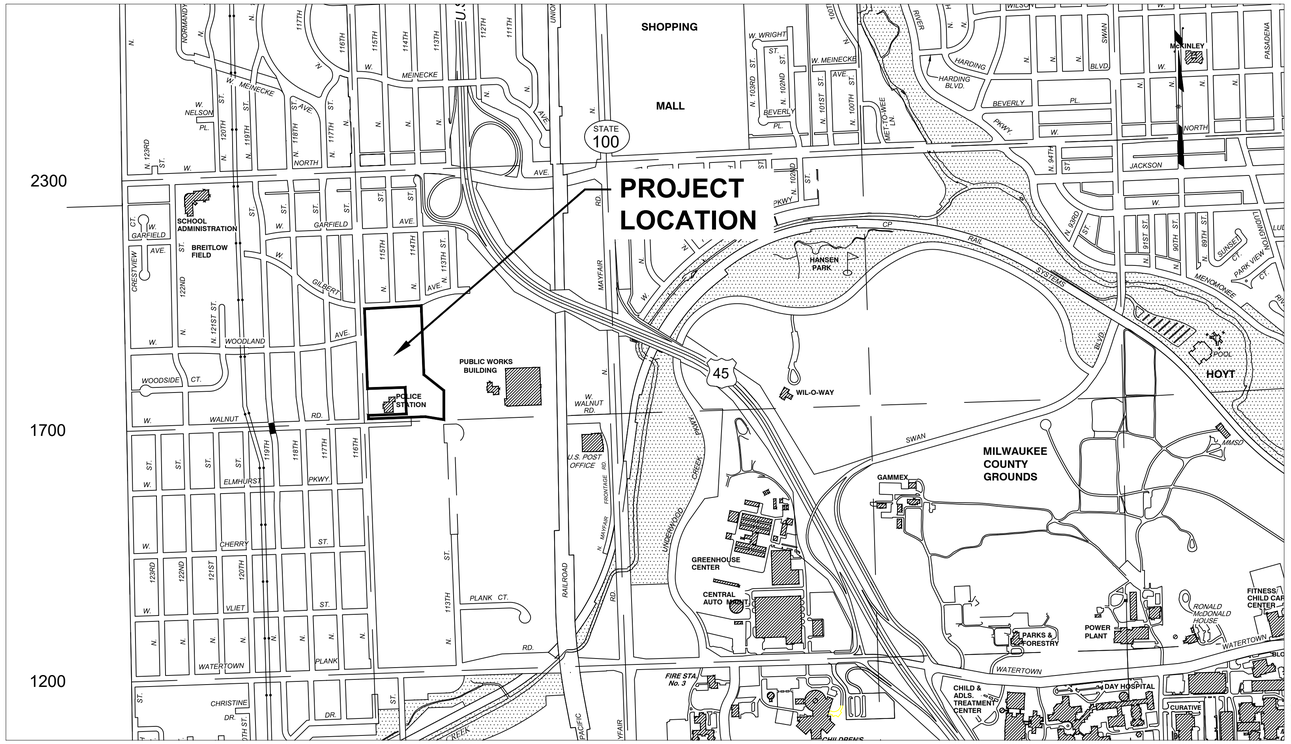
CITY OF WAUWATOSA
CONTRACT 24-02
116TH STREET PARK
CITY PROJECT #8045
SIGMA PROJECT #21231



PROJECT COORDINATION:
ALEX KRUTSCH
PARKS & FORESTRY SUPERINTENDENT
(414) 471-8422
AKRUTSCH@WAUWATOSA.NET

NICK DEMING, PE
CONSTRUCTION MANAGER
(414) 479-3541
NDEMING@WAUWATOSA.NET

THE SIGMA GROUP:
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VICE PRESIDENT
(414) 643-4163
CCARR@THESIGMAGROUP.COM

SITE DESIGN LANDSCAPE ARCHITECTURE:
BRENDA KIESGEN
PROJECT MANAGER
(708) 691-0601
BKIESGEN@SITE-DESIGN.COM

IBC ENGINEERING SERVICES:
COLLEEN HOFFMANN, PE
ELECTRICAL ENGINEER
(262) 522-4423
COLLEENH@IBCENGINEERING.COM

Issued for Board of Public Works Approval Only

Not to Be Used for Bidding

APPROVED BY THE BOARD OF PUBLIC WORKS OF THE CITY OF WAUWATOSA, WISCONSIN BY RESOLUTION ADOPTED:

DATE _____ CITY CLERK _____

SUBMITTED FOR APPROVAL:

FEBRUARY 15, 2024
DATE _____ CITY ENGINEER _____
REG. PROF. ENGR.

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

116TH STREET PARK

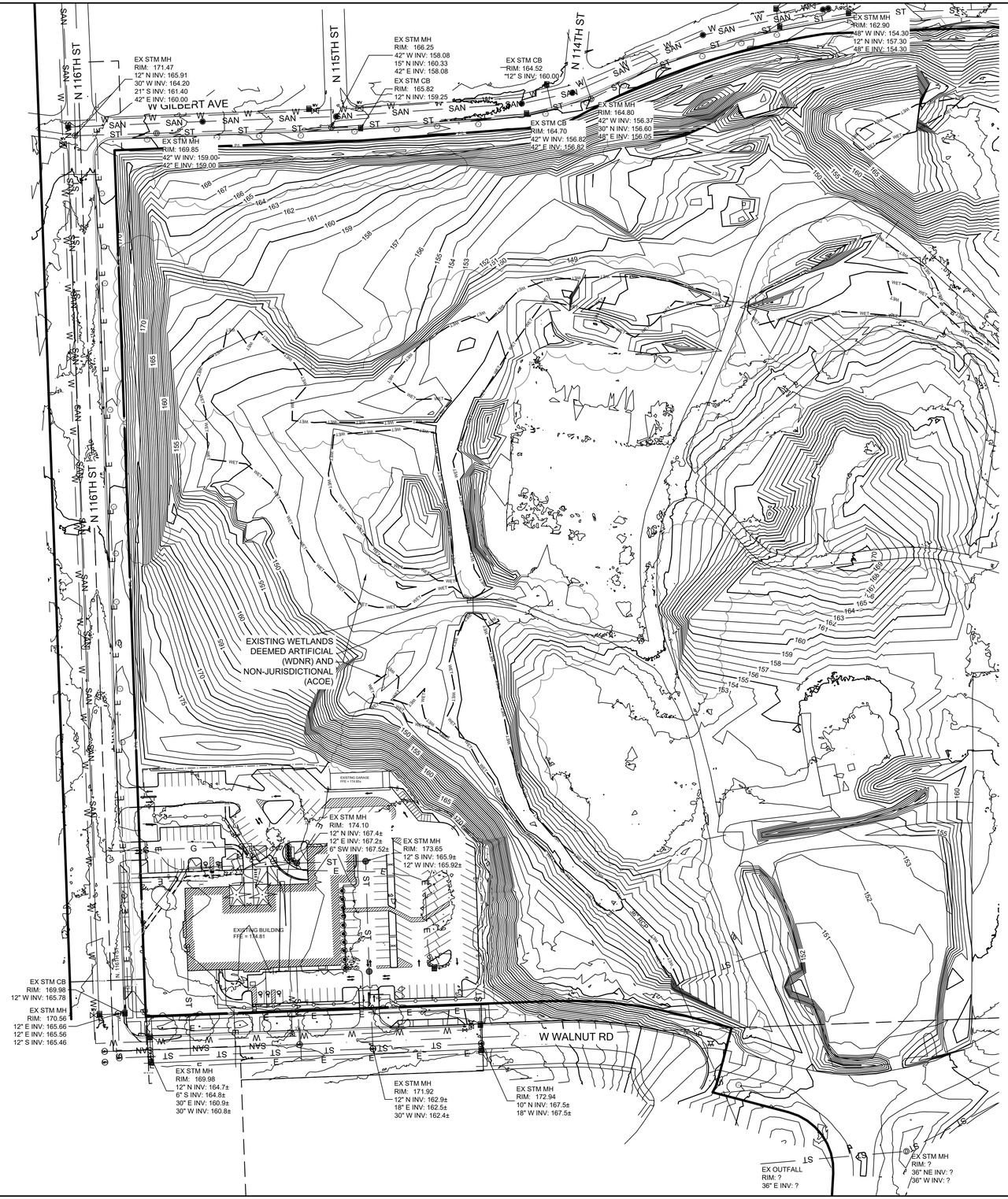
1900 N. 116TH STREET

SCALE: AS NOTED | SHEETS:

THE SIGMA GROUP
Single Source, Sound Solutions.
www.thesigmagroup.com
1300 West Canal Street
Milwaukee, WI 53233
Phone: 414-643-4200
Fax: 414-643-4210

site

ibc engineering services, inc.
WISCONSIN | ILLINOIS | FLORIDA



GRAPHIC SCALE
0 80 160

LEGEND:

- SECTION 1/4 SECTION LINE
- PROPERTY LINE
- EASEMENT
- CHAIN LINK FENCE
- TREE LINE
- OVERHEAD UTILITY LINE
- ELECTRIC
- TELEPHONE
- FIBER OPTIC
- CABLE TV
- SANITARY SEWER
- FORCE MAIN
- STORM SEWER
- WATER MAIN
- GAS
- EXISTING CONTOUR
- WETLAND
- FLOODPLAIN

- MANHOLE
- CATCH BASIN
- CATCH BASIN (ROUND)
- ROOF DRAIN
- HYDRANT
- WATER VALVE
- GAS VALVE
- UTILITY POLE
- GUY WIRE
- GAS METER
- ELECTRIC METER
- UTILITY PEDESTAL
- TRAFFIC SIGNAL
- LIGHT POLE
- SOIL BORING
- MONITORING WELL
- IRON PIPE FOUND/SET
- REBAR FOUND/SET
- CHISELED CROSS FOUND/SET
- PK NAIL FOUND/SET
- SPIKE/NAIL
- MONUMENT
- BENCHMARK
- SIGN
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH
- POST

GENERAL NOTES:

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

3. DRAWING IS BASED ON FIELD SURVEY COMPLETED BY THE CITY OF WAUWATOSA ON OCTOBER 2022.

4. DATUM FOR THE PROJECT SURVEY IS WAUWATOSA DATUM.

5. CONTRACTOR TO VERIFY EXISTING CONDITIONS, CONTACT ENGINEER WITH DISCREPANCIES.

6. PRIVATE CONSTRUCTION THAT DISTURBS UNDERGROUND UTILITIES IS REQUIRED TO INSTALL AND MAINTAIN ENCLOSED RAT TRAPS OR BAIT STATIONS.

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WIS STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

MILW. AREA 259-1181

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

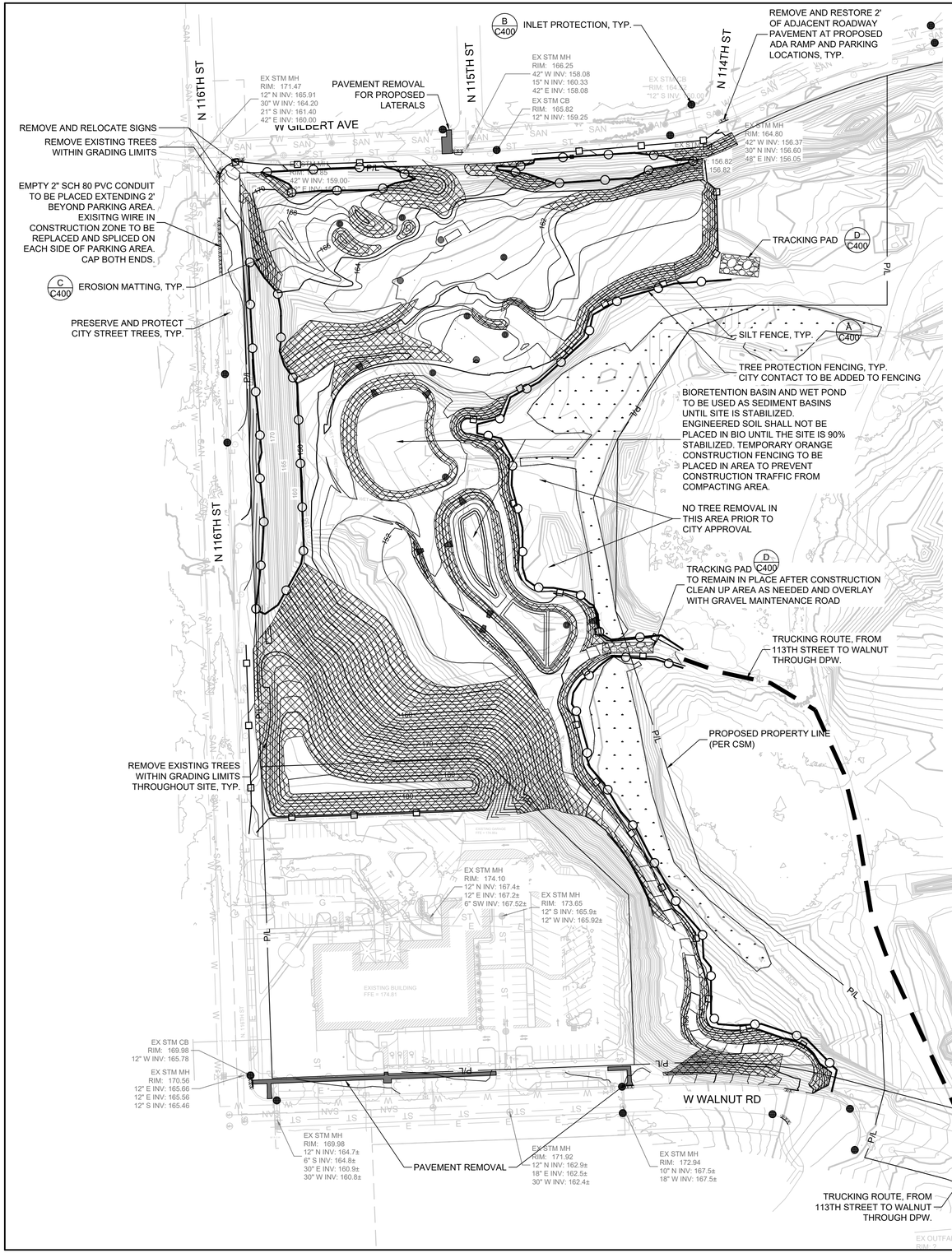
SITE

SITE SURVEY

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	24-02
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

C001



LEGEND:

- A C400 PROPOSED SILT FENCE
- B C400 PROPOSED INLET PROTECTION
- D C400 PROPOSED TRACKING PAD
- C C400 PROPOSED EROSION MATTING WISDOT APPROVED CLASS 1 TYPE B
- PROPOSED TREE PROTECTION FENCE (SEE SHEET L501)
- PAVEMENT REMOVAL
- 5 EXISTING CONTOUR
- 5 PROPOSED CONTOUR
- XXXXXXX CURB REMOVAL
- STRUCTURE REMOVAL
- EXISTING WETLAND TO REMAIN PRESERVE AND PROTECT

GRAPHIC SCALE 0 80 160

GENERAL NOTES:

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3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
5. SEE SHEET C400 FOR A COMPLETE LIST OF EROSION CONTROL NOTES AND DETAILS. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO START OF LAND DISTURBING ACTIVITIES.
6. DO NOT BEGIN LAND DISTURBING ACTIVITIES UNTIL AN EROSION CONTROL PERMIT IS OBTAINED FROM LOCAL JURISDICTION.
7. PRIVATE CONSTRUCTION THAT DISTURBS UNDERGROUND UTILITIES IS REQUIRED TO INSTALL AND MAINTAIN ENCLOSED RAT TRAPS OR BAIT STATIONS.

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MILW. AREA 259-1181

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

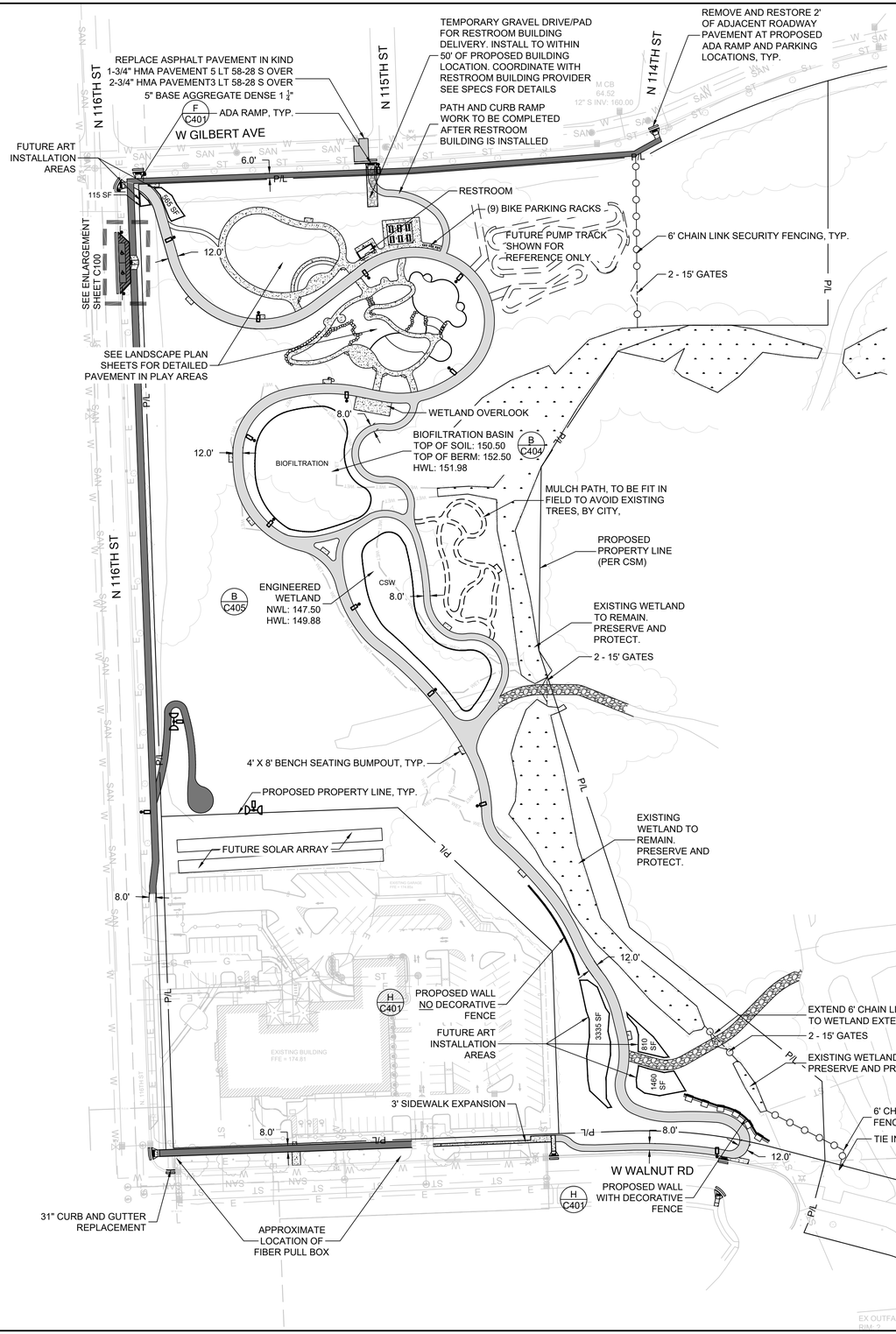
THE SIGMA GROUP
Single Source. Sound Solutions.

EROSION CONTROL PLAN

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	--
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

C002



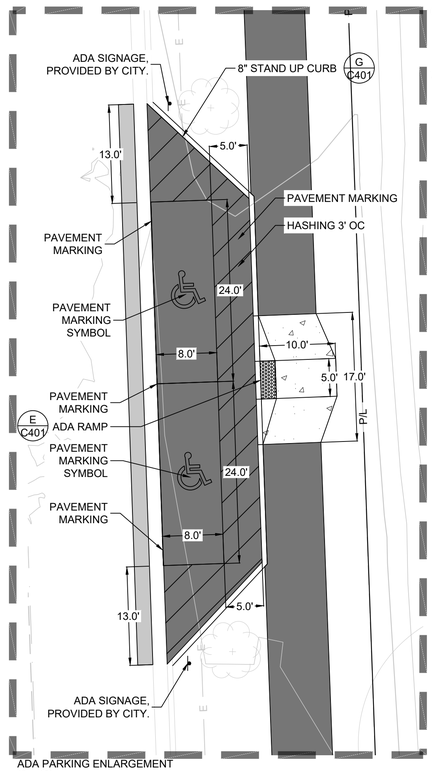
LEGEND:

- A C401 — 5" THICK CONCRETE WALK
- F C402 — POROUS ASPHALT PATH (INTERIOR)
- G C402 — POROUS ASPHALT PATH (EXTERIOR)
- B C401 — 8" THICK, 3/4" DENSE GRADED BASE COURSE MAINTENANCE DRIVE
- EXISTING WETLAND TO REMAIN PRESERVE AND PROTECT
- CHAIN LINK FENCE
- I C401 — DECORATIVE CEDAR SPLIT RAIL FENCE
- LIGHT POLE (SEE LIGHTING PLANS)
- G C401 — 8" STAND UP CURB

GRAPHIC SCALE
0 80 160

SITE INFORMATION			
SITE AREA	521611	11.975 AC	
SITE DISTURBED AREA	372576	8.553 AC	
EXISTING IMPERVIOUS AREA	1590	0.037 AC	0.3 %
EXISTING PERVIOUS AREA	370986	8.517 AC	99.6 %
PROPOSED IMPERVIOUS AREA	90710	2.082 AC	24.3 %
PROPOSED PERVIOUS AREA	280276	6.434 AC	75.2 %
ADA PARKING SPACES	2		
BIKE PARKING SPACES	9		

NOTE:
ALL PAVEMENT MARKING LINES ARE TO BE 4 INCH WIDE STRIPES OF WHITE PAINT.



ADA PARKING ENLARGEMENT
1" = 10'

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MILW. AREA 259-1181

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DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

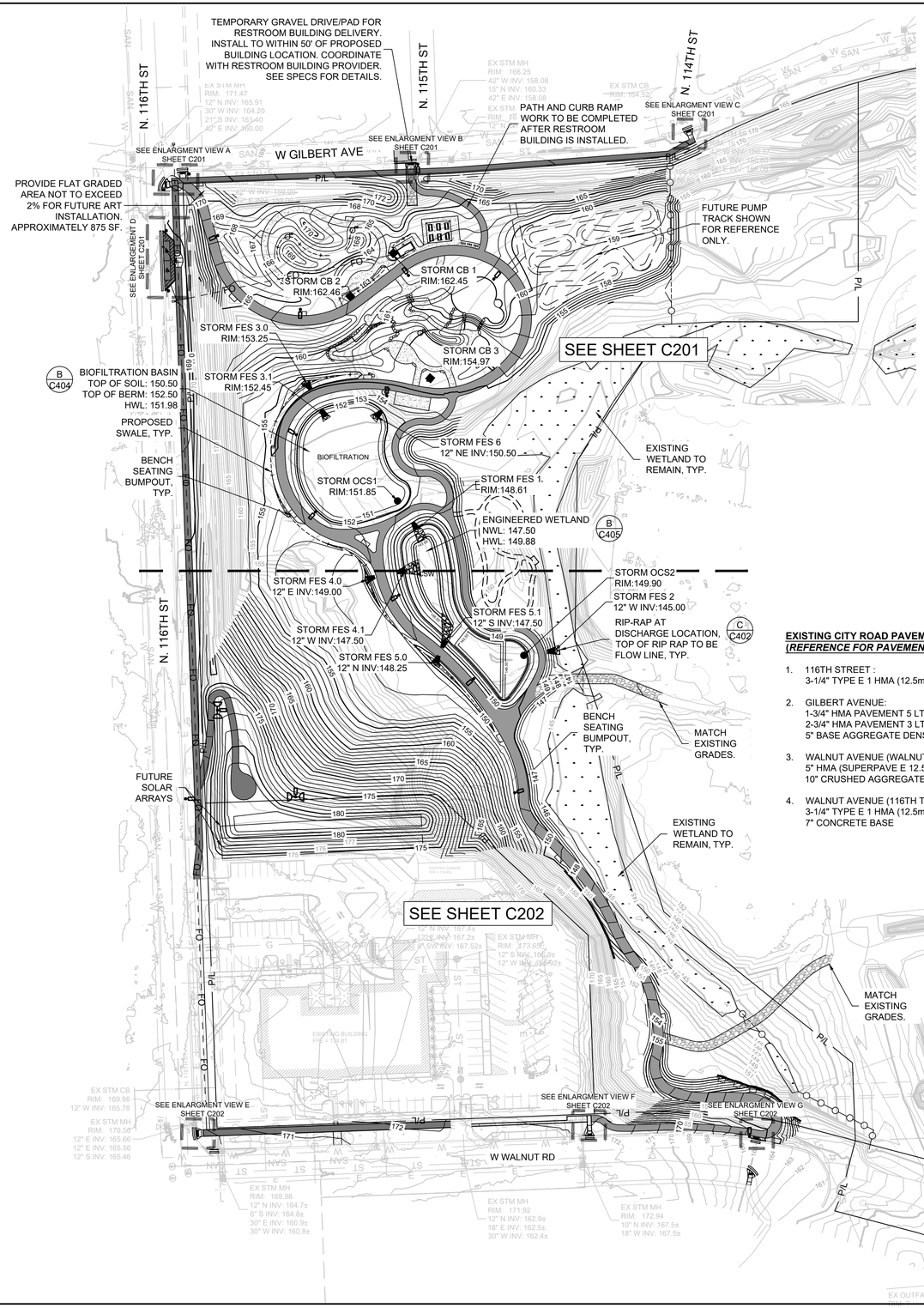
OVERALL SITE PLAN

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	24-02
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

C100

FILE NAME: C100 SITE PLAN.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: JANETTE RUEDA GUTIERREZ | SHEET: C100



LEGEND:

- A C401 — 5" THICK CONCRETE WALK
- F C402 — POROUS ASPHALT PATH (INTERIOR)
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- EXISTING WETLAND TO REMAIN PRESERVE AND PROTECT
- CHAIN LINK FENCE
- I C401 — DECORATIVE CEDAR SPLIT RAIL FENCE
- LIGHT POLE (SEE LIGHTING PLANS)
- G C401 — 8" STAND UP CURB
- 5 — EXISTING CONTOUR
- 5 — PROPOSED CONTOUR
- PROPOSED SWALE
- 100.50 T/C 100.00 FL — PROPOSED CURB & GUTTER SPOT GRADE T/C: TOP OF CURB GRADE FL: FLOW LINE CURB GRADE
- 100.00 — PROPOSED SURFACE SPOT GRADE
- TW: 100.00 BW: 100.00 — PROPOSED TOP OF WALL AT FINISHED GRADE PROPOSED BOTTOM OF WALL AT FINISHED GRADE
- 100.00 — EXISTING SURFACE SPOT GRADE (MATCH)

GRAPHIC SCALE 0 80 160

EXISTING CITY ROAD PAVEMENT NOTES
(*REFERENCE FOR PAVEMENT TIE-INS AT CURB RAMPS AND ADA PARKING LANE*):

1. 116TH STREET :
   3-1/4" TYPE E 1 HMA (12.5mm, PG 58-28) OVER 7" CONCRETE
2. GILBERT AVENUE:
   1-3/4" HMA PAVEMENT 5 LT 58-28 S OVER
   2-3/4" HMA PAVEMENT 3 LT 58-28 S OVER
   5" BASE AGGREGATE DENSE 1-1/4"
3. WALNUT AVENUE (WALNUT FROM EAST POLICE DEPARTMENT P/L TO CUL-DE-SAC)
   5" HMA (SUPERPAVE E 12.5mm SURFACE, 19mm BINDER) OVER
   10" CRUSHED AGGREGATE BASE COURSE
4. WALNUT AVENUE (116TH TO EAST POLICE DEPARTMENT P/L)
   3-1/4" TYPE E 1 HMA (12.5mm, PG 58-28) OVER
   7" CONCRETE BASE

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MILW. AREA 259-1181

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

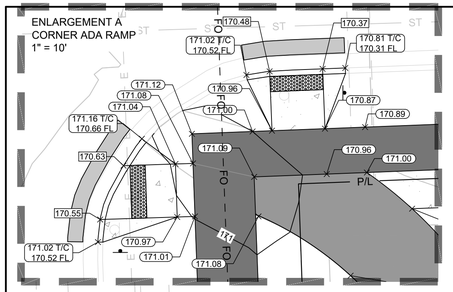
GRADING PLAN

1900 N 116TH STREET
WAUWATOSA, WI 53226

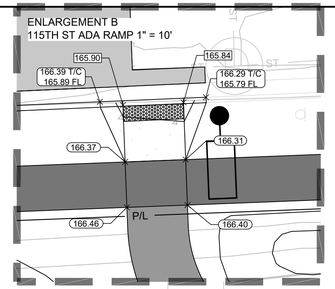
CONTRACT:	24-02
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

C200

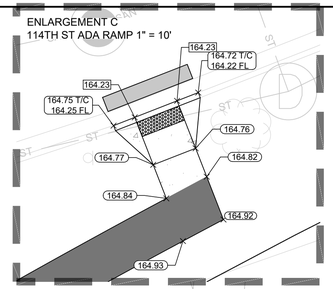
ENLARGEMENT A
CORNER ADA RAMP
1" = 10'

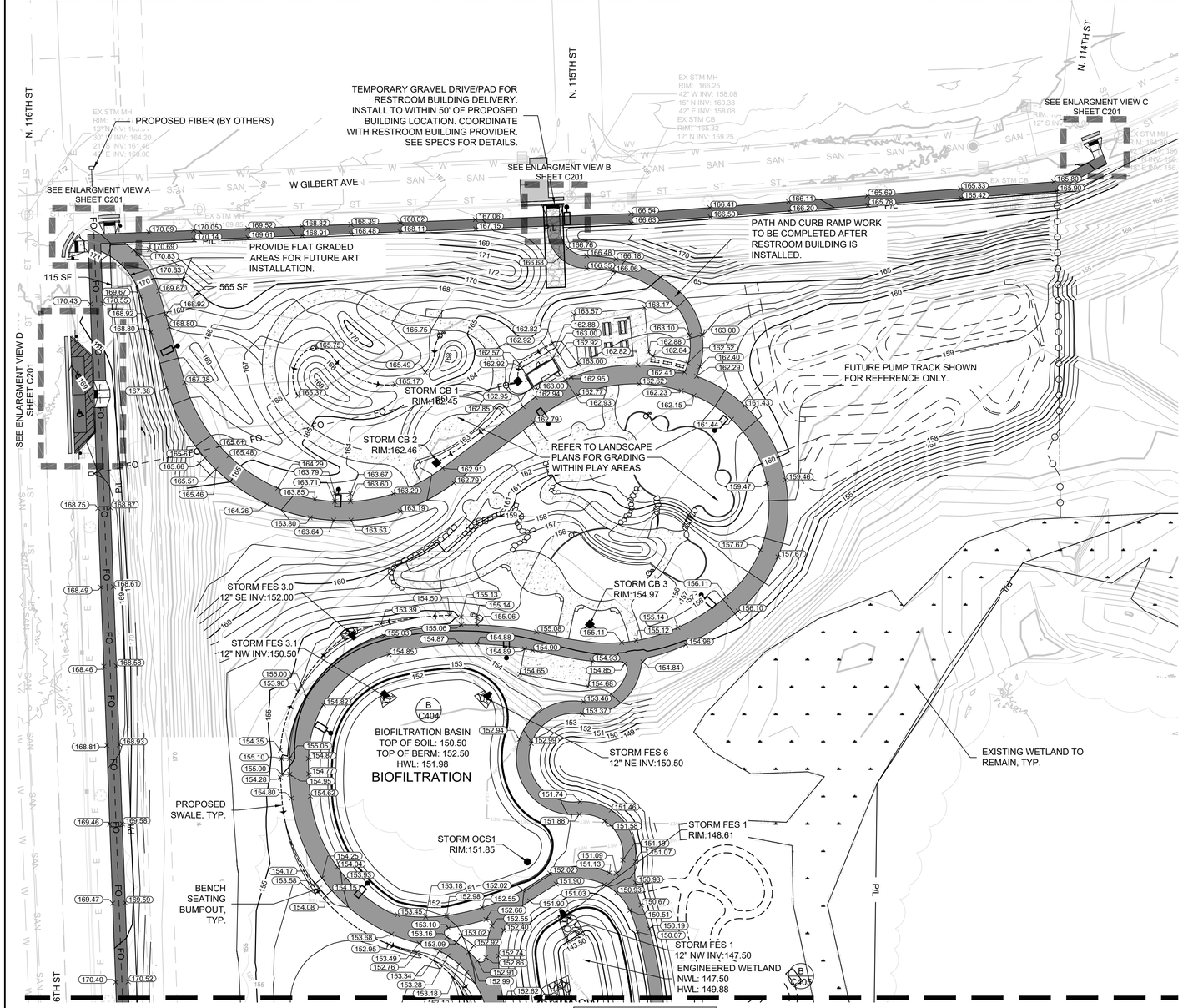


ENLARGEMENT B
115TH ST ADA RAMP 1" = 10'



ENLARGEMENT C
114TH ST ADA RAMP 1" = 10'





SEE SHEET C202

LEGEND:

	A C401	5" THICK CONCRETE WALK
	F C402	POROUS ASPHALT PATH (INTERIOR)
	G C402	POROUS ASPHALT PATH (EXTERIOR)
	B C401	8" THICK, 3/4" DENSE GRADED BASE COURSE MAINTENANCE DRIVE
		EXISTING WETLAND TO REMAIN PRESERVE AND PROTECT
		CHAIN LINK FENCE
	I C401	DECORATIVE CEDAR SPLIT RAIL FENCE
		LIGHT POLE (SEE LIGHTING PLANS)
	G C401	8" STAND UP CURB
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TW: 100.00 BW: 100.00		PROPOSED TOP OF WALL AT FINISHED GRADE PROPOSED BOTTOM OF WALL AT FINISHED GRADE
100.00		EXISTING SURFACE SPOT GRADE (MATCH)

GRAPHIC SCALE
0 40 80

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ADA PARKING ENLARGEMENT D
1" = 10'

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MILW. AREA 259-1181

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DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

DETAILED GRADING PLAN

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	24-02
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

SHEET: C201

SEE SHEET C201

N. 116TH ST

PROPOSED FIBER (BY OTHERS)

FUTURE SOLAR ARRAYS

STORM FES 4.0
12" E INV:149.00

STORM FES 4.1
12" W INV:147.50

STORM FES 5.1
12" S INV:147.50

STORM FES 5.0
12" N INV:148.25

STORM OCS2
RIM:149.90

STORM FES 2
12" W INV:145.00

RIP-RAP AT DISCHARGE LOCATION, TOP OF RIP RAP TO BE FLOW LINE, TYP. (C C402)

ENGINEERED WETLAND
NWL: 147.50
HWL: 149.88 (B C405)

MATCH EXISTING GRADES.

BENCH SEATING BUMPOUT, TYP.

EXISTING WETLAND TO REMAIN, TYP.

RETAINING WALL UNDERDRAIN TO DAYLIGHT EAST OF PATH

PROPOSED WALL NO DECORATIVE FENCE (H C401)

MATCH EXISTING GRADES.

FUTURE ART INSTALLATION AREA
5,605 SF

3335 SF

810 SF

1460 SF

PROPOSED WALL WITH DECORATIVE FENCE (H C401)

EXISTING BUILDING
FFE = 174.81

EXISTING GARAGE
FFE = 174.85±

MATCH GRADES AT TOP OF EXISTING BOTTOM RISER CONTRACTOR TO MODIFY EXISTING RAILINGS TO MEET COMMERCIAL BUILDING CODES

SEE ENLARGEMENT VIEW E SHEET C202

SEE ENLARGMENT VIEW F SHEET C202

SEE ENLARGMENT VIEW G SHEET C202

GRADE ADA RAMP TO MEET REQUIREMENTS AND MATCH EXISTING GRADES AT CURB LINE AND EXISTING SIDEWALK. SURVEY TO BE PROVIDED BY THE CITY TO DESIGN.

ADA RAMP,TYP. (# C401)

PROVIDE AT LEAST 4% SLOPE FROM NEW PATH TO EXISTING IN TERRACE. PROTECT EXISTING TREES.

W WALNUT RD

ENLARGEMENT E
116TH ST ADA RAMP 1" = 10'

ENLARGEMENT F
WALNUT RD ADA RAMP 1" = 10'

ENLARGEMENT G
SOUTH ENTRANCE ADA RAMP 1" = 10'

GRAPHIC SCALE
0 40 80

LEGEND:

- A C401 — 5" THICK CONCRETE WALK
- F C402 — POROUS ASPHALT PATH (INTERIOR)
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- EXISTING WETLAND TO REMAIN PRESERVE AND PROTECT
- CHAIN LINK FENCE
- I C401 — DECORATIVE CEDAR SPLIT RAIL FENCE
- LIGHT POLE (SEE LIGHTING PLANS)
- G C401 — 8" STAND UP CURB
- 5 — EXISTING CONTOUR
- 5 — PROPOSED CONTOUR
- PROPOSED SWALE
- 100.50 T/C, 100.00 FL — PROPOSED CURB & GUTTER SPOT GRADE T/C: TOP OF CURB GRADE FL: FLOW LINE CURB GRADE
- 100.00 — PROPOSED SURFACE SPOT GRADE
- TW: 100.00 BW: 100.00 — PROPOSED TOP OF WALL AT FINISHED GRADE PROPOSED BOTTOM OF WALL AT FINISHED GRADE
- 100.00 — EXISTING SURFACE SPOT GRADE (MATCH)

GENERAL NOTES:

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
5. DIMENSIONS ARE FROM FACE OF CURB OR EDGE OF PAVEMENT.
6. WORK WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO DRIVEWAY OPENINGS, SIDEWALK AND RAMPS, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.
7. EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
8. SEE SHEET C200 FOR EXISTING PAVEMENT TIE-INS AT CURB RAMPS AND ADA PARKING LANE.

TO OBTAIN LOCATIONS OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WIS STATUTE 182.0175(1974) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

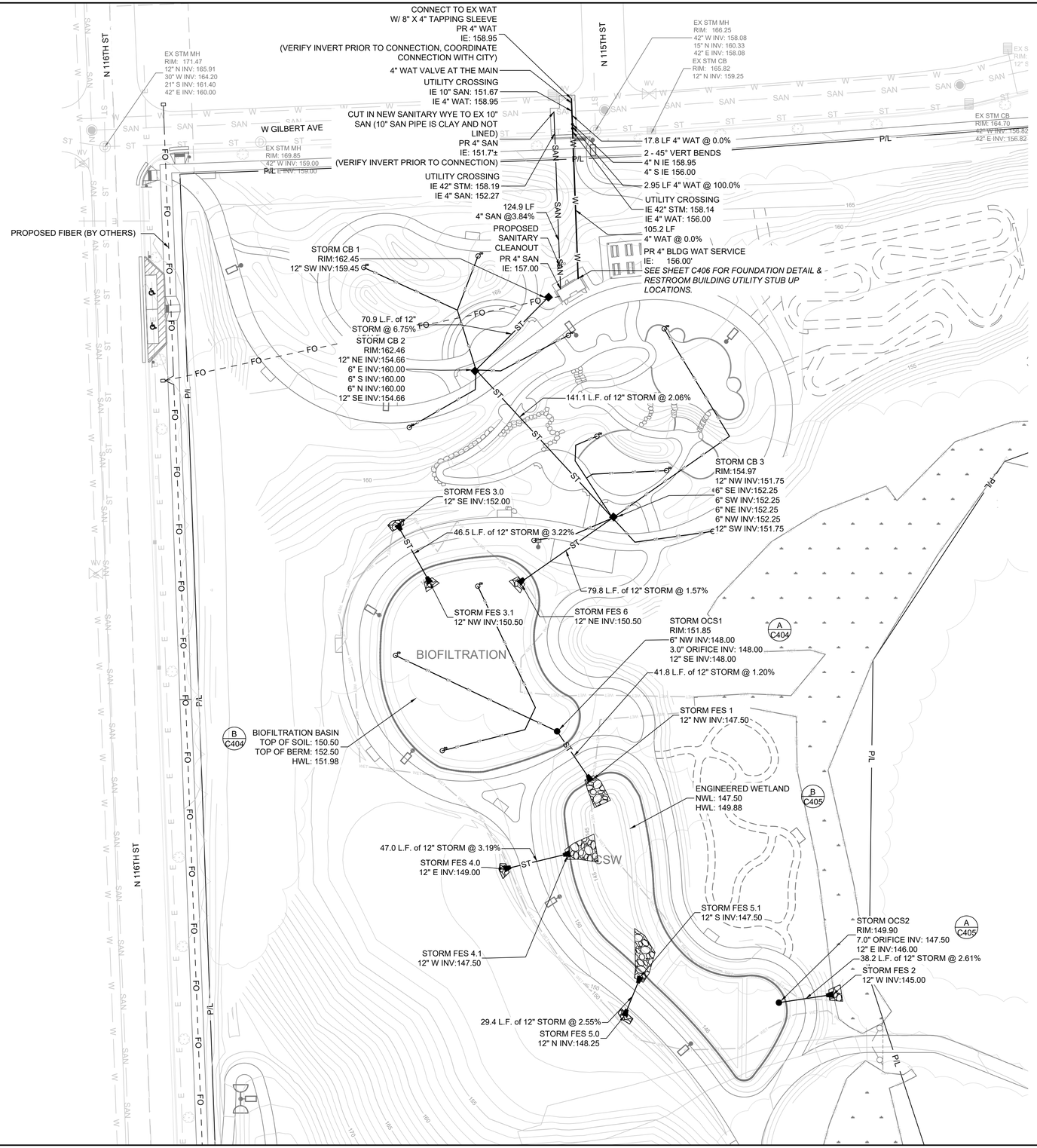
DETAILED GRADING PLAN

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	24-02
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

C202

FILE NAME: C200 GRADING PLAN.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: JANETTE RUEDA GUTIERREZ | SHEET: C202



LEGEND:

W	PROPOSED WATER SERVICE
SAN	PROPOSED SANITARY SERVICE
ST	PROPOSED STORM SEWER
DT	PROPOSED DRAIN TILE (UNDERDRAIN)
E	PROPOSED ELECTRICAL SERVICE
T	PROPOSED TELEPHONE SERVICE
G	PROPOSED GAS SERVICE
A C402	PROPOSED STORM INLET
B C402	PROPOSED STORM MANHOLE
C C402	PROPOSED FLARED END SECTION
CO D C402	PROPOSED CLEANOUT

GENERAL NOTES:

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
5. ALL UTILITY WORK AND WORK IN PUBLIC RIGHT-OF-WAY SHALL FOLLOW CITY OF WAUWATOSA SPECIFICATIONS.
6. PRIVATE STORM SEWER 12-INCH DIAMETER OR LARGER SHALL BE HDPE. BELOW 12-INCH DIAMETER SHALL BE PVC SDR-35 ASTM D3034. PRIVATE WATER MAIN SHALL BE CLASS 235 DR 18 PVC CONFORMING TO AWWA C-900. PRIVATE SANITARY SEWER SHALL BE PVC SDR-35 ASTM D3034.
7. COORDINATE FINAL LOCATION AND DESIGN OF PRIVATE UTILITY SERVICES (ELECTRIC, GAS, PHONE, CABLE) WITH UTILITY COMPANIES.

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

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MILW. AREA 259-1181

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

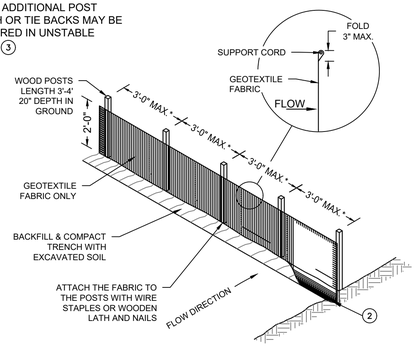
UTILITY PLAN

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	24-02
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

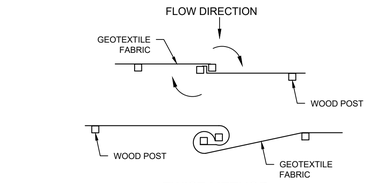
C300

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS (3)

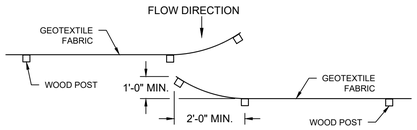


* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

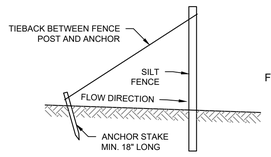


TWIST METHOD

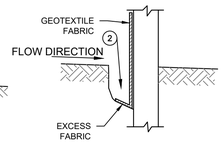


HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE (5)



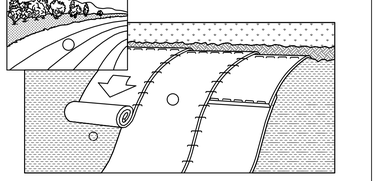
SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



TRENCH DETAIL

GENERAL NOTES
1. HORIZONTAL BRACE REQUIRED WITH 2"X4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1-1/32" X 1-1/32" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ON THE FOLLOWING TWO METHODS: A) OVERLAP THE END POSTS AND TWIST OR ROTATE, AT LEAST 180 DEGREES. B) HOOK THE END OF EACH SILT FENCE LENGTHS.
6. SILT FENCE SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1056
7. THIS DRAWING IS BASED ON WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD DETAIL DRAWING 8 E 9-6

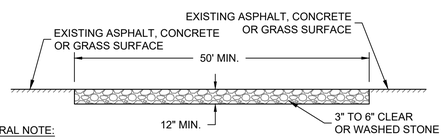
A SILT FENCE - WDNR TS-1056
SCALE:NTS



1. ECRMs (EROSION CONTROL REVEGATIVE MATS) SHALL BE INSTALLED AFTER ALL TOPSOILING, FERTILIZING, LIMING, AND SEEDING IS COMPLETE.
2. THE MAT SHALL BE IN FIRM AND INTIMATE CONTACT WITH THE SOIL. IT SHALL BE INSTALLED AND ANCHORED PER THE MANUFACTURER'S RECOMMENDATION.
3. TRMs (TURF-REINFORCEMENT MAT) SHALL BE INSTALLED INCONJUCTION WITH THE TOPSOILING OPERATION AND SHALL BE FOLLOWED BY ECRM INSTALLATION.
4. AT TIME OF INSTALLATION, DOCUMENT THE MANUFACTURER AND MAT TYPE BY RETENTION OF MATERIAL LABELS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS. RETAIN THIS DOCUMENTATION UNTIL THE SITE HAS BEEN STABILIZED.

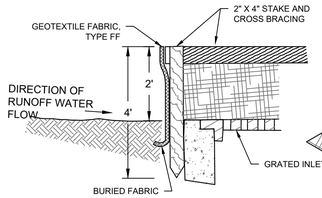
NOTES:
1. EROSION MATTING SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1052.
2. INSTALL PER MANUFACTURERS SPECIFICATIONS.

