 3. ANY VARIATIONS FROM THE TYPICAL SECTION DIMENSIONS ARE SHOWN ON THE PLAN DRAWINGS.
 4. PAVEMENT SLOPES AT INTERSECTION LOCATIONS MAY VARY FROM THOSE SHOWN ON THE TYPICAL SECTION.
 5. CONTRACTOR SHALL EXCAVATE, PLACE, AND COMPACT EMBANKMENTS FROM SUITABLE ONSITE SOIL TO GRADING GRADE.

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 KEVIN P. KIELB, P.E.
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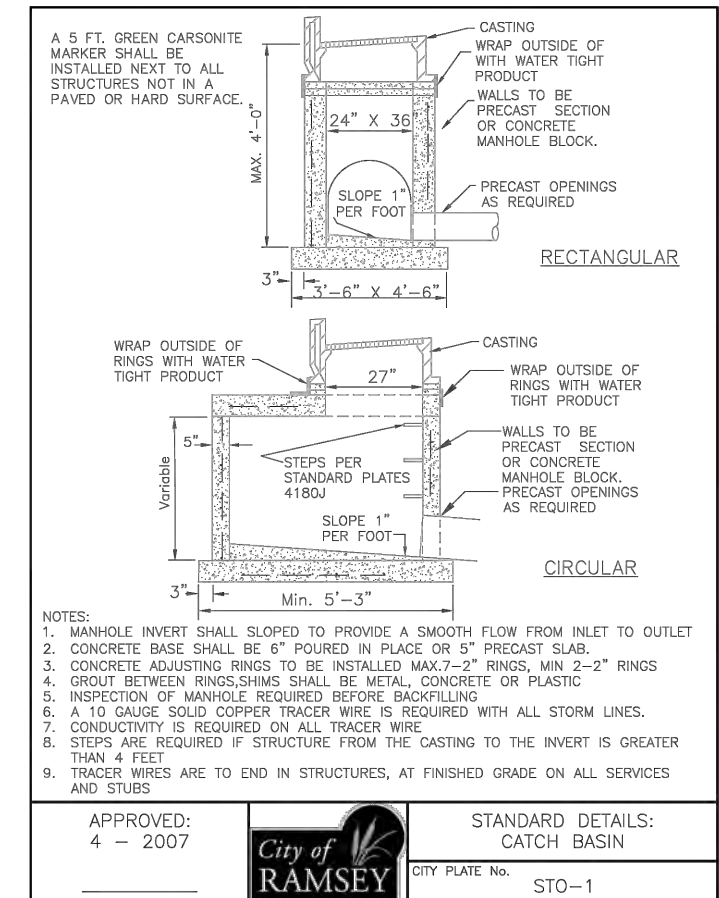
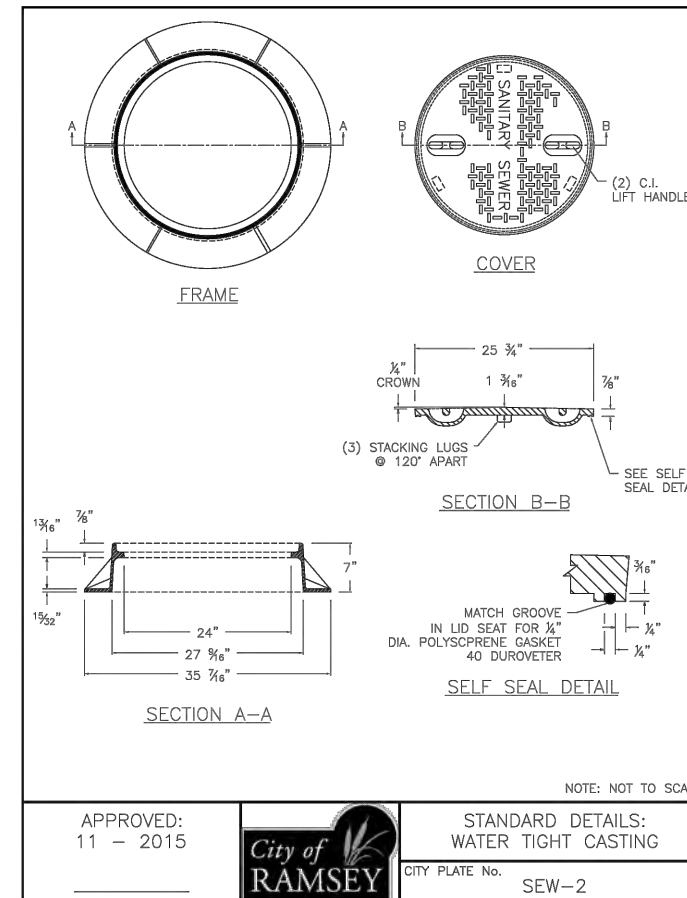
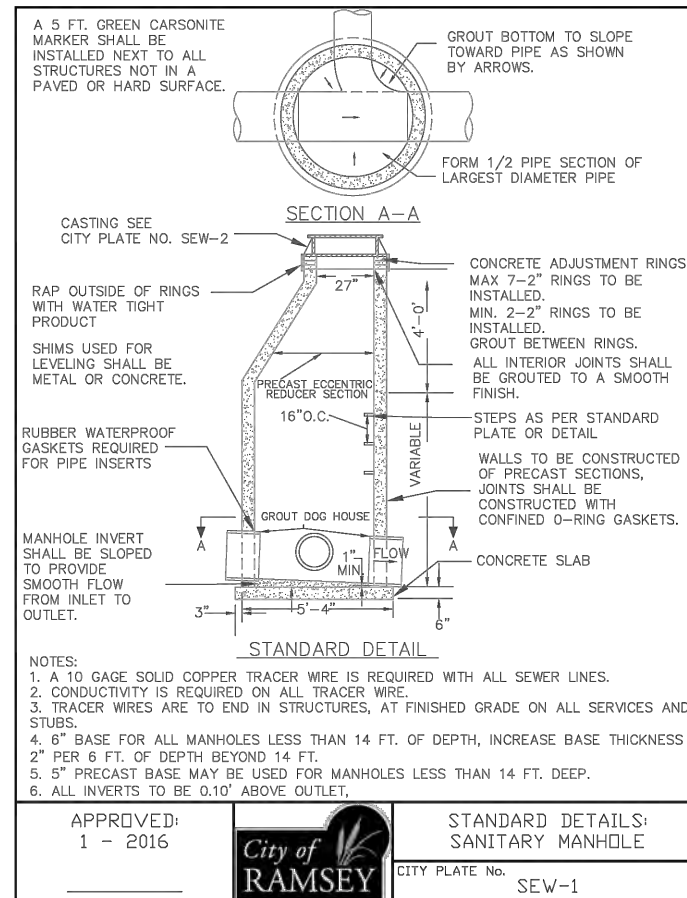
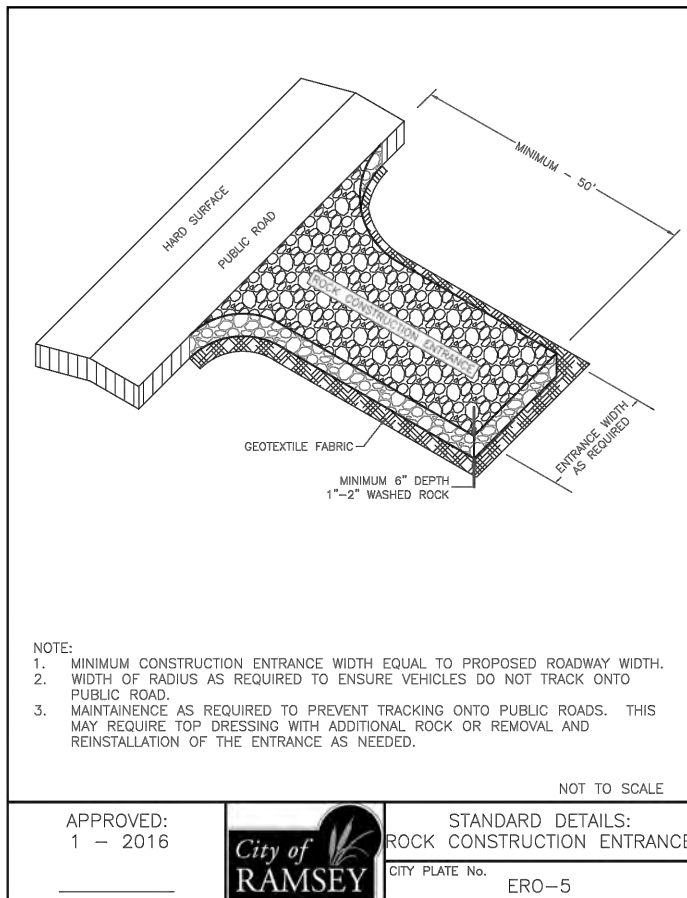
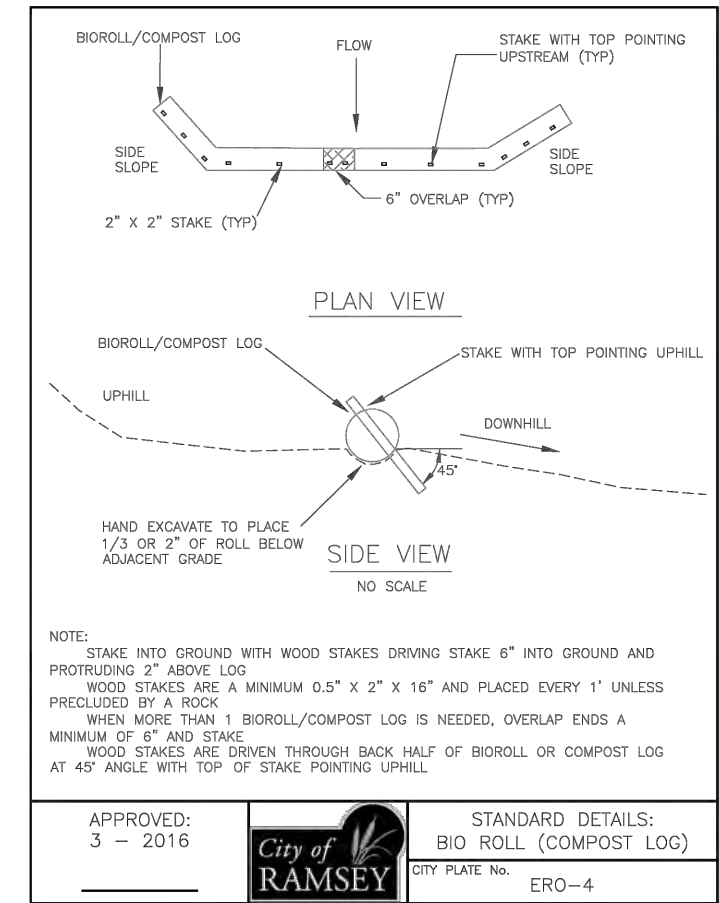
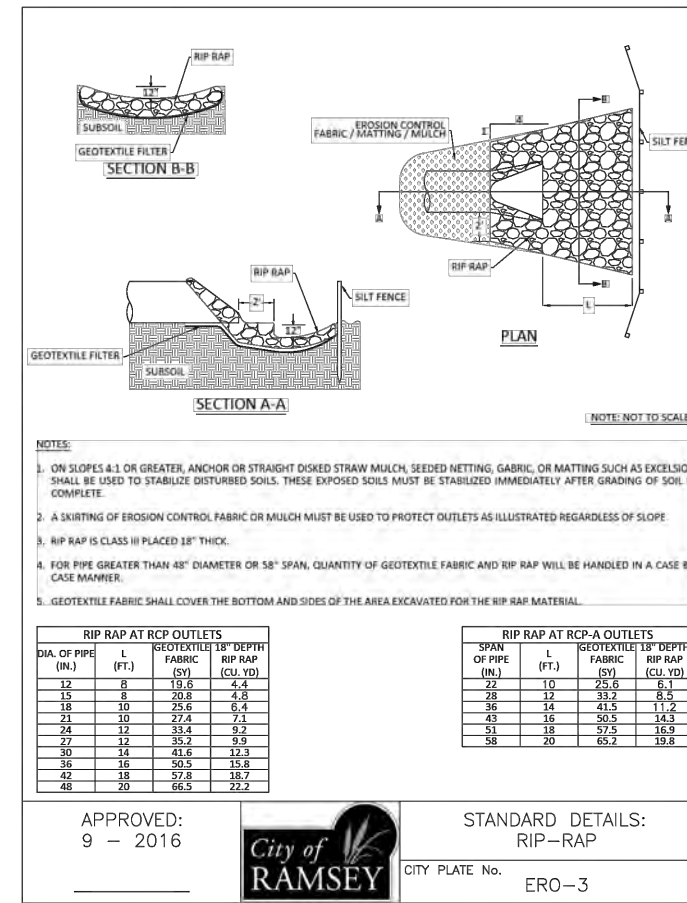
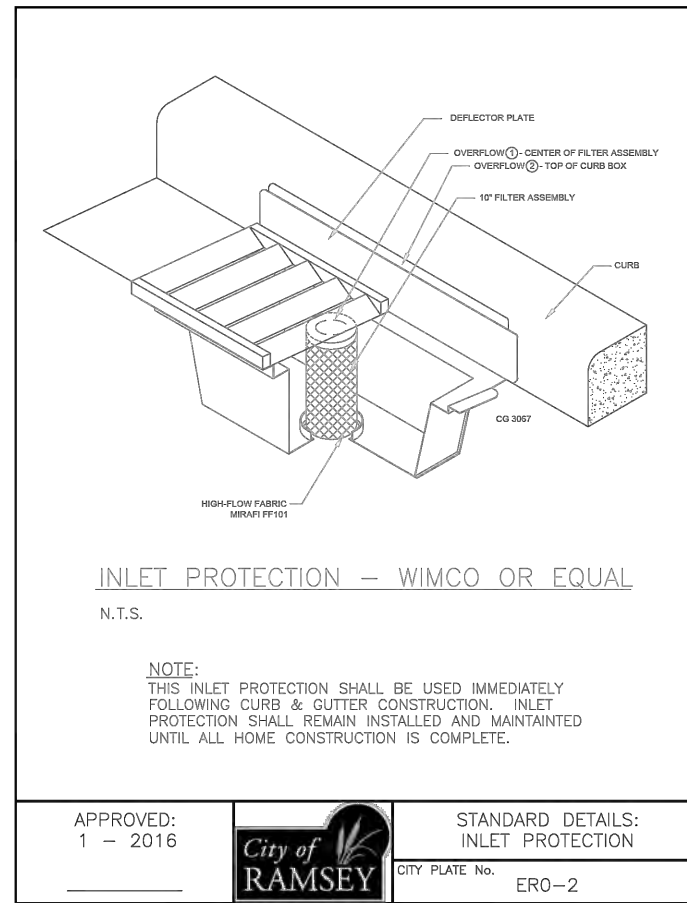
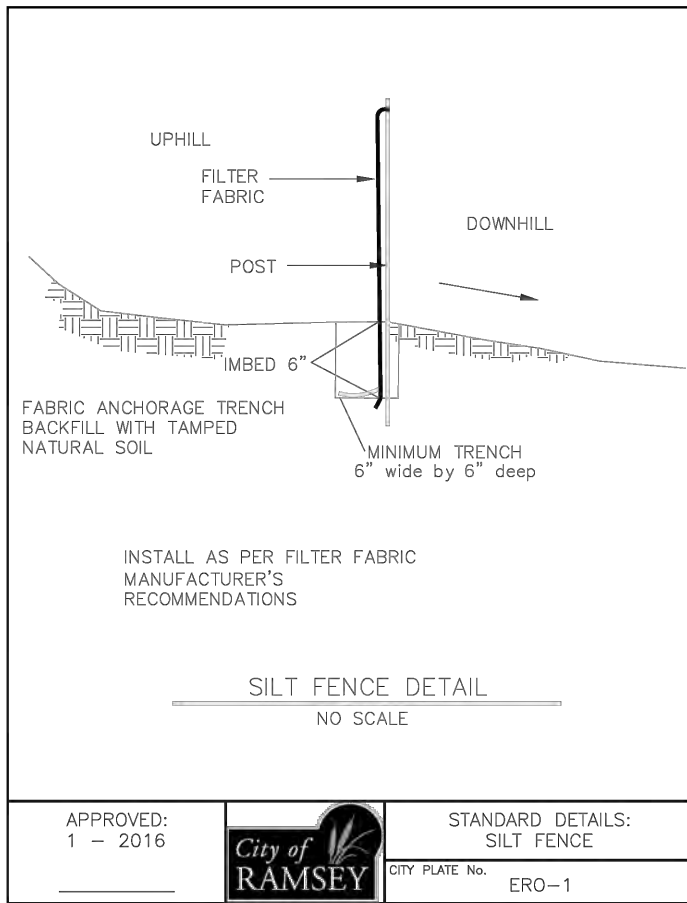


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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 DETAILS
 TYPICAL SECTIONS



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KEVIN P. KIEL, P.E.
LIC. NO. 23211 DATE 07/21/2023

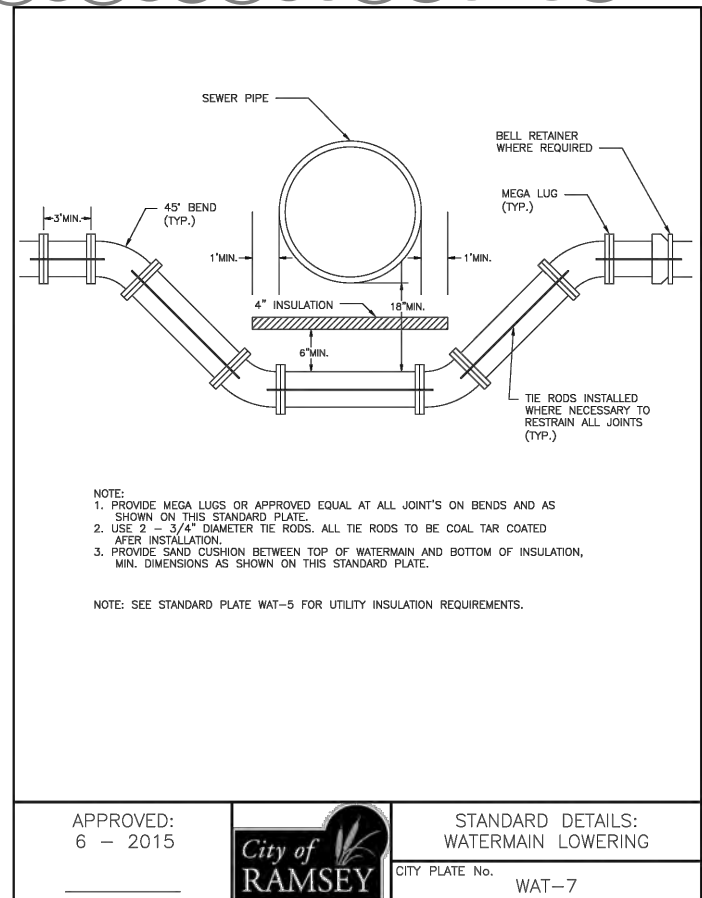
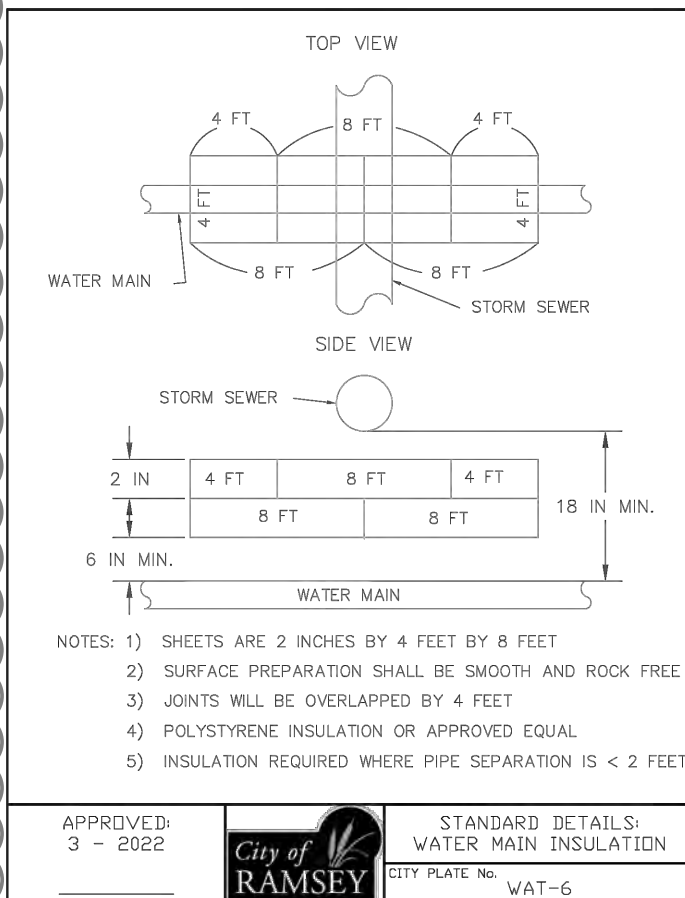
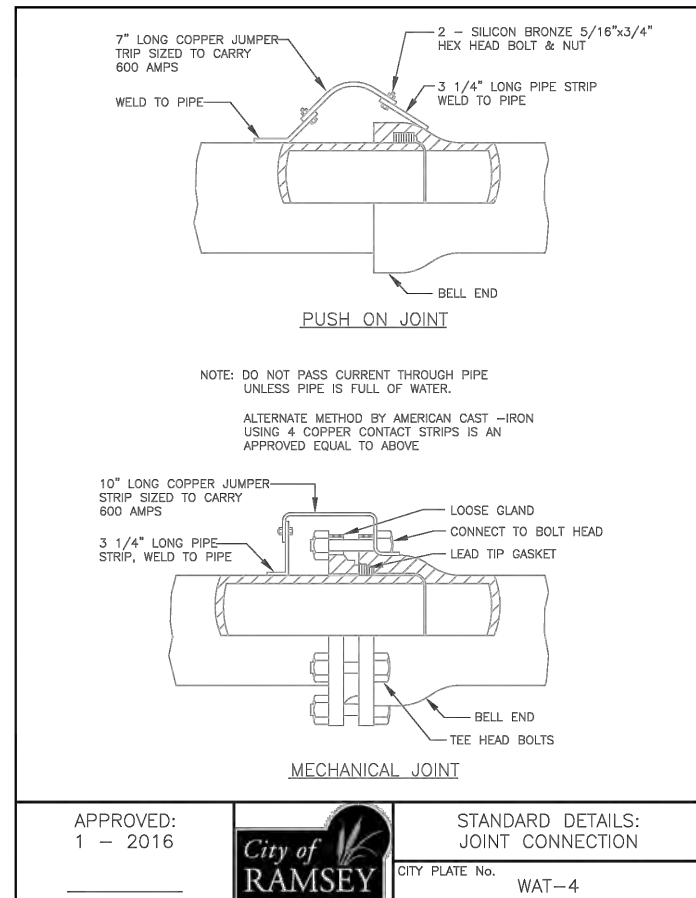
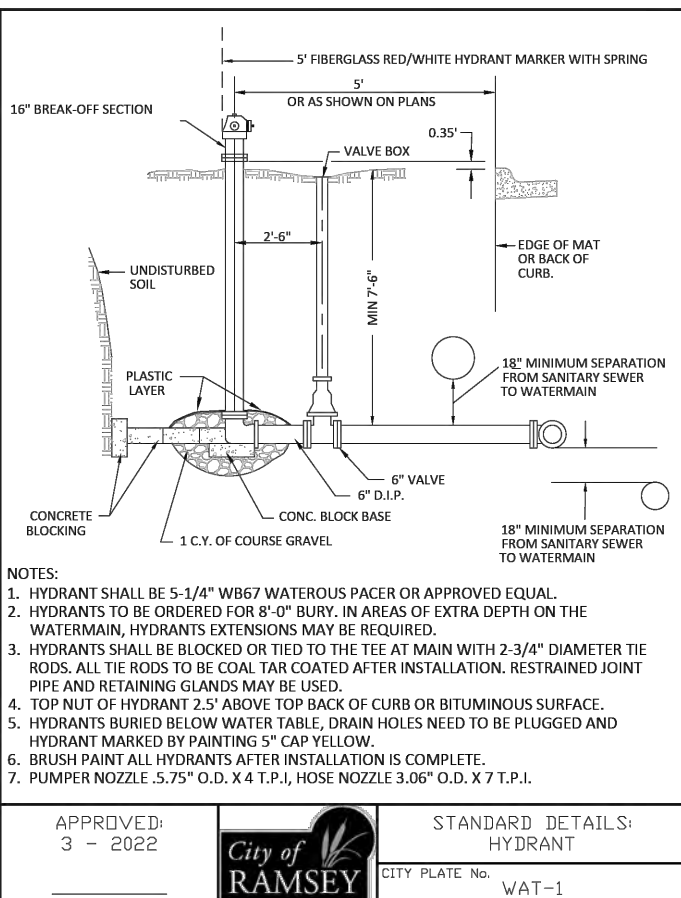
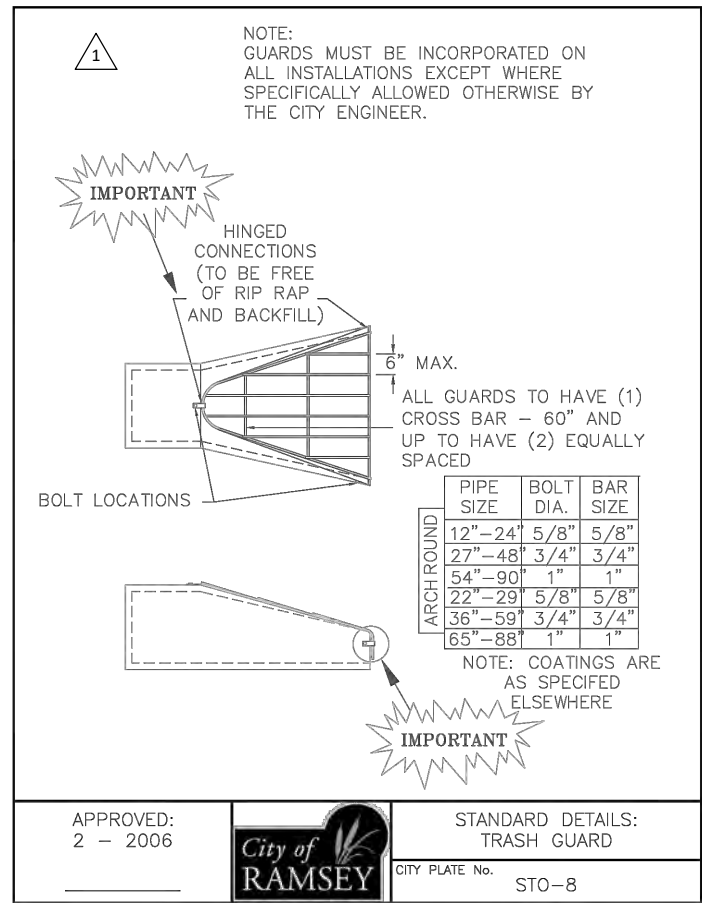
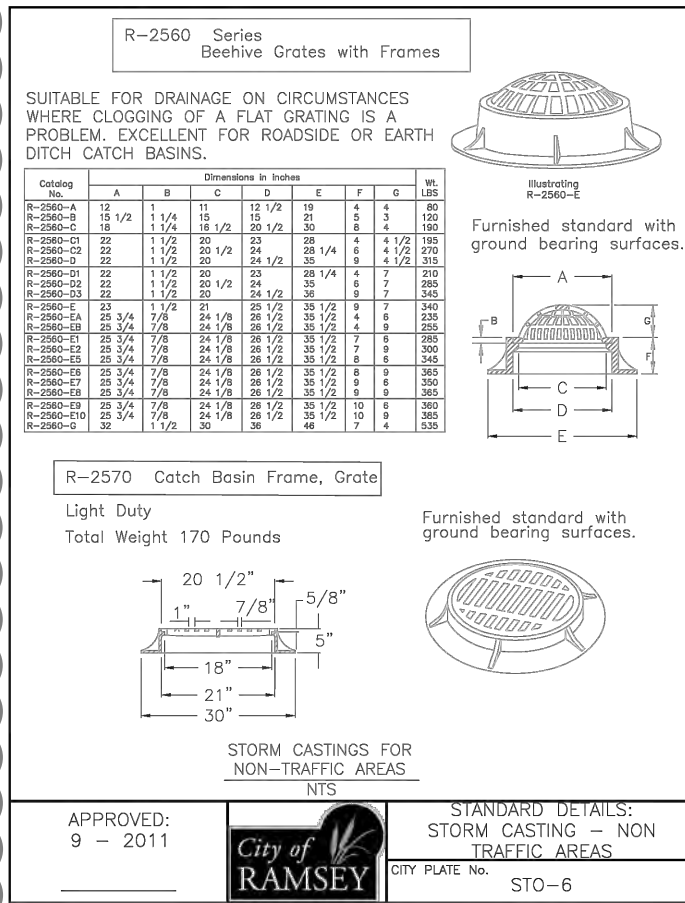
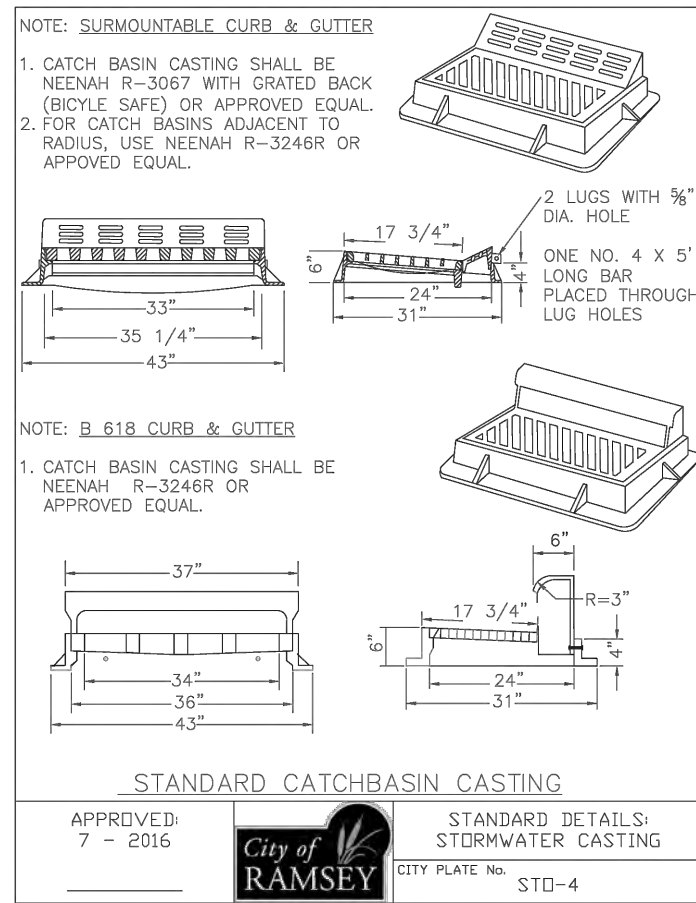
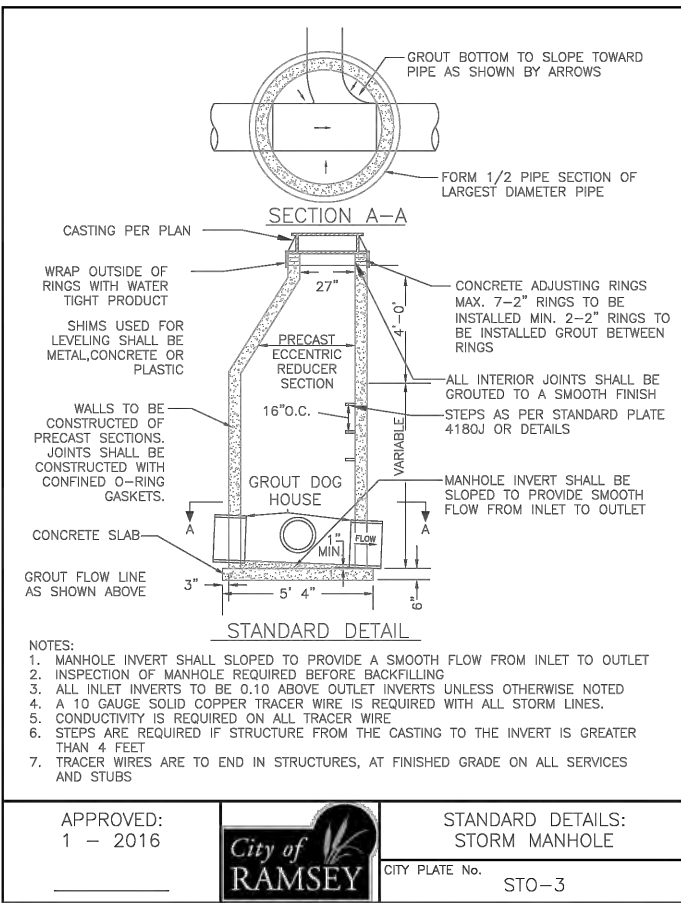


