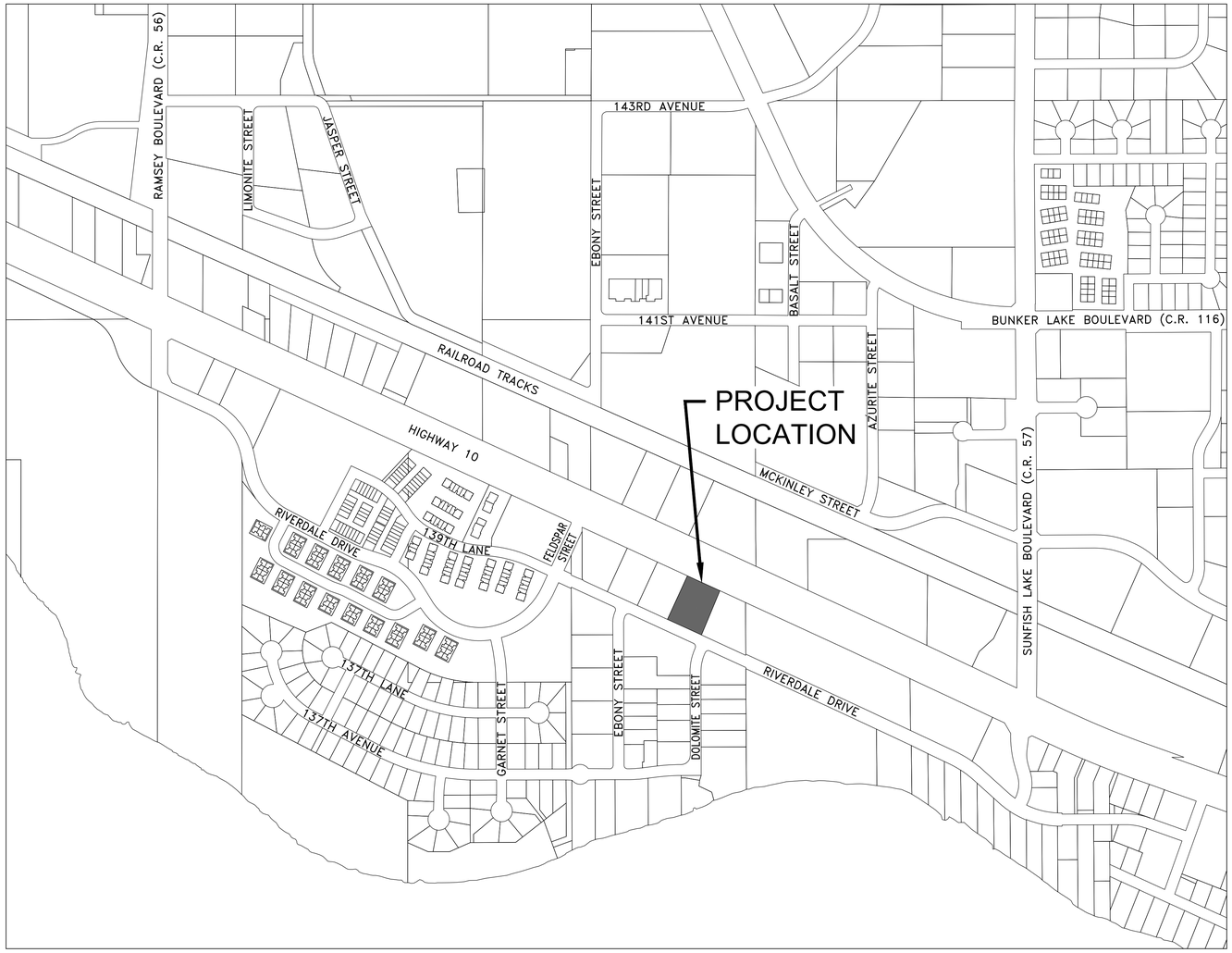
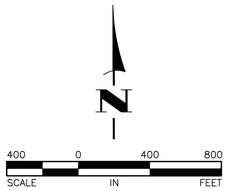
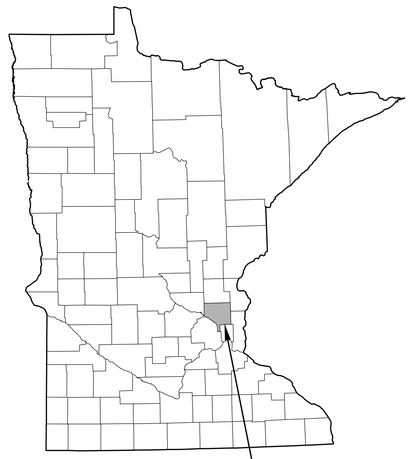
BLUE LINE COLLISION CENTER

SITE DEVELOPMENT PLANS
FOR KINGHORN CONSTRUCTION
IN THE CITY OF RAMSEY







CITY OF RAMSEY,
ANOKA COUNTY,
MINNESOTA

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN FOR STORM SEWER AND PARKING LOT WORK.

THE 2018 EDITION OF THE CITY ENGINEER'S ASSOCIATION OF MINNESOTA "STANDARD SPECIFICATIONS" SHALL GOVERN FOR SANITARY SEWER AND WATERMAIN WORK.

ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES SHALL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

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

SHEET INDEX

THIS PLAN CONTAINS 12 SHEETS

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.

TIMOTHY A. EGGERICHS, P.E.
HAKANSON ANDERSON
DESIGN ENGINEER

43362 LIC. NO.

DATE 7/13/22

DATE	REVISION

SHEET C1 OF C10 SHEETS

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

BENCHMARK:

1. TOP NUT OF HYDRANT LOCATED IN THE NORTHWEST CORNER OF RIVERDALE DRIVE AND DOLOMITE STREET. ELEVATION=863.84 (NAVD 88)
2. TOP NUT OF HYDRANT LOCATED IN THE SOUTHEAST CORNER OF RIVERDALE DRIVE AND EBONY STREET. ELEVATION=861.25 (NAVD 88)

Aug 17, 2022 - 2:27pm
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3395.15

GENERAL CONSTRUCTION AND SOILS NOTES:

1. STRIP ALL INPLACE TOPSOIL IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. IN AREAS OF PARKING LOT AND BUILDING CONSTRUCTION, THE EXPOSED SAND SHALL BE SURFACE COMPACTED TO AT LEAST 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY, ASTM D698, IN AT LEAST THE UPPER 3 FEET.
2. UNLESS OTHERWISE RECOMMENDED IN THESE PLANS, THE GRADING SUBGRADE SHALL BE CONSTRUCTED OF SUITABLE GRADING MATERIAL. THE FILL SHALL BE PLACED IN 8'' TO 10'' LOOSE LIFTS, AND COMPACTED TO 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.
3. SUITABLE GRADING MATERIAL FOR THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, SILT, DEBRIS, ORGANIC MATERIAL AND OTHER UNSTABLE MATERIAL.
4. CONTRACTOR SHALL REVIEW THE REPORT OF GEOTECHNICAL EXPLORATION, PREPARED BY AMERICAN ENGINEERING TESTING AND DATED APRIL 21, 2022, FOR ADDITIONAL SITE PREPARATION REQUIREMENTS.
5. PROVIDE A SAW CUT WHEN PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT AND AT TERMINI OF CONSTRUCTION TO ENSURE A UNIFORM JOINT.
6. BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH MN/DOT SPEC. 2104.
7. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.04 GAL/SY TO 0.06 GAL/SY BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS.
8. THE BITUMINOUS MIXTURES SHALL MEET THE REQUIREMENTS OF SPECIFICATIONS 2360 AND 3139.
9. CONTRACTOR SHALL APPLY FOR A DEPARTMENT OF LABOR AND INDUSTRY PERMIT PRIOR TO CONSTRUCTING ANY UNDERGROUND UTILITIES SHOWN ON THESE PLANS. CONTRACTOR SHALL ADDRESS ALL THE COMMENTS FROM THE DEPARTMENT OF LABOR AND INDUSTRY AS PART OF THE PERMIT APPLICATION PROCESS.

GENERAL EROSION CONTROL NOTES:

1. EROSION CONTROL SHALL CONFORM TO THE MN/DOT EROSION CONTROL HANDBOOK.
2. PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ACQUIRE THE MPCA NPDES CONSTRUCTION STORMWATER GENERAL PERMIT. A COPY OF THE PERMIT SHALL BE SUBMITTED TO THE CITY PRIOR TO THE PRECONSTRUCTION MEETING.
3. THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL FACILITIES (BMP'S) PRIOR TO GRADING AND REMOVAL ACTIVITIES. BMP'S SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION ACTIVITIES AND POTENTIAL FOR EROSION HAS PASSED.
4. THE CONTRACTOR SHALL SCHEDULE HIS OPERATION TO MINIMIZE THE AMOUNT OF DISTURBED AREA AT ANY GIVEN TIME.
5. BMP'S SHALL BE INSPECTED DAILY BY THE CONTRACTOR. OBSERVATIONS SHALL BE RECORDED IN AN INSPECTION LOG. WEEKLY INSPECTION LOGS AND INSPECTION LOGS AFTER EVERY 1/2" RAIN EVENT SHALL BE SUBMITTED TO THE CITY INSPECTOR.
6. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY DISPOSED OF WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION.
7. THE CONTRACTOR SHALL FILE A NOTICE OF TERMINATION WITH THE MPCA AFTER FINAL STABILIZATION HAS BEEN APPROVED. THE CITY SHALL REVIEW AND APPROVE THE NOTICE OF TERMINATION PRIOR TO SUBMITTAL TO THE MPCA.

REFERENCE NOTES:

① SEE CITY PLATE NO. STR-26 FOR MODIFIED CLASS 5 AGGREGATE BASE SPECIFICATIONS.

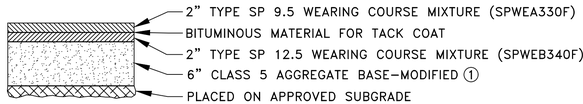
② INLET PROTECTION SHALL BE INSTALLED ON ALL CASTINGS RECEIVING RUNOFF FROM THE PROJECT AREA. INLET PROTECTION SHALL BE INSTALLED ON EXISTING, OFF SITE CASTINGS PRIOR TO THE START OF CONSTRUCTION. WIMCO MODELS CG 3067 AND RD 27 ARE SHOWN.

③ CONTRACTOR SHALL PROTECT THE INFILTRATION BASIN WITH 48" HIGH ORANGE SAFETY FENCE PRIOR TO THE START OF CONSTRUCTION.

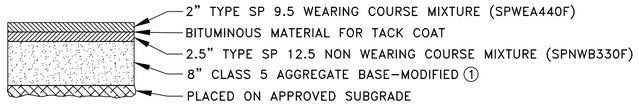
④ CONSTRUCTION EQUIPMENT SHALL BE MINIMIZED OVER THE FOOTPRINT OF THE BASIN. ONLY LOW PRESSURE, WIDE TRACKED EQUIPMENT SHALL BE USED FOR CONSTRUCTION.

⑤ INFILTRATION BASINS SHALL NOT BE GRADED TO WITHIN THREE FEET OF THE FINAL GRADES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED OR RIGOROUS EROSION PREVENTION AND SEDIMENT CONTROLS, SUCH AS DIVERSION BERMS, TO KEEP SEDIMENT AND RUNOFF COMPLETELY AWAY FROM THE INFILTRATION AREAS HAVE BEEN PROVIDED.

⑥ THE INFILTRATION RATE FOR THE SOILS IN THE BOTTOM OF THE INFILTRATION BASIN SHALL BE LESS THAN OR EQUAL TO 8.3 INCHES PER HOUR. THE CONTRACTOR MAY HAVE TO AMEND THE SOILS TO MEET THIS REQUIREMENT.