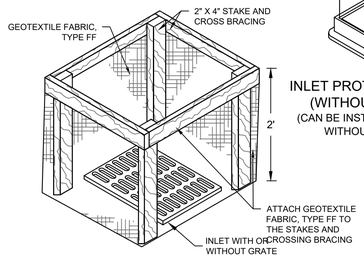
C EROSION MATTING - WDNR TS-1052
SCALE:NTS



GENERAL NOTE:
1. STONE TRACKING PAD SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1057
2. AN APPROVED MANUFACTURED TRACKOUT CONTROL DEVICE SYSTEM CONFORMING TO WDNR TECHNICAL STANDARD #1057 MAY BE USED AS AN ALTERNATIVE TO A STONE TRACKING PAD

D CONSTRUCTION ENTRANCE - WDNR TS-1057
SCALE:NTS

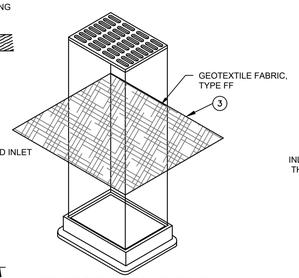




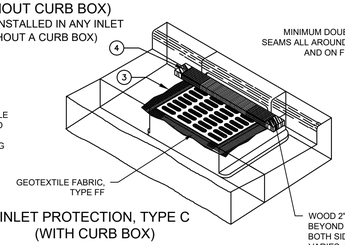
INLET PROTECTION, TYPE A

GENERAL NOTES:
1. MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.
2. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.
3. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL
4. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
5. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

B INLET PROTECTION - WDNR TS-1060
SCALE:NTS



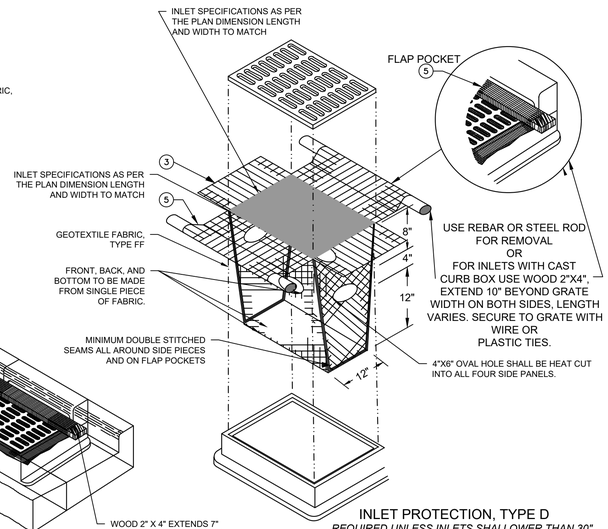
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C
(WITH CURB BOX)

INSTALLATION NOTES
TYPE B & C
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACES AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



INLET PROTECTION, TYPE D
REQUIRED UNLESS INLETS SHALLOWER THAN 30"
REFER TO CITY OF WAUWATOSA SPECIFICATIONS
(CAN BE INSTALLED IN ANY INLET WITH OR WITHOUT A CURB BOX AS PER NOTE) (4)

GENERAL NOTE
INLET PROTECTION SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD #1060

THIS DRAWING IS BASED ON WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD DETAIL DRAWING 8 E 10-2

CONSTRUCTION SEQUENCE FOR EROSION CONTROL INCLUDES:
START DATE: MAY 2024
STABILIZATION DATE: DECEMBER 2024

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. INSTALL SILT FENCING AND INLET PROTECTION.
3. INITIATE STOCKPILING OF IMPORTED MATERIAL AS NECESSARY. PLACE SILT FENCE AROUND ANY STOCKPILE(S).
4. STRIP TOPSOIL FROM BIOFILTRATION BASIN LOCATION AND STOCKPILE. PLACE SILT FENCE AROUND ANY STOCKPILE(S).
5. CONSTRUCT STORM WATER BASIN AND INSTALL TEMPORARY OUTLET AND EMERGENCY OVERFLOW. BASIN IS TO BE USED AS A SEDIMENTATION BASIN DURING THE COURSE OF CONSTRUCTION.
6. STRIP TOPSOIL FROM REMAINDER OF SITE IN A PROGRESSIVE MANNER, AND STOCKPILE.
7. PERFORM ROUGH SITE GRADING. STABILIZE FINISHED AREAS AS THE WORK PROGRESSES. USE EROSION MATTING WHERE CALLED FOR ON THE PLANS. REFER TO LANDSCAPE PLANS FOR TOPSOIL DEPTHS.
8. PREPARE BUILDING PAD AND BEGIN FOUNDATIONS WORK FOR BUILDING.
9. INSTALL UTILITIES. INSTALL ANY ADDITIONAL INLET PROTECTION ON NEW STORM SEWER.
10. PERFORM FINE GRADING
11. INSTALL CONCRETE WORK AND PAVEMENTS.
12. PLACE TOPSOIL AND LANDSCAPING.
13. STABILIZE AREAS REMAINING AREAS WITHIN 7 DAYS OF COMPLETION OF FINAL GRADING AND TOPSOILING.
14. REMOVE EXCESS SEDIMENT FROM STORMWATER BASINS AND RETURN BASINS TO THEIR DESIGN DIMENSIONS AND VOLUMES. FINALIZE BIOFILTRATION BASIN AFTER SITE IS FULLY STABILIZED.
15. REMOVE EROSION CONTROL MEASURES ONLY WHEN SITE IS FULLY STABILIZED.

EROSION CONTROL NOTES:

1. CONSTRUCTION SITE EROSION CONTROL AND SEDIMENTATION CONTROL SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL MUNICIPALITY AND SHALL EMPLOY EROSION CONTROL METHODS AS SHOWN AND SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
2. ALL EROSION CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE SITE.
3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED FOR STABILITY AND OPERATION AFTER A RAINFALL OF 0.5 INCHES OR MORE, BUT NO LESS THAN ONCE EVERY WEEK. MAINTENANCE OF ALL EROSION CONTROL STRUCTURES SHALL BE PROVIDED TO INSURE INTENDED PURPOSE IS ACCOMPLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP AND REMOVAL OF ALL SEDIMENT WHEN LEAVING PROPERTY. EROSION CONTROL MEASURES MUST BE IN WORKING CONDITION AT END OF EACH WORK DAY. DOCUMENT AND MAINTAIN RECORDS OF INSPECTIONS IN ACCORDANCE WITH WDNR NR216 REQUIREMENTS.
4. SILT FENCE SHALL BE INSTALLED IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS. SEDIMENT DEPOSITS SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN DEPOSITS REACH A DEPTH OF 6 INCHES. THE SILT FENCE SHALL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
5. FILTER FABRIC SHALL BE INSTALLED BENEATH INLET COVERS TO TRAP SEDIMENT PER INLET PROTECTION DETAIL IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS.
6. EROSION CONTROL MEASURES SHALL BE MAINTAINED ON A CONTINUING BASIS UNTIL SITE IS FULLY STABILIZED.
7. PERIODIC STREET SWEEPING SHALL BE COMPLETED TO MAINTAIN ADJACENT STREETS FREE OF DUST AND DIRT.
8. SILT FENCE SHALL BE INSTALLED IN HORSESHOE FASHION AROUND ANY TOPSOIL AND FILL STOCKPILES.
9. SITE DEWATERING. WATER PUMPED FROM THE SITE SHALL BE TREATED BY SEDIMENT BASINS OR OTHER APPROPRIATE MEASURES SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS. WATER MAY NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE, ADJACENT SITES, OR RECEIVING CHANNELS.
10. WASTE AND MATERIAL DISPOSAL. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, WASTEWATER, TOXIC MATERIALS, OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.
11. TRACKING. EACH SITE SHALL HAVE GRAVELED ROADS, ACCESS DRIVES AND PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING, TO THE SATISFACTION OF THE THE CITY OF WAUWATOSA, BEFORE THE END OF EACH WORKDAY. FLUSHING MAY NOT BE USED UNLESS SEDIMENT WILL BE CONTROLLED BY A SEDIMENT BASIN OR PRACTICE SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS AND APPROVED BY THE ENGINEER. NOTIFY MUNICIPALITY OF ANY CHANGES IN STABILIZED CONSTRUCTION ENTRANCE LOCATION.
12. SEDIMENT CLEANUP. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF A STORM EVENT SHALL BE CLEANED UP BY THE END OF THE NEXT WORKDAY. ALL OTHER OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE CLEANED UP BY THE END OF THE WORKDAY.
13. ALL DISTURBED GROUND LEFT INACTIVE FOR SEVEN OR MORE DAYS SHALL BE STABILIZED BY TEMPORARY OR PERMANENT SEEDING, MULCHING, SODDING, COVERING WITH TARPS, OR EQUIVALENT PRACTICE FOUND IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARD. IF TEMPORARY SEEDING IS USED, A PERMANENT COVER SHALL ALSO BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION. SEEDING OR SODDING SHALL BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION.
14. SOIL OR DIRT STORAGE PILES SHALL BE LOCATED A MINIMUM OF TWENTY-FIVE FEET FROM ANY DOWNSLOPE ROAD, LAKE, STREAM, WETLAND, OR DRAINAGE CHANNEL. STRAW BALE OR FILTER FABRIC FENCES SHALL BE PLACED ON THE DOWN SLOPE SIDE OF THE PILES. IF REMAINING FOR MORE THAN THIRTY DAYS, PILES SHALL BE STABILIZED BY MULCHING, VEGETATIVE COVER, TARPS OR OTHER MEANS.
15. WHEN THE DISTURBED AREA HAS BEEN STABILIZED BY PERMANENT VEGETATION OR OTHER MEANS, TEMPORARY PRACTICES, SUCH AS FILTER FABRIC FENCES, STRAW BALES, SEDIMENT AND SEDIMENT TRAPS, FOUND IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS SHALL BE REMOVED.
16. NOTIFY THE LOCAL MUNICIPALITY HAVING JURISDICTION WITHIN TWO WORKING DAYS OF COMMENCING ANY LAND DEVELOPMENT OR LAND DISTURBING ACTIVITY.
17. OBTAIN PERMISSION FROM THE ENGINEER HAVING JURISDICTION PRIOR TO MODIFYING THE EROSION CONTROL PLAN.
18. REPAIR ANY SILTATION OR EROSION DAMAGE TO ADJOINING SURFACES AND DRAINAGE WAYS RESULTING FROM LAND DEVELOPMENT OR LAND DISTURBING ACTIVITIES.
19. KEEP A COPY OF THE EROSION CONTROL PLAN ON SITE.
20. CONTRACTOR SHALL, TO THE EXTENT POSSIBLE, MINIMIZE DISTURBANCE OF EXISTING VEGETATION DURING CONSTRUCTION.
21. CONTRACTOR SHALL, TO THE EXTENT POSSIBLE, MINIMIZE COMPACTION OF TOPSOIL AND PRESERVE TOPSOIL IN GREENSPACE AREAS.
22. WASH WATER FROM VEHICLES AND WHEEL WASHING SHALL BE CONTAINED AND TREATED PRIOR TO DISCHARGE.
23. CONTRACTOR SHALL MAINTAIN SPILL KITS ON-SITE.
24. PERMANENT TURF SEEDING OF DISTURBED AREA MUST OCCUR PRIOR TO SEPTEMBER 15TH. IF ADEQUATE TIME IS NOT AVAILABLE TO APPLY PERMANENT SEEDING PRIOR TO SEPTEMBER 15TH, THEN DISTURBED AREAS SHALL BE TEMPORARILY SEEDED WITH AN ANNUAL RYE GRASS PER WDNR TECHNICAL STANDARD 1059, WHERE THE TEMPORARY SEEDING MUST OCCUR PRIOR TO OCTOBER 15TH.
25. IF TEMPORARY SEEDING IS NOT COMPLETED BY OCTOBER 15TH, APPLY SOIL STABILIZERS AND DORMANT SEED TO DISTURBED AREA PER WDNR TECHNICAL STANDARD 1050. INSPECT ANIONIC PAM APPLICATION AT A MINIMUM FREQUENCY OF EVERY TWO MONTHS AND REAPPLY AS NECESSARY

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

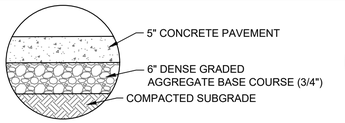
THE SIGMA GROUP
Single Source. Sound Solutions.

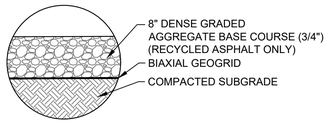
EROSION CONTROL DETAILS

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 24-02
FILE NO: 21231
DRAWN BY: JRG
CHECKED BY: CTC
SCALE: AS SHOWN

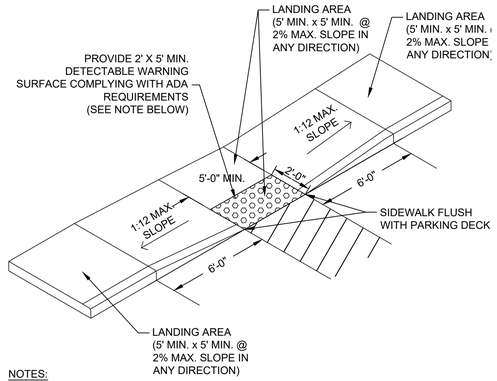
C400





A CONCRETE SIDEWALK SECTION
SCALE:NTS

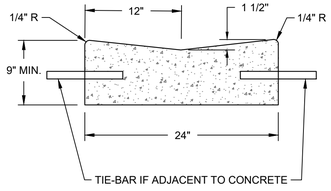
B MAINTENANCE DRIVE
SCALE:NTS



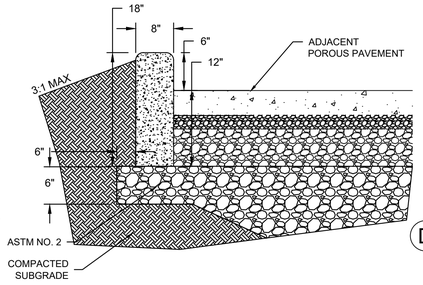
NOTES:

1. CONTRACTOR TO VERIFY ADA RAMP DETAIL WITH CITY AND ADJUST AS NEEDED.
2. PROVIDE DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES OF SIZE, SPACING AND CONTRAST REQUIRED BY ADA GUIDELINES.
3. DETECTABLE WARNINGS SHALL BE PER CITY STANDARDS.

E ADA RAMP - TYPE 1
SCALE:NTS

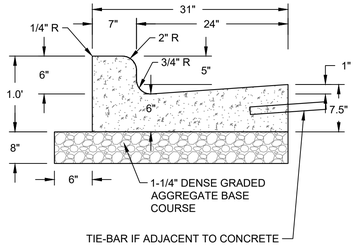


C 24 INCH CONCRETE GUTTER
SCALE:NTS



G CURB HEAD
SCALE:NTS

ACCEPT



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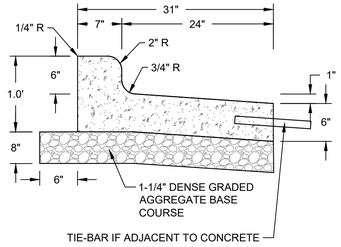
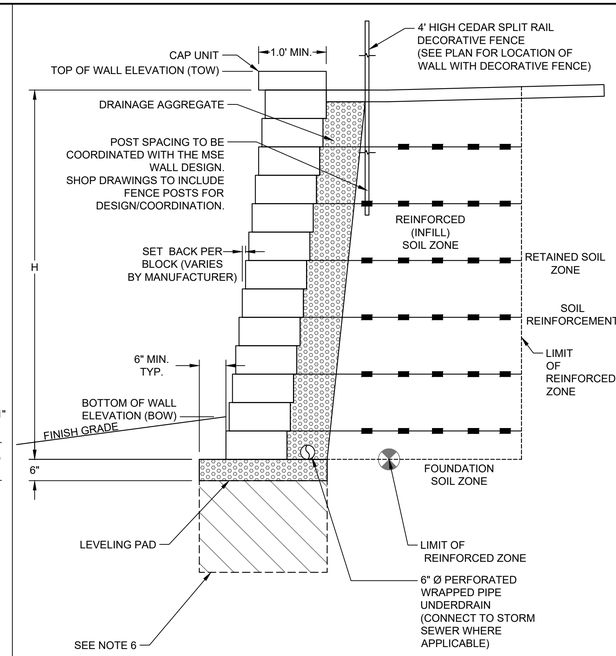


D 31 INCH CONCRETE CURB AND GUTTER
SCALE:1" = 1'

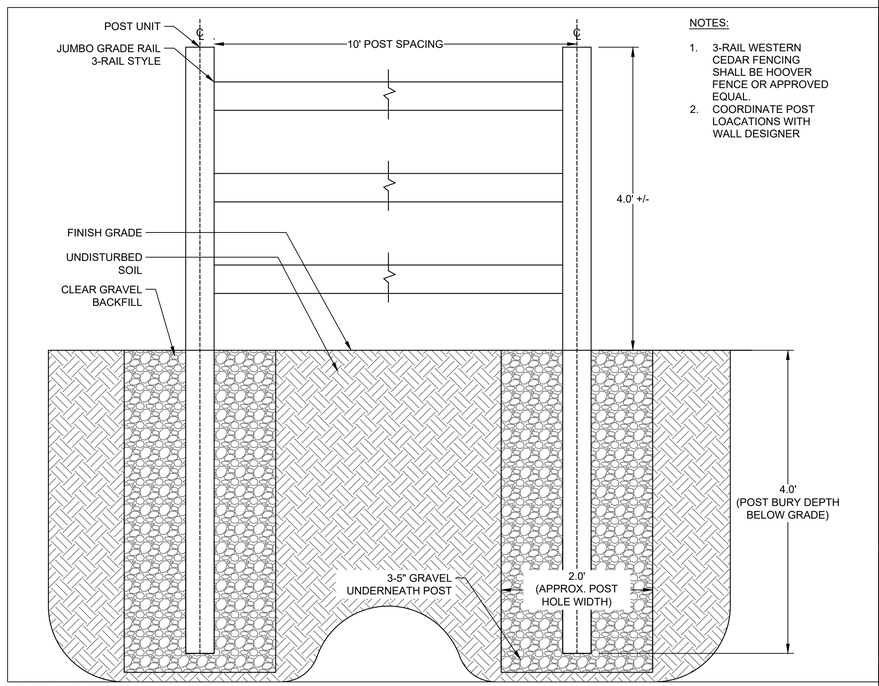


NOTES:

1. RETAINING WALL SYSTEM SHALL BE KEYSTONE COMPAC SPLIT FACE, ROCKWOOD CLASSIC 8, OR APPROVED EQUAL.
2. TYPICAL SECTION IS FOR CONCEPTUAL DESIGN ONLY.THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND STAMPED AND SEALED SHOP DRAWINGS AND STABILITY CALCULATIONS FOR THE RETAINING WALLS TO THE ENGINEER. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF THESE ITEMS SHALL BE INCLUDED.
3. STAMPED AND SEALED RETAINING WALL DESIGN, PLANS, DETAILS AND CALCULATIONS SHALL BE PROVIDED TO THE CITY.
4. GEOGRID REINFORCEMENT SPACING AND LENGTH PER MANUFACTURER'S ENGINEER RECOMMENDATIONS.
5. GEOTECHNICAL ENGINEER MAY REQUIRE THAT ADDITIONAL DRAIN PIPING IS NEEDED DEPENDENT UPON SOILS ENCOUNTERED DURING WALL CONSTRUCTION.
6. WALL STRUCTURE TO BE VERIFIED WITH GEOTECHNICAL ENGINEER.
7. ANY SPECIAL TREATMENT SOILS BELOW LEVELING PAD WHICH ARE SUBJECT TO FROST HEAVE SHALL BE DESIGNED BY STRUCTURAL ENGINEER OF RECORD.
8. PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.
9. THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET AND GRADING PLAN SHEETS.
10. STYLE AND COLOR OF THE MODULAR BLOCK SHALL BE SELECTED BY THE OWNER AND ARCHITECT
11. PROTECTIVE RAILINGS/GUARD RAILS REQUIRED FOR ALL RETAINING WALLS ADJACENT TO PEDESTRIAN PATHS TO BE VERIFIED BY WALL DESIGNER, ARCHITECT, AND LOCAL JURISDICTION.

H MODULAR BLOCK MSE WALL
SCALE:NTS

F ADA RAMP TYPE 2 & 3 - WISDOT
SCALE:NTS



I 3-RAIL CEDAR FENCE
SCALE:NTS

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

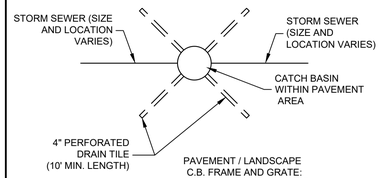
PAVING & SITE DETAILS

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	24-02
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

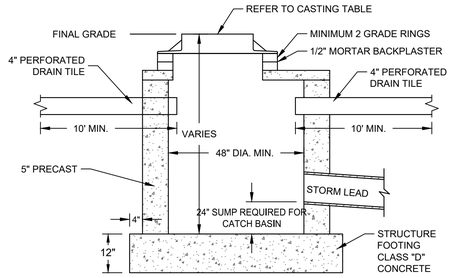
C401

CATCH BASIN
WITHIN LOW POINT OF PAVEMENT AREA



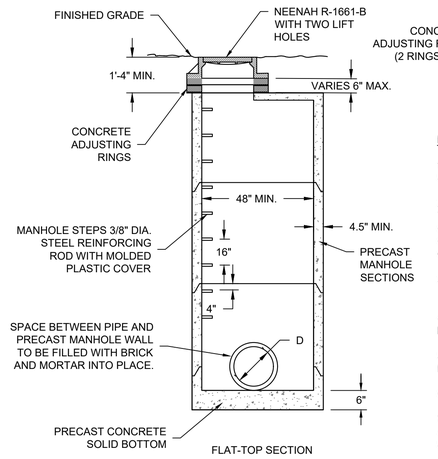
NOTES:
1. ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING.
2. CONCRETE AND REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION C-478.
3. 3" MIN. BEDDING OF STONE UNDER BASE REQUIRED . ADDITIONAL BEDDING STOME MAY BE REQUIRED ON WET SUB-GRADE.
4. UNLESS NOTED ON THE PLANS CONTRACTOR IS RESPONSIBLE FOR ALL CATCH BASIN SIZING AND SHALL PROVIDE A SHOP DRAWING TO THE SIGMA GROUP, INC. BEFORE THEY ARE RELEASED FOR PRODUCTION.

A INLET AND CATCH BASIN
SCALE:NTS

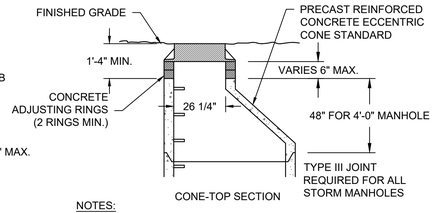


CATCH BASIN / INLET CASTING TABLE

	IF 18" CURB & GUTTER		IF 24" CURB & GUTTER		IF 30" CURB AND GUTTER	
	CASTING	GRATE	CASTING	GRATE	CASTING	GRATE
CURB INLET	NEENAH R-3067	A	NEENAH R-3067	A	NEENAH R-3228H	C
AREA INLET	NEENAH R-1661-B	R-2467-D				

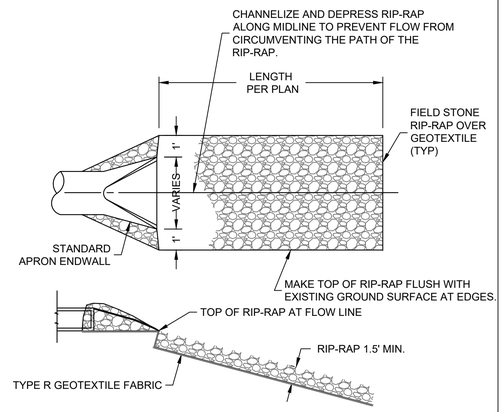


B PRECAST STORM MANHOLE
SCALE:NTS



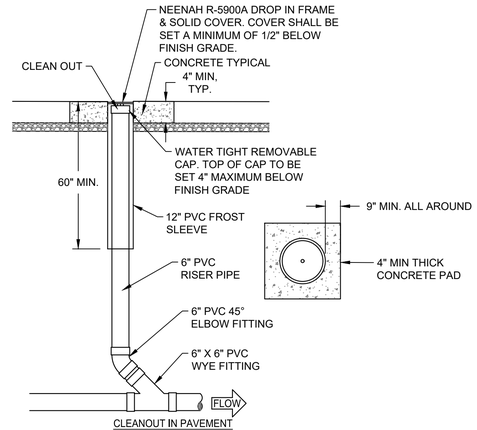
NOTES:

1. CONSTRUCT MANHOLE IN ACCORDANCE WITH FILE NO. 12 OF THE STATE STANDARD SPECIFICATIONS FOR SEWER AND WATER.
2. ADJUST FRAME TO GRADE WITH CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY RINGS SHALL BE GROOVED TO RECEIVE STEP.
3. CONCRETE AND REINFORCEMENT STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION C-478.
4. JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING FLEXIBLE RUBBER TYPE GASKETS FOR STORM MANHOLES.
5. AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ. INCH PER LINEAL FOOT MIN.
6. 3" OF BEDDING STONE UNDER BASE.
7. UNLESS NOTED ON THE PLANS CONTRACTOR IS RESPONSIBLE FOR ALL MANHOLE SIZING AND SHALL PROVIDE A SHOP DRAWING TO THE SIGMA GROUP, INC. BEFORE THEY ARE RELEASED FOR PRODUCTION.



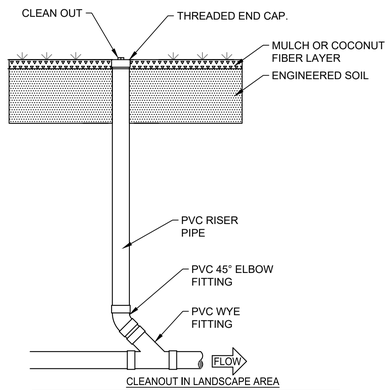
NOTES:
1. INSTALL FIELD STONE RIP-RAP UNLESS OTHERWISE SHOWN ON PLANS.
2. FOR PERMANENT POOL (WET) DETENTION BASINS: EXTEND RIP-RAP FROM OUTFALL TO AT LEAST 10 FEET BEYOND THE NORMAL WATER LEVEL.
3. RIP-RAP SHALL BE MEDIUM RIP-RAP PER WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION
4. GEOTEXTILE FABRIC SHALL BE TYPE R PER WISDOT STANDARD SPECIFICATIONS PER HIGHWAY AND STRUCTURE CONSTRUCTION.

C RIP-RAP DISCHARGE APRON
SCALE:NTS

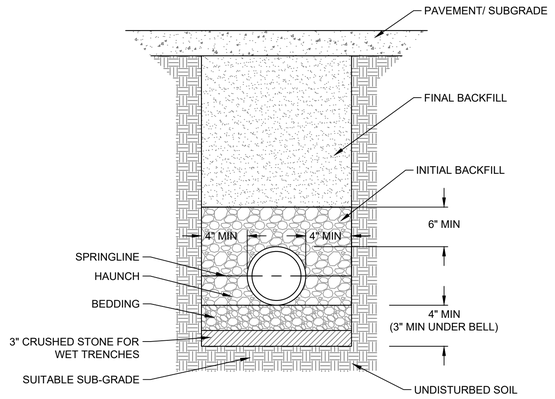


COMM TABLE 82.35		
DIA. OF LATERAL	MIN. DI. OF CLEANOUT RISER	MIN. DI. OF RISER CAP
1.5	1.5	1.5
2	1.5	1.5
3	3	2.5
4	4	3.5
5	5	4
6	6	5
8+	6	6

D CLEANOUT
SCALE:NTS

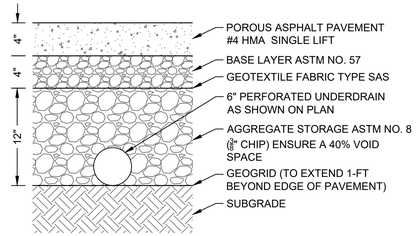


COMM TABLE 82.35		
DIA. OF LATERAL	MIN. DI. OF CLEANOUT RISER	MIN. DI. OF RISER CAP
1.5	1.5	1.5
2	1.5	1.5
3	3	2.5
4	4	3.5
5	5	4
6	6	5
8+	6	6



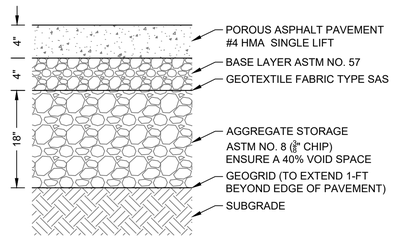
NOTES:
1. INSTALL ALL PIPE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND STANDARD SPECIFICATIONS FOR SEWER AND WATER IN WISCONSIN, LATEST EDITION.
2. **FOUNDATION:** TRENCH BOTTOMS WITH UNSTABLE OR UNYIELDING MATERIAL SHALL BE EXCAVATED TO A DEPTH DIRECTED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH SUITABLE MATERIAL. FOR UNSTABLE MATERIALS, GEOTEXTILE MAY BE USED TO STABILIZE THE TRENCH BOTTOM, IF DIRECTED BY THE GEOTECHNICAL ENGINEER.
3. **BEDDING:** APPROPRIATE BEDDING IS REQUIRED TO PROVIDE UNIFORM SUPPORT FOR THE PIPE AND TO SUSTAIN GRADE.
4. **HAUNCHING:** ADEQUATE HAUNCH SUPPORT IS CRITICAL TO THE INSTALLED PERFORMANCE OF BURIED PIPE. THE HAUNCH AREA ENCOMPASSES THE BEDDING ZONE UP TO THE SPRINGLINE OF THE PIPE. IF COMPACTION IS NECESSARY, AVOID DISTURBING PIPE ALIGNMENT DURING COMPACTION OPERATIONS. ALWAYS WORK ENOUGH MATERIAL UNDER THE HAUNCH TO PROVIDE ADEQUATE COMPACTION.
5. **BACKFILLING:** IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.

E UTILITY TRENCH
SCALE:NTS



NOTES:
1. PAVEMENT SURFACE PERCENT VOIDS SHOULD BE LESS THAN 25%.
2. JOINT STONE AND BEDDING COURSE SHALL CONSIST OF ASTM C-33, 8, 9, 89, OR 57 AGGREGATE.
3. UNDERDRAINS CAN BE LOCATED WITHIN OR BELOW THE AGGREGATE STORAGE RESERVOIR. UNDERDRAINS (OR EQUIVALENT) ARE REQUIRED IF THE AGGREGATE STORAGE RESERVOIR DRAIN DOWN TIME WILL EXCEED 72 HOURS. THE SLOPE OF THE SUBGRADE SHALL BE AS FLAT AS POSSIBLE BE NO GREATER THAN 2%.
4. POROUS PAVEMENT SHALL CONFORM TO THE WDNR TECHNICAL STANDARD # 1008

F INTERIOR POROUS PAVEMENT
SCALE:1" = 1'



NOTES:
1. PAVEMENT SURFACE PERCENT VOIDS SHOULD BE LESS THAN 25%.
2. JOINT STONE AND BEDDING COURSE SHALL CONSIST OF ASTM C-33, 8, 9, 89, OR 57 AGGREGATE.
3. POROUS PAVEMENT SHALL CONFORM TO THE WDNR TECHNICAL STANDARD # 1008

G EXTERIOR POROUS PAVEMENT
SCALE:1" = 1'

DESCRIPTION
DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

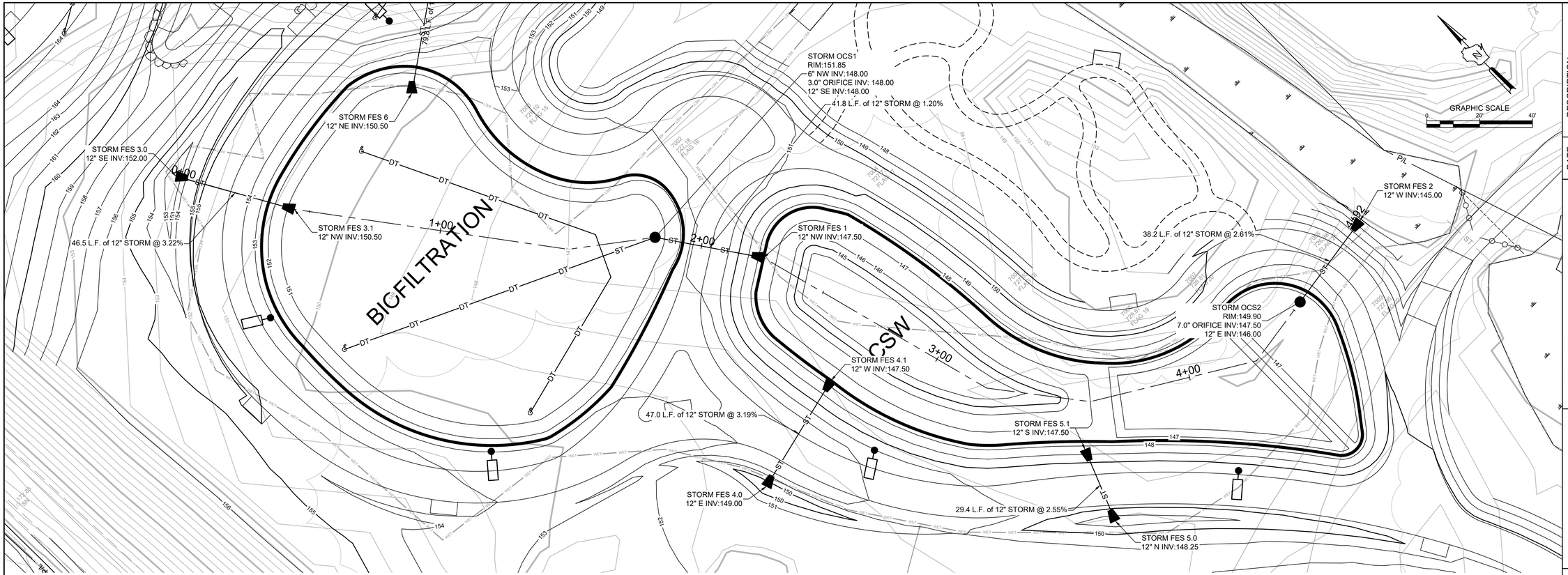
SITE

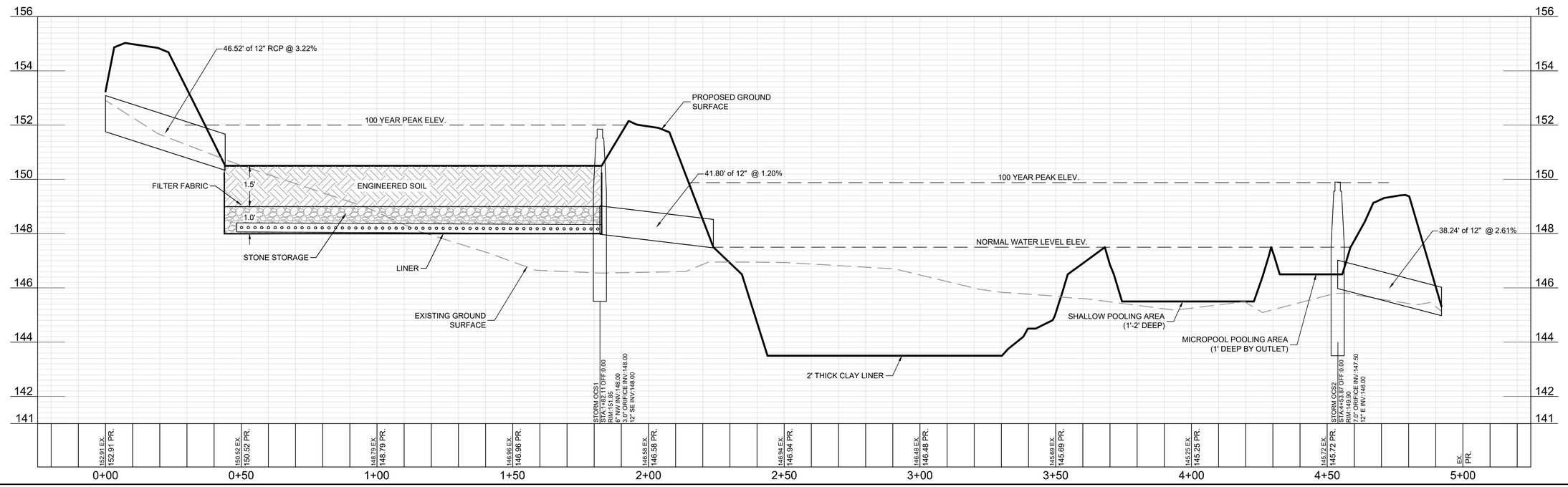
UTILITY DETAILS

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 24-02
FILE NO: 21231
DRAWN BY: JRG
CHECKED BY: CTC
SCALE: AS SHOWN

C402





DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

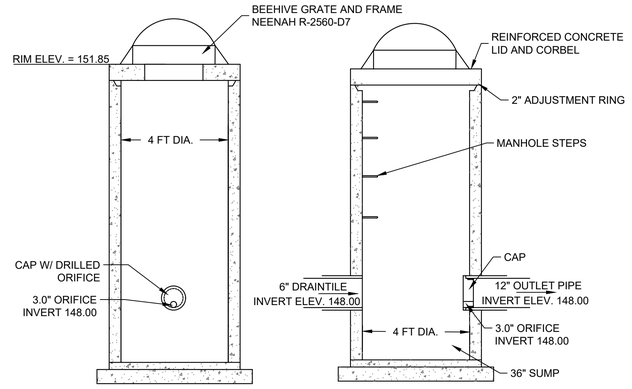
GI CROSS SECTION

1900 N 116TH STREET
WAUWATOSA, WI 53226

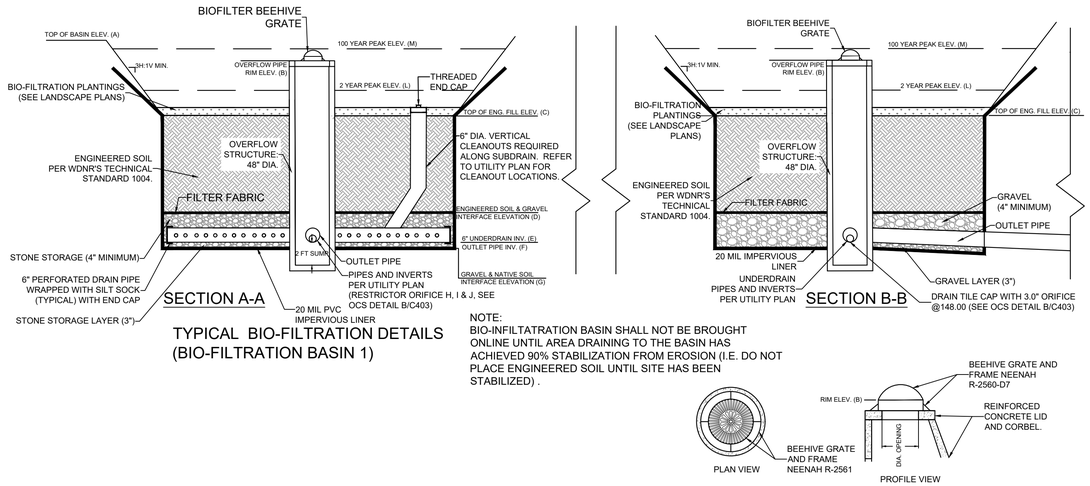
CONTRACT:	24-02
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

C403

FILE NAME: C400 DETAILS.DWG
PLOT DATE: 2024-02-15
PLOTTED BY: JANETTE RUEDA GUTIERREZ
SHEET: C403



A OUTLET CONTROL - BIOFILTRATION
SCALE:NTS



TYPICAL BIO-FILTRATION DETAILS
(BIO-FILTRATION BASIN 1)

NOTE:
BIO-INFILTATRATION BASIN SHALL NOT BE BROUGHT ONLINE UNTIL AREA DRAINING TO THE BASIN HAS ACHIEVED 90% STABILIZATION FROM EROSION (I.E. DO NOT PLACE ENGINEERED SOIL UNTIL SITE HAS BEEN STABILIZED) .

BIOFILTRATION AREA - GRATE DETAIL
NOT TO SCALE

NOTE:
1. BIO-FILTRATION BASINS THAT HAVE MULTIPLE VERTICAL ORIFICES SHALL BE INSTALLED AT THE SAME ELEVATION AS IDENTIFIED IN THE TABLE.
2. MULTIPLE VERTICAL ORIFICES SHALL HAVE A MINIMUM OF 12 INCHES HORIZONTAL SEPARATION.

BIO-FILTRATION SUMMARY TABLE

	(A)	(B)	(C)	(D)	(E)		(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
BIO-FILTRATION AREA	TOP OF POND	OVERFLOW RIM ELEVATION	TOP OF ENGINEERED FILL ELEVATION	ENGINEERED SOIL AND GRAVEL INTERFACE ELEVATION	6" DIAMETER UNDERDRAIN ELEVATION	OUTLET PIPE SIZE	OUTLET PIPE ELEVATION	GRAVEL AND NATIVE SOIL INTERFACE ELEVATION	VERTICAL ORIFICE DIAMETER (INCH)	VERTICAL ORIFICE ELEVATION	# OF VERTICAL ORIFICES	SPILLWAY CREST ELEVATION	2 YR WATER ELEVATION	100 YR WATER ELEVATION
BIO 1	152.50	151.85	150.50	149.00	148.00	12	148.00	148.00	3	148.00	1	-	150.10	151.98

B BIOFILTRATION BASIN
SCALE:NTS

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

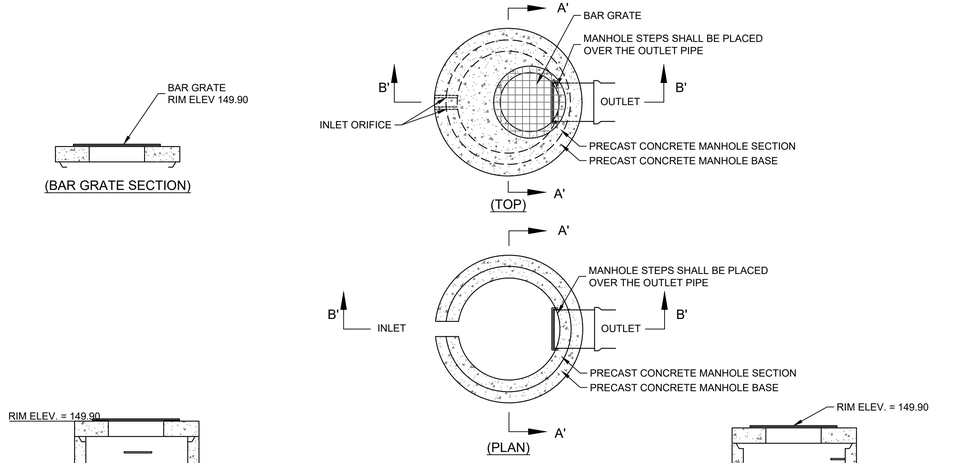
THE SIGMA GROUP
Single Source. Sound Solutions.

BIORETENTION DETAILS

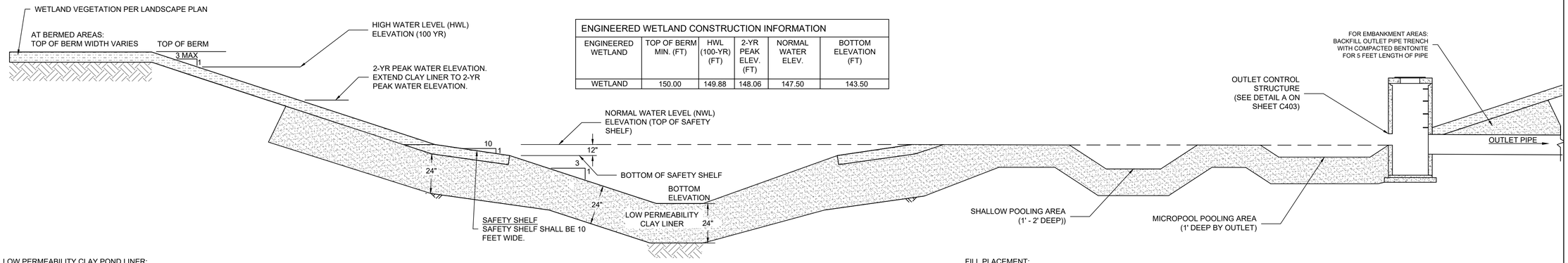
1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 24-02
FILE NO: 21231
DRAWN BY: JRG
CHECKED BY: CTC
SCALE: AS SHOWN

C404



A OUTLET CONTROL - WETLAND
SCALE:NTS



ENGINEERED WETLAND CONSTRUCTION INFORMATION					
ENGINEERED WETLAND	TOP OF BERM MIN. (FT)	HWL (100-YR) (FT)	2-YR PEAK ELEV. (FT)	NORMAL WATER ELEV.	BOTTOM ELEVATION (FT)
WETLAND	150.00	149.88	148.06	147.50	143.50

B ENGINEERED CONSTRUCTED WETLAND
SCALE:NTS

LOW PERMEABILITY CLAY POND LINER:
MATERIAL FOR LOW PERMEABILITY CLAY POND LINER SHALL BE A NATURAL CLAY SOIL (CL MATERIAL) AS DEFINED BY THE UNIFIED SOIL CLASSIFICATION SYSTEM, FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIAL. CLAY LINER SHALL BE A TYPE "B" LINER PER WDNR TECHNICAL STANDARD 1001 WHICH INCLUDES THE FOLLOWING CRITERIA: 50 PERCENT FINES (200 SIEVE) OR MORE, AN IN-PLACE HYDRAULIC CONDUCTIVITY OF 1X10E-6 CM/SEC OR LESS. AN AVERAGE LIQUID LIMIT VALUE OF 16 OR GREATER, WITH NO VALUE LESS THAN 14, AN AVERAGE PI OF 7 OR MORE WITH NO VALUES LESS THAN 5. IN-SITU CLAY (IF PRESENT) AT THE BASIN MAY BE USED TO SATISFY THE LINER REQUIREMENT PROVIDED IT MEETS THE WDNR TYPE B LINER REQUIREMENTS AND IS PRESENT IN-SITU AT A THICKNESS OF 3 OR MORE FEET. SUBMIT TEST DATA DEMONSTRATING ANY MATERIALS INTENDED FOR USE AS THE BASIN LINER MEET THE REQUIRED CRITERIA FOR A TYPE B LINER.

CLAY SOURCE SHALL BE APPROVED PRIOR TO INITIATING PLACEMENT OF THE CLAY MATERIAL. SUBMIT REPRESENTATIVE MOISTURE-DENSITY DATA FOR PROPOSED CLAY MATERIAL PRIOR TO START OF WORK. IF REQUESTED, FURNISH ENGINEER WITH REPRESENTATIVE CLAY MATERIAL SAMPLES FOR TESTING.

FIELD THICKNESS AND FIELD COMPACTION OF CLAY TO BE TESTED BY OWNER'S INDEPENDENT TESTING AGENCY.

LOW PERMEABILITY CLAY/POND LINER SHALL BE PLACED USING STANDARD COMPACTION TECHNIQUES, AS PER THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, SECTION 207.3.6. PERCENT COMPACTION SHALL BE GREATER THAN 95% OF STANDARD PROCTOR. MATERIAL SHALL BE COMPACTED WITH MOISTURE CONTENT WET OF OPTIMUM DENSITY MOISTURE. MATERIAL SHOULD BE PLACED IN LAYERS GENERALLY NOT EXCEEDING 8 INCHES IN THICKNESS BEFORE COMPACTION.

CLEARING AND SUBGRADE PREPARATION:
ALL EXISTING TOPSOIL, ROOTMAT, AND ANY OTHER SOFT OR UNSUITABLE MATERIALS SHALL BE REMOVED FROM THE CLEARING AND STRIPPING LIMITS. PRIOR TO INITIATION OF FILL PLACEMENT, THE STRIPPED AREA SHALL BE OBSERVED BY AN EXPERIENCED GEOTECHNICAL ENGINEER OR HIS AUTHORIZED REPRESENTATIVE TO AID IN LOCATING UNSUITABLE AND/OR HIGHLY PLASTIC MATERIALS WHICH REQUIRE COMPLETE AND/OR PARTIAL REMOVAL. THE PREPARATION OF FILL SUBGRADES OF EMBANKMENTS SHALL BE OBSERVED ON A FULL-TIME BASIS BY AN EXPERIENCED GEOTECHNICAL ENGINEER OR HIS AUTHORIZED REPRESENTATIVE TO ENSURE THAT ALL UNSUITABLE MATERIALS HAVE BEEN COMPLETELY REMOVED.

FILL PLACEMENT:
FILL MATERIALS SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL RECOMMENDATIONS.

THE FOOTPRINT OF THE EMBANKMENT AREAS SHALL BE WELL DEFINED, INCLUDING THE LIMITS OF THE FILL ZONES, AT THE TIME OF FILL PLACEMENT, WITH GRADE CONTROL MAINTAINED THROUGHOUT THE FILL PLACEMENT OPERATIONS.

FILL OPERATIONS SHALL BE OBSERVED ON A FULL-TIME BASIS BY A QUALIFIED SOIL TECHNICIAN, WHO SHALL PERFORM IN PLACE DENSITY TESTS TO DETERMINE IF MINIMUM COMPACTION REQUIREMENTS ARE BEING MET.

FILL MATERIALS SHALL NOT BE PLACED ON FROZEN SOILS. SIMILARLY, BORROW FILL MATERIALS SHALL NOT CONTAIN FROZEN MATERIALS AT THE TIME PLACEMENT. FROZEN SOILS, FROM BOTH SUBGRADE AND FILL, SHALL BE REMOVED PRIOR TO CONTINUATION OF FILL OPERATIONS.

AREAS RECEIVING FILL SHALL BE GRADED TO FACILITATE POSITIVE DRAINAGE OF ANY FREE WATER ASSOCIATED WITH PRECIPITATION AND SURFACE RUNOFF.