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CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
DETAILS
STANDARD DETAILS



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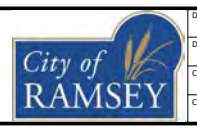
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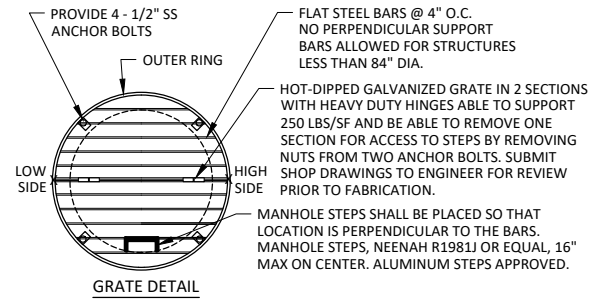
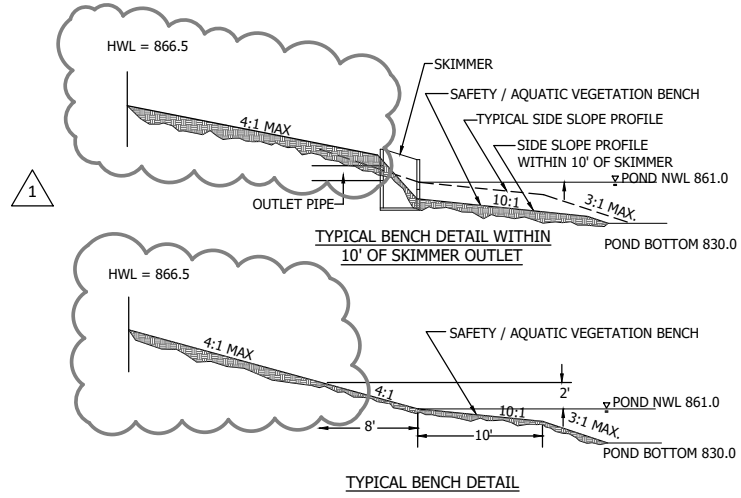
CITY OF RAMSEY, MINNESOTA

THE COR GRADING IMPROVEMENTS

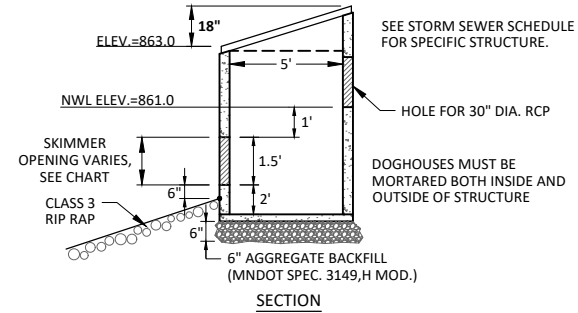
DETAILS

STANDARD DETAILS

SHEET 9 OF 36

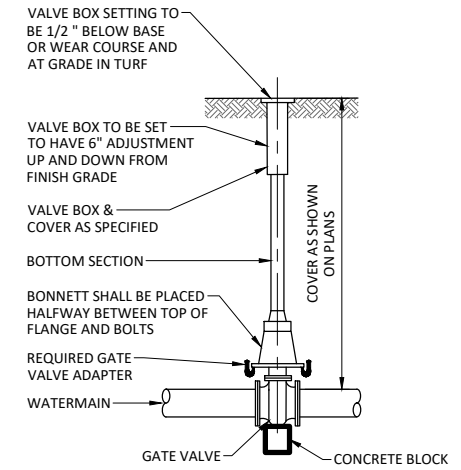


MANHOLE DIAMETER	SKIMMER OPENING
5'	4.5'x1.5'



C OUTLET CONTROL STRUCTURE

- NOTES:
1. VALVE BOX SHALL BE CENTERED ON OPERATING NUTS, STRAIGHT, FREE FROM DEBRIS, AND ALL SECTIONS UNBROKEN
 2. VALVES IN EASEMENTS SHALL HAVE CHANNEL POST WITNESS MARKERS WITH REFLECTIVE "GV" SIGN
 3. DEEP VALVES SHALL HAVE NUT EXTENSIONS INSTALLED TO ELEVATION TO ACCOMMODATE STANDARD 10' KEY; BOTTOM NUT SHALL BE BOLTED TO VALVE NUT AND ONLY ONE SECTION
 4. COMPACTION WITH MECHANICAL TAMPER AROUND VALVE BOX SHALL BE PLACED AND COMPACTED WITH 2' LIFTS TO ACHIEVE 95% COMPACTION
 5. GATE VALVES LOCATED WITHIN THE CONCRETE SIDEWALK SHALL INCLUDE A METAL SEPARATOR BETWEEN THE VALVE BOX AND THE CONCRETE



GATE VALVE BOX INSTALLATION
 NOT TO SCALE

LAST REVISION: 04-2021
PLATE NO. 6-402

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 KEVIN P. KIEL, P.E.
 LIC. NO. 23211 DATE 07/21/2023



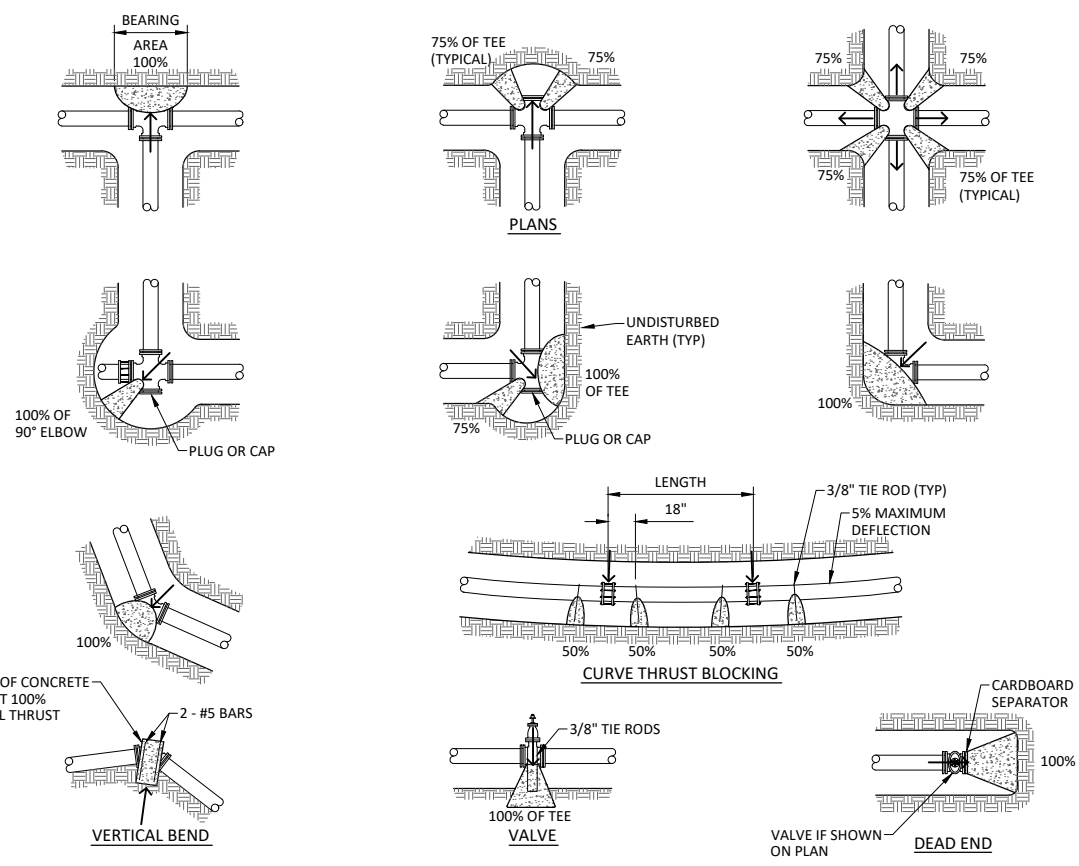
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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 DETAILS
 BMI DETAILS

SHEET
 10
 OF
 36



100% BEARING AREA (SQ FT)

PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22 1/2° ELBOW
4	2.4	3.4	1.9	0.9
6	4.9	6.9	3.8	1.9
8	8.4	11.8	6.4	3.4
10	13.7	19.3	10.5	5.4
12	19.4	27.3	14.9	7.7
14	26.3	37.0	20.1	10.3
16	34.0	47.9	26.2	13.3
18	43.9	61.8	33.7	17.2
20	54.3	76.4	41.7	21.2
24	77.9	109.8	59.8	30.5

- ARROWS (→) INDICATE THRUST DIRECTION
- NOTES:**
- FIGURE (100%) AT THRUST BLOCK INDICATES PER CENT OF TOTAL THRUST TO BE APPLIED FOR BEARING AREA.
 - CONCRETE FOR THRUST BLOCKS TO BE 2000 PSI.
 - RESTRAINING RODS ARE REQUIRED AT ALL TEES AND AT BENDS DEFLECTING 22-1/2" OR MORE.
 - WRAP THE PIPE WITH POLYETHYLENE WRAPPING PRIOR TO POURING THE THRUST BLOCK.
 - SEE SOILS REPORT FOR BEARING STRENGTH OF SOIL. IN ABSENCE OF A SOILS REPORT, AN AVERAGE SOIL (SPADABLE MEDIUM CLAY) CAN BE ASSUMED TO HAVE A BEARING STRENGTH OF 2000 PSI.
 - THRUST BLOCKS ARE NOT REQUIRED ON PVC WITH SOLVENT WELDED JOINTS.

SIDE THRUST PER 100 LB/SQ IN PRESSURE PER DEGREE OF DEFLECTION

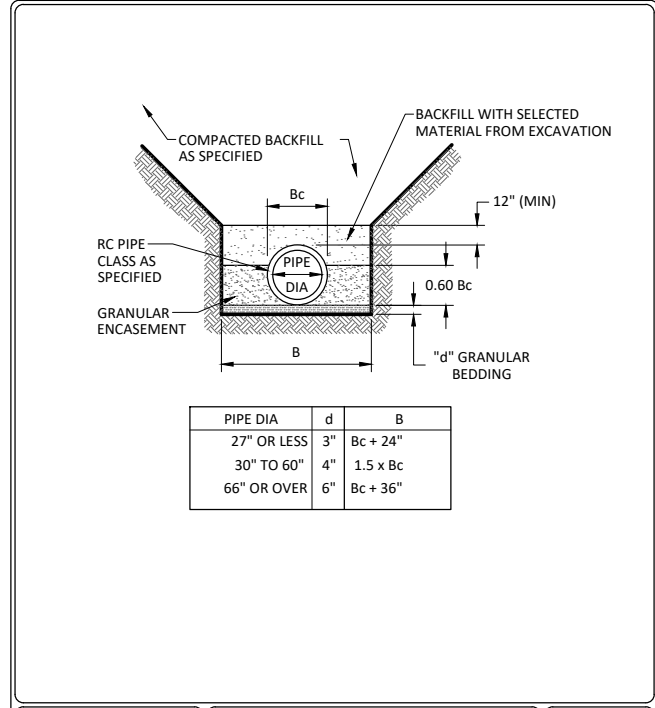
PIPE SIZE	SIDE THRUST-LB	PIPE SIZE	SIDE THRUST-LB
4	35	14	377
6	72	16	486
8	122	18	665
10	197	20	790
12	278	24	1150

MULTIPLY THRUST BY DEGREE OF DEFLECTION TO OBTAIN TOTAL THRUST



CONCRETE THRUST BLOCKS
NOT TO SCALE

LAST REVISION: 04-2021
PLATE NO. 6-207

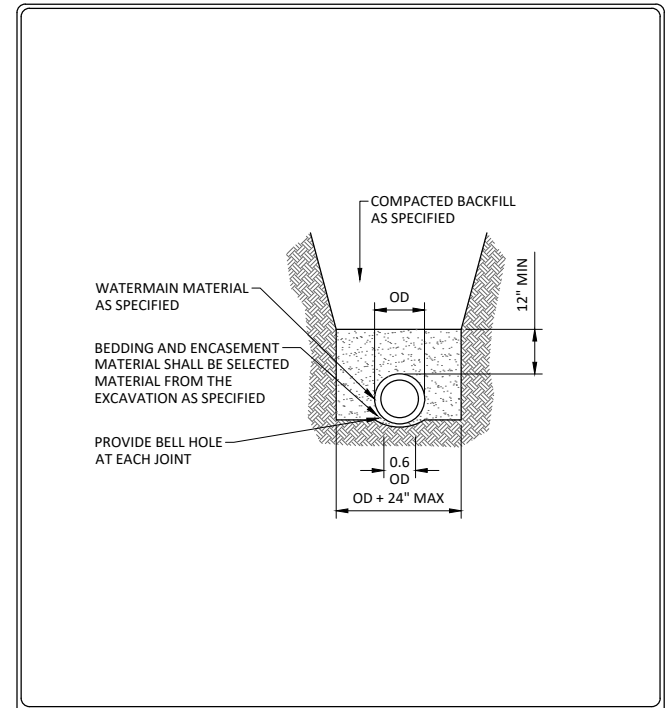


PIPE DIA	d	B
27" OR LESS	3"	Bc + 24"
30" TO 60"	4"	1.5 x Bc
66" OR OVER	6"	Bc + 36"



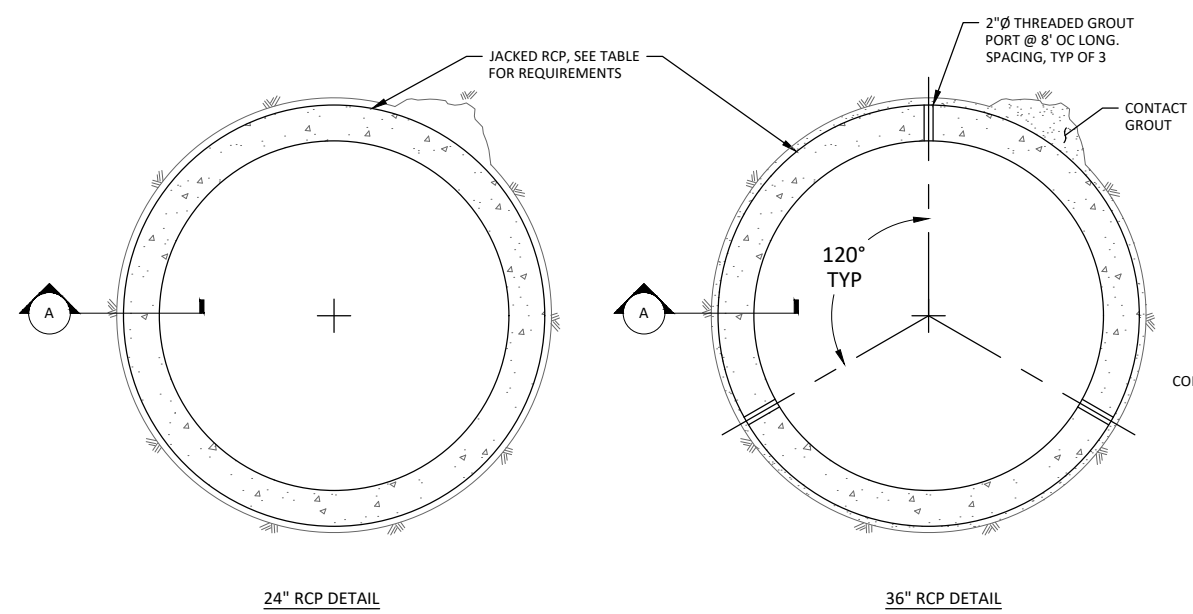
RC PIPE CLASS "B" BEDDING-SQUARE TRENCH
NOT TO SCALE

LAST REVISION: 04-2021
PLATE NO. 4-001-1



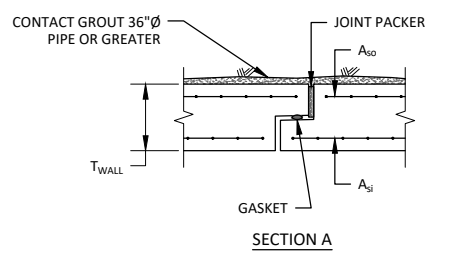
DIP WATERMAIN TRENCH
NOT TO SCALE

LAST REVISION: 04-2021
PLATE NO. 6-201



JACKED RCP REQUIREMENTS

	24" RCP	36" RCP
T _{WALL}	3.75"	7.5"
F _c (MIN)	6000 psi	6000 psi
COVER	1 1/2"	1 1/2"
A _{ti}	0.12 in ²	0.18 in ²
A _{so}	0.07 in ²	0.15 in ²
F _y (MIN)	85,000 psi	85,000 psi
F _y (MAX)	100,000 psi	100,000 psi



24" RCP DETAIL

36" RCP DETAIL

RCP BY TRENCHLESS INSTALLATION DETAIL
NOT TO SCALE

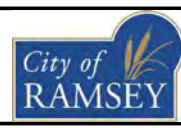
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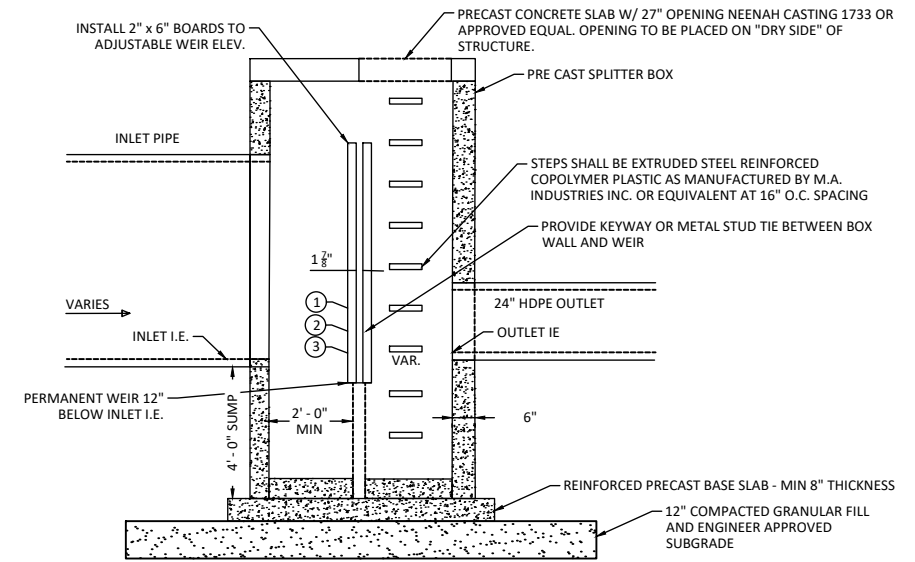


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KPK			
CLIENT PROJ. NO.	23-20		

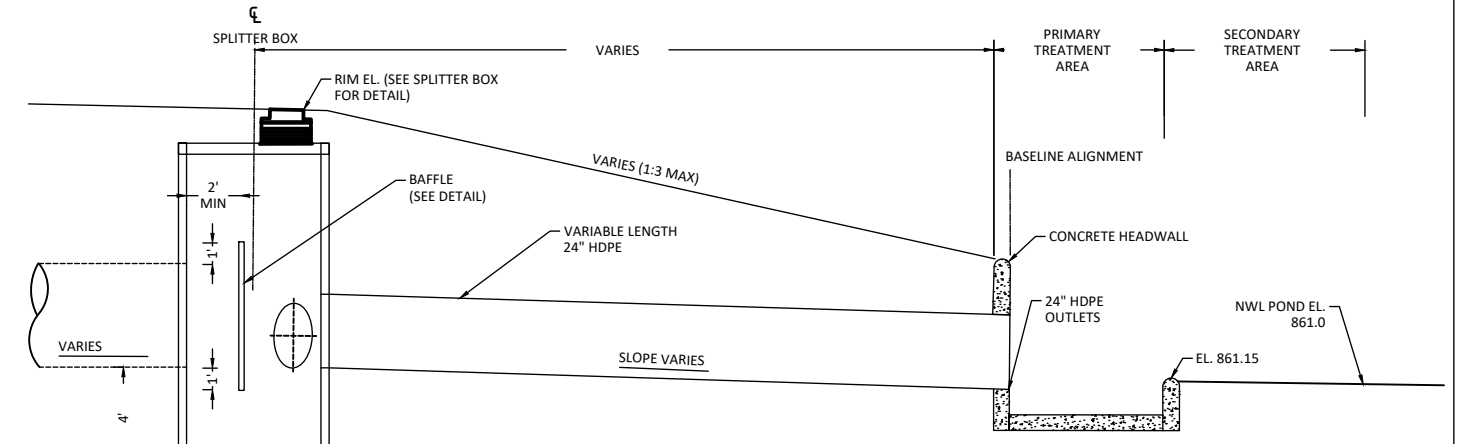
CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
DETAILS
BMI DETAILS

SHEET 11 OF 36

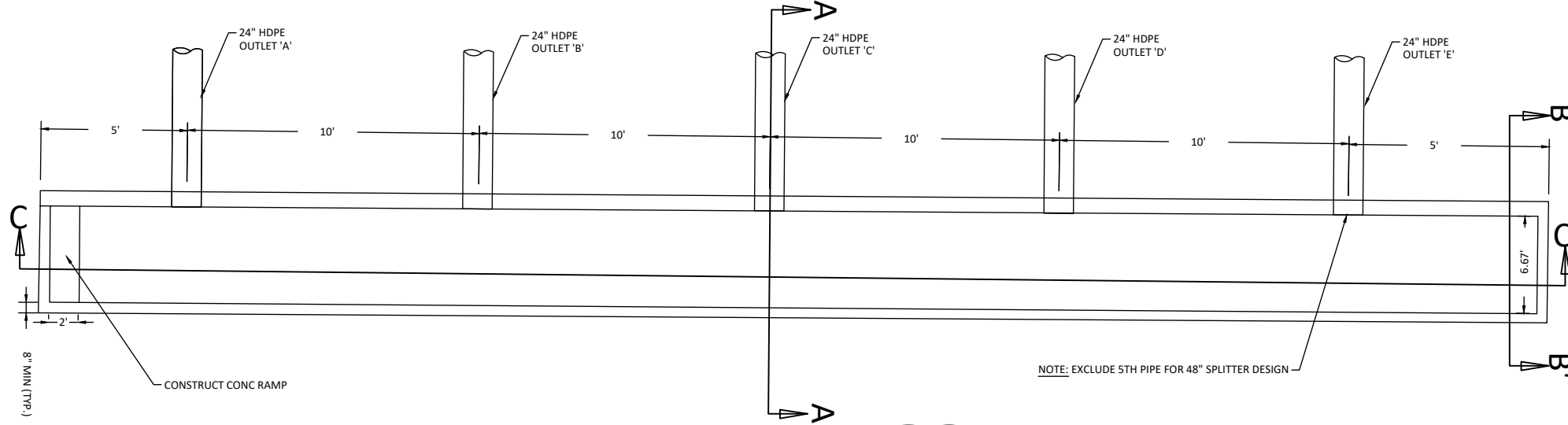
1. A307 5/8" STAINLESS STEEL BOLTS AT 6" SPACING MINIMUM 4" EMBEDMENT
2. L3" x 3" x 1/2" A36 STEEL GUIDES MOUNTED TO BOX WALL
3. PROVIDE 2" x 6" x 8" - 14' LONG TREATED PLANKS FOR WEIR ADJUSTMENT. INSTALL ELASTIC 77 MATERIAL BETWEEN PLANKS FOR WATER TIGHT SEAL.