1 C2 LIGHT DUTY BITUMINOUS PAVEMENT SECTION
NO SCALE



2 C2 HEAVY DUTY BITUMINOUS PAVEMENT SECTION
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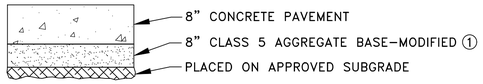
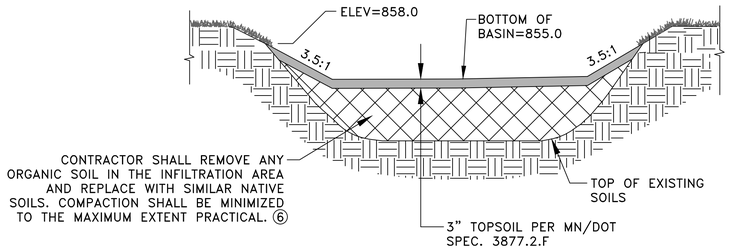
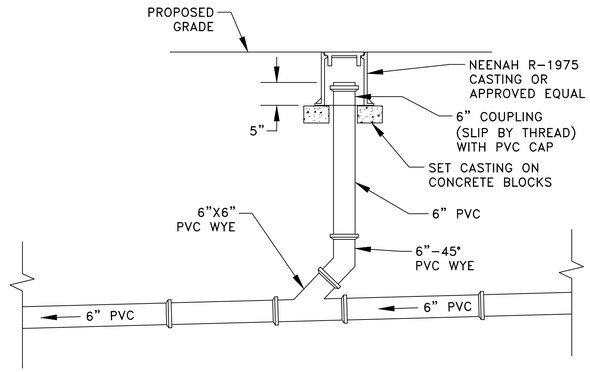


3 C2 CONCRETE PAVEMENT SECTION
NO SCALE



4 C2 INFILTRATION BASIN ③④⑤
NO SCALE



5 C2 SANITARY SEWER CLEANOUT
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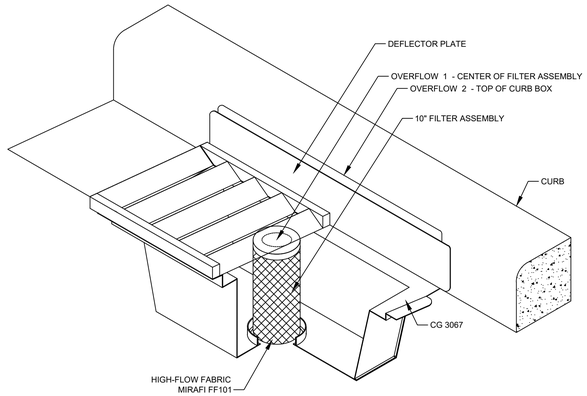
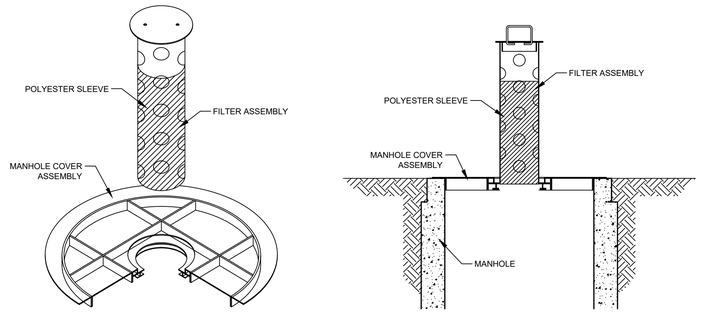
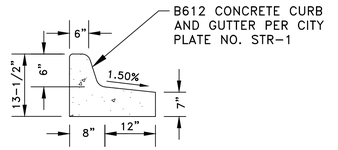


6 C2 STORM DRAIN INLET PROTECTION ②



7 C2 STORM DRAIN INLET PROTECTION ②



8 C2 TIPOUT CURB DETAIL
NO SCALE

DATE	REVISION
8/17/22	PLAN REVISIONS PER CITY REVIEW

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.
TIMOTHY A. EGGENBERG, P.E.
Date 7/13/22 Lic. No. 43362

DESIGNED BY: TAE
DRAWN BY: TAE
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

BLUE LINE COLLISION CENTER

CONSTRUCTION NOTES AND DETAILS
CITY OF RAMSEY, MINNESOTA

SHEET C2 OF C10 SHEETS

3395.15

Aug 17, 2022 - 2:29pm
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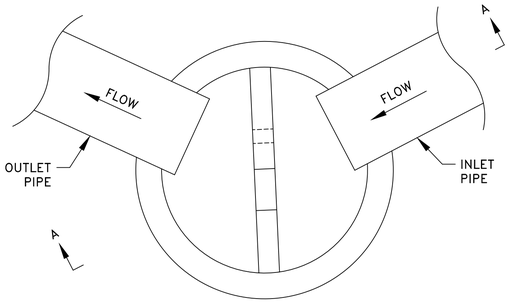
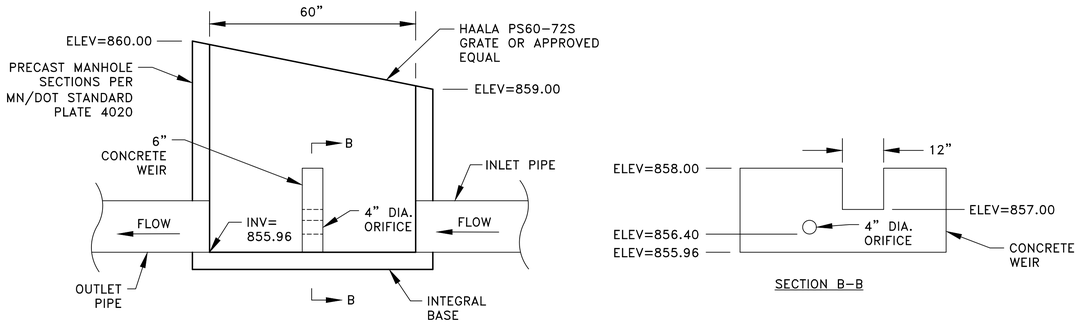


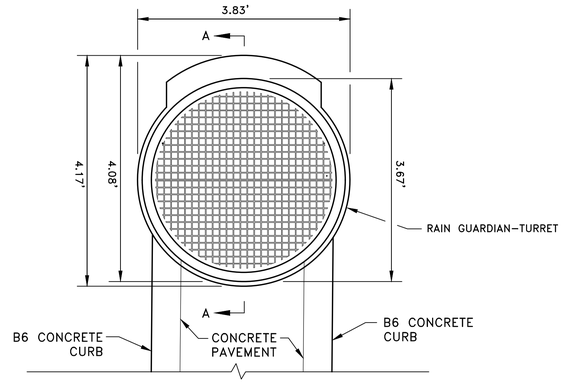
PLAN VIEW



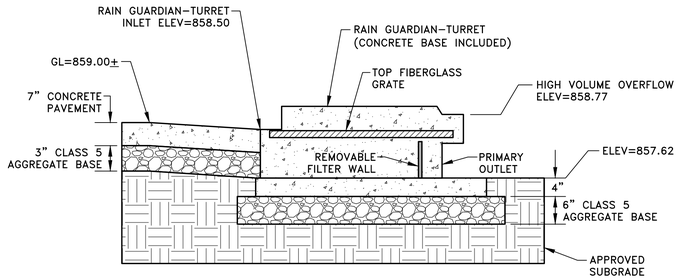
SECTION A–A

SECTION B–B

1 / C3 POND OUTLET STRUCTURE
NO SCALE



PLAN VIEW



SECTION A–A

2 / C3 RAIN GUARDIAN–TURRET DETAILS ①
NO SCALE

REFERENCE NOTES:
① SEE THE WEBSITE www.rainguardian.biz FOR ADDITIONAL CONSTRUCTION NOTES AND DETAILS FOR THE RAIN GUARDIAN–TURRET DESIGN.

DATE	REVISION

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TIMOTHY A. EGGENHOFER, P.E.
Date 7/13/22 Lic. No. 43362

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BLUE LINE COLLISION CENTER

DETAILS

CITY OF RAMSEY, MINNESOTA

SHEET C3 OF C10 SHEETS

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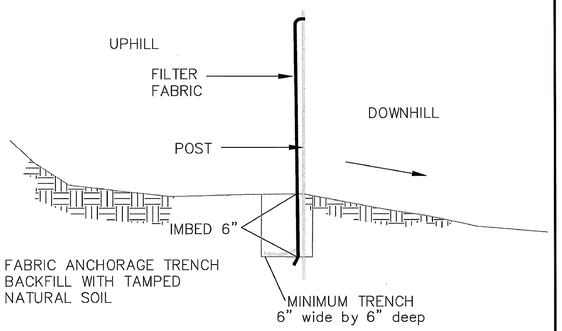


INSTALL AS PER FILTER FABRIC MANUFACTURER'S RECOMMENDATIONS

SILT FENCE DETAIL

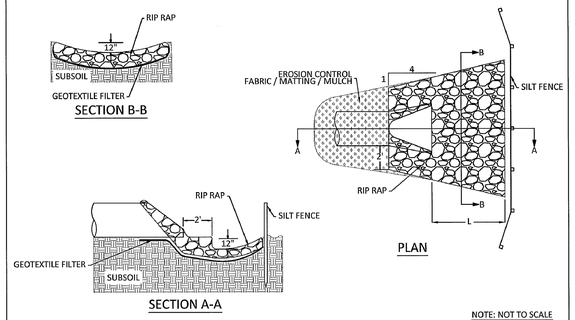
NO SCALE

APPROVED: 1 – 2016

City of RAMSEY

STANDARD DETAILS: SILT FENCE

CITY PLATE No. ERO–1



NOTE: NOT TO SCALE

NOTES:

1. ON SLOPES 4:1 OR GREATER, ANCHOR OR STRAIGHT DISKED STRAW MULCH, SEEDED NETTING, GABRIC, OR MATTING SUCH AS EXCELSIOR SHALL BE USED TO STABILIZE DISTURBED SOILS. THESE EXPOSED SOILS MUST BE STABILIZED IMMEDIATELY AFTER GRADING OF SOIL IS COMPLETE.
2. A SKIRTING OF EROSION CONTROL FABRIC OR MULCH MUST BE USED TO PROTECT OUTLETS AS ILLUSTRATED REGARDLESS OF SLOPE.
3. RIP RAP IS CLASS III PLACED 18" THICK.
4. FOR PIPE GREATER THAN 48" DIAMETER OR 58" SPAN, QUANTITY OF GEOTEXTILE FABRIC AND RIP RAP WILL BE HANDLED IN A CASE BY CASE MANNER.
5. GEOTEXTILE FABRIC SHALL COVER THE BOTTOM AND SIDES OF THE AREA EXCAVATED FOR THE RIP RAP MATERIAL.

RIP RAP AT RCP OUTLETS			
DIA. OF PIPE (IN.)	L (FT.)	GEOTEXTILE FABRIC (SY)	18" DEPTH RIP RAP (CU. YD)
12	8	19.6	4.4
15	8	20.8	4.8
18	10	25.6	6.4
21	10	27.4	7.1
24	12	33.4	9.2
27	12	35.2	9.9
30	14	41.6	12.3
36	16	50.5	15.8
42	18	57.8	18.7
48	20	66.5	22.2

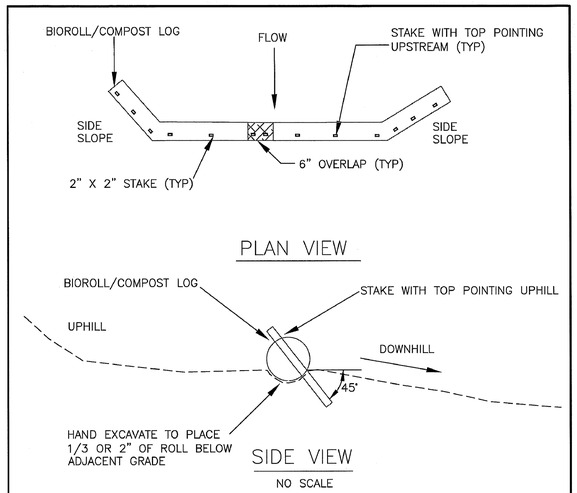
RIP RAP AT RCP-A OUTLETS			
SPAN OF PIPE (IN.)	L (FT.)	GEOTEXTILE FABRIC (SY)	18" DEPTH RIP RAP (CU. YD)
22	10	25.6	6.1
28	12	33.2	8.5
36	14	41.5	11.2
43	16	50.5	14.3
51	18	57.5	16.9
58	20	65.2	19.8

APPROVED: 9 – 2016

City of RAMSEY

STANDARD DETAILS: RIP–RAP

CITY PLATE No. ERO–3



NO SCALE

NOTE:

STAKE INTO GROUND WITH WOOD STAKES DRIVING STAKE 6" INTO GROUND AND PROTRUDING 2" ABOVE LOG

WOOD STAKES ARE A MINIMUM 0.5" X 2" X 16" AND PLACED EVERY 1' UNLESS PRECLUDED BY A ROCK

WHEN MORE THAN 1 BIOROLL/COMPOST LOG IS NEEDED, OVERLAP ENDS A MINIMUM OF 6" AND STAKE

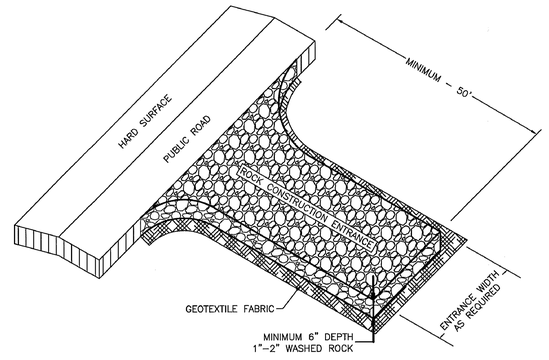
WOOD STAKES ARE DRIVEN THROUGH BACK HALF OF BIOROLL OR COMPOST LOG AT 45° ANGLE WITH TOP OF STAKE POINTING UPHILL

APPROVED: 3 – 2016

City of RAMSEY

STANDARD DETAILS: BIO ROLL (COMPOST LOG)

CITY PLATE No. ERO–4



NOTE:

1. MINIMUM CONSTRUCTION ENTRANCE WIDTH EQUAL TO PROPOSED ROADWAY WIDTH.
2. WIDTH OF RADIUS AS REQUIRED TO ENSURE VEHICLES DO NOT TRACK ONTO PUBLIC ROAD.
3. MAINTAINENCE AS REQUIRED TO PREVENT TRACKING ONTO PUBLIC ROADS. THIS MAY REQUIRE TOP DRESSING WITH ADDITIONAL ROCK OR REMOVAL AND REINSTALLATION OF THE ENTRANCE AS NEEDED.

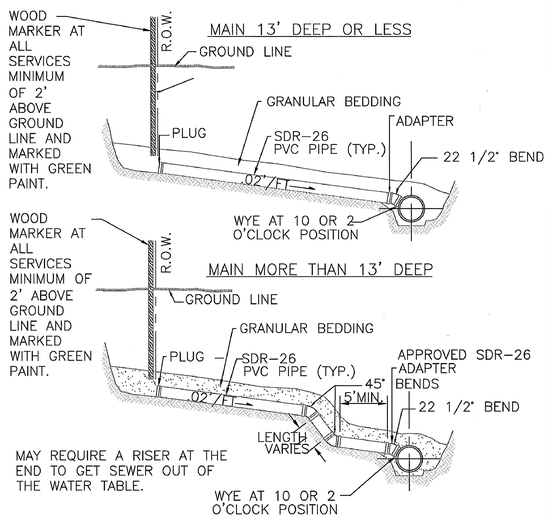
NOT TO SCALE

APPROVED: 1 – 2016

City of RAMSEY

STANDARD DETAILS: ROCK CONSTRUCTION ENTRANCE

CITY PLATE No. ERO–5



NOTES:

1. 10 GAGE SOLID COPPER TRACER WIRE IS REQUIRED WITH ALL SEWER LINES
2. CONDUCTIVITY IS REQUIRED ON ALL TRACER WIRE.
3. TRACER WIRE ARE TO END IN STRUCTURES, AT FINISHED GRADE ON ALL SERVICES AND STUBS.

APPROVED: 4 – 2016

City of RAMSEY

STANDARD DETAILS: SANITARY SEWER SERVICE

CITY PLATE No. SEW–3

DATE	REVISION

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.

TIMOTHY A. EGGENHOFER, P.E.

Date 7/13/22 Lic. No. 43362

DESIGNED BY: TAE
DRAWN BY: TAE
CHECKED BY: CJJ

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BLUE LINE COLLISION CENTER

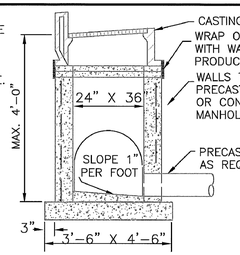
DETAILS

CITY OF RAMSEY, MINNESOTA

SHEET C4 OF C10 SHEETS

3395.15

A 5 FT. GREEN CARSONITE MARKER SHALL BE INSTALLED NEXT TO ALL STRUCTURES NOT IN A PAVED OR HARD SURFACE.



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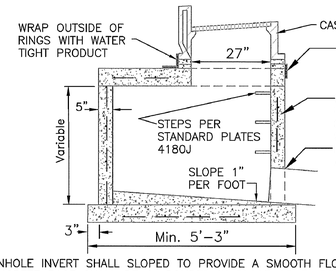
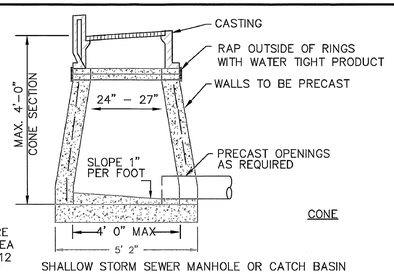


CIRCULAR

NOTES:
1. MANHOLE INVERT SHALL SLOPED TO PROVIDE A SMOOTH FLOW FROM INLET TO OUTLET
2. CONCRETE BASE SHALL BE 6" POURED IN PLACE OR 5" PRECAST SLAB.
3. CONCRETE ADJUSTING RINGS TO BE INSTALLED MAX.7–2" RINGS, MIN 2–2" RINGS
4. GROUT BETWEEN RINGS,SHIMS SHALL BE METAL, CONCRETE OR PLASTIC
5. INSPECTION OF MANHOLE REQUIRED BEFORE BACKFILLING
6. A 10 GAUGE SOLID COPPER TRACER WIRE IS REQUIRED WITH ALL STORM LINES.
7. CONDUCTIVITY IS REQUIRED ON ALL TRACER WIRE
8. STEPS ARE REQUIRED IF STRUCTURE FROM THE CASTING TO THE INVERT IS GREATER THAN 4 FEET
9. TRACER WIRES ARE TO END IN STRUCTURES, AT FINISHED GRADE ON ALL SERVICES AND STUBS

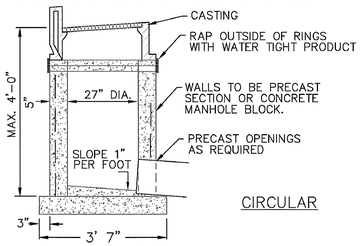
APPROVED:		STANDARD DETAILS:
4 – 2007	City of RAMSEY	CATCH BASIN
		CITY PLATE No. STO–1



CONE

PRECAST REINFORCING: SINGLE LINE STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ INCH PER FOOT OF HEIGHT.

SHALLOW STORM SEWER MANHOLE OR CATCH BASIN



CIRCULAR

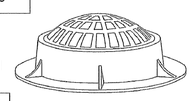
SHALLOW STORM SEWER MANHOLE OR CATCH BASIN

NOTES:
1. MANHOLE INVERT SHALL BE SLOPED TO PROVIDE A SMOOTH FLOW FROM INLET TO OUTLET.
2. CONCRETE BASE SHALL BE 6" POURED IN PLACE OR 5" PRECAST SLAB.
3. CONCRETE ADJUSTING RINGS TO BE INSTALLED MAX 7–2" RINGS, MIN 2–2" RINGS.
4. GROUT BETWEEN RINGS
5. SHIMS USED FOR LEVELING SHALL BE METAL OR CONCRETE.
6. A 10 GAGE SOLID COPPER TRACER WIRE IS REQUIRED WITH ALL SEWER LINES.
7. CONDUCTIVITY IS REQUIRED ON ALL TRACER WIRE
8. TRACER WIRED ARE TO END IN STRUCTURES, AT FINIHED GRADE ON ALL SERVICES AND STUBS.

APPROVED:		STANDARD DETAILS:
6 – 2008	City of RAMSEY	STORM AREA INLET
		CITY PLATE No. STO–2

R–2560 Series
Beehive Grates with Frames

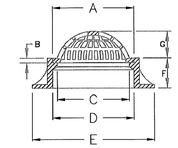
SUITABLE FOR DRAINAGE ON CIRCUMSTANCES WHERE CLOGGING OF A FLAT GRATING IS A PROBLEM. EXCELLENT FOR ROADSIDE OR EARTH DITCH CATCH BASINS.



Illustrating R–2560–E

Catalog No.	Dimensions in Inches A	B	C	D	E	F	G	Wt. LBS
R–2560–A	12	1	11	12 1/2	19	4	4	80
R–2560–B	15 1/2	1 1/4	15	15	21	5	3	120
R–2560–C	18	1 1/4	18 1/2	20 1/2	30	8	4	190
R–2560–C1	22	1 1/2	20	23	28	4	4 1/2	195
R–2560–C2	22	1 1/2	20 1/2	24	28 1/4	6	4 1/2	270
R–2560–D	22	1 1/2	20	24 1/2	35	9	4 1/2	315
R–2560–D1	22	1 1/2	20	23	28 1/4	4	7	210
R–2560–D2	22	1 1/2	20 1/2	24	35	6	7	285
R–2560–D3	22	1 1/2	20	24 1/2	36	9	7	345
R–2560–E	23	1 1/2	21	25 1/2	35 1/2	9	7	340
R–2560–EA	25 3/4	7/8	24 1/8	26 1/2	35 1/2	4	8	235
R–2560–EB	25 3/4	7/8	24 1/8	26 1/2	35 1/2	4	9	255
R–2560–E1	25 3/4	7/8	24 1/8	26 1/2	35 1/2	7	6	285
R–2560–E2	25 3/4	7/8	24 1/8	26 1/2	35 1/2	7	9	300
R–2560–E5	25 3/4	7/8	24 1/8	26 1/2	35 1/2	8	6	345
R–2560–E6	25 3/4	7/8	24 1/8	26 1/2	35 1/2	8	9	365
R–2560–E7	25 3/4	7/8	24 1/8	26 1/2	35 1/2	9	6	350
R–2560–E8	25 3/4	7/8	24 1/8	26 1/2	35 1/2	9	9	365
R–2560–E9	25 3/4	7/8	24 1/8	26 1/2	35 1/2	10	6	360
R–2560–E10	25 3/4	7/8	24 1/8	28 1/2	35 1/2	10	9	385
R–2560–G	32	1 1/2	30	36	46	7	4	535

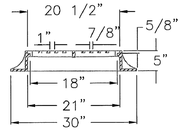
Furnished standard with ground bearing surfaces.



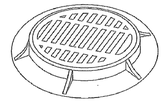
R–2570 Catch Basin Frame, Grate

Light Duty

Total Weight 170 Pounds



Furnished standard with ground bearing surfaces.

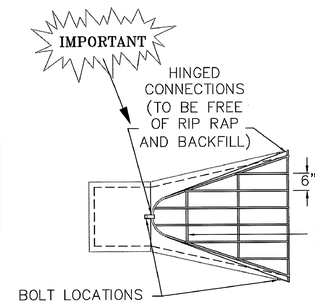


STORM CASTINGS FOR NON–TRAFFIC AREAS

NTS

APPROVED:		STANDARD DETAILS:
9 – 2011	City of RAMSEY	STORM CASTING – NON TRAFFIC AREAS
		CITY PLATE No. STO–6

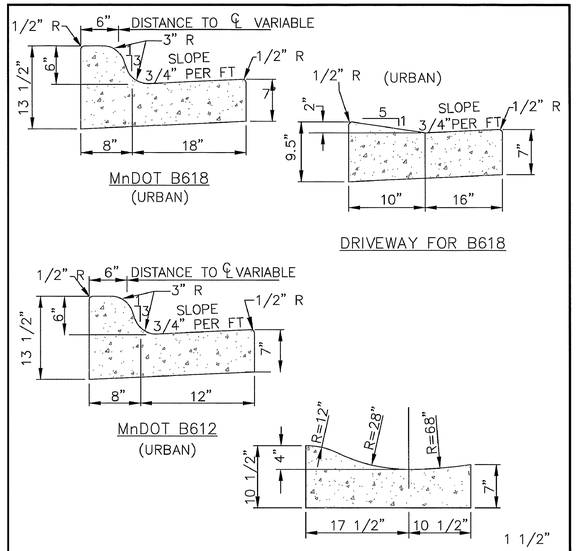
NOTE:
GUARDS MUST BE INCORPORATED ON ALL INSTALLATIONS EXCEPT WHERE SPECIFICALLY ALLOWED OTHERWISE BY THE CITY ENGINEER.