DESCRIPTION
DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

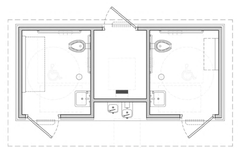
CONSTRUCTED WETLAND DETAILS

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 24-02
FILE NO: 21231
DRAWN BY: JRG
CHECKED BY: CTC
SCALE: AS SHOWN

C405

PROJECT REF#: 11551-1/31/2024-2



FLOOR PLAN
SCALE: NOT TO SCALE

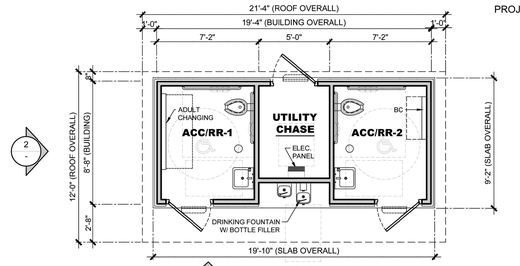
COLOR
SCHEME 'A'

PARK
116TH STREET
WAUWATOSA, WISCONSIN
RESTROOM BUILDING

ARTIST IMPRESSION- 3D RENDERING ONLY FOR REPRESENTATION PURPOSES. ALL MATERIALS ARE SUBJECT TO CHANGE

PUBLIC RESTROOM COMPANY
Building Better Places To Go.™
www.PublicRestroomCompany.com
2587 BUSINESS PARKWAY
MINDEN NEVADA 89423
P: 888-888-2060 F: 888-888-1448

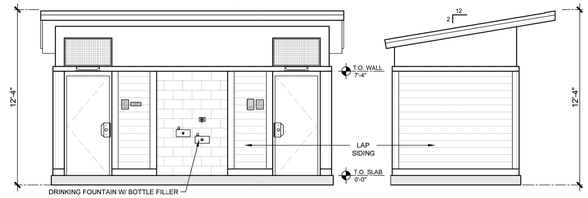
PROJECT REF#: 11551-1/31/2024-3



2

1

FLOOR PLAN
SCALE: 3/16"=1'0"



ELEVATION 1
SCALE:3/16"=1'-0"

ELEVATION 2
SCALE:3/16"=1'-0"

PUBLIC RESTROOM COMPANY
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BUILDING TYPE: RESTROOM BUILDING	REVISION #: 3	REVISION DATE: 1/31/2024	SHEET#: A-1
PROJECT: 116TH STREET PARK WAUWATOSA, WI	PROJECT #: 11551	START DATE: 10/24/2023	MAX. PERSON / HOUR: 45 S
		DRAWN BY: EOR	

~NOT FOR CONSTRUCTION ~ PRELIMINARY DESIGN DRAWING ONLY ~ DO NOT SCALE. DIMENSIONS PRESIDE

DATE | DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

RESTROOM BUILDING DETAILS

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 24-02
FILE NO: 21231
DRAWN BY: JRG
CHECKED BY: CTC
SCALE: AS SHOWN

C406

GENERAL:

1. EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND NO RESPONSIBILITY IS ASSUMED BY THE OWNER OR ENGINEER FOR THEIR ACCURACY OR COMPLETENESS.
2. CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR SHALL HAVE SITE MARKED BY DIGGER'S HOTLINE AND SHALL HAVE PRIVATE UTILITIES MARKED BY A PRIVATE UTILITY LOCATOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL ELEVATIONS, LOCATIONS, AND SIZES OF EXISTING UTILITIES AND SHALL CHECK ALL UTILITY CROSSINGS AND PROPOSED CONNECTIONS FOR CONFLICTS/DISCREPANCIES PRIOR TO INITIATING CONSTRUCTION. REPORT ANY CONFLICTS OR DISCREPANCIES TO THE ENGINEER SO REDESIGN MAY OCCUR IF NEEDED.
3. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLANS. LENGTHS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

SITE CLEARING:

1. EXCEPT FOR STRIPPED TOPSOIL OR OTHER MATERIALS INDICATED TO REMAIN ON OWNER'S PROPERTY, CLEARED MATERIALS SHALL BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM PROJECT SITE.
2. MINIMIZE INTERFERENCE WITH ADJOINING ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING SITE-CLEARING OPERATIONS.
3. SALVABLE IMPROVEMENTS: CAREFULLY REMOVE ITEMS INDICATED TO BE SALVAGED AND STORE ON OWNER'S PREMISES WHERE INDICATED.
4. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE SITE CLEARING.
5. DO NOT COMMENCE SITE CLEARING OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE.
6. PROTECT AND MAINTAIN BENCHMARKS AND SURVEY CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION.
7. LOCATE AND CLEARLY FLAG TREES AND VEGETATION TO REMAIN OR TO BE RELOCATED.
8. PROTECT EXISTING SITE IMPROVEMENTS TO REMAIN FROM DAMAGE DURING CONSTRUCTION; RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO OWNER.
9. LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF UTILITIES INDICATED TO BE REMOVED; ARRANGE WITH UTILITY COMPANIES TO SHUT OFF INDICATED UTILITIES.
10. EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED BY THE OWNER AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES.
11. FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED; PLACE FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING A LOOSE DEPTH OF 8 INCHES, AND COMPACT EACH LAYER TO A DENSITY EQUAL TO ADJACENT ORIGINAL GROUND.
12. REMOVE SOD AND GRASS BEFORE STRIPPING TOPSOIL.
13. STRIP TOPSOIL TO WHATEVER DEPTHS ARE ENCOUNTERED IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OR OTHER WASTE MATERIALS.
14. STOCKPILE TOPSOIL MATERIALS AWAY FROM EDGE OF EXCAVATIONS WITHOUT INTERMIXING WITH SUBSOIL. GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.
15. REMOVE EXISTING ABOVE- AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION.
16. SAWCUT ALL PAVEMENTS FULL DEPTH PRIOR TO REMOVAL; SAWCUTS SHALL BE IN STRAIGHT LINES PERPENDICULAR AND/OR PARALLEL TO EXISTING PAVEMENT JOINTS AND PAVEMENT EDGES.
17. REMOVE SURPLUS SOIL MATERIAL, UNSUITABLE TOPSOIL, OBSTRUCTIONS, DEMOLISHED MATERIALS, AND WASTE MATERIALS INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
18. SEPARATE RECYCLABLE MATERIALS PRODUCED DURING SITE CLEARING FROM OTHER NONRECYCLABLE MATERIALS. STORE OR STOCKPILE WITHOUT INTERMIXING WITH OTHER MATERIALS AND TRANSPORT THEM TO RECYCLING FACILITIES.

EARTH MOVING:

1. ALL EARTH WORK SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER PRESENTED IN THE SITE GEOTECHNICAL REPORT. GEOTECHNICAL ENGINEER RECOMMENDATIONS MADE IN THE FIELD AND THESE SPECIFICATIONS. IN CASE OF CONFLICT BETWEEN THESE SPECIFICATIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER, THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER SHALL GOVERN.
2. CONTRACTOR SHALL PROVIDE MATERIAL TEST REPORTS FROM A QUALIFIED TESTING AGENCY INDICATING TEST RESULTS FOR CLASSIFICATION ACCORDING TO ASTM D2487 AND LABORATORY COMPACTION CURVES ACCORDING TO ASTM D 1557 FOR EACH ON-SITE AND OFF-SITE SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
3. CONTRACTOR SHALL PROVIDE PREEXCAVATION PHOTOS OR VIDEOS SHOWING EXISTING CONDITIONS OF ADJOINING STRUCTURES AND SITE IMPROVEMENTS THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY EARTHWORK OPERATIONS.
4. OLD BUILDING FOUNDATIONS, BUILDING REMNANTS OR UNSUITABLE BACKFILL MATERIAL SHALL BE COMPLETELY REMOVED FROM WITHIN AND A MINIMUM OF 10 FEET BEYOND THE NEW BUILDING PAD AREAS. THE RESULTING EXCAVATION SHALL BE BACKFILLED WITH COMPACTED ENGINEERED FILL.
5. FOUNDATIONS, FOUNDATION WALLS OR CONCRETE FLOOR SLABS SHALL BE REMOVED TO A MINIMUM OF TWO FEET BELOW PROPOSED SUBGRADE WITHIN PROPOSED PARKING AND GREENSPACE AREAS. BASEMENT SLABS LOCATED BELOW 2 FEET FROM PLANNED SUBGRADE ELEVATION MAY BE LEFT IN PLACE BUT SHALL BE BROKEN INTO MAXIMUM 6 INCH PIECES TO FACILITATE DRAINAGE.
6. SATISFACTORY SOILS FOR FILL: ASTM D 2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP, AND SM OR A COMBINATION OF THESE GROUPS; FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER OR ANY SOIL GROUP OR COMBINATION OF GROUPS APPROVED OF BY THE PROJECT GEOTECHNICAL ENGINEER.
7. UNSATISFACTORY SOILS FOR FILL: SOIL CLASSIFICATION GROUPS GC, SC, CL, ML, OL, CH, MH, OH, AND PT ACCORDING TO ASTM D 2487 OR A COMBINATION OF THESE GROUPS UNLESS DEEMED SATISFACTORY BY THE PROJECT GEOTECHNICAL ENGINEER. UNSATISFACTORY SOILS ALSO INCLUDE SOILS NOT MAINTAINED WITHIN 3 PERCENT OF OPTIMUM SOIL MOISTURE CONTENT AT THE TIME OF COMPACTION.
8. AGGREGATE BASE COURSE BENEATH PAVEMENTS: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.
9. ENGINEERED FILL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2940; WITH AT LEAST 90 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 SIEVE OR ANY SOIL DEEMED ACCEPTABLE FOR ENGINEERED FILL BY THE PROJECT GEOTECHNICAL ENGINEER. ENGINEERED FILL SHALL BE FREE OF ORGANIC, FROZEN, OR OTHER DELETERIOUS MATERIAL AND HAVE A MAXIMUM PARTICLE SIZE LESS THAN 3 INCHES. CLAY FILLS SHALL HAVE A LIQUID LIMIT OF LESS THAN 49 AND PLASTICITY INDEX BETWEEN 11 AND 25.
10. BEDDING COURSE FOR SEWERS AND WATER SERVICE: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND CONFORMING TO THE REQUIREMENTS OF SECTION 8.43.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
11. DRAINAGE COURSE BENEATH BUILDING SLABS: NARROWLY GRADED MIXTURE OF WASHED, CRUSHED STONE, OR CRUSHED OR UNCRUSHED GRAVEL; ASTM D 448; COARSE-AGGREGATE GRADING SIZE 57; WITH 100 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND 0 TO 5 PERCENT PASSING A NO. 8 SIEVE.
12. TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
13. PIPE COVER MATERIAL: CONFORM TO SECTION 8.43.3 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
14. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
15. SHORING, SHEETING AND BRACING: SHORE, BRACE OR SLOPE BANKS OF EXCAVATION TO PROTECT WORKMEN, BANKS, ADJACENT PAVING, STRUCTURES, AND UTILITIES TO MEET OSHA REQUIREMENTS. DESIGN OF TEMPORARY SUPPORT OF EXCAVATION IS THE RESPONSIBILITY OF THE CONTRACTOR.

EARTH MOVING (CONT.):

16. EXCAVATE TO SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED. UNCLASSIFIED EXCAVATED MATERIALS MAY INCLUDE ROCK, SOIL MATERIALS, AND OBSTRUCTIONS. NO CHANGES IN THE CONTRACT SUM OR THE CONTRACT TIME WILL BE AUTHORIZED FOR ROCK EXCAVATION OR REMOVAL OF OBSTRUCTIONS.
17. PROOF-ROLL SUBGRADE BELOW THE BUILDING SLABS AND PAVEMENTS WITH FULLY LOADED TANDEM AXLE DUMP TRUCK OR RUBBER TIRED VEHICLE OF SIMILAR SIZE AND WEIGHT, TYPICALLY 9 TONS/AXLE, WHERE COHESIVE SOILS ARE ENCOUNTERED OR WITH A SMOOTH DRUMMED VIBRATORY ROLLER WHERE GRANULAR SOILS ARE PRESENT. DO NOT PROOF-ROLL WET OR SATURATED SUBGRADES AND PROOFROLL IN DRY WEATHER. PROOF ROLL IN PRESENCE OF PROJECT GEOTECHNICAL ENGINEER OR TECHNICIAN. SOILS THAT ARE OBSERVED TO RUT OR DEFLECT EXCESSIVELY UNDER THE MOVING LOAD (TYPICALLY >1") SHALL BE UNDERCUT AND REPLACED WITH PROPERLY COMPACTED ENGINEERED FILL. IN PAVEMENT AREAS WHERE UNDERCUTS ARE PERFORMED, THE EDGES OF THE OVEREXCAVATIONS SHALL BE FEATHERED INOT THE SURROUNDING SUITABLE SOIL SO THAT EDGE FAILURE OF THE OVEREXCAVATED AREA DOES NOT OCCUR.
18. DUE TO CLAYEY SOILS, IF UNDERCUTS OCCUR WITHIN PAVEMENT AREAS AND THEY ARE BACKFILLED WITH GRANULAR SOILS, THE BOTTOM OF THE OVEREXCAVATION SHALL BE SLOPED TO A DRAINTILE THAT IS IN KIND SLOPED TOWARD THE NEAREST STORM SEWER. MINIMUM SLOPES OF SUCH DRAINTILES SHALL BE 0.5%.
19. CONVENTIONAL DISKING AND AERATION TECHNIQUES SHALL BE USED TO DRY SOILS BEFORE PROOF ROLLING. ALLOT FOR PROPER DRYING TIME IN PROJECT SCHEDULE.
20. ENGINEERED FILL SHALL BE PLACED IN MAXIMUM LIFTS OF EIGHT INCHES OF LOOSE MATERIAL AND COMPACTED WITHIN 3% OF OPTIMUM SOIL MOISTURE CONTENT VALUE AND A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST ASTM D1557. EACH LIFT OF COMPACTED ENGINEERED FILL SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
21. EXISTING OLD FILL MATERIAL SHALL BE REMOVED BELOW FOOTINGS OR FOUNDATION SUPPORTING FILL. ENGINEERED FILL BELOW FOOTINGS SHOULD HAVE AN IN-PLACE DENSITY OF 95% OF THE MAXIMUM DRY DENSITY AND A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. ENGINEERED FILL BELOW FOOTINGS SHALL BE EVALUATED BY IN-FIELD DENSITY TESTS DURING CONSTRUCTION.
22. WHERE UNSUITABLE BEARING SOILS ARE ENCOUNTERED IN A FOOTING EXCAVATION, THE EXCAVATION SHALL BE DEEPENED TO COMPETENT BEARING SOIL AND THE FOOTING LOWERED OR AN OVEREXCAVATION AND BACKFILL PROCEDURE PERFORMED. OVEREXCAVATION AND BACKFILL TREATMENT REQUIRES WIDENING THE DEEPENED EXCAVATION IN ALL DIRECTIONS AT LEAST 6 INCHES BEYOND THE EDGE OF THE FOOTING FOR EACH 12 INCHES OF OVEREXCAVATION DEPTH. THE OVEREXCAVATION SHALL BE BACKFILLED UP TO FOOTING BASE ELEVATION IN MAXIMUM 8 INCH LOOSE LIFTS WITH SUITABLE GRANULAR FILL MATERIAL AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AND A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. SOILS AT FOUNDATION BEARING ELEVATION IN THE FOOTING EXCAVATIONS SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
23. A MINIMUM OF FOUR INCHES OF DRAINAGE COURSE MAT SHALL BE PLACED BELOW BUILDING FLOOR SLABS. DRAINAGE COURSE SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION WITH RESPECT TO THE MODIFIED PROCTOR (ASTM D1557)
24. UTILITY TRENCHES FOR SEWER AND WATER SHALL CONFORM TO CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH FILE NO. 4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
25. BACKFILL UTILITY TRENCHES IN 4 TO 6 INCH LOOSE LIFTS COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557. BACKFILL SHALL BE MOISTURE CONDITIONED TO BE WITH 3% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D1557.
26. UTILITY BEDDING PLACEMENT: CONFORM TO SECTION 3.2.6 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. BEDDING MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% COMPACTION WITH RESPECT TO THE MODIFIED PROCTOR (ASTM D1557).
27. COMPACTION TESTING OF UTILITY TRENCHES SHALL BE PERFORMED ONE FOR EVERY 200 CUBIC YARDS OF BACKFILL PLACED OR ONE FOR TEST PER 200 LINEAR FEET OF TRENCH FOR EACH LIFT, WHICHEVER IS LESS.
28. AGGREGATE BASE COURSE BENEATH PAVEMENTS SHALL BE PLACED AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. AGGREGATE BASE SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
29. GRADING GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CROSS SECTIONS, LINES, AND ELEVATIONS INDICATED. SLOPE GRADES TO DIRECT WATER AWAY FROM BUILDINGS AND TO PREVENT PONDING.
30. TESTING AGENCY: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY-CONTROL TESTING.
31. FOOTING SUBGRADE TESTING: EACH ISOLATED FOOTING SHALL INCLUDE AT LEAST ONE TEST PROBE. TEST PROBES SHALL BE PERFORMED EVERY 20 LINEAR FEET IN CONTINUOUS FOOTINGS.
32. BUILDING SLAB AREA TESTING: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST 1 TEST PER LIFT FOR EVERY 2500 SQ. FT. OR LESS OF BUILDING SLAB, BUT IN NO CASE FEWER THAN 3 TESTS.
33. PAVEMENT AREA TESTING: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST ONE TEST FOR EVERY LIFT FOR EVERY 2,500 SQUARE FEET OF PAVEMENT AREA, BUT IN NO CASES FEWER THAN 3 TESTS.
34. FOUNDATION WALL BACKFILL: AT EACH COMPACTED BACKFILL LAYER, AT LEAST 1 TEST PER LIFT FOR EACH 50 FEET OR LESS OF WALL LENGTH, BUT NO FEWER THAN 2 TESTS.
35. WHEN TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
36. DISPOSAL: REMOVE SURPLUS SOIL AND WASTE MATERIAL, INCLUDING UNSATISFACTORY SOIL, TRASH, AND DEBRIS, AND LEGALLY DISPOSE OF IT OFF OWNER'S PROPERTY.

BIOFILTRATION BASIN:

1. BIOFILTRATION BASIN SHALL BE CONSTRUCTED IN GENERAL ACCORDANCE WITH WDNR TECHNICAL STANDARD 1004: BIORETENTION FOR INFILTRATION AND THESE SPECIFICATIONS.
2. ENGINEERED SOIL MIX SHALL CONSIST OF A MIX OF 70 TO 85% SAND AND 15 TO 30% COMPOST BASED ON VOLUME. SAND SHALL MEET THE REQUIREMENTS FOR FINE AGGREGATE SAND SPECIFIED SECTION 501.2.5.3.4 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION OR MEET ASTM C33 (FINE AGGREGATE CONCRETE SAND).
3. PRIOR TO PLACEMENT IN THE BIOFILTRATION BASIN, THE ENGINEERED SOIL SHALL BE PREMIXED AND THE MOISTURE CONTENT SHALL BE LOW ENOUGH TO PREVENT CLUMPING AND COMPACTION DURING PLACEMENT.
4. THE ENGINEERED SOIL SHALL BE PLACED IN MULTIPLE LIFTS, EACH APPROXIMATELY 12 INCHES IN DEPTH.
5. ENGINEERED SOIL MIX SHALL BE FREE OF ROCKS, STUMPS, ROOTS, BRUSH OR OTHER MATERIAL OVER ONE INCH IN DIAMETER. NO OTHER MATERIALS SHALL BE MIXED WITH THEE PLANTING SOIL THAT MAY BE HARMFUL TO PLANT GROWTH OR BE A HINDRANCE TO PLANTING OR MAINTENANCE.
6. ENGINEERED SOIL AND GRAVEL SHALL BE IN ACCORDANCE WITH THE LATEST WDNR TECHNICAL STANDARD 1004.
7. PEA GRAVEL SHALL BE GRADED SUCH THAT MINIMUM PARTICLE SIZE IS LARGE ENOUGH TO PREVENT FALLING THROUGH PERFORATIONS OF THE UNDERDRAIN PIPE.
8. BIOFILTRATION BASIN DRAIN PIPE: 6-INCH CORRUGATED HDPE PIPE MEETING PERFORATION REQUIREMENTS OF AASHTO M278 HIGHWAY UNDERDRAIN SPECIFICATIONS WITH 3/8" PERFORATIONS ON 6" CENTERS WITH 4 HOLES PER ROW.
9. BEEHIVE INLET: NEENAH R-256I, OR EQUAL
10. RISER STRUCTURE: 48" DIAMETER PRECAST CATCH BASIN STRUCTURE WITH 24" TOP OPENING TO ACCOMMODATE BEEHIVE INLET. IN GENERAL ACCORDANCE WITH FILE NO. 26 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
11. GRAVEL STORAGE LAYER (IF INDICATED ON PLANS): COURSE AGGREGATE #2 IN ACCORDANCE WITH SECTION 501.2.5.4.4 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
12. FILTER FABRIC: GEOTEXTILE FABRIC IN ACCORDANCE WITH SECTION 645.2.2.4 OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
13. EXCAVATE TO GRADES AS INDICATED ON PLANS.
14. CONSTRUCT TEMPORARY DIVERSION SWALES OR PROVIDE OTHER MEANS AS NECESSARY TO PREVENT CONSTRUCTION SITE RUNOFF FROM DISTURBED AREAS, AND RUNOFF FROM PERVIOUS AREAS WHICH HAVE NOT YET BEEN STABILIZED, FROM ENTERING THE BIORETENTION AREA.
15. CONSTRUCTION SHALL BE SUSPENDED DURING PERIODS OF RAINFALL OR SNOWMELT. CONSTRUCTION SHALL REMAIN SUSPENDED IF PONDED WATER IS PRESENT OR IF RESIDUAL SOIL MOISTURE CONTRIBUTES SIGNIFICANTLY TO THE POTENTIAL FOR SOIL SMEARING, CLUMPING OR OTHER FORMS OF COMPACTION.
16. COMPACTION AND SMEARING OF THE ENGINEERED SOIL AND TOP SOIL BENEATH THE FLOORS, IN THE SOIL PLANTING BED, AND THE SIDE SLOPES OF THE BASIN, AND COMPACTION OF THE ENGINEERED SOILS IN THE BASIN SHALL BE MINIMIZED. DURING SITE DEVELOPMENT, THE AREA DEDICATED TO THE BIOFILTRATION BASIN SHALL BE CORDONED OFF TO PREVENT ACCESS BY HEAVY EQUIPMENT. ACCEPTABLE EQUIPMENT FOR CONSTRUCTING THE BIOFILTRATION BASIN INCLUDES EXCAVATION HOES, LIGHT EQUIPMENT WITH TURF TYPE TIRES, MARSH EQUIPMENT OR WIDE-TRACK LOADERS.
17. IF COMPACTION OCCURS AT THE BASE OF THE BIOFILTRATION BASIN, THE SOIL SHALL BE REFRACTURED TO A DEPTH OF AT LEAST 12 INCHES. IF SMEARING OCCURS, THE SMEARED AREAS OF THE INTERFACE SHALL BE CORRECTED BY RAKING OR ROTO-TILLING.
18. STEPS MAY BE TAKEN TO INDUCE MILD SETTLING OF THE ENGINEERED SOIL BED AS NEEDED TO PREPARE A STABLE PLANTING MEDIUM AND TO STABILIZE THE PONDING DEPTH. VIBRATING PLATE-STYLE COMPACTORS SHALL NOT BE UTILIZED.
19. ANY SEDIMENT ACCUMULATED IN THE BASIN DUE TO CONSTRUCTION ACTIVITIES SHOULD BE REMOVED AND THE ENGINEERED SOIL SHALL BE DEEP TILLED PRIOR TO PLANTING.
20. IMPERVIOUS LINER SHALL BE 45 MIL FIRESTONE EPDM (GSI PRODUCTS), OR 30 MIL PVC (GSI PRODUCTS), OR EQUAL.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SPECIFICATIONS

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	24-02
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

C500

SEGMENTAL RETAINING WALL:

1. WORK SHALL CONSIST OF FURNISHING DETAILED DESIGN, MATERIALS, LABOR, EQUIPMENT AND SUPERVISION TO INSTALL A SEGMENTAL RETAINING WALL SYSTEM IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN AND DIMENSIONS SHOWN ON PLANS.
2. MATERIALS SUBMITTALS: THE CONTRACTOR SHALL SUBMIT MANUFACTURERS' CERTIFICATIONS TWO WEEKS PRIOR TO START OF WORK STATING THAT THE SRW UNITS AND GEOSYNTHETIC REINFORCEMENT MEET THE REQUIREMENTS OF THE DESIGN.
3. DESIGN SUBMITTAL: THE CONTRACTOR SHALL SUBMIT TWO SETS OF DETAILED DESIGN CALCULATIONS AND FINAL RETAINING WALL PLANS FOR APPROVAL AT LEAST TWO WEEKS PRIOR TO THE BEGINNING OF WALL CONSTRUCTION. ALL CALCULATIONS AND DRAWINGS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL CIVIL ENGINEER (P.E.) - (WALL DESIGN ENGINEER) EXPERIENCED IN SRW DESIGN AND LICENSED IN THE STATE WHERE THE WALL IS TO BE BUILT.
4. SEGMENTAL RETAINING WALL (SRW) UNITS SHALL BE MACHINE FORMED, PORTLAND CEMENT CONCRETE BLOCKS SPECIFICALLY DESIGNED FOR RETAINING WALL APPLICATIONS. SRW UNITS SHALL BE VERSA-LOK STANDARD RETAINING WALL UNITS, KEYSTONE RETAINING WALL UNITS, ROCKWOOD RETAINING WALL UNITS OR APPROVED EQUAL.
5. COLOR AND STYLE OF SRW UNITS SHALL BE AS SELECTED BY ARCHITECT AND OWNER FROM MANUFACTURER'S FULL RANGE.
6. SRW UNITS SHALL BE CAPABLE OF BEING ERECTED WITH THE HORIZONTAL GAP BETWEEN ADJACENT UNITS NOT EXCEEDING 1/8 INCH.
7. SRW UNITS SHALL BE SOUND AND FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACING OF THE UNIT OR SIGNIFICANTLY IMPAIR THE STRENGTH OR PERMANENCE OF THE STRUCTURE. ANY CRACKS OR CHIPS OBSERVED DURING CONSTRUCTION SHALL FALL WITHIN THE GUIDELINES OUTLINED IN ASTM C 1372.
8. CONCRETE SRW UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM 1372 AND HAVE A MINIMUM NET AVERAGE 28 DAYS COMPRESSIVE STRENGTH OF 3000 PSI. COMPRESSIVE STRENGTH TEST SPECIMENS SHALL CONFORM TO THE SAW-CUT COUPON PROVISIONS OF ASTM C140.
9. SRW UNITS' MOLDED DIMENSIONS SHALL NOT DIFFER MORE THAN ± 1/8 INCH FROM THAT SPECIFIED, AS MEASURED IN ACCORDANCE WITH ASTM C 140. THIS TOLERANCE DOES NOT APPLY TO ARCHITECTURAL SURFACES, SUCH AS SPLIT FACES.
10. SRW UNITS SHALL BE INTERLOCKED WITH CONNECTION PINS. THE PINS SHALL CONSIST OF GLASS-REINFORCED NYLON MADE FOR THE EXPRESSED USE WITH THE SRW UNITS SUPPLIED.
11. GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF HIGH-TENACITY PET GEOGRIDS, HDPE GEOGRIDS, OR GEOTEXTILES MANUFACTURED FOR SOIL REINFORCEMENT APPLICATIONS. THE TYPE, STRENGTH AND PLACEMENT OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE DETERMINED BY PROCEDURES OUTLINED IN THIS SPECIFICATION AND THE NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS (3RD EDITION 2009) AND MATERIALS SHALL BE SPECIFIED BY WALL DESIGN ENGINEER IN THEIR FINAL WALL PLANS AND SPECIFICATIONS. THE MANUFACTURERS/SUPPLIERS OF THE GEOSYNTHETIC REINFORCEMENT SHALL HAVE DEMONSTRATED CONSTRUCTION OF SIMILAR SIZE AND TYPES OF SEGMENTAL RETAINING WALLS ON PREVIOUS PROJECTS.
12. THE TYPE, STRENGTH AND PLACEMENT OF THE REINFORCING GEOSYNTHETIC SHALL BE AS DETERMINED BY THE WALL DESIGN ENGINEER, AS SHOWN ON THE FINAL, P.E.-STAMPED RETAINING WALL PLANS.
13. MATERIAL FOR LEVELING PAD SHALL CONSIST OF COMPACTED SAND, GRAVEL, OR COMBINATION THEREOF (USCS SOIL TYPES GP,GW, SP, & SW) AND SHALL BE A MINIMUM OF 6 INCHES IN DEPTH. LEAN CONCRETE WITH A STRENGTH OF 200-300 PSI AND 3 INCHES THICK MAXIMUM MAY ALSO BE USED AS A LEVELING PAD MATERIAL. THE LEVELING PAD SHOULD EXTEND LATERALLY AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.
14. DRAINAGE AGGREGATE SHALL BE ANGULAR, CLEAN STONE OR GRANULAR FILL MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D422:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
3/4 INCH	75-100
NO. 4	0-60
NO. 40	0-50
NO. 200	0-5

15. THE DRAINAGE COLLECTION PIPE SHALL BE A PERFORATED OR SLOTTED PVC, OR CORRUGATED HDPE PIPE. THE DRAINAGE PIPE MAY BE WRAPPED WITH A GEOTEXTILE TO FUNCTION AS A FILTER. DRAINAGE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F 405 OR ASTM F 758.
16. THE REINFORCED SOIL MATERIAL SHALL BE FREE OF DEBRIS. UNLESS OTHERWISE NOTED ON THE FINAL, P.E.-SEALED, RETAINING WALL PLANS PREPARED BY THE WALL DESIGN ENGINEER, THE REINFORCED MATERIAL SHALL CONSIST OF THE INORGANIC USCS SOIL TYPES GP, GW, SW, SP, SM, MEETING THE FOLLOWING GRADATION, AS DETERMINED IN ACCORDANCE WITH ASTM D422:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
NO. 4	20-100
NO. 40	0-60
NO. 200	0-35

17. THE MAXIMUM PARTICLE SIZE OF POORLY-GRADED GRAVELS (GP) (NO FINES) SHOULD NOT EXCEED 3/4 INCH UNLESS EXPRESSLY APPROVED BY THE WALL DESIGN ENGINEER AND THE LONG-TERM DESIGN STRENGTH (LTDS) OF THE GEOSYNTHETIC IS REDUCED TO ACCOUNT FOR ADDITIONAL INSTALLATION DAMAGE FROM PARTICLES LARGER THAN THIS MAXIMUM.
18. THE PLASTICITY OF THE FINE FRACTION SHALL BE LESS THAN 20.
19. THE PH OF THE BACKFILL MATERIAL SHALL BE BETWEEN 3 AND 9 WHEN TESTED IN ACCORDANCE WITH ASTM G 51.
20. DRAINAGE GEOTEXTILE SHALL CONSIST OF GEOSYNTHETIC SPECIFICALLY MANUFACTURED FOR USE AS A PERMEABLE SOIL FILTER THAT RETAINS SOIL WHILE STILL ALLOWING WATER TO PASS THROUGHOUT THE LIFE OF THE STRUCTURE. THE TYPE AND PLACEMENT OF THE GEOTEXTILE FILTER MATERIAL SHALL BE AS REQUIRED BY THE WALL DESIGN ENGINEER IN THEIR FINAL WALL PLANS AND SPECIFICATIONS.
21. THE DESIGN ANALYSIS FOR THE FINAL, P.E.-STAMPED RETAINING WALL PLANS PREPARED BY THE WALL DESIGN ENGINEER SHALL CONSIDER THE EXTERNAL STABILITY AGAINST SLIDING AND OVERTURNING, INTERNAL STABILITY AND FACIAL STABILITY OF THE REINFORCED SOIL MASS, AND SHALL BE IN ACCORDANCE WITH ACCEPTABLE ENGINEERING PRACTICE AND THESE SPECIFICATIONS. THE INTERNAL AND EXTERNAL STABILITY ANALYSIS SHALL BE PERFORMED IN ACCORDANCE WITH THE "NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS, 3RD EDITION" USING THE RECOMMENDED MINIMUM FACTORS OF SAFETY IN THIS MANUAL.
22. EXTERNAL STABILITY ANALYSIS FOR BEARING CAPACITY, GLOBAL STABILITY, AND TOTAL AND DIFFERENTIAL SETTLEMENT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE OWNER'S GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL PERFORM BEARING CAPACITY, SETTLEMENT ESTIMATES, AND GLOBAL STABILITY ANALYSIS BASED ON THE FINAL WALL DESIGN PROVIDED BY THE WALL DESIGN ENGINEER AND COORDINATE ANY REQUIRED CHANGES WITH THE WALL DESIGN ENGINEER.
23. THE GEOSYNTHETIC PLACEMENT IN THE WALL DESIGN SHALL HAVE 100% CONTINUOUS COVERAGE PARALLEL TO THE WALL FACE. GAPPING BETWEEN HORIZONTALLY ADJACENT LAYERS OF GEOSYNTHETIC (PARTIAL COVERAGE) WILL NOT BE ALLOWED.
24. CONTRACTOR'S FIELD CONSTRUCTION SUPERVISOR SHALL HAVE DEMONSTRATED EXPERIENCE AND BE QUALIFIED TO DIRECT ALL WORK AT THE SITE.
25. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE PROJECT GRADING PLANS. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE OVER-EXCAVATION. OVER-EXCAVATION SHALL BE FILLED WITH COMPACTED INFILL MATERIAL, OR AS DIRECTED BY THE WALL DESIGN ENGINEER, AT THE CONTRACTOR'S EXPENSE.
26. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING STRUCTURES AND UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL ENSURE ALL SURROUNDING STRUCTURES ARE PROTECTED FROM THE EFFECTS OF WALL EXCAVATION. EXCAVATION SUPPORT, IF REQUIRED, IS THE RESPONSIBILITY OF THE CONTRACTOR.
27. FOLLOWING THE EXCAVATION, THE FOUNDATION SOIL SHALL BE EXAMINED BY THE OWNER'S ENGINEER TO ASSURE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN BEARING STRENGTH. SOILS NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH INFILL SOILS, AS DIRECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER.
28. FOUNDATION SOIL SHALL BE PROOF-ROLLED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY AND INSPECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF LEVELING PAD MATERIALS.
29. LEVELING PAD SHALL BE PLACED AS SHOWN ON THE FINAL, P.E.-SEALED RETAINING WALL PLANS WITH A MINIMUM THICKNESS OF 6 INCHES. THE LEVELING PAD SHOULD EXTEND LATERALLY AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.
30. GRANULAR LEVELING PAD MATERIAL SHALL BE COMPACTED TO PROVIDE A FIRM, LEVEL BEARING SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. WELL-GRADED SAND CAN BE USED TO SMOOTH THE TOP 1/4 INCH TO 1/2 INCH OF THE LEVELING PAD. COMPACTION WILL BE WITH MECHANICAL PLATE COMPACTORS TO ACHIEVE 95% OF MAXIMUM STANDARD PROCTOR DENSITY (ASTM D 698).
31. ALL SRW UNITS SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL, P.E.-SEALED WALL PLANS AND DETAILS OR AS DIRECTED BY THE WALL DESIGN ENGINEER. THE SRW UNITS SHALL BE INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE SPECIFICATIONS AND DRAWINGS SHALL GOVERN IN ANY CONFLICT BETWEEN THE TWO REQUIREMENTS.
32. FIRST COURSE OF SRW UNITS SHALL BE PLACED ON THE LEVELING PAD. THE UNITS SHALL BE LEVELED SIDE-TO-SIDE, FRONT-TO-REAR AND WITH ADJACENT UNITS, AND ALIGNED TO ENSURE INTIMATE CONTACT WITH THE LEVELING PAD. THE FIRST COURSE IS THE MOST IMPORTANT TO ENSURE ACCURATE AND ACCEPTABLE RESULTS. NO GAPS SHALL BE LEFT BETWEEN THE FRONT OF ADJACENT UNITS. ALIGNMENT MAY BE DONE BY MEANS OF A STRING LINE OR OFFSET FROM BASE LINE TO THE BACK OF THE UNITS.
33. ALL EXCESS DEBRIS SHALL BE CLEANED FROM TOP OF UNITS AND THE NEXT COURSE OF UNITS INSTALLED ON TOP OF THE UNITS BELOW.
34. CONNECTION PINS SHALL BE INSERTED THROUGH THE PIN HOLES OF EACH UPPER-COURSE UNIT INTO RECEIVING SLOTS IN LOWER-COURSE UNITS. PINS SHALL BE FULLY SEATED IN THE PIN SLOT BELOW. UNITS SHALL BE PUSHED FORWARD TO REMOVE ANY LOOSENESS IN THE UNIT-TO-UNIT CONNECTION.
35. PRIOR TO PLACEMENT OF NEXT COURSE, THE LEVEL AND ALIGNMENT OF THE UNITS SHALL BE CHECKED AND CORRECTED WHERE NEEDED.
36. LAYOUT OF CURVES AND CORNERS SHALL BE INSTALLED IN ACCORDANCE WITH THE WALL PLAN DETAILS OR IN GENERAL ACCORDANCE WITH SRW MANUFACTURER'S INSTALLATION GUIDELINES. WALLS MEETING AT CORNERS SHALL BE INTERLOCKED BY OVERLAPPING SUCCESSIVE COURSES.
37. PROCEDURES ABOVE SHALL BE REPEATED UNTIL REACHING TOP OF WALL UNITS, JUST BELOW THE HEIGHT OF THE CAP UNITS. GEOSYNTHETIC REINFORCEMENT, DRAINAGE MATERIALS, AND REINFORCED BACKFILL SHALL BE PLACED IN SEQUENCE WITH UNIT INSTALLATION.
38. ALL GEOSYNTHETIC REINFORCEMENT SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLAN PROFILES AND DETAILS, OR AS DIRECTED BY THE WALL DESIGN ENGINEER.
39. AT THE ELEVATIONS SHOWN ON THE FINAL PLANS, (AFTER THE UNITS, DRAINAGE MATERIAL AND BACKFILL HAVE BEEN PLACED TO THIS ELEVATION) THE GEOSYNTHETIC REINFORCEMENT SHALL BE LAID HORIZONTALLY ON COMPACTED INFILL AND ON TOP OF THE CONCRETE SRW UNITS, TO WITHIN 1 INCH OF THE FRONT FACE OF THE UNIT BELOW. EMBEDMENT OF THE GEOSYNTHETIC IN THE SRW UNITS SHALL BE CONSISTENT WITH SRW MANUFACTURER'S RECOMMENDATIONS. CORRECT ORIENTATION OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE VERIFIED BY THE CONTRACTOR TO BE IN ACCORDANCE WITH THE GEOSYNTHETIC MANUFACTURER'S RECOMMENDATIONS. THE HIGHEST-STRENGTH DIRECTION OF THE GEOSYNTHETIC MUST BE PERPENDICULAR TO THE WALL FACE.
40. GEOSYNTHETIC REINFORCEMENT LAYERS SHALL BE ONE CONTINUOUS PIECE FOR THEIR ENTIRE EMBEDMENT LENGTH. SPLICING OF THE GEOSYNTHETIC IN THE DESIGN-STRENGTH DIRECTION (PERPENDICULAR TO THE WALL FACE) SHALL NOT BE PERMITTED. ALONG THE LENGTH OF THE WALL, HORIZONTALLY ADJACENT SECTIONS OF GEOSYNTHETIC REINFORCEMENT SHALL BE BUTTED IN A MANNER TO ASSURE 100% COVERAGE PARALLEL TO THE WALL FACE.
41. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOSYNTHETIC REINFORCEMENT. A MINIMUM OF 6 INCHES OF BACKFILL IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOSYNTHETIC. TURNING SHOULD BE KEPT TO A MINIMUM. RUBBER-TIRED EQUIPMENT MAY PASS OVER THE GEOSYNTHETIC REINFORCEMENT AT SLOW SPEEDS (LESS THAN 5 MPH).
42. THE GEOSYNTHETIC REINFORCEMENT SHALL BE FREE OF WRINKLES PRIOR TO PLACEMENT OF SOIL FILL. THE NOMINAL TENSION SHALL BE APPLIED TO THE REINFORCEMENT AND SECURED IN PLACE WITH STAPLES, STAKES OR BY HAND TENSIONING UNTIL REINFORCEMENT IS COVERED BY 6 INCHES OF FILL.
43. DRAINAGE AGGREGATE SHALL BE INSTALLED TO THE LINE, GRADES AND SECTIONS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLANS. DRAINAGE AGGREGATE SHALL BE PLACED TO THE MINIMUM THICKNESS SHOWN ON THE CONSTRUCTION PLANS BETWEEN AND BEHIND UNITS (A MINIMUM OF 1 CUBIC FOOT FOR EACH EXPOSED SQUARE FOOT OF WALL FACE UNLESS OTHERWISE NOTED ON THE FINAL WALL PLANS).
44. DRAINAGE COLLECTION PIPES SHALL BE INSTALLED TO MAINTAIN GRAVITY FLOW OF WATER OUTSIDE THE REINFORCED-SOIL ZONE. THE DRAINAGE COLLECTION PIPE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE FINAL CONSTRUCTION DRAWINGS. THE DRAINAGE COLLECTION PIPE SHALL DAYLIGHT INTO A STORM SEWER OR ALONG A SLOPE, AT AN ELEVATION BELOW THE LOWEST POINT OF THE PIPE WITHIN THE AGGREGATE DRAIN. DRAINAGE LATERALS SHALL BE SPACED AT A MAXIMUM 50-FOOT SPACING ALONG THE WALL FACE.
45. THE REINFORCED BACKFILL SHALL BE PLACED AS SHOWN IN THE FINAL WALL PLANS IN THE MAXIMUM COMPACTED LIFT THICKNESS OF 8 INCHES AND SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D 698) AT A MOISTURE CONTENT WITHIN -1% POINT TO +3% POINTS OF OPTIMUM. THE BACKFILL SHALL BE PLACED AND SPREAD IN SUCH A MANNER AS TO ELIMINATE WRINKLES OR MOVEMENT OF THE GEOSYNTHETIC REINFORCEMENT AND THE SRW UNITS.
46. ONLY HAND-OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET OF THE BACK OF THE WALL UNITS. COMPACTION WITHIN THE 3 FEET BEHIND THE WALL UNITS SHALL BE ACHIEVED BY AT LEAST THREE PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, PLATE, OR ROLLER.
47. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LEVEL OF BACKFILL AWAY FROM THE WALL FACING AND REINFORCED BACKFILL TO DIRECT WATER RUNOFF AWAY FROM THE WALL FACE.
48. AT COMPLETION OF WALL CONSTRUCTION, BACKFILL SHALL BE PLACED LEVEL WITH FINAL TOP OF WALL ELEVATION. IF FINAL GRADING, PAVING, LANDSCAPING AND/OR STORM DRAINAGE INSTALLATION ADJACENT TO THE WALL IS NOT PLACED IMMEDIATELY AFTER WALL COMPLETION, TEMPORARY GRADING AND DRAINAGE SHALL BE PROVIDED TO ENSURE WATER RUNOFF IS NOT DIRECTED AT THE WALL NOR ALLOWED TO COLLECT OR POND BEHIND THE WALL UNTIL FINAL CONSTRUCTION ADJACENT TO THE WALL IS COMPLETED.
49. SRW CAPS SHALL BE PROPERLY ALIGNED AND GLUED TO UNDERLYING UNITS WITH VERSA-LOK ADHESIVE, A FLEXIBLE, HIGH-STRENGTH CONCRETE ADHESIVE. RIGID ADHESIVE OR MORTAR ARE NOT ACCEPTABLE.
50. CAPS SHALL OVERHANG THE TOP COURSE OF UNITS BY 3/4 INCH TO 1 INCH. SLIGHT VARIATION IN OVERHANG IS ALLOWED TO CORRECT ALIGNMENT AT THE TOP OF THE WALL.
51. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION BY OTHERS ADJACENT TO THE WALL DOES NOT DISTURB THE WALL OR PLACE TEMPORARY CONSTRUCTION LOADS ON THE WALL THAT EXCEED DESIGN LOADS, INCLUDING LOADS SUCH AS WATER PRESSURE, TEMPORARY GRADES, OR EQUIPMENT LOADING. HEAVY PAVING OR GRADING EQUIPMENT SHALL BE KEPT A MINIMUM OF 3 FEET BEHIND THE BACK OF THE WALL FACE. EQUIPMENT WITH WHEEL LOADS IN EXCESS OF 150 PSF LIVE LOAD SHALL NOT BE OPERATED WITHIN 10 FEET OF THE FACE OF THE RETAINING WALL DURING CONSTRUCTION ADJACENT TO THE WALL. CARE SHOULD BE TAKEN BY THE GENERAL CONTRACTOR TO ENSURE WATER RUNOFF IS DIRECTED AWAY FROM THE WALL STRUCTURE UNTIL FINAL GRADING AND SURFACE DRAINAGE COLLECTION SYSTEMS ARE COMPLETED.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

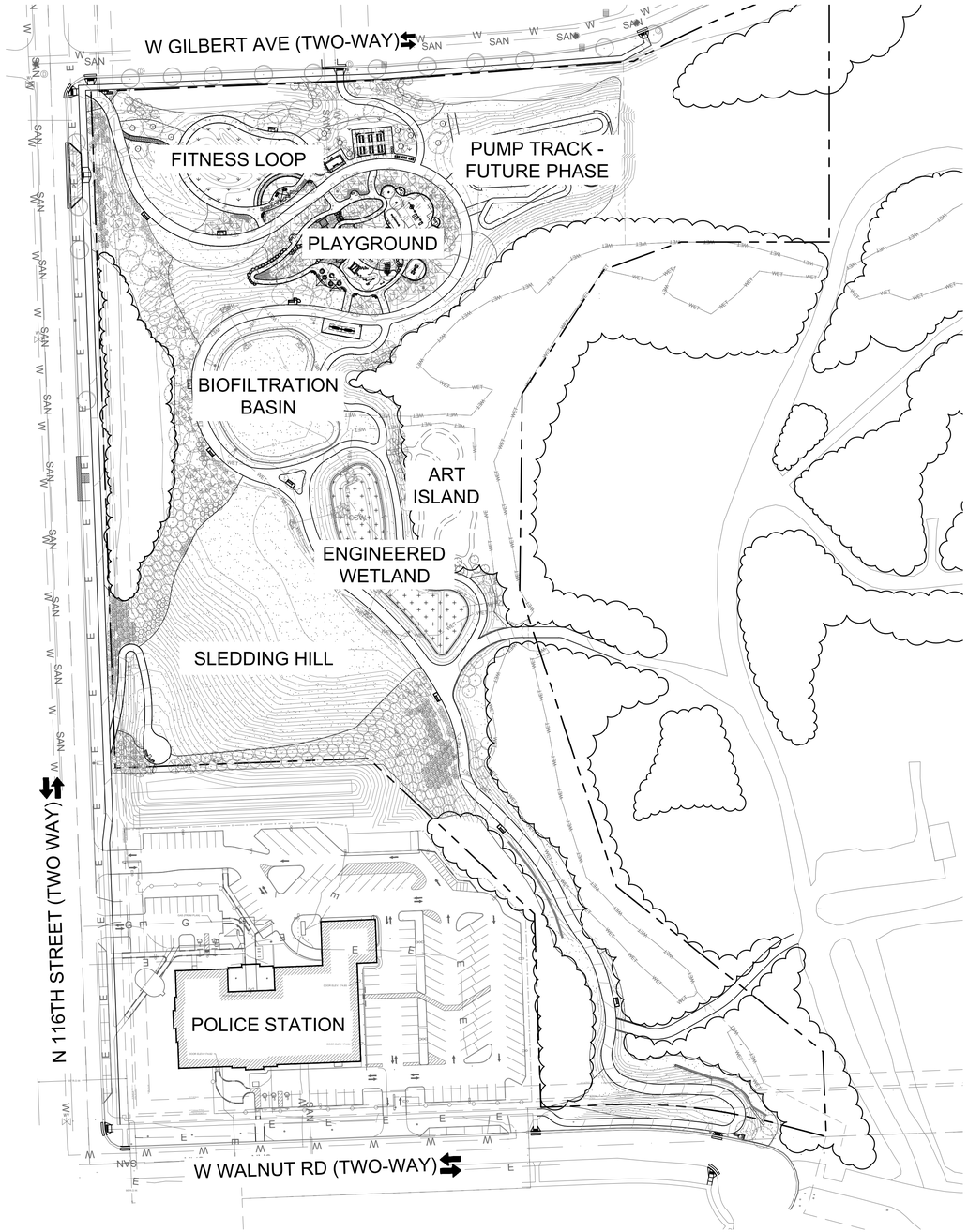
SITE

SPECIFICATIONS

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	24-02
FILE NO:	21231
DRAWN BY:	JRG
CHECKED BY:	CTC
SCALE:	AS SHOWN

C501



1 OVERALL SITE PLAN (FOR REFERENCE ONLY)
1"= 80'-0"

0 40 80 120 160'

LEGEND

- PROPERTY LINE
- RAISED CONCRETE CURB
- FLUSH CONCRETE CURB
- CONCRETE PAVEMENT
- CONCRETE PAVEMENT THICKENED EDGE
- EJ — EXPANSION JOINT
- CONTROL JOINT
- PLAY TURF SURFACING W/ AGGREGATE SUBBASE
- PLAY TURF SURFACING W/ CONCRETE SUBBASE
- ENGINEERED WOOD FIBER
- STABILIZED AGGREGATE PAVING
- SENSORY WALK
- BOULDERS
- LEDGE ROCK
- STONE STEPPERS
- EXISTING TREE TO REMAIN
- TREES: FOR REFERENCE ONLY
- EXISTING TREES TO REMAIN AND BE PROTECTED
- SHRUBS: FOR REFERENCE ONLY
- PERENNIALS AND ORNAMENTAL GRASSES FOR REFERENCE ONLY
- SOD
- EMERGENT PLUGS
- SEED MIX - SEE PLANTING PLANS
- MULCH RING
- HANDRAIL
- WOODEN PLATFORM
- CONCRETE LOG BEAM
- WOODEN LOG BEAM AND STEPPERS
- BENCH SWINGS
- PICNIC TABLES
- BENCHES
- GAME TABLE
- BIKE RACK
- HOT COAL RECEPTACLE
- TRASH AND RECYCLING RECEPTACLES

NOTES:
1. FURNISHINGS AND PLANTINGS NOT INCLUDING SEED TO BE FURNISHED BY OWNER. SEE SCHEDULES FOR CONTRACTOR INSTALLATION RESPONSIBILITIES.