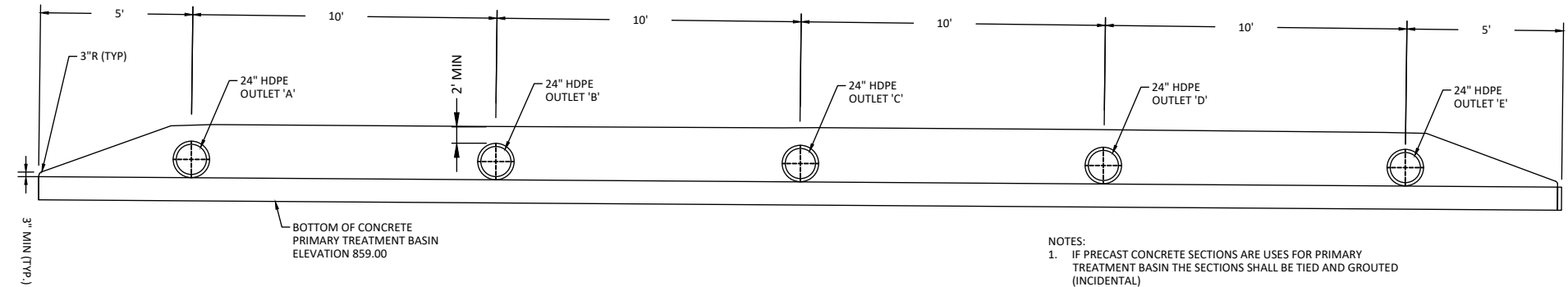
BAFFLE DETAIL



SECTION A-A'

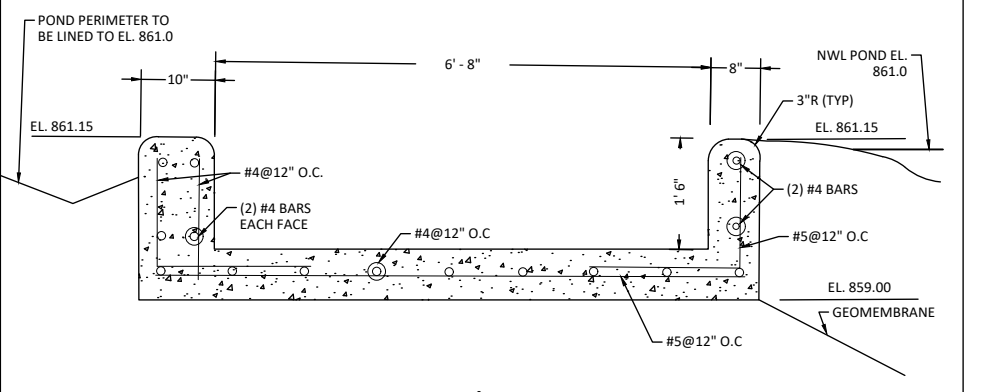


TOP VIEW - SPLITTER

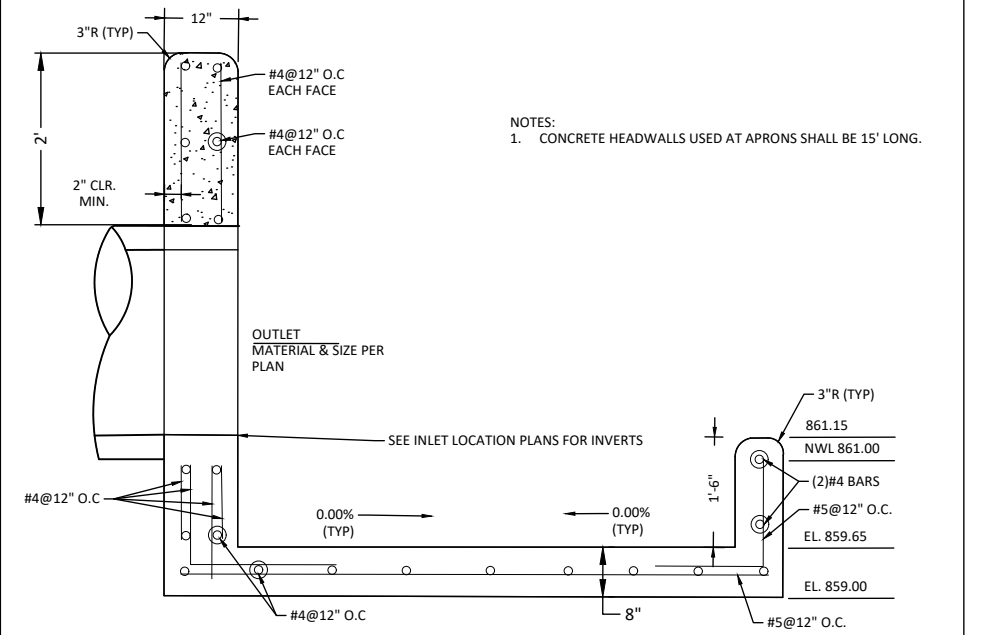


ELEVATION C-C' SPLITTER

- NOTES:
1. IF PRECAST CONCRETE SECTIONS ARE USES FOR PRIMARY TREATMENT BASIN THE SECTIONS SHALL BE TIED AND GROUTED (INCIDENTAL)
 2. IF CAST IN PLACE METHOD IS USED FOR PRIMARY TREATMENT BASIN SHOP DRAWINGS MUST BE PROVIDED FOR APPROVAL.



SECTION B-B'



CONCRETE HEADWALL DETAIL

- NOTES:
1. CONCRETE HEADWALLS USED AT APRONS SHALL BE 15' LONG.

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Kevin P. Kielb

KEVIN P. KIELB, P.E.

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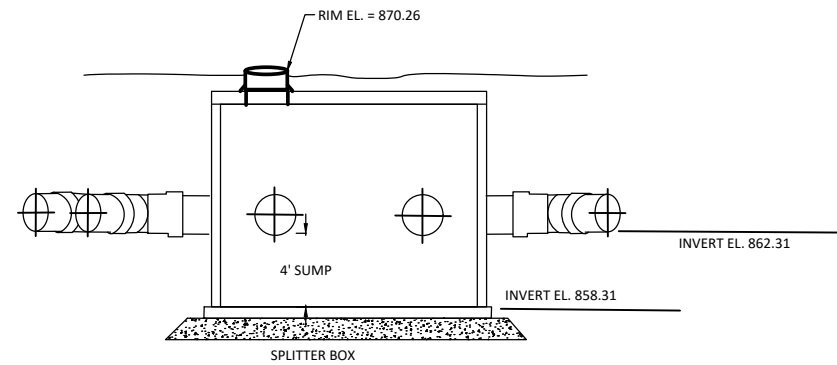
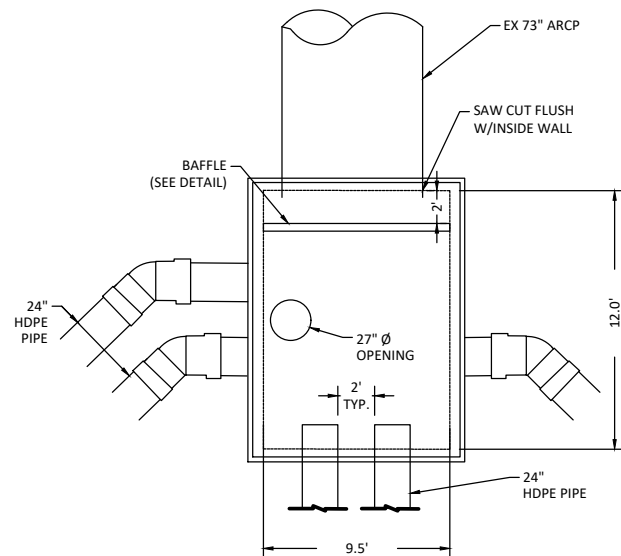
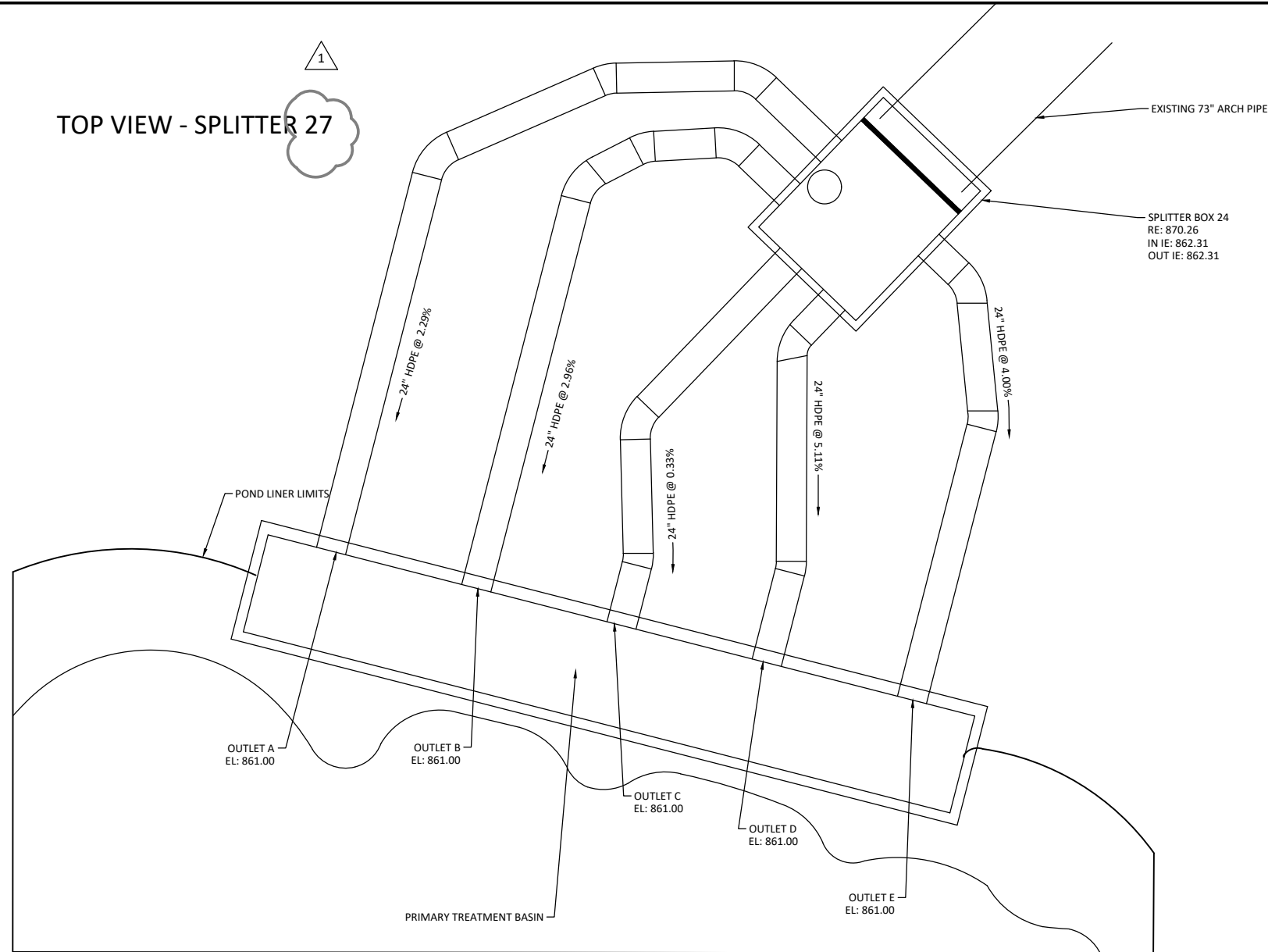
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JDG/ICB/MAJ	1	ADD 2	07/28/2023
	2	ADD 3	08/01/2023

CHECKED: KPK
CLIENT PROJ. NO.: 23-20

CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
DETAILS
SPLITTER DETAIL

SHEET 12 OF 36

TOP VIEW - SPLITTER 27



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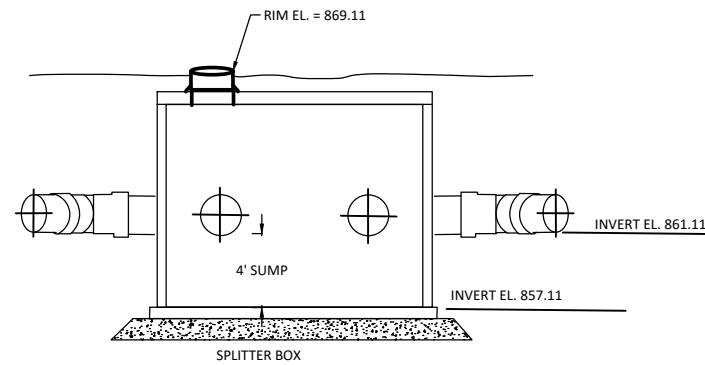
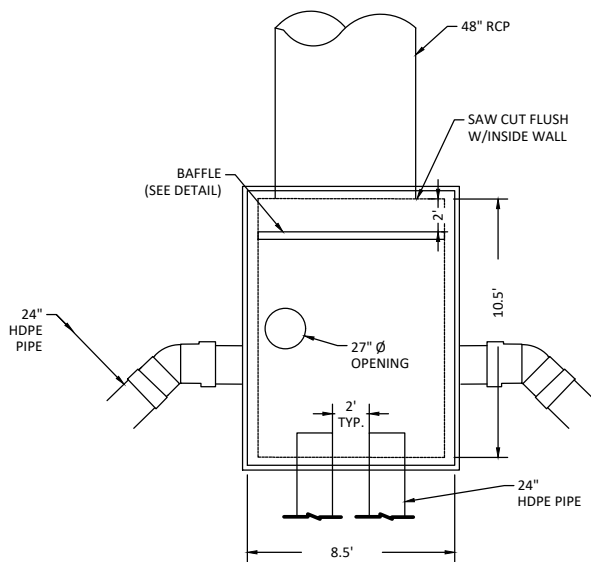
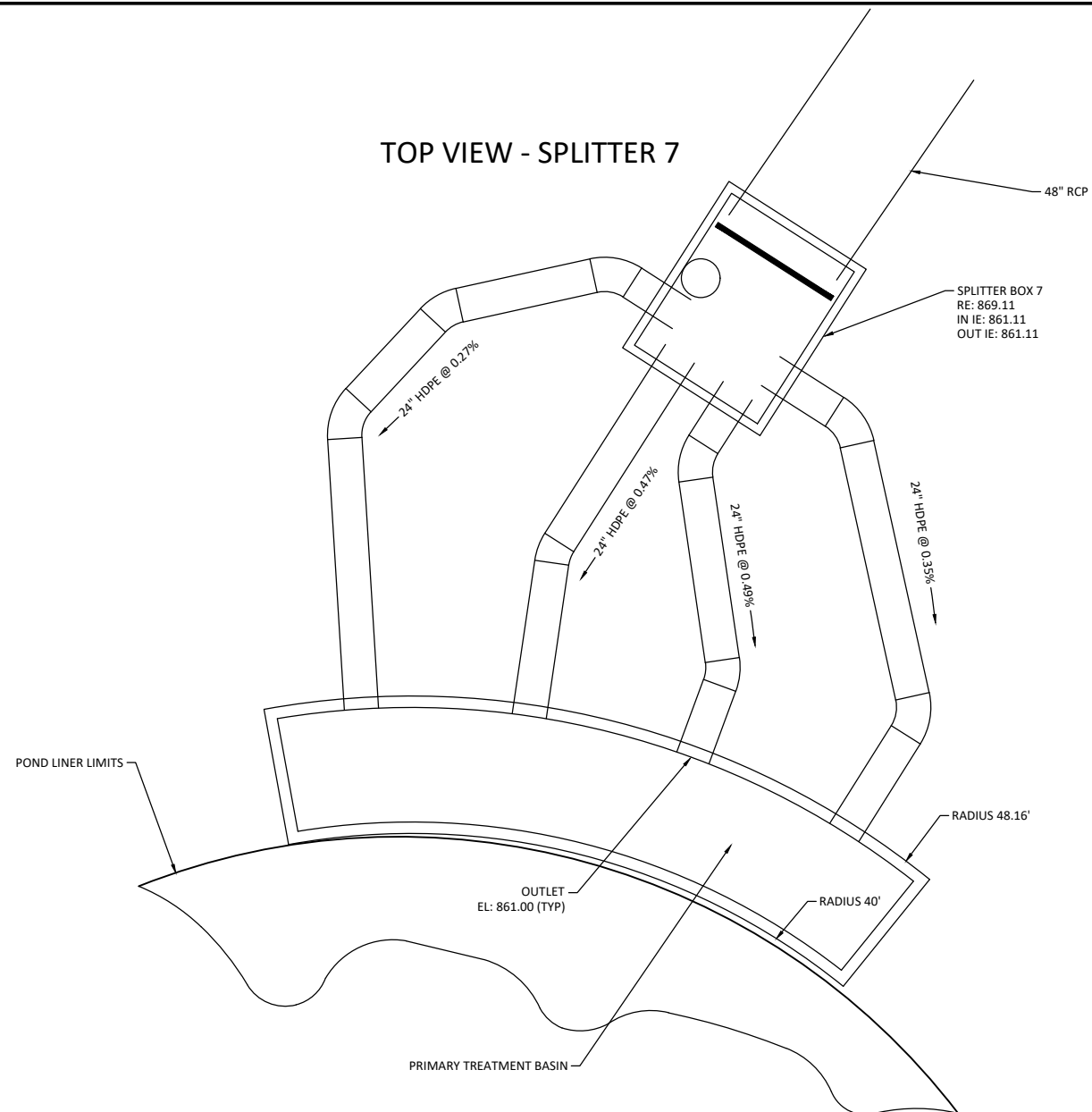


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CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
DETAILS
NORTH SPLITTER DETAIL

SHEET
13
OF
36

TOP VIEW - SPLITTER 7



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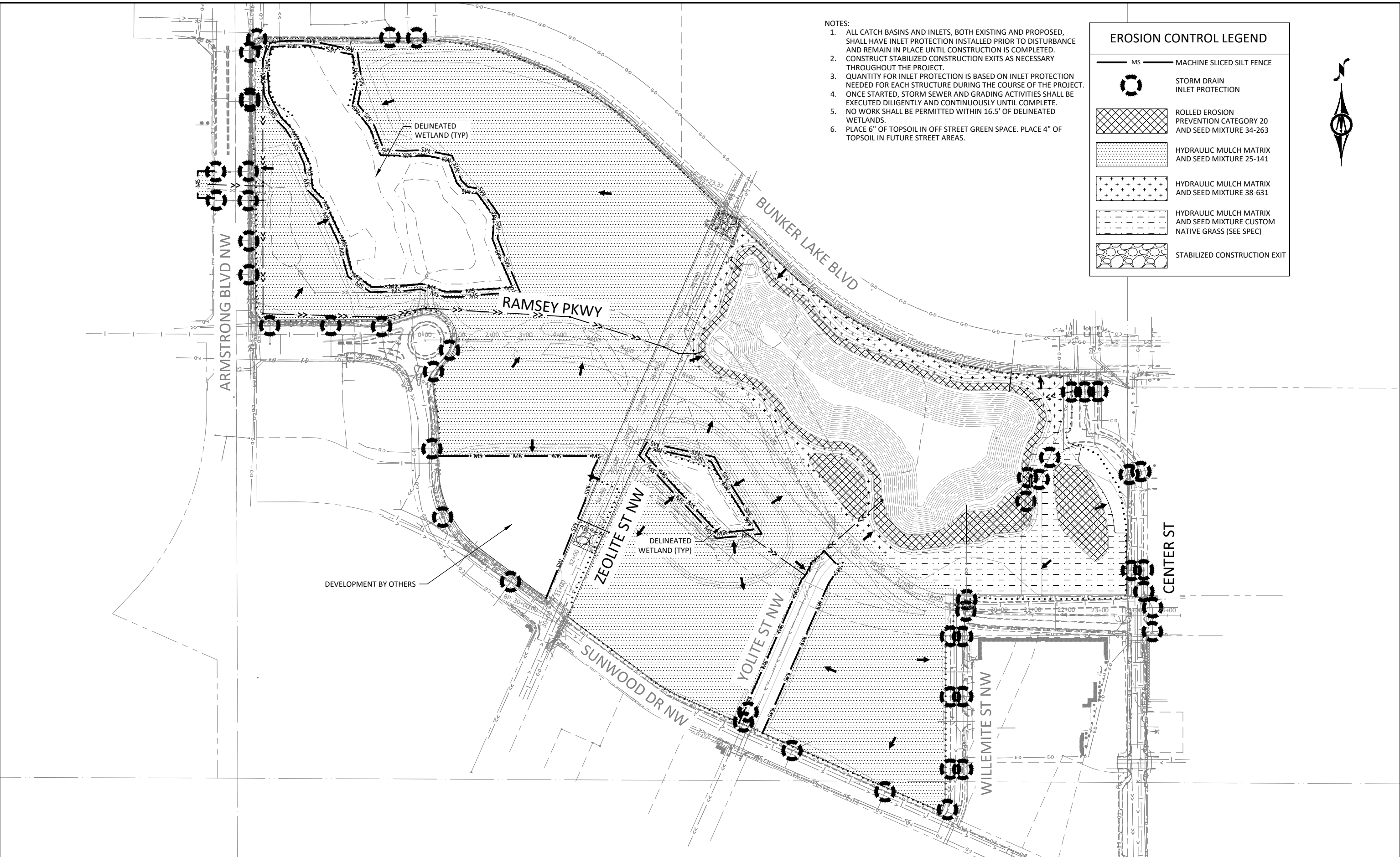
CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 DETAILS
 SOUTH SPLITTER DETAIL

SHEET 14 OF 36

- NOTES:
1. ALL CATCH BASINS AND INLETS, BOTH EXISTING AND PROPOSED, SHALL HAVE INLET PROTECTION INSTALLED PRIOR TO DISTURBANCE AND REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.
 2. CONSTRUCT STABILIZED CONSTRUCTION EXITS AS NECESSARY THROUGHOUT THE PROJECT.
 3. QUANTITY FOR INLET PROTECTION IS BASED ON INLET PROTECTION NEEDED FOR EACH STRUCTURE DURING THE COURSE OF THE PROJECT.
 4. ONCE STARTED, STORM SEWER AND GRADING ACTIVITIES SHALL BE EXECUTED DILIGENTLY AND CONTINUOUSLY UNTIL COMPLETE.
 5. NO WORK SHALL BE PERMITTED WITHIN 16.5' OF DELINEATED WETLANDS.
 6. PLACE 6" OF TOPSOIL IN OFF STREET GREEN SPACE. PLACE 4" OF TOPSOIL IN FUTURE STREET AREAS.

EROSION CONTROL LEGEND

- MS MACHINE SLICED SILT FENCE
- STORM DRAIN INLET PROTECTION
- ▨ ROLLED EROSION PREVENTION CATEGORY 20 AND SEED MIXTURE 34-263
- ▤ HYDRAULIC MULCH MATRIX AND SEED MIXTURE 25-141
- ▥ HYDRAULIC MULCH MATRIX AND SEED MIXTURE 38-631
- ▧ HYDRAULIC MULCH MATRIX AND SEED MIXTURE CUSTOM NATIVE GRASS (SEE SPEC)
- ▩ STABILIZED CONSTRUCTION EXIT



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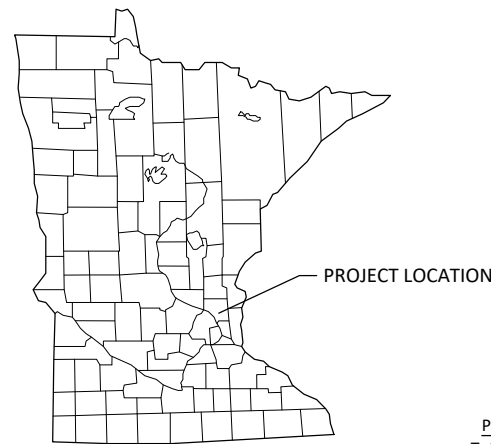
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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 EROSION CONTROL PLAN

SHEET 15 OF 36

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

COR INFRASTRUCTURE IMPROVEMENTS -2023 CITY OF RAMSEY ANOKA COUNTY, MINNESOTA



LEGEND

	1-MILE BOUNDARY	
	PROJECT BOUNDARY	
	OR	IMPAIRED WATERS
	OR	SPECIAL OR PROTECTED WATERS
	NATIONAL WETLANDS INVENTORY	

PROJECT AREAS:

Total Project Size (disturbed area) =	58.1	ACRES
Existing area of impervious surface =	2.5	ACRES
Post construction area of impervious surface =	1.0	ACRES
Total new impervious surface area created =	-1.5	ACRES

Planned Construction Start Date:	AUGUST 2023
Estimated Construction Completion Date:	NOVEMBER 2023

PERMANENT STORMWATER MANAGEMENT SYSTEM:

Type of storm water management used if more than 1 acre of new impervious surface is created:

	Wet Sedimentation Basin
	Infiltration/Filtration
	Regional Pond
x	Permanent Stormwater Management Not Required (<1 acre disturbed)

PROJECT LOCATION:

COUNTY	TOWNSHIP	RANGE	SECTION	LATITUDE	LONGITUDE
Anoka	32	25	28	45.237371°	-93.468316°

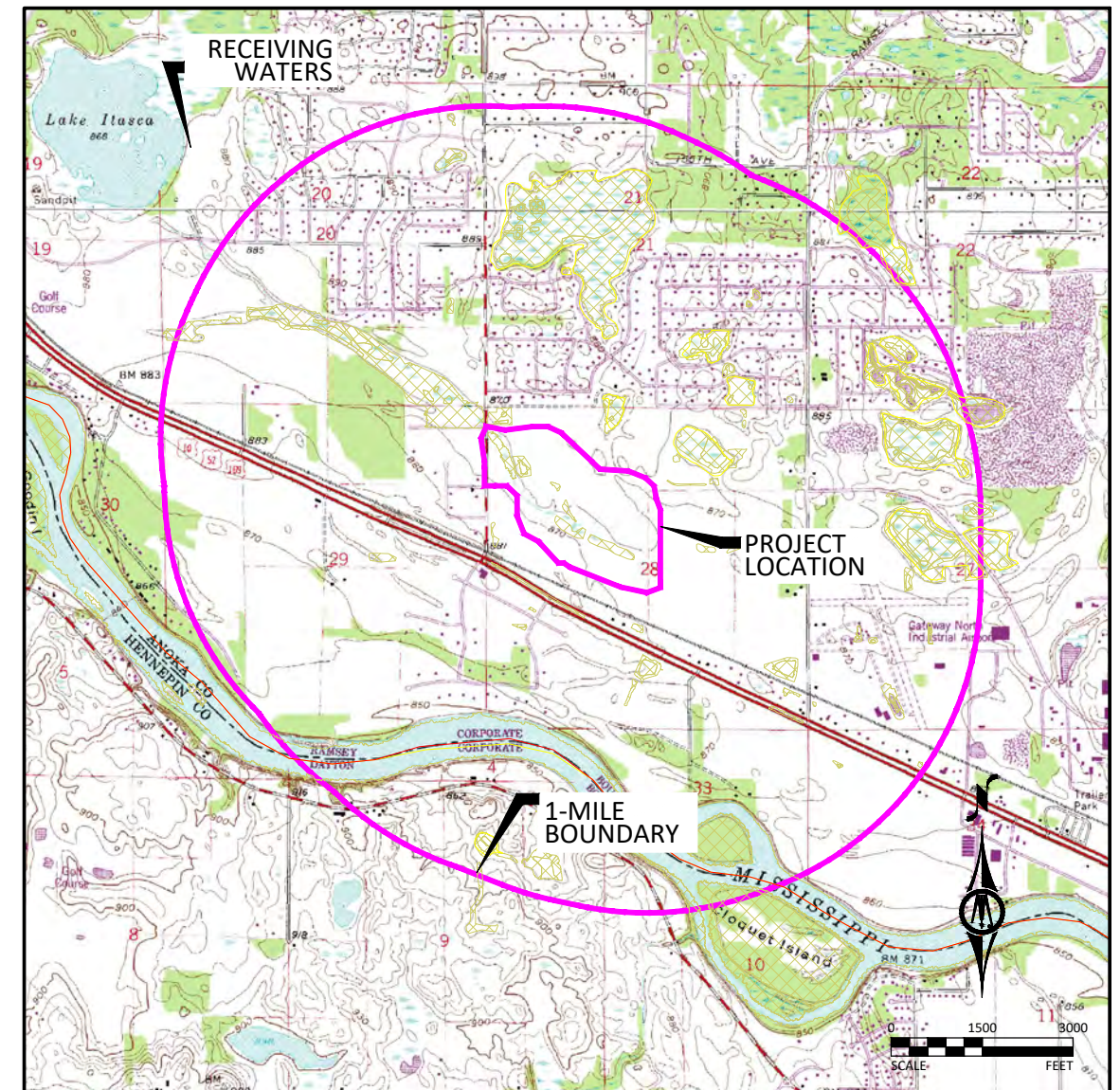
BMP SUMMARY	QUANTITY	UNIT
Silt Fence	9190	LIN FT
Stabilized Construction Exit	1	LUMP SUM
Temporary Stabilization	50	ACRE
Storm Drain Inlet Protection	48	EACH
Hydraulic Mulch Matrix	117300	POUND
Seed Mixture 25-141	3700	POUND
Seed Mixture 34-263	70	POUND
Seed Mixture 38-631	70	POUND
Seed Mixture Native Grass - Custom	60	POUND
Rolled Erosion Prevention Category 20	15500	SQ YD
Salvage and Reinstall Riprap	100	CU YD
Random Riprap Class III	85	CU YD

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:

Construction activities include: Turf restoration and erosion control construction, Clearing and Grubbing, Traffic Control, and Tree Removal. Sanitary sewer, watermain, and storm sewer improvements. Site grading and pond excavation with clay liner.

