PENTWATER COMMUNITY BEACHFRONT RESTORATION

30% DESIGN PLAN SET - PHASE 1

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PROJECT LOCATION MAP

N

0 500' 1000'

SCALE: 1" = 500'-0"

COUNTY KEY

GREAT LAKES AND ST. LAWRENCE CITIES INITIATIVE
L'ALLIANCE DES VILLES DES GRANDS LACS ET DU SAINT-LAURENT

MISS DIG 811

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Client/Project
GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY
BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
COVER SHEET

Project No. 227707083

Scale

Drawing No. C-001

Sheet of

Revision 0

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2025/04/09 3:00 PM By: SYodob0, Jake

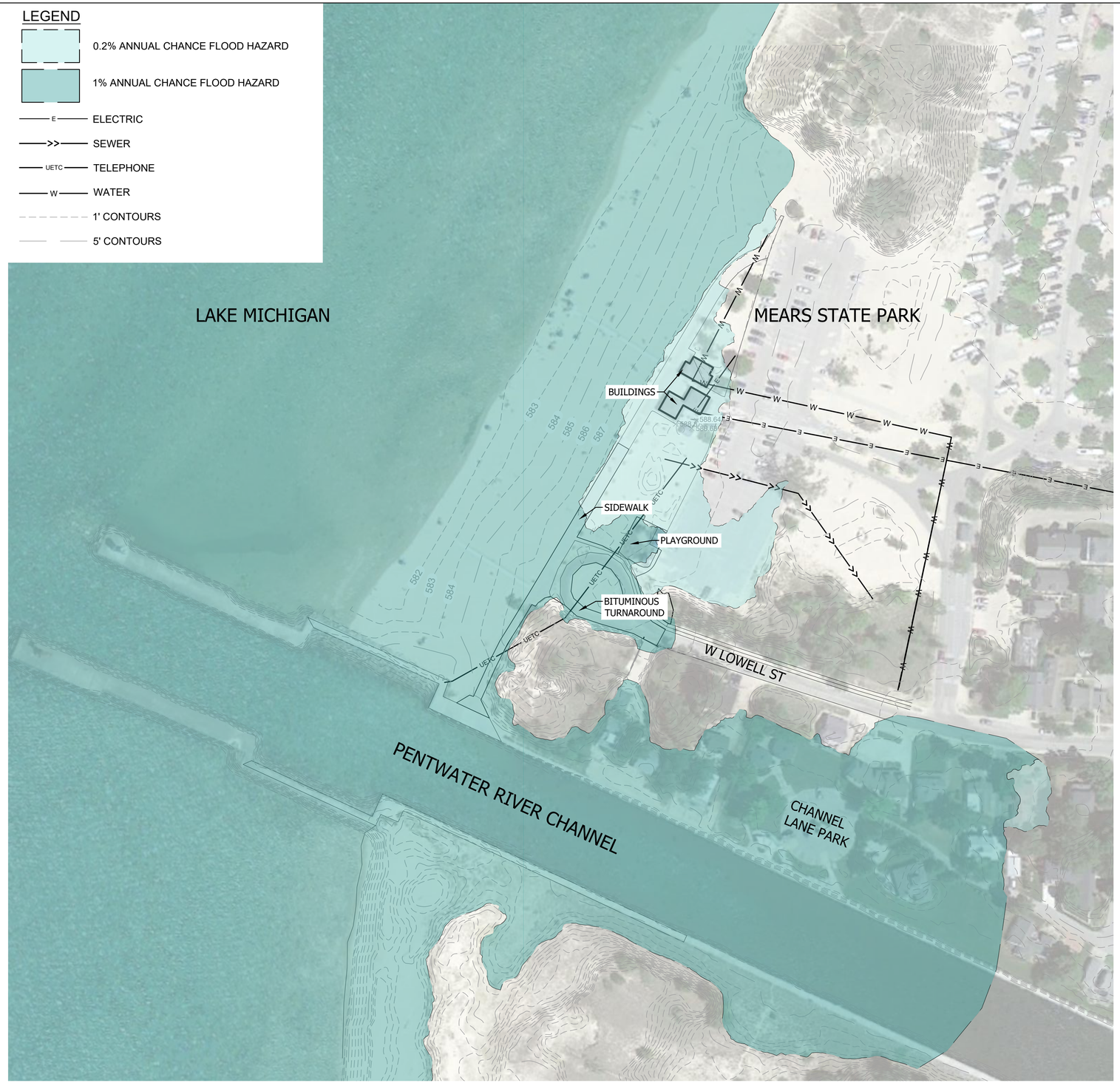
ORIGINAL SHEET - ANSI D

GENERAL NOTES

1. ALL WORK, INCLUDING CONSTRUCTION INSTALLATION, MATERIALS, TESTING AND INSPECTION, SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST ADOPTED EDITION OF THE INTERNATIONAL BUILDING CODE AND ALL OTHER APPLICABLE LOCAL AND STATE CODES, ORDINANCES AND REGULATIONS. ALL WORK IN PROCESS OR COMPLETE SHALL MEET ALL ADA, ADAAG, AND LOCAL JURISDICTIONAL REQUIREMENTS.
2. THOROUGHLY REVIEW THE SITE CONDITIONS, DRAWINGS, AND TECHNICAL SPECIFICATIONS PRIOR TO CONSTRUCTION. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH PLANS APPROVED BY THE APPLICABLE JURISDICTIONAL AUTHORITY. OBTAIN NECESSARY PERMITS FROM ALL JURISDICTIONS AS REQUIRED TO CONSTRUCT THE WORK OF THIS PROJECT.
3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A COMPLETE UP-TO-DATE SET OF DRAWINGS AND SPECIFICATIONS AT THE CONSTRUCTION SITE AND ENSURING THE DOCUMENTS ARE READILY AVAILABLE FOR REVIEW BY THE LANDSCAPE ARCHITECT AND GOVERNING AGENCY.
4. REFER TO SPECIFICATIONS FOR ALL REQUIRED SUBMITTALS FOR APPROVAL BY OWNER'S REPRESENTATIVE, AS WELL AS ADDITIONAL INFORMATION PERTAINING TO THE PROJECT MATERIALS, PROCEDURES AND INSTALLATION PRIOR TO COMMENCEMENT OF THE WORK. WORK INSTALLED NOT IN COMPLIANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AT CONTRACTOR'S EXPENSE.
5. INFORMATION MENTIONED IN THE TECHNICAL SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE TECHNICAL SPECIFICATIONS SHALL BE OF LIKE EFFECT AS IF SHOWN ON OR MENTIONED IN BOTH.
6. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO ONE ANOTHER AND IMPLIED TO CORRESPOND WITH ONE ANOTHER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR RESOLUTION IMMEDIATELY.
7. NOTES AND DETAILS ON SPECIFIC DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
8. THESE DRAWINGS DO NOT SPECIFY SAFETY MEASURES, MATERIALS, EQUIPMENT, METHODS OR SEQUENCING TO PROTECT PERSONS AND PROPERTY. DIRECT AND IMPLEMENT SAFETY OPERATIONS AND PROCEDURES IN ACCORDANCE WITH ADA, ADAAG, AND LOCAL JURISDICTIONAL REQUIREMENTS TO PROTECT THE OWNER, OTHER CONTRACTORS, THE PUBLIC, AND OTHERS FOR THE DURATION OF THE CONTRACT.
9. THE LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND SEQUENCES OR FOR SAFETY PRECAUTIONS OR PROBLEMS UTILIZED IN CONNECTION WITH THE WORK, AND ASSUMES NO LIABILITY FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
10. THE CONTRACT DOCUMENTS DO NOT REPRESENT OR CREATE, NOR SHALL BE CONSTRUED TO CREATE, ANY CONTRACTUAL RELATIONSHIP BETWEEN THE LANDSCAPE ARCHITECT AND THE CONTRACTOR OR ANY SUBCONTRACTOR.