ARCH ROUND PIPE SIZE	BOLT DIA.	BAR SIZE
12"–24"	5/8"	5/8"
27"–48"	3/4"	3/4"
54"–90"	1"	1"
22"–29"	5/8"	5/8"
36"–59"	3/4"	3/4"
65"–88"	1"	1"

NOTE: COATINGS ARE AS SPECIFED ELSEWHERE

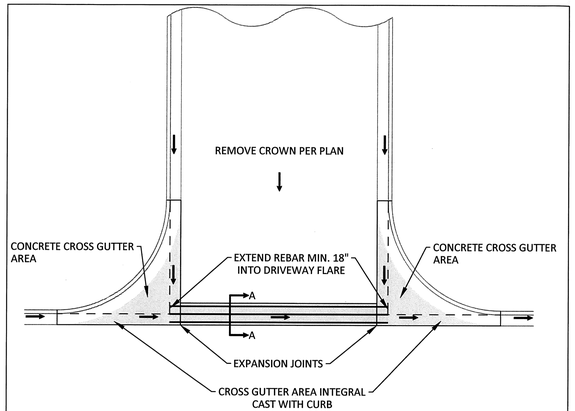
APPROVED:		STANDARD DETAILS:
2 – 2006	City of RAMSEY	TRASH GUARD
		CITY PLATE No. STO–8



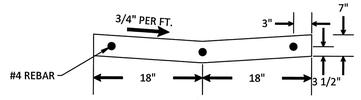
NOTES:

1. ON WEAR COURSE MILL THE EXISTING BITUMINOUS 1.5" BY 24" IN FRONT OF THE REPLACEMENT CURB.
2. ON BASE COURSE SAW CUT AND REMOVE EXISTING BITUMINOUS 18" IN FRONT OF THE REPLACEMENT CURB.

APPROVED:		STANDARD DETAILS:
1 – 2016	City of RAMSEY	CURB AND GUTTER
		CITY PLATE No. STR–1



PLAN



SECTION A-A

NOTE: NOT TO SCALE

NOTES:
1. WITH REMOVAL OF EXISTING CURB AT A STREET, MILL BITUMINOUS TO A DEPTH OF 1.5" AND A WIDTH OF 18" IN EXISTING STREET.
2. TO BE USED WHENEVER CROSS DRAINAGE IS < 2%.
3. CONCRETE CURB AND GUTTER SHALL BE CAST INTEGRAL WITH CONCRETE CROSS GUTTER AREA.
4. CONCRETE CURB AND GUTTER SHALL BE PAID SEPARATELY FROM CONCRETE CROSS GUTTER AREA.

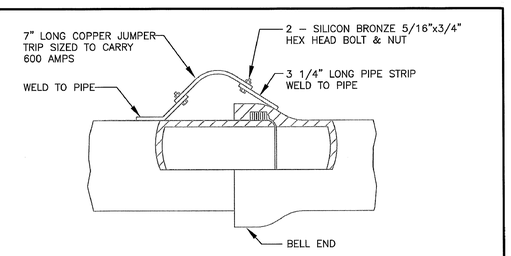
APPROVED:		STANDARD DETAILS:
3 – 2017	City of RAMSEY	CROSS GUTTER
		CITY PLATE No. STR–2

TABLE A
MODIFIED CLASS 5 SPECIFICATIONS
% PASSING

1"	100
3/4"	90 – 100
3/8"	50 – 80
No.4	35 – 70
No.10	20 – 60
No.40	10 – 35
No.200	5 – 10

NOTES:
1. THE AGGREGATE BASE CONSTRUCTION WILL BE ACCEPTED FOR PAYMENT IN ACCORDANCE WITH THE PROVISIONS IN TABLE A.
2. IF THE AGGREGATE BASE FAILS TO MEET THE REQUIREMENTS OF TABLE A THE MATERIAL CAN BE CORRECTED IN PLACE OR REMOVED AND REPLACED WITH MATERIAL THAT MEET THE REQUIREMENTS OF TABLE A.
3. IN THE EVENT THAT RECYCLED MATERIAL IS USE IT MUST MEET MNDOT REQUIREMENTS FOR RECYCLED BASE.

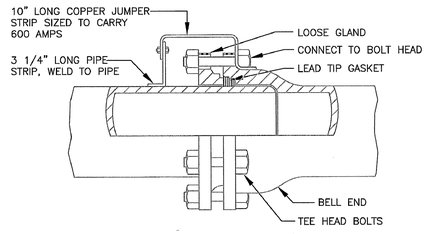
APPROVED:		STANDARD DETAILS:
2 – 2003	City of RAMSEY	MODIFIED CLASS 5 SPECIFICATIONS
		CITY PLATE No. STR–26



PUSH ON JOINT

NOTE: DO NOT PASS CURRENT THROUGH PIPE UNLESS PIPE IS FULL OF WATER.

ALTERNATE METHOD BY AMERICAN CAST –IRON USING 4 COPPER CONTACT STRIPS IS AN APPROVED EQUAL TO ABOVE



MECHANICAL JOINT

APPROVED:		STANDARD DETAILS:
1 – 2016	City of RAMSEY	JOINT CONNECTION
		CITY PLATE No. WAT–4

DATE	REVISION
8/17/22	PLAN REVISIONS PER CITY REVIEW

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.

TIMOTHY A. EGGERTSEN, P.E.
Date 7/13/22 Lic. No. 43362

DESIGNED BY: TAE
DRAWN BY: TAE
CHECKED BY: CJJ

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BLUE LINE COLLISION CENTER

DETAILS

CITY OF RAMSEY, MINNESOTA

SHEET C5 OF C10 SHEETS

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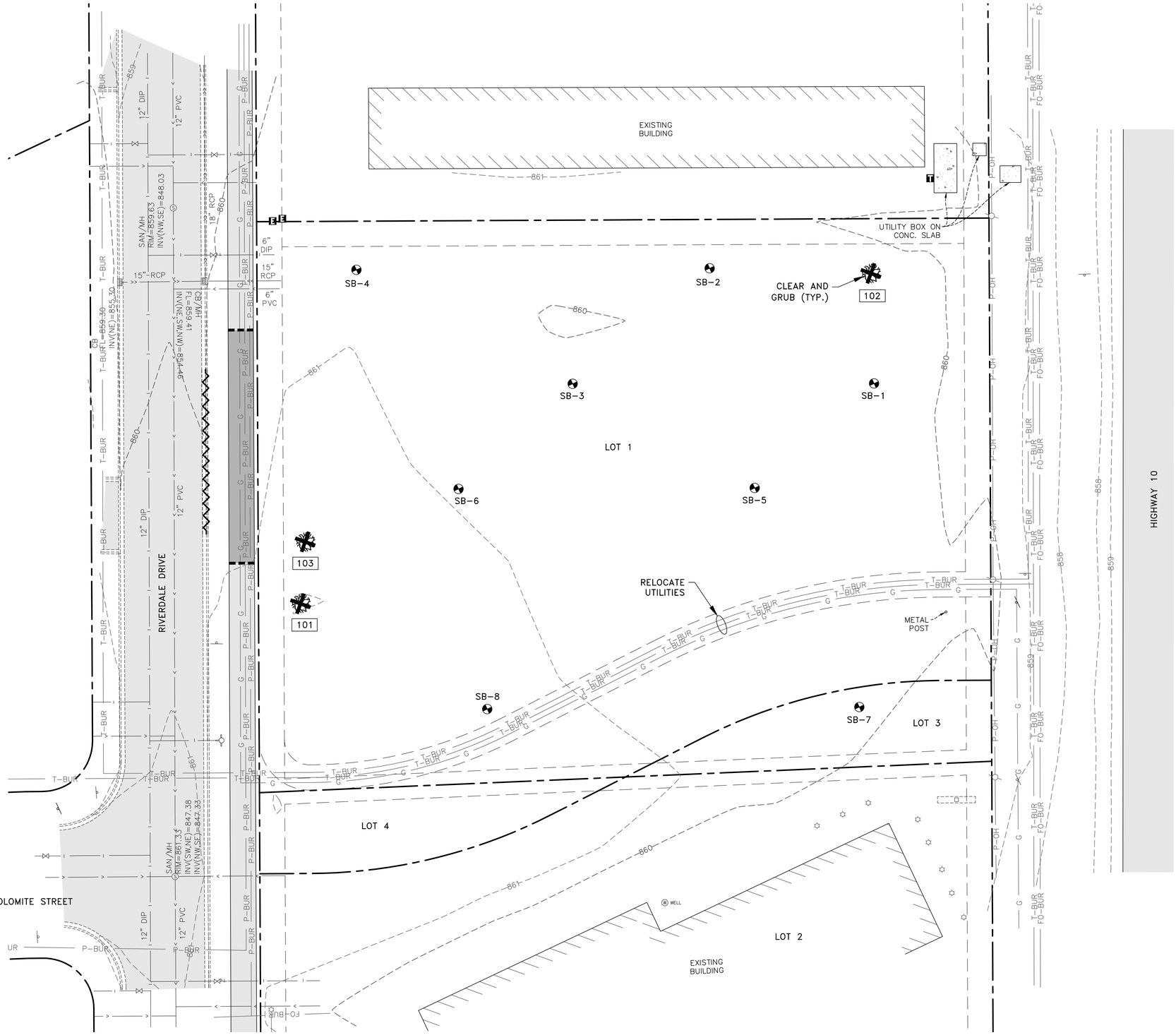

GENERAL NOTES:

1. SILT FENCE FENCE SHALL BE IN PLACE PRIOR TO THE START OF ANY REMOVAL ACTIVITIES. SEE THE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR SILT FENCE LOCATIONS.
2. CLEARING OF ANY OAK TREES SHALL NOT OCCUR PRIOR TO JULY 15TH. IF OAK TREE CLEARING IS NECESSARY PRIOR TO JULY 15TH, AN OAK WILT MANAGEMENT PLAN MUST BE PREPARED AND SUBMITTED TO THE CITY FOR REVIEW TO ENSURE ADEQUATE MEASURES ARE IMPLEMENTED TO PROTECT FROM THE INTRODUCTION OF OAK WILT.
3. CLEAR AND GRUB BRUSH, SHRUBS AND SMALL TREES WITHIN THE CONSTRUCTION LIMITS (NOT SHOWN).
4. CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR THE WORK IN RIVERDALE DRIVE. PLAN SHALL BE SUBMITTED TO THE CITY OF RAMSEY A MINIMUM OF 7 DAYS PRIOR TO CONSTRUCTION.

REFERENCE NOTES:

① ONLY THE SIGNIFICANT TREES, AS DEFINED BY THE CITY OF RAMSEY, ARE NUMBERED.

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- XXX EXISTING CONTOUR
- EXISTING CONCRETE CURB
- G GAS MAIN
- P-BUR BURIED ELECTRIC LINE
- T-BUR BURIED TELEPHONE LINE
- P-OH OVERHEAD ELECTRIC LINE
- FO-BUR BURIED FIBER OPTIC LINE
- I EXISTING WATERMAIN
- > EXISTING SANITARY SEWER
- >> EXISTING STORM SEWER
- T E UTILITY PEDESTALS
- Ⓢ EXISTING SANITARY SEWER MANHOLE
- EXISTING CATCH BASIN
- EXISTING WATERMAIN VALVE
- EXISTING HYDRANT
- LIGHT POLE
- SIGN
- DECIDUOUS AND CONIFEROUS TREES
- EXISTING BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE CURB
- SAWCUT BITUMINOUS PAVEMENT
- XXX TREE NUMBER ①
- SB-X SOIL BORING LOCATION

SIGNIFICANT TREE INVENTORY TABULATION

Tree Number	Common Name	Scientific Name	Diameter (inches)	Action
101	Siberian Elm *	*Ulmus pumila*	18	Clear & Grub - Parking Lot
102	Green Ash	*Fraxinus pennsylvanica*	15	Clear & Grub - Building
103	Cottonwood	*Populus deltoides*	30	Clear & Grub - Parking Lot

* Invasive Species

N

20 0 20 40
SCALE IN FEET

DATE	REVISION
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Tim Eggenhofer

TIMOTHY A. EGGENHOFER, P.E.