The existing drainage system consists of clay lined wet ponds and storm sewer. After construction is complete stormwater drainage will be the same as existing.

Stormwater BMPs include silt fence, stabilized construction entrance/exit, inlet protection where required, and street sweeping.



RECEIVING WATERS: Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, within 1-mile of the project boundary are identified on the USGS 7.5 min quad map above. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in the permit for special, prohibited, restricted, or impaired have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Special, Prohibited, Restricted Water ¹	Flows to Impaired Water Within 1-Mile ²	USEPA Approved Construction Related TMDL ³
Mississippi River	River	Yes	Yes	Hg-F; Nutrients
Itasca	Lake	No	Yes	N/A

¹ Special, prohibited, and restricted waters are listed in Section 23 of the MN Construction Stormwater General Permit (MNR100001).
² Identified as impaired under section 303 (d) of the federal Clean Water Act for phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.
³ Construction Related TMDLs include those related to: phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.

IMPLEMENTATION SCHEDULE AND PHASING: The Contractor is required to provide an updated schedule and site management plan meeting the minimum requirements of Section 1717 of the Minnesota Standard Specifications for Construction.

- 1) Submit SWPPP Updates to Engineer. Submittal shall include any requested changes to the SWPPP, including but not limited to: Trained Personnel, Locations for Stockpiles, Concrete Washout, Sanitation Facilities, Types and Locations of Erosion & Sediment Control. Failure to submit updates shall be considered acceptance of the SWPPP as designed with no changes.
- 2) Install perimeter sediment control, inlet protection, and construction exit.
- 3) Demo pavement
- 4) Install utility improvements
- 5) Grade site
- 6) Add additional temporary BMPs as necessary during construction based on inspection reports.
- 7) Ensure final stabilization measures are complete.
- 8) Provide digital copy of all Field SWPPP Documentation including Inspection Reports and SWPPP Revisions to the Owner.
- 9) Submit Notice of Termination (NOT) to MPCA. NOTE: The NOT must be submitted to MPCA before Final Stabilization is considered complete.

RESPONSIBLE PARTIES:

The Contractor and Owner will be joint applicants under the MPCA's General Stormwater Permit for Construction Activity as required by the National Pollutant Discharge Elimination System (NPDES) Phase II program.

The Contractor shall provide one or more trained Construction SWPPP Manager(s) knowledgeable and experienced in the application of erosion prevention and sediment control BMPs that will oversee the implementation of the SWPPP, and the installation, inspection and maintenance of the erosion prevention and sediment control BMPs.

A Construction SWPPP Manager must be available for an on-site inspection within 72 hours upon request by the MPCA.

	COMPANY	CONTACT PERSON	PHONE
OWNER:	City of Ramsey	Bruce Westby, PE	763-433-9825
SWPPP DESIGNER:	Bolton & Menk, Inc.	Derek Benoy	651-704-9970
CONTRACTOR:	City of Ramsey	Bryce Westby, PE	763-433-9825
CONSTRUCTION SWPPP MANAGER:	City of Ramsey	Bryce Westby, PE	763-433-9825
PARTY RESPONSIBLE FOR LONG TERM O&M:	City of Ramsey	Bruce Westby, PE	763-433-9825

The SWPPP Designer, Construction SWPPP Manager, and BMP Installer must have appropriate training. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Training documentation for the SWPPP Designer is included on the Narrative sheet. The Contractor shall attach training documentation to this SWPPP for the Construction SWPPP Manager and BMP Installer prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

ADDITIONAL COMPENSATION

Payment for all work associated with Erosion and Sediment Control shall be as described in the Project Manual. Unless otherwise authorized by the Owner no additional payment shall be made for any work required to administer and maintain the site erosion and sediment control in compliance with the Minnesota Pollution Control Agency (MPCA) - General Stormwater Permit for Construction Activity (MN R100001) including but not limited to inspection, maintenance, and removal of BMPs or addition of BMPs to accommodate Contractor phasing.

DOCUMENT RETENTION

Permittees must make the SWPPP, including all inspection reports, maintenance records, training records and other information required by this permit, available to federal, state, and local officials within three (3) days upon request for the duration of the permit and for three (3) years following the NOT.

GENERAL STORMWATER DISCHARGE REQUIREMENTS

All requirements listed in Section 5.1 of the Permit for the design of the permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:

1. The expected amount, frequency, intensity, and duration of precipitation.
2. The nature of stormwater runoff and run-on at the site
3. Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
4. The range of soil particle sizes expected to be present on the site.

Permanent stormwater treatment systems for this project have been designed in accordance with the guidance in the MN Stormwater Manual in place at the time of bidding. Copies of the design information and calculations are part of this SWPPP and will be provided in digital format upon written request to the Engineer.

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 KEVIN P. KIEHL, P.E.
 LIC. NO. 23211 DATE 07/21/2023



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CLIENT PROJ. NO.	23-20		

CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 STORMWATER POLLUTION PREVENTION PLAN - INFO PLAN

Information contained in this SWPPP narrative sheet summarizes requirements of the GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM PROGRAM - Permit No: MN R100001 (Permit) as they apply to this project. All provisions of the Permit including those not specifically cited herein shall apply to this project. The Contractor is responsible to be familiar with and comply with all conditions of the permit. The full text of the Permit is available at: <https://www.pca.state.mn.us/sites/default/files/wq-strm2-80a.pdf>

SWPPP AMENDMENTS AND SUBMITTALS

Contractor must prepare and submit to the Engineer a SWPPP amendment as necessary to include additional Best Management Practices (BMPs) to correct problems identified or address the following situations.

- Contact information and training documentation for Construction SWPPP Manager and BMP Installer,
- There is a change in construction method of phasing, operation, maintenance, weather or seasonal conditions not anticipated during the design of the SWPPP including but not limited to:
 - Types and/or Locations of BMPs
 - Material Storage and Spill Response
 - Fueling Plans
 - Locations for Stockpiles, Concrete Washout, and Sanitation Facilities and
 - Project Phasing
- It is determined that the SWPPP is not achieving objectives of minimizing pollutants in stormwater discharges associated with construction activity, or
- The SWPPP is not consistent with the terms and conditions of the permit.

The Contractor may implement SWPPP amendments immediately and is not required to wait for Engineer review of the submittal. The responsibility for completeness of SWPPP amendments and compliance with the Permit lies with the Contractor. Review, comment, or lack of comment by the Engineer on a SWPPP amendment shall not absolve the responsibilities of the Contractor in any way.

If a change order is issued for a design change the SWPPP amendment will be prepared by the Engineer and included in the change order.

In addition to SWPPP amendments, the Contractor shall submit to the Engineer Weekly Erosion and Sediment Control Schedule meeting the requirements of MnDOT 1717.

The Contractor shall keep copies of all SWPPP amendments, Weekly Erosion and Sediment Control Schedules, inspection logs, and maintenance logs with the field copy of the SWPPP. A PDF copy of these documents will be provided along with a copy of the final Field Copy of the SWPPP to the Engineer along with the signed Notice of Termination when final stabilization is complete.

EROSION PREVENTION PRACTICES

Stormwater conveyance channels shall be routed around unstabilized areas. Erosion controls and velocity dissipation devices shall be used at outlets within and along the length of any constructed conveyance channel.

The normal wetted perimeter of all ditches or swales, including storm water management pond slopes, that drain waters from the site must be stabilized within 200' of any property edge or discharge point, including storm sewer inlets, within 24 hours of connection.

Temporary or permanent ditches or swales used as sediment containment during construction do not need to be stabilized during temporary period of use and shall be stabilized within 24 hours after no longer used as sediment containment.

Mulch, hydromulch, tackifier, or similar practice shall not be used in any portion of the wetted perimeter of a temporary or permanent drainage ditch or swale section with a continuous slope of greater than 2 percent.

Energy dissipation shall be installed at all temporary or permanent pipe outlets within 24 hours of connection to a surface water or permanent stormwater treatment system.

The Contractor shall phase construction and use construction methods to the extent practical to minimize exposed soils. The project phasing shall be documented in the Weekly Erosion and Sediment Control Schedule.

SEDIMENT CONTROL PRACTICES

Down gradient BMPs including perimeter BMPs must be in place before up gradient land- disturbing activities begin and shall remain in place until final stabilization.

All BMPs that have been adjusted or removed to accommodate short-term activities shall be re-installed or replaced the earlier of the end of the work day or before the next precipitation event even if the activity is not complete.

Inlet BMPs may be removed for specific safety concerns. The BMPs shall be replaced as soon as the safety concern is resolved. The removal shall be documented in the SWPPP as a SWPPP amendment.

Temporary stockpiles must have sediment control BMPs. The Contractor shall prepare and submit to the Engineer a SWPPP amendment showing the location of temporary stockpiles and the BMPs for each stockpile. The SWPPP amendment must meet the minimum requirements of Section 9 of the Permit.

Soil compaction shall be minimized and topsoil shall be preserved, unless infeasible or if construction activities dictate soil compaction or topsoil stripping.

The use of polymers, flocculants, or other sedimentation treatment chemicals are not proposed as part of this SWPPP as designed by the Engineer. If methods or phasing of construction require the use of any of these chemicals, the Contractor shall prepare and submit to the Engineer a SWPPP amendment that meets the minimum requirements of Section 9 of the Permit.

TEMPORARY SEDIMENTATION BASINS

A temporary sedimentation basin has not been included in this SWPPP as designed by the Engineer. If a basin is later determined to be desirable or necessary the Contractor shall prepare and submit to the Engineer a SWPPP amendment. Temporary sedimentation basins shall meet or exceed the minimum requirements of Section 14 of the Permit and shall include a basin draining plan meeting or exceeding the minimum requirements of Section 10 of the Permit. Where the site discharges to Special and/or Impaired Waters the SWPPP amendment shall also meet or exceed the minimum requirements of Section 23 of the permit.

DEWATERING

A dewatering plan has not been included in this SWPPP as designed by the Engineer. If dewatering is required for this project, the Contractor shall prepare and submit to the Engineer a SWPPP amendment. All dewatering shall meet or exceed the minimum requirements of Section 10 of the Permit.

POLLUTION PREVENTION

Products and materials that have the potential to leach pollutants that are stored on the site must be stored in a manner designed to minimize contact with stormwater. Materials that are not a source of potential contamination to stormwater or that are designed for exposure to stormwater are not required to be covered.

Hazardous materials including but not limited to pesticides, fertilizer, petroleum products, curing compounds and toxic waste must be properly stored and protected from stormwater exposure as recommended by the manufacturer in an access restricted area.

Solid waste must be stored, collected and disposed of in compliance with Minnesota Administrative Rules Chapter 7035.

Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. CH 7041.

Exterior vehicle or equipment washing on the project site shall be limited to a defined area of the site. No engine degreasing is allowed on site. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

The Contractor shall prepare and submit a SWPPP amendment detailing the location and BMPs proposed for storage of materials, solid waste, portable toilets, and exterior vehicle or equipment washing on the site. The SWPPP amendment shall include a spill prevention and response plan that is appropriate for the materials proposed to be on the site. The SWPPP amendment shall meet or exceed the minimum requirements of Section 12 of the Permit.

INSPECTION & MAINTENANCE

A trained person shall routinely inspect the entire construction site at the time interval indicated on this sheet of the SWPPP during active construction and within 24-hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24-hours after a rainfall event, the next inspection must be conducted at the time interval indicated in the Receiving Waters Table found on the SITE PLAN AND INFORMATION SHEET of the SWPPP.

All inspections and maintenance conducted during construction must be recorded on the day it is completed and must be retained with the SWPPP. Inspection report forms are available in the Project Specifications. Inspection report forms other than those provided shall be approved by the engineer.

The Contractor may request a change in inspection schedule for the following conditions:

- Inspections of areas with permanent cover to be reduced to once per month,
- Inspections of areas that have permanent cover and have had no construction activity for 12 months to be suspended until construction resumes,
- Inspections of areas where construction is suspended due to frozen ground conditions, inspections to be suspended until the earlier of within 24 hours of runoff occurring, or upon resuming construction.

No change in inspection schedule shall occur until authorized by the Engineer.

Inspections must include:

- All erosion prevention and sediment control BMPs and Pollution Prevention Management Measures to ensure integrity and effectiveness.
- Surface waters, including drainage ditches and conveyance systems for evidence of erosion and sediment deposition.
- Construction site vehicle exit locations, streets and curb and gutter systems within and adjacent to the project for sedimentation from erosion or tracked sediment from vehicles.
- Infiltration areas to ensure that no sediment from ongoing construction activity is reaching the infiltration area and that equipment is not being driven across the infiltration area.

All non-functioning BMPs and those BMPs where sediment reaches one-half (1/2) of the depth of the BMP, or in the case of sediment basins one-half (1/2) of the storage volume, must be repaired, replaced, or supplemented by the end of the next business day after discovery, or as soon as field conditions allow.

Permittees must repair, replace or supplement all nonfunctional BMPs with functional BMPs by the end of the next business day after discovery, or as soon as field conditions allow.

Any sediment that escapes the site must be removed and the area stabilized within 7 calendar days of discovery unless precluded by legal, regulatory, or physical access in which case the work shall be completed within 7 calendar days of authorization. Paved surfaces such as streets shall have any escaped or tracked sediment removed by the end of the day that it is discovered. Sediment release, other than paved surfaces that can be cleaned up with street sweeping shall be reported immediately upon discovery to the Engineer.

PUBLIC WATER RESTRICTIONS:

For public waters that have been promulgated "work in water restrictions" during fish spawning time frames, all exposed soil areas that are within 200 feet of the water's edge, and drain to these waters must complete stabilization within 24-hours during the time period. MN DNR permits are not valid for work in waters that are designated as infested waters unless accompanied by an Infested Waters Permit or written notification has been obtained from MN DNR stating that such permit is not required. There is no exception for pre-existing permits. If a MN DNR Permit has been issued for the project and the water is later designated as infested, the Contractor shall halt all work covered by the MN DNR Permit until an Infested Waters Permit is obtained or that written notification is obtained stating that such permit is not required.

FINAL STABILIZATION

Final Stabilization is not complete until all the following requirements have been met:

- Substantial Completion has been reached and no ground disturbing activities are anticipated.
- Permanent cover has been installed with an established minimum uniform perennial vegetation density of 70 percent of its expected final growth. Vegetation is not required in areas where no vegetation is proposed by this project such as impervious surfaces or the base of a sand filter.

- Accumulated sediment has been removed from all permanent stormwater treatment systems as necessary to ensure the system is operating as designed.
- All sediment has been removed from conveyance systems
- All temporary synthetic erosion prevention and sediment control BMPs have been removed. BMPs designated on the SWPPP to remain to decompose on-site may remain.
- For residential construction only, permit coverage terminates on individual lots if the structures are finished and temporary erosion prevention and downgradient perimeter control is complete, the residence sells to the homeowner, and the permittee distributes the MPCA's "Homeowner Fact Sheet" to the homeowner.
- For agricultural land only (e.g., pipelines across cropland), the disturbed land must be returned to its preconstruction agricultural use prior to submitting the NOT.

SITE STABILIZATION COMPLETION:

Stabilization of exposed soils shall begin immediately and shall be completed after the construction activity has temporarily or permanently ceased no later than:	7 calendar days
--	-----------------

SITE INSPECTION INTERVAL:

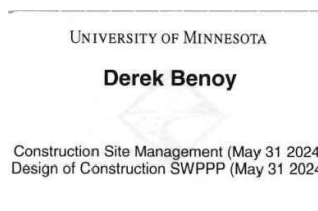
A trained person shall routinely inspect the entire construction site during active construction at an interval of no more than:	7 calendar days
--	-----------------

SPECIAL ENVIRONMENTAL CONSIDERATIONS AND PERMITS:

1) Was an environmental review required for this project or any part of a common plan of development or sale that includes all or any portion of this project?	NO
2) Does any portion of the site have the potential to affect threatened or endangered species or their critical habitat?	NO
3) Does any portion of this site discharge to a Calcareous fen.	NO
4) Will any portion of the site potentially affect properties listed on the National Register of Historic Places or a known or discovered archeological site?	NO
5) Have any Karst features have been identified in the project vicinity?	NO
6) Is compliance with temporary or permanent stormwater management design requirements infeasible for this project?	NO
7) Has the MN DNR promulgated "work in water restrictions" for any Public Water this site discharges to during fish spawning?	NO

TYPE OF PERMIT	PERMITTING AGENCY	PERMIT STATUS AND CONDITIONS
Construction Stormwater NPDES	MPCA	In Progress
LRRWMO	City of Ramsey	Owner to Obtain
Dewatering	MnDNR	Contractor to Obtain
MDH Watermain	MnDept of Health	Owner to Obtain
Anokay County Work in Right of Way	Anoka Couty	Owner to Obtain

SWPPP DESIGNER TRAINING DOCUMENTATION:



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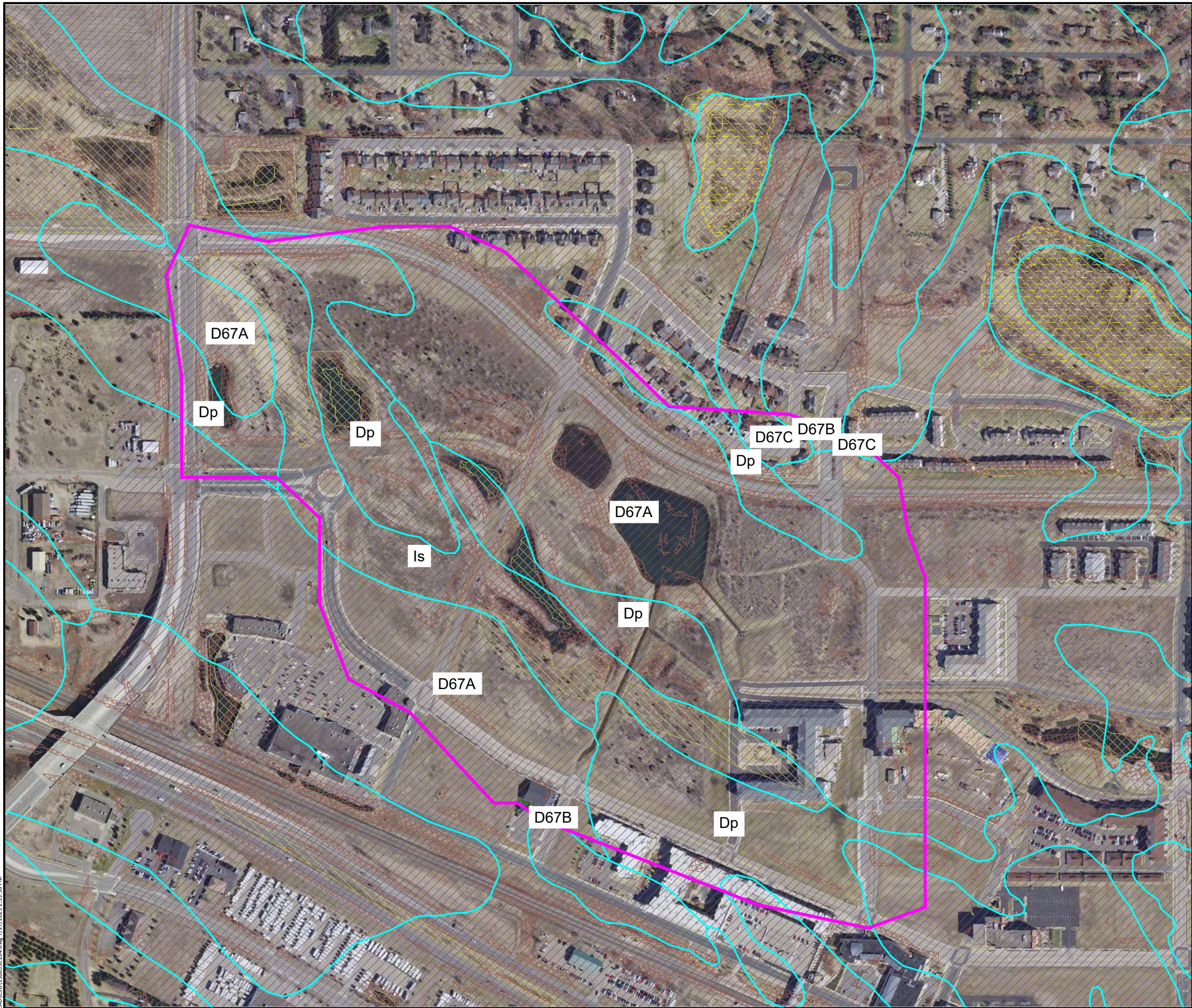


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CITY OF RAMSEY, MINNESOTA	SHEET
THE COR GRADING IMPROVEMENTS	17
STORMWATER POLLUTION PREVENTION PLAN - SWPPP NARRATIVE	OF
	36



LEGEND

-  PROJECT BOUNDARY
-  SOIL TYPE
-  IMPAIRED, SPECIAL OR PROTECTED WATERS
-  NATIONAL WETLANDS INVENTORY
-  DWSMA, MODERATE VULNERABILITY
-  STEEP SLOPES (>33.3%)



SOIL TYPE SUMMARY

Map Unit Symbol	Soil Name	Hyd. Soil Group
D76A	Hubbard loamy sand, Mississippi River Valley, 0 to 2 percent slopes	A
D76B	Hubbard loamy sand, Mississippi River Valley, 2 to 6 percent slopes	A
D76C	Hubbard loamy sand, Mississippi River Valley, 6 to 12 percent slopes	A
Dp	Duelm	A/D
Is	Isan	A/D

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	SHEET NO.
SITE MAP	16
DIRECTION OF FLOW	15
FINAL STABILIZATION	15
SOILS	18
DRAINAGE STRUCTURES	29
STORM SEWER PLAN & PROFILE SHEETS	29
EROSION & SEDIMENT CONTROL DETAILS	15
NARRATIVE & NOTES	16 - 17

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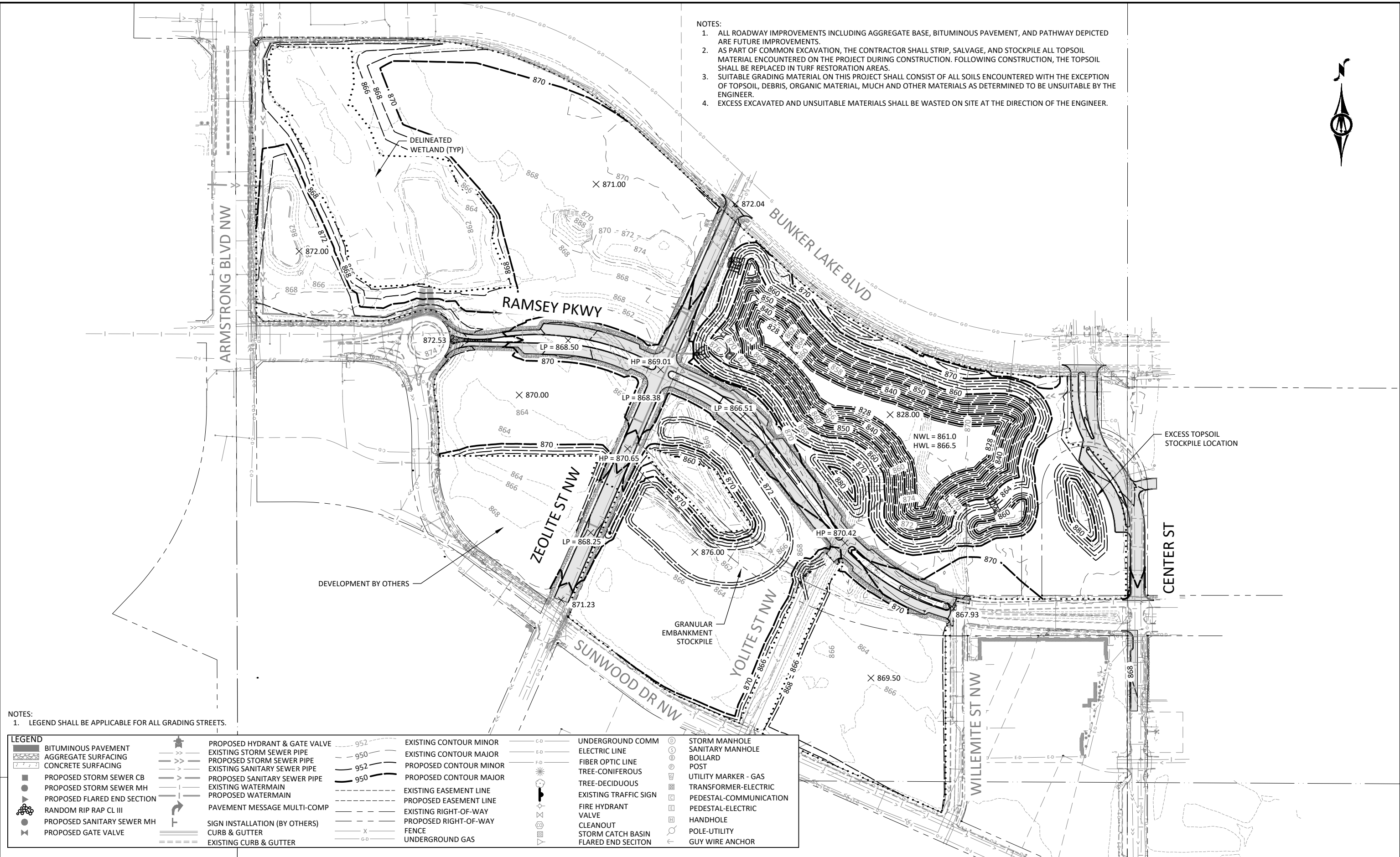


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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 STORMWATER POLLUTION PREVENTION PLAN - SWPPP SOILS

NOTES:

1. ALL ROADWAY IMPROVEMENTS INCLUDING AGGREGATE BASE, BITUMINOUS PAVEMENT, AND PATHWAY DEPICTED ARE FUTURE IMPROVEMENTS.
2. AS PART OF COMMON EXCAVATION, THE CONTRACTOR SHALL STRIP, SALVAGE, AND STOCKPILE ALL TOPSOIL MATERIAL ENCOUNTERED ON THE PROJECT DURING CONSTRUCTION. FOLLOWING CONSTRUCTION, THE TOPSOIL SHALL BE REPLACED IN TURF RESTORATION AREAS.
3. SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL, MUCK AND OTHER MATERIALS AS DETERMINED TO BE UNSUITABLE BY THE ENGINEER.
4. EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE WASTED ON SITE AT THE DIRECTION OF THE ENGINEER.