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

OVERALL SITE PLAN (FOR REFERENCE ONLY)

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L002

CONCRETE AND FORMWORK NOTES:

1. ALL CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING (INCLUDING BUT NOT LIMITED TO) AMERICAN CONCRETE INSTITUTE PUBLICATIONS:
   a. ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS
   b. ACI 304 - GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE
   c. ACI 311 - GUIDE FOR CONCRETE INSPECTION
   d. ACI 315 - DETAILS AND DETAILING OF CONCRETE REINFORCEMENT
   e. ACI 318 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
   f. ACI 347 - GUIDE TO FORMWORK FOR CONCRETE
2. CONCRETE SHALL BE AS FOLLOWS:
   a. CONCRETE F'C PSI @ 28 DAYS
   b. FOUNDATIONS AND FOOTINGS NORMAL WEIGHT (145 PCF) F'C = 4000 PSI
   c. GRADE BEAMS NORMAL WEIGHT (145 PCF) F'C = 4000 PSI
   d. EXTERIOR SLAB ON GRADE NORMAL WEIGHT (145 PCF) F'C = 4000 PSI
   e. PADS FOR MEP EQUIP. NORMAL WEIGHT (145 PCF) F'C = 4000 PSI
   f. ELEVATED SLABS, BEAMS NORMAL WEIGHT (145 PCF) F'C = 8000 PSI
3. ALL EXTERIOR EXPOSED CONCRETE SHALL BE AIR- ENTRAINED TO GIVE THE CONCRETE AN AIR CONTENT OF 6 +/- 1 1/2% BY VOLUME. WATER REDUCING PLASTICIZING ADMIXTURES MAY BE USED, PENDING APPROVAL OF THE AOR, SOR AND LA.
4. NO CALCIUM CHLORIDE OR CHLORIDE ION PRODUCING ADD MIXTURE SHALL BE USED IN ANY CONCRETE.
5. FORMWORK FOR ALL CONCRETE WHICH WILL BE EXPOSED IN COMPLETED STRUCTURES SHALL BE CONSTRUCTED FROM A SUITABLE PLASTIC SURFACED PLYWOOD WHICH WILL PRODUCE AN ACCEPTABLY SMOOTH SURFACE. ALSO SEE THE SPECIFICATIONS.
6. THE CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS SHOWING THE LOCATIONS OF ALL FORM TIES, CONSTRUCTION JOINTS, CURBS AND SLAB DEPRESSIONS, IF ANY, AND DESCRIBE THE CONCRETE PLACEMENT SEQUENCING. ALL CURBS SHALL BE REINFORCED WITH AT LEAST (1) - #4 CONTINUOUS AND #3 AT 16" C/C DOWELS TO THE STRUCTURE BELOW, UNO.
7. ALL CONSTRUCTION JOINTS SHALL BE WIRE BRUSHED AND CLEANED IMMEDIATELY PRIOR TO PLACING NEW CONCRETE. ALLOW 24 HOURS MINIMUM TO ELAPSE BETWEEN POURS.
8. SEE ARCHITECTURAL DRAWINGS FOR TYPE AND LOCATION OF ALL INTERIOR FLOOR FINISHES, FLOOR DEPRESSIONS AND CURBS AND FOR ALL WATERPROOFING/DAMPPROOFING DETAILS. SEE MEP DRAWINGS FOR ADDITIONAL WALL AND/OR SLAB OPENINGS, AND EQUIPMENT PADS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
9. SLOPE CONCRETE SLABS, WHERE REQUIRED, DRAINS SHOWN ON THE ARCHITECTURAL CIVIL AND/OR MEP.
10. CONCRETE PROTECTION FOR REINFORCING BARS SHALL BE AS FOLLOWS:
    a. FOOTINGS 3" CLEAR, SIDES AND BOTTOM
    b. WALLS 2" CLEAR, OUTSIDE FACE, 1 1/2" CLEAR, INSIDE FACE
    c. SLABS 1" CLEAR
    d. PIERS 2" CLEAR TO TIES

DIMENSIONAL LUMBER:

1. ALL WOOD CONSTRUCTION SHALL CONFORM TO THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION," LATEST EDITION, BY THE NATIONAL FOREST PRODUCT ASSOCIATION.
2. STRUCTURAL LUMBER SHALL HAVE THE FOLLOWING MINIMUM IN GRADE UNIT STRESSES:
   a. GRADE: STRUCTURAL SELECT, REFER TO SPECIFICATIONS FOR SPECIES
      - FB = 1200 PSI
      - FV = 160 PSI
      - FC = 1,200 PSI
      - ⊥FC = 615 PSI
      - FT = 650 PSI
      - E = 1,400,000 PSI
3. ALL LUMBER SHALL HAVE AN AVERAGE MOISTURE CONTENT OF NOT MORE THAN 19%.
4. BOLT HEADS & NUTS BEARING ON WOOD SHALL BE PROVIDED WITH STANDARD CUT WASHERS.
5. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED UNO.
6. MINIMUM NAILED CONNECTIONS FOR WOOD FRAMING MEMBERS SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE LATEST VERSION OF THE APPLICABLE JURISDICTIONAL BUILDING CODES.
7. ALL STRUCTURAL WOOD EXPOSED TO THE ELEMENTS SHALL BE PRESSURE TREATED.
8. ALL CONNECTIONS THROUGH PRESSURE TREATED WOOD SHALL BE MADE WITH CORROSION RESISTANT FASTENERS.

PLANTING PROTECTION AND REMOVAL NOTES:

1. PRIOR TO THE COMMENCEMENT OF PLANTING PROTECTION AND REMOVAL SCOPE OF WORK, CONVENE A PRE-CONSTRUCTION CONFERENCE WITH AOR, LA, CONTRACTOR AND ANY ASSOCIATED AND RELEVANT DESIGN TEAM MEMBERS, SUBCONTRACTORS AND AHJ TO REVIEW WORK SCOPE, SCHEDULE AND TO REVIEW Q&A BY DESIGN TEAM, AHJ AND CONTRACTORS. CONTRACTOR TO PROVIDE MINIMUM 5 BUSINESS DAY NOTICE FOR ALL MEETINGS.
2. CONFIRM ALL PLANTING REMOVAL AND PROTECTION QUANTITIES AND DIMENSIONS.
3. INSTALL PLANT PROTECTION FENCING PRIOR TO SITE WORK AND MAINTAIN THROUGHOUT CONSTRUCTION PERIOD. NO STORAGE OF MATERIALS, VEHICULAR ACCESS OR ANY OTHER CONSTRUCTION ACTIVITIES PERMITTED WITHIN THE TREE PROTECTION ZONE UNO.
4. ALL PLANT AND SITE PROTECTION FENCING TO BE INSTALLED PRIOR TO HARDSCAPE DEMOLITION AND/OR CONSTRUCTION OPERATIONS.
5. ADJUST PLANT PROTECTION FENCING AS NEEDED THROUGHOUT CONSTRUCTION OPERATIONS TO PROTECT CRITICAL ROOT ZONES OF ALL TREES.
6. MARK ALL ROOT PRUNING LOCATIONS PRIOR TO EXECUTION FOR REVIEW AND APPROVAL BY LA.
7. PROVIDE 2 INCH (AFTER SETTLING) MULCH LAYER WITHIN CRITICAL ROOT ZONE OF EXISTING TREES AS MIN PROTECTION DURING CONSTRUCTION OPERATIONS. COORDINATE WITH AOR AND LA FOR ADDITIONAL MEASURES IF CRITICAL ROOT ZONES NEED TO BE ACCESSED FOR ANY REASON DURING CONSTRUCTION OPERATIONS. MULCH LAYER TO BE A 50/50 BLEND OF ¾ INCH SHREDDED HARDWOOD BARK FINES AND ¾ INCH PINE BARK FINES.
8. PROVIDE TEMPORARY IRRIGATION FOR ALL EXISTING PLANT MATERIAL AND MAINTAIN THROUGHOUT CONSTRUCTION OPERATIONS. PROVIDE IN SUCH A MANNER AS TO NOT IMPACT EXISTING ROOT SYSTEMS OF PLANT MATERIAL.
9. REMOVE ALL EXISTING TREE AND SHRUB STUMPS AND ROOTS THAT IMPACT WORK. GRIND OUT STUMPS TO A MINIMUM DEPTH OF 18". BRING TO FINISH GRADE PRIOR TO COMPLETION OF WORK.
10. REMOVE MULCH, LAWN, AND PLANTING BEDS AND EXCAVATE EARTH TO COORDINATE WITH GRADING, EARTHWORK AND SITE IMPROVEMENTS.
11. FOR PLANTING REMOVAL AND PROTECTION DETAILS, SEE SHEET(S) L-008, L-501.
12. FOR PLANTING REMOVAL AND PROTECTION SCHEDULE, SEE SHEET(S) L-008.

MOCKUP NOTES:

1. PRIOR TO THE COMMENCEMENT OF MOCKUPS, CONVENE A PRE-CONSTRUCTION CONFERENCE WITH AOR, LA, CONTRACTOR AND ANY ASSOCIATED AND RELEVANT DESIGN TEAM MEMBERS, SUBCONTRACTORS AND AHJ TO REVIEW WORK SCOPE, SCHEDULE AND TO REVIEW Q&A BY DESIGN TEAM, AHJ AND CONTRACTORS. CONTRACTOR TO PROVIDE MINIMUM 5 BUSINESS DAY NOTICE FOR ALL MEETINGS.

LANDSCAPE DRAINAGE NOTES:

1. PRIOR TO THE COMMENCEMENT OF DRAINAGE SCOPE OF WORK, CONVENE A PRE-CONSTRUCTION CONFERENCE WITH AOR, LA, CONTRACTOR AND ANY ASSOCIATED AND RELEVANT DESIGN TEAM MEMBERS, SUBCONTRACTORS AND AHJ TO REVIEW WORK SCOPE, SCHEDULE AND TO REVIEW Q&A BY DESIGN TEAM, AHJ AND CONTRACTORS. CONTRACTOR TO PROVIDE MINIMUM 5 BUSINESS DAY NOTICE FOR ALL MEETINGS.
2. CONFIRM ALL DRAINAGE QUANTITIES AND DIMENSIONS.
3. LANDSCAPE DRAINAGE SHOWN IS IN ADDITION TO CIVIL DRAINAGE, REFER TO CIVIL.
4. ALL DRAINAGE PIPING AND ACCESSORIES TO BE INSTALLED IN SEGMENTS WITH APPLICABLE CONNECTIONS. CONNECTION BETWEEN DRAINAGE PIPING IS NOT SHOWN BUT IS TO BE ASSUMED AND TO BE INCLUDED IN COSTS.
5. COORDINATE TAP LOCATIONS WITH CIVIL, REFER TO CIVIL.

STRUCTURAL STEEL NOTES:

1. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITIONS OF ALL AISC AND AWS SPECIFICATIONS AND CODES.
2. ALL STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL MEET THE REQUIREMENTS OF ASTM A992, FY = 50 KSI, UNLESS NOTED OTHERWISE. ALL STRUCTURAL STEEL PIPES AND TUBES SHALL MEET THE REQUIREMENTS OF ASTM A500, GRADE B. ALL OTHER STRUCTURAL STEEL SHAPES SHALL MEET THE REQUIREMENTS OF ASTM A36 UNO ALL STEEL TO BE HOT DIP GALVANIZED.
3. ALL BOLTS, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 OR ASTM A440. ALL ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM F1554, FY=36 KSI, UNO. ALL FASTENERS TO BE HOT DIP GALVANIZED UNO.
4. ALL WELDING ELECTRODES SHALL BE E70XX, UNO. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS AND SHALL CONFORM TO AWS "CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION", LATEST EDITION.
5. SHOP CONNECTIONS MAY BE WELDED UNO. MINIMUM WELDS NOT SHOWN ON THE DRAWINGS SHALL BE 1/4" FILLET WELDS ALL AROUND.
6. UNO ON THE DRAWINGS, ALL CONNECTIONS SHALL BE STANDARD DOUBLE ANGLE SHEAR CONNECTIONS. ALL BOLTS SHALL BE MINIMUM 3/4" DIAMETER, ASTM A325. THE MINIMUM NUMBER OF VERTICAL ROWS OF BOLTS SHALL BE AS BELOW, UNLESS NOTED OTHERWISE ON THE DRAWINGS. IN CASES WHERE REACTIONS ARE NOT INDICATED, PROVIDE AT LEAST 75% OF THE UNIFORM LOAD CARRYING CAPACITY OF THE BEAM AS DETERMINED IN THE TABLES FOR "UNIFORM LOAD CONSTANTS FOR BEAMS" IN THE AISC MANUAL OF STEEL CONSTRUCTION, 14TH EDITION, OR THE REACTION FORCE WHEN INDICATED ON THE DRAWING AS (F=X.X KIPS).
   a. W6,W8, W10: (2) ROWS
   b. W12 & W14: (3) ROWS
7. SEE SPECIFICATIONS FOR CONNECTIONS DESIGN RESPONSIBILITIES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES WITH RELATION TO TEMPERATURE DIFFERENTIAL AND TEMPORARY STRUCTURAL STABILITY.
9. STEEL SHALL BE CLEANED OF RUST, LOOSE MILL SCALE AND OTHER FOREIGN MATERIALS WHERE REQUIRED FOR PROPER FABRICATION, FITTING UP OR WELDING.
10. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR WRITTEN APPROVAL OF THE AOR, SOR AND LA.
11. REFER TO THE ARCHITECTURAL AND/OR MEP DRAWINGS FOR ADDITIONAL STRUCTURAL AND MISCELLANEOUS STEEL REQUIREMENTS. ALL EXTERIOR EDGE ANGLES, LINTELS AND SHELF ANGLES SHALL BE STAINLESS STEEL OR GALVANIZED AFTER FABRICATION. SEE SPECIFICATION FOR REQUIREMENTS.

HARDSCAPE NOTES:

1. PRIOR TO THE COMMENCEMENT OF HARDSCAPE SCOPE OF WORK, CONVENE A PRE-CONSTRUCTION CONFERENCE WITH AOR, LA, CONTRACTOR AND ANY ASSOCIATED AND RELEVANT DESIGN TEAM MEMBERS, SUBCONTRACTORS AND AHJ TO REVIEW WORK SCOPE, SCHEDULE AND TO REVIEW Q&A BY DESIGN TEAM, AHJ AND CONTRACTORS. CONTRACTOR TO PROVIDE MINIMUM 5 BUSINESS DAY NOTICE FOR ALL MEETINGS.
2. CONFIRM ALL HARDSCAPE QUANTITIES AND DIMENSIONS.
3. STAKE AND PAINT OUT ALL STRUCTURE EXTENTS AND FOOTING LOCATIONS, WALL FACES/BACKS, STAIR LOCATIONS, CURB FACES/BACKS AND PAVING EDGES PER PLANS FOR AOR AND LA REVIEW AND APPROVAL PRIOR TO EXCAVATION AND INSTALLATION. ADJUST ANY LAYOUT MODIFICATIONS BY AOR AND LA AT NO ADDITIONAL COST TO THE OWNER. ALL SURVEY AND LAYOUT COSTS BY CONTRACTOR.
4. ESTABLISH APPROVED LAYOUT LINES AND GRADES AND MAINTAIN THROUGH CONSTRUCTION FOR VERIFICATION BY AOR AND LA. ALL LINES TO BE STRAIGHT AND TRUE, ALL CURVES SHALL BE SMOOTH AND NON-FACETED WITH BOTH IN ACCORDANCE WITH THE PLANS AND APPROVED FIELD LAYOUT BY AOR AND LA.
5. FOR PRECISION OF LAYOUT REQUIREMENTS SEE SPECS. ALL EDGES OF HARDSCAPE ELEMENTS TO BE PAINTED AND MAINTAINED FOR AOR AND LA REVIEW AND APPROVAL PRIOR TO FORMING. ALL FORMING AND REINFORCEMENT TO BE REVIEWED AND APPROVED BY AOR AND LA PRIOR TO POURING.
6. MATCH LINE AND GRADE OF PAVEMENT, LAWN AND PLANTING AREAS TO EXISTING ADJACENT AREAS.
7. TRANSITION SMOOTHLY BETWEEN DIFFERENT SLOPES WITHOUT ABRUPT CHANGES IN SLOPE. REFER TO GRADING PLAN.
8. GRADE ALL HARDSCAPE SURFACES TO A MAXIMUM 5% SLOPE WITH A MAXIMUM CROSS SLOPE OF 2% AND A MINIMUM SLOPE OF 1%. SLOPE ALL PAVEMENT TO DRAIN.
9. ADJUST UTILITY STRUCTURES TO MEET FINISH GRADE.
10. LAYOUT CONTROL JOINTS AT A MAX 5' OC AND EXPANSION JOINTS AT A MAX 30' OC UNO. IF PAVEMENT IS ARCED, LAYOUT CONTROL JOINTS EQUALLY ALONG LENGTH OF ARCH AND PERPENDICULAR TO CENTERLINE OF ARC UNO.
11. ALL CONTROL JOINTS AND EXPANSION JOINTS ARE PERPENDICULAR AND PARALLEL TO BUILDING FACADE UNO.
12. CLEARLY MARK ALL VISIBLE SAW CUT CONTROL JOINTS PRIOR TO CUTTING FOR REVIEW AND APPROVAL BY AOR AND LA.
13. ALL EXPOSED VERTICAL CONCRETE EDGES TO BE CHAMFERED 1/2”, 45° UNO.
14. REFER TO SPECIFICATIONS FOR PAVEMENT REPAIR AND RESTORATION CRITERIA.
15. SET BOULDERS OR ANY OTHER STONE ELEMENTS OR FEATURES PRIOR TO PLACING ADJACENT HARDSCAPES. PROVIDE EXPANSION JOINT BETWEEN VERTICAL ELEMENTS AND ADJACENT HORIZONTAL SURFACES. COORDINATE WITH AOR AND LA IN FIELD PRIOR TO FINAL PLACEMENT OF BOULDERS.
16. COORDINATE REQUIREMENTS OF FOUNDATIONS FOR UTILITIES, LIGHTING, IRRIGATION AND SITE FURNISHINGS SCOPE IN CONJUNCTION WITH ALL HARDSCAPE OPERATIONS.
17. FOR HARDSCAPE DETAILS, SEE SHEET(S) L-503A, L-503B, L-503C, L-503D, L-503E.
18. FOR HARDSCAPE SCHEDULE, SEE SHEET(S) L-603.

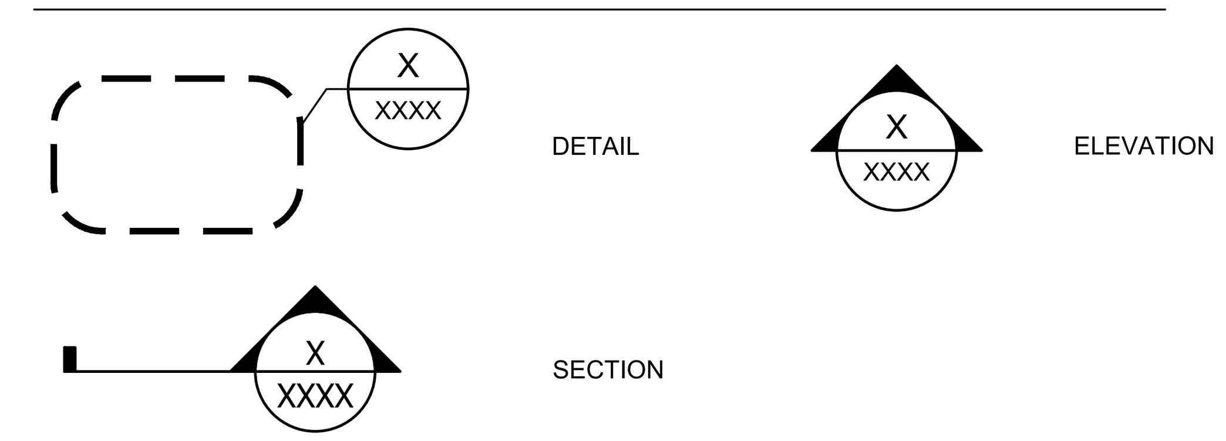
SOIL NOTES:

1. CONFIRM ALL SOIL QUANTITIES AND DIMENSIONS.
2. BASE SOIL MIX SHALL BE AS FOLLOWS:
   a. PLANTING TOPSOIL, EITHER EXISTING ON SITE OR IMPORTED, TO BE USED FOR NEW PLANTING SOILS ACROSS THE ENTIRE SITE SHALL MEET THE FOLLOWING CRITERIA (AMEND AS NECESSARY TO MEET SPEC):
      - CLAY VALUE NOT TO EXCEED (IDEAL RANGE 10-15%).
      - SAND VALUE (IDEAL RANGE 60-70%) SAND VALUES SHALL BE MOSTLY MEDIUM TO COURSE ON THE .25 AND .50 SIEVE.
      - REMAINDER TO BE SILT (IDEAL RANGE 15-30%)
      - ORGANIC MATTER NOT LESS THAN 3.5% AND NOT MORE THAN 5%
   b. LAWN TOPSOIL, EITHER EXISTING ON SITE OR IMPORTED, TO BE USED FOR NEW PLANTING SOILS ACROSS THE ENTIRE SITE SHALL MEET THE FOLLOWING CRITERIA (AMEND AS NECESSARY TO MEET SPEC):
      - CLAY VALUE NOT TO EXCEED 25% (IDEAL RANGE 5-25%).
      - SAND VALUE (IDEAL RANGE 25-50%) SAND VALUES SHALL BE MOSTLY MEDIUM TO COURSE ON THE .25 AND .50 SIEVE.
      - REMAINDER TO BE SILT (IDEAL RANGE 25-50%)
      - ORGANIC MATTER NOT LESS THAN 3.5% AND NOT MORE THAN 5%
3. AMENDMENTS FOR PLANTING MIXES:
   a. MIXED SOIL AMENDMENTS (4” DEPTH PROFILE TILLED INTO THE PROPOSED SOIL PROFILE DEPTH):
      - 4 PARTS AGED PINE FINES
      - 4 PARTS COURSE SAND
      - 2 PARTS COMPOSTED RICE HULLS
   b. PLACED SOIL AMENDMENTS:
      - GYPSUM-50#/1000 SF
      - UMAXX UREA-4#/1000 SF
      - POTASSIUM SULFATE-5#/1000SF
      - MONO-AMMONIUM PHOSPHATE-21#/1000SF
4. AMENDMENTS FOR LAWN MIXES:
   a. MIXED SOIL AMENDMENTS:
      - N/A
   b. PLACED SOIL AMENDMENTS:
      - GYPSUM-50#/1000 SF
      - UMAXX UREA-4#/1000 SF
      - POTASSIUM SULFATE-5#/1000SF
      - MONO-AMMONIUM PHOSPHATE-21#/1000SF
5. PROVIDE MULTIPLE SEPARATE SOURCES FOR INITIAL TESTING IN HOPE TO MINIMIZE THE NEED FOR ADDITIONAL SOIL AMENDMENTS.
6. PROVIDE 1 QUART SAMPLE ALONG WITH TESTING DATA FOR AOR AND LA REVIEW AND APPROVAL PRIOR TO FINAL PROCUREMENT AND PLACEMENT.
7. PLANTING MIX SHALL BE LOOSELY MIXED WITH A LOADER BUCKET AS FOLLOWS AND AS NECESSARY TO MEET SPEC: MIX “MIXED” SOIL AMENDMENTS TOGETHER SEPARATELY IN THE CORRECT PROPORTION. ADD SOIL AMENDMENTS BLEND TO UNSCREENED TOPSOIL. USE A PUSH AND DRAG MOTION WITH THE LOADER BUCKET, MIX THE COMPONENTS. DO NOT OVER MIX. USE TECHNIQUES THAT PRESERVE SOIL PEDS IN THE FINAL MIX.
8. LAWN MIX TO BE APPROVED TOPSOIL WITHOUT AMENDMENTS UNO.
9. PRIOR TO PLACEMENT SCARIFY/FRACTURE SUB-GRADE AND VERTICAL EDGES OF PLANTING SOIL EXCAVATIONS.
10. IMPORT SOIL TO MEET PROPOSED GRADES AFTER SETTLING. TOP OF SOIL PROFILE TO MEET 85% MODIFIED PROCTOR AFTER SETTLING.
11. PROVIDE TEST RESULTS FOR EVERY 1000 YARDS OF PLACED SOIL TO ENSURE ALL SOIL CONFORMS TO APPROVED PARAMETERS.
12. ONCE PLACED, SOIL PROFILES SHOULD BE PROTECTED FROM COMPACTION. SOIL PROFILES AFFECTED BY COMPACTION SHOULD BE REMOVED AND REPLACED OR AMENDED IN PLACE UNDER THE REVIEW OF AOR AND LA.

PLANTING NOTES:

1. PRIOR TO THE COMMENCEMENT OF PLANTING SCOPE OF WORK, CONVENE A PRE-CONSTRUCTION CONFERENCE WITH AOR, LA, CONTRACTOR AND ANY ASSOCIATED AND RELEVANT DESIGN TEAM MEMBERS, SUBCONTRACTORS AND AHJ TO REVIEW WORK SCOPE, SCHEDULE AND TO REVIEW Q&A BY DESIGN TEAM, AHJ AND CONTRACTORS. CONTRACTOR TO PROVIDE MINIMUM 5 BUSINESS DAY NOTICE FOR ALL MEETINGS.
2. CONFIRM ALL PLANTING QUANTITIES AND DIMENSIONS. QUANTITIES PROVIDED ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR TO VERIFY IMPLIED COVERAGE ON THE PLANTING PLANS. CONTRACTOR TO BRING ANY DISCREPANCIES TO THE ATTENTION OF THE LA AT THE TIME OF BID.
3. ALL PLANT MATERIAL TO BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
4. OBTAIN PERMIT FROM CITY OF CHICAGO BUREAU OF FORESTRY FOR ANY TREES REMOVED OR REPLACED IN THE PUBLIC ROW IF APPLICABLE.
5. OBTAIN A PERMIT TO REMOVE, SPRAY OR OTHERWISE AFFECT THE GENERAL HEALTH OR STRUCTURE OF EXISTING OR NEW TREES AND/OR OTHER PLANT MATERIAL.
6. EXISTING PARKWAY AND INTERIOR TREES/FENCING TO BE PROTECTED WHILE PROJECT IS UNDER CONSTRUCTION AND WILL BE REPLACED IF DAMAGED BY CONTRACTOR.
7. TAKE GREAT CARE NOT TO DAMAGE EXISTING OR NEW TREES OR OTHER PLANT MATERIAL DURING EXCAVATION, PLANTING AND OTHER CONSTRUCTION OPERATIONS. SEEK AOR AND LA APPROVAL TO WORK WITHIN THE DRIP LINE OF EXISTING TREES.
8. TAKE GREAT CARE WHEN WORKING WITHIN THE DRIP LINE OF ANY TREE IF APPROVED BY AOR AND LA. WHEN TRENCHING WITHIN DRIP LINES OF ANY TREE, OPERATIONS SHOULD BE CONDUCTED BY HAND WORKING IN A WHEEL AND SPOKE MANNER WORKING FROM THE TRUNK OF THE TREE OUTWARD. DAMAGED OR TORN ROOTS SHOULD BE IMMEDIATELY REPAIRED WITH A SMOOTH, CLEAN CUT. TAKE GREAT CARE DURING TILLAGE OPERATIONS WITHIN SPECIFIED TREE PROTECTION ZONES OF TREES TO REMAIN. WHEN MAJOR ROOTS ARE ENCOUNTERED EXCAVATE BY HAND TO AVOID DAMAGE TO ROOT SYSTEM.
9. ALL PLANT MATERIAL TO BE SPECIMEN QUALITY, WELL MATCHED IN FORM, NURSERY GROWN, SOUND, HEALTHY, VIGOROUS AND FREE OF INSECTS, DISEASE AND INJURIES WITH HABIT OF GROWTH THAT IS TYPICAL FOR THE SPECIES. SIZES SHALL BE EQUAL TO OR GREATER THAN THOSE NOTED ON THE PLANT LIST(S). DO NOT PROCEED WITH PLANTING INSTALLATION UNLESS LA HAS APPROVED ALL PLANT MATERIAL. ALL B&B MATERIAL TO BE OBTAINED FROM NURSERIES WITH SIMILAR SOIL CONDITIONS AS THE PROJECT SITE.
10. PROVIDE AOR AND LA WITH PLANT LIST AND INTENDED NURSERY SUPPLIERS FOR EACH ITEM TO LA WITHIN 30 DAYS OF AWARD OF CONTRACT. ANY UNAVAILABLE PLANT MATERIAL SHOULD BE NOTED AT THAT TIME. AOR AND LA RESERVES THE RIGHT TO ASSIST IN PLANT SOURCING AS NECESSARY. PROVIDE AOR AND LA WITH SUBSTITUTION LIST IN THE EVENT PROPOSED MATERIALS ARE UNAVAILABLE PRIOR TO PROCUREMENT FOR FINAL REVIEW AND APPROVAL.
11. COORDINATE NURSERY SELECTION AND TAGGING WITH AOR AND LA. AOR AND LA RESERVES THE RIGHT TO ACCEPT OR REJECT ANY AND ALL PLANT MATERIAL AS IT RELATES TO THE REQUIREMENTS IN THE SPECIFICATIONS. AOR AND LA RESERVES THE RIGHT TO REJECT PLANT MATERIAL IF DAMAGED OR UNHEALTHY UPON ARRIVAL TO THE PROJECT SITE EVEN AFTER INITIAL APPROVAL.
12. PROVIDE IDENTIFICATION TAG FROM THE SUPPLYING NURSERY SHOWING COMMON AND BOTANICAL PLANT NAMES FOR AT LEAST ONE PLANT OF EACH UNIQUE SPECIES DELIVERED TO THE SITE.
13. PRIOR TO PLANTING INSTALLATION, VERIFY PLANTING AREAS ARE GRADED AT =/-0.1 FEET TO FINISHED GRADE.
14. CONFIRM PLANTING AREAS ARE MIN 4 INCHES BELOW FINISH FLOOR ELEVATION UNO.
15. FINISHED GRADE OF PLANTING AREAS TO MEET ADJACENT HARDSCAPES 2 INCHES BELOW ELEVATION OF HARDSCAPES UNO.
16. IF PLANTING PITS ARE MACHINE EXCAVATED AND GLAZING IS PRONOUNCED, SCARIFY ALL SIDES.
17. REMOVE ALL ROCK AND DEBRIS 1 INCH AND LARGER FROM PLANTING AREAS. LEGALLY DISPOSE ALL EXCESS MATERIALS RESULTING FROM THE WORK.
18. WITHIN PLANTING EXCAVATIONS, REMOVE CRUSHED AGGREGATE TO AN ADEQUATE DEPTH TO ENSURE THAT NO PART OF THE PLANT MATERIAL OR FUTURE EXTENTS OF ROOT SYSTEM IS IN CONTACT OR AFFECTED BY THE LIME OR LIMESTONE WITHIN THE AGGREGATE.
19. STAKE ALL TREES AND FLAG ALL SHRUB LOCATIONS FOR REVIEW AND APPROVAL BY AOR AND LA PRIOR TO PLANTING. PROVIDE LA WITH A MINIMUM OF 5 BUSINESS DAYS NOTICE PRIOR TO REVIEW.
20. SET ALL TREES AND SHRUBS ON TOP OF FINISHED GRADE PER APPROVED STAKED AND FLAGGED LOCATIONS FOR FACING AND FINAL APPROVAL BY AOR AND LA PRIOR TO PLANTING.
21. FOR ALL GRASSES, PERENNIALS, GROUNDCOVER AND ANNUALS, SET OUT PLANT MATERIAL ON TOP OF PROPOSED GRADE FOR AOR AND LA REVIEW PRIOR TO PLANTING IN ACCORDANCE WITH PLANTING PLANS. AOR AND LA RESERVE THE RIGHT TO MODIFY THE PLANTINGS AS NEEDED.
22. INSTALL ALL PLANT MATERIAL IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS.
23. REMOVE ALL PLANT TYING MATERIAL AND MARKING TAPES AT THE TIME OF PLANTING. LEAVE AOR AND LA NURSERY SEALS IN PLACE FOR THE DURATION OF THE SPECIFIED WARRANTY PERIOD.
24. FOR B&B MATERIAL, REMOVE TOP 1/3 OF METAL CAGE AND BURLAP FROM ROOT BALL AND PROPERLY DISPOSE. DO NOT FOLD DOWN, CAGE MUST BE REMOVED. IMMEDIATELY REPORT ANY DAMAGE TO ROOT BALLS OR PLANTS TO AOR AND LA.
25. FOR CONTAINER MATERIAL WHERE APPLICABLE LOOSEN ROOT MASS BY HAND OR IF REQUIRED BY CUTTING (4) 1 INCH DEEP VERTICAL SLITS EVENLY SPACED AROUND ROOT BALL OF PLANT PRIOR TO PLANTING. REPEAT SLITS IN X PATTERN ON BOTTOM OF ROOT MASS.
26. ROOT FLARE OF PLANTS TO BE SET MIN AT FINISHED GRADE OR NO MORE THAN 3 INCHES ABOVE FINISHED GRADE.
27. ROOT FLARE OF PLANTS INSTALLED IMMEDIATELY ADJACENT TO HARDSCAPE TO BE PLANTED NO MORE THAN 1 INCH ABOVE FINISHED GRADE TO ENSURE SMOOTH TRANSITION TO HARDSCAPE.
28. FOR PERENNIALS AND GROUNDCOVERS, PLANT 1 INCH ABOVE SOIL PROFILE TO ACCOMMODATE MULCH LAYER.
29. DURING BACKFILL OF ALL PLANTS (WITH THE EXCEPTION OF SOD AND SEEDED LAWNS) SUPPLEMENT BACKFILL WITH PLANTING SOIL SUPPLEMENTS AS NOTED IN THE SPECS. REFER TO MANUFACTURER REQUIREMENTS FOR INSTALLATION.
30. DO NOT ALLOW AIR POCKETS TO FORM IN SOIL WHILE BACKFILLING.
31. TREE STAKING AND GUYING TO BE REVIEWED WITH AOR AND LA WHEN DEEMED NECESSARY PRIOR TO INSTALLATION.
32. ALL NEWLY INSTALLED PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO THE NEW GRADE AS THEY BORE TO NURSERY GRADES UNO.
33. WATER AND MAINTAIN PLANT MATERIAL WHILE BEING STORED ON SITE, IMMEDIATELY AFTER PLANTING AND UNTIL FINAL ACCEPTANCE.
34. ALL PLANTINGS BED EDGES TO HAVE A SPADED EDGE UNO. BOTTOM OF SPADED EDGE TO BE 2 INCHES BELOW THATCH OR ADJACENT HARDSCAPE SURFACE.
35. PROVIDE 2 INCH (AFTER SETTLEMENT) OF MULCH OVER ALL PLANTING BEDS UPON COMPLETION OF PLANTING OPERATIONS. MULCH TO BE A 50/50 BLEND OF ¾ INCH SHREDDED HARDWOOD BARK FINES AND ¾ INCH PINE BARK FINES UNO.
36. SOD IS TO BE CUT WITH 1 INCH OF SOIL UNO.
37. DO NOT ALLOW SOD TO BE ROLLED UP FOR A PERIOD LONGER THAN 12 CONSECUTIVE HOURS.
38. AOR AND LA TO APPROVE FINE GRADING OF LAWN SOIL PRIOR TO SOD INSTALLATION.
39. SCARIFY LAWN SOIL 1/2 INCH PRIOR TO INSTALLATION AND APPROVED BY LA.
40. ALTERNATE SOD SEAMS TO ELIMINATE CONTINUOUS SEAMS, OVERLAPPING ADJACENT SOD PANEL BY ½ FOR SMALL ROLL SOD.
41. INSTALL AND MAINTAIN SOD TO ELIMINATE LUMPS IN SURFACE AND SEAMS.
42. SOD TO MEET ALL ADJACENT HARDSCAPE SURFACES FLUSH WITH TOP OF THATCH LAYER.
43. ROLL SOD WITH APPROPRIATELY SIZED ROLLER TO PROVIDE PROPER SOD TO SOIL INTERFACE.
44. COMPLETELY WATER IN SOD DEEPLY IMMEDIATELY AFTER ROLLING.
45. PROTECT SEEDED AREAS AND SLOPES AGAINST EROSION AND SEED LOSS DUE TO BIRDS AND OTHER WILDLIFE BY APPLYING SHORT TERM, BIODEGRADABLE EROSION CONTROL BLANKETS, MATS, AND/OR NETTING AFTER COMPLETION OF SEEDING OPERATIONS. ADHERE TO MANUFACTURER'S REQUIREMENTS FOR REQUIRED PLACEMENT AND STAKING.
46. PRUNING OPERATIONS SHOULD FOLLOW APPLICABLE ANSI STANDARDS UNO. UPON COMPLETION OF WORK UNDER THIS CONTRACT, PRUNE AND REPAIR INJURIES TO ALL PLANTS. LIMIT AMOUNT OF PRUNING TO MINIMUM NECESSARY TO REMOVE INJURED OR DAMAGED BRANCHES, TWIGS AND STEMS AND TO COMPENSATE FOR THE LOSS OF ROOTS AS A RESULT OF TRANSPLANTING OPERATIONS. PRUNE IN SUCH A MANNER AS NOT TO CHANGE NATURAL HABIT OR SHAPE UNO. ALL HEDGE PRUNING TO BE COMPLETED UNDER THE REVIEW BY AOR AND LA.
47. DURING PUNCH LIST REVIEW, COORDINATE WITH AOR AND LA TO REVIEW AESTHETIC PRUNING NEEDS FOR ALL PLANTS. AOR AND LA TO MARK (WITH YELLOW RIBBON) OR SELF CONDUCT AESTHETIC PRUNING WITH CONTRACTOR AS PART OF THE SUBSTANTIAL COMPLETION REVIEW.
48. WARRANTY ALL PLANT MATERIAL FOR A MIN PERIOD OF 1 YEAR FROM FINAL ACCEPTANCE UNO IN THE SPECIFICATIONS. REMOVE AND REPLACE PLANTS AS DETERMINED BY LA TO BE SIGNIFICANTLY UNHEALTHY OR DEAD PER THE CRITERIA SET FORTH IN THE SPECS. CONDUCT REPLACEMENTS DURING THE APPROPRIATE PLANTING SEASON AS DETERMINED BY THE LOCAL CLIMATE AND INDUSTRY STANDARDS. REPLACEMENTS SHOULD CONFORM TO THE CRITERIA SHOWN AND SPECIFIED. SEE SPECS FOR ALL MAINTENANCE REQUIREMENTS. SIZE, CHARACTER AND FORM OF ALL REPLACEMENTS TO BE SIMILAR TO THE ORIGINAL APPROVED MATERIAL AND APPROVED BY THE AOR AND LA.
49. ALL PLANT MATERIAL IS SHOWN AS ANTICIPATED SIZE AT INSTALLATION. PLANT GROWTH VARIES BY SPECIES AND YEARLY CLIMACTIC CONDITIONS.

SYMBOLS:



ABBREVIATIONS:

&	AND	MAX	MAXIMUM
@	AT	MIN	MINIMUM
AHJ	AUTHORITY HAVING JURISDICTION	NIC	NOT INCLUDING IN CONTRACT
AOR	ARCHITECT OF RECORD	NPT	NATIONAL PIPE THREAD
BIT	BITUMINOUS	NTS	NOT TO SCALE
BOC	BACK OF CURB	OC	ON CENTER
BSG	BELOW SURFACE GRADE	OFOI	OWNER FURNISHED, OWNER INSTALLED
CB	CATCH BASIN	PAV-1	PAVING - ONE
CCD	CITY OF CHICAGO DATUM	PAV-2	PAVING - TWO
CJ	CONTROL JOINT	PC	PORTLAND CEMENT
C	CENTER LINE	PCC	PORTLAND CEMENT CONCRETE
CIP	CAST IN PLACE	R	RADIUS
CONC	CONCRETE	ROW	RIGHT OF WAY
DIA.	DIAMETER	SIM	SIMILAR
EL	ELEVATION	SRO	SOIL REMEDIATION OBJECTIVE
EJ	EXPANSION JOINT	SS	STAINLESS STEEL
EMT	ELECTRICAL METALLIC TUBING	STR	STAIR
ESC	ESCALATOR	TYP	TYPICAL
EXIST	EXISTING	UNO	UNLESS NOTED OTHERWISE
G	CUTTER	UST	UNDERGROUND STORAGE TANK
H	HEIGHT	VCP	VITRIFIED CLAY PIPE
HP	HIGH POINT	VIF	VERIFY IN FIELD
INV	INVERT	W	WIDTH
INLET	DRAIN INLET	WP	WATERPROOF
LA	LANDSCAPE ARCHITECT	WT	WEIGHT
L	LENGTH	WWF	WELDED WIRE FRAME
LBS, #	POUNDS	W/	WITH
MH	MANHOLE		

Sheet List Table

DESCRIPTION	DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

WAUWATOSA
IN GOD WE TRUST

THE SIGMA GROUP
Single Source. Sound Solutions.
site

GENERAL NOTES

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L003

1 OVERALL SITE PLAN (FOR REFERENCE ONLY)
1"= 80'-0"

0 40 80 120 160'

LEGEND

- PROPERTY LINE
- RAISED CONCRETE CURB
- FLUSH CONCRETE CURB
- CONCRETE PAVEMENT
- CONCRETE PAVEMENT THICKENED EDGE
- EJ — EXPANSION JOINT
- CONTROL JOINT
- PLAY TURF SURFACING W/ AGGREGATE SUBBASE
- PLAY TURF SURFACING W/ CONCRETE SUBBASE
- ENGINEERED WOOD FIBER
- STABILIZED AGGREGATE PAVING
- SENSORY WALK
- BOULDERS
- LEDGE ROCK
- STONE STEPPERS
- EXISTING TREE TO REMAIN
- TREES: FOR REFERENCE ONLY
- EXISTING TREES TO REMAIN AND BE PROTECTED
- SHRUBS: FOR REFERENCE ONLY
- PERENNIALS AND ORNAMENTAL GRASSES FOR REFERENCE ONLY
- SOD
- EMERGENT PLUGS
- SEED MIX - SEE PLANTING PLANS
- MULCH RING
- HANDRAIL
- WOODEN PLATFORM
- CONCRETE LOG BEAM
- WOODEN LOG BEAM AND STEPPERS
- BENCH SWINGS
- PICNIC TABLES
- BENCHES
- GAME TABLE
- BIKE RACK
- HOT COAL RECEPTACLE
- TRASH AND RECYCLING RECEPTACLES

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

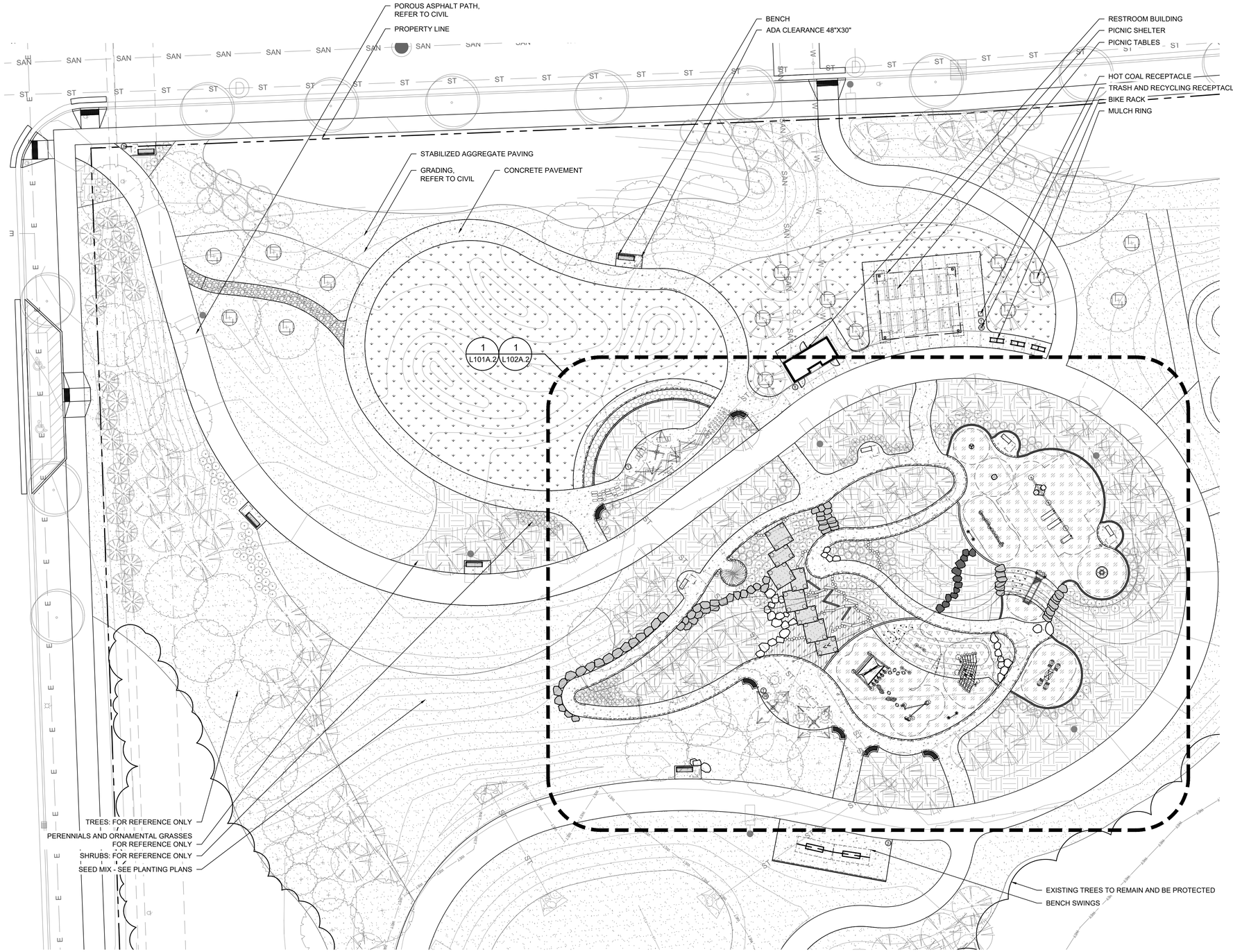
THE SIGMA GROUP
Single Source. Sound Solutions.