11. SPECIAL CONSIDERATION HAS BEEN GIVEN TO THE DESIGN AND INTENDED RELATIONSHIP BETWEEN LANDSCAPE MATERIALS, FINISHES AND LAYOUT FOR NEW OR EXISTING IMPROVEMENTS IN RELATIONSHIP TO THE ARCHITECTURE AND/OR STREET, CURB & GUTTER AND SIDEWALK SYSTEMS. PAVEMENT JOINTING, FINISHES, COLOR AND GRADES HAVE BEEN STRICTLY COORDINATED. CONSTRUCTION OF THESE SYSTEMS SHALL ALSO BE STRICTLY COORDINATED.
12. ARCHITECTURAL, CIVIL, STRUCTURAL AND UTILITY ELEMENTS ARE SHOWN ON LANDSCAPE PLANS FOR REFERENCE ONLY. REFER TO INCLUDED DRAWINGS FOR ACTUAL INFORMATION. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
13. BASE INFORMATION, INCLUDING PROPERTY BOUNDARIES, EXISTING BUILDINGS, GRADING, EASEMENTS AND UTILITIES, ARE BASED ON SURVEY INFORMATION PROVIDED BY OTHERS. REFER TO SURVEY, PLAT, ROADWAY AND UTILITY DRAWINGS, AND OTHER AVAILABLE DOCUMENTS FOR PROPERTY LIMITS, EASEMENTS, EXISTING CONDITIONS, AND HORIZONTAL AND VERTICAL CONTROL. VERIFY ALL CONDITIONS AT JOB SITE AND NOTIFY LANDSCAPE ARCHITECT OF DIMENSIONAL ERRORS, OMISSIONS OR DISCREPANCIES BEFORE BEGINNING THE WORK.
14. VERIFY EXISTING SITE CONDITIONS INCLUDING PROPERTY LINES, EASEMENTS, UTILITIES, STRUCTURES, WALLS, VEGETATION, FENCES, LIMITS OF ROADWAYS, CURBS AND GUTTERS, AND OTHER OBSTRUCTIONS THAT MAY AFFECT THE PROGRESS OF WORK.
15. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS FROM DAMAGE OR ALTERATION. ALL SUCH IMPROVEMENTS AND STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR RECONSTRUCTED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
16. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS, AREA DISCREPANCIES AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN OR IDENTIFIED IN THE DRAWINGS. SUCH CONDITION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR DECISION. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
17. THE LIMITS OF WORK OCCUR AT THE 'LIMIT OF WORK' LINE AS DEPICTED ON PLANS. THE LIMIT OF WORK LINE OR CONSTRUCTION EASEMENT LINE FOR CONSTRUCTION IS SHOWN DIAGRAMMATICALLY AND OCCURS AT BACK OF CURB , EDGE OF ROAD, FACE OF BUILDING WALL OR PROPERTY LINE EXCEPT WHERE OTHERWISE NOTED.
18. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING MEANS AND METHODS FOR CONSTRUCTION. THESE DRAWINGS MAY INDICATE A LIMIT OF PROPOSED IMPROVEMENTS, LIMIT OF SITE DEMOLITIONS, ETC. FOR DELINEATION OF EXPECTED EXTENTS OF DISTURBANCE. HOWEVER, FINAL IMPACT SHALL BE DETERMINED IN THE FIELD. SHOULD LIMITS OF DISTURBANCE EXCEED BOUNDARIES DEFINED IN DRAWINGS, THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY FOR RESOLUTION.
19. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL WORK DISTURBED BY CONSTRUCTION OUTSIDE OF LIMIT LINES DEFINED ON DRAWINGS OR THROUGH CONTRACTOR MEANS AND METHODS TO A CONDITION BETTER THAN OR EQUAL TO THE EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
20. TAKE NECESSARY STEPS TO PROTECT AND MAINTAIN ALL FINISHED WORK FOR THE DURATION OF THE CONTRACT UNTIL FINAL ACCEPTANCE. THE WORK OF THIS CONTRACT WILL NOT BE CONSIDERED COMPLETE UNTIL ALL AREAS HAVE BEEN CLEANED OF ALL DIRT AND DEBRIS AND ALL DAMAGED ITEMS ARE REPAIRED.