- NOTES:
1. LEGEND SHALL BE APPLICABLE FOR ALL GRADING STREETS.

LEGEND	
[Symbol]	BITUMINOUS PAVEMENT
[Symbol]	AGGREGATE SURFACING
[Symbol]	CONCRETE SURFACING
[Symbol]	PROPOSED STORM SEWER CB
[Symbol]	PROPOSED STORM SEWER MH
[Symbol]	PROPOSED FLARED END SECTION
[Symbol]	RANDOM RIP RAP CL III
[Symbol]	PROPOSED SANITARY SEWER MH
[Symbol]	PROPOSED GATE VALVE
[Symbol]	PROPOSED HYDRANT & GATE VALVE
[Symbol]	EXISTING STORM SEWER PIPE
[Symbol]	PROPOSED STORM SEWER PIPE
[Symbol]	EXISTING SANITARY SEWER PIPE
[Symbol]	PROPOSED SANITARY SEWER PIPE
[Symbol]	EXISTING WATERMAIN
[Symbol]	PROPOSED WATERMAIN
[Symbol]	PAVEMENT MESSAGE MULTI-COMP
[Symbol]	SIGN INSTALLATION (BY OTHERS)
[Symbol]	CURB & GUTTER
[Symbol]	EXISTING CURB & GUTTER
[Symbol]	EXISTING CONTOUR MINOR
[Symbol]	EXISTING CONTOUR MAJOR
[Symbol]	PROPOSED CONTOUR MINOR
[Symbol]	PROPOSED CONTOUR MAJOR
[Symbol]	EXISTING EASEMENT LINE
[Symbol]	PROPOSED EASEMENT LINE
[Symbol]	EXISTING RIGHT-OF-WAY
[Symbol]	PROPOSED RIGHT-OF-WAY
[Symbol]	FENCE
[Symbol]	UNDERGROUND GAS
[Symbol]	UNDERGROUND COMM
[Symbol]	ELECTRIC LINE
[Symbol]	FIBER OPTIC LINE
[Symbol]	TREE-CONIFEROUS
[Symbol]	TREE-DECIDUOUS
[Symbol]	EXISTING TRAFFIC SIGN
[Symbol]	FIRE HYDRANT
[Symbol]	CLEANOUT
[Symbol]	STORM CATCH BASIN
[Symbol]	FLARED END SECTION
[Symbol]	STORM MANHOLE
[Symbol]	SANITARY MANHOLE
[Symbol]	BOLLARD
[Symbol]	POST
[Symbol]	UTILITY MARKER - GAS
[Symbol]	TRANSFORMER-ELECTRIC
[Symbol]	PEDESTAL-COMMUNICATION
[Symbol]	PEDESTAL-ELECTRIC
[Symbol]	HANDHOLE
[Symbol]	POLE-UTILITY
[Symbol]	GUY WIRE ANCHOR

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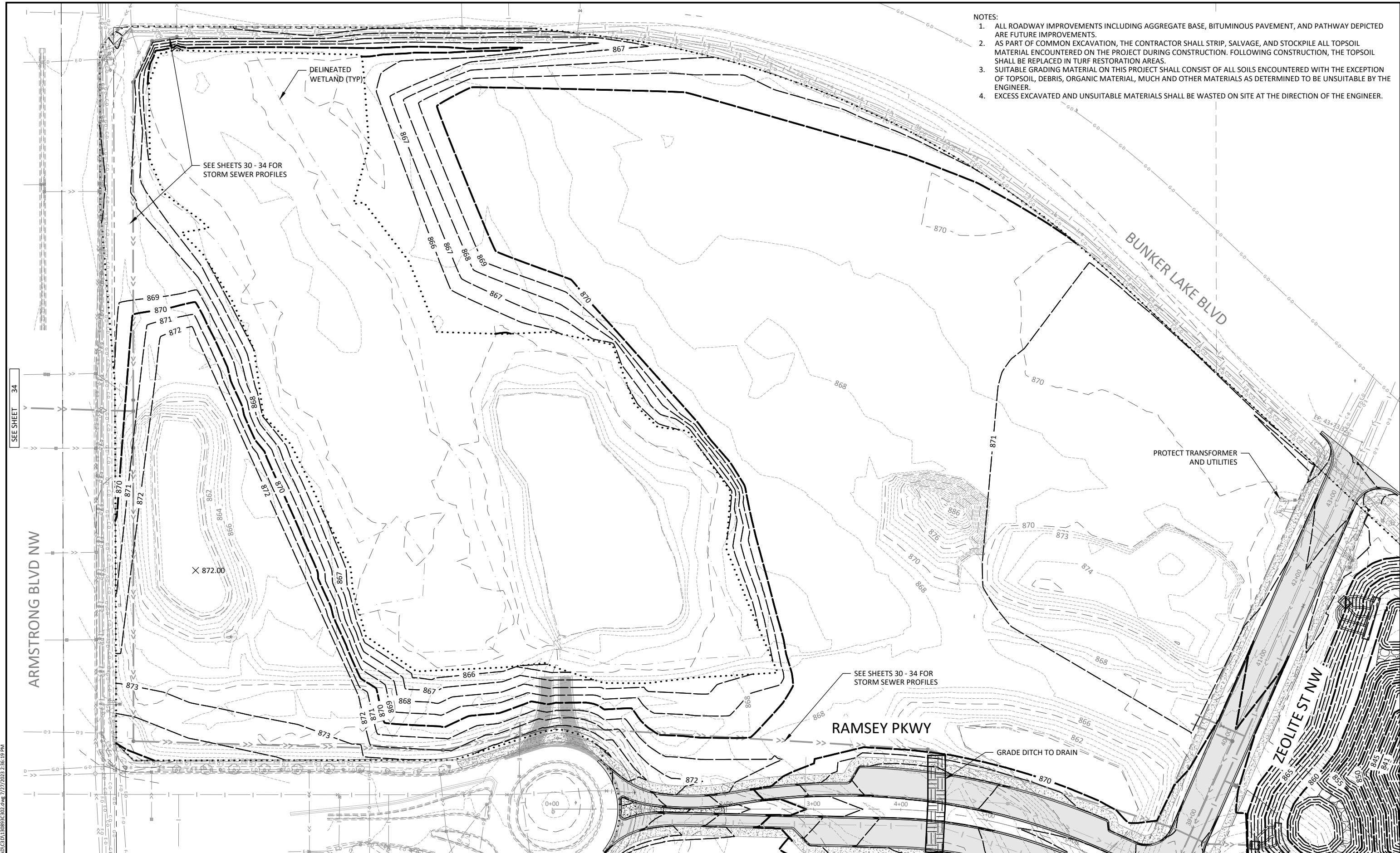
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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 GRADING PLAN
 PROJECT AREA

SHEET
 19
 OF
 36

NOTES:

1. ALL ROADWAY IMPROVEMENTS INCLUDING AGGREGATE BASE, BITUMINOUS PAVEMENT, AND PATHWAY DEPICTED ARE FUTURE IMPROVEMENTS.
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SEE SHEET 34

SEE SHEETS 30 - 34 FOR STORM SEWER PROFILES

SEE SHEETS 30 - 34 FOR STORM SEWER PROFILES

ARMSTRONG BLVD NW

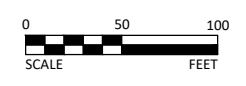
BUNKER LAKE BLVD

PROTECT TRANSFORMER AND UTILITIES

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GRADE DITCH TO DRAIN

ZEOLITE ST NW



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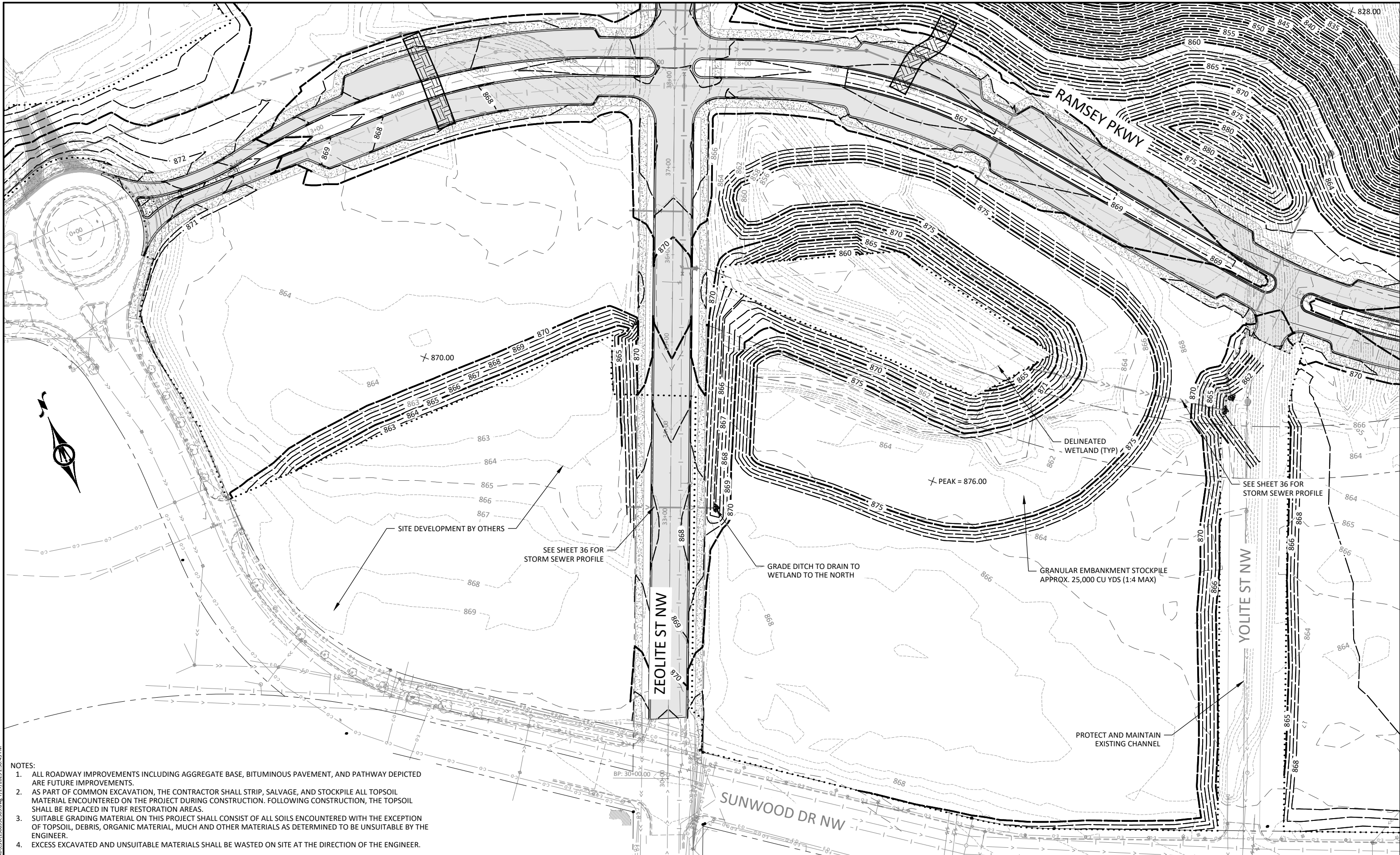


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CITY OF RAMSEY, MINNESOTA
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CITY OF RAMSEY, MINNESOTA
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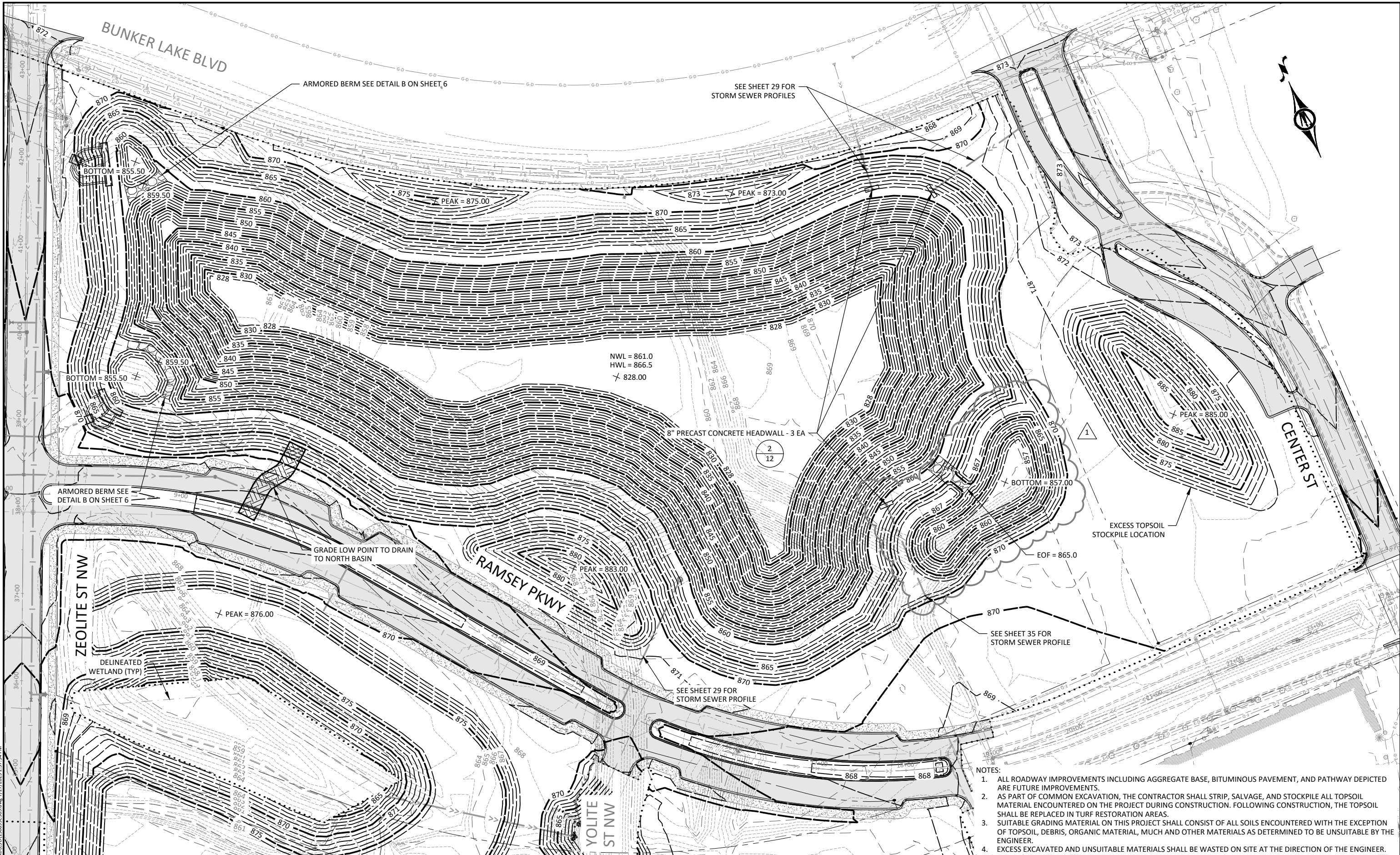
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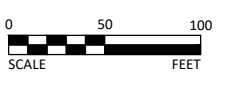
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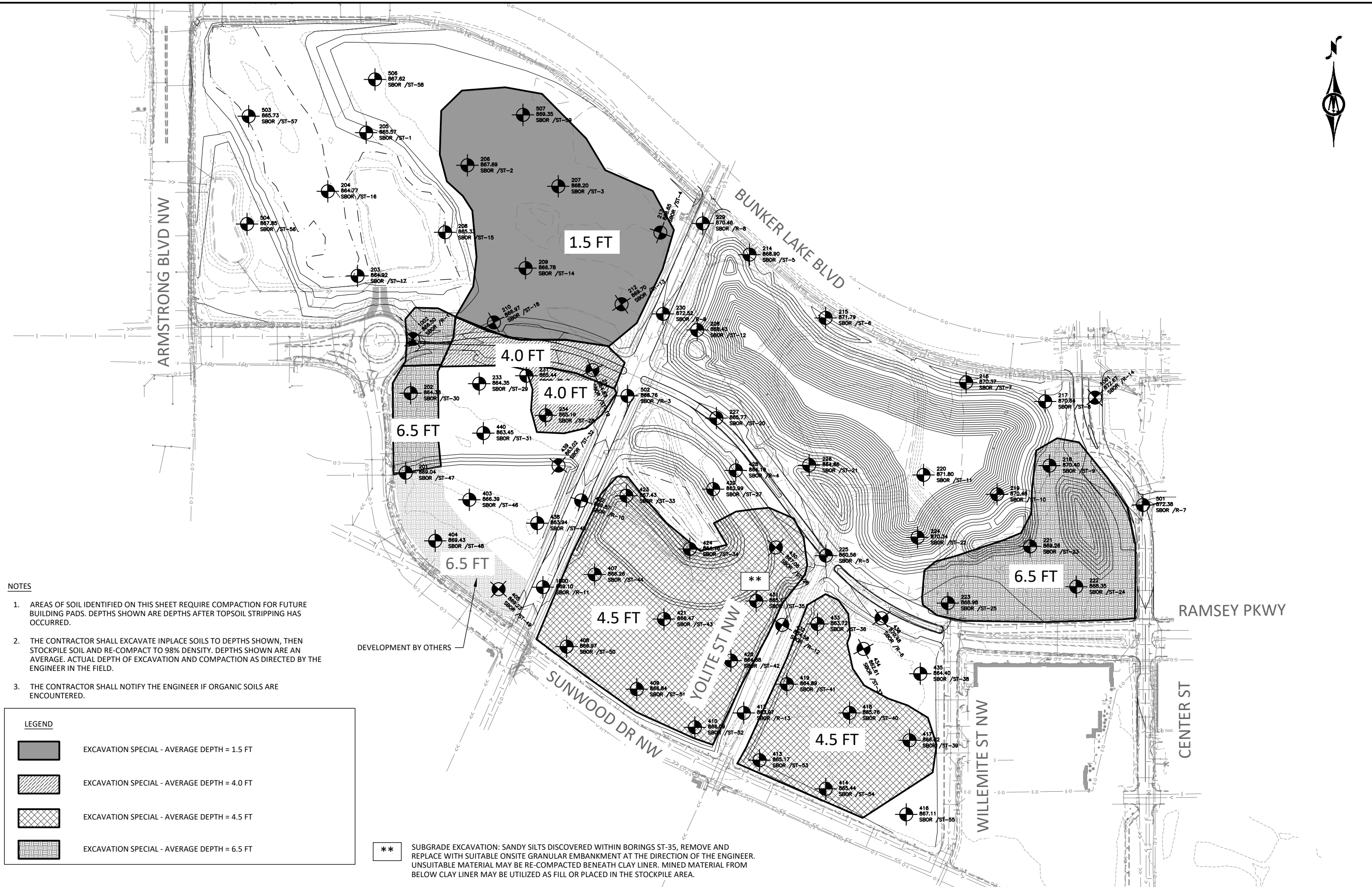


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- NOTES**
1. AREAS OF SOIL IDENTIFIED ON THIS SHEET REQUIRE COMPACTION FOR FUTURE BUILDING PADS. DEPTHS SHOWN ARE DEPTHS AFTER TOPSOIL STRIPPING HAS OCCURRED.
 2. THE CONTRACTOR SHALL EXCAVATE INPLACE SOILS TO DEPTHS SHOWN, THEN STOCKPILE SOIL AND RE-COMPACT TO 98% DENSITY. DEPTHS SHOWN ARE AN AVERAGE. ACTUAL DEPTH OF EXCAVATION AND COMPACTION AS DIRECTED BY THE ENGINEER IN THE FIELD.
 3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ORGANIC SOILS ARE ENCOUNTERED.

LEGEND

- EXCAVATION SPECIAL - AVERAGE DEPTH = 1.5 FT
- EXCAVATION SPECIAL - AVERAGE DEPTH = 4.0 FT
- EXCAVATION SPECIAL - AVERAGE DEPTH = 4.5 FT
- EXCAVATION SPECIAL - AVERAGE DEPTH = 6.5 FT

****** SUBGRADE EXCAVATION: SANDY SILTS DISCOVERED WITHIN BORINGS ST-35, REMOVE AND REPLACE WITH SUITABLE ONSITE GRANULAR EMBANKMENT AT THE DIRECTION OF THE ENGINEER. UNSUITABLE MATERIAL MAY BE RE-COMPACTED BENEATH CLAY LINER. MINED MATERIAL FROM BELOW CLAY LINER MAY BE UTILIZED AS FILL OR PLACED IN THE STOCKPILE AREA.

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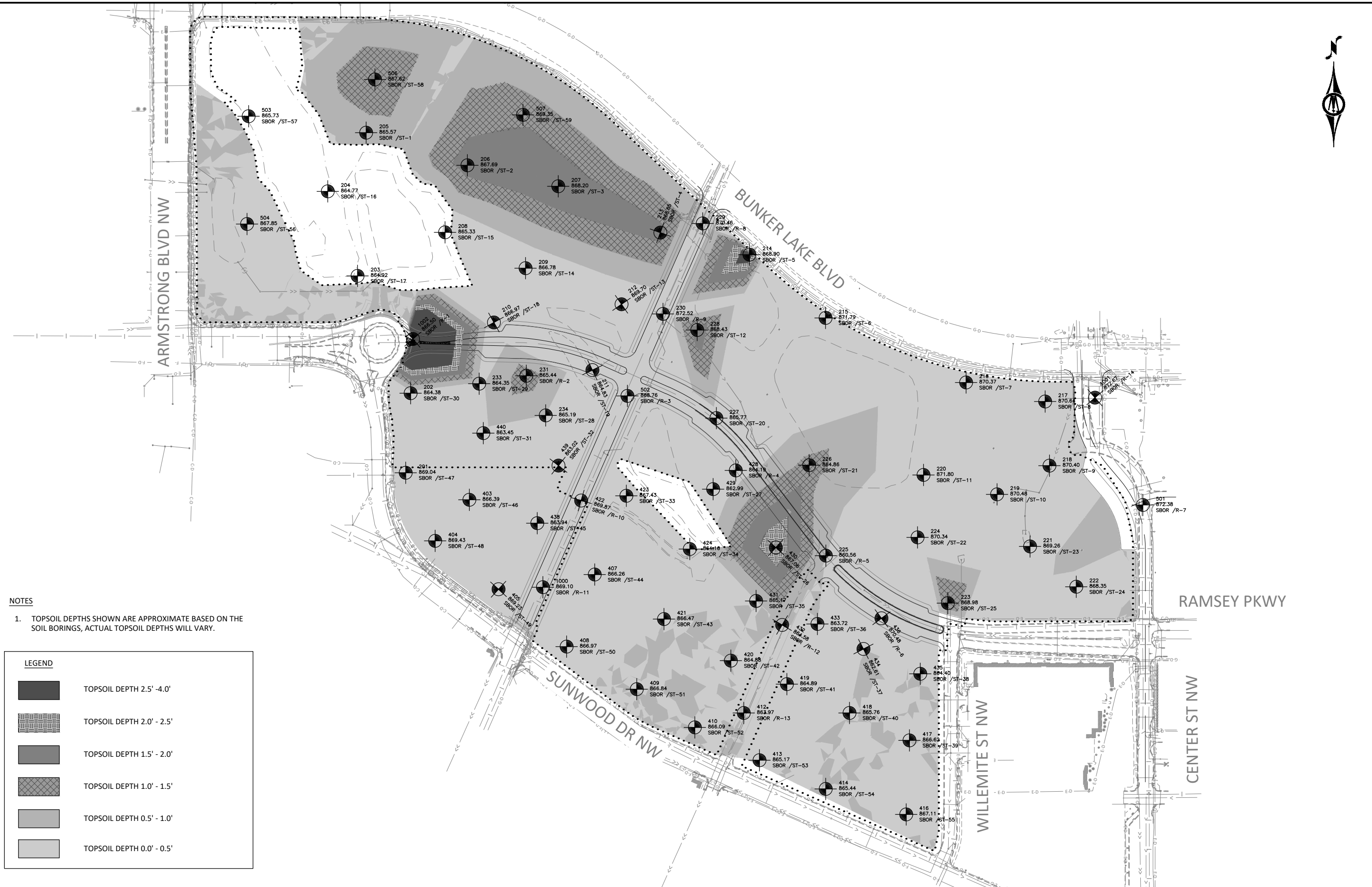
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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 GRADING PLAN
 EXCAVATION SPECIAL LIMITS

SHEET
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 OF
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NOTES

1. TOPSOIL DEPTHS SHOWN ARE APPROXIMATE BASED ON THE SOIL BORINGS, ACTUAL TOPSOIL DEPTHS WILL VARY.

LEGEND	
	TOPSOIL DEPTH 2.5' - 4.0'
	TOPSOIL DEPTH 2.0' - 2.5'
	TOPSOIL DEPTH 1.5' - 2.0'
	TOPSOIL DEPTH 1.0' - 1.5'
	TOPSOIL DEPTH 0.5' - 1.0'
	TOPSOIL DEPTH 0.0' - 0.5'



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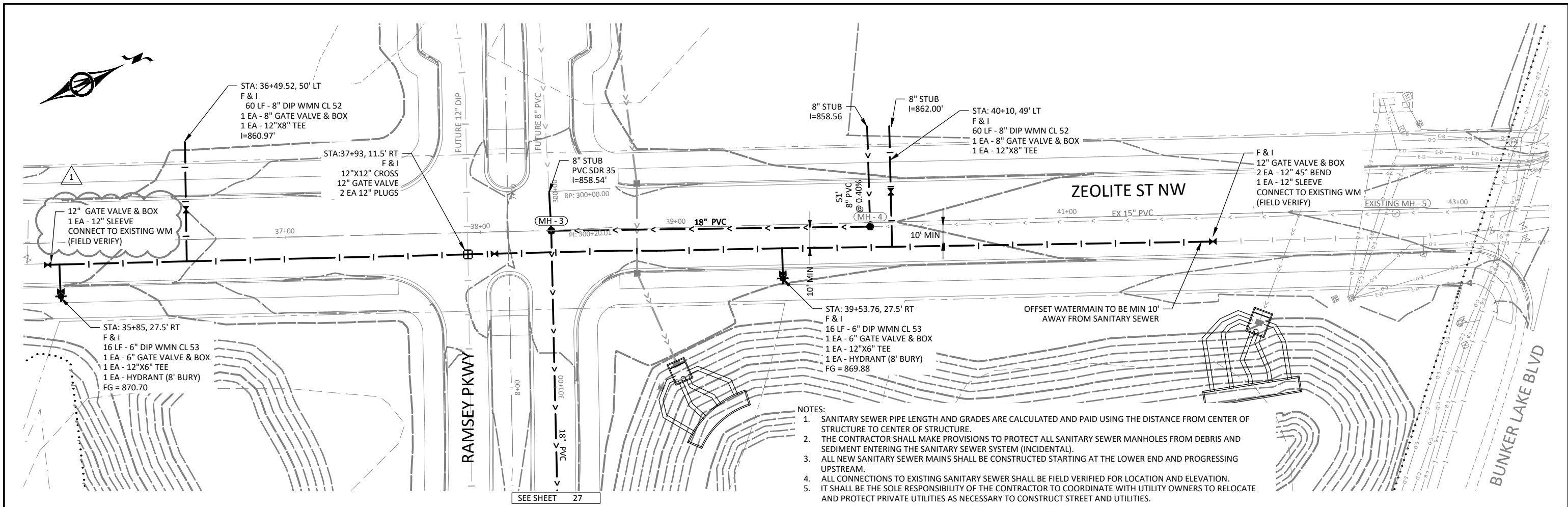