LANDSCAPE SITE PLAN

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L101



LEGEND

- PROPERTY LINE
- RAISED CONCRETE CURB
- FLUSH CONCRETE CURB
- CONCRETE PAVEMENT
- CONCRETE PAVEMENT THICKENED EDGE
- EXPANSION JOINT
- CONTROL JOINT
- PLAY TURF SURFACING W/ AGGREGATE SUBBASE
- PLAY TURF SURFACING W/ CONCRETE SUBBASE
- ENGINEERED WOOD FIBER
- STABILIZED AGGREGATE PAVING
- SENSORY WALK
- BOULDERS
- LEDGE ROCK
- STONE STEPPERS
- EXISTING TREE TO REMAIN
- TREES: FOR REFERENCE ONLY
- EXISTING TREES TO REMAIN AND BE PROTECTED
- SHRUBS: FOR REFERENCE ONLY
- PERENNIALS AND ORNAMENTAL GRASSES FOR REFERENCE ONLY
- SOD
- EMERGENT PLUGS
- SEED MIX - SEE PLANTING PLANS
- MULCH RING
- HANDRAIL
- WOODEN PLATFORM
- CONCRETE LOG BEAM
- WOODEN LOG BEAM AND STEPPERS
- BENCH SWINGS
- PICNIC TABLES
- BENCHES
- GAME TABLE
- BIKE RACK
- HOT COAL RECEPTACLE
- TRASH AND RECYCLING RECEPTACLES

1 LANDSCAPE SITE PLAN ENLARGEMENT
1"=20'-0"

0 10 20 30 40'

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

site

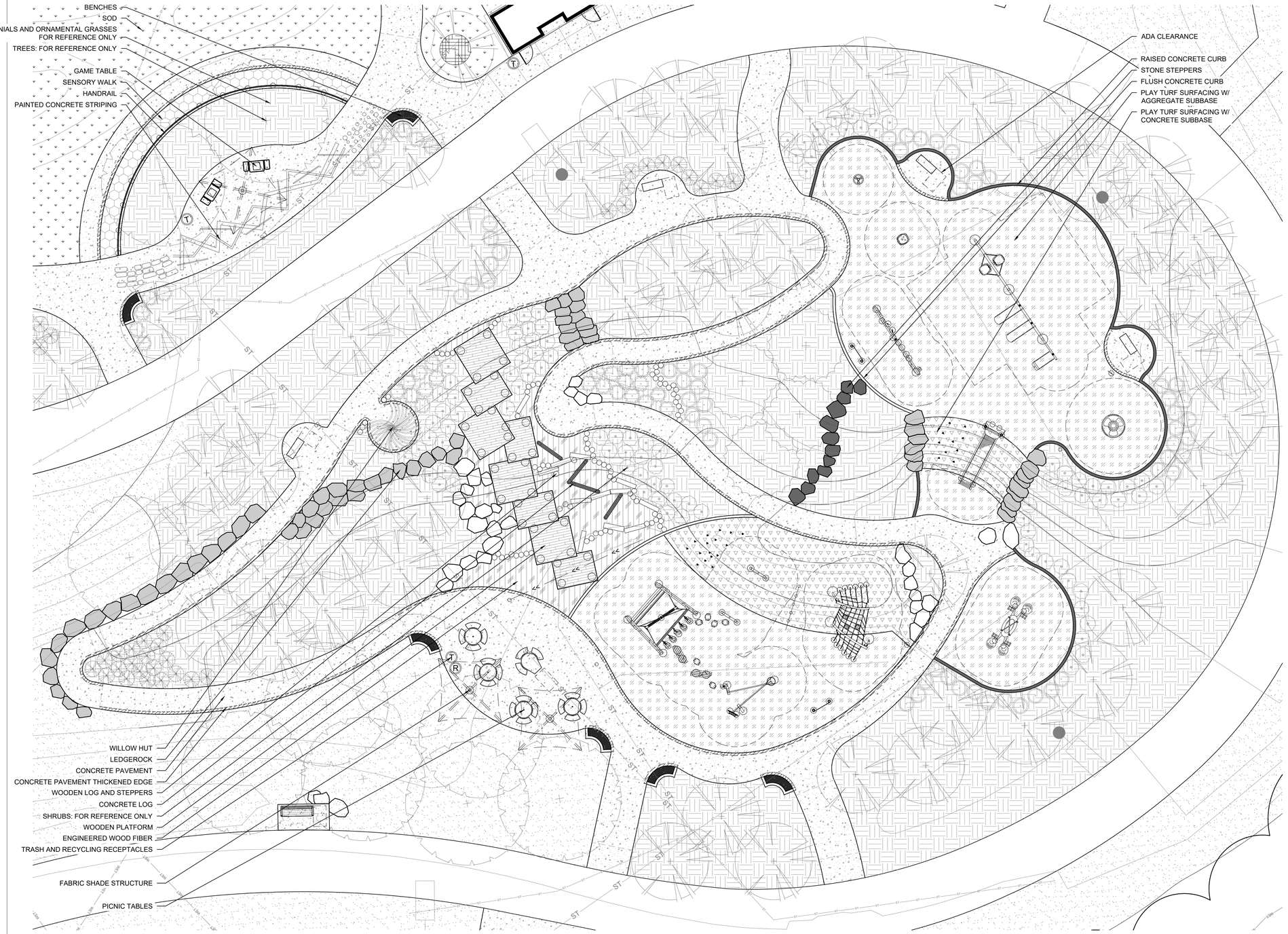
LANDSCAPE SITE PLAN ENLARGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L101A.1

FILE NAME: 9509_SITE.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L101A.1



LEGEND

- PROPERTY LINE
- RAISED CONCRETE CURB
- FLUSH CONCRETE CURB
- CONCRETE PAVEMENT
- CONCRETE PAVEMENT THICKENED EDGE
- EXPANSION JOINT (EJ)
- CONTROL JOINT
- PLAY TURF SURFACING W/ AGGREGATE SUBBASE
- PLAY TURF SURFACING W/ CONCRETE SUBBASE
- ENGINEERED WOOD FIBER
- STABILIZED AGGREGATE PAVING
- SENSORY WALK
- BOULDERS
- LEDGE ROCK
- STONE STEPPERS
- EXISTING TREE TO REMAIN
- TREES: FOR REFERENCE ONLY
- EXISTING TREES TO REMAIN AND BE PROTECTED
- SHRUBS: FOR REFERENCE ONLY
- PERENNIALS AND ORNAMENTAL GRASSES FOR REFERENCE ONLY
- SOD
- EMERGENT PLUGS
- SEED MIX - SEE PLANTING PLANS
- MULCH RING
- HANDRAIL
- WOODEN PLATFORM
- CONCRETE LOG BEAM
- WOODEN LOG BEAM AND STEPPERS
- BENCH SWINGS
- PICNIC TABLES
- BENCHES
- GAME TABLE
- BIKE RACK
- HOT COAL RECEPTACLE
- TRASH AND RECYCLING RECEPTACLES

1 LANDSCAPE PLAN ENLARGEMENT
1"=10'-0"

0 5 10 15 20'

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

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SITE

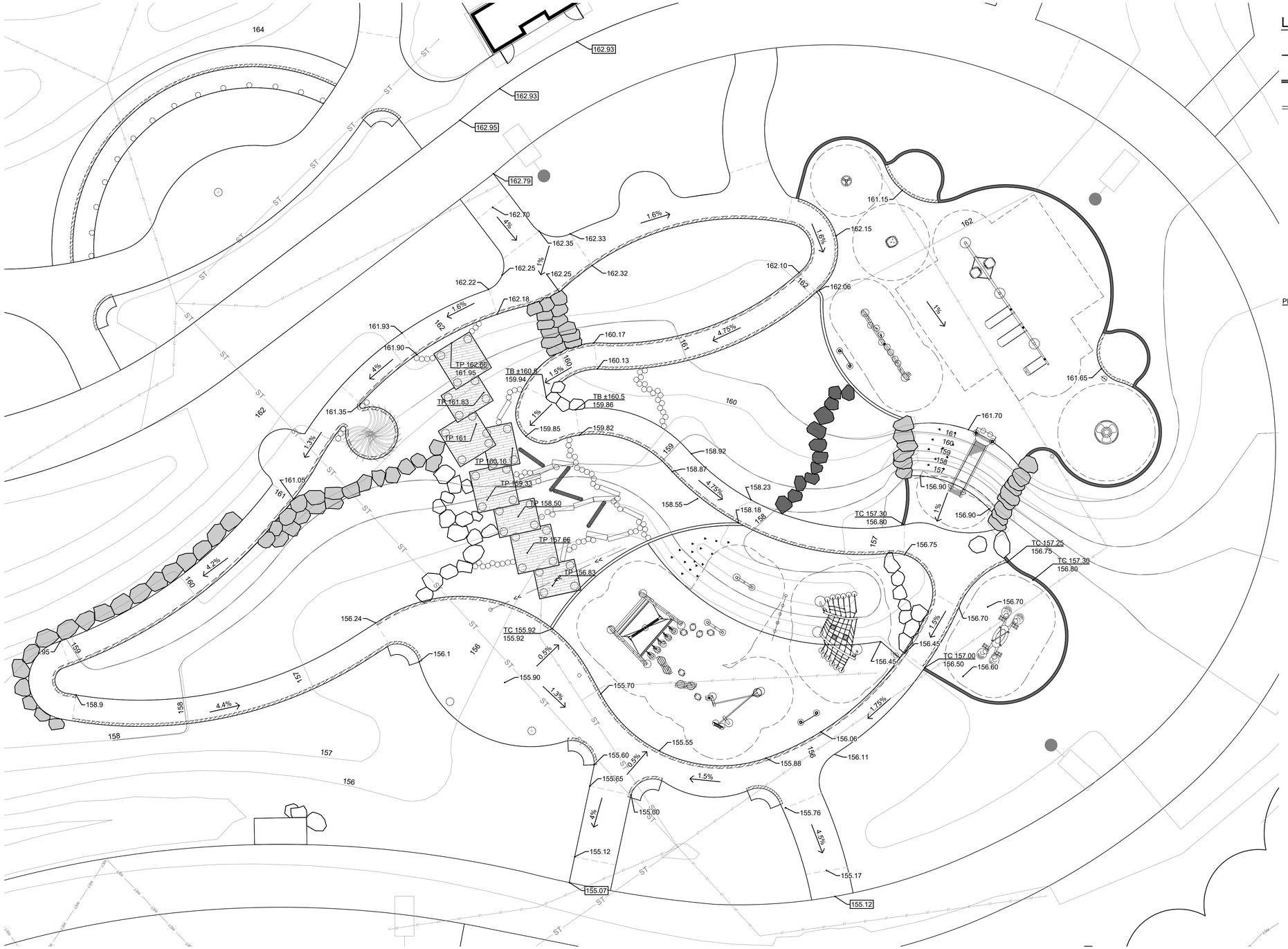
LANDSCAPE PLAN ENLARGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L101A.2

FILE NAME: 9509_SITE.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L101A.2



LEGEND

- PROPERTY LINE
- RAISED CONCRETE CURB
- FLUSH CONCRETE CURB
- BOULDERS
- STONE STEPPERS
- WOODEN PLATFORM
- CONCRETE LOG
- WOODEN LOG AND STEPPERS
- xxx.xx — SITE GRADING SPOT ELEVATION REFER TO CIVIL

PLAYGROUND GRADING

- GRADE BREAK LINE
- xxx.xx — SPOT ELEVATION
- xxx.xx / xxx.xx — T/B SPOT ELEVATION
- 0.5% — SLOPE INDICATOR

GRADING ABBREVIATIONS:

TB	TOP OF BOULDER
TC	TOP OF CURB
TLB	TOP OF LOG BALANCE BEAM
TLS	TOP OF LOG STEPPER
TS	TOP OF STONE STEPPER
TP	TOP OF PLATFORM

1 PLAYGROUND GRADING PLAN ENLARGEMENT
1"=10'-0"

0 5 10 15 20'

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
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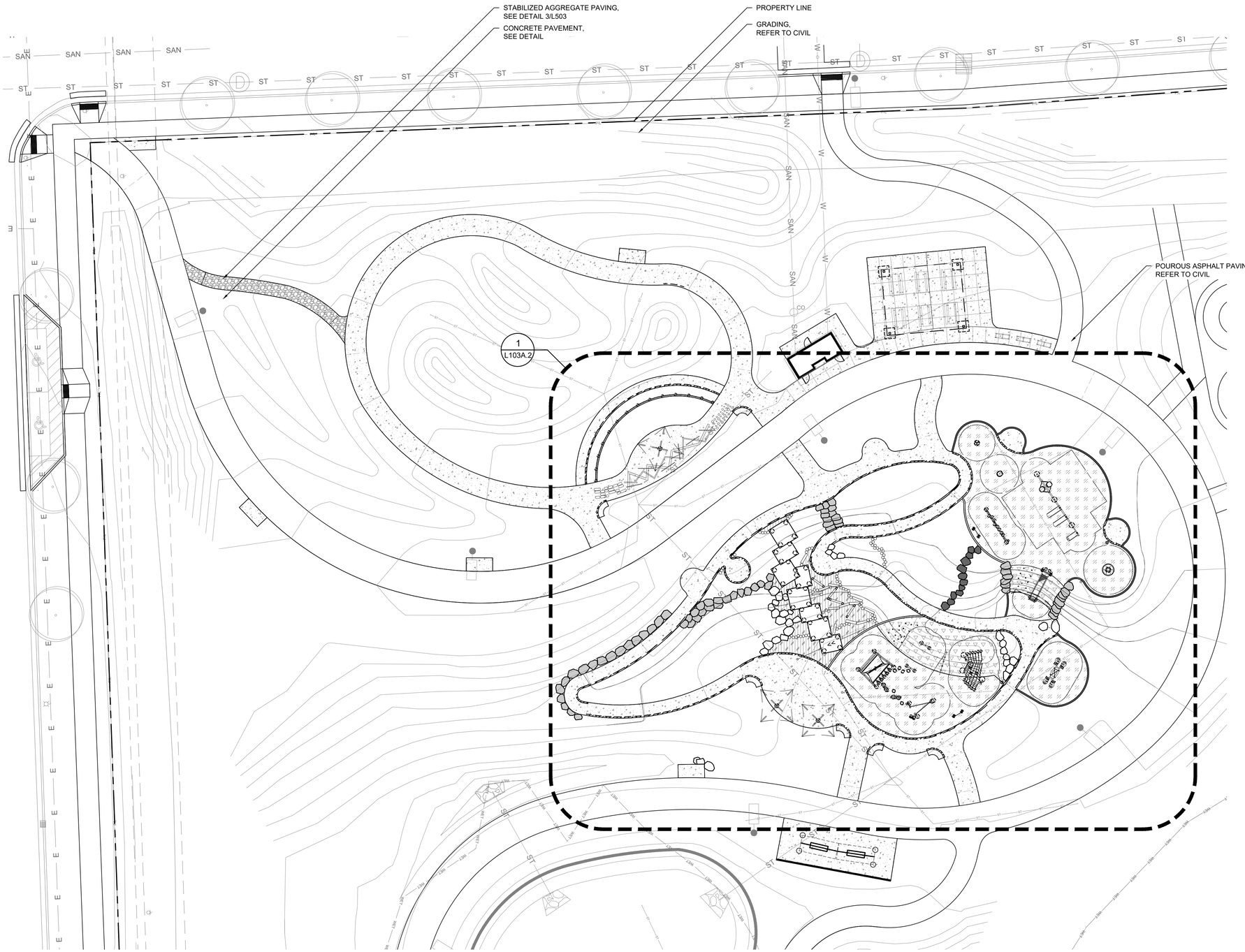
PLAYGROUND GRADING PLAN ENLARGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L102A.2

FILE NAME: 9509_SITE.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L102A.2



LEGEND

- PROPERTY LINE
- RAISED CONCRETE CURB
- FLUSH CONCRETE CURB
- CONCRETE PAVEMENT
- CONCRETE PAVEMENT THICKENED EDGE
- EXPANSION JOINT (EJ)
- CONTROL JOINT
- PLAY TURF SURFACING W/ AGGREGATE SUBBASE
- PLAY TURF SURFACING W/ CONCRETE SUBBASE
- ENGINEERED WOOD FIBER
- STABILIZED AGGREGATE PAVING
- SENSORY WALK
- BOULDERS
- LEDGE ROCK
- STONE STEPPERS

1 HARDSCAPE PLAN ENALRGEMENT
1"= 20'-0"

0 10 20 30 40'

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
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HARDSCAPE PLAN ENALRGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L103A.1

FILE NAME: 9509_HARD.DWG | PLOT DATE: ~~2024~~-02-15 | PLOTTED BY: DEREK | SHEET: L103A.1

LEGEND

- PROPERTY LINE
- RAISED CONCRETE CURB
- FLUSH CONCRETE CURB
- CONCRETE PAVEMENT
- CONCRETE PAVEMENT THICKENED EDGE
- EXPANSION JOINT
- CONTROL JOINT
- PLAY TURF SURFACING W/ AGGREGATE SUBBASE
- PLAY TURF SURFACING W/ CONCRETE SUBBASE
- ENGINEERED WOOD FIBER
- STABILIZED AGGREGATE PAVING
- SENSORY WALK
- BOULDERS
- LEDGE ROCK
- STONE STEPPERS

1 HARDSCAPE PLAN ENLARGEMENT
1"= 10'-0"

0 5 10 15 20'

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

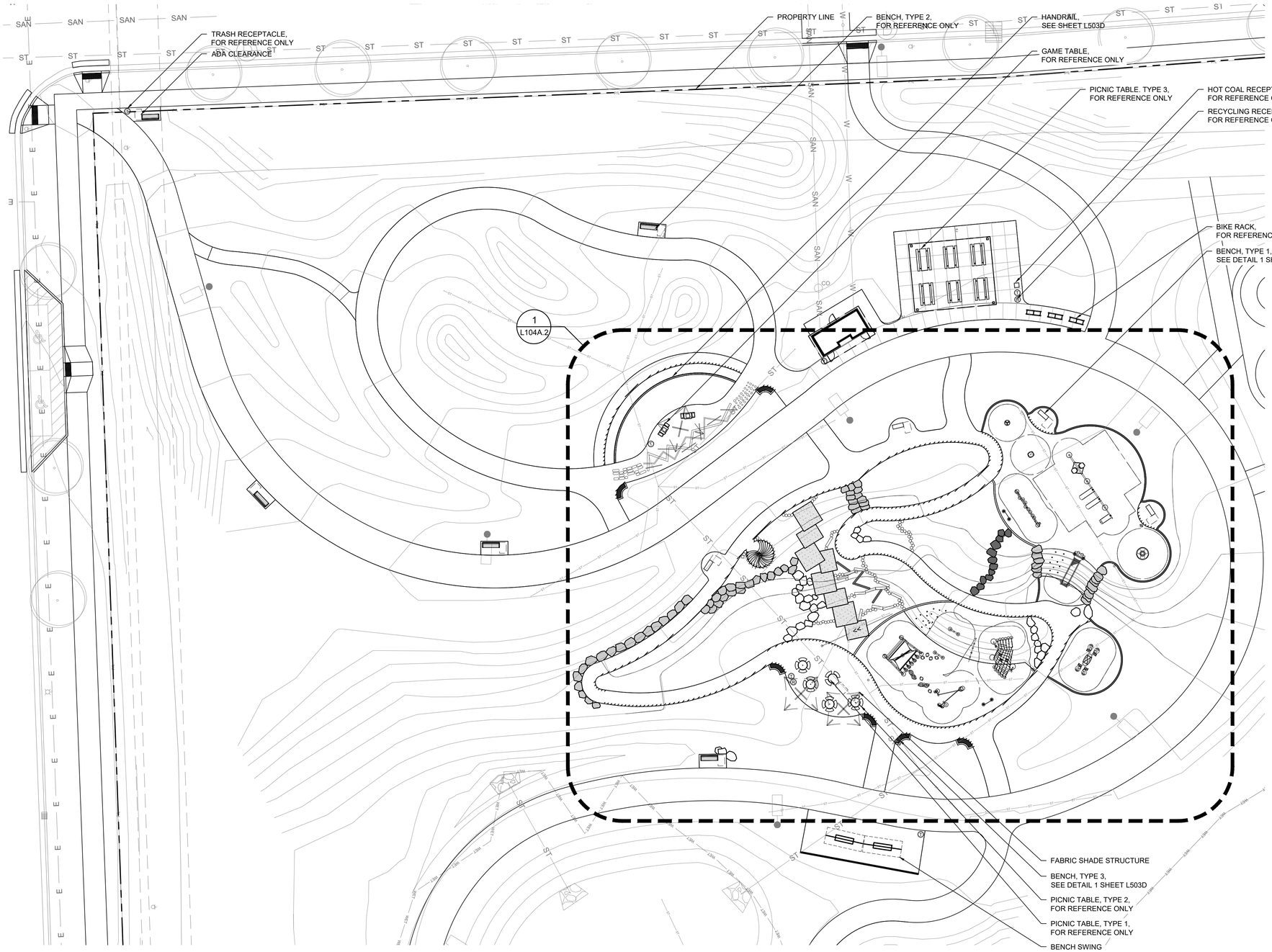
HARDSCAPE PLAN ENLARGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L103A.2

FILE NAME: 9509_HARD.DWG
PLOT DATE: 2024-02-15
PLOTTED BY: DEREK
SHEET: L103A.2



LEGEND

- PROPERTY LINE
- HANDRAIL
- WOODEN PLATFORM
- CONCRETE LOG
- WOODEN LOG AND STEPPERS
- BENCH SWINGS
- TRASH RECEPTACLE
- RECYCLING RECEPTACLE
- PICNIC TABLE, TYPE 1
- PICNIC TABLE, TYPE 2
- PICNIC TABLE, TYPE 3
- BENCH, TYPE 1
- BENCH, TYPE 2
- BENCH, TYPE 3
- GAME TABLE
- BIKE RACK
- HOT COAL RECEPTACLE
- ADA CLEARANCE

1 SITE FURNISHINGS PLAN ENLARGEMENT
1"= 20'-0"

0 10 20 30 40'

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
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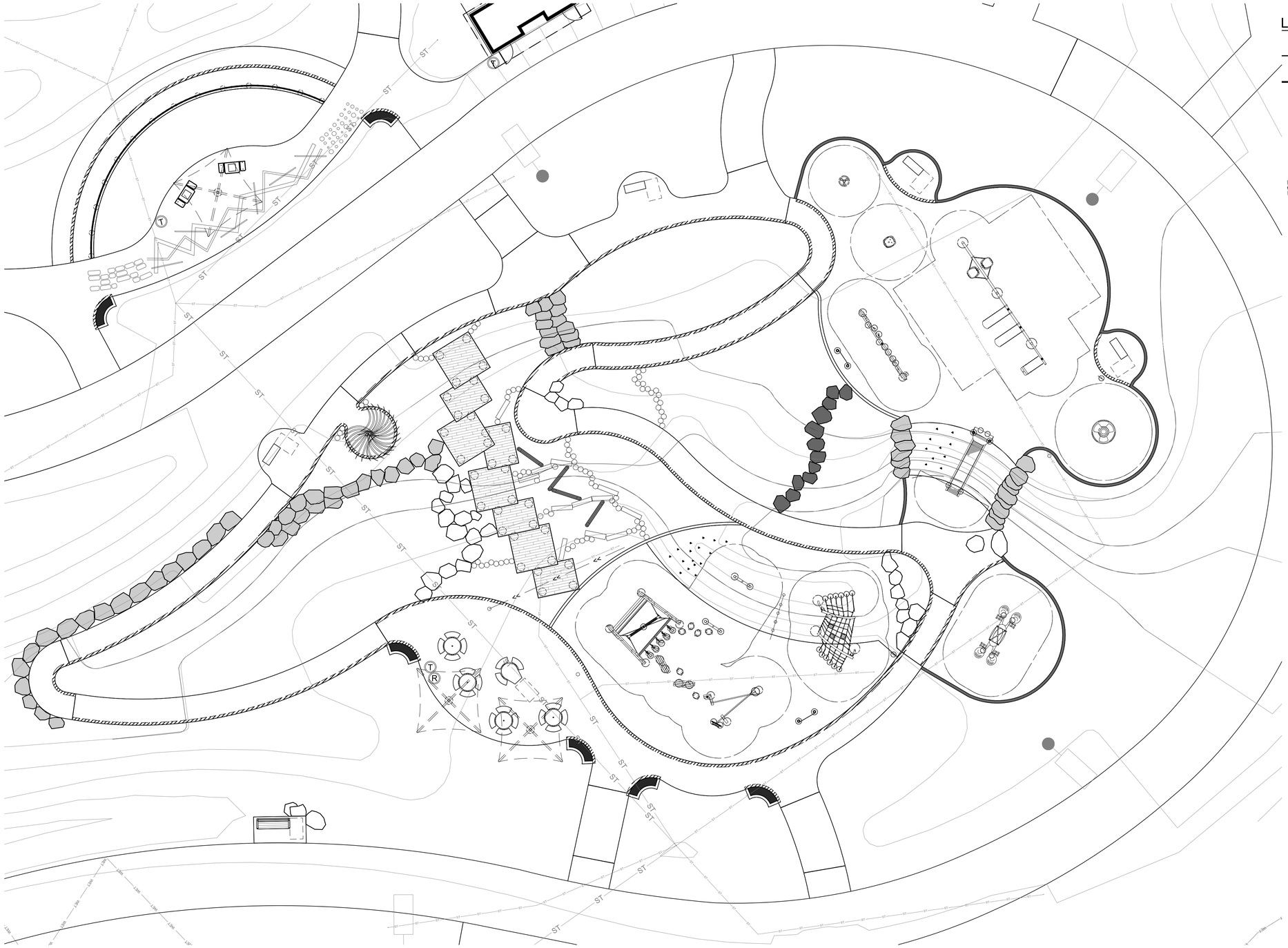
SITE FURNISHINGS PLAN ENLARGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L104A.1

FILE NAME: 9509_FURN.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L104A.1



LEGEND

- PROPERTY LINE
- HANDRAIL
- WOODEN PLATFORM
- CONCRETE LOG
- WOODEN LOG AND STEPPERS
- BENCH SWINGS
- TRASH RECEPTACLE
- RECYCLING RECEPTACLE
- PICNIC TABLE, TYPE 1
- PICNIC TABLE, TYPE 2
- PICNIC TABLE, TYPE 3
- BENCH, TYPE 1
- BENCH, TYPE 2
- BENCH, TYPE 3
- GAME TABLE
- BIKE RACK
- HOT COAL RECEPTACLE
- ADA CLEARANCE

1 PLAYGROUND EQUIPMENT ENLARGEMENT PLAN (FOR REFERENCE ONLY)
1"=10'-0"

0 5 10 15 20'

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

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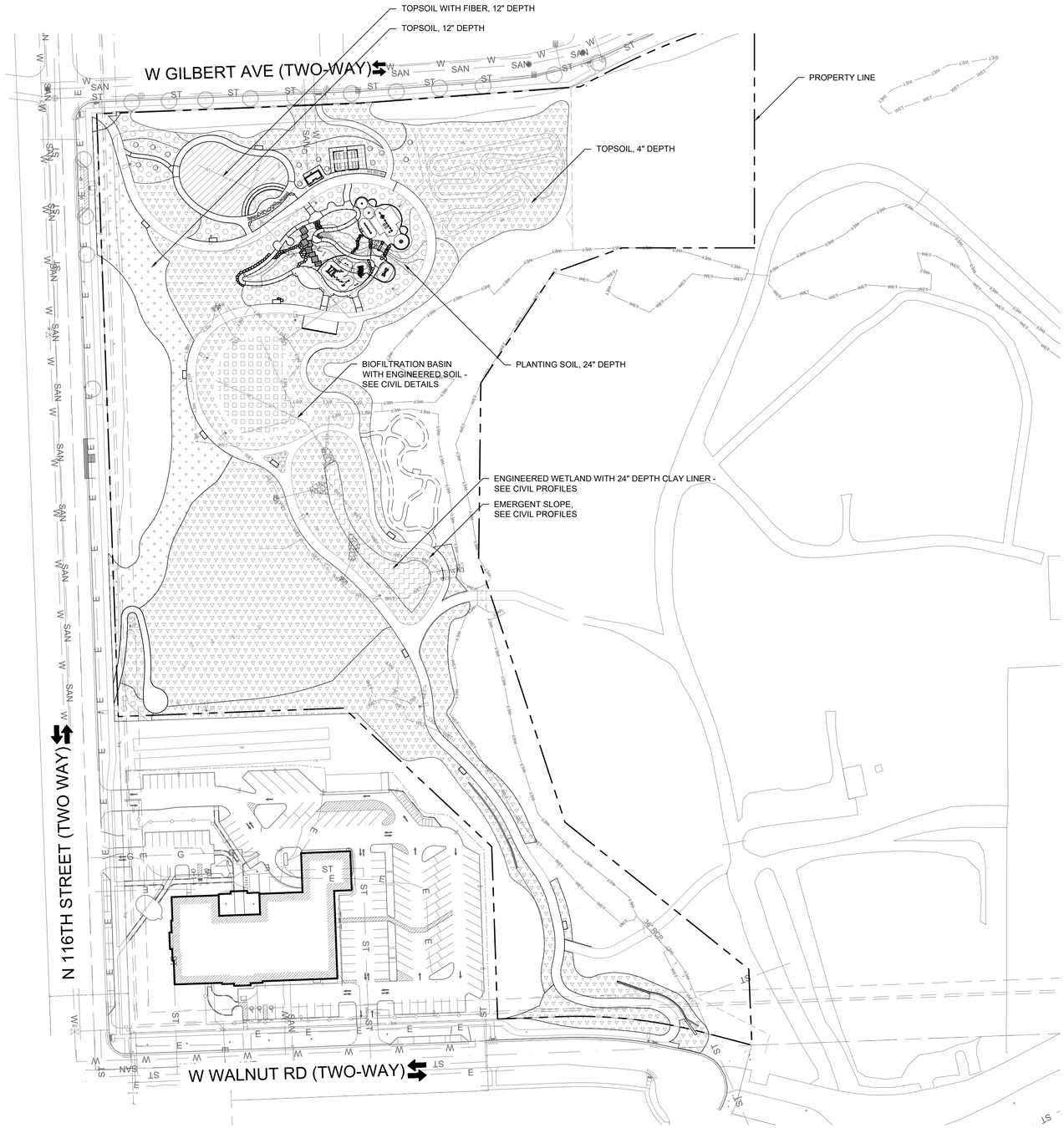
PLAYGROUND EQUIPMENT ENLARGEMENT PLAN (FOR REFERENCE ONLY)

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L104A.2

FILE NAME: 9509_FURN.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L104A.2



LEGEND

- PROPERTY LINE
- TOPSOIL, 4" DEPTH
- TOPSOIL, 12" DEPTH
- TOPSOIL WITH FIBER, 12" DEPTH
- PLANTING SOIL, 24" DEPTH
- BIOFILTRATION BASIN WITH ENGINEERED SOIL - SEE CIVIL DETAILS
- ENGINEERED WETLAND WITH 24" DEPTH CLAY LINER - SEE CIVIL DETAILS

1 SOILS PLAN
1"=30'-0"

0 40 80 120 160'

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

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SITE

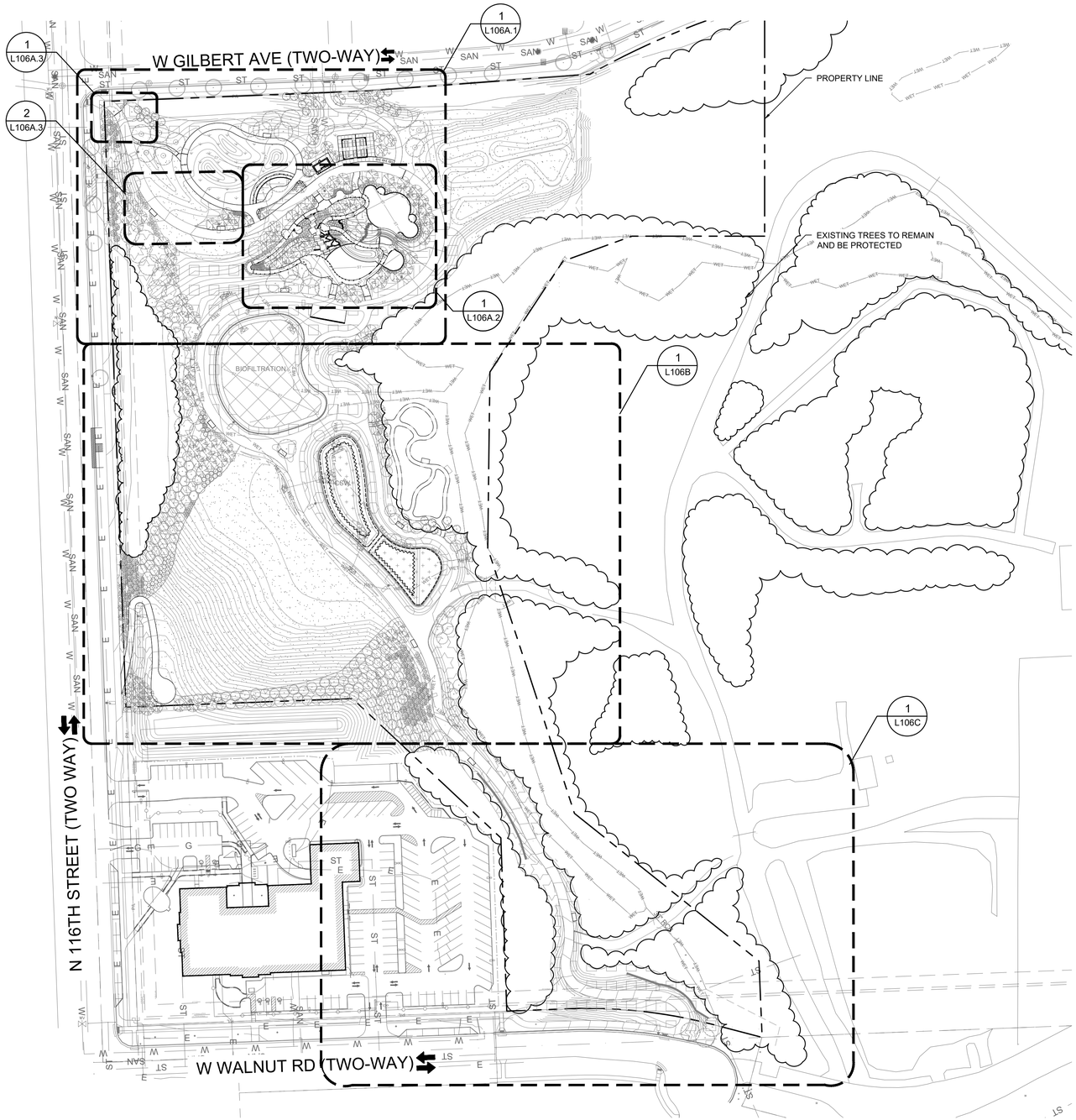
SOILS PLAN

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L105

FILE NAME: 9509_SOILS.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L105



LEGEND

- PROPERTY LINE
- EXISTING TREE TO REMAIN
- TREES: FOR REFERENCE ONLY
- EXISTING TREES TO REMAIN AND BE PROTECTED
- SHRUBS: FOR REFERENCE ONLY
- PERENNIALS AND ORNAMENTAL GRASSES FOR REFERENCE ONLY
- SOD
- EMERGENT PLUGS - SHORT PALETTE
- EMERGENT PLUGS - TALL PALETTE
- LAWN SEED MIX
- LOW PRAIRIE SEED MIX
- BASIN SEED MIX
- EMERGENT SLOPE SEED MIX
- NO MOW SEED MIX
- MULCH RING

1 PLANTING PLAN
1"=80'-0"

0 10 20 30 40 50 60'

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

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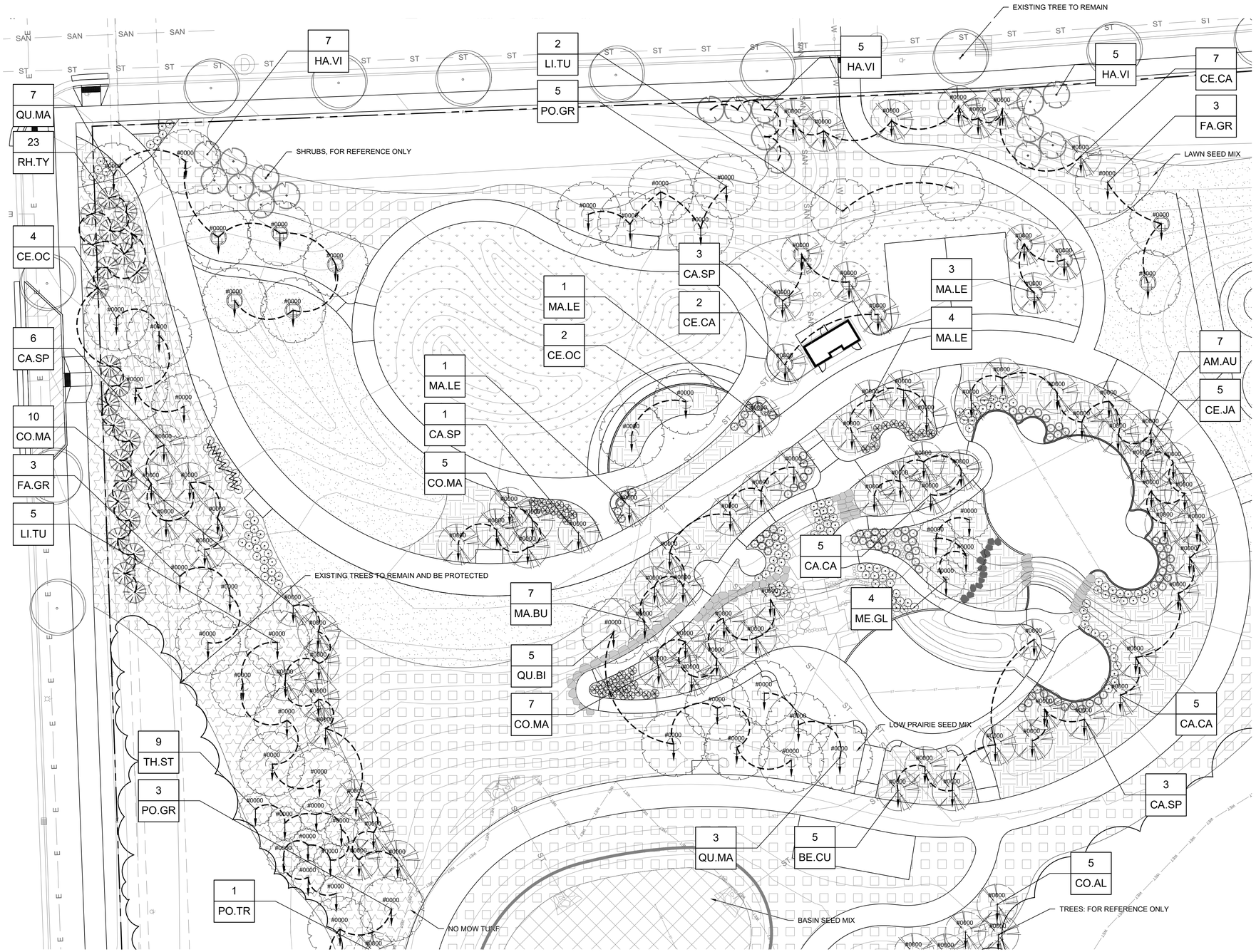
PLANTING PLAN

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO: DN
DRAWN BY: BK
CHECKED BY:
SCALE:

L106

FILE NAME: 9509_PLNT.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L106



LEGEND

- PROPERTY LINE
- EXISTING TREE TO REMAIN
- TREES: FOR REFERENCE ONLY
- EXISTING TREES TO REMAIN AND BE PROTECTED
- SHRUBS: FOR REFERENCE ONLY
- PERENNIALS AND ORNAMENTAL GRASSES FOR REFERENCE ONLY
- SOD
- EMERGENT PLUGS - SHORT PALETTE
- EMERGENT PLUGS - TALL PALETTE
- LAWN SEED MIX
- LOW PRAIRIE SEED MIX
- BASIN SEED MIX
- EMERGENT SLOPE SEED MIX
- NO MOW SEED MIX
- MULCH RING

1 NORTH TREES AND SHRUBS PLANTING PLAN ENLARGEMENT
1"= 30'-0"

0 10 20 30 40'

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
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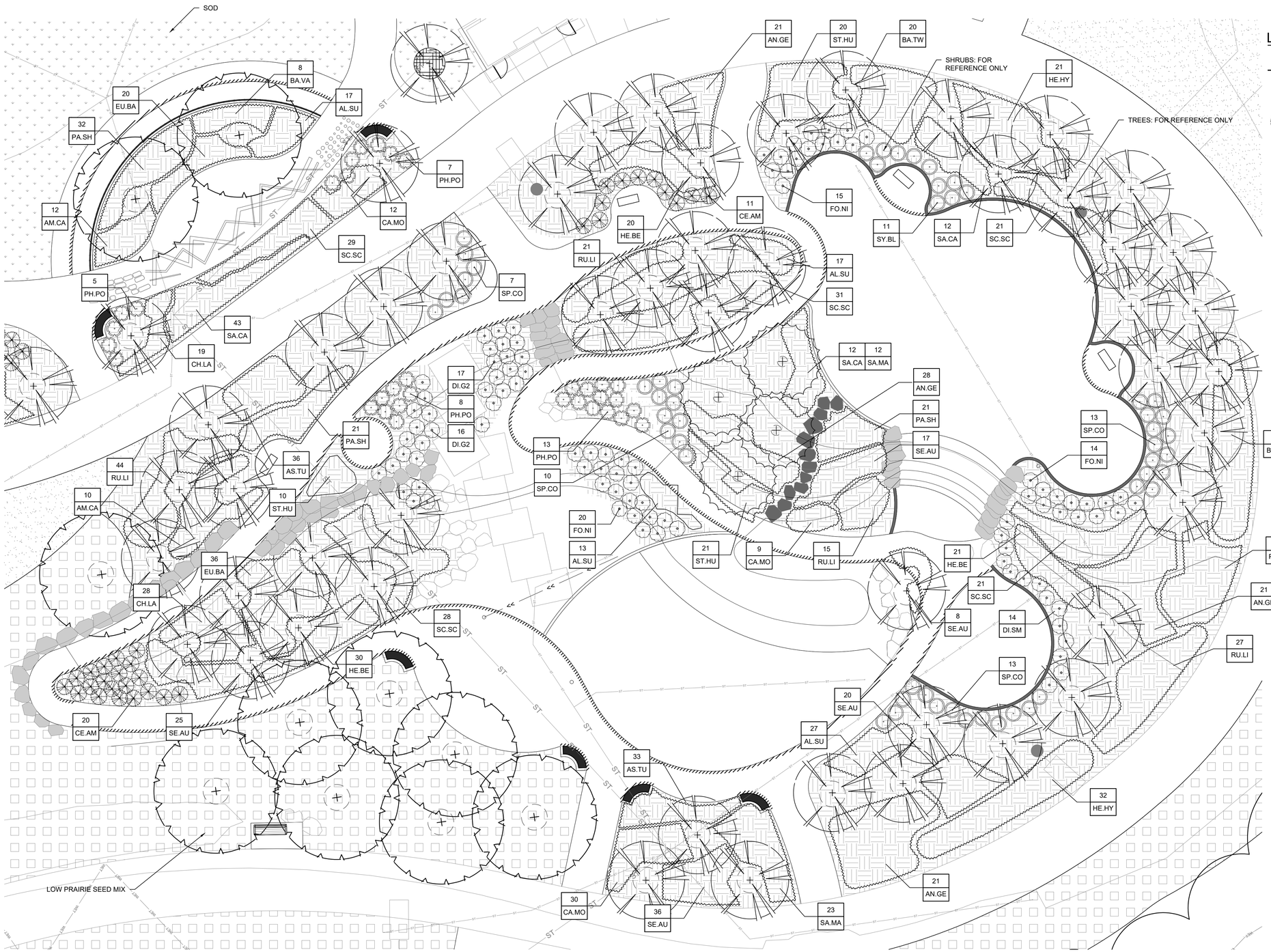
NORTH TREES AND SHRUBS
PLANTING PLAN ENLARGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L106A.1

FILE NAME: 9509_PLNT.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L106A.1



LEGEND

- PROPERTY LINE
- EXISTING TREE TO REMAIN
- TREES: FOR REFERENCE ONLY
- EXISTING TREES TO REMAIN AND BE PROTECTED
- SHRUBS: FOR REFERENCE ONLY
- PERENNIALS AND ORNAMENTAL GRASSES FOR REFERENCE ONLY
- SOD
- EMERGENT PLUGS - SHORT PAL
- EMERGENT PLUGS - TALL PALET
- LAWN SEED MIX
- LOW PRAIRIE SEED MIX
- BASIN SEED MIX
- EMERGENT SLOPE SEED MIX
- NO MOW SEED MIX
- MULCH RING

1 PLAYGROUND SHRUBS AND PERENNIALS PLANTING PLAN ENLARGEMENT
1"= 10'-0"

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
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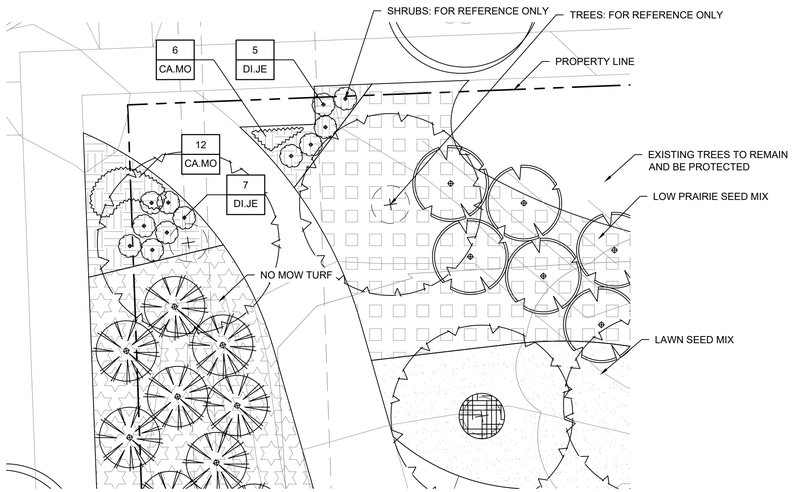
PLAYGROUND SHRUBS AND PERENNIALS
PLANTING PLAN ENLARGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

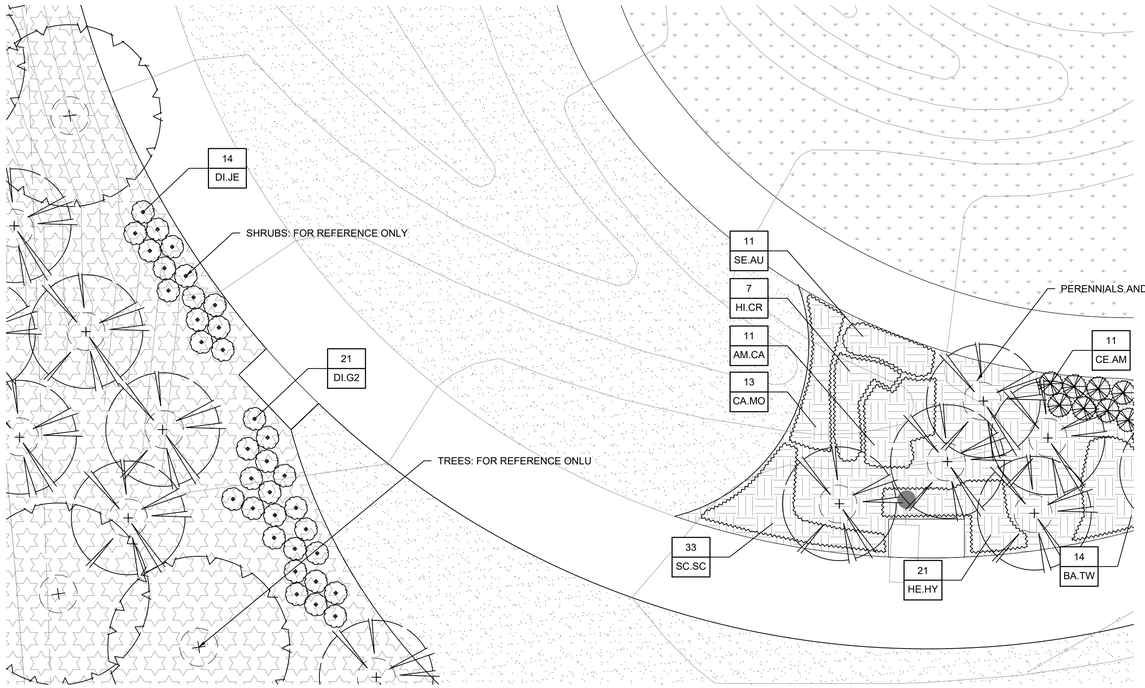
L106A.2

FILE NAME: 9509_PLNT.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L106A.2



1 PLANTING PLAN ENLARGEMENT
1"=10'-0"

0 5 10 15 20'



2 PLANTING PLAN ENLARGEMENT
1"=10'-0"

0 5 10 15 20'

LEGEND

- PROPERTY LINE
- EXISTING TREE TO REMAIN
- TREES: FOR REFERENCE ONLY
- EXISTING TREES TO REMAIN AND BE PROTECTED
- SHRUBS: FOR REFERENCE ONLY
- PERENNIALS AND ORNAMENTAL GRASSES FOR REFERENCE ONLY
- SOD
- EMERGENT PLUGS - SHORT PALETTE
- EMERGENT PLUGS - TALL PALETTE
- LAWN SEED MIX
- LOW PRAIRIE SEED MIX
- BASIN SEED MIX
- EMERGENT SLOPE SEED MIX
- NO MOW SEED MIX
- MULCH RING