LEGEND

- 0.2% ANNUAL CHANCE FLOOD HAZARD
- 1% ANNUAL CHANCE FLOOD HAZARD
- E — ELECTRIC
- >> — SEWER
- UETC — TELEPHONE
- W — WATER
- 1' CONTOURS
- 5' CONTOURS



01 EXISTING CONDITIONS PLAN

N

0 80' 160'

SCALE: 1" = 80'-0"

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Permit-Seal

Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

EXISTING CONDITIONS PLAN

Project No. 227707083

Scale

Drawing No. LS-001

Sheet of

Revision 0

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ORIGINAL SHEET - ANSI D

DEMOLITION - GENERAL NOTES

1. THE AREAS DENOTED ON THE PLANS TO BE CLEARED AND GRUBBED SHALL BE STAKED ON THE GROUND BY THE CONTRACTOR AND REVIEWED BY LANDSCAPE ARCHITECT PRIOR TO EXCAVATION. THE CLEARING AND GRUBBING SHALL BE DONE AT A SATISFACTORY DISTANCE IN ADVANCE OF THE GRADING OPERATIONS.

2. DISPOSAL OF ALL SPOIL MATERIALS REMOVED BY THE CLEARING AND GRUBBING SHALL BE LAWFULLY DISPOSED OF OFF OF PARK AND CITY GROUNDS.

3. THE REMOVAL OF EXISTING STRUCTURES AND UTILITIES REQUIRED TO PERMIT ORDERLY PROGRESS OF WORK SHALL BE ACCOMPLISHED BY LOCAL AGENCIES, UNLESS OTHERWISE SHOWN ON THE PLANS. WHENEVER A UTILITY POLE, PIPELINE, CONDUIT, CABLE, SEWER, ROADWAY, OR OTHER UTILITY IS ENCOUNTERED AND MUST BE REMOVED OR RELOCATED, THE CONTRACTOR SHALL ADVISE THE COR WHO WILL NOTIFY THE PROPER AUTHORITY OR OWNER AND ATTEMPT TO SECURE PROMPT ACTION.

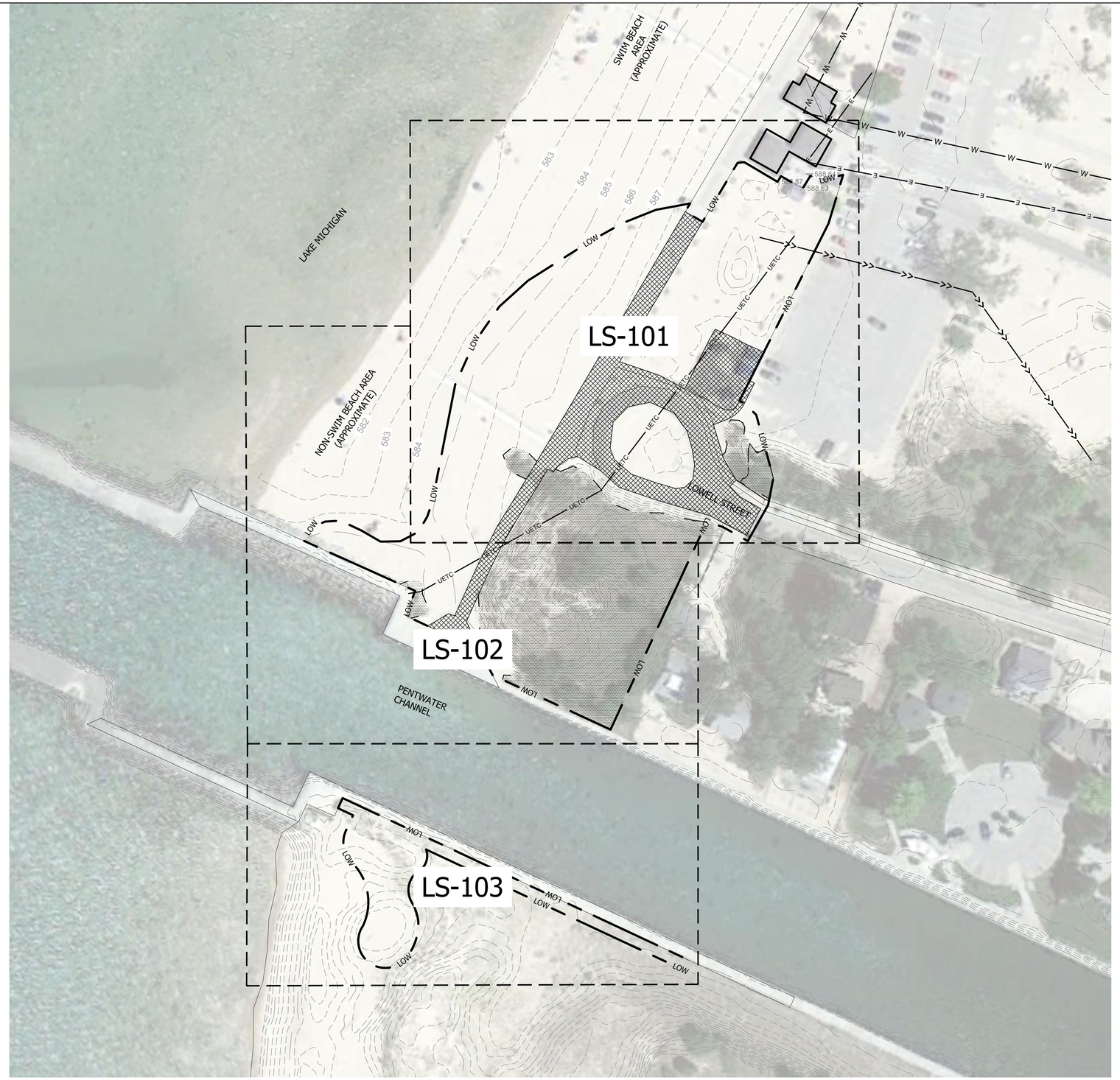
4. REMOVAL OF PAVEMENT SHOULD BE PERFORMED BY MAKING A CLEAN SAW CUT AT NEAREST JOINT BEYOND LOCATION OF NEW PAVEMENT BEING TIED IN.