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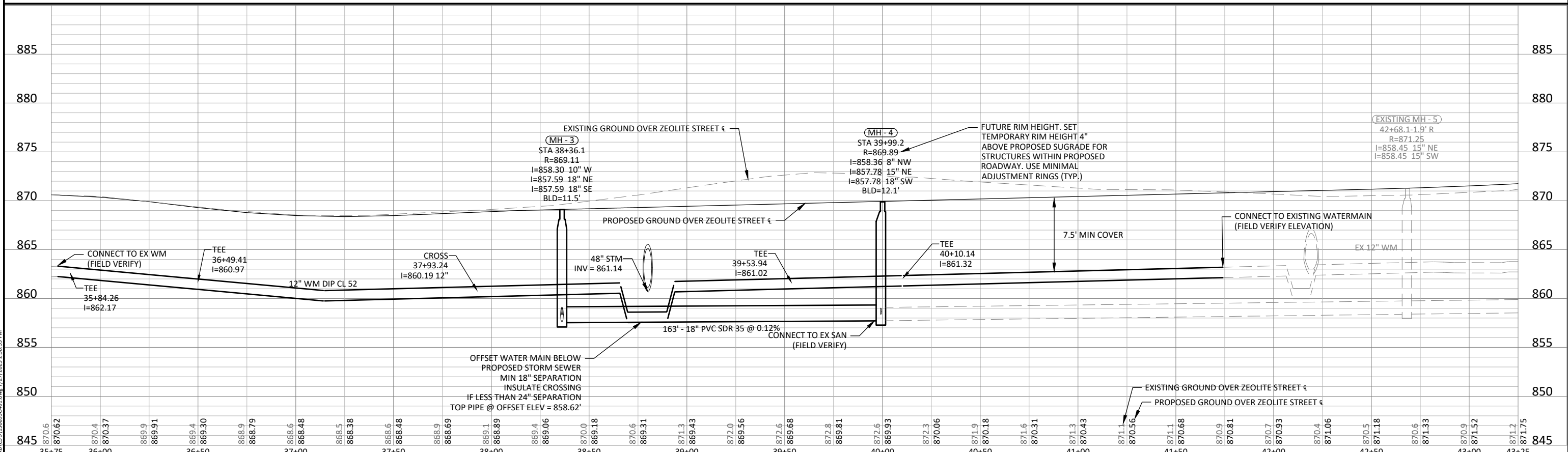
CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 GRADING PLAN
 TOPSOIL DEPTHS

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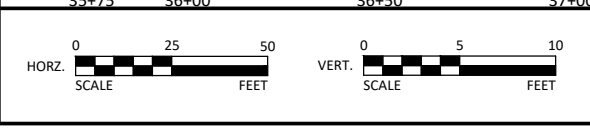
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- NOTES:
- SANITARY SEWER PIPE LENGTH AND GRADES ARE CALCULATED AND PAID USING THE DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
 - THE CONTRACTOR SHALL MAKE PROVISIONS TO PROTECT ALL SANITARY SEWER MANHOLES FROM DEBRIS AND SEDIMENT ENTERING THE SANITARY SEWER SYSTEM (INCIDENTAL).
 - ALL NEW SANITARY SEWER MAINS SHALL BE CONSTRUCTED STARTING AT THE LOWER END AND PROGRESSING UPSTREAM.
 - ALL CONNECTIONS TO EXISTING SANITARY SEWER SHALL BE FIELD VERIFIED FOR LOCATION AND ELEVATION. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH UTILITY OWNERS TO RELOCATE AND PROTECT PRIVATE UTILITIES AS NECESSARY TO CONSTRUCT STREET AND UTILITIES.



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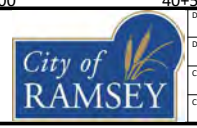


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 LIC. NO. 23211 DATE 07/21/2023



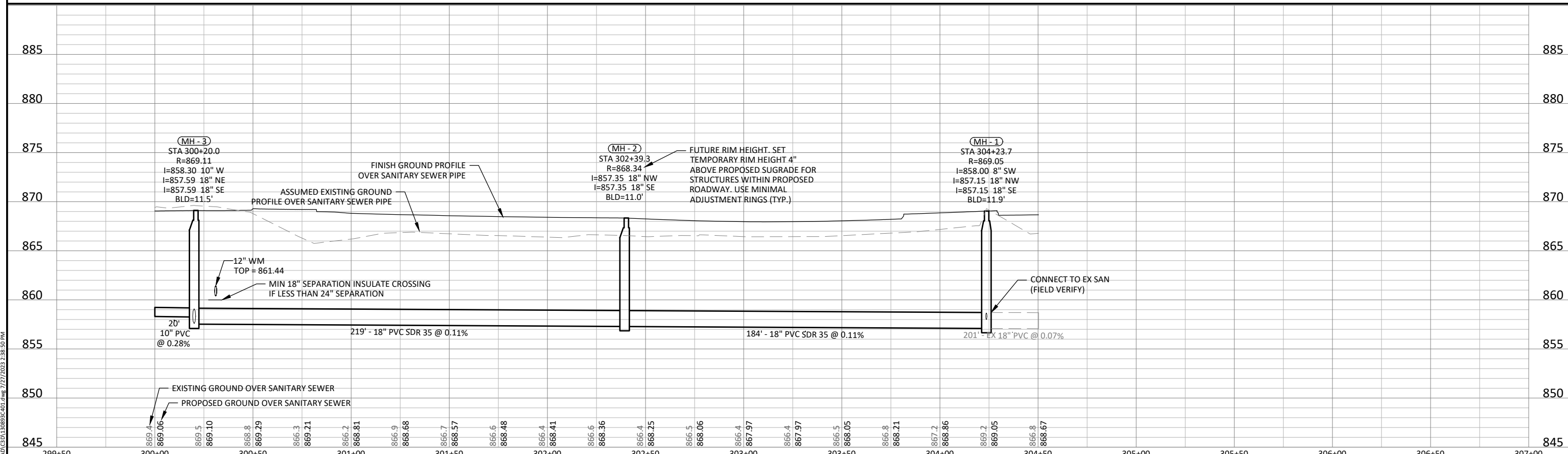
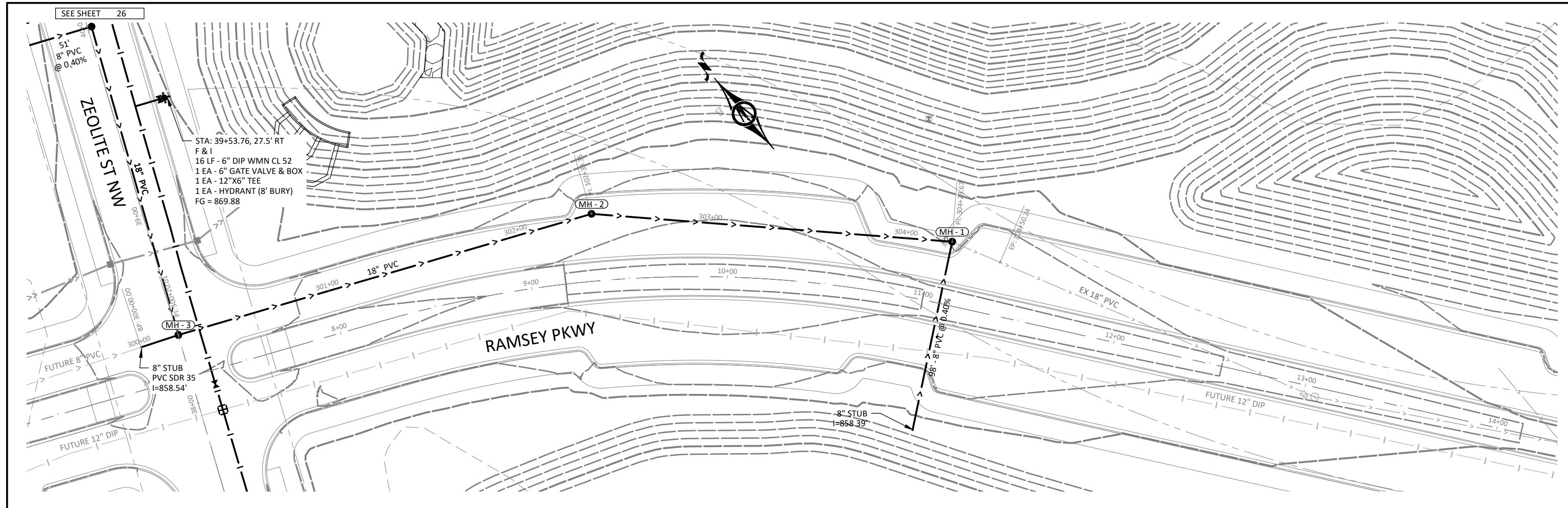
7533 SUNWOOD DR NW, SUITE 206
 RAMSEY, MINNESOTA 55303
 Phone: (763) 433-2851
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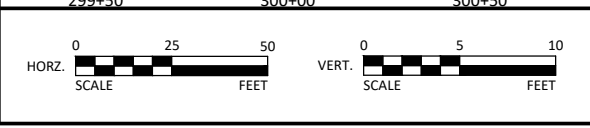
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CLIENT PROJ. NO.	23-20		

CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 SANITARY & WATER PLAN & PROFILE
 ZEOLITE STREET NW

SHEET 26 OF 36



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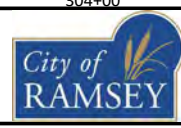


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Kevin P. Kielb
 KEVIN P. KIELB, P.E.
 LIC. NO. 23211 DATE 07/21/2023



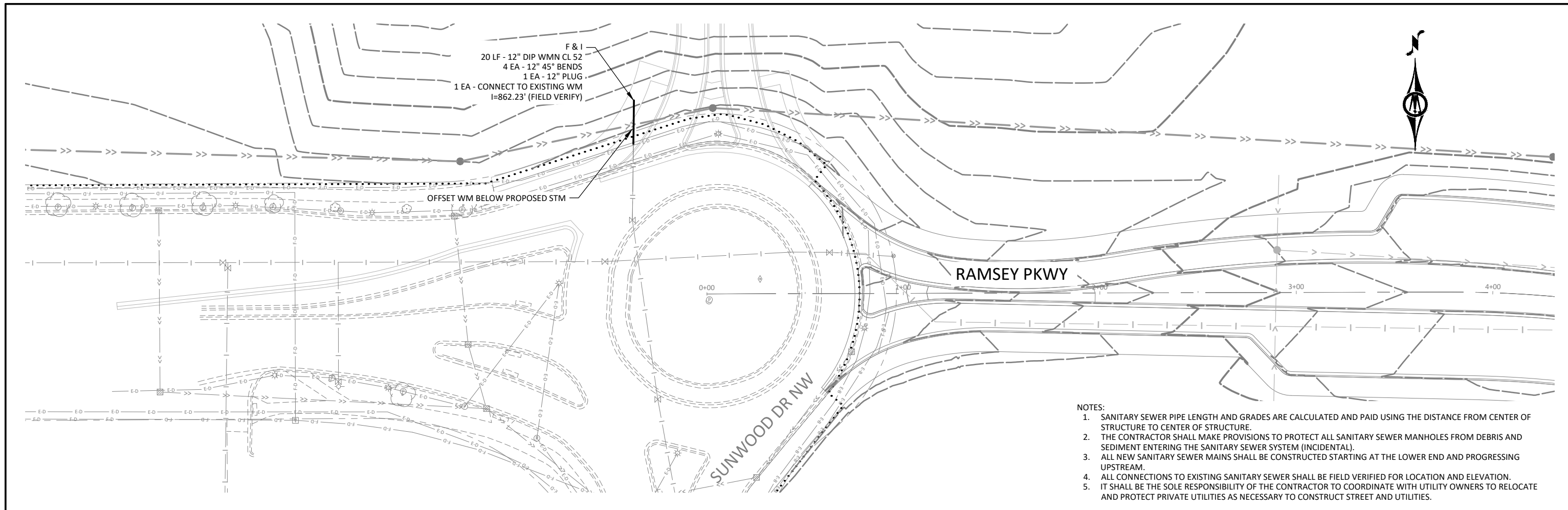
7533 SUNWOOD DR NW, SUITE 206
 RAMSEY, MINNESOTA 55303
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 Email: Ramsey@bolton-menk.com
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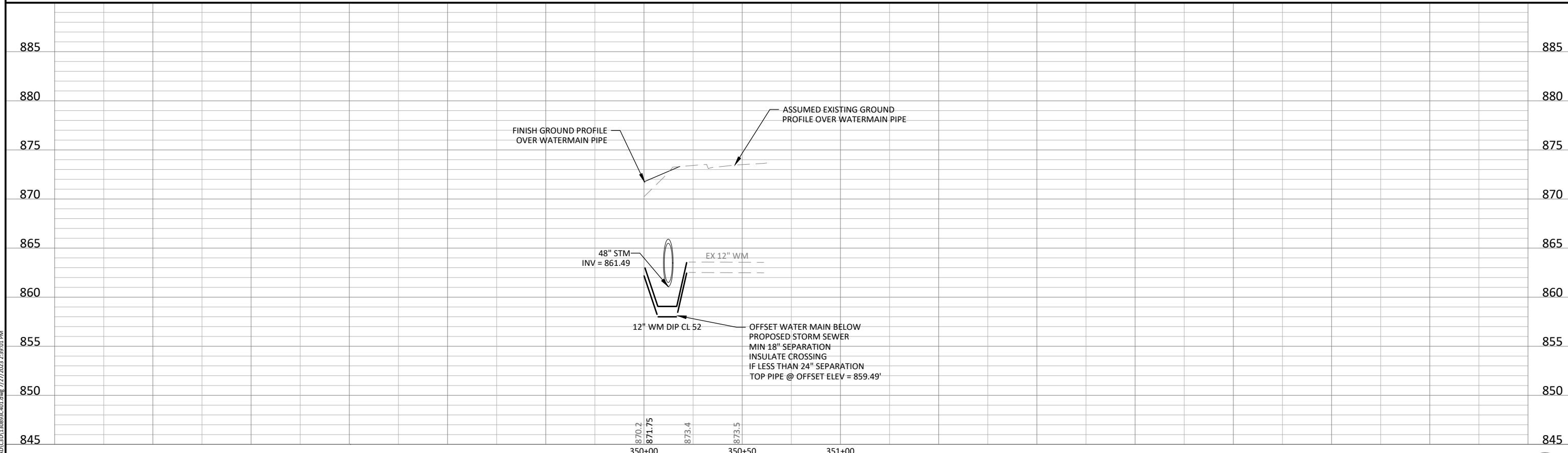
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CLIENT PROJ. NO.	23-20						

CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 SANITARY & WATER PLAN & PROFILE
 RAMSEY PARKWAY

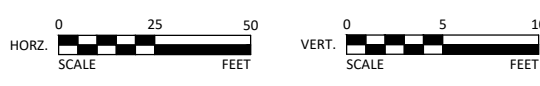
SHEET 27 OF 36



- NOTES:
1. SANITARY SEWER PIPE LENGTH AND GRADES ARE CALCULATED AND PAID USING THE DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
 2. THE CONTRACTOR SHALL MAKE PROVISIONS TO PROTECT ALL SANITARY SEWER MANHOLES FROM DEBRIS AND SEDIMENT ENTERING THE SANITARY SEWER SYSTEM (INCIDENTAL).
 3. ALL NEW SANITARY SEWER MAINS SHALL BE CONSTRUCTED STARTING AT THE LOWER END AND PROGRESSING UPSTREAM.
 4. ALL CONNECTIONS TO EXISTING SANITARY SEWER SHALL BE FIELD VERIFIED FOR LOCATION AND ELEVATION.
 5. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH UTILITY OWNERS TO RELOCATE AND PROTECT PRIVATE UTILITIES AS NECESSARY TO CONSTRUCT STREET AND UTILITIES.



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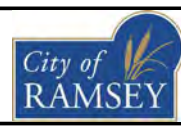


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Kevin P. Kielb
KEVIN P. KIELB, P.E.
LIC. NO. 23211 DATE 07/21/2023



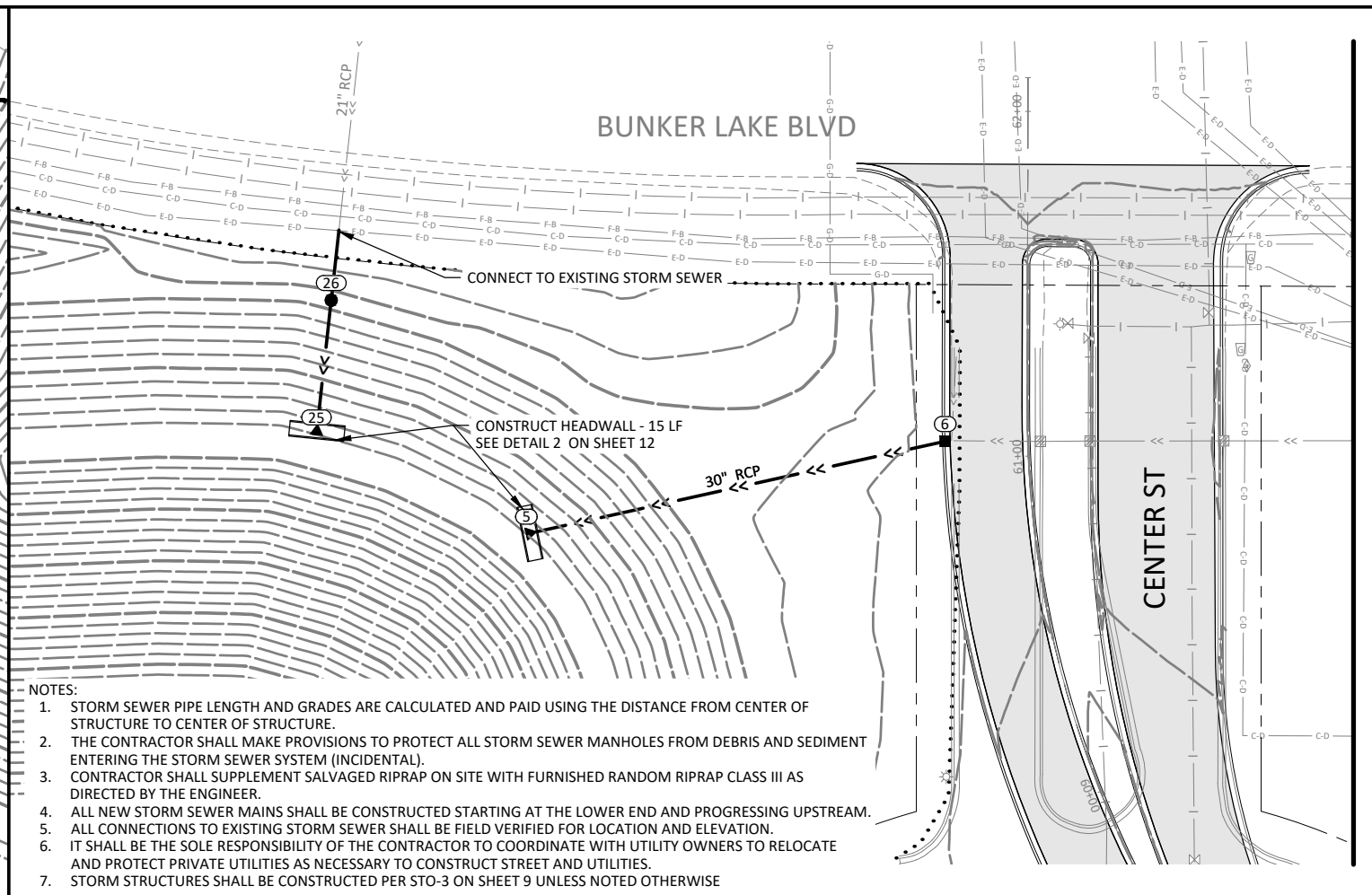
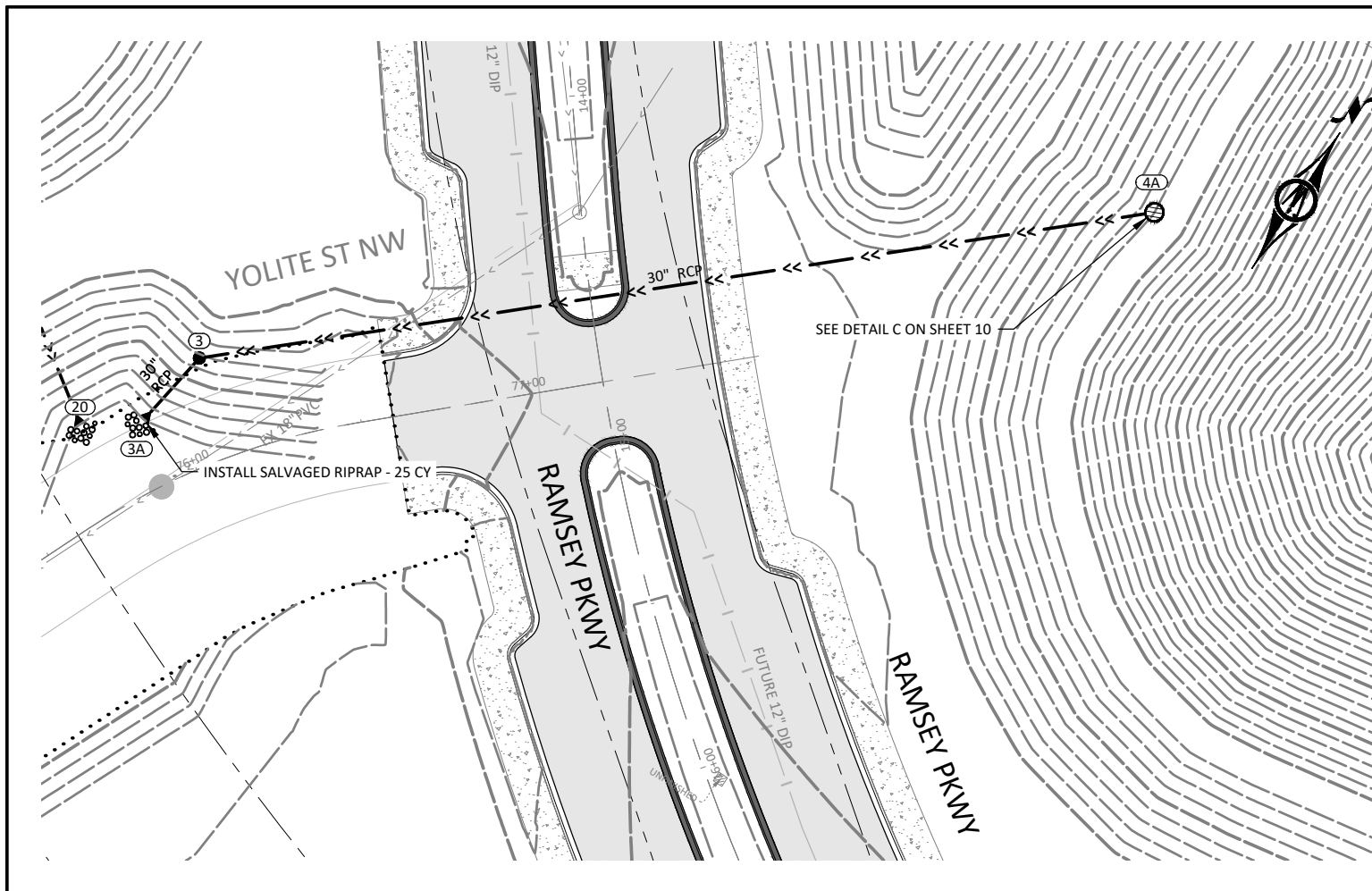
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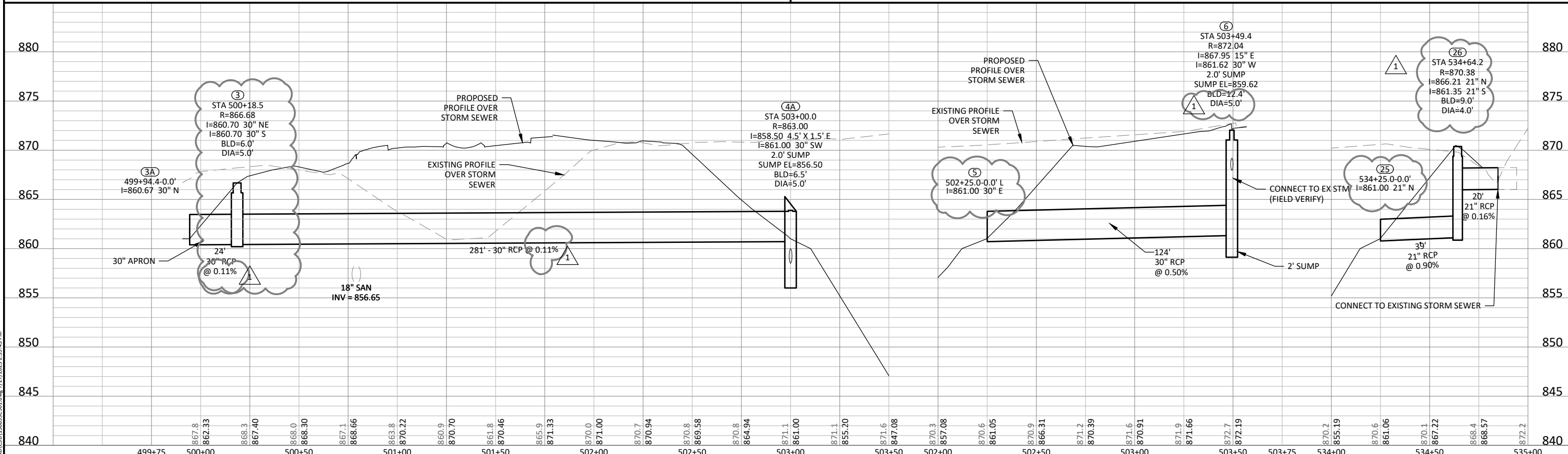
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CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
SANITARY & WATER PLAN & PROFILE
RAMSEY PARKWAY

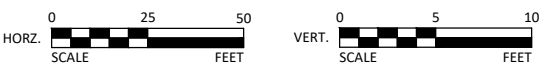
1 SHEET
28 OF
36



- NOTES:
1. STORM SEWER PIPE LENGTH AND GRADES ARE CALCULATED AND PAID USING THE DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
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 7. STORM STRUCTURES SHALL BE CONSTRUCTED PER STO-3 ON SHEET 9 UNLESS NOTED OTHERWISE



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Kevin P. Kielb
 KEVIN P. KIELB, P.E.
 LIC. NO. 23211 DATE 07/21/2023