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EXISTING TOPOGRAPHY AND REMOVALS PLAN

CITY OF RAMSEY, MINNESOTA

SHEET C6 OF C10 SHEETS

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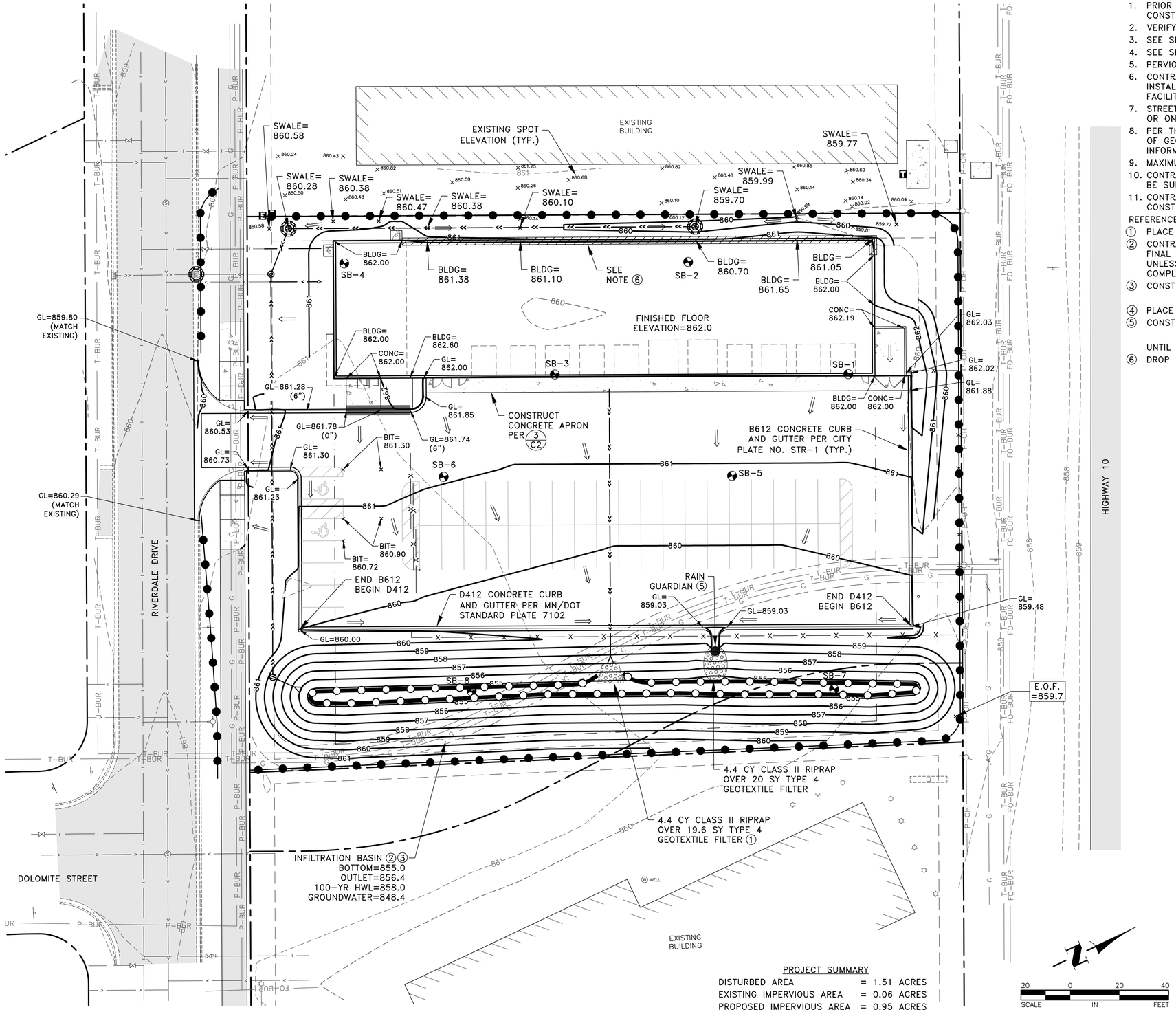

GENERAL NOTES:

1. PRIOR TO IMPORTING OR EXPORTING MATERIAL FROM THE SITE, CONTRACTOR SHALL CONSTRUCT A ROCK CONSTRUCTION ENTRANCE PER CITY PLATE NO. ERO-5.
2. VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS.
3. SEE SHEET C8 FOR THE STAKING PLAN.
4. SEE SHEET C9 FOR THE UTILITY PLAN.
5. PERVIOUS AREAS SHALL BE STABILIZED WITHIN 7 DAYS OF ROUGH GRADING.
6. CONTRACTOR SHALL DETERMINE A LOCATION FOR CONCRETE AND OTHER WASHOUT WASTE. A SIGN SHALL BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY THAT REQUIRES SITE PERSONNEL TO UTILIZE THE PROPER FACILITIES FOR DISPOSAL OF CONCRETE AND OTHER WASTES.
7. STREET SWEEPING MUST BE PERFORMED DAILY IF SEDIMENT IS TRACKED OUTSIDE THE CONSTRUCTION LIMITS OR ONTO ANY CITY STREETS.
8. PER THE ANOKA COUNTY SOIL SURVEY, THE SITE CONSISTS OF HUBBARD LOAMY SANDS. SEE THE REPORT OF GEOTECHNICAL EXPLORATION PREPARED BY AMERICAN ENGINEERING TESTING, INC. FOR ADDITIONAL INFORMATION.
9. MAXIMUM FINISHED GRADES SLOPES SHALL BE 3.5:1.
10. CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR THE WORK IN RIVERDALE DRIVE. PLAN SHALL BE SUBMITTED TO THE CITY OF RAMSEY A MINIMUM OF 7 DAYS PRIOR TO CONSTRUCTION.
11. CONTRACTOR SHALL PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE FOR THE TRAIL DURING CONSTRUCTION.

REFERENCE NOTES:

① PLACE RIPRAP PER CITY PLATE NO. ERO-3.
② CONTRACTOR SHALL NOT EXCAVATE THE INFILTRATION BASIN TO FINAL GRADE, OR WITHIN THREE FEET OF FINAL GRADE, UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN CONSTRUCTED AND FULLY STABILIZED UNLESS RIGOROUS EROSION PREVENTION AND SEDIMENT CONTROLS TO KEEP SEDIMENT AND RUNOFF COMPLETELY AWAY FROM THE INFILTRATION BASIN ARE PROVIDED.
③ CONSTRUCT INFILTRATION BASIN PER 4/C2.
④ PLACE SEDIMENT CONTROL LOG AFTER COMPLETION OF GRADING.
⑤ CONSTRUCT RAIN GUARDIAN PER 2/C3. PLACE SEDIMENT CONTROL LOG UPSTREAM OF THE RAIN GUARDIAN UNTIL FINAL STABILIZATION IS ACHIEVED.
⑥ DROP FOOTING BASED ON PROPOSED GRADES.

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING CONCRETE CURB
- GAS MAIN
- BURIED ELECTRIC LINE
- BURIED TELEPHONE LINE
- OVERHEAD ELECTRIC LINE
- BURIED FIBER OPTIC LINE
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- UTILITY PEDESTALS
- EXISTING SANITARY SEWER MANHOLE
- EXISTING CATCH BASIN
- EXISTING WATERMAIN VALVE
- EXISTING HYDRANT
- LIGHT POLE
- SIGN
- DECIDUOUS AND CONIFEROUS TREES
- EXISTING BITUMINOUS PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED RIPRAP
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED WATERMAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED FENCE
- PROPOSED STORM MANHOLE
- PROPOSED POND OUTLET STRUCTURE
- PROPOSED STORM SEWER APRON
- SILT FENCE PER CITY PLATE NO. ERO-1
- SEDIMENT CONTROL LOG PER CITY PLATE NO. ERO-4 ④
- PROPOSED TIPOUT CURB PER 8/C2
- STORM DRAIN INLET PROTECTION DEVICE PER 6/C2 AND 7/C2
- DRAINAGE ARROW

GL= XXX.XX — PROPOSED GUTTER LINE ELEVATION
BIT= XXX.XX — PROPOSED SPOT ELEVATION (BITUMINOUS)
CONC= XXX.XX — PROPOSED SPOT ELEVATION (CONCRETE)
BLDG= XXX.XX — PROPOSED GROUND ELEVATION AT BUILDING
SWALE= XXX.XX — PROPOSED SWALE ELEVATION
X/X — DETAIL NUMBER / SHEET NUMBER

PROJECT SUMMARY

DISTURBED AREA	= 1.51 ACRES
EXISTING IMPERVIOUS AREA	= 0.06 ACRES
PROPOSED IMPERVIOUS AREA	= 0.95 ACRES

DATE	REVISION
8/17/22	PLAN REVISIONS PER CITY REVIEW

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TIMOTHY A. EGGENBERG, P.E.
Date 7/13/22 Lic. No. 43362

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DRAWN BY: TAE
CHECKED BY: CJJ

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GRADING, DRAINAGE AND SEDIMENT CONTROL PLAN

CITY OF RAMSEY, MINNESOTA

SHEET C7 OF C10 SHEETS

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LEGEND

PROPOSED TIPOUT CURB PER (8/C2)

DRAINAGE ARROW

GL= XXX.XX — PROPOSED GUTTER LINE ELEVATION

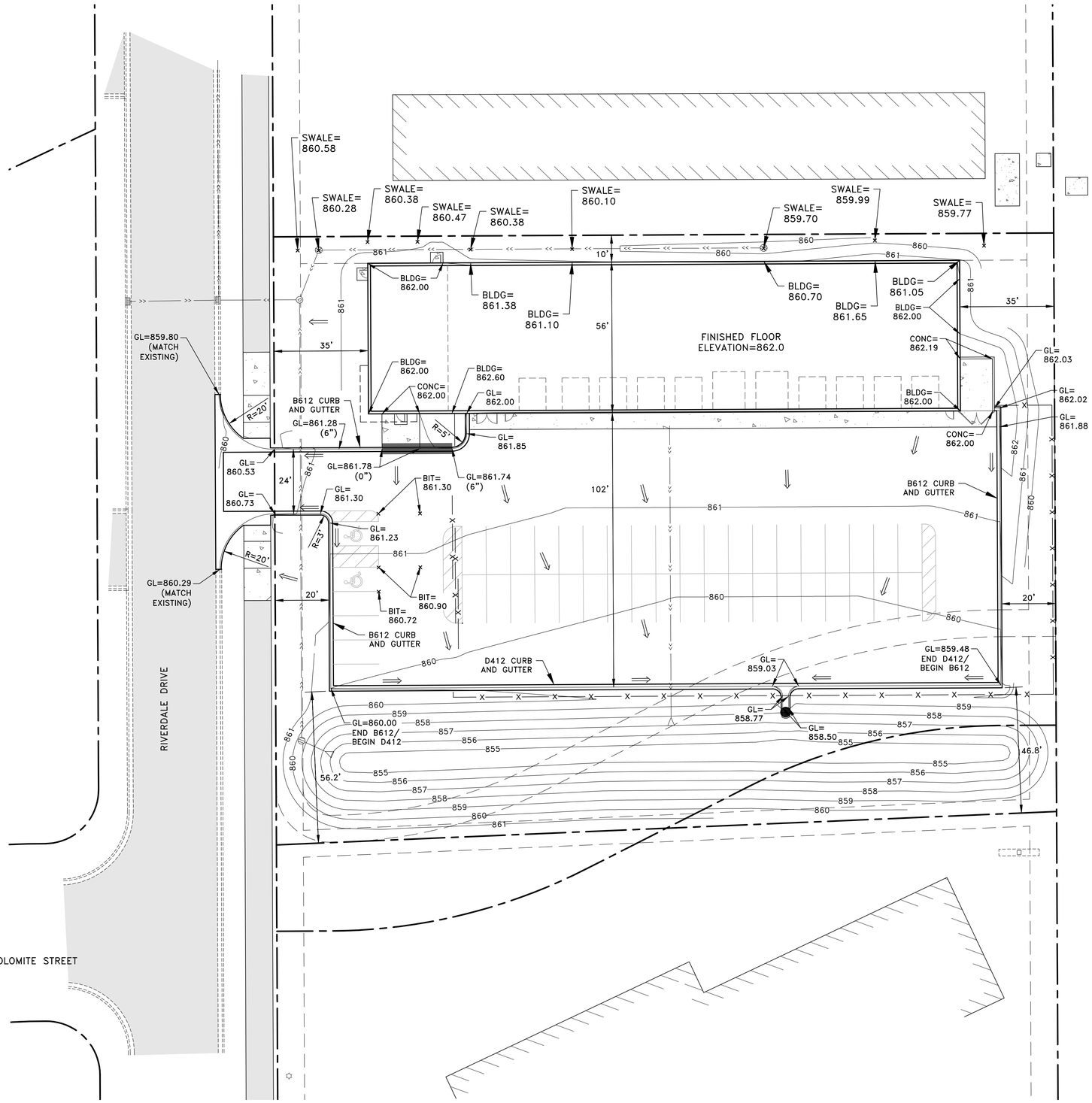
BIT= XXX.XX — PROPOSED SPOT ELEVATION (BITUMINOUS)