5. QUANTITIES SHOWN ARE INCLUDED FOR CONTRACTOR CONVENIENCE ONLY. ALL FINAL QUANTITIES ARE TO BE DETERMINED BY THE CONTRACTOR PRIOR TO SUBMITTING A BID.

TREE REMOVAL - GENERAL NOTES

1. TREE REMOVAL OPERATIONS MUST OCCUR BETWEEN PERMITTED TIMES OF THE YEAR. IT IS UNLAWFUL TO PERFORM TREE REMOVAL WORK OUTSIDE OF LISTED TIME PERIOD WITHOUT PERFORMING A BAT/MIGRATORY BIRD SURVEY.

2. REMOVE STUMPS AND ROOTS TO EXTENTS OF FOOTING BOTTOM IN PROPOSED PAVED AREAS OR BELOW 12 IN FINISHED GRADE, WHICHEVER DEEPER.



LEGEND

- IMPERVIOUS SURFACE TO BE REMOVED
- CLEARING AND GRUBBING AREA
- CLEARING AND GRUBBING LIMITS
- LOW — LIMIT OF WORK

01 OVERALL DEMO PLAN

N

0 50' 100'

SCALE: 1" = 50'-0"

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Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

OVERALL DEMO PLAN

Project No.	Scale	
227707083		
Drawing No.	Sheet	Revision
LS-100	of	0

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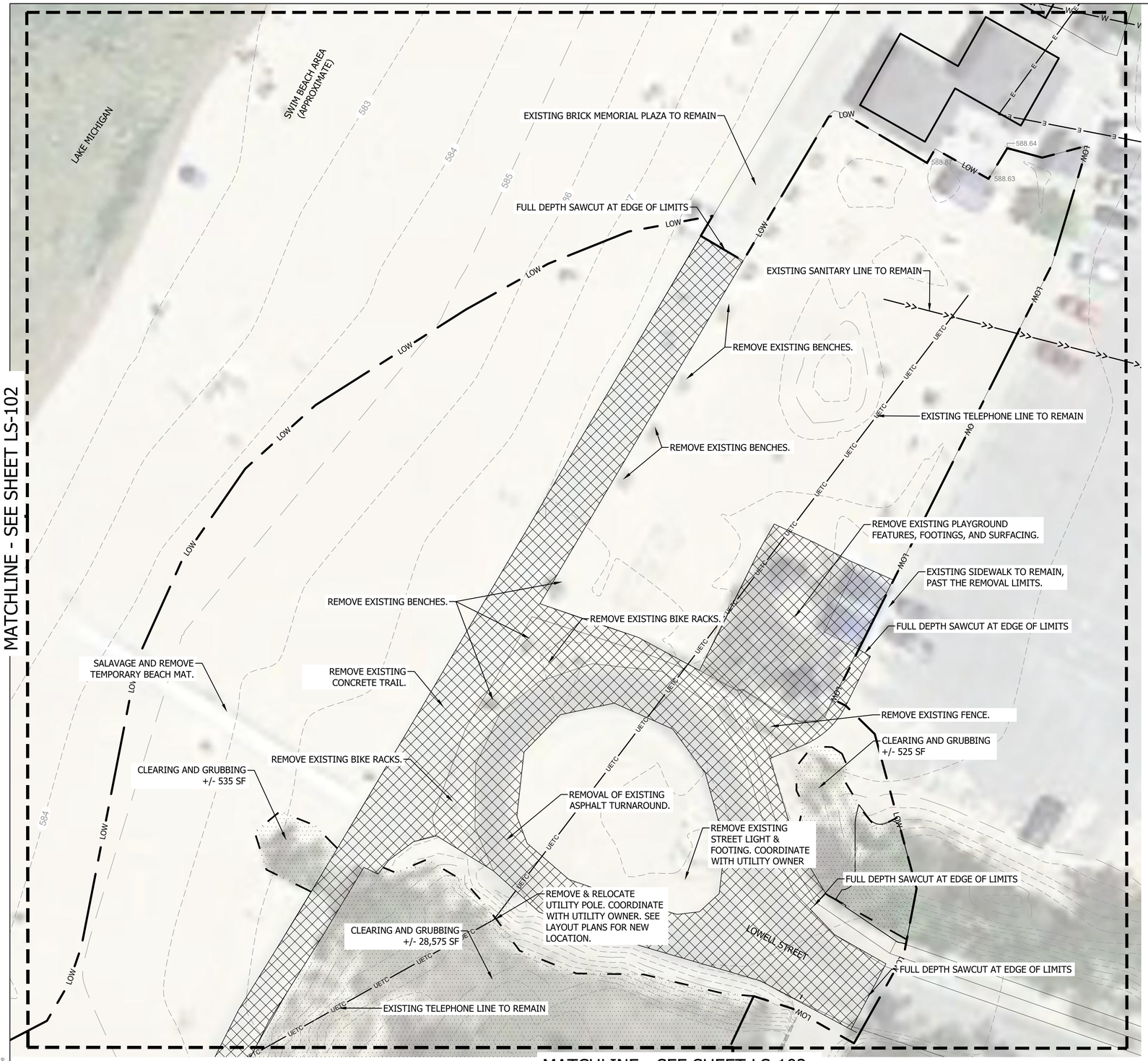