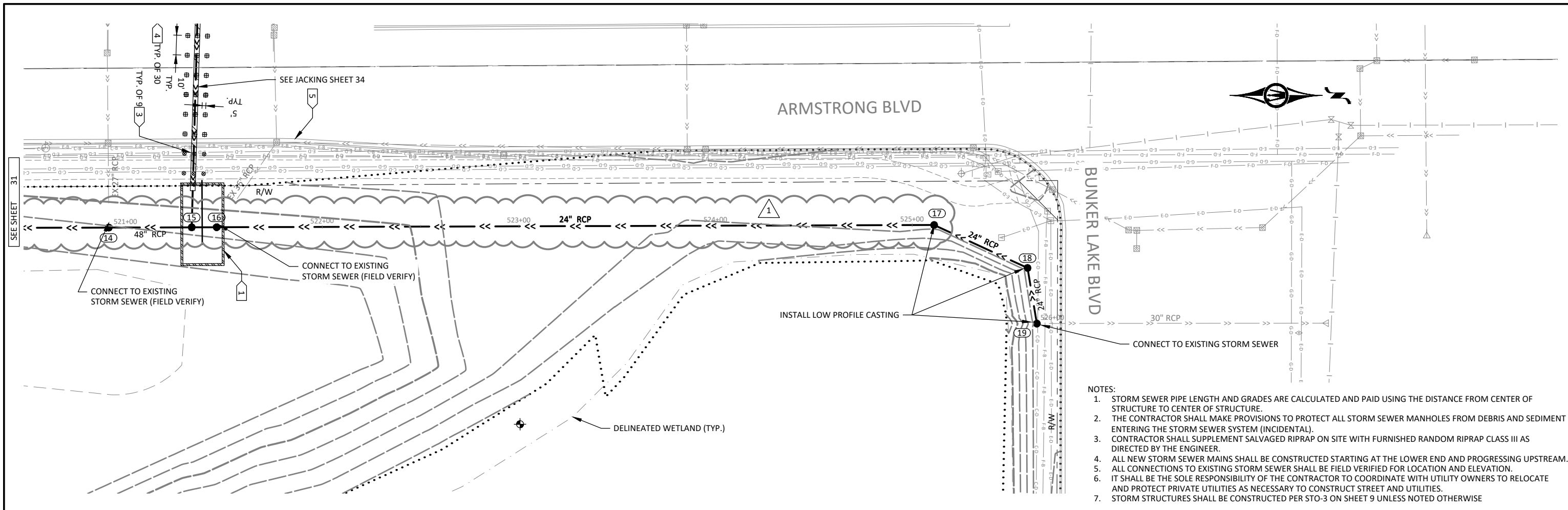
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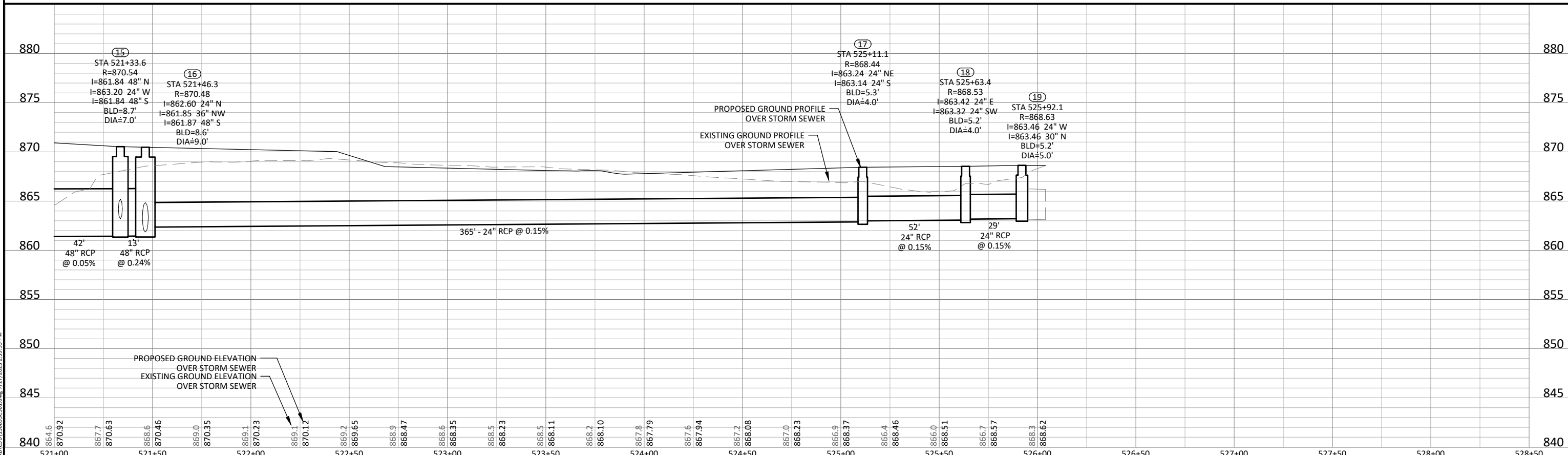
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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 STORM SEWER PLAN & PROFILE
 PARCEL B POND OUTLET

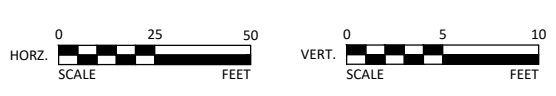
SHEET
 29
 OF
 36



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Kevin P. Kielb
 KEVIN P. KIELB, P.E.
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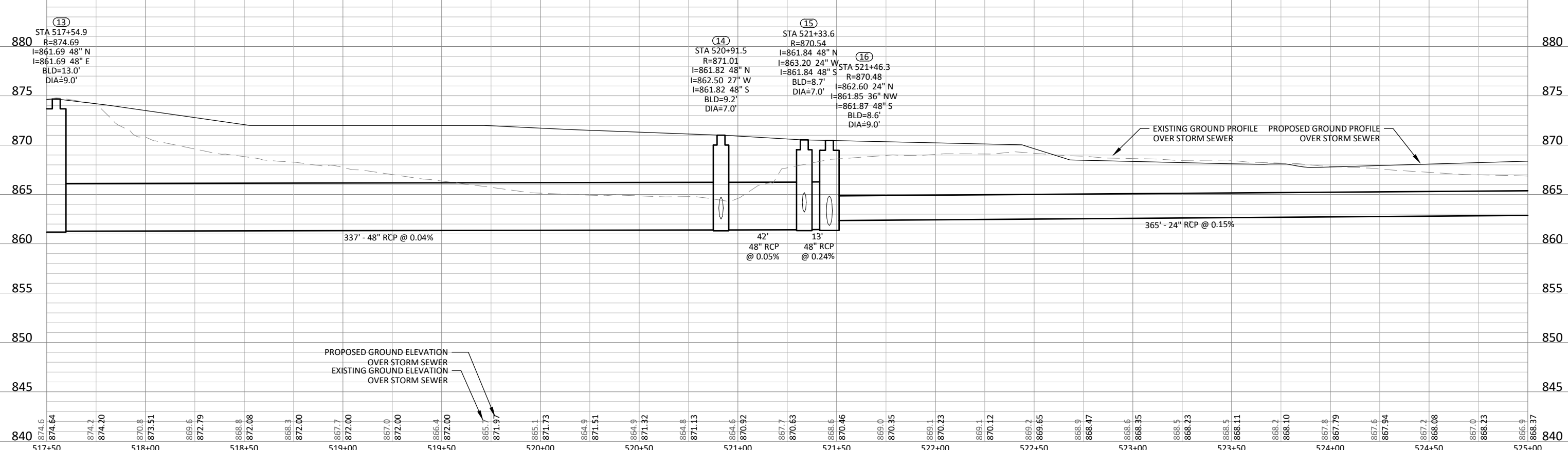
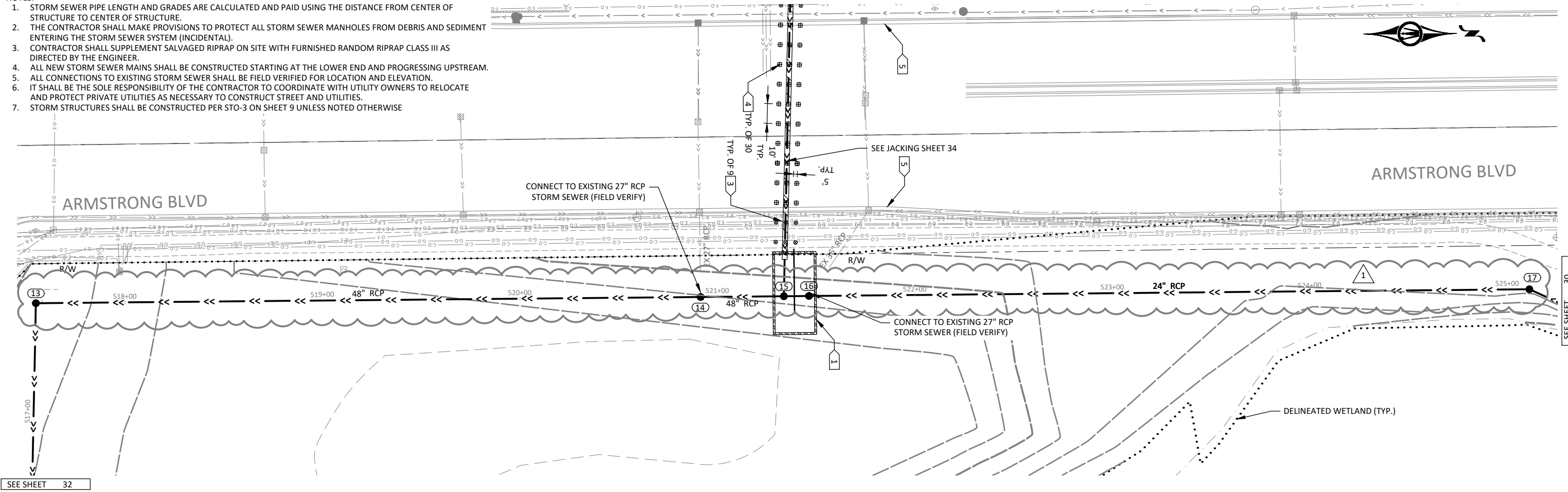
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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 STORM SEWER PLAN & PROFILE
 ARMSTRONG BLVD

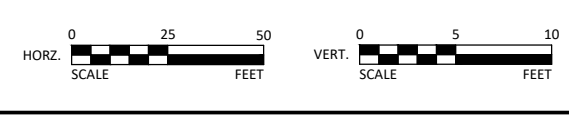
SHEET
 30
 OF
 36

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Kevin P. Kiehl
 KEVIN P. KIELB, P.E.
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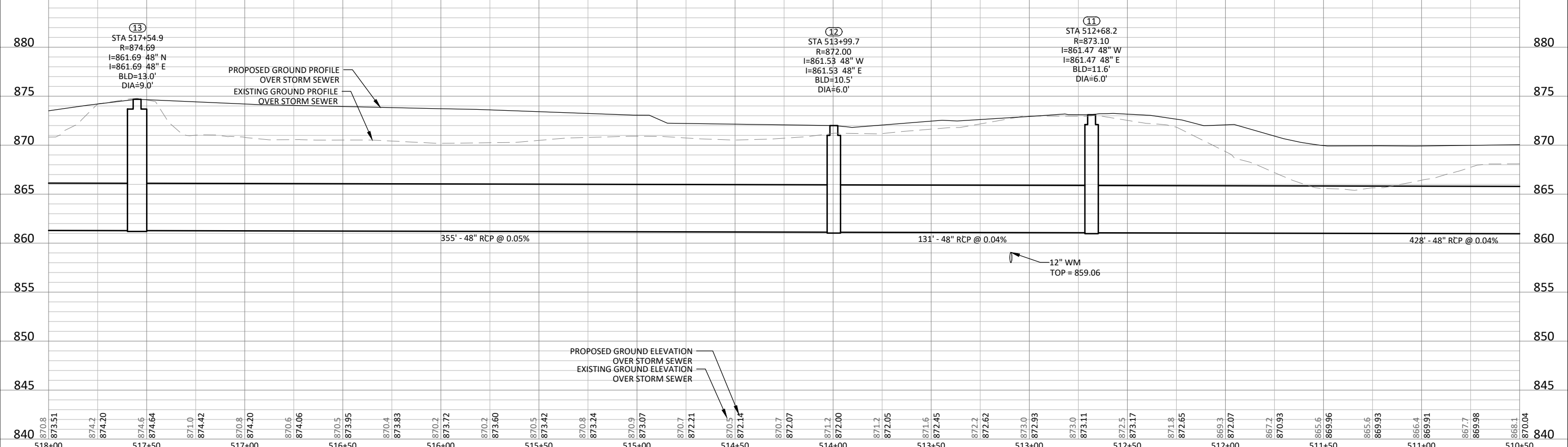
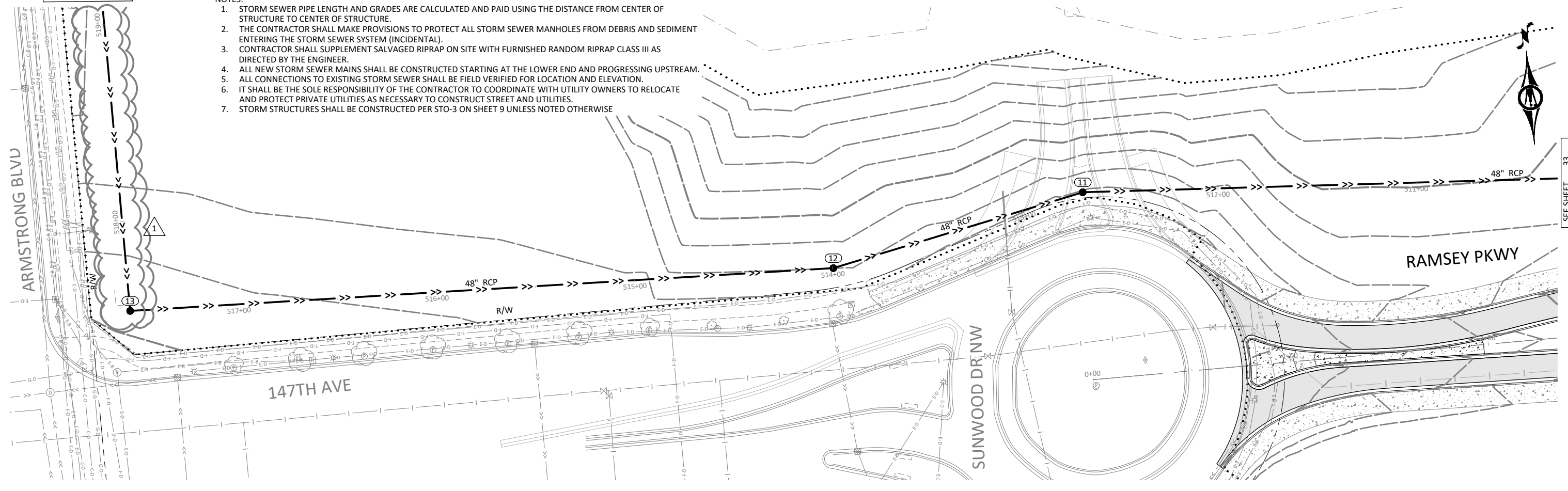
CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 STORM SEWER PLAN & PROFILE
 ARMSTRONG BLVD

SHEET
 31
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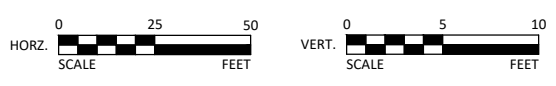
SEE SHEET 31

NOTES:

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Kevin P. Kielb
KEVIN P. KIELB, P.E.
LIC. NO. 23211 DATE 07/21/2023



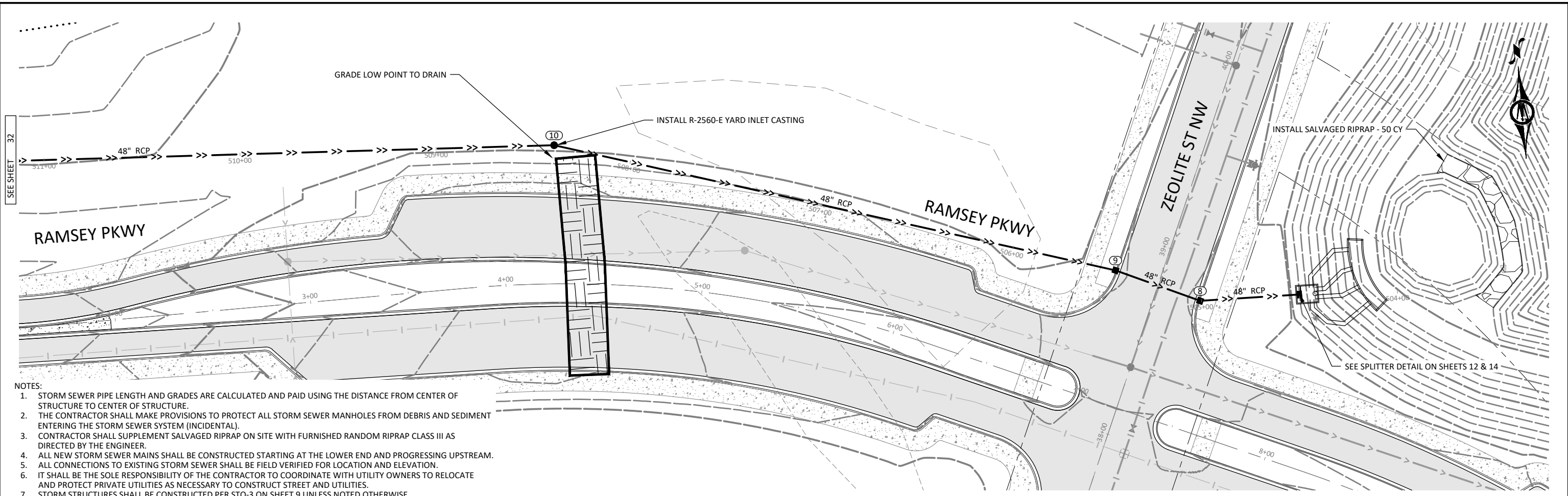
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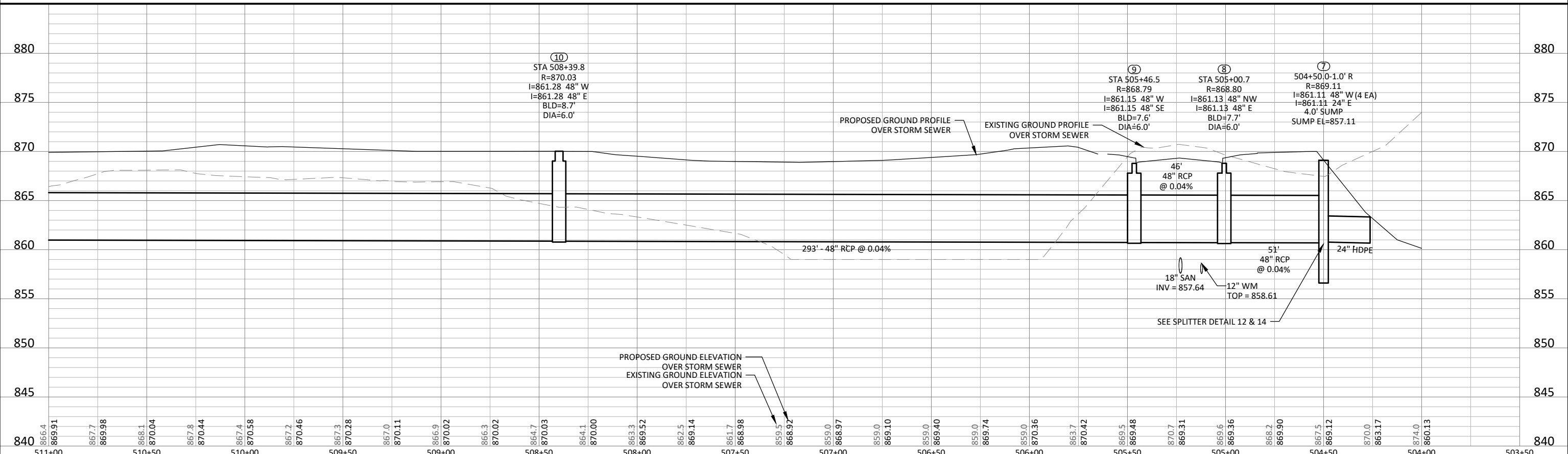
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CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
STORM SEWER PLAN & PROFILE
RAMSEY PKWY

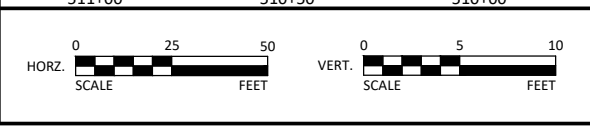
SHEET 32 OF 36



- NOTES:
1. STORM SEWER PIPE LENGTH AND GRADES ARE CALCULATED AND PAID USING THE DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
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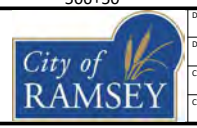


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Kevin P. Kielb
 KEVIN P. KIELB, P.E.
 LIC. NO. 23211 DATE 07/21/2023



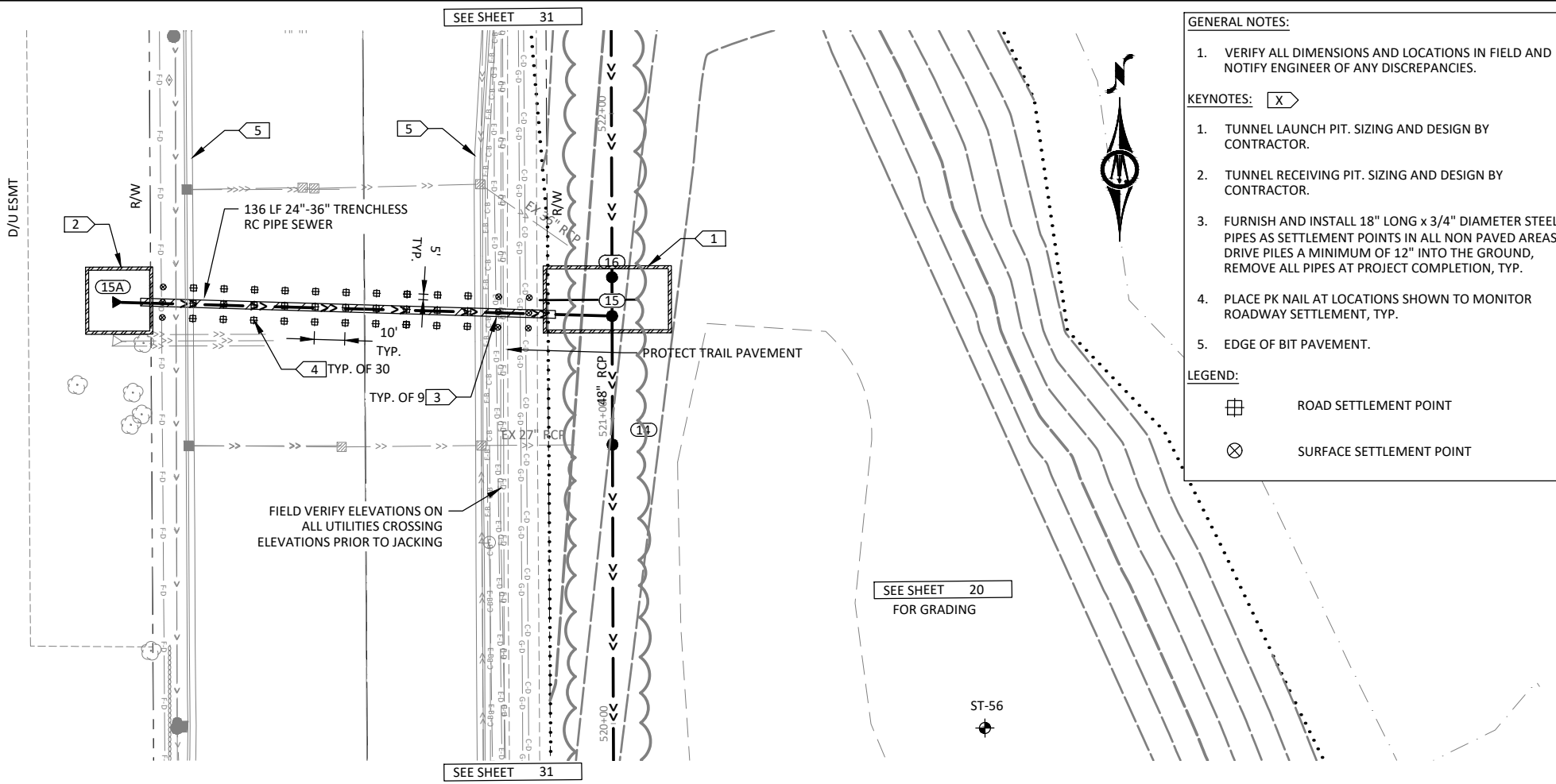
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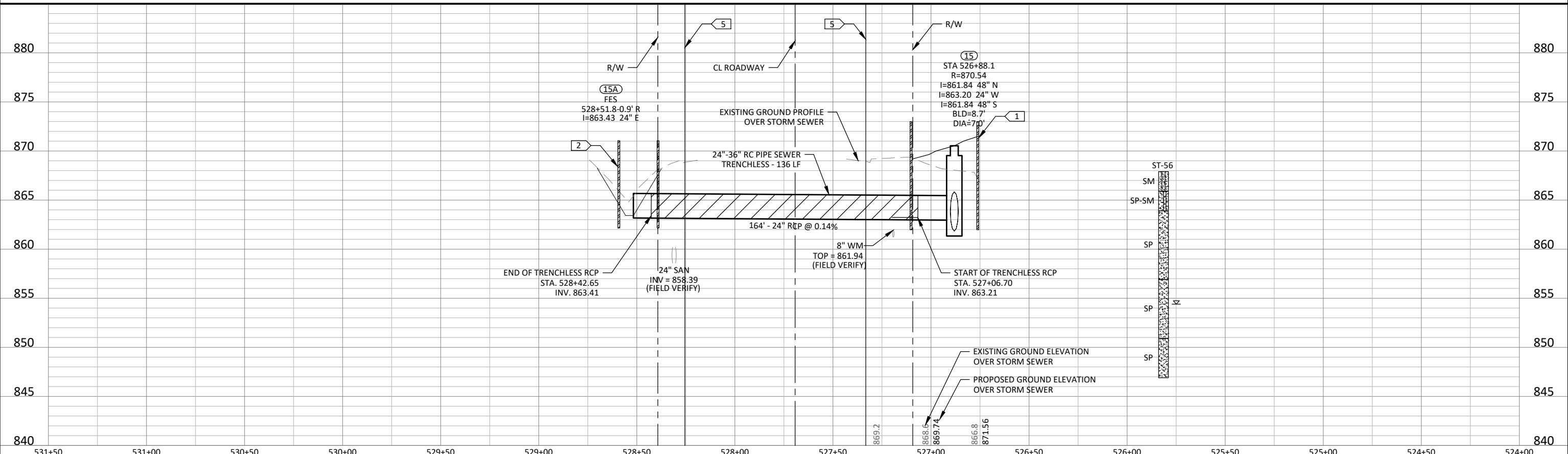
CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 STORM SEWER PLAN & PROFILE
 RAMSEY PKWY

SHEET 33 OF 36

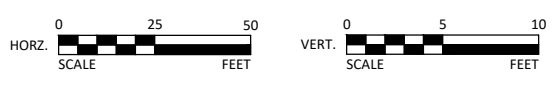


- GENERAL NOTES:**
1. VERIFY ALL DIMENSIONS AND LOCATIONS IN FIELD AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
 1. TUNNEL LAUNCH PIT. SIZING AND DESIGN BY CONTRACTOR.
 2. TUNNEL RECEIVING PIT. SIZING AND DESIGN BY CONTRACTOR.
 3. FURNISH AND INSTALL 18" LONG x 3/4" DIAMETER STEEL PIPES AS SETTLEMENT POINTS IN ALL NON PAVED AREAS, DRIVE PILES A MINIMUM OF 12" INTO THE GROUND, REMOVE ALL PIPES AT PROJECT COMPLETION, TYP.
 4. PLACE PK NAIL AT LOCATIONS SHOWN TO MONITOR ROADWAY SETTLEMENT, TYP.
 5. EDGE OF BIT PAVEMENT.
- KEYNOTES:** X
- LEGEND:**
- ⊠ ROAD SETTLEMENT POINT
 - ⊗ SURFACE SETTLEMENT POINT