DESCRIPTION | DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
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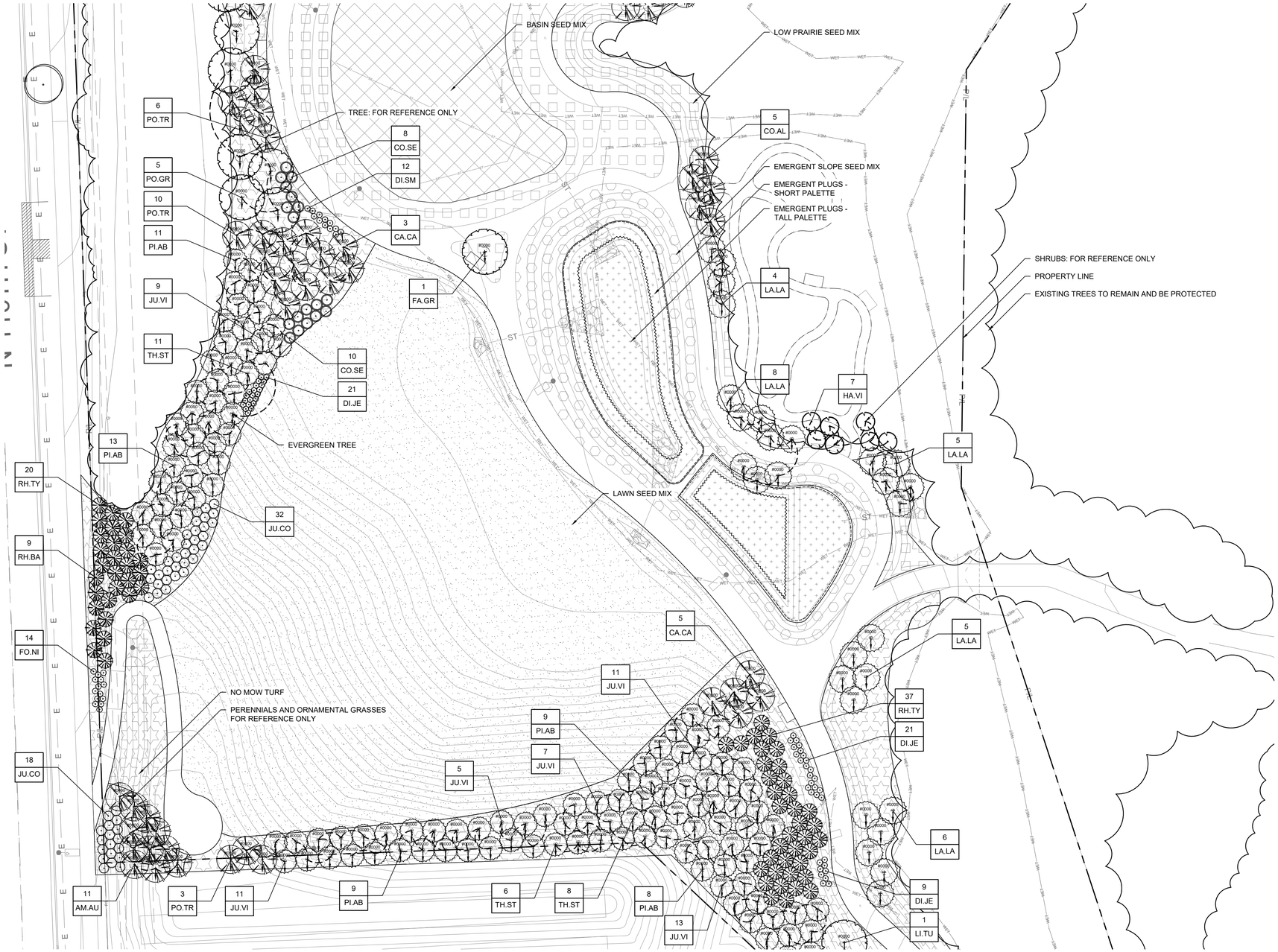
PLANTING PLAN ENLARGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L106A.3



LEGEND

- PROPERTY LINE
- EXISTING TREE TO REMAIN
- TREES: FOR REFERENCE ONLY
- EXISTING TREES TO REMAIN AND BE PROTECTED
- SHRUBS: FOR REFERENCE ONLY
- PERENNIALS AND ORNAMENTAL GRASSES FOR REFERENCE ONLY
- SOD
- EMERGENT PLUGS - SHORT PALETTE
- EMERGENT PLUGS - TALL PALETTE
- LAWN SEED MIX
- LOW PRAIRIE SEED MIX
- BASIN SEED MIX
- EMERGENT SLOPE SEED MIX
- NO MOW SEED MIX
- MULCH RING

1 PLANTING PLAN ENLARGEMENT
1"= 30'-0"

0 10 20 30 40 50 60'

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

PLANTING PLAN ENLARGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

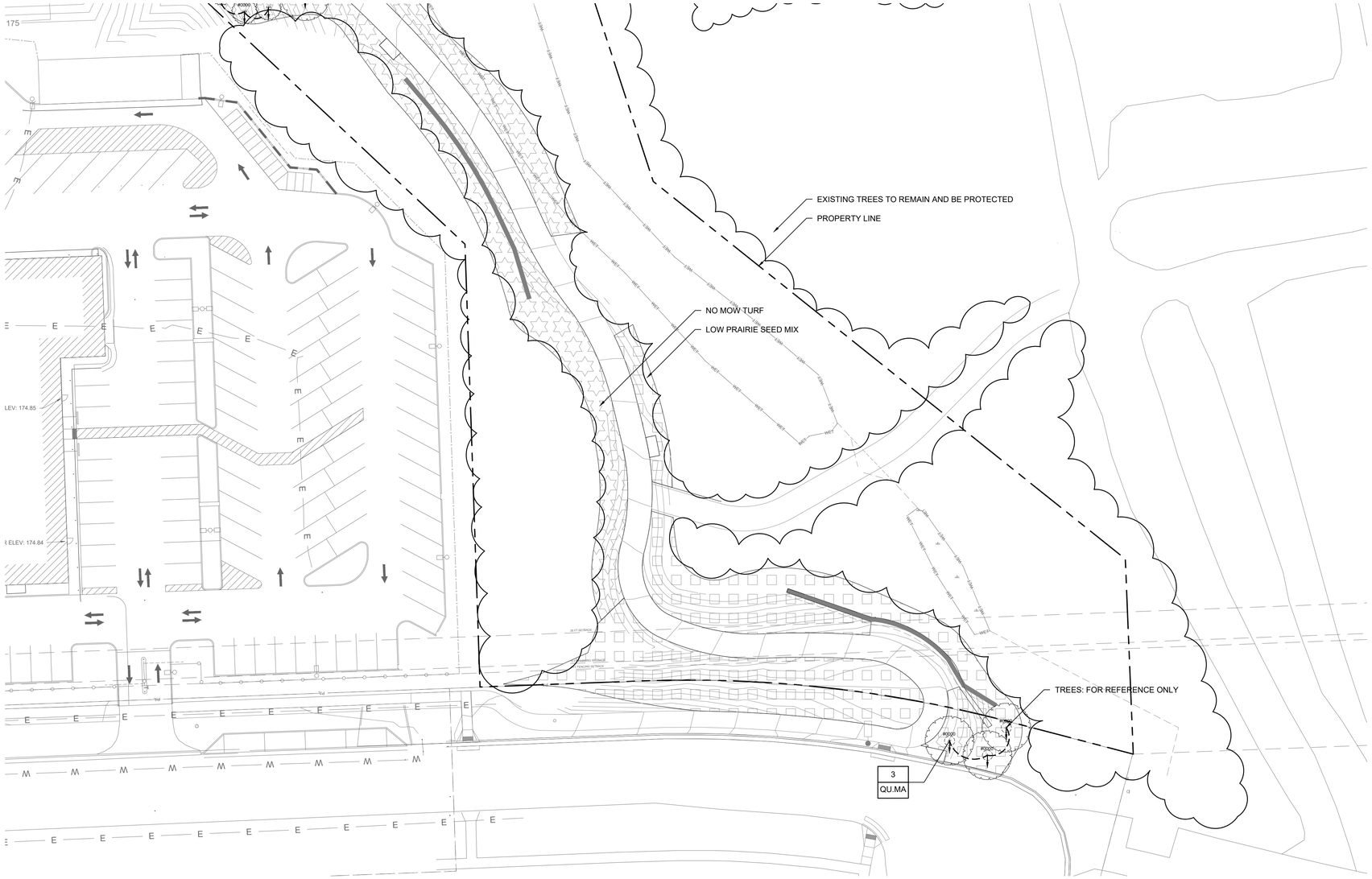
CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L106B

FILE NAME: 9509_PLNT.DWG
PLOT DATE: 2024-02-15
PLOTTED BY: DEREK
SHEET: L106B

LEGEND

- PROPERTY LINE
- EXISTING TREE TO REMAIN
- TREES: FOR REFERENCE ONLY
- EXISTING TREES TO REMAIN AND BE PROTECTED
- SHRUBS: FOR REFERENCE ONLY
- PERENNIALS AND ORNAMENTAL GRASSES FOR REFERENCE ONLY
- SOD
- EMERGENT PLUGS - SHORT PALETTE
- EMERGENT PLUGS - TALL PALETTE
- LAWN SEED MIX
- LOW PRAIRIE SEED MIX
- BASIN SEED MIX
- EMERGENT SLOPE SEED MIX
- NO MOW SEED MIX
- MULCH RING



1 PLANTING PLAN ENLARGEMENT
1"= 30'-0"

0 10 20 30 40 50 60'

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

site

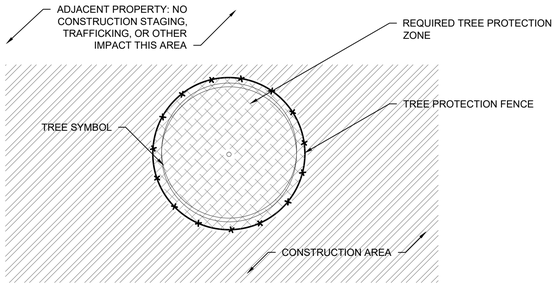
PLANTING PLAN ENLARGEMENT

1700 N 116TH STREET
WAUWATOSA, WI 53226

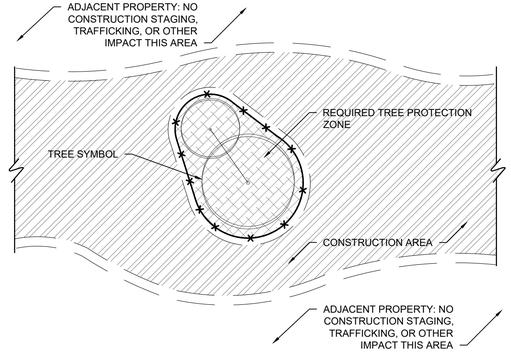
CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L106C

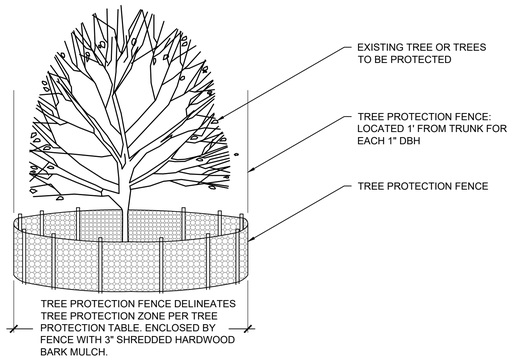
FILE NAME: 9509_PLNT.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L106C



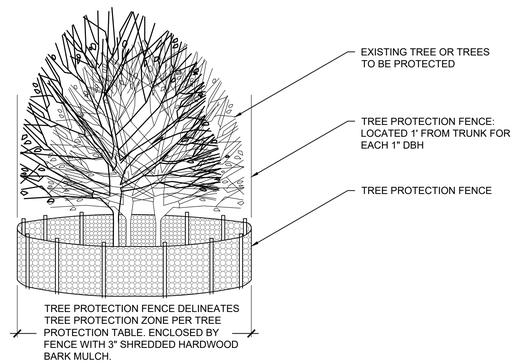
1 TREE PROTECTION ENTIRELY WITHIN CONSTRUCTION AREA PLAN
NOT TO SCALE



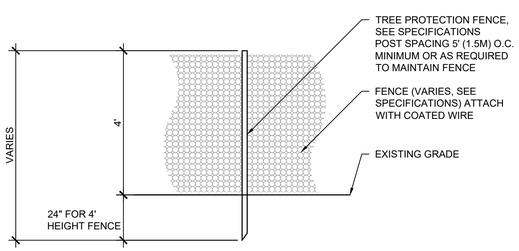
3A GROUP TREE PROTECTION 2
NOT TO SCALE



3 TREE PROTECTION ENTIRELY WITHIN CONSTRUCTION AREA ELEVATION
NOT TO SCALE



4 GROUP TREE PROTECTION ENTIRELY WITHIN CONSTRUCTION AREA ELEVATION
NOT TO SCALE

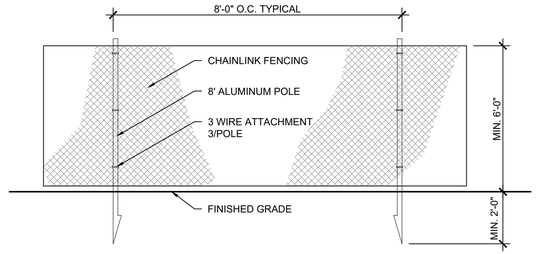


5 TREE PROTECTION FENCE
NOT TO SCALE

TREE PROTECTION	FLAG TAPE COLOR	RADIUS OF TREE PROTECTION FENCE FROM TRUNK	MULCH TREE PROTECTION ZONE
ADJACENT PROPERTY	NONE	NONE, TREE PROTECTED BY TREE PROTECTION FENCE AT PROJECT LIMITS	NO
TREE WITH TREE PROTECTION FENCE	GREEN	1' (30 cm) RADIUS FOR EACH 1" (2.54 cm) DBH*, OR AS APPROVED BY AOR OR PROJECT ARBORIST	YES, 3" DEPTH OF HARDWOOD BARK MULCH, NOT IN CONTACT WITH THE TRUNK
TREE WITH TREE PROTECTION FENCE, ROOTPRUNED	GREEN & YELLOW	1' (30 cm) RADIUS FOR EACH 1" (2.54 cm) DBH*, OR AS APPROVED BY AOR OR PROJECT ARBORIST	YES, 3" DEPTH OF HARDWOOD BARK MULCH, NOT IN CONTACT WITH THE TRUNK
TREE TO BE RELOCATED	BLUE	1' (30 cm) RADIUS FOR EACH 1" (2.54 cm) DBH*, OR AS APPROVED BY AOR OR PROJECT ARBORIST	YES, 3" DEPTH OF HARDWOOD BARK MULCH, NOT IN CONTACT WITH THE TRUNK
TREE TO BE REMOVED	RED	NONE, TREES MUST BE REMOVED PRIOR TO START OF CONSTRUCTION	NO

*DBH - DIAMETER AT BREAST HEIGHT MEASURED AT 4.5' FROM BASE OF TREE.

6 TREE PROTECTION TABLE AND NOTES
NOT TO SCALE



7 6'H CONSTRUCTION FENCE ELEVATION
NOT TO SCALE

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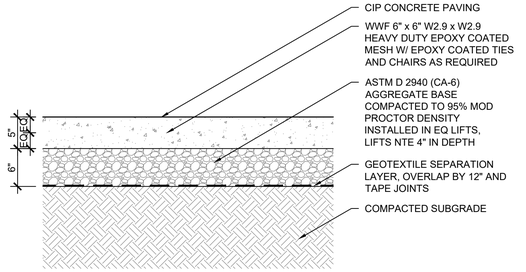
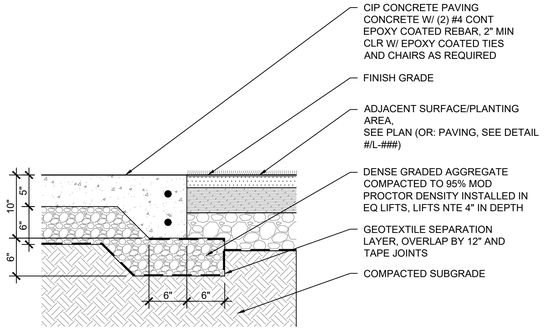
CONTRACT: 9509
FILE NO: DN
DRAWN BY: BK
CHECKED BY:
SCALE:

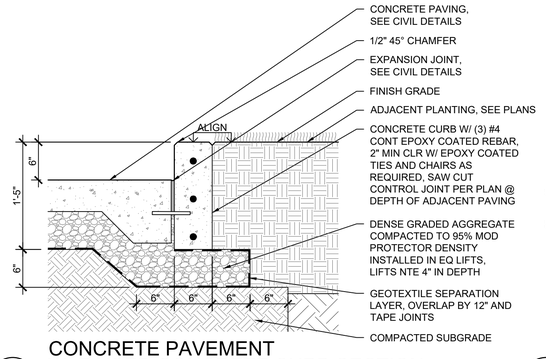
L501



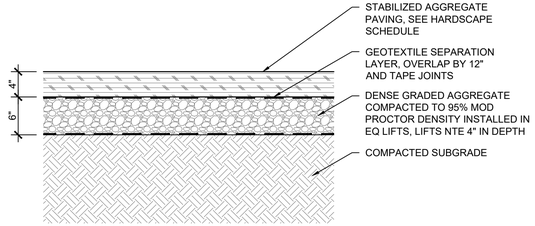
1 CONCRETE PAVEMENT SECTION
1" = 1'-0"



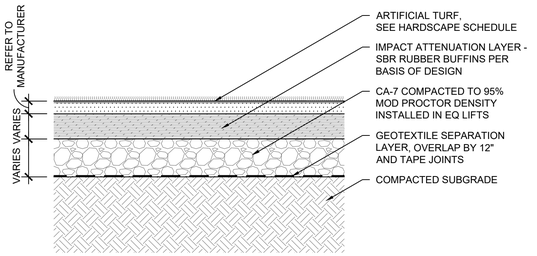
2 CONCRETE PAVEMENT THICKENED EDGE SECTION
1" = 1'-0"



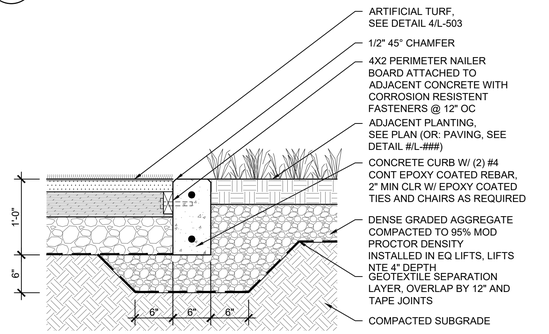
3 CONCRETE PAVEMENT W/ RAISED CONCRETE CURB SECTION
1" = 1'-0"



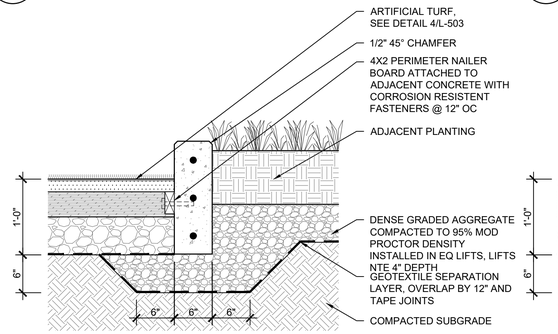
4 STABILIZED AGGREGATE PAVING SECTION
1" = 1'-0"



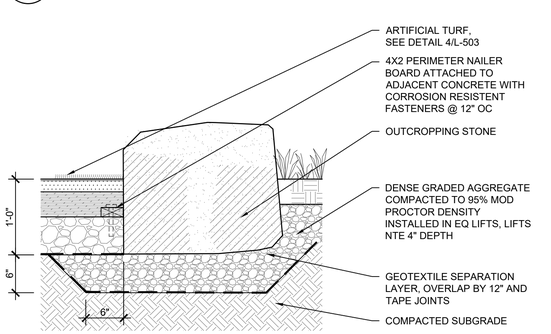
5 PLAY TURF SURFACING SECTION
1" = 1'-0"



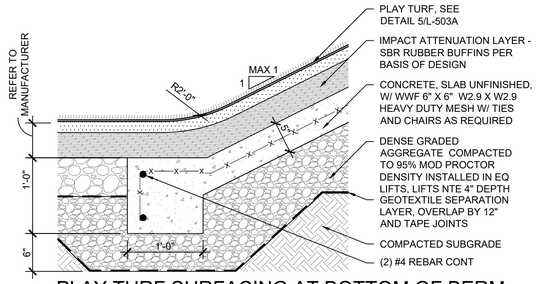
6 PLAY TURF SURFACING W/ FLUSH CONCRETE CURB SECTION
1" = 1'-0"



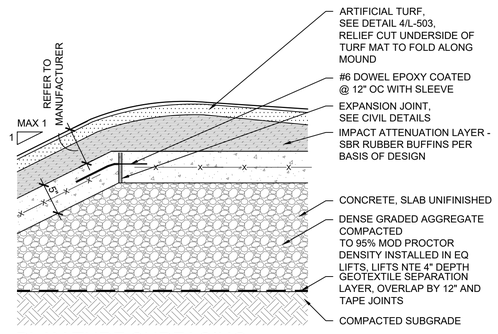
7 PLAY TURF SURFACING W/ RAISED CONCRETE CURB SECTION
1" = 1'-0"



8 PLAY TURF SURFACING W/ OUTCROPPING SECTION
1" = 1'-0"



8 PLAY TURF SURFACING AT BOTTOM OF BERM W/ THICKENED CONCRETE EDGE SECTION
1" = 1'-0"



9 PLAY TURF SURFACING AT TOP OF BERM SECTION
1" = 1'-0"

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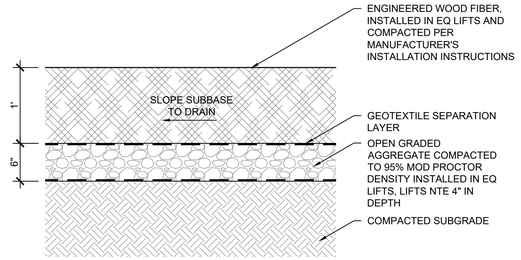
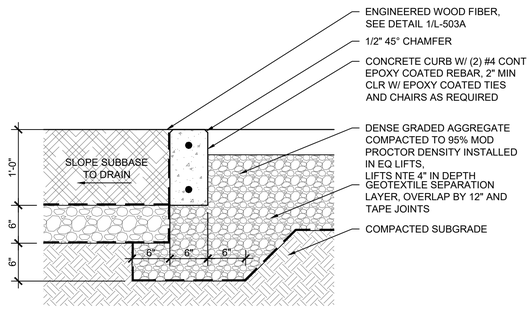
SCALE:

L503

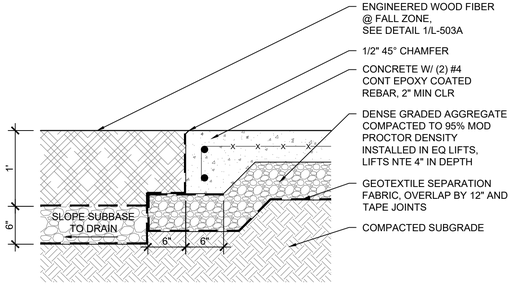
NOTE:
1. INSTALL ENGINEERED WOOD FIBER PER MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.



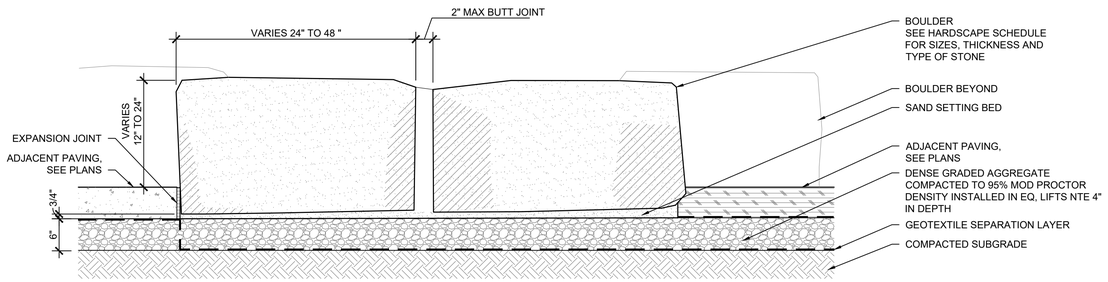
1 ENGINEERED WOOD FIBER SECTION
1" = 1'-0"



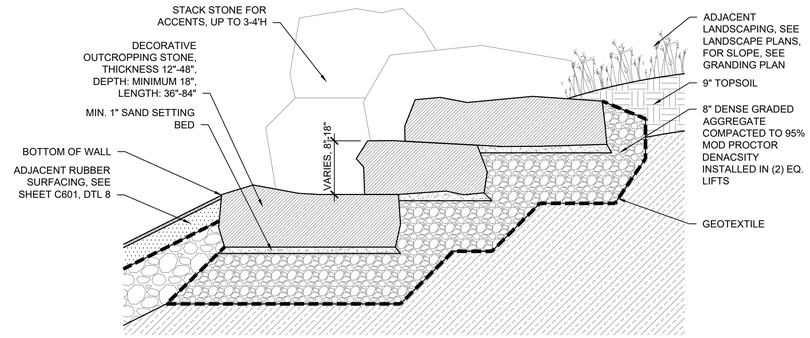
2 ENGINEERED WOOD FIBER W/ FLUSH CURB SECTION
1" = 1'-0"



3 ENGINEERED WOOD FIBER AT FALL ZONE TO THICKENED CONCRETE EDGE SECTION
1" = 1'-0"



4 BOULDER SECTION
1" = 1'-0"



5 EMBANKMENT BOULDER DETAIL
1" = 1'-0"

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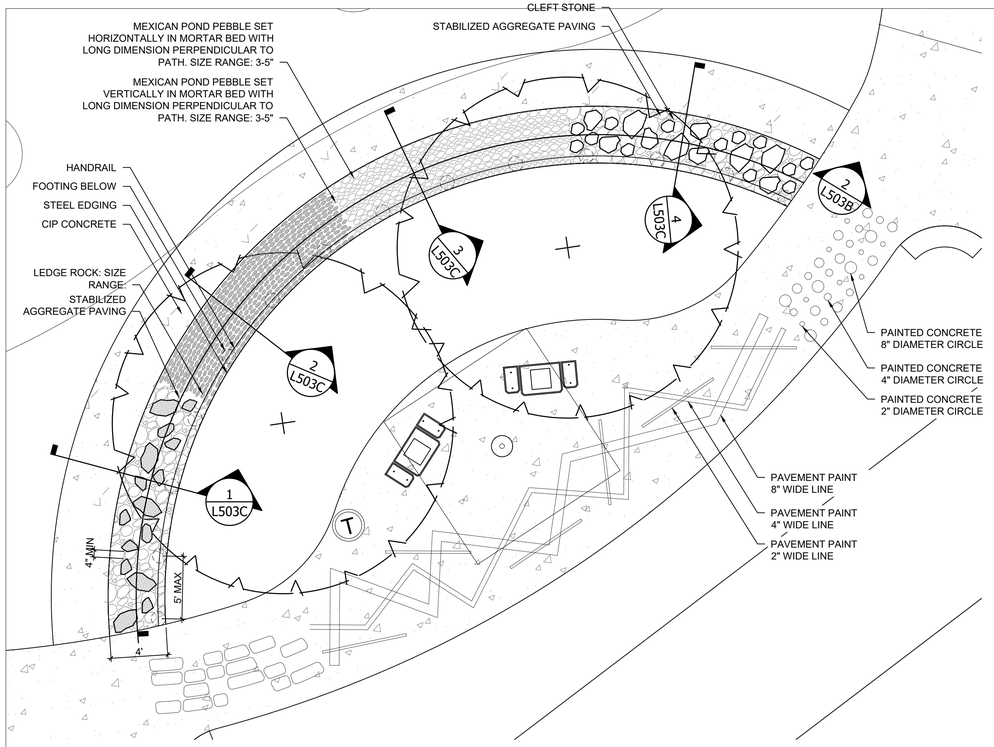
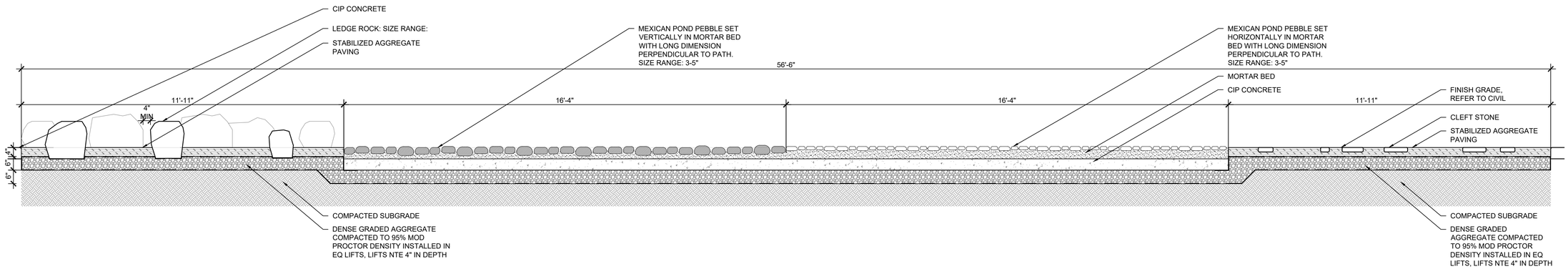


1 SENSORY WALKING PATH PLAN ENLARGEMENT
3/16" = 1'-0"



2 SENSORY WALKING PATH SECTION
1/2" = 1'-0"

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SCALE:

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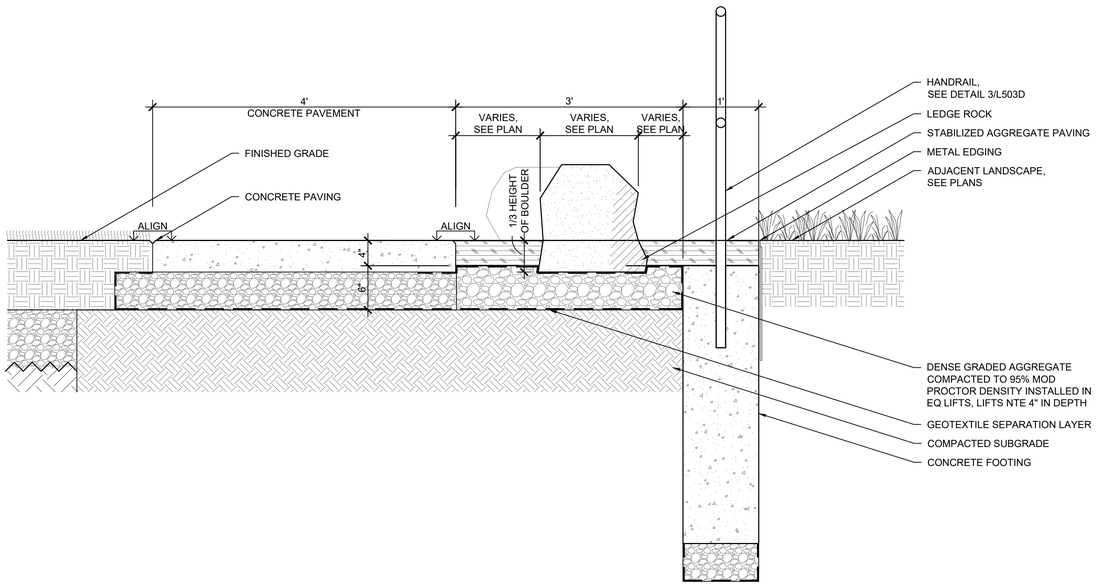
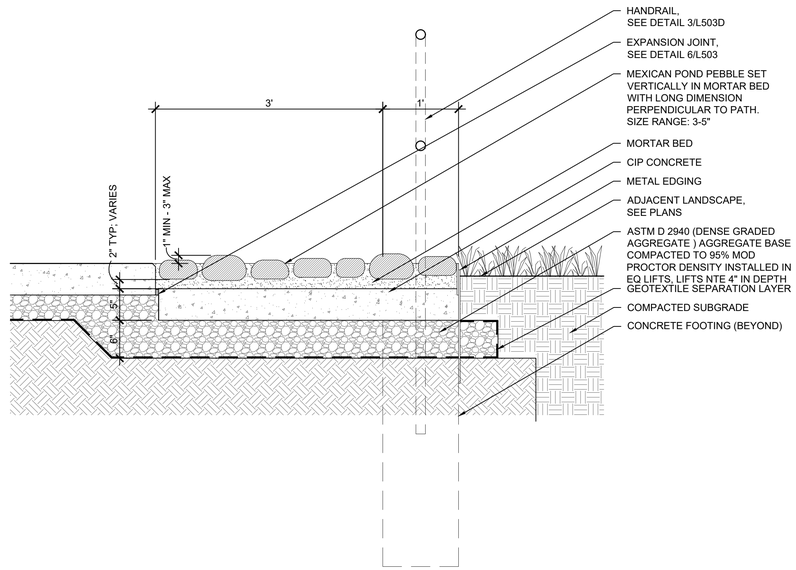
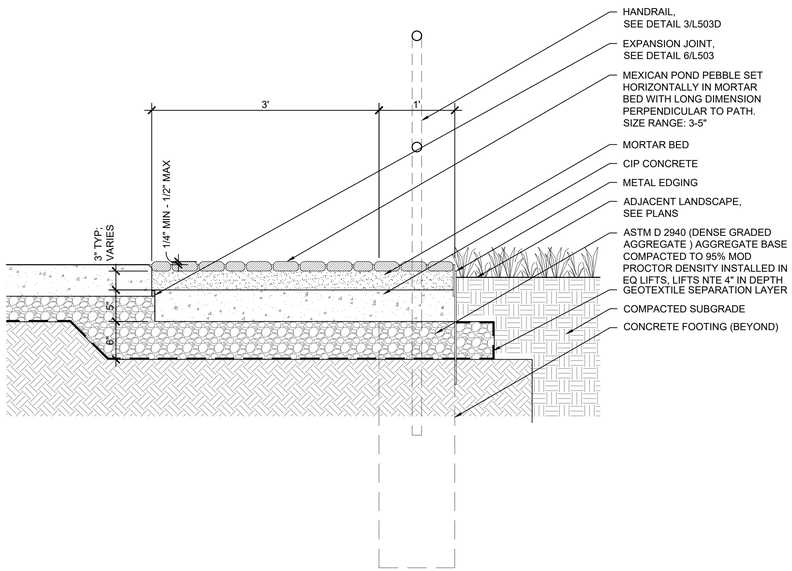
FILE NAME: 9509_DETL_HARD.DWG
PLOT DATE: 2024-02-15
PLOTTED BY: DEREK
SHEET: L503B



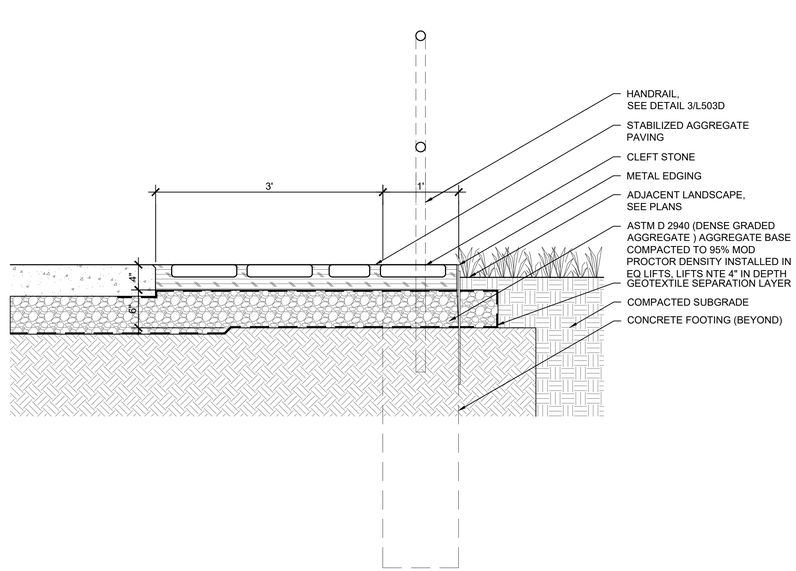
1 LEDGE ROCK AT SENSORY WALKING PATH SECTION
1" = 1'-0"



2 VERTICAL PEBBLE PAVING AT SENSORY WALKING PATH SECTION
1" = 1'-0"



3 HORIZONTAL PEBBLE PAVING AT SENSORY WALKING PATH SECTION
1" = 1'-0"



4 CLEFT STONE PAVING AT SENSORY WALKING PATH SECTION
1" = 1'-0"

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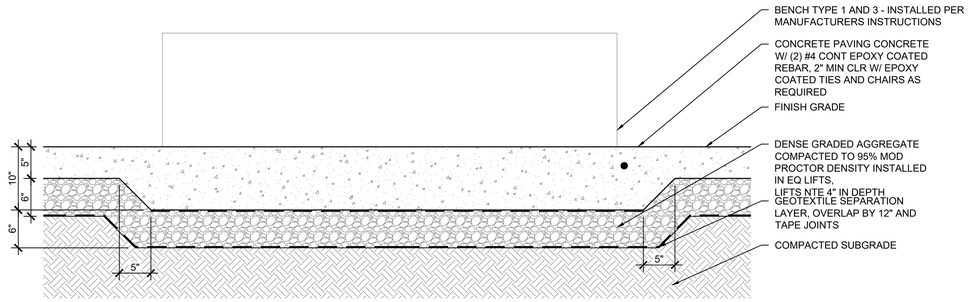
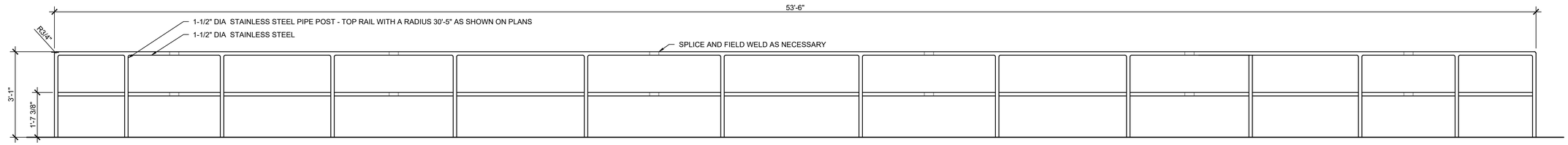


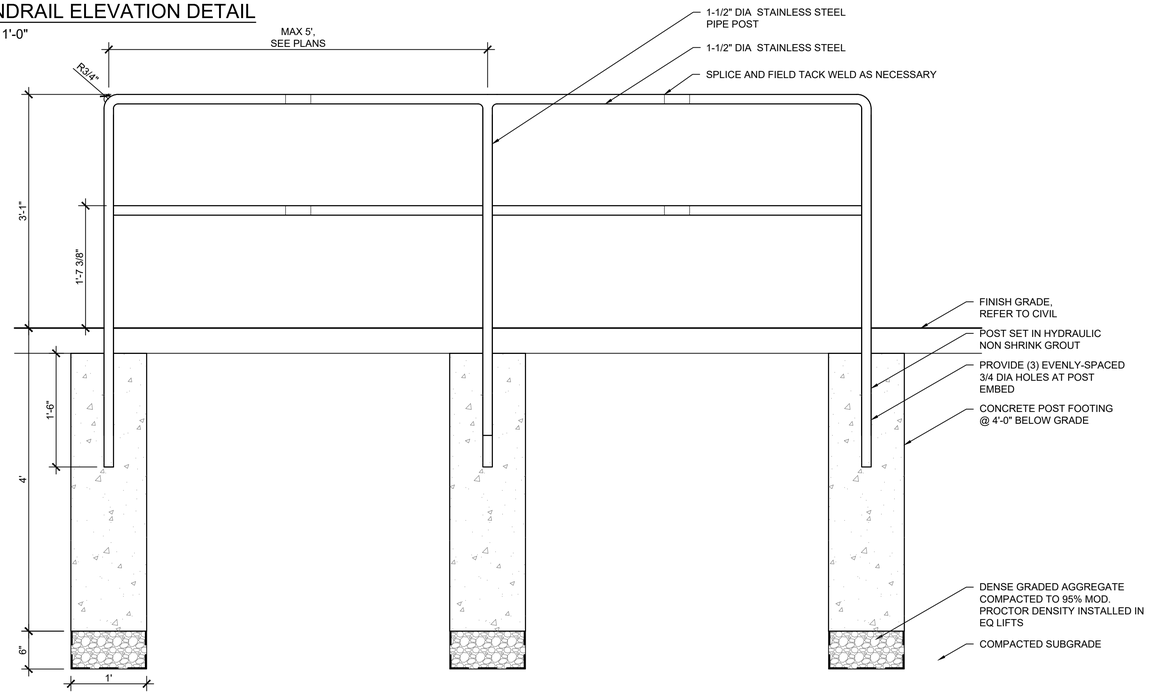
1 BENCH TYPE 1 AND 3 THICKENED CONCRETE PAD SECTION

1" = 1'-0"



2 HANDRAIL ELEVATION DETAIL

1/2" = 1'-0"



3 HANDRAIL SECTION

1" = 1'-0"

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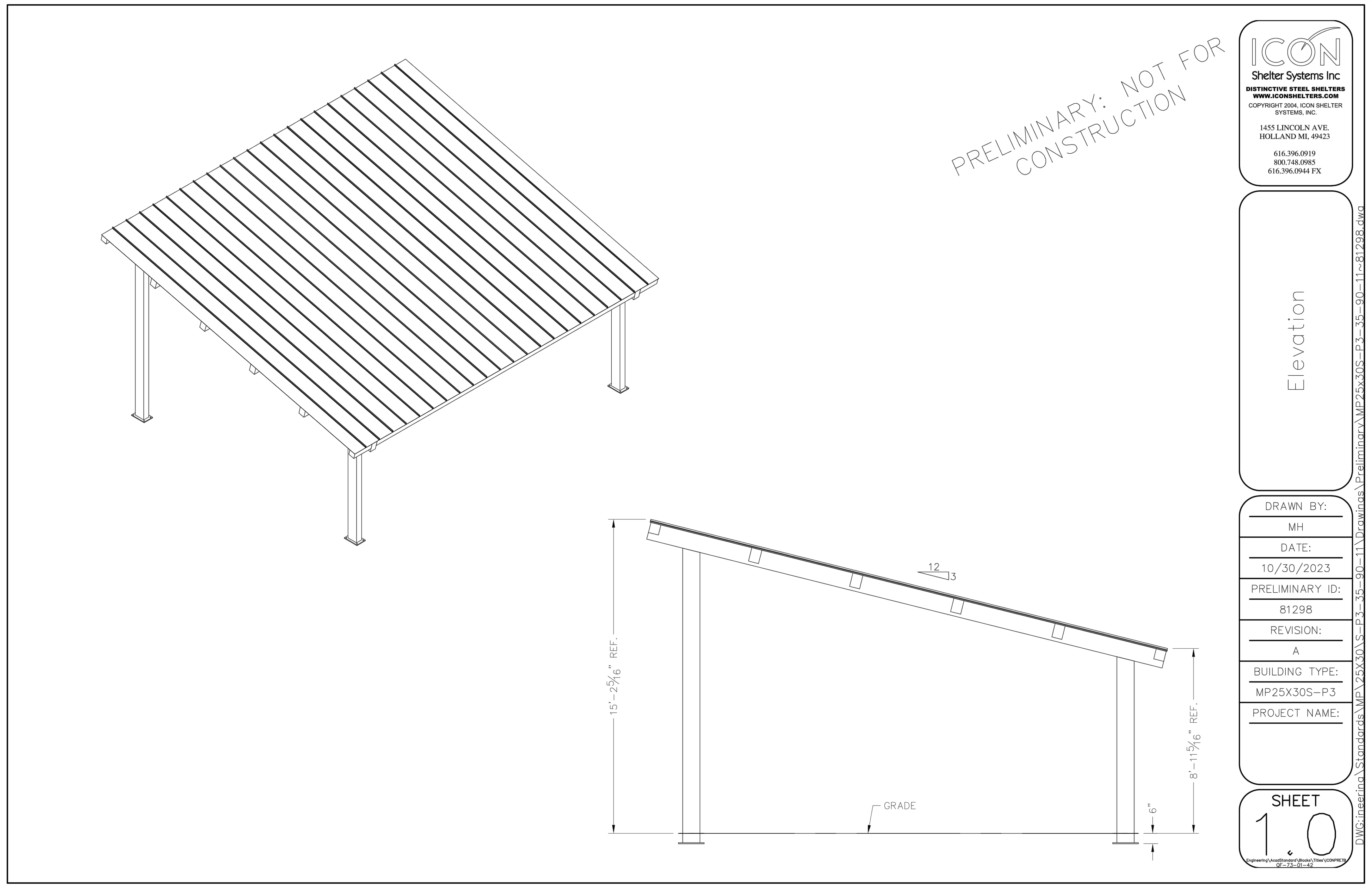
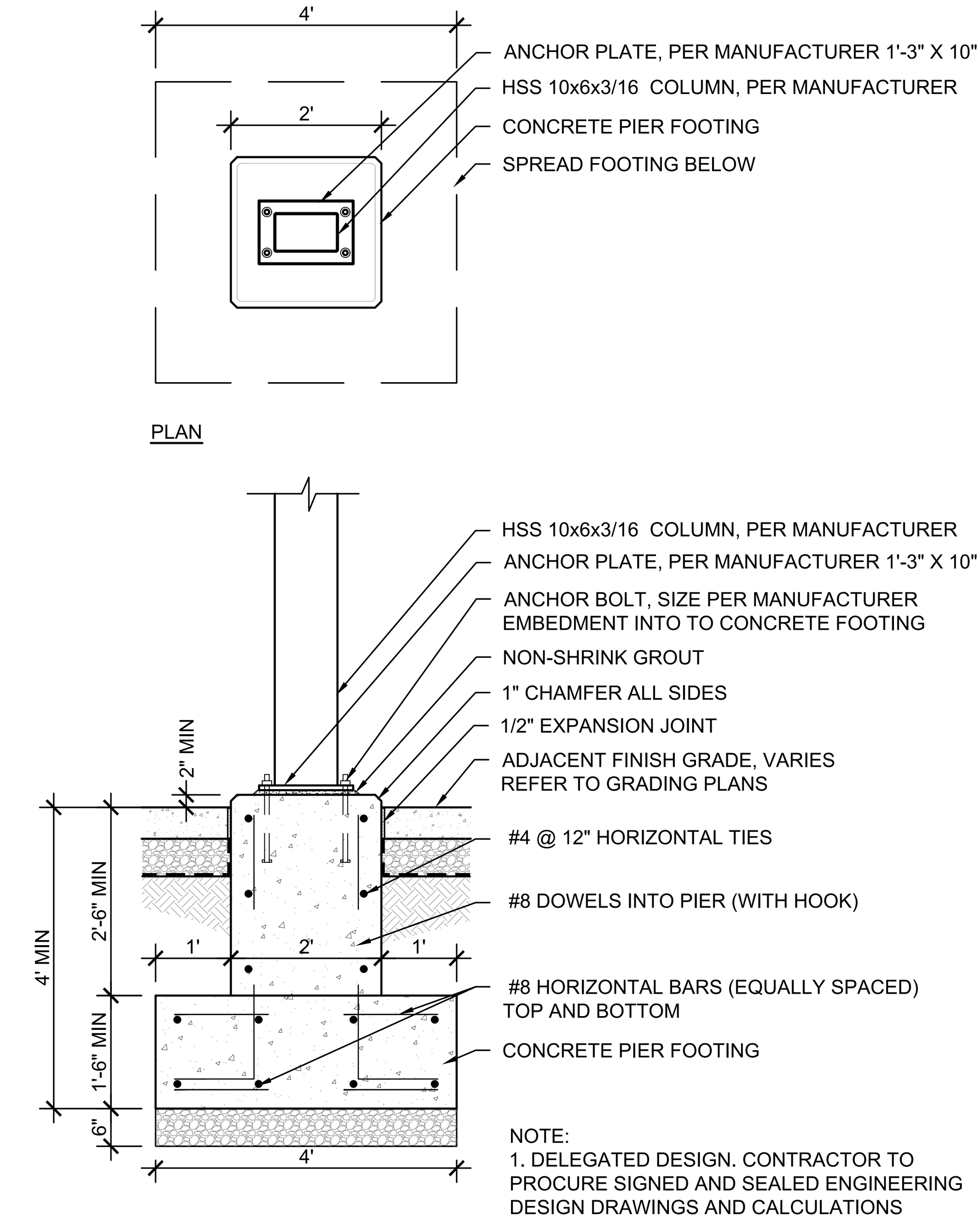
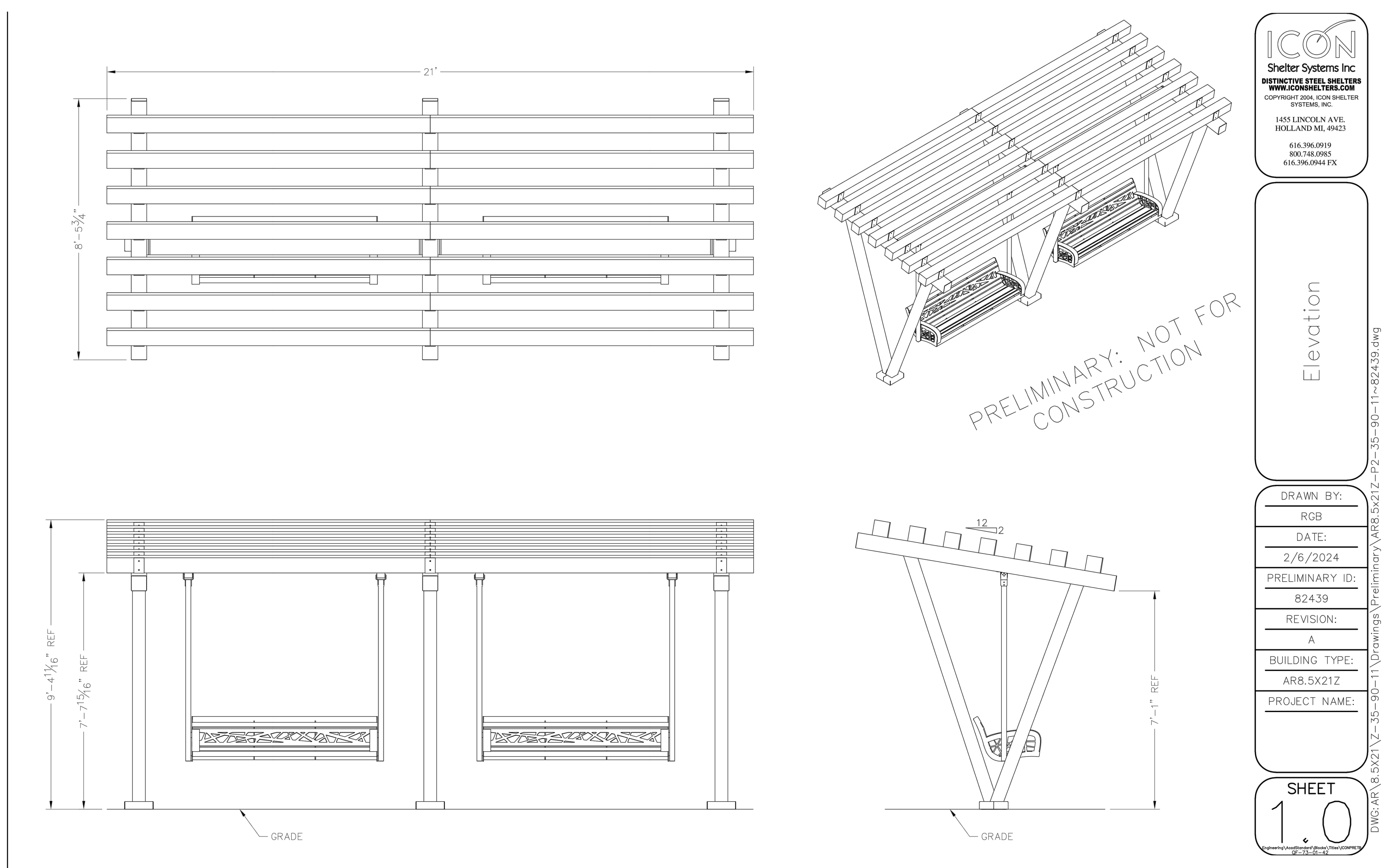