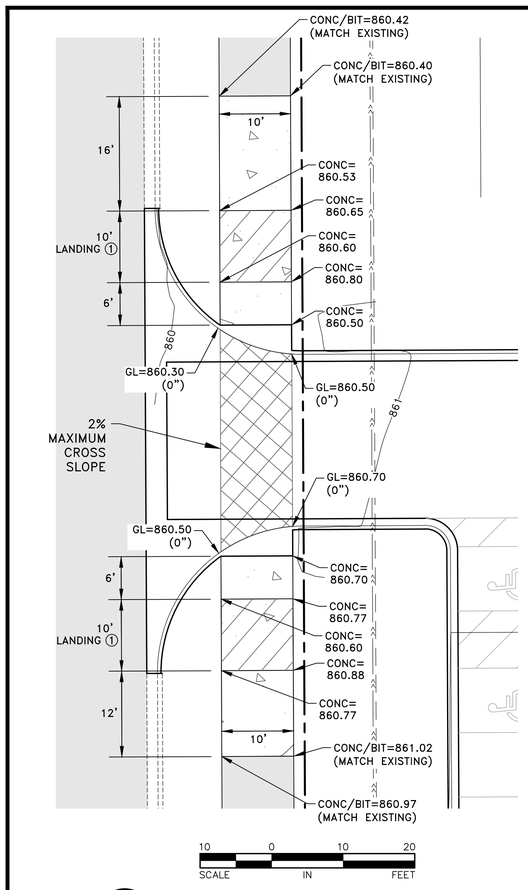
CONC= XXX.XX — PROPOSED SPOT ELEVATION (CONCRETE)

BLDG= XXX.XX — PROPOSED GROUND ELEVATION AT BUILDING

SWALE= XXX.XX — PROPOSED SWALE ELEVATION

REFERENCE NOTES:
(1) LANDING SHALL HAVE A MAXIMUM SLOPE OF 2.00% IN ALL DIRECTIONS.





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1/C8 PEDESTRIAN RAMP DETAILS

DATE	REVISION
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STAKING PLAN

CITY OF RAMSEY, MINNESOTA

SHEET C8 OF C10 SHEETS

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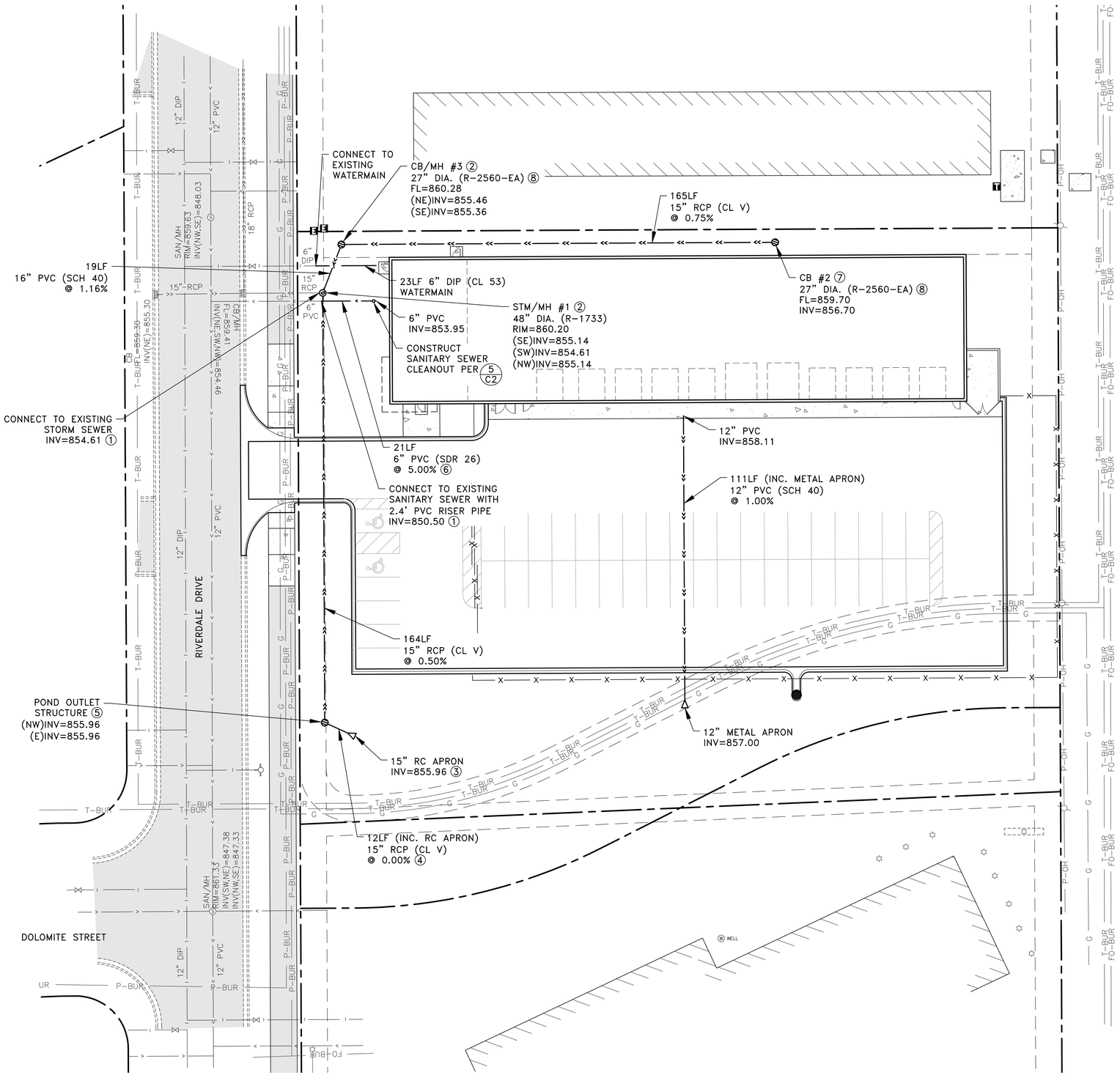

GENERAL NOTES:

1. CONTRACTOR SHALL APPLY FOR A DEPARTMENT OF LABOR AND INDUSTRY PERMIT PRIOR TO CONSTRUCTING ANY UNDERGROUND UTILITIES SHOWN ON THESE PLANS. CONTRACTOR SHALL ADDRESS ALL THE COMMENTS FROM THE DEPARTMENT OF LABOR AND INDUSTRY AS PART OF THE PERMIT APPLICATION PROCESS.
2. MAINTAIN A MINIMUM OF 7.5' OF COVER OVER WATERMAIN.
3. WATERMAIN JOINT CONSTRUCTION SHALL BE PER CITY PLATE NO. WAT-4.
4. THE PROPOSED SEWER AND WATER SERVICES SHALL INCLUDE TRACER WIRE.

REFERENCE NOTES:

① LOCATION AND INVERT OF EXISTING SANITARY SEWER AND STORM SEWER STUBS SHALL BE VERIFIED PRIOR TO CONSTRUCTION.
② CONSTRUCT STRUCTURE PER CITY PLATE NO. STO-1.
③ CONCRETE APRON SHALL INCLUDE A TRASH GUARD PER CITY PLATE NO. STO-8.
④ TIE ALL PIPE JOINTS.
⑤ CONSTRUCT STRUCTURE PER 1/C3.
⑥ CONSTRUCT SEWER SERVICE PER CITY PLATE NO. SEW-3.
⑦ CONSTRUCT STRUCTURE PER CITY PLATE NO. STO-2.
⑧ CASTING SHALL BE PER CITY PLATE NO. STO-6.

SCALE IN FEET: 20 0 20 40

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UTILITY PLAN
CITY OF RAMSEY, MINNESOTA

SHEET C9 OF C10 SHEETS

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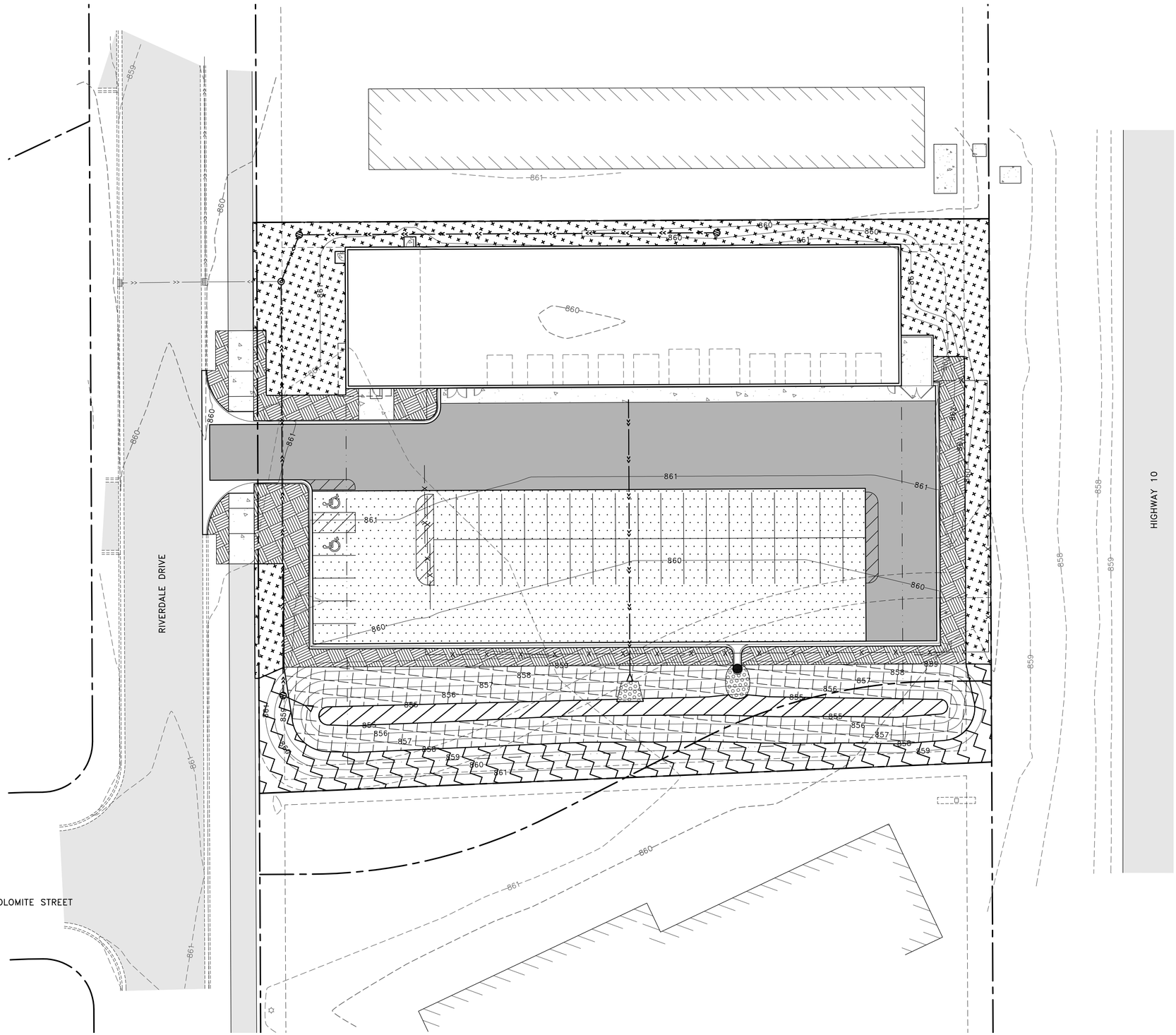