- NOTES:**
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Kevin P. Kiel
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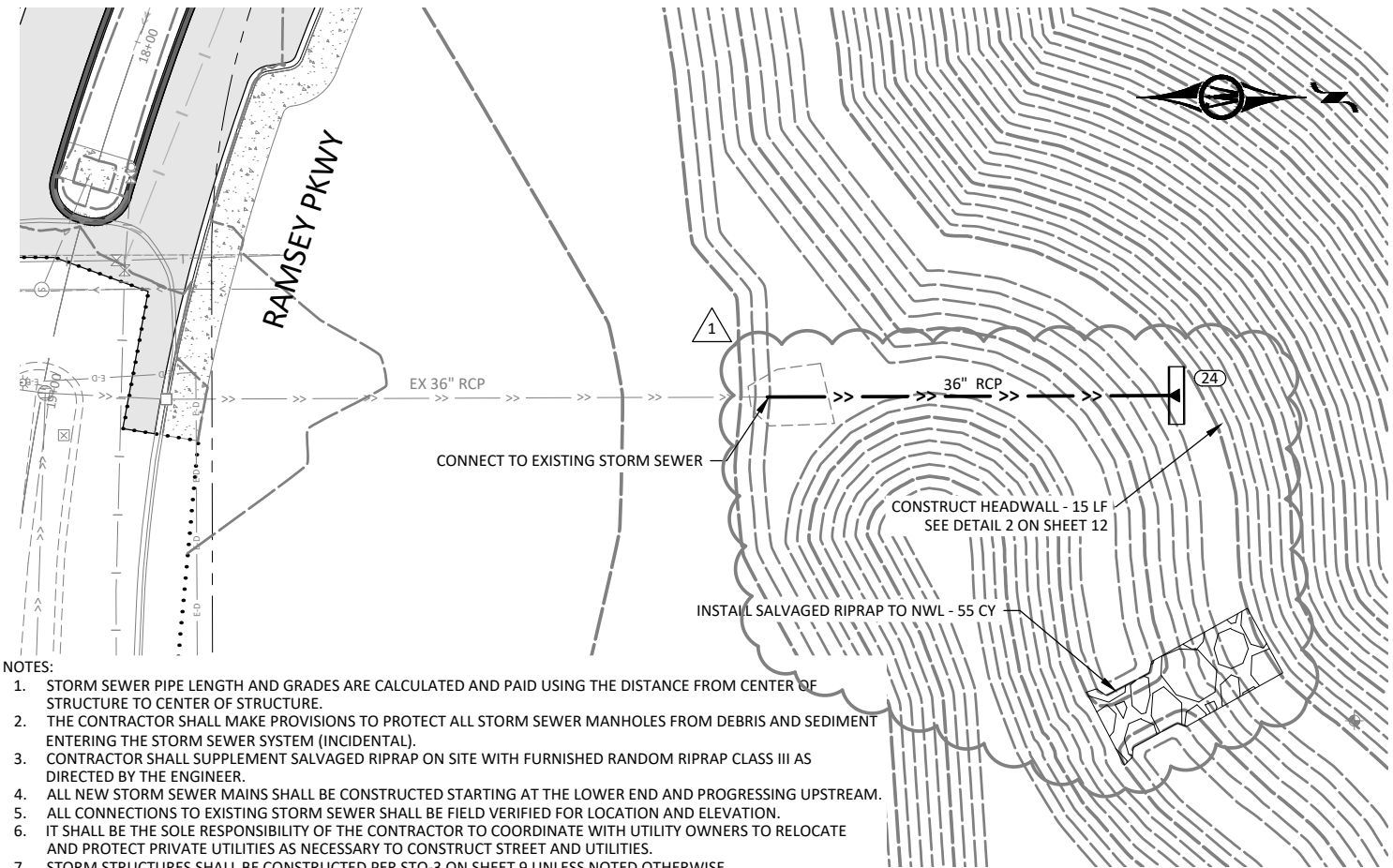
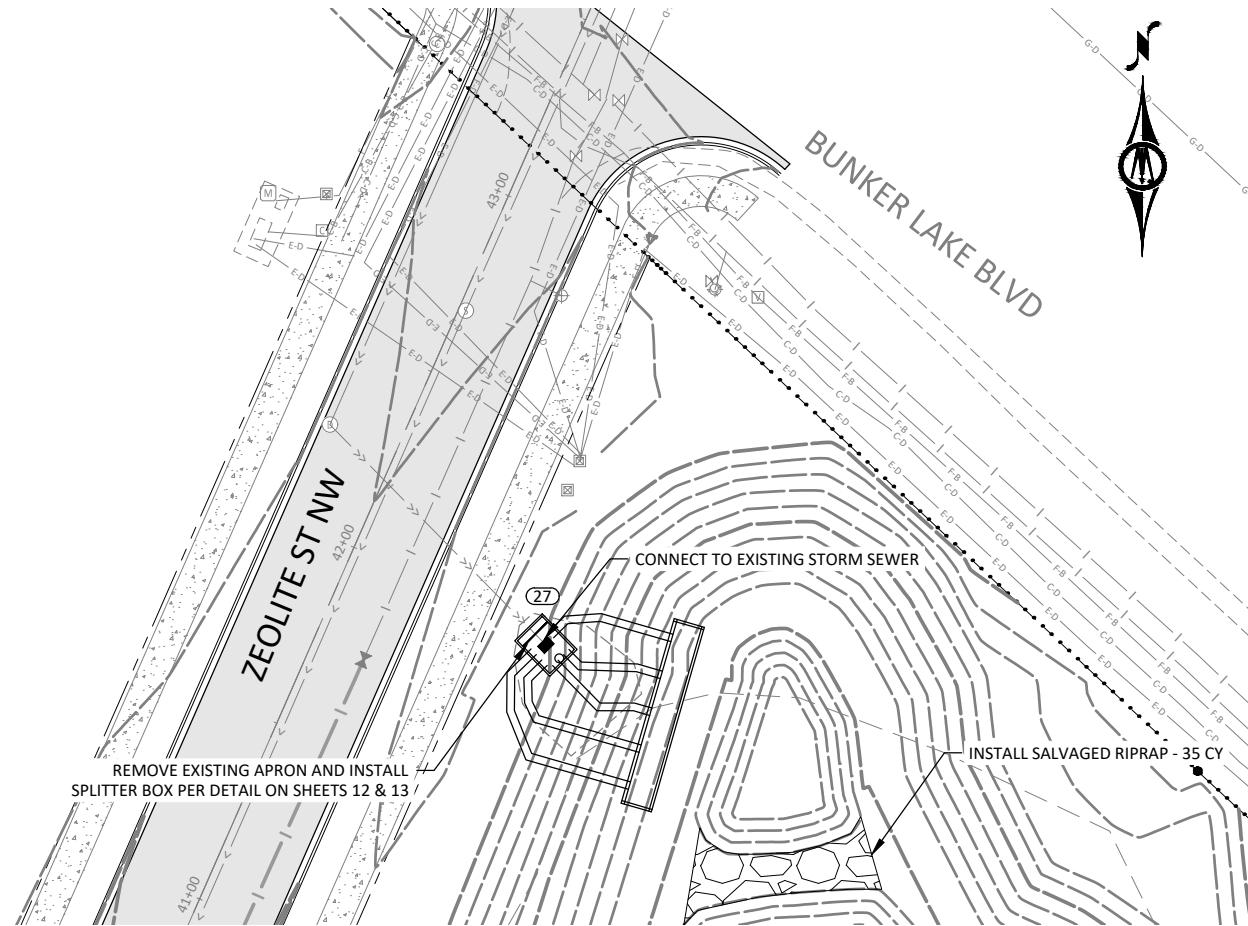
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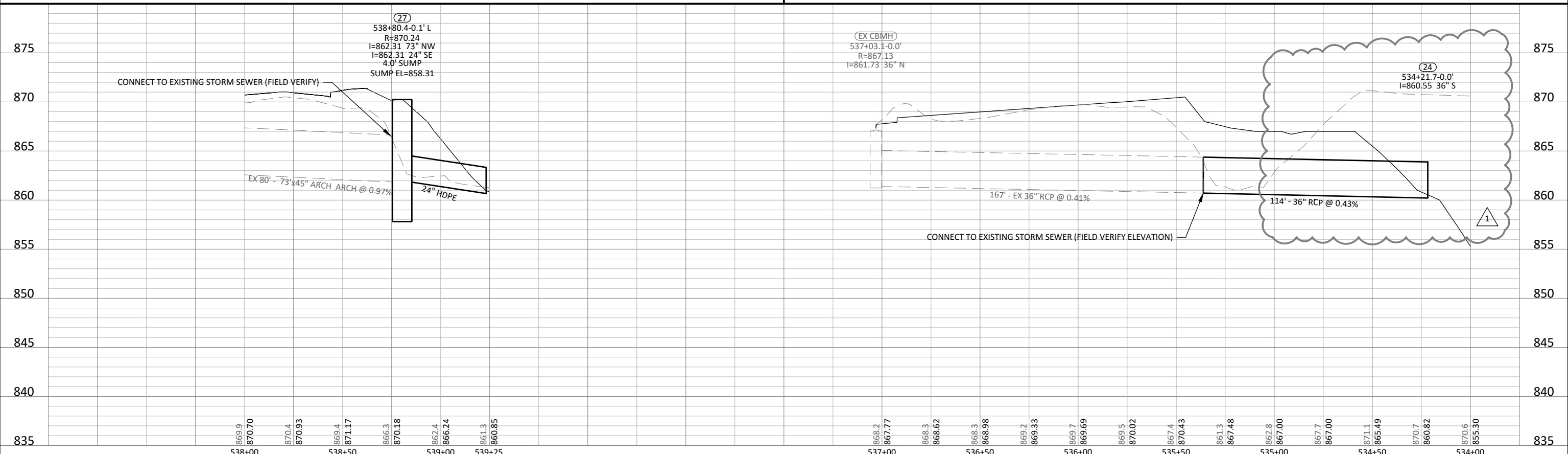
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CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 STORM SEWER PLAN & PROFILE
 ARMSTRONG BLVD PIPE JACKING

SHEET
 34
 OF
 36



- NOTES:
1. STORM SEWER PIPE LENGTH AND GRADES ARE CALCULATED AND PAID USING THE DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
 2. THE CONTRACTOR SHALL MAKE PROVISIONS TO PROTECT ALL STORM SEWER MANHOLES FROM DEBRIS AND SEDIMENT ENTERING THE STORM SEWER SYSTEM (INCIDENTAL).
 3. CONTRACTOR SHALL SUPPLEMENT SALVAGED RIPRAP ON SITE WITH FURNISHED RANDOM RIPRAP CLASS III AS DIRECTED BY THE ENGINEER.
 4. ALL NEW STORM SEWER MAINS SHALL BE CONSTRUCTED STARTING AT THE LOWER END AND PROGRESSING UPSTREAM.
 5. ALL CONNECTIONS TO EXISTING STORM SEWER SHALL BE FIELD VERIFIED FOR LOCATION AND ELEVATION.
 6. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH UTILITY OWNERS TO RELOCATE AND PROTECT PRIVATE UTILITIES AS NECESSARY TO CONSTRUCT STREET AND UTILITIES.
 7. STORM STRUCTURES SHALL BE CONSTRUCTED PER STO-3 ON SHEET 9 UNLESS NOTED OTHERWISE.



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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT 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.

Kevin P. Kiel
 KEVIN P. KIEL, P.E.
 LIC. NO. 23211 DATE 07/21/2023



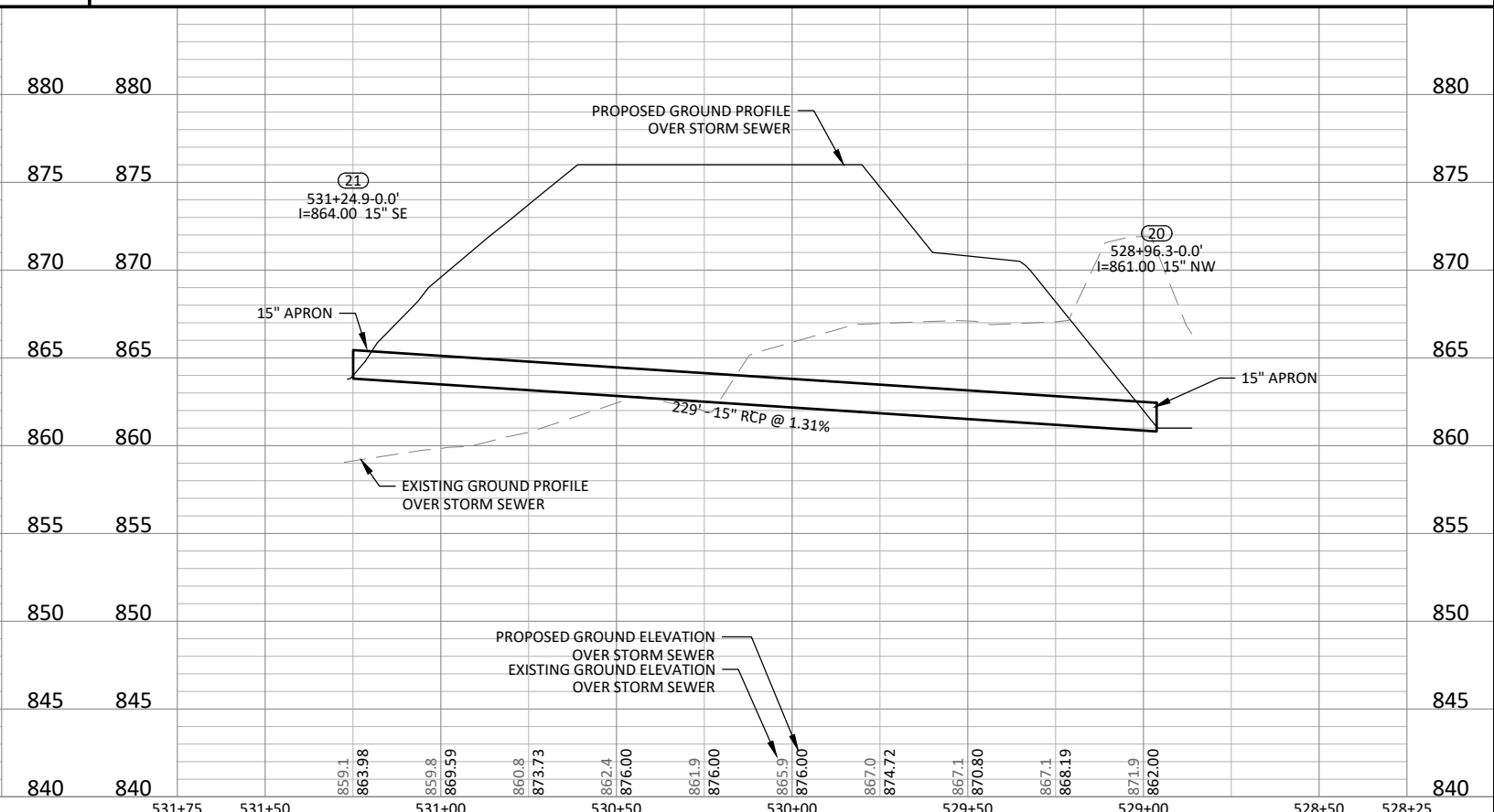
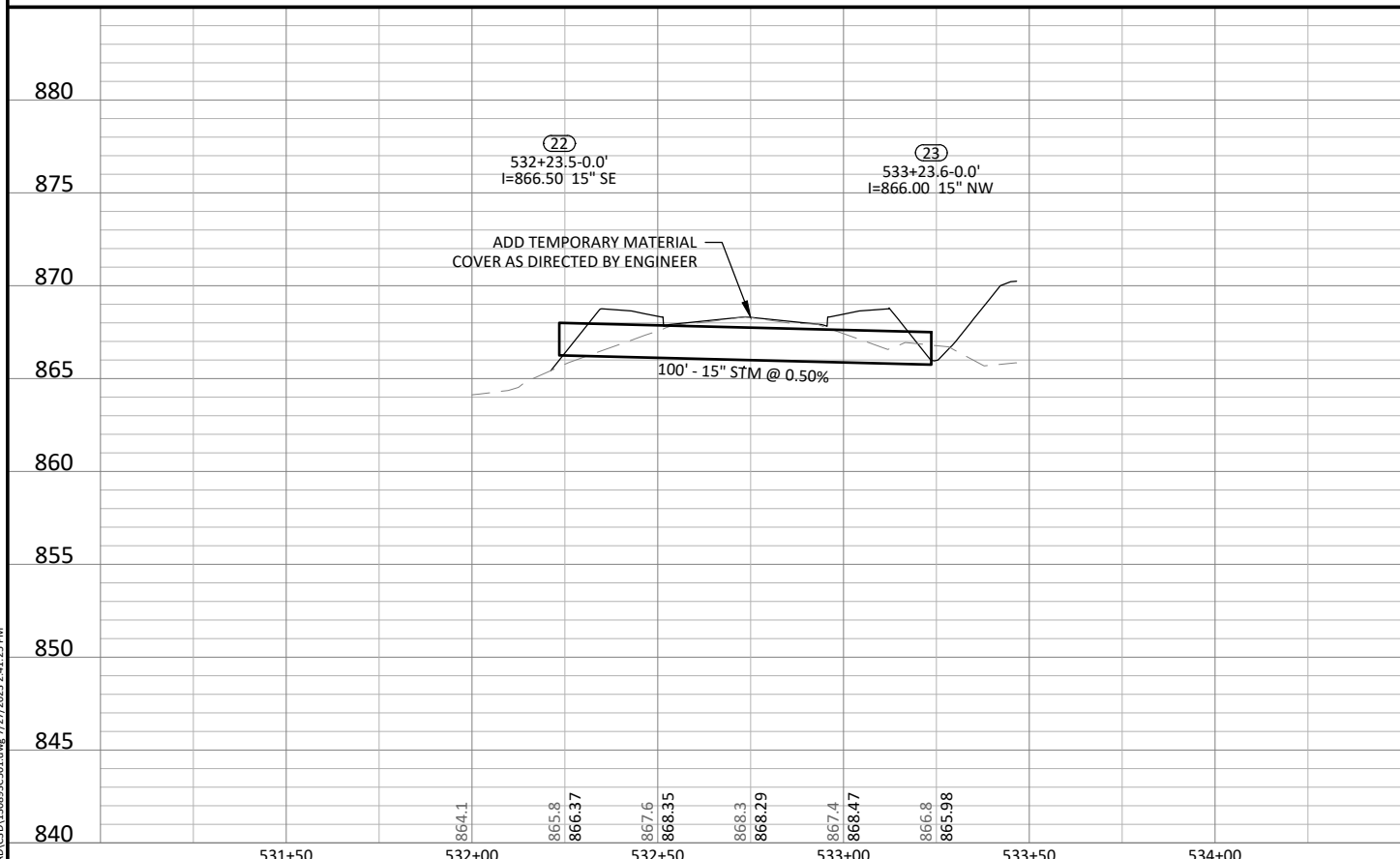
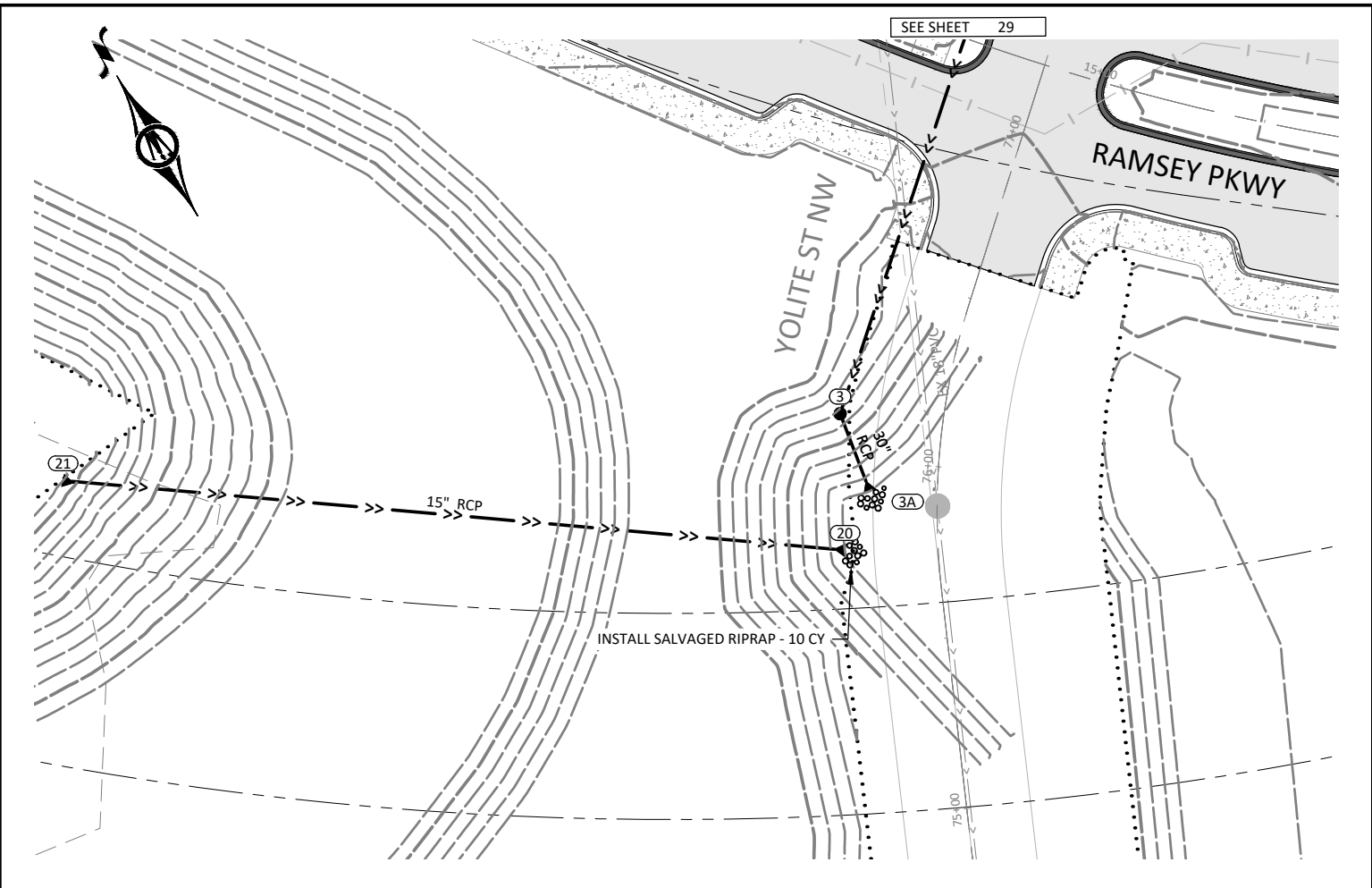
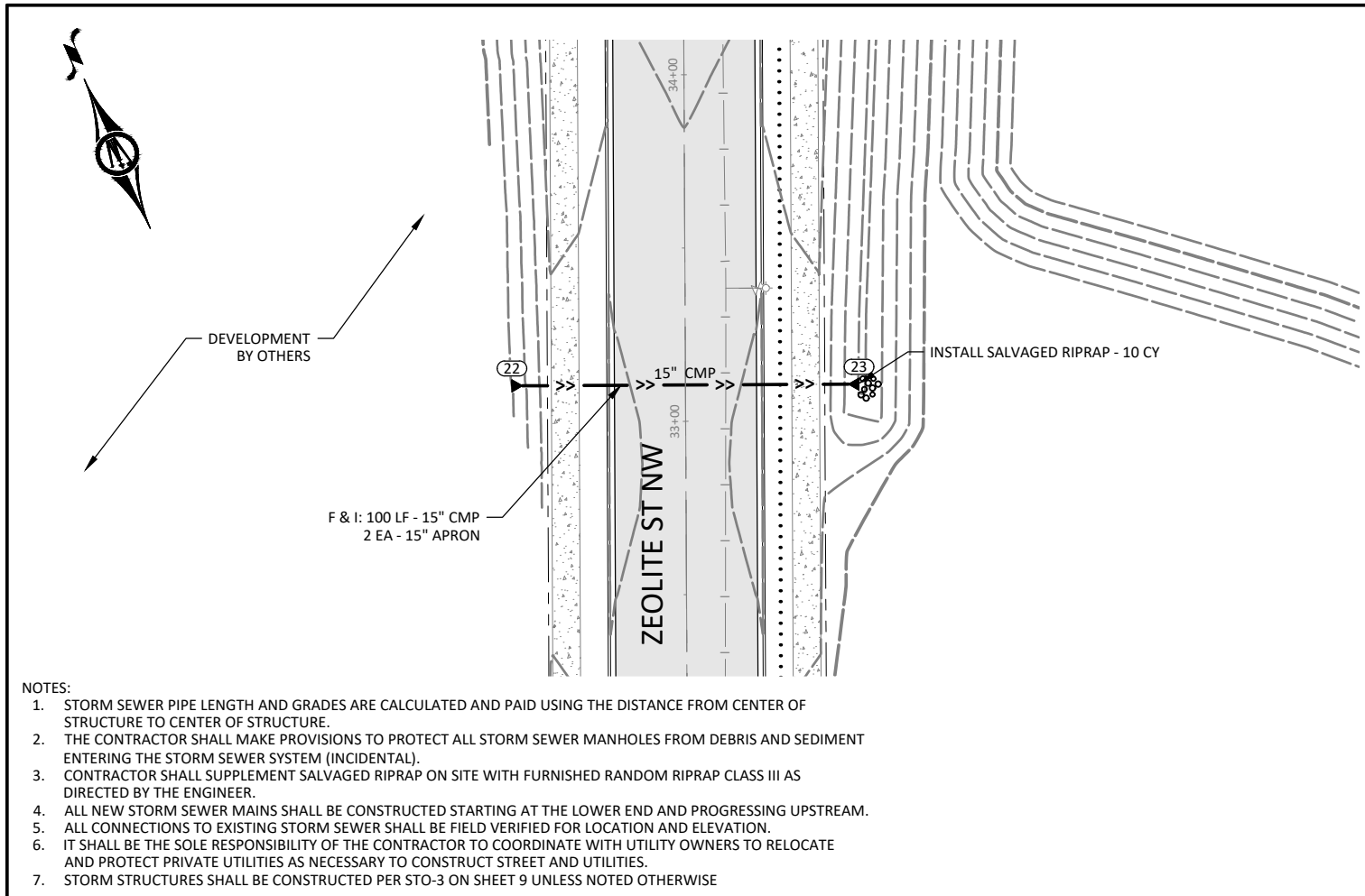
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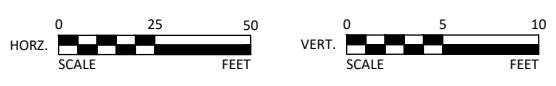
DESIGNED	DRAWN	CHECKED	DATE
JDG/ZFL	JDG/ICB/MAJ	KPK	07/21/2023
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CLIENT PROJ. NO. 23-20			

CITY OF RAMSEY, MINNESOTA
 THE COR GRADING IMPROVEMENTS
 STORM SEWER PLAN & PROFILE
 ZEOLITE ST NORTH SPLITTER & PARCEL B PIPE EXTENSION

SHEET
 35
 OF
 36



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CLIENT PROJ. NO.	23-20				

CITY OF RAMSEY, MINNESOTA
THE COR GRADING IMPROVEMENTS
STORM SEWER PLAN & PROFILE
ZEOLITE ST & PARCEL D TEMPORARY CULVERTS

SHEET 36 OF 36