MATCHLINE - SEE SHEET LS-102

01 ENLARGED DEMO PLAN

N

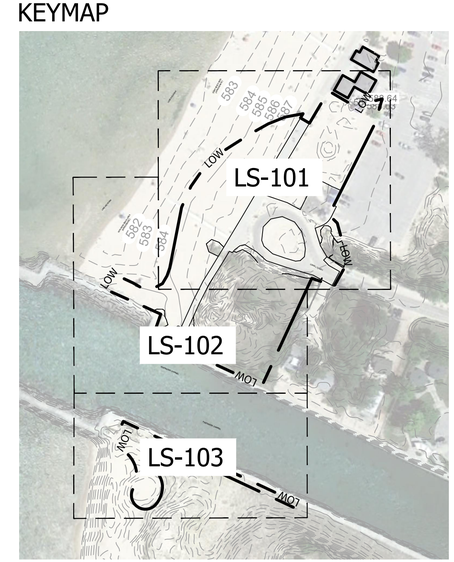
0 20' 40'

SCALE: 1" = 20'-0"

LEGEND

- IMPERVIOUS SURFACE TO BE REMOVED
- CLEARING AND GRUBBING AREA
- CLEARING AND GRUBBING LIMITS
- LOW — LIMIT OF WORK

KEYMAP



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Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

ENLARGED DEMO PLAN

Project No. 227707083

Scale

Drawing No. LS-101

Sheet of

Revision 0

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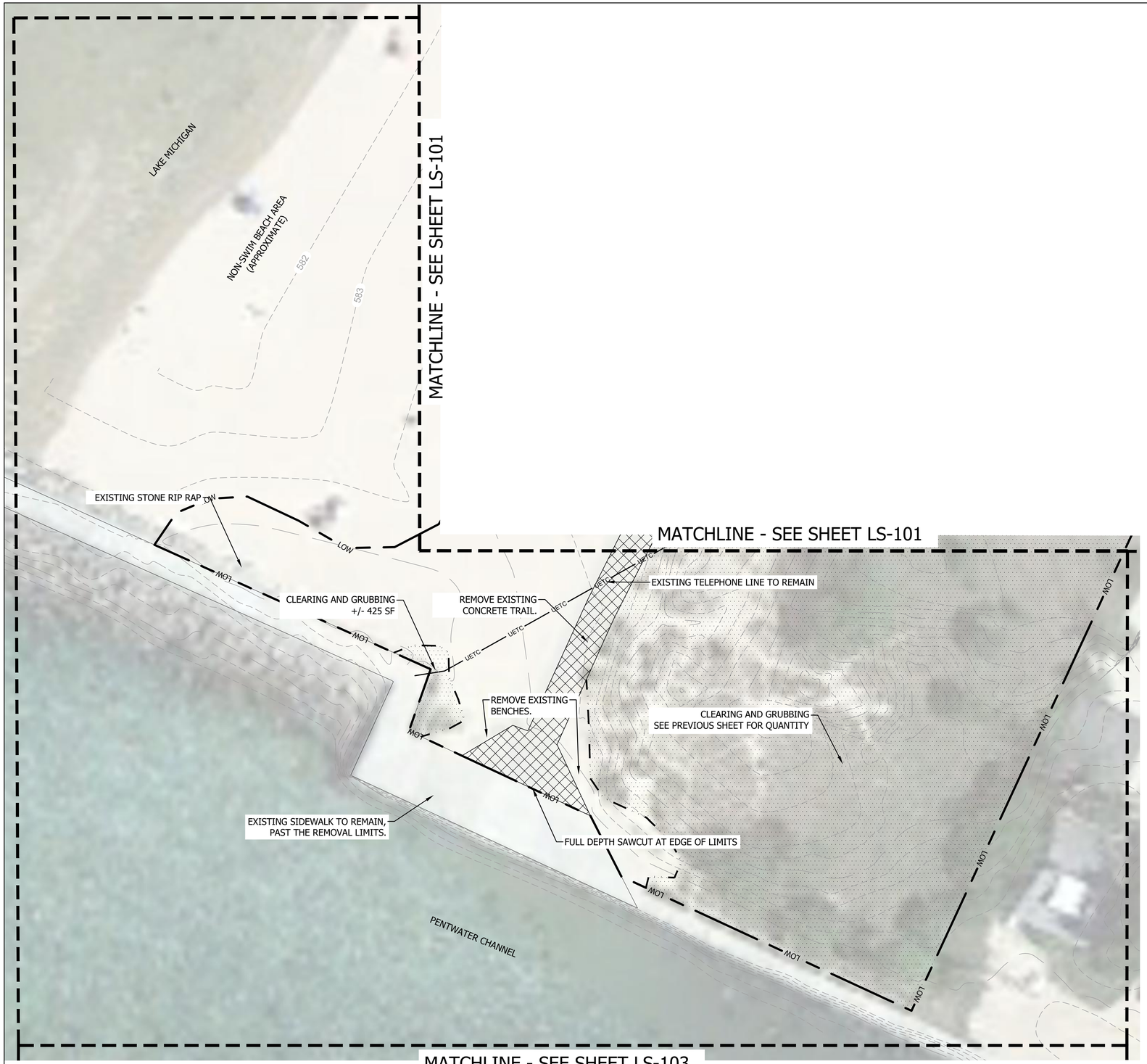
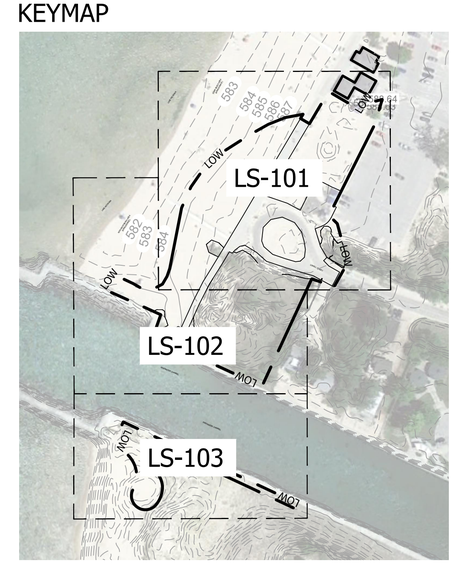