LEGEND

- PROPOSED LIGHT DUTY BITUMINOUS PAVEMENT PER (1/C2)
- PROPOSED HEAVY DUTY BITUMINOUS PAVEMENT PER (2/C2)
- SEED MIX 25-131 (220 POUNDS/ACRE)
  ROLLED EROSION PREVENTION CATEGORY 20
  TYPE 1 FERTILIZER (300 POUNDS/ACRE)
- SEED MIX 25-131 (220 POUNDS/ACRE)
  HYDRAULIC MULCH MATRIX (2500 POUNDS/ACRE)
  TYPE 1 FERTILIZER (300 POUNDS/ACRE)
- SEED MIX 33-261 (35 POUNDS/ACRE)
  ROLLED EROSION PREVENTION CATEGORY 20
  TYPE 1 FERTILIZER (300 POUNDS/ACRE)
- SEED MIX 33-261 (35 POUNDS/ACRE)
  HYDRAULIC MULCH MATRIX (2500 POUNDS/ACRE)
  TYPE 1 FERTILIZER (300 POUNDS/ACRE)
- SOD
  TYPE 1 FERTILIZER (300 POUNDS/ACRE)

GENERAL NOTES:

1. PLACE A MINIMUM OF 4" OF TOPSOIL OVER ALL DISTURBED AREAS OUTSIDE THE PROPOSED PARKING LOT AND INFILTRATION AREA. TOPSOIL SHALL NOT CONTAIN MORE THAN 35% SAND CONTENT. SEE (4/C2) FOR INFILTRATION BASIN TOPSOIL REQUIREMENTS.

SCALE: 20 0 20 40 IN FEET

DATE	REVISION
8/17/22	PLAN REVISIONS PER CITY REVIEW

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.

TIMOTHY A. EGGENHOFER, P.E.
Date 7/13/22 Lic. No. 43362

DESIGNED BY: TAE
DRAWN BY: TAE
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
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BLUE LINE COLLISION CENTER

PAVING AND RESTORATION PLAN

CITY OF RAMSEY, MINNESOTA

SHEET C10 OF C10 SHEETS

3395.15

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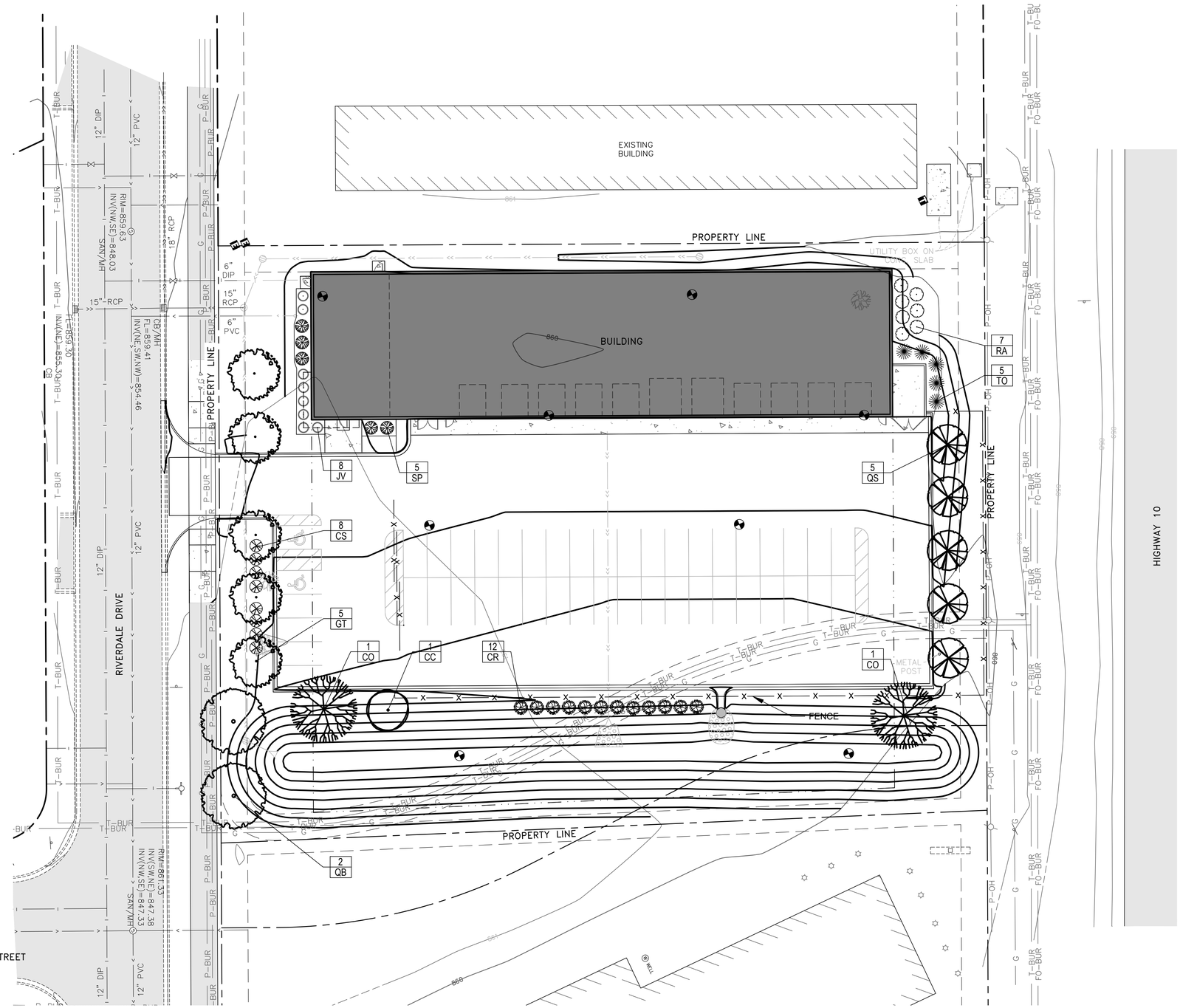

PLANT SCHEDULE

QTY	CODE	SCIENTIFIC NAME/COMMON NAME	SIZE	ROOT	REMARKS
		OVERSTORY TREES			
2	CO	Celtis occidentalis	2.5" cal.	BB	see plan for spacing
		Hackberry			straight trunk, single leader
5	GT	Gleditsia triacanthos 'Draves'	2.5" cal.	BB	space 24' o.c.
		Street Keeper honeylocust			straight trunk, single leader
2	QB	Quercus bicolor	2.5" cal.	BB	space 28' o.c.
		Swamp white oak			straight trunk, single leader
5	QS	Quercus x bimundorum 'JFS-KW1QX'	2.5" cal.	BB	space 20' o.c.
		Streetspire oak			straight trunk, single leader
		ORNAMENTAL TREES			
1	CC	**Crataegus crus-galli var. inermis**	1.75" cal	BB	see plan for spacing
		Thornless hawthorn			straight trunk, single leader
		EVERGREEN TREES			
5	TO	Thuja occidentalis 'Techny'	6' ht.	BB	space 7' o.c.
		Techny arborvitae			straight trunk, single leader
		SHRUBS (24" MIN. SHRUB SIZE AT TIME OF INSTALLATION)			
12	CR	Cornus racemosa	#5	cont.	space 6' o.c.
		Grey dogwood			
8	CS	Cornus sericea 'Alleman's'	#5	cont.	space 5' o.c.
		Alleman's compact redtwig dogwood			
8	JV	Juniperus virginiana 'Grey Owl'	#5	cont.	space 5' o.c.
		Grey Owl juniper			
5	SP	Syringa patula 'Miss Kim'	#5	cont.	space 6' o.c.
		Miss Kim lilac			
7	RA	Rhus aromatica	#5	cont.	space 6' o.c.
		Fragrant sumac			

NOTES:
1. SEE SHEET L2 FOR PLANTING DETAILS & LANDSCAPE SPECIFICATIONS.
2. ALL LANDSCAPE AREAS TO RECEIVE 4" OF TOPSOIL. TOPSOIL SHALL NOT CONTAIN MORE THAN 35% SAND CONTENT. SEE CIVIL SHEET C2 FOR INFILTRATION BASIN TOPSOIL REQUIREMENTS.
3. SEE CIVIL SHEET C10 FOR TURF AND TALLGRASS RESTORATION PLAN AND SPECS.
4. ALL TREES, SHRUBS, AND TURF AREAS TO BE IRRIGATED. SEE IRRIGATION SPECS. SHEET L2.

LANDSCAPE REQUIREMENTS

DETERMINING NUMBER OF PLANTS

LOT PERIMETER: 1,022 LF/50 LF = 20 TREES

BUILDING FOOTPRINT: 12100 SF/1,000 SF = 12 TREES

B-2 BUSINESS DISTRICT

PLANTS BASED ON 1,022 LF OF LOT PERIMETER	**REQUIRED**	**ON THIS PLAN**
DECIDUOUS/CONIFEROUS TREES PER 50 LF	20	20
SHRUBS PER 300 SF	40	40
TREE DISTRIBUTION	**REQUIRED**	
DECIDUOUS OVERSTORY TREES ≥ 25%	≥ 5	14
CONIFEROUS TREES ≥ 25%	≥ 5	5
DECIDUOUS UNDERSTORY TREES ≤ 25%	≤ 5	1
OVERSTORY TREES ADJACENT TO PUBLIC R.O.W.	**REQUIRED**	
PUBLIC R.OW. 442LF/35 LF	13	13
PARKING LOT LANDSCAPING - 44 STALLS	**REQUIRED**	
1 TREE PER 10 STALLS	5	11

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SCALE: 20 0 20 40 IN FEET

DATE	REVISION
08.17.2022	PLAN REVISIONS PER CITY REVIEW

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 Landscape Architect under the laws of the State of Minnesota. Name: Carmen Simonet

Signature: Carmen Simonet

License # 24236 Date 07.13.2022

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BLUE LINE COLLISION CENTER

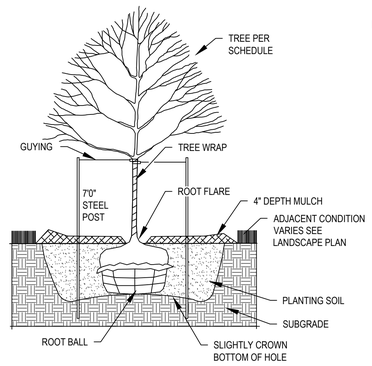
LANDSCAPE PLAN

CITY OF RAMSEY, MINNESOTA

SHEET L1 OF L2 SHEETS

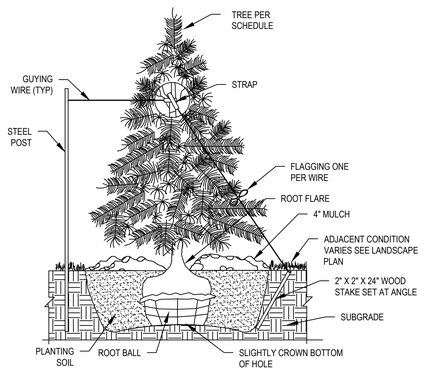
3395.15

PLANTING DETAILS



NOTES:
1. Remove dead or damaged branches. Retain the natural form of the tree. Do not cut the leader.
2. Width of planting hole: 18" min. larger than root ball, on all sides.
3. Depth of hole: root flare to sit at or up to 2" above the top of the finished soil elevation. Leave soil undisturbed beneath the root ball.
4. Scarify bottom and sides of hole prior to planting.
5. Set plant on undisturbed soil or thoroughly compacted planting soil.
6. Remove top 1/3 of the basket or the top two horizontal rings whichever is greater. Remove all burlap from top 1/3 of root ball. Remove all twine.
7. Remove or correct stem girdling roots or reject plant.
8. Slit remaining burlap at 6" intervals.
9. Plumb & backfill with planting soil. Thoroughly water in tree within 2 hours to settle plants and fill voids.
10. Backfill voids and water a second time.
11. Place double shredded hardwood mulch within 48 hours of the second watering. No mulch to be in contact w/ trunk.
12. Contractor is responsible for maintaining trees in a plumb position throughout the guarantee period. Stake trees if site conditions, such as soil and wind, prevent the trees from staying plumb. Use 16" x 1.5" polypropylene or polyethylene straps, attach to post with 10 gauge wire. Remove within one year.
13. Wrap trunk in fall, remove wrap in spring.
14. Refer to plan and specs. for additional information.