1 PICNIC SHELTER STRUCTURE
NTS

NOTES:
1. DELEGATED DESIGN. DRAWING SHOWS DESIGN INTENT ONLY. CONTRACTOR TO PROCURE SIGNED AND SEALED ENGINEERING DESIGN DRAWINGS AND CALCULATIONS

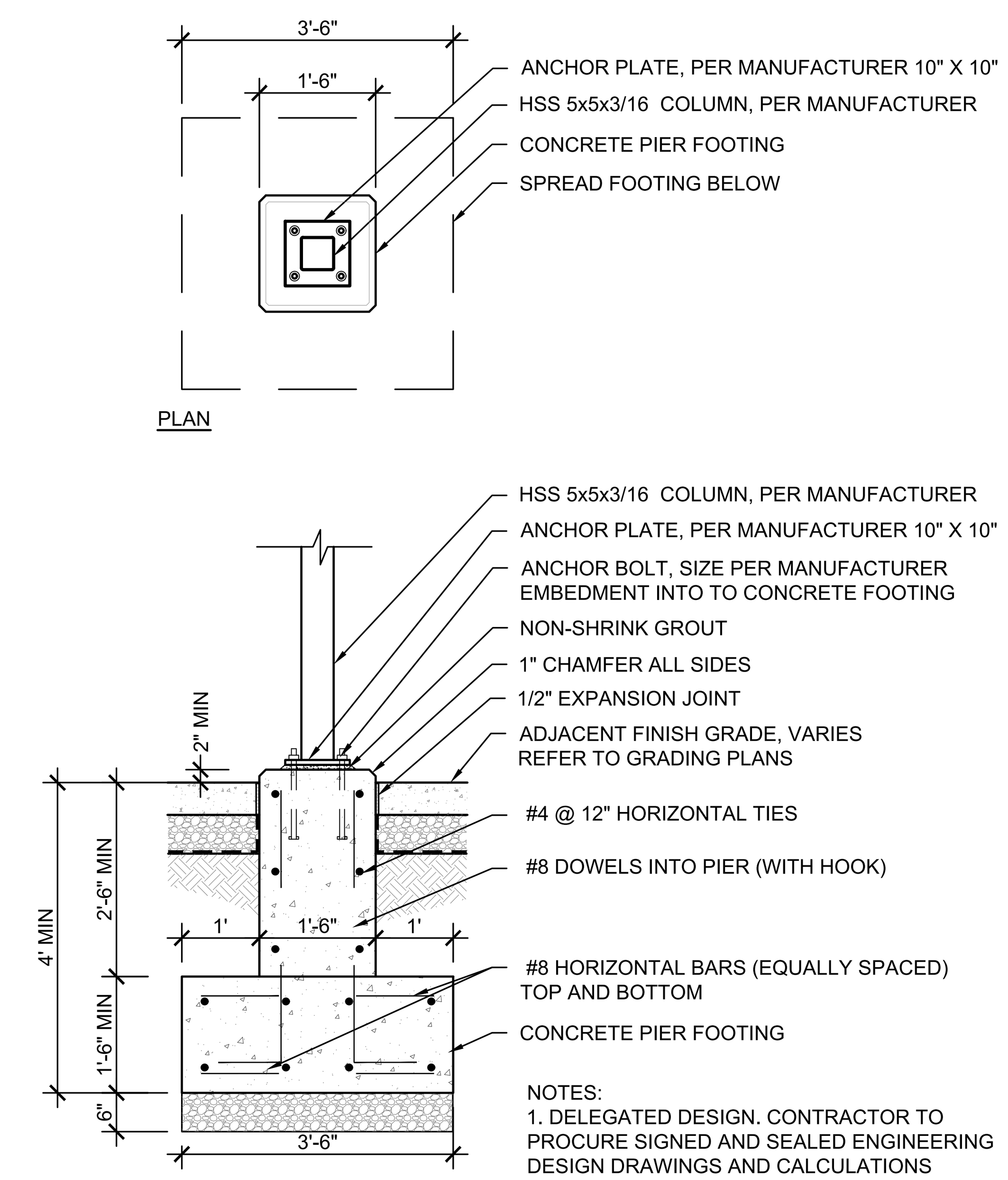


2 SHADE STRUCTURE POST FOOTING DETAIL (FOR REFERENCE ONLY)
1/2" = 1'-0"



3 BENCH SWINGS STRUCTURE
NTS

NOTES:
1. DELEGATED DESIGN. DRAWING SHOWS DESIGN INTENT ONLY. CONTRACTOR TO PROCURE SIGNED AND SEALED ENGINEERING DESIGN DRAWINGS AND CALCULATIONS



4 BENCH SWING STRUCTURE POST FOOTING DETAIL (FOR REFERENCE ONLY)
1/2" = 1'-0"

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SITE FURNISHING DETAILS
1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	
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SCALE:	

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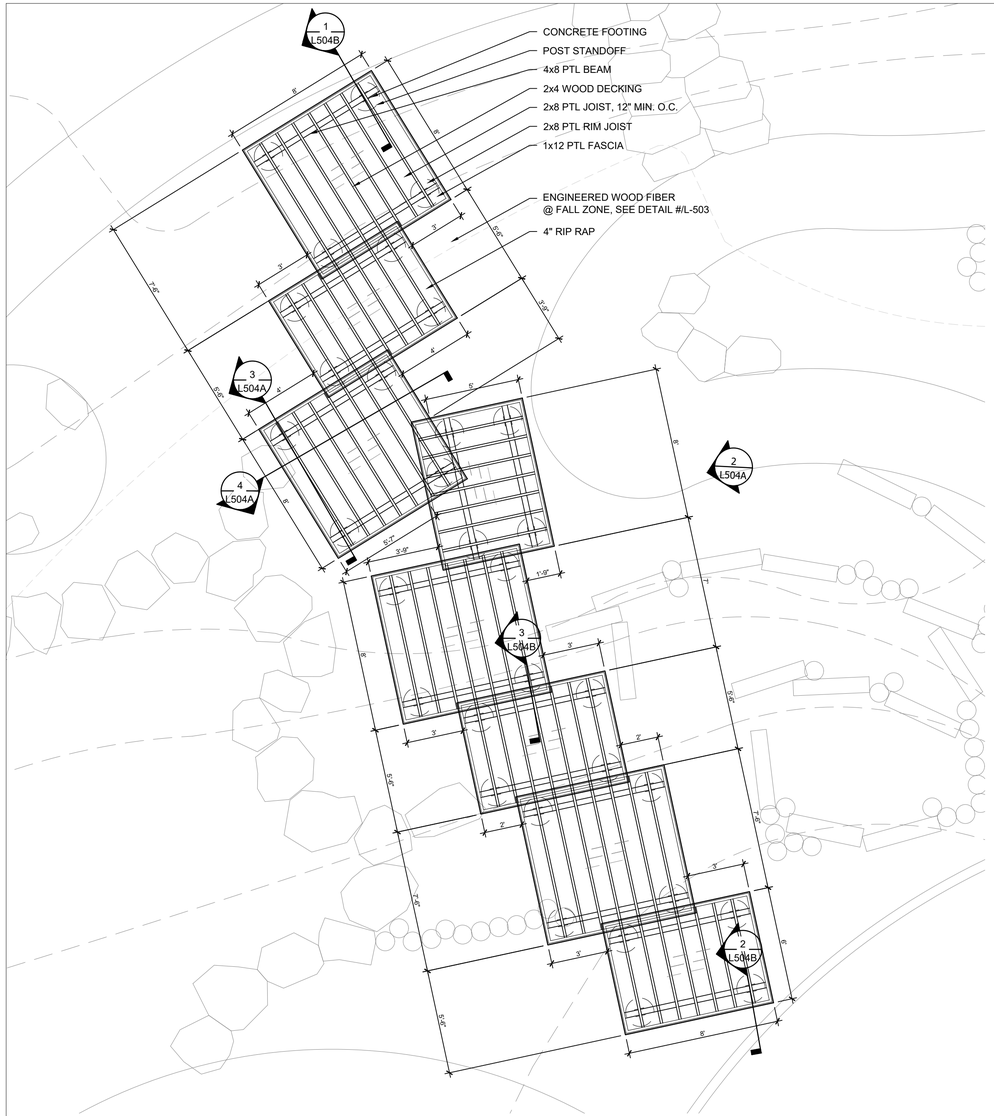
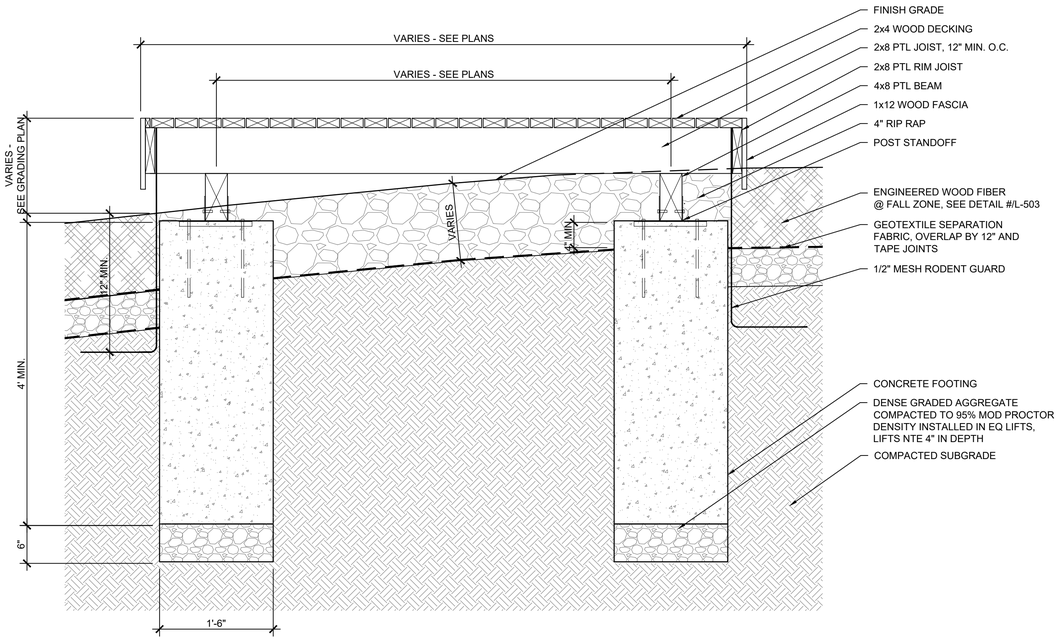
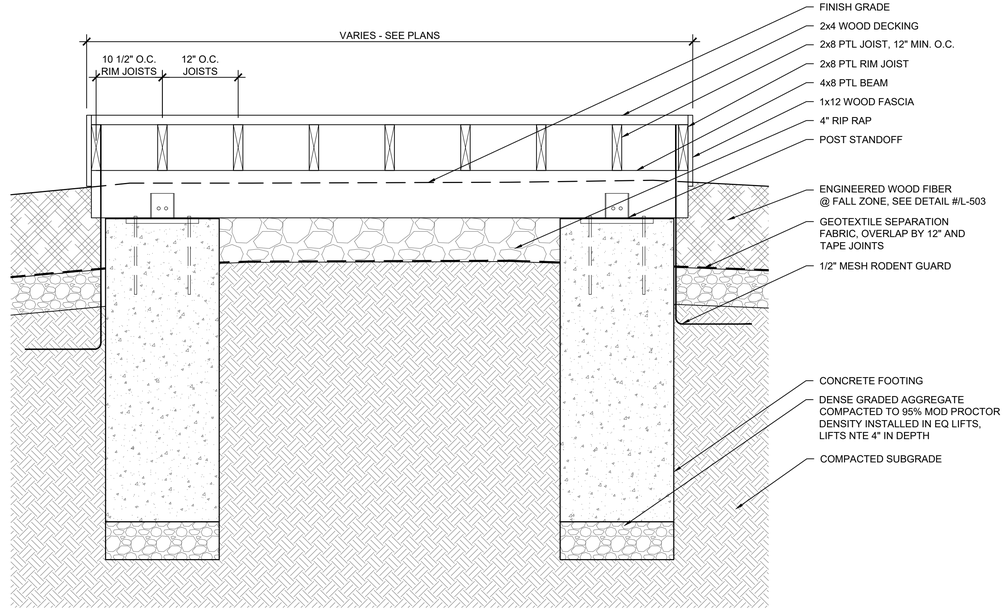


1 WOOD PLATFORM KEY PLAN
1/4" = 1'-0"



3 WOOD PLATFORM TYPICAL SECTION
1' = 1'-0"

2 WOOD PLATFORM SECTION-ELEVATION
1/4" = 1'-0"



4 WOOD PLATFORM TYPICAL SECTION
1' = 1'-0"

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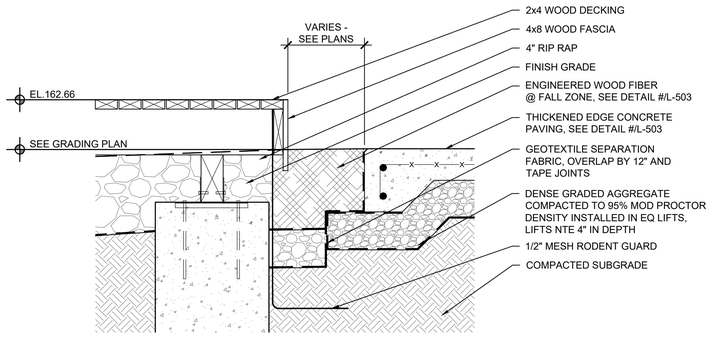
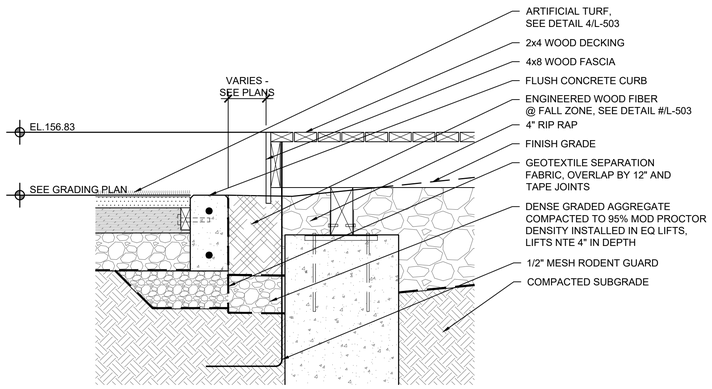


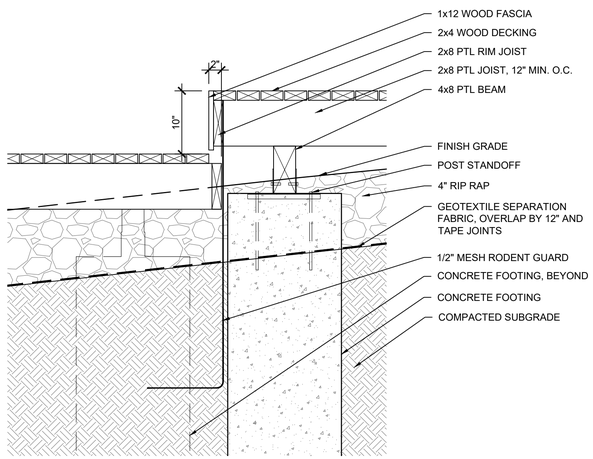
1 WOOD PLATFORM DETAIL AT THICKENED CONCRETE EDGE

1" = 1'-0"



2 WOOD PLATFORM DETAIL AT FLUSH CURB

1" = 1'-0"



3 WOOD PLATFORM DETAIL AT STEP

1" = 1'-0"

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SCALE:	

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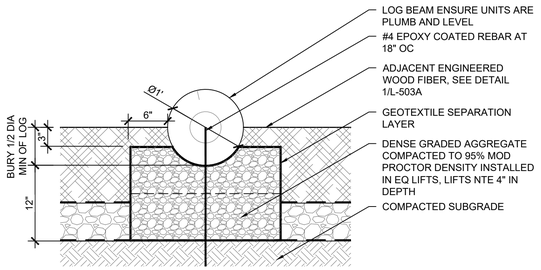
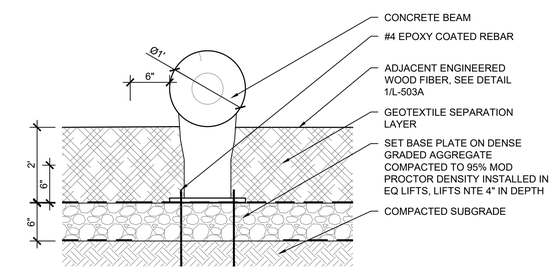


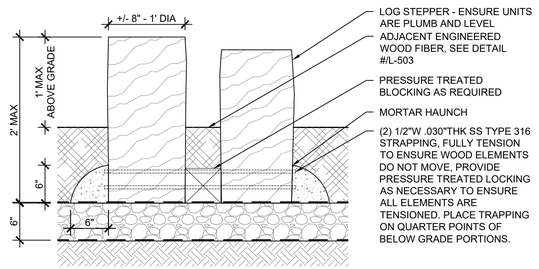
NOTES:
1. GC SHALL ENSURE LOGS DO NOT ROCK OR ROLL.

1 WOOD LOG BEAM, SECTION
1" = 1'-0"



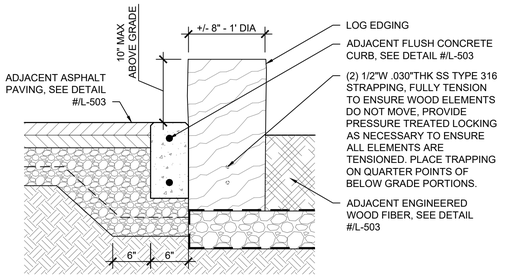
NOTES:
1. OWNER FURNISHED
2. GC SHALL ENSURE LOGS DO NOT ROCK OR ROLL.

2 CONCRETE LOG BEAM SECTION
1" = 1'-0"



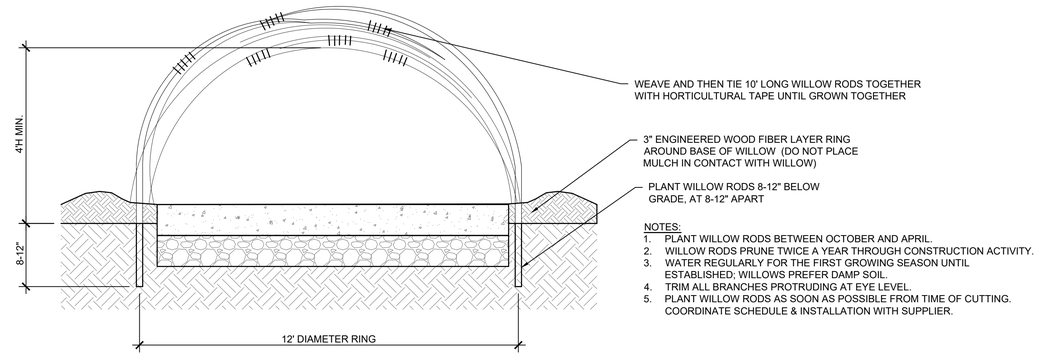
NOTES:
1. GC SHALL ENSURE LOGS DO NOT ROCK OR ROLL.

3 WOODEN LOG STEPPERS, SLOPED SECTION
1" = 1'-0"



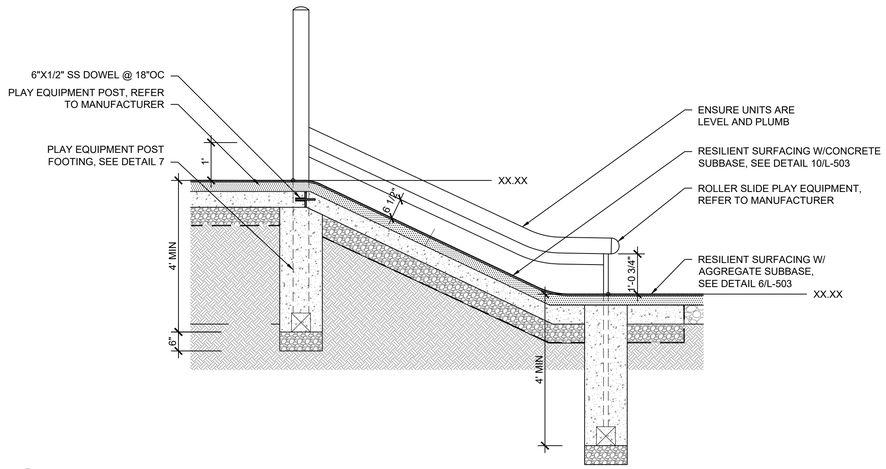
NOTES:
1. PROPOSED MFR, SEE SITE FURNISHINGS SCHEDULE.
2. GC SHALL ENSURE LOGS DO NOT ROCK OR ROLL.

4 LOG EDGING TO FLUSH CONCRETE CURB, SECTION
1" = 1'-0"

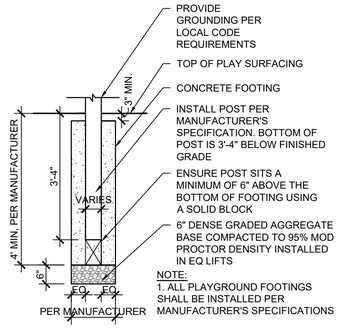


NOTES:
1. PLANT WILLOW RODS BETWEEN OCTOBER AND APRIL.
2. WILLOW RODS PRUNE TWICE A YEAR THROUGH CONSTRUCTION ACTIVITY.
3. WATER REGULARLY FOR THE FIRST GROWING SEASON UNTIL ESTABLISHED; WILLOWS PREFER DAMP SOIL.
4. TRIM ALL BRANCHES PROTRUDING AT EYE LEVEL.
5. PLANT WILLOW RODS AS SOON AS POSSIBLE FROM TIME OF CUTTING. COORDINATE SCHEDULE & INSTALLATION WITH SUPPLIER.

5 WILLOW HUT SECTION
1" = 1'-0"

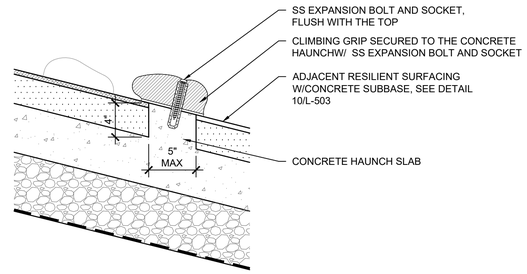


6 PLAYGROUND SLIDE ELEVATION
1/2" = 1'-0"



NOTE:
1. ALL PLAYGROUND FOOTINGS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS

7 PLAY EQUIPMENT FOOTING DETAIL
1/2" = 1'-0"



8 CLIMBING GRIP DETAIL
1-1/2" = 1'-0"

DESCRIPTION
DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

PLAYGROUND DETAILS

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L504C

1 PLAYGROUND RENDERING (FOR REFERENCE ONLY)
NTS

2 PLAYGROUND RENDERING (FOR REFERENCE ONLY)
NTS

3 PLAYGROUND RENDERING (FOR REFERENCE ONLY)
NTS

4 PLAYGROUND RENDERING (FOR REFERENCE ONLY)
NTS

5 PLAYGROUND RENDERING (FOR REFERENCE ONLY)
NTS

6 PLAYGROUND RENDERING (FOR REFERENCE ONLY)
NTS

DESCRIPTION

DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

PLAYGROUND FURNISHING RENDERINGS

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L504D

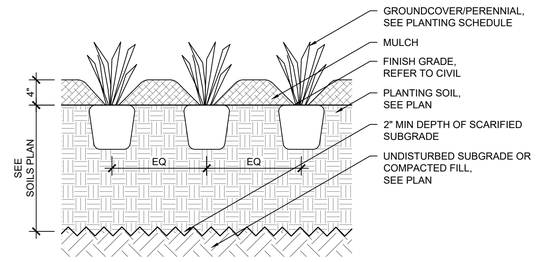
FILE NAME: 9509_DETL_FURN.DWG

PLOT DATE: 2024-02-15

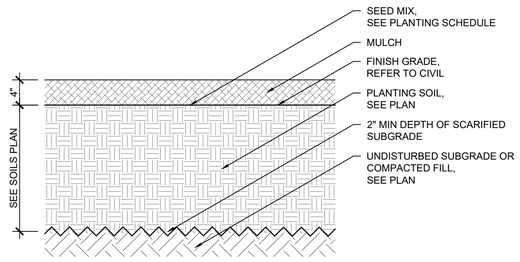
PLOTTED BY: DEREK

SHEET: L504D

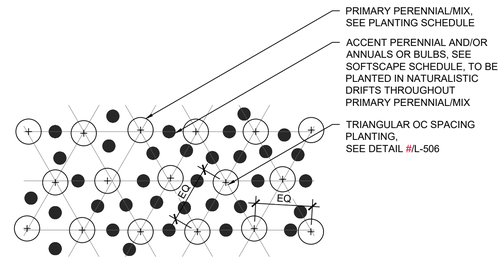
NOTES:
1. RAISE PLANTING BED FOR ADEQUATE DRAINAGE. PROPOSED DRAINAGE, REFER TO CIVIL
2. PLANT SHALL BE HANDLED BY CONTAINER, NOT BY STEMS OR BRANCHES



1 GROUNDCOVER/PERENNIAL SECTION
1" = 1'-0"

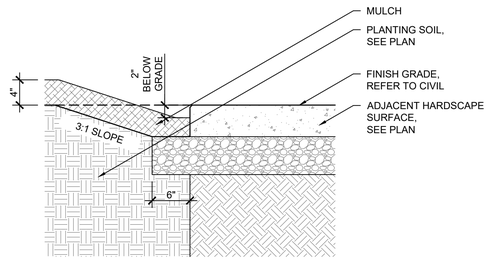


2 SEED SECTION
1" = 1'-0"

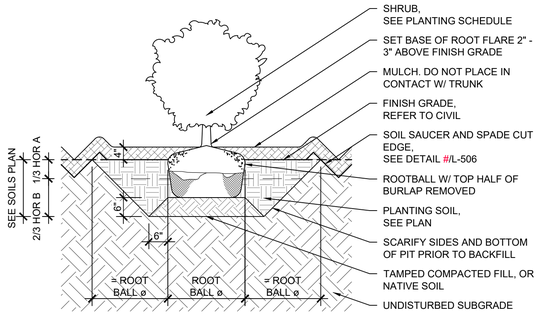


3 GROUNDCOVER INTERPLANTING PLAN
NTS

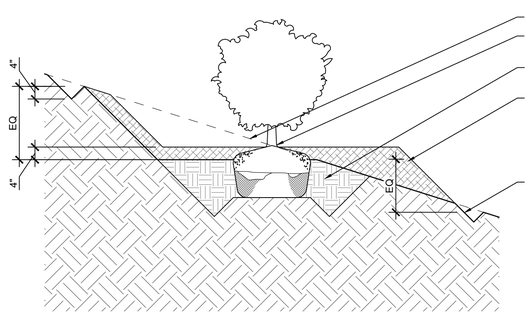
NOTES:
1. RAISE PLANTING BED FOR ADEQUATE DRAINAGE. PROPOSED DRAINAGE, REFER TO CIVIL



4 PLANTING MATERIAL EDGE TO HARDSCAPE SURFACE SECTION
1" = 1'-0"

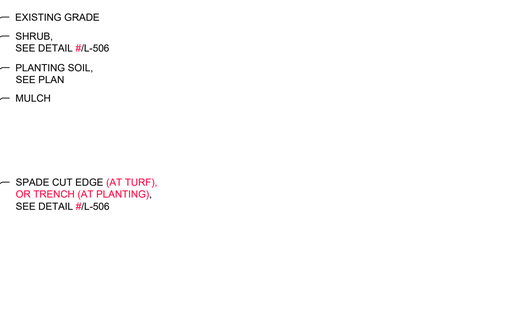


5 SOD (EVENT LAWN) SECTION
1" = 1'-0"



6 SOD SECTION
1" = 1'-0"

NOTES:
1. PROVIDE SOD STAPLES ON SLOPES GREATER THAN 1:4
2. BUTT ALL SEAMS, NO GAPS



7 SOD ON SLOPE SECTION
1" = 1'-0"

8 SHRUB SECTION
1/2" = 1'-0"

9 SHRUB ON SLOPE SECTION
1/2" = 1'-0"

DESCRIPTION
DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP *Single Source. Sound Solutions.*

SITE

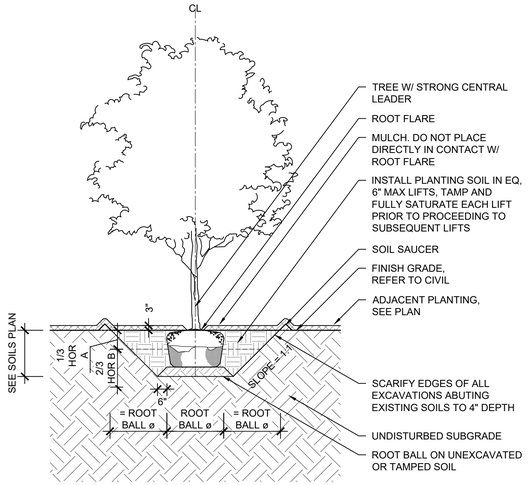
PLANTING DETAILS

1700 N 116TH STREET
WAUWATOSA, WI 53226

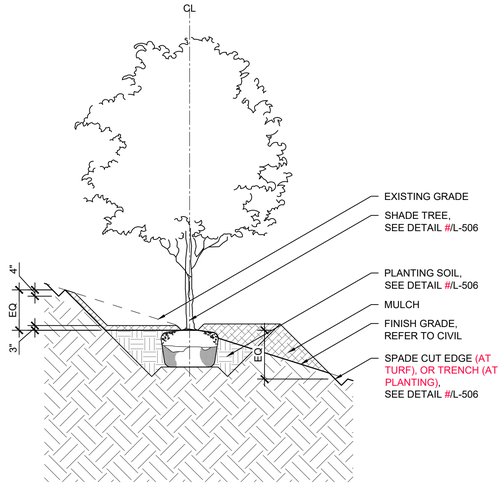
CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L506

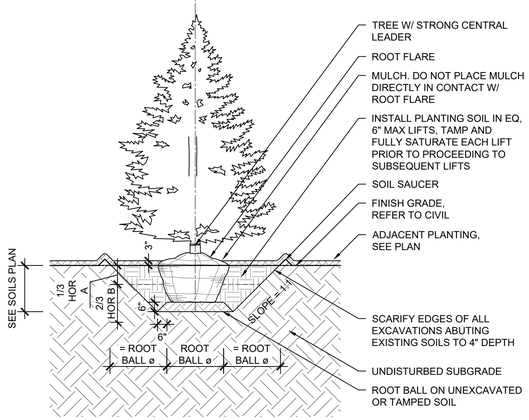
NOTES:
1. ALIGN TRUNKS WHEN PLANTED IN A LINE
2. ORIENT TREE PER LA TREE SEALS, RIBBON, AND/OR OTHER MARKINGS AS COORDINATED W/ NURSERY VISITS PER SPECIFICATIONS
3. DO NOT PRUNE OR THIN CANOPY UNLESS DIRECTED BY LA
4. REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM TOP HALF OF ROOT BALL (IF PLANT IS SHIPPED W/ WIRE BASKET AROUND ROOT BALL, CUT WIRE IN FOUR PLACES AND REMOVE TOP HALF
5. SET ROOTBALL AND BASE OF ROOT FLARE 2" HIGHER THAN FINISH GRADE
6. ENSURE TRUNK AND LEADER ARE PLUMB
7. REMOVE EXCESS FILL ON TOP OF ROOT BALL TO ENSURE ROOT FLARE IS VISIBLE



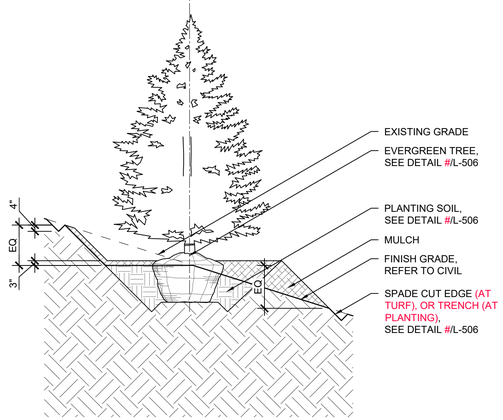
1 SHADE TREE SECTION
1/4" = 1'-0"



2 SHADE TREE ON SLOPE SECTION
1/4" = 1'-0"



3 EVERGREEN TREE SECTION
1/4" = 1'-0"



4 EVERGREEN TREE ON SLOPE SECTION
1/4" = 1'-0"

DESCRIPTION
DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

L506A PLANTING DETAILS

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

FILE NAME: 9509_DETL_PLNT.DWG
PLOT DATE: 2024-02-15
PLOTTED BY: DEREK
SHEET: L506A

STRUCTURES AND ASSEMBLIES

CODE	UNIT	FURNISH/ INSTALL SCOPE	COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	DTL/SHEET
ST-01	LS	OWNER FURNISHED CONSTRACTOR INSTALLED	RESTROOM BUILDING	Public Restroom Company 2587 Business Parkway Minden, Nevada 89423 888-888-2060	Prefab flush toilet buidling	Public Restroom Company Project #11551	19'-4" x 8'-8" x 12'-4" H	As Approved by Owner	-	Pre-Installation Conference with Manufacturer Required	-	REQUIRED	-	REFER TO CIVIL
ASSEMBLY COMPONENT FOR ITEM ABOVE	LS	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*FOUNDATION*	-	Concrete Footing	-	Per Manufacturer	-	-	-	-	-	-	-
ST-02	LS	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	PICNIC SHELTER	ICON Shelter Systems 1455 Lincoln Ave Holland, MI 49423 800-748-9985 Rep: Gerber Leisure Products, Inc. Contact: Meghan Barrett p. 608-514-6323 meghan@gerberleiure.com	Steel Frame Shelter	MP25x30S-P3 Monoslope Structure with 4 Columns	25' x 30' x 14'-9 H	Steel Posts: Bronze Texture Roof: Surrey Beige	Steel Roof: GalumePlus Posts: Powdercoated	Pre-Installation Conference with Manufacturer Required Delegated Design Contractor to Procure Signed and Sealed Structural Drawings and Calculations.	-	REQUIRED	-	1/L504
ASSEMBLY COMPONENT FOR ITEM ABOVE	EA	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE FOOTING*	-	Concrete Footing	-	Contractor to procure Signed and Sealed Structural Design Drawings and Calculations for Footings	-	-	-	-	-	-	2/L504
ST-03	EA	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	BENCH SWINGS	ICON Shelter Systems 1455 Lincoln Ave Holland, MI 49423 800-748-9985 Rep: Gerber Leisure Products, Inc. Contact: Meghan Barrett p. 608-514-6323 meghan@gerberleiure.com	Steel Frame Wood Pergola Slats Metal Bench	AR8.5x21Z		As Approved by Owner	Powder coat	Delegated Design Contractor to procure Signed and Sealed Structural Drawings and Calculations.	-	REQUIRED	-	3/504
ASSEMBLY COMPONENT FOR ITEM ABOVE	EA	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE FOOTING*	-	Concrete Footing	-	Contractor to procure Signed and Sealed Structural Design Drawings and Calculations for Footings	-	-	-	-	-	-	4/504
ST-04	LS	OWNER FURNISHED OWNER INSTALLED	SHADE SAIL	Gerber Leisure Products, Inc. Contact: Meghan Barrett p. 608-514-6323 meghan@gerberleiure.com	Landscape Structures, Inc. Freestanding System Project ID: 23091802	Skyways Single Post Hypar See LSI Drawing #23092802-02	12' x 12'	Shade Fabric: Purple FR Mtal Mosit: Peacock	Powder coat post	-	REQUIRED	-	L504C	11 68 00
ASSEMBLY COMPONENT FOR ITEM ABOVE	EA	OWNER FURNISHED OWNER INSTALLED	*CONCRETE FOOTING*	-	Concrete Footing	-	Owner to procure Signed and Sealed Structural Design Drawings and Calculations For Footings	-	-	-	-	-	-	-

WALLS

CODE	UNIT		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
REFER TO CIVIL	SFF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	RETAINING WALL	REFER TO CIVIL	MODULAR BLOCK MSE RETAINING WALLS	REFER TO CIVIL	SEE DETAIL(S)	As Approved by Owner	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REQUIRED	REFER TO CIVIL	REFER TO CIVIL

CURBS

CODE	UNIT		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
CB-01	LF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	RAISED CONCRETE CURB	-	CIP Concrete Barrier Curb w/ Rebar Reinforcement	-	SEE DETAIL(S)	-	Light Broom	Caulked Snap Cap Expansion Joints w/ Saw-cut Control Joints	-	-	-	x/L503
CB-02	LF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	FLUSH CONCRETE CURB	-	CIP Concrete Flush Curb w/ Rebar Reinforcement	-	SEE DETAIL(S)	-	Light Broom	Caulked Snap Cap Expansion Joints w/ Saw-cut Control Joints	-	-	-	x/L503

PAVING

CODE	UNIT		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
PA-01	SF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	CONCRETE PAVEMENT	-	CIP Concrete w/ Steel Mesh Reinforcement	-	SEE DETAIL(S)	-	Light Broom	Caulked Snap Cap Expansion Joints w/ Saw-cut Control Joints	-	-	10' x 10'	1/ L503
ASSEMBLY COMPONENT FOR ITEM ABOVE	LF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*THICKENED EDGE CONCRETE PAVING*	-	-	-	SEE DETAIL(S)	-	-	-	-	-	-	x/L503
PA-02	SF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	STABILIZED AGGREGATE PAVING	Kalka Granite 550 East Hwy 153 Mosinee, WI 54455	Stabilized Aggregate Paving Granite	-	SEE DETAIL(S)	Midnight Blue'	-	-	REQUIRED	-	-	x/L503
PA-03	-	OWNER FURNISHED OWNER INSTALLED	PLAY TURF SURFACING w/ AGGREGATE BASE	Forever Lawn 8007 Beeson St Louisville, OH 44641 p. 866.992.7879	Protective Play Surface, Synthetic Turf	Playground Grass	-	As Approved by Owner	-	-	REQUIRED	REQUIRED	-	x/L503
ASSEMBLY COMPONENT FOR ITEM ABOVE		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*SITE PREP. GRADING, SUBBASE*	-	-	-	-	-	-	-	-	-	-	-
PA-03	-	OWNER FURNISHED OWNER INSTALLED	PLAY TURF SURFACING w/ CONCRETE BASE	Forever Lawn 8007 Beeson St Louisville, OH 44641 p. 866.992.7879	Protective Play Surface, Synthetic Turf	Playground Grass	-	As Approved by Owner	-	-	REQUIRED	REQUIRED	-	x/L503
ASSEMBLY COMPONENT FOR ITEM ABOVE		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*SITE PREP. GRADING, CONCRETE BASE*	-	-	-	-	-	-	-	-	-	-	-
PA-04	SF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	ENGINEERED WOOD FIBER	-	Protective Play Surface, Engineered Wood Fiber	-	SEE DETAIL(S)	-	-	-	-	-	-	1/ L503A
PA-05	SF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	SENSORY WALK TYPE 1	-	-	-	SEE DETAIL(S)	-	-	'Advanced' Sensory Walk.	REQUIRED	REQUIRED	3' x 10'	L503B
ASSEMBLY COMPONENT FOR ITEM ABOVE		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*MEXICAN POND PEBBLES*	Luvey 30560 North Russell Dr Volo, IL 60073	Mexican Pond Pebble in Mortar Setting Bed	-	-	-	-	Set Flat	-	-	-	-
ASSEMBLY COMPONENT FOR ITEM ABOVE		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CLEFT STEPPER*	Luvey 30560 North Russell Dr Volo, IL 60073	Stone Stepper	Paver Arctic Natural Cleft Stepper	Irregular, 18x24" - 1" THK	-	Natural Cleft	-	-	-	-	
PA-06	SF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	SENSORY WALK TYPE 2	-	-	-	SEE DETAIL(S)	-	-	'Intermediate' Sensory Walk.	REQUIRED	REQUIRED	3' x 10'	L503B
ASSEMBLY COMPONENT FOR ITEM ABOVE		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*MEXICAN POND PEBBLES*	Luvey 30560 North Russell Dr Volo, IL 60073	Mexican Pond Pebble in Mortar Setting Bed	-	3-5" Round	-	-	Set Vertically	-	-	-	-
ASSEMBLY COMPONENT FOR ITEM ABOVE		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*STEPPING STONE*	-	-	-	-	-	-	-	-	-	-	-
PA-06	SF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	PAINTED WALK	StreetBond 1 Campus Drive Parisppany, NJ 07054	Pavement Markings	SB 150AL with primer	SEE DETAIL(S)	SW 6939 - Turquish SW 6921 - Electric Lime SW 6839 Kimono Violet SW 6926 - Lucky Green	-	'Beginner' Sensory Walk.	-	REQUIRED	3' x 10'	x/ L-X
PA-07	EA	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	ADA TACTILE WARNING TILES	REFER TO CIVIL	Tactile Warning Surfacing	REFER TO CIVIL	2' x 5'	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL
PA-08		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	POROUS ASPHALTIC PAVEMENT	REFER TO CIVIL	POROUS ASPHALTIC PAVEMENT	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL

DESCRIPTION

DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

HARDSCAPE SCHEDULE

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L603

DECKING

CODE	UNIT		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
DK-01	-	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	WOODEN PLATFORM	-	Wood Decking and Framing	-	SEE DETAIL(S)	-	-	-	-	REQUIRED	-	x/ L504A
ASSEMBLY COMPONENT FOR ITEM ABOVE		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*DECK BOARDS*	Robi Decking 1005 Rundell Street Winston-Salem, NC 27105	Black Locust (Robina) Deck Boards	-	SEE DETAIL(S)	-	Kiln Dried	-	REQUIRED	-	-	-
ASSEMBLY COMPONENT FOR ITEM ABOVE		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*FRAMING*	-	Pressure Treated Southern Yellow Pine	Ground Contact	SEE DETAIL(S)	-	-	-	-	-	-	-

WOOD EDGING

CODE	UNIT		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
WE-01	EA	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	WOOD LOG EDGE TYPE 1	-	Robina Wood Log	-	SEE DETAIL(S)	-	Debarked and Dried	Vertical Log	-	REQUIRED	-	x/ L504A
WE-02	EA	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	WOOD LOG EDGE TYPE 2	-	Robina Wood Log	-	SEE DETAIL(S)	-	Debarked and Dried	Hortizontal Log	-	REQUIRED	-	x/ L504A

FENCES

CODE	UNIT		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
FE-01	LF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	CHAIN LINK FENCE	-	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	-	-	-	-	REFER TO CIVIL

GATES

CODE	EA		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
GT-01	-	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	ACCESS GATE (SWING)	-	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	REFER TO CIVIL	-	-	-	-	REFER TO CIVIL

HANDRAILS

CODE	UNIT		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
HR-01	LF	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	SENSORY WALK HANDRAIL	-	Stainless Steel Pipe Handrail	-	1.5" OD PIPE	-	#4 Directional Brush	-	-	Required	-	x/ L-X
ASSEMBLY COMPONENT FOR ITEM ABOVE	-	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE FOOTING*	-	Concrete Footing	-	-	-	-	-	-	-	-	-

NATURAL STONE

CODE	UNIT		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
NS-01	EA	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	BOULDER, TYPE 1	Lemke Stone, Inc. 21385 W. Good Hope Rd. P.O. Box 428 Lannon, WI 53046	Glacier Weather Edge Limestone Boulders	-	36 - 48"	Cream White, Brown			-	-	-	L503A
NS-02		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	OUTCROPPING	Eden Valders Stone W4520 Lime Road Eden, WI 53019 920-477-2521	Eden Limestone Outcropping		2-3 Man 8-12" HT	Grey to Buff			-			L503A
NS-03	EA	CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	STONE STEPPERS	Eden Valders Stone W4520 Lime Road Eden, WI 53019 920-477-2521	Eden Limestone Outcropping	-	2-3 Man 6-10" HT	Grey to Buff	-		-	-	-	L503A
NS-04	EA	OWNER FURNISHED CONSTRACTOR INSTALLED	BOULDER, TYPE 2	Owner Supplied Reclaimed Stone	-	-	-	-	-	Contractor to coordinate with owner to install owner-supplied reclaimed boulers.	-	-	-	L503A

DESCRIPTION

DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
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HARDSCAPE SCHEDULE

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L603A

PLAY EQUIPMENT

CODE	UNIT	FURNISH/ INSTALL SCOPE	COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	DLT/ SHEET
PG-01	LS	OWNER FURNISHED OWNER INSTALLED	**PLAYGROUND EQUIPMENT**	Gerber Leisure Products, Inc. Contact: Meghan Barrett p. 608-514-6323 meghan@gerberleiure.com	-	Landscape Structures, Inc. Freestanding System Project ID: 23091802	See LSI Drawing #23092802-02	-	-		-	REQUIRED	-	L504C
ASSEMBLY COMPONENT FOR		OWNER FURNISHED OWNER INSTALLED	*CONCRETE FOOTINGS*	-	Concrete Footing	-	Per Manufacturer	-	-	-	-	-	-	3/ L504B