LEGEND

- IMPERVIOUS SURFACE TO BE REMOVED
- CLEARING AND GRUBBING AREA
- CLEARING AND GRUBBING LIMITS
- LOW — LIMIT OF WORK

KEYMAP



01 ENLARGED DEMO PLAN

N

0 20' 40'

SCALE: 1" = 20'-0"

ORIGINAL SHEET - ANSI D

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Client/Project
GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
ENLARGED DEMO PLAN

Project No. 227707083

Scale

Drawing No. LS-102

Sheet of

Revision 0

LEGEND

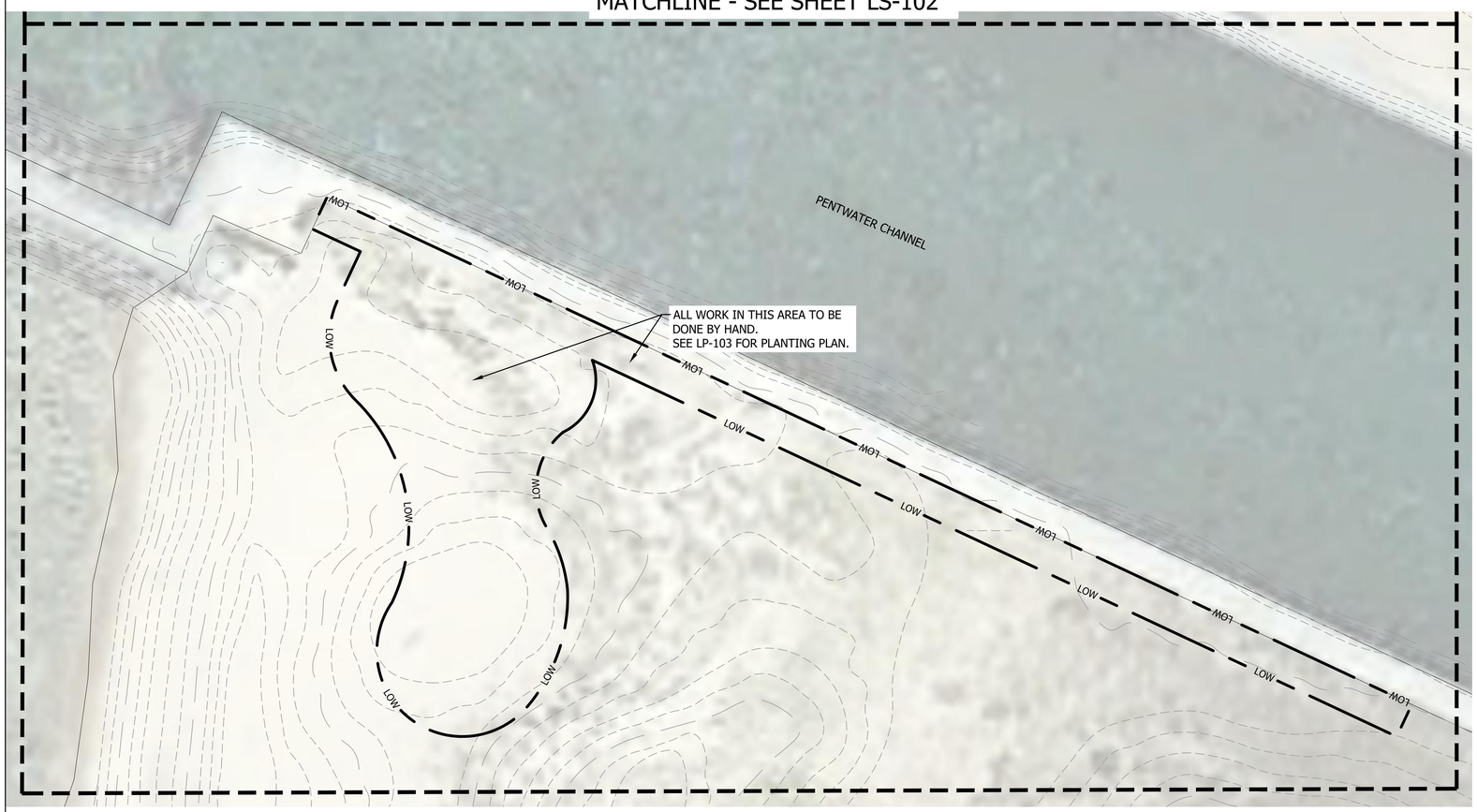
IMPERVIOUS SURFACE TO BE REMOVED

CLEARING AND GRUBBING AREA

CLEARING AND GRUBBING LIMITS

— LOW — LIMIT OF WORK

MATCHLINE - SEE SHEET LS-102



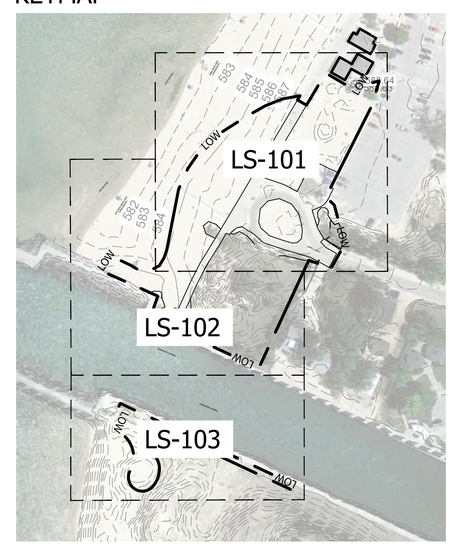
01 ENLARGED DEMO PLAN

N

0 20' 40'