1 L2 TREE PLANTING DETAIL
NOT TO SCALE



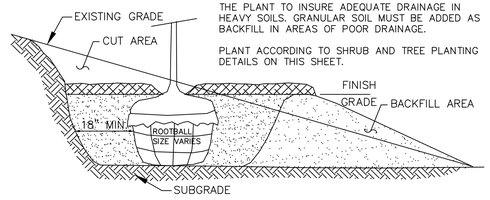
NOTES:
1. Width of planting hole: 18" min. larger than root ball, on all sides.
2. Depth of hole: root flare to sit at or up to 2" above the top of the finished soil elevation. Leave soil undisturbed beneath the root ball.
3. Scarify bottom and sides of hole prior to planting.
4. Set plant on undisturbed soil or thoroughly compacted planting soil.
6. Remove top 1/3 of the basket or the top two horizontal rings whichever is greater. Remove all burlap from top 1/3 of root ball. Remove all twine.
7. Remove or correct stem girdling roots or reject plant.
8. Slit remaining burlap at 6" intervals.
9. Plumb & backfill with planting soil. Thoroughly water in tree within 2 hours to settle plant and fill voids.
10. Backfill voids and water a second time.
11. Place double shredded hardwood mulch within 48 hours of the second watering. No mulch to be in contact w/ trunk or branches.
12. Two alternate methods of staking trees are illustrated in detail.
13. Contractor is responsible for maintaining trees in a plumb position throughout the guarantee period. Stake trees if site conditions, such as soil and wind, prevent the trees from staying plumb. Use 16" x 1.5" polypropylene or polyethylene straps, attach to post or stake with 10 gauge wire. Remove within one year.
14. Refer to plan and specs. for additional information.

2 L2 EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

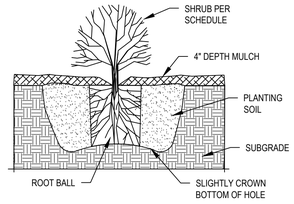
NOTES:

EXTEND EXCAVATION AND BACKFILL SOIL TO A POINT DOWNSLOPE EQUAL TO OR LOWER IN ELEVATION THAN THE BOTTOM OF THE HOLE DIRECTLY BENEATH THE PLANT TO INSURE ADEQUATE DRAINAGE IN HEAVY SOILS. GRANULAR SOIL MUST BE ADDED AS BACKFILL IN AREAS OF POOR DRAINAGE.

PLANT ACCORDING TO SHRUB AND TREE PLANTING DETAILS ON THIS SHEET.

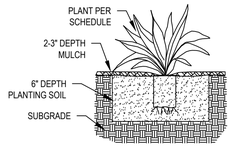


3 L2 PLANTING ON A SLOPE DETAIL
NOT TO SCALE



NOTES:
1. Dig shrub hole 12" min. larger than container size, all sides.
2. Scarify bottom and sides of hole prior to planting.
3. Remove dead or damaged branches. Retain the natural form of the shrub.
4. Hand loosen roots of containerized material. Score outside of soil mass to redirect circling fibrous roots.
5. Set shrub on undisturbed soil or on thoroughly compacted planting soil. Install plant so the top of the root flare is at or up to 2" above the finished grade.
6. Plumb and backfill with planting soil. Thoroughly water in shrub prior to placing mulch.
7. Place double shredded hardwood mulch. Do not place any mulch on vegetation or in contact with trunk/stems.
8. Refer to plan and specs. for additional information.

4 L2 SHRUB PLANTING DETAIL
NOT TO SCALE



NOTES:
1. Plant into prepared planting bed.
2. Plant at same depth as in container.
3. Place double shredded hardwood mulch over perennial bed. Do not place any mulch on vegetation.
4. Thoroughly water in plants.
5. Refer to plan and specs. for additional information.

5 L2 PERENNIAL PLANTING DETAIL
NOT TO SCALE

LANDSCAPE SPECIFICATIONS

TREES, SHRUBS, AND PERENNIALS

1. REFERENCES
- A. Mn/DOT - Minnesota Department of Transportation, Standard Specifications for Construction, 2020 Edition.
- B. American Standard for Nursery Stock, ANSI Z60.1-2014.
- C. ASTM, American Society for Testing and Materials.

2. QUALITY ASSURANCE
- A. Work shall be performed by a landscape contractor with extensive horticulture knowledge, and a min. of 3 years experience.
- B. Handle plants in such a way as to protect from damage either physical or by exposure to sun and wind. Mishandled plants are subject to rejection by Landscape Architect.
- C. Plants used on this project shall meet the grading standards recommended by the ANSI Z60.1-2014.

3. PRODUCTS
- A. Plants: Provide as specified on Plant Schedule. All shrubs shall be a minimum of 24" height or width at time of installation.
- B. Edging: Heavy duty poly edger: 5" depth w/ v-lip to prevent frost heave, and steel stakes, black color, Sure-loc Elite-Edge or equal.
- C. Mulch: Double shredded hardwood mulch.
- D. Water: Contractor to provide.
- E. Planting Soil: rich friable, loam topsoil, free of debris and seeds, conforming to Mn/DOT 3877.2 B loam topsoil borrow, and amended as follows: no more than 35% sand.
- F. Compost: Conforming to Mn/DOT 3890.2, Grade 2.
- G. Tree Wrap: Two-ply weather resistant paper product.

4. PLANTING DATES: Spring Planting: Apr. 1 - June 15. These dates may be extended if daytime temps. remain below 80 degrees. Fall: Sept. 30 - Oct. 30th. Daytime temps. need to drop below 80 degrees before planting begins, and may continue until freeze up. Coniferous trees Aug. 15 - Oct. 1st. Plant under favorable weather conditions, do not plant during days of extreme heat.

5. EXECUTION
- A. Prior to digging, Contractor to have utilities located.
- B. Contractor to notify Landscape Architect 3 days in advance of when planting work will occur.
- C. Plant into prepared planting beds.
- D. Install trees, shrubs, and perennials per planting details, adjust location if in conflict with utilities. Verify new location with Landscape Architect prior to planting.
- E. Separate all shrub and perennial beds from turf areas with edger, unless otherwise noted.
- F. Clean-up entire site following planting operations.

6. ACCEPTANCE OF PLANTING WORK
- A. Contractor to notify Owner when planting work is complete for review and punch list.
- B. Contractor to water and maintain the trees, shrubs and perennials until Owner Acceptance.
- C. Owner will give Acceptance of Work following satisfactory correction of punch list items.
- D. Watering and regular landscape maintenance of trees, shrubs and perennials will be Owners responsibility following owner acceptance of work.

7. GUARANTEE PERIOD
- A. Contractor to warranty trees, shrubs and perennials for **two years** following acceptance of Work by Owner.
- B. Contractor to maintain the trees in a plumb position throughout the guarantee period.
- C. Contractor to remove all staking/wiring/ straps and plant tags from trees at the end of the guarantee period.
- D. Replacements: At the end of the guarantee period, all plants which are unhealthy, dead, not having a normal density, size, shape or color shall be shall be replaced. Replacements shall match caliper and/or height of the other plants at time of replacement. Selection of replacement material and installation practices shall follow the requirements of the Drawings and Specifications.

IRRIGATION

1. DESCRIPTION
- A. Work includes: design, furnish, and install complete, fully automatic and programmable underground irrigation system, capable of alternate date watering for all trees, shrubs, and turf areas. The system shall provide full coverage with uniform levels of total precipitation throughout all irrigated areas.
- B. The system is to include water efficient technologies including: a WaterSense labeled controller, a flow meter, soil moisture and/or evapotranspiration (ET) sensors, a rain sensor, and be calibrated to meet all applicable City Codes.
- C. Dripline to be used in beds adjacent to building and in parking lot islands.
- D. The system is to meet state department of health standards and have a backflow preventer.
- E. Materials, equipment, and methods of design and installation shall comply with, but not be limited to, the following codes and standards:
  - All local and state laws and ordinances, and with all the established codes applicable thereto.
  - National Electrical Code.
  - American Society for Testing and Materials (ASTM).
  - National Sanitation Foundation (NSF).
  - The best management practices developed by the Irrigation Association.
- F. The designer shall provide balanced pressure and flow and optimum operating efficiency.
- G. The contractor is responsible for obtaining all permits and licenses required for installation of irrigation system.

2. QUALITY ASSURANCE
- A. The irrigation system shall be designed and installed by a contractor specializing in irrigation work, and will have a minimum of 5 years of experience designing and installing systems of similar scope and size.
- B. The contractor shall maintain a skilled foreman on site during the installation of all work and the foreman will have a Minnesota Power Limited Technician License.

3. SUBMITTALS
- A. Shop Drawings: submit irrigation plan, product schedule, and specifications for review and acceptance.
- B. Operation and Maintenance Manual: following completion of work, provide the Owner with an operation and maintenance manual of the complete system in a digital pdf file format and one hard copy.
- C. As-Built Plan: following completion of work, contractor to furnish Owner a scaled as-built irrigation map, with dimensions as needed, on durable paper or laminated to be mounted on wall with the main control panel and a digital file in pdf format. The map shall indicate the zones, location of all controls, piping and depths, heads (including type), drip-lines, valves, connection to water service, and other related components.

4. PRODUCTS
- A. Select products suitable to the landscape areas.
- B. All products and materials used in the system shall be new and professional grade.
- C. Provide sprinkler heads, driplines, electric valves, and automatic controller from one manufacturer: Toro, Rainbird, Hunter Industries, or equal.

5. EXECUTION
- A. Prior to digging, contractor to have utilities located.
- B. Water Coverage: Provide uniform water coverage over turf areas and planting beds.
- C. Turf: Turf areas to be irrigated with spray heads. Locate heads to avoid overspray onto sidewalks, parking areas, signs and buildings.
- D. Planting Beds: All continuous shrubs, trees, perennial beds to be irrigated with a drip system and spray heads where drip lines are impractical.
- E. Winterization: System to accommodate winterization by blowing system dry with compressed air.
- F. Install the irrigation system per contractor's plan and specifications.
- G. Instructions: Contractor to instruct the Owner in proper operation and maintenance of the system.
- H. Cleanup: Replace landscaping disturbed by operations. Cleanup all debris and restore site to original condition.

6. REVIEW AND ACCEPTANCE
- A. Contractor to test system to a hydrostatic pressure of not less than 100 psi. Remove and replace any components that do not pass test.
- B. Contractor to contact Owner and perform operational test after system is fully in place and demonstrate to the Owner that the irrigation system meets coverage requirements and that automatic controls function properly. Any corrective work identified shall be completed within two weeks of receipt of comments.
- C. Owner to accept work following: satisfactory completion of any corrective work, receiving hands-on instructions for operation, and receiving as-built plan and operation and maintenance manual submittals.

7. MAINTENANCE
- A. Contractor to drain and winterize irrigation system in the fall, following first year of operation, and shall put the system back in service the following spring as part of the work of this contract at no additional cost to the Owner.

8. GUARANTEE
- A. Warranty irrigation system materials and labor for **one year** following acceptance of work by Owner. Contractor to promptly furnish and install, at no cost to Owner, any parts that prove defective in material or workmanship.

N

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SCALE IN FEET

DATE	REVISION

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 Landscape Architect under the laws of the State of Minnesota. Name: Carmen Simonet
Signature: Carmen Simonet
License # 24236 Date 07.13.2022

LANDSCAPE ARCHITECT:
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PLANTING DETAILS & LANDSCAPE SPECS.
CITY OF RAMSEY, MINNESOTA

SHEET L2 OF L2 SHEETS

3395.15