BIKE RACKS

CODE	UNIT		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
BR-01	EA	OWNER FURNISHED OWNER INSTALLED	**BIKE RACKS**	Madrax Graber Manufacturing, Inc. Waunakee, WI 53597	Powder Coated Steel	3 Hoop on Rail U190-6-P Surface Mount	21" W x 36" H x 66" L	Patriot Blue	Powder Coat		-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503

FURNITURE

CODE	UNIT		COMPONENT	SOURCE	MATERIAL	MODEL	SIZE	COLOR	FINISH	NOTES	SAMPLE	SHOP DRAWING	MOCKUP	SHEET
BN-01	EA	OWNER FURNISHED CONSTRACTOR INSTALLED	**BENCH TYPE 1**	Thomas Steele Division of Graber Manufacturing, Inc. 1080 Uniek Drive, Waunakee, WI 53597 P. 800.241.2505, F. 608.849.1081	Steel Frame Recylced Plastic Cedar	4' Cunningham Backed Bench Surface Mount	52" L x 33" H x 26" W	Walnut (Slats) Storm Metallic (Frame)	Powder Coated		-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503
BN-02	EA	OWNER FURNISHED OWNER INSTALLED	**BENCH TYPE 2**	Thomas Steele Division of Graber Manufacturing, Inc. 1080 Uniek Drive, Waunakee, WI 53597 P. 800.241.2505, F. 608.849.1081	Steel Frame Recylced Plastic Slats	Cunningham Backed Bench Surface Mount	52" L x 33" H x 26" W	Walnut (Slats) Storm Metallic (Frame)	Powder Coated		-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503
BN-03	EA	OWNER FURNISHED CONSTRACTOR INSTALLED	**BENCH TYPE 3**	Wausau Tile P.O. BOX 1520 Wausau, WI 64402 www.wausautile.com	Precast Concrete	TF5116	Arc: Total Length 73-1/2"; 18" Seat Width 18" HT	A31 Fog	Acid Wash	-	-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503
TB-01	EA	OWNER FURNISHED OWNER INSTALLED	**PICNIC TABLE- TYPE 1**	Wausau Tile P.O. BOX 1520 Wausau, WI 64402 www.wausautile.com	Precast Concrete	TF3128	66" L x 64" W x 30" H	Darkest Gray A38y	Standard Ground and Polish Top and Bench; Acid Wash Legs	-	-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503
TB-02	EA	OWNER FURNISHED OWNER INSTALLED	**PICNIC TABLE- TYPE 2**	Wausau Tile P.O. BOX 1520 Wausau, WI 64402 www.wausautile.com	Precast Concrete	TF3125	66" DIA x 30" H	Darkest Gray A38y	Standard Ground and Polish Top and Bench; Acid Wash Legs	-	-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503
TB-03	EA	OWNER FURNISHED OWNER INSTALLED	**PICNIC TABLE- TYPE 3**	Kay Park Recreation 1301 Pine St. Janesville, IA 50647 P. 866.741.8266	Galvanized Steel Pipe Frame Composite Slats	J2 Series	8' L	Brown	-	-	-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503
TB-04	EA	OWNER FURNISHED OWNER INSTALLED	**GAME TABLE**	Wausau Tile P.O. BOX 1520 Wausau, WI 64402 www.wausautile.com	Precast Concrete	-	-	A31 Fog	Acid Wash	-	-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503
TR-02	EA	OWNER FURNISHED OWNER INSTALLED	**TRASH RECEPTACLES, TYPE 1**	Max-R W248 N5499 Executive Drive Sussex, WI 53089 P. 855.204.3560	HDPE Recycled Plastic	Infinity Round Rivited	55 Gallon	Black	-	-	-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503
TR-03	EA	OWNER FURNISHED OWNER INSTALLED	**RECYCLING RECEPTACLE**	Max-R W248 N5499 Executive Drive Sussex, WI 53089 P. 855.204.3560	HDPE Recycled Plastic	Infinity Round Rivited	-	Blue	-	-	-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503
CR-01	EA	OWNER FURNISHED OWNER INSTALLED	**HOT COAL RECEPTACLE**	Kay Park Recreation 1301 Pine St. Janesville, IA 50647 P. 866.741.8266	Precast Concrete	Concrete Hot Ash Receptacle SKU: CHAR2235	22" x 22" x 35" H	Dove Gray	Light Sand Blast	-	-	-	-	-
ASSEMBLY COMPONENT FOR		CONSTRACTOR FURNISHED CONSTRACTOR INSTALLED	*CONCRETE BASE*	-	SEE CONCRETE PAVEMENT	-	-	-	-	-	-	-	-	1/ L503

DESCRIPTION

DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE FURNISHINGS SCHEDULE

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO:
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L604

FILE NAME: 9509_SCHD.DWG PLOT DATE: 2024-02-15 PLOTTED BY: DEREK SHEET: L604

Code	Nursery	Trees	Common Name	Mature Size	Quantity
	SHADE TREES - OWNER FURNISHED, CONTRACTOR INSTALLED - ADD ALTERNATE				
CE.OC	Johnson's	*Celtis occidentalis*	Common Hackberry	40' ht x 60' spread	6
FA.GR	Johnson's	*Fagus granifolia*	American Beech	60' ht x 55' spread	7
LI.TU	Wayside	*Liriodendron tulipifera*	Tulip Tree	80' ht x 45' spread	8
PO.GR	Johnson's	*Populus grandidentata*	Big-tooth Aspen	60' ht x 14' spread	13
QU.BI	Johnson's	*Quercus bicolor*	Swamp White Oak	75' ht x 65' spread	5
QU.MA	Johnson's	*Quercus macrocarpa*	Bur Oak	60' ht x 60' spread	13
					52
	ORNAMENTAL TREES - OWNER FURNISHED, CONTRACTOR INSTALLED - ADD ALTERNATE				
AM.AU		*Amelanchier x grandiflora* 'Autumn Brilliance'	Autumn Brilliance Serviceberry	15' ht x 25' spread	18
BE.CU	Wayside	*Betula nigra* 'Cully'	Heritage River Birch	40' tall x 40' wide (multi-stem)	5
CA.CA	Wayside	*Carpinus caroliniana*	Musclewood	25' ht x 25' spread	18
CA.SP	Wayside	*Catalpa speciosa*	Northern Catalpa	40' ht x 30' spread	13
CE.CA	Wayside	*Cercis canadensis*	Redbud	20' ht x 25' spread (multi-stem)	9
CE.JA	Wayside	*Cercidiphyllum japonicum*	Katsura Tree	50' ht x 20' spread	5
CO.AL	Wayside	*Cornus alternifolia*	Pagoda Dogwood	15'ht x 15' spread	10
CO.MA	Wayside	*Cornus mas*	Corneliancherry Dogwood	20' ht x 15' spread (tree-form)	22
MA.BU	Wayside	*Magnolia* 'Butterflies'	Magnolia 'Butterflies'	20' ht x 20' spread	7
MA.LE	Wayside	*Magnolia* 'Leonard Messel'	Magnolia 'Leonard Messell'	15' ht x 20' spread (multi-stem)	9
PO.TR	Wayside	*Populus tremuloides*	Quaking Aspen	40' ht x 25' spread (multi-stem)	20
					118
	EVERGREEN TREES - OWNER FURNISHED, CONTRACTOR INSTALLED - ADD ALTERNATE				
JU.CO	Johnson's	*Juniper communis*	Old Field Common Juniper	4'h x 10' spread	50
JU.VI	Johnson's	*Juniperus virginiana*	Eastern Redcedar	30-40'ht x 8-20' spread	56
LA.LA	Johnson's	*Larix laricina*	Tamarack	30-50' ht x 10-15' spread	28
ME.GL	Wayside	*Metaseguoia glyptostroboides*	Dawn Redwood	75' ht x 15-25' spread	4
PI.AB	Wayside	*Picea abies*	Norway Spruce		50
TH.ST	Wayside	*Thuja plicata* 'Standishii'	Green Giant Arborvitae	60' ht x 12-20' spread	34
					222
	SHRUBS - OWNER FURNISHED, OWNER INSTALLED, SHOWN FOR REFERENCE ONLY				
CE.AM	Midwest	*Ceanothus americanus*	New Jersey Tea	2-3' ht x 4' spread	42
CO.SE	Midwest	*Cornus sericea*	Red osier Dogwood	6' ht x 6' spread	18
DI.G2	Midwest	*Diervilla x* 'G2X88544'	Kodiak Orange Diervilla	4' ht x 4' spread	54
DI.JE	Johnson's	*Diervilla lonicera* 'Jewell'	Jewel Honeysuckle	4' ht x 4' spread	77
DI.SM	Midwest	*Diervilla rivularis* 'SMNDRSF'	Kodiak Black Diervilla	4' ht x 4' spread	26
FO.NI	Midwest	*Forsythia x* 'NIMBUS'	Sugar Baby Forsythia	24" ht x 4' spread	63
HA.VI	Midwest	*Hamamelis virginiana*	Common Witchhazel	12' ht x 12' spread	24
PH.PO	Midwest	*Physocarpus opulifolius* 'Podaras 3'	Lemon Candy Ninebark	2.5' ht x 3' spread	33
RH.BA	Midwest	*Rhus typhina* 'Bailtiger'	Tiger Eye Sumac	10'ht x 10' spread	9
RH.TY	Midwest	*Rhus typhina*	Staghorn Sumac	12' ht x 20' spread	80
SP.CO	Wayside	*Spiraea betufolia* 'COURISPI01'	Pink Sparkler Spirea	4' ht x 4' spread	43
SY.BL	Midwest	*Syringa x* 'Bloomerang Lilac'	Bloomerang Lilac dark purple	4' ht x 4' spread	11
					480
	FORBS - OWNER FURNISHED, OWNER INSTALLED, SHOWN FOR REFERENCE ONLY				
AL.SU	Radtke	*Allium* 'Summer Beauty'	Summer Beauty Allium	18"ht x 12" spread	74
AM.CA	Radtke	*Amorpha canescens*	Lead Plant	3'ht x 4' spread	33
AS.TU	Radtke	*Asclepias tuberosa*	Butterfly Weed	2'ht x 12" spread	70
BA.TW	Radtke	*Baptisia x varicolor* 'Twilite'	Twilite Prairieblues Baptisia	24" ht x 4' spread	34
BA.VA	Radtke	*Baptisia Decadence* 'Vanilla Cream'	Baptisia Vanilla Cream	24" ht x 4' spread	8
CA.MO	Radtke	*Calamintha nepeta* 'Montrose White'	Montrose White Catmint	18"ht x 24" spread	82
EU.BA	Radtke	*Eupatorium dubium* 'Baby Joe'	Baby Joe-pye Weed	2'ht x 2' spread	56
HE.BE	Radtke	*Hemerocallis* 'Bela Lugosi' (sub)	Bela Lugosi Daylily (sub)	28" ht x 1.5' spread	71
HE.HY	Radtke	*Hemerocallis* 'Hyperion'	Hyperion Daylily	3' ht x 1.5' spread	74
HI.CR	Midwest	*Hibiscus Summerific* 'Cranberry Crush'	Cranberry Crush Hibiscus	3' ht x 4' spread	7
RU.LI	Radtke	*Rudbeckia fulgida var. sullivantii* 'Little Goldstar'	Little Goldstar Black-eyed Susan	14" x 14"	80
SA.CA	Radtke	*Salvia nemerosa* 'Caradonna'	Caradonna Salvia	24" ht x 24" spread	67
SA.MA	Radtke	*Salvia nemerosa* 'Mainacht'	May Night Salvia	18" ht x 24" spread	35
ST.HU	Radtke	*Stachys monieri* 'Hummelo'	Hummelo Lamb's Ear	20" ht x 20" spread	51
					742
	GRASSES - OWNER FURNISHED, OWNER INSTALLED, SHOWN FOR REFERENCE ONLY				
AN.GE	Radtke	*Andropogon gerardii*	Big Bluestem	4' ht x 24" spread	91
CH.LA	Radtke	*Chasmanthium latifolium*	Northern Sea Oats	30" ht x 12" spread	47
PA.SH	Radtke	*Panicum virgatum* 'Shenandoah'	Shenandoah Switch Grass	4' ht x 2' spread	74
SC.SC	Radtke	*Schizachyrium scoparium*	Little Bluestem	2' ht x 12" spread	163
SE.AU	Radtke	*Sesleria autumnalis*	Autumn Moor Grass	3' ht x2' spread	117
					492
	SEED MIXES - CONTRACTOR FURNISHED, CONTRACTOR INSTALLED				
		Lawn Seed Mix			109100
	Agrecol	*Short Grass Prairie Seed Mix*			51,800
		No-Mow Fescue			55900
	Agrecol	*Stormwater/Infiltration Seed Mix*			13600
	Agrecol	*Wetland Emergent Seed Mix*			12,600
					16170
	SOD - CONTRACTOR FURNISHED, CONTRACTOR INSTALLED				
		Kentucky Blue Grass SY			

	EMERGENT PLUGS - TALL PALETTE - OWNER FURNISHED, CONTRACTOR INSTALLED				
AS.IN		*Asclepias incarnata*	Marsh (Red) Milkweed	3-5' ht	320
AS.NO		*Symphyotrichum novae-angliae*	New England Aster	4-5' ht	320
BA.LE		*Baptisia leucantha (alba)*	White Wild Indigo	3-5' ht	320
CA.AM		*Campanula americana*	Tall Bellflower	2-5' ht	320
CA.CA		*Calamagrostis canadensis*	Blue Joint Grass	2-5' ht	320
EL.CA		*Elymus canadensis*	Canada Wild Rye	3-5' ht	320
EL.VI		*Elymus virginicus*	Virginia Wild Rye	3-5' ht	320
EU.PE		*Eupatorium perfoliatum*	Boneset	2-5' ht	320
GL.GR		*Glyceria grandis*	Reed Manna Grass	3-5' ht	320
GL.ST		*Glyceria striata*	Fowl Manna Grass	2-5' ht	320
LO.CA		*Lobelia cardinalis*	Cardinal Flower	3-5' ht	320
PA.VI		*Panicum virgatum*	Switchgrass	4-6' ht	320
RA.PI		*Ratibida pinnata*	Yellow Coneflower	4-5' ht	320
SC.AT		*Scirpus atrovirens*	Dark-Green Bulrush	3-5' ht	320
SI.LA		*Silphium laciniatum*	Compass Plant	6-12' ht	320
SI.TE		*Silphium terebinthinaceum*	Prairie Dock	4-10' ht	320
VE.FA		*Verbena fasciculata*	Common Ironweed	4-6' ht	320
VE.HA		*Verbena hastata*	Blue Vervain	2-6' ht	320
					5760
	EMERGENT PLUGS - SHORT PALETTE - OWNER FURNISHED, CONTRACTOR INSTALLED				
AL.CE		*Allium cernum*	Nodding Onion	1-2' ht	320
CA.BR		*Carex brevior*	Plains Oval Sedge	1-3' ht	320
CA.SP		*Carex sprengelii*	Long-Beaked Sedge	1-2' ht	320
CA.ST		*Carex stipata*	Common Fox Sedge	1-3' ht	320
CA.VU		*Carex vulpinoidea*	Brown Fox Sedge	1-3' ht	320
CH.FA		*Chamaecrista fasciculata*	Partridge Pea	1-3' ht	320
EC.PU		*Echinacea purpurea*	Purple Coneflower	3-4' ht	320
JU.EF		*Juncus effusus*	Common Rush	1-2' ht	320
LI.PY		*Liatris pycnostachya*	Prairie Blazing Star	2-4' ht	320
LI.SP		*Liatris spicata*	Marsh Blazing Star	3-4' ht	320
LO.SI		*Lobelia siphilitica*	Great Blue Lobelia	1-2' ht	320
MO.FI		*Monarda fistulosa*	Wild Bergamot	2-4' ht	320
PE.DI		*Penstemon digitalis*	Foxglove Beard Tongue	1-3' ht	320
PH.VI		*Physostegia virginiana*	Obedient Plant	2-3' ht	320
PY.VI		*Pycnanthemum virginianum*	Mountain Mint	1-3' ht	320
RU.HI		*Rudbeckia hirta*	Black-Eyed Susan	1-3' ht	320
SO.OH		*Solidago ohioensis*	Ohio Goldenrod	2-3' ht	320
TR.OH		*Tradescantia ohiensis*	Ohio Spiderwort	2-4' ht	320
					5760

DESCRIPTION

DATE

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

SITE

PLANTING SCHEDULE

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT: 9509
FILE NO: DN
DRAWN BY: BK
CHECKED BY:
SCALE:

L606

FILE NAME: 9509_SCHD.DWG | PLOT DATE: 2024-02-15 | PLOTTED BY: DEREK | SHEET: L606

LEGEND

PROPERTY LINE

AREA TO BE IRRIGATED
OVERHEAD SPRAY ONLY

1 AREAS TO BE IRRIGATED
1"=30'-0"

0 40 80 120 160'

DATE	DESCRIPTION

CITY OF WAUWATOSA
ENGINEERING SERVICES DIVISION

THE SIGMA GROUP
Single Source. Sound Solutions.

site

AREAS TO BE IRRIGATED

1700 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:
FILE NO: 9509
DRAWN BY: DN
CHECKED BY: BK
SCALE:

L1000

FILE NAME: 9509_IRRIG.DWG
PLOT DATE: 2024-02-15
PLOTTED BY: DEREK
SHEET: L1000

ABBREVIATIONS

AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
ALT	ALTERNATE
AMP	AMPERE
AOR	AREA OF REFUGE
AORM	AREA OF REFUGE MASTER STATION
AORR	AREA OF REFUGE REMOTE STATION
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AV	AUDIO VISUAL
BLDG	BUILDING
BOT	BOTTOM
C	CONDUIT
CAB	CABINET
CATV	COMMUNITY ANTENNA TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CD	CANDELA OR CONSTRUCTION DOCUMENT
CKT	CIRCUIT
CLG	CEILING
COAX	COAXIAL CABLE
CP	CONTROL PANEL
CT	CURRENT TRANSFORMER
CU	COPPER
dB	DECIBEL
DB	DIRECT BURIAL
DEMO	DEMOLITION
DISC	DISCONNECT
DIST	DISTRIBUTION
DM	DIMMING
DN	DOWN
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DS	DAYLIGHT SENSOR
DWG	DRAWING
EBU	EMERGENCY BATTERY UNIT
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVATOR
EM	EMERGENCY
ENCL	ENCLOSURE
ER	ELEVATOR RECALL
ERL	EXISTING TO BE RELOCATED
ES	ELECTRIC STRIKE
ETR	EXISTING TO REMAIN
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FC	FOOT-CANDLE
FLA	FULL LOAD AMPERE
FP	FIRE PROTECTION
FSS	FUSED SAFETY SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
GEN	GENERATOR
GRD	GROUND
GC	GENERAL CONTRACTOR
GFI / GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO
HP	HORSE POWER
HZ	HERTZ
IG	INSOLATED GROUND
K	KEY OPERATED
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR
LCP	LIGHTING CONTROL PANEL
LED	LIGHT EMITTING DIODE
LF	LINEAR FOOT (FEET)
LM	LUMEN
LPS	LOW PRESSURE SODIUM
LRA	LOCKED ROTOR AMPERAGE
LTG	LIGHTING
LV	LOW VOLTAGE
MAG	MAGNETIC STARTER
MAN	MANUAL STARTER
MATV	MASTER ANTENNA TELEVISION SYSTEM
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MFG	MANUFACTURER
MH	MANHOLE
MOCP	MAXIMUM OVERCURRENT PROTECTION
MLO	MAIN LUG ONLY
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
N	NEUTRAL
NA	NOT APPLICABLE
NAC	NOTIFICATION APPLIANCE CIRCUIT
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION AGENCY
NFSS	NON-FUSED SAFETY SWITCH
NIC	NOT INCLUDED IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OL	OVERLOAD
OS	OPTIONAL STANDBY
P	POLE
PA	PUBLIC ADDRESS
PB	PUSHBUTTON
PC	PLUMBING CONTRACTOR
PE	PHOTOELECTRIC CELL, PHOTOEYE
PED	PEDESTAL
PEND	PENDANT
PF	POWER FACTOR
PH	PHASE
PL	PILOT LIGHT
PNL	PANEL
PWR	POWER
RC	REMOTE CONTROL
RCP	REFLECTED CEILING PLAN
REC	RECESSED
RECPT	RECEPTACLE
SCC	SHORT CIRCUIT CAPACITY
SF	SQUARE FOOT (FEET)
SPD	SURGE PROTECTION DEVICE
SPEC	SPECIFICATION
SPST	SINGLE POLE, SINGLE THROW
SS	SWITCH STATION
SW	SWITCH
T	TAMPERPROOF
TC	TIMECLOCK
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UNV	UNIVERSAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
VA	VOLT AMPERE
VAC	VOLT AMPERE CURRENT
VFD	VARIABLE FREQUENCY DRIVE
W	WATT OR WIRE
WAP	WIRELESS ACCESS POINT
WP	WEATHERPROOF
X-	EXISTING
XFER	TRANSFER
XFMR	TRANSFORMER

LIGHTING LEGEND

- SWITCH
- THREE WAY WALL SWITCH
- FOUR WAY WALL SWITCH
- DIMMING SWITCH
- THREE WAY DIMMING SWITCH
- FOUR WAY DIMMING SWITCH
- STEP DIMMING SWITCH
- KEYED SWITCH
- THREE WAY KEYED SWITCH
- FOUR WAY KEYED SWITCH
- DUAL LEVEL SWITCH
- SWITCH STATION
- SWITCH-BOX OCCUPANCY SENSOR
- WALL MOUNT OCCUPANCY SENSOR
- CEILING MOUNT OCCUPANCY SENSOR
- SWITCH-BOX VACANCY SENSOR
- WALL MOUNT VACANCY SENSOR
- CEILING MOUNT VACANCY SENSOR
- CONTACTOR
- TIMECLOCK
- REMOTE TRANSFORMER
- CEILING MOUNT DAYLIGHT SENSOR
- WALL MOUNT DAYLIGHT SENSOR
- EXTERIOR PHOTOELECTRIC SWITCH
- SURFACE MOUNT LIGHT FIXTURE
- SURFACE MOUNT LIGHT FIXTURE - EMERGENCY
- PENDANT DIRECT/INDIRECT (LENGTH AS INDICATED)
- PENDANT DIRECT/INDIRECT - EMERGENCY (LENGTH AS INDICATED)
- STRIP/INDUSTRIAL FIXTURE
- 2X2 SURFACE MOUNT FIXTURE
- 2X2 SURFACE MOUNT FIXTURE - EMERGENCY
- 2X2 RECESSED FIXTURE
- 2X2 RECESSED FIXTURE - EMERGENCY
- 2X4 SURFACE MOUNT FIXTURE
- 2X4 SURFACE MOUNT FIXTURE - EMERGENCY
- 2X4 RECESSED FIXTURE
- 2X4 RECESSED FIXTURE - EMERGENCY
- LINEAR WALL BRACKET
- LINEAR WALL BRACKET - EMERGENCY
- WALL MOUNTED FIXTURE
- WALL MOUNTED FIXTURE - EMERGENCY
- POLE MOUNT LUMINAIRE
- BOLLARD
- FLOOD LIGHT

POWER LEGEND

- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE 6" ABOVE COUNTER OR BACKSPLASH OR AT HEIGHT INDICATED
- DOUBLE DUPLEX RECEPTACLE
- TOP SWITCHED DUPLEX RECEPTACLE
- SPECIAL PURPOSE OUTLET
- DUPLEX FLOOR OUTLET
- DOUBLE DUPLEX FLOOR OUTLET
- TOP SWITCHED DUPLEX FLOOR OUTLET
- CEILING MOUNTED DUPLEX RECEPTACLE
- CEILING MOUNTED DOUBLE DUPLEX RECEPTACLE
- POKE THRU
- PUSH BUTTON
- POWER POLE
- JUNCTION BOX
- CIRCUIT BREAKER
- FUSE
- GROUND
- TRANSOCKET
- SURFACE MOUNT PANEL
- RECESSED PANEL
- METER
- CURRENT TRANSFORMER
- MANUAL DISCONNECT
- NON-FUSED DISCONNECT
- FUSED DISCONNECT
- MAGNETIC STARTER
- COMBINATION STARTER
- MOTOR
- POWER ASSIST OPERATOR PUSH PLATE

GENERAL LEGEND

- NEW ELECTRICAL COMPONENT
- EXISTING ELECTRICAL COMPONENT
- DEMOLISHED ELECTRICAL COMPONENT
- KEY NOTE (E##)
- TYPICAL CIRCUIT
- UNSWITCHED CIRCUIT

GENERAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL REQUIRED COMPONENTS FOR A COMPLETE INSTALLATION. CONTRACTOR SHALL FURNISH AND INSTALL MATERIAL,EQUIPMENT, DEVICES, FIXTURES, SERVICE REQUIREMENTS NECESSARY TO CONFORM TO THE STRUCTURE, EQUIPMENT CONNECTIONS, FOR A COMPLETE AND FUNCTIONAL INSTALLATION AND SHALL MAINTAIN APPROPRIATE CLEARANCES.
2. ALL WORK SHALL COMPLY WITH APPLICABLE NATIONAL, STATE, LOCAL CODES, FEDERAL AND STATE REGULATIONS, AND ALL REQUIREMENTS OF THE LOCAL AUTHORITIES HAVING JURISDICTION.
3. CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION.
4. THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE FULL EXTENT OF WORK AND PROJECT CONDITIONS. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.
5. THE CONTRACTOR SHALL CHECK ALL DRAWINGS AND SPECIFICATIONS OF OTHER TRADES AND INCLUDE IN THEIR BID ANY ADDITIONAL WORK REQUIRED BY THIS TRADE.
6. CONTRACTOR SHALL VERIFY ALL EQUIPMENT CONNECTION CONFIGURATIONS BEFORE PURCHASE. ALL DEVICES SHOWN ARE FOR REFERENCE ONLY, TO COMMUNICATE DESIGN INTENT, FINAL LOCATIONS SHALL BE VERIFIED PRIOR TO INSTALLATION. THIS NOTE SHALL APPLY TO, BUT NOT BE LIMITED TO, RECEPTACLES, SWITCHES, DATA PORTS, AUDIO/VIDEO DEVICES, AND TELEPHONE JACKS.
7. CONDUCTOR SIZES INDICATED ARE MINIMUM SIZES BASED ON 60°C COPPER CONDUCTOR 100 AMPS OR LESS AND 75°C COPPER CONDUCTOR GREATER THAN 100 AMPS. AMPACITIES OF CONDUCTORS DO NOT TAKE VOLTAGE DROP INTO CONSIDERATION. CONTRACTOR SHALL SIZE CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS TO PREVENT A VOLTAGE DROP EXCEEDING 3 PERCENT AT THE FARTHEST OUTLET OF POWER, HEATING, AND LIGHTING LOADS, OR COMBINATION OF SUCH LOADS, AND WHERE THE MAXIMUM TOTAL VOLTAGE DROP ON BOTH FEEDERS AND BRANCH CIRCUITS TO THE FARTHEST OUTLET DOES NOT EXCEED 5 PERCENT, TO PROVIDE REASONABLE EFFICIENCY OF OPERATION.

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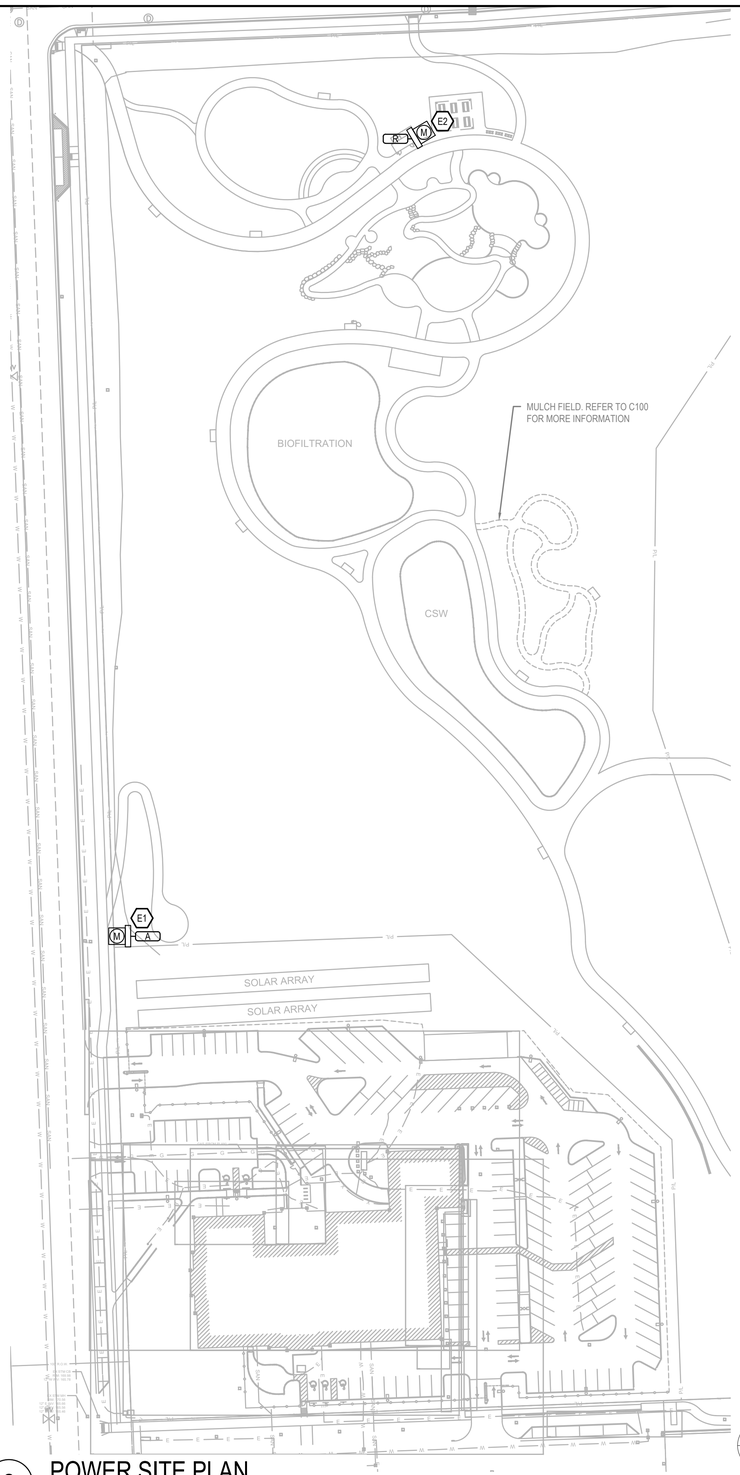
IBC PROJECT NO: 2023032

ELECTRICAL LEGEND AND NOTES

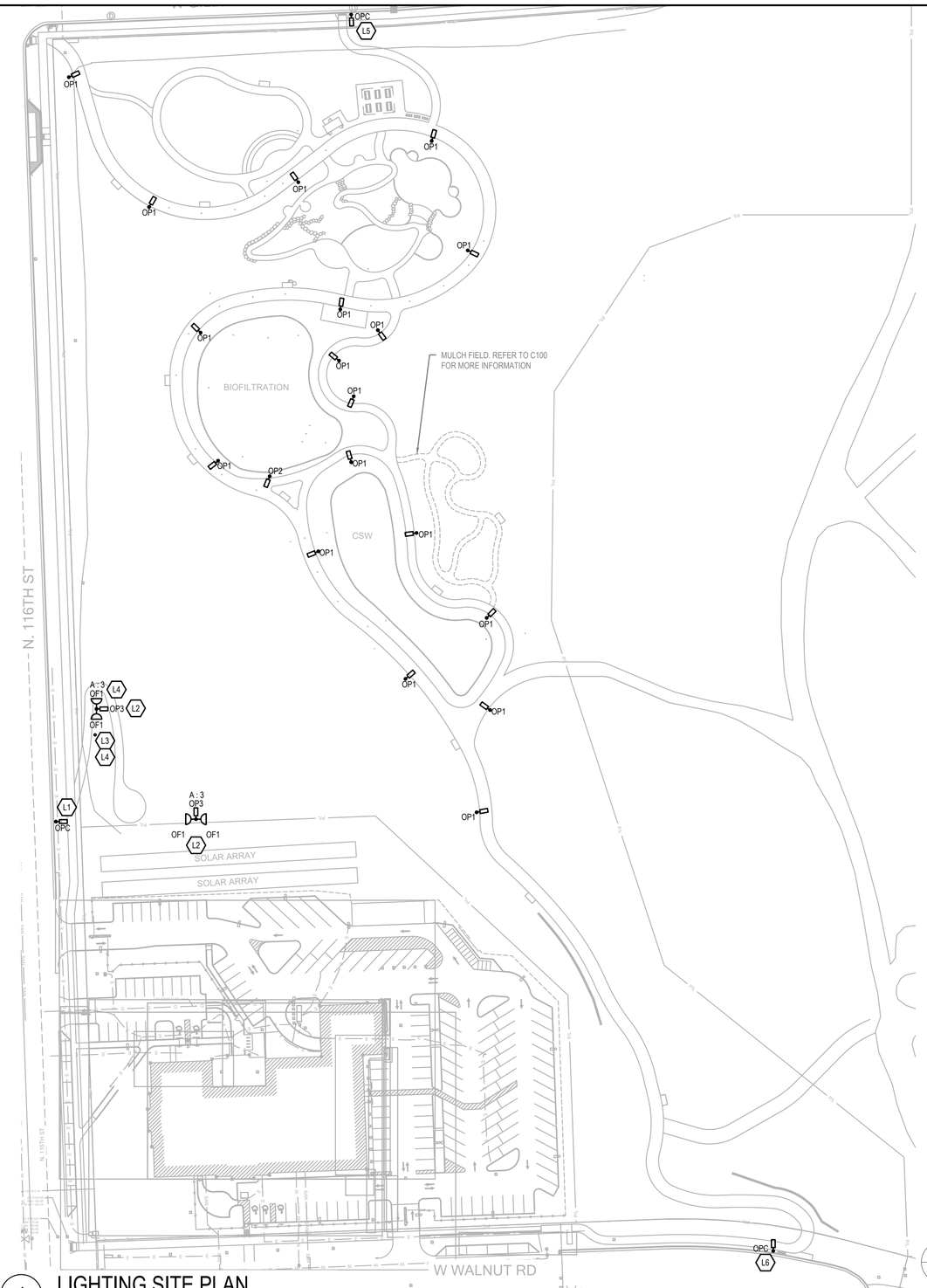
1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	------
FILE NO:	21231
DRAWN BY:	FA
CHECKED BY:	DH
SCALE:	AS SHOWN

E000



2 POWER SITE PLAN
SCALE: 1/8" = 1'-0"



1 LIGHTING SITE PLAN
SCALE: 1/8" = 1'-0"

SHEET NOTES

1.	ALL LIGHT FIXTURES/HEADS TO BE MOUNTED AT 20' ABOVE FINISHED GRADE.

KEY NOTES

L1	FIXTURE TYPE OPC SHALL BE INSTALLED TO EXISTING CITY POLE AND ASSOCIATED POWER BY THE CITY, OUTSIDE OF THIS PROJECT'S SCOPE, AND AS SHOWN ON PLANS. CITY SHALL VERIFY EXISTING POLE'S SUITABILITY FOR INCREASED FIXTURE LOAD PRIOR TO PROJECT COMPLETION TO ENSURE PROJECT REQUIREMENTS ARE MET.
L2	THIS POLE SHALL BE INSTALLED WITH FIXTURE HEAD OP3 MOUNTED AND AIMED AS SHOWN ON PLANS. FLOOD LIGHTS OF1 SHALL BE MOUNTED ON TOP OF THE POLE AND AIMED ON SITE FOR BEST COVERAGE OF SLEDDING HILL.
L3	LIGHTING FOR SLEDDING HILL SHALL BE CONTROLLED VIA TIMED PUSH BUTTON CONTROL SYSTEM. REFER TO SHEET E501 (SITE CONTROLS DETAILS) FOR ADDITIONAL INFO.
L4	PUSH BUTTON LOCATED ON INDEPENDENT POLE. REFER TO DETAIL 2 ON SHEET E500 FOR MORE INFORMATION.
L5	FIXTURE TYPE OPC SHALL BE INSTALLED TO CITY POLE AND ASSOCIATED POWER BY THE CITY, OUTSIDE OF THIS PROJECT'S SCOPE, AND AS SHOWN ON PLANS.
L6	CONDUIT TO ACCOMMODATE PROPOSED FUTURE LOCATION FOR CITY INSTALLED HARD WIRED POLE AND LIGHT FIXTURE. STYLE TO MATCH EXISTING CITY POLES AND HEADS. THIS FIXTURE AND POLE NOT PART OF THIS PROJECT.
E1	PROPOSED LOCATION OF ELECTRICAL METER AND POWER PANEL A.
E2	PROPOSED LOCATION OF ELECTRICAL METER AND POWER PANEL R. PROVIDE 100A, 120/240V, 2/4 POLE ELECTRICAL PANEL METER IS LOCATED ON EXTERIOR OF REST ROOM BUILDING. PANEL IS LOCATED WITH JANITORS CLOSET IN REST ROOM BUILDING. PROVIDE CONVENIENCE RECEPTACLE NEXT TO PANELBOARD. REFER TO REST ROOM PLANS FOR MORE INFORMATION.

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THIS BAR APPEARS 2" LONG ON FULL SIZE SHEETS.

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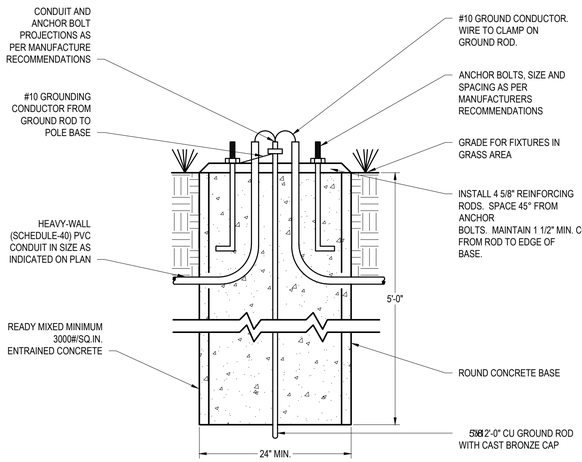
FILE NO:	21231
DRAWN BY:	GS
CHECKED BY:	DH
SCALE:	AS SHOWN

ELECTRICAL SITE PLANS

1900 N 116TH STREET
WAUWATOSA, WI 53226

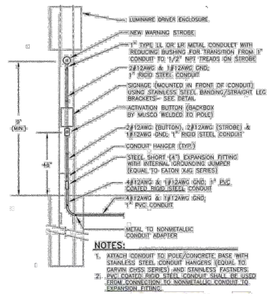
E100



3 LIGHT POLE BASE
N.T.S.

POLE HEIGHT	BASE EMBEDMENT / DIAMETER			
	EPA 2.0 FT² OR LESS	EPA 4.0 FT² TO 2.1 FT²	EPA 6.0 FT² TO 4.1 FT²	EPA 6.1 FT² OR GREATER
15'-0"	6'5"/2'-6"	6'5"/2'-6"	6'5"/2'-6"	6'5"/2'-6"
20'-0"	6'5"/2'-6"	6'5"/2'-6"	8'-0"/2'-6"	8'-0"/2'-6"
25'-0"	6'5"/2'-6"	8'-0"/2'-6"	9'-0"/2'-6"	10'-0"/2'-6"
30'-0"	8'-0"/2'-6"	9'-0"/2'-6"	10'-0"/2'-6"	10'-0"/2'-6"

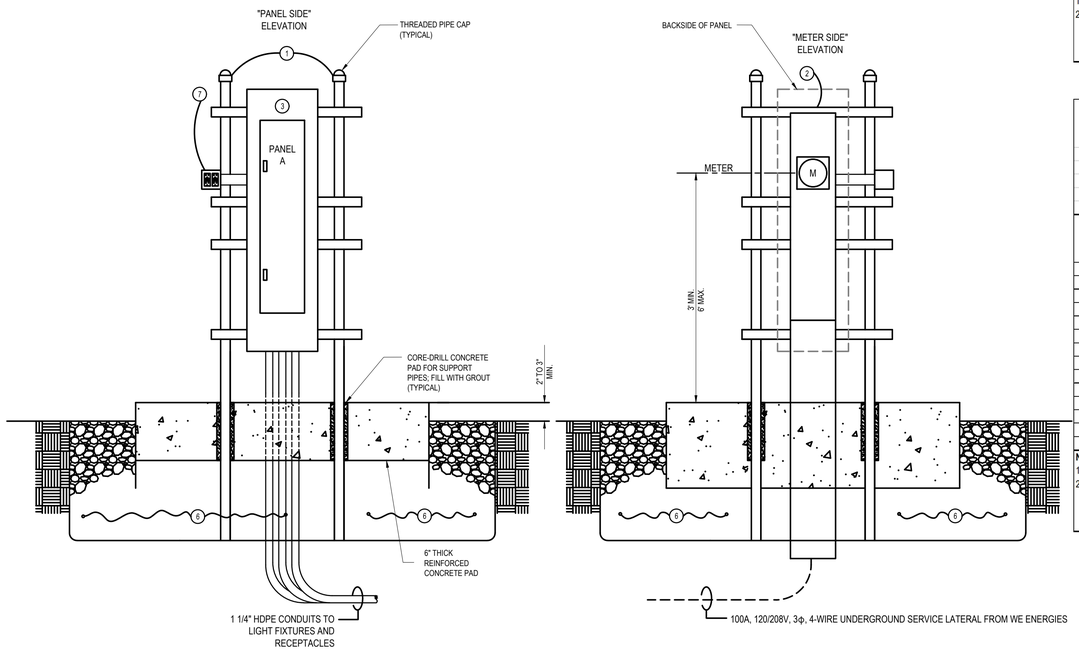
NOTES:
1. TABLE IS BASED ON SOIL BEARING PRESSURE OF 300 PSF.



2 SLED PUSHBUTTON/STROBE DETAIL
N.T.S.

PARK SERVICE ENCLOSURE EQUIPMENT LIST

1. FREE-STANDING 3" GALVANIZED PIPE AND STAINLESS STEEL UNISTRUT (BACK-TO-BACK DOUBLE CHANNEL P1001 SERIES) SUPPORT FRAME FOR MOUNTING ELECTRICAL EQUIPMENT. PROVIDE A MINIMUM OF (2) PIPES. TOP OF PIPES TO BE CAPPED. INSTALL SUPPORT FRAME PIPES THRU CORE-DRILLED HOLES IN CONCRETE PAD.
2. UTILITY APPROVED 100A, 120/240V, 1ϕ, 3W OUTDOOR TRANSOCKET WITH METER SOCKET MOUNTED ON COVER. MOUNT TRANSOCKET TO FREE-STANDING 3" GALVANIZED PIPE (MINIMUM OF 3 CAPPED PIPES) AND STAINLESS STEEL UNISTRUT SUPPORT FRAME. INSTALL SUPPORT FRAME PIPES THRU CORE-DRILLED HOLES IN CONCRETE PAD.
3. 24 CKT., 120/240V, 1ϕ, 3-WIRE PANELBOARD WITH 100A MAIN BREAKER-SQUARE D TYPE NQ. PANEL TO BE TYPE NEMA 3R ENCLOSURE. ENCLOSURE TO HAVE HASP FOR PADLOCK. REFER TO PANELS SCHEDULE FOR MORE INFORMATION.
6. PROVIDE GRAVEL A MINIMUM OF 12" DEEP BELOW PAD AND EXTENDING 12" OUT FROM EDGES OF PAD.
7. 20A, 120V DOUBLE-DUPLEX GFCI WEATHER RESISTANT RECEPTACLES, WITH WEATHERPROOF "WHILE-IN-USE" COVER.



1 ELECTRICAL SERVICE EQUIPMENT
N.T.S.

LIGHTING FIXTURE SCHEDULE

FIXT.	DESCRIPTION	TYPE	INPUT W	VOLT	MANUFACTURER	CATALOG NUMBER	MOUNTING	SEE NOTE
OF1	FLOODLIGHT	18,000 LUMEN, 3000K	170W	120V	LITHONIA	DSXF3 LED-6-P2-30K-70CRI-MSP-[VOLTAGE]-[MOUNTING]-[OPTIONS]-DBLXD	POLE	3
OP1	AREA HEAD	3700 LUMEN, 3000K	22W	SOLAR	SUNNA DESIGN	SL4249-1-[LIGHTING PROFILE]-290-RL204-3-120-2-27	POLE	1,2
OP2	AREA HEAD	3700 LUMEN, 3000K	22W	SOLAR	SUNNA DESIGN	SL4249-1-[LIGHTING PROFILE]-290-RL204-3-120-2-07	POLE	1,2
OP3	AREA HEAD	33,000 LUMEN, 3000K	277W	120V	LITHONIA	DSX1 LED-P9-30K-70CRI-T4M-[VOLTAGE]-[MOUNTING]-[OPTIONS]-DBLXD	POLE	3

REMARKS:
A. CATALOG NUMBERS ARE TO PROVIDE GUIDANCE ONLY AND MAY NOT BE COMPLETE.
B. FIXTURES SPECIFIED TO MEET DESIGN INTENT. EQUALS MAY BE SUBSTITUTED SUBJECT TO DESIGN TEAM'S APPROVAL WITH PROOF OF SYSTEM PERFORMANCE VIA CALCULATION AND PRODUCT DOCUMENTATION.
C. PROVIDE ALL PARTS AND PIECES NECESSARY FOR A COMPLETE AND FUNCTIONAL INSTALLATION.
D. ARCHITECT TO DETERMINE ALL FINISHES.
E. VERIFY DIMMING CONTROLS ARE COMPATIBLE WITH DIMMING DRIVER SELECTED FOR FIXTURE.
F. POLE HEIGHTS SHALL NOT EXCEED 25' FEET AFG.

NOTES:
1. SOLAR SYSTEM SHALL BE CONFIGURED AND AIMED PER MANUFACTURER'S GUIDELINES.
2. POLES FOR SOLAR FIXTURES ARE INCLUDED TOGETHER AS A UNIT WITH SOLAR PANELS, LIGHTING FIXTURES, AND BATTERIES.
3. POLES FOR HARD WIRED FIXTURES SHALL BE PROVIDED BASED ON THE COMPLETE INSTALLATION OF ALL LIGHT FIXTURES AND MOUNTING EQUIPMENT AS DIRECTED BY FIXTURE MANUFACTURER. MANUFACTURER SHALL PROVIDE SHOP DRAWING FOR THIS INSTALLATION.

PANEL NAME: A

LOCATION:	Sled hill	VOLTS:	120/240	AIC RATING:	10,000 MIN. EC TO VERIFY
SUPPLY FROM:	Utility	PHASES:	1	MAINS TYPE:	MCB
MOUNTING:	Surface	WIRES:	3	BUS RATING:	100
ENCLOSURE:	Type 3R			MCB RATING:	100

POLE NO.	POLES	AMP	DESCRIPTION	NOTES	A		B		DESRIPTION	NOTES	AMP	POLES	POLE NO.
1	1	20	RECEPT		720				SPARE		20	1	2
3	1	20	LIGHTS				1234		SPARE		20	1	4
5	1	20	SPARE						SPARE		20	1	6
7													8
9													10
11													12
13													14
15													16
17													18
19													20
21													22
23													24
			PHASE TOTAL:		720		0						
			TOTAL LOAD:		0								

NOTES:
1. GFI BREAKER
2. SHUNT TRIP BREAKER

PANEL NAME: R

LOCATION:	Restroom	VOLTS:	120/240	AIC RATING:	10,000 MIN. EC TO VERIFY
SUPPLY FROM:	Utility	PHASES:	1	MAINS TYPE:	MCB
MOUNTING:	Surface	WIRES:	3	BUS RATING:	100
ENCLOSURE:	Type 3R			MCB RATING:	100

POLE NO.	POLES	AMP	DESCRIPTION	NOTES	A		B		DESRIPTION	NOTES	AMP	POLES	POLE NO.
1	1	20	RECEPT						SPARE		20	1	2
3	1	20	LIGHTS						SPARE		20	1	4
5	1	20	SPARE						SPARE		20	1	6
7													8
9													10
11													12
13													14
15													16
17													18
19													20
21													22
23													24
			PHASE TOTAL:		0		0						
			TOTAL LOAD:		0								

NOTES:
1. GFI BREAKER
2. SHUNT TRIP BREAKER

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ELECTRICAL SCHEDULES

1900 N 116TH STREET
WAUWATOSA, WI 53226

CONTRACT:	----
FILE NO.:	21231
DRAWN BY:	FA
CHECKED BY:	DH
SCALE:	AS SHOWN

E500