SCALE: 1" = 20'-0"

KEYMAP



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Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

ENLARGED DEMO PLAN

Project No. 227707083

Scale

Drawing No. LS-103

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Revision 0

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ORIGINAL SHEET - ANSI D

LAYOUT/CONSTRUCTION NOTES

1. REFER TO GENERAL NOTES, THIS SHEET, FOR GENERAL SITE DEVELOPMENT INFORMATION AND REQUIREMENTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH SUBCONTRACTORS AND OTHER TRADES AS REQUIRED TO ACCOMPLISH ALL LANDSCAPE CONSTRUCTION OPERATIONS.
3. A SYSTEM OF DIAGRAMMATIC SYMBOLS AND NOTATIONS IS USED IN THESE DRAWINGS. ***NOTE THAT NOT ALL SYMBOLS MAY BE LABELED WITH A NOTATION.*** REVIEW NOTATION CAREFULLY AND NOTIFY LANDSCAPE ARCHITECT AND REQUEST CLARIFICATION OF ANY UNCLEAR NOTATION OR DISCREPANCY PRIOR TO COMMENCING WORK.
4. ALL SYMBOLS ARE SHOWN DIAGRAMMATICALLY ILLUSTRATING APPROXIMATE LOCATION OF EXISTING AND PROPOSED MATERIALS. ANY DISCREPANCIES OR CONFLICTS BETWEEN EXISTING AND PROPOSED CONDITIONS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT.
5. CONTRACTOR IS TO VERIFY ALL QUANTITIES. IN THE CASE OF ANY DISCREPANCIES, GRAPHICALLY SHOWN MATERIAL QUANTITIES SHALL TAKE PRECEDENCE.
6. REFERENCE TO NORTH REFERS TO TRUE NORTH.
7. REFERENCE TO SCALE IS FOR FULL SIZED DRAWINGS ONLY.
8. WRITTEN DIMENSIONS SUPERCEDE SCALED DIMENSIONS. DO NOT SCALE FROM DRAWINGS. IF THERE IS A QUESTION REGARDING DIMENSIONS, CONTACT LANDSCAPE ARCHITECT FOR VERIFICATION.
9. TAKE ALL DIMENSIONS PERPENDICULAR TO ANY REFERENCE LINE, BACK OF CURB, CENTER LINE OF TREES, AND CENTER LINE OF LIGHT POLE BASES, UNLESS OTHERWISE NOTED.
10. ALL DIMENSIONS CALLED OUT AS 'EQUAL' ARE EQUIDISTANT MEASUREMENTS.
11. ALL LAYOUT DIMENSIONS ARE TO BACK OF CURB (BOC), FACE OF WALL (FOW), OR FACE OF BUILDING (FOB) UNLESS OTHERWISE NOTED. ALL DIMENSIONS FROM STRUCTURE ARE FROM FACE OF FINISH OF EXTERIOR WALL UNLESS OTHERWISE STATED.
12. ALL LAYOUT DIMENSIONS ARE FROM PLAN VIEW CALCULATIONS. ACTUAL FIELD DIMENSIONS MAY VARY FROM PLAN DUE TO ACTUAL LENGTHS ALONG A SLOPED SURFACE.
13. ALL ANGLES ARE ASSUMED TO BE 90 DEGREES AND ALL LINES OF PAVING ARE TO BE PARALLEL OR PERPENDICULAR UNLESS OTHERWISE NOTED ON DRAWINGS. MAINTAIN HORIZONTAL ALIGNMENT OF ADJACENT ELEMENTS AS NOTED ON DRAWINGS.
14. DIMENSIONS MARKED "VERIFY" ARE TO BE FIELD MEASURED. ANY FIELD DISCREPANCIES FROM THE NOTED DIMENSIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO FURTHER WORK.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CONCURRENT WORK BY OTHER TRADES.
16. COORDINATE PROPOSED WALKS AND RAMPS WITH ANY EXISTING CONDITIONS INCLUDING PUBLIC SIDEWALKS. STAKE PROPOSED WALKS AND REVIEW IN FIELD WITH LANDSCAPE ARCHITECT PRIOR TO FORMING.
17. CONCRETE SLABS OR FOOTINGS SHALL BE DOWELED INTO ABUTTING WALLS, FOUNDATIONS AND FOOTINGS AS PER SPECIFICATIONS OR AS SHOWN IN THE DRAWINGS. REQUIRED DOWELING MAY NOT BE SHOWN ON ALL PLANS.
18. PROVIDE EXPANSION JOINTS IN CONCRETE PAVING A MAXIMUM DISTANCE OF 50 FEET APART AND AT ALL INTERSECTIONS WHERE NEW CONCRETE PAVING ABUTS EXISTING CONCRETE PAVING, BUILDINGS, CURBS AND WALLS UNLESS OTHERWISE NOTED.
19. PROVIDE CONTROL JOINTS EVENLY SPACED BETWEEN EXPANSION JOINTS AS SHOWN ON DRAWINGS, EXCEPT WHERE SPECIAL JOINTING PATTERNS ARE SPECIFIED.
20. LAYOUT OF ALL SITE FURNISHINGS, INCLUDING BENCHES, TRASH RECEPTACLES, AND BICYCLE RACKS IS TO BE STAKED IN THE FIELD AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. WHERE CONCRETE FOOTINGS ARE REQUIRED FOR SITE FURNITURE, THEY ARE TO BE STAKED AND VERIFIED IN THE FIELD BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLING ADJACENT PAVEMENT OR FINISHES.
21. SEE RELATED DISCIPLINE DRAWINGS FOR ALL DIMENSIONS.

01 OVERALL SITE LAYOUT PLAN

N

0 50' 100'

SCALE: 1" = 50'-0"

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Notes

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Issued	By	Appd.	YY.MM.DD
30% CONSTRUCTION DOCUMENTS	JS	SH	04.10.2025

File Name:

Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

OVERALL SITE LAYOUT PLAN

Project No. 227707083

Scale

Drawing No. LS-200

Sheet of

Revision 0

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2025/04/09 3:03 PM By: SIacobb, Jake

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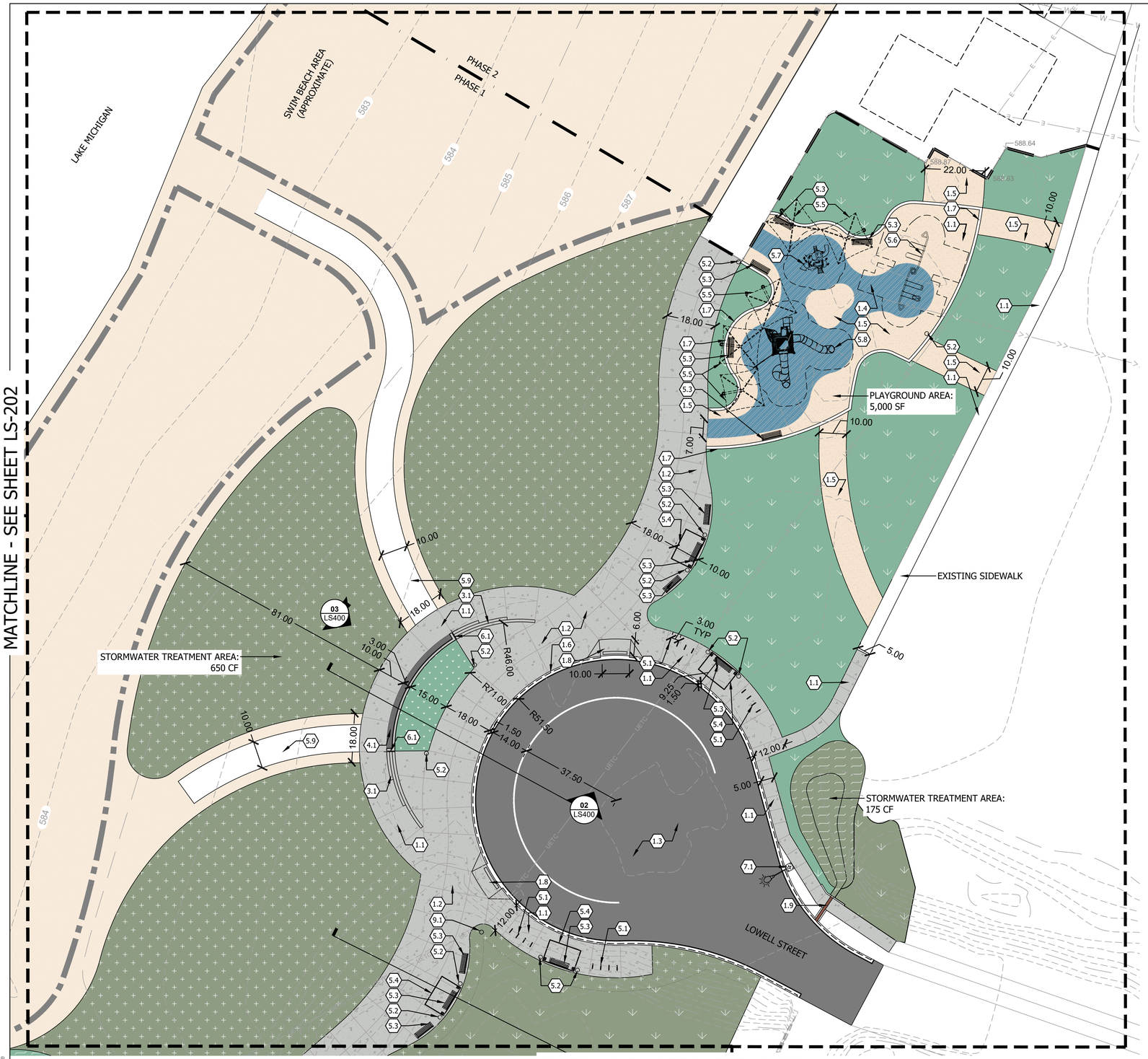


01 ENLARGED SITE LAYOUT PLAN

N

0 20' 40'

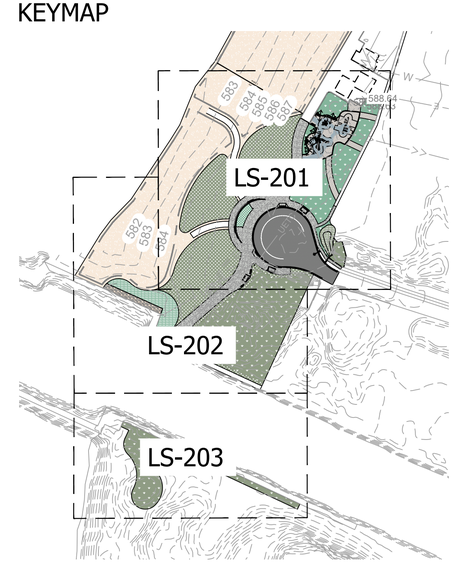
SCALE: 1" = 20'-0"

SITE KEYNOTES

		DETAIL	REFERENCE
1.0	**PAVEMENTS, RAMPS, & CURBS**		
1.1	CONCRETE PAVING - LIGHT DUTY	01/LS500	
1.2	CONCRETE PAVING - HEAVY DUTY	02/LS500	
1.3	VEHICULAR ASPHALT PAVEMENT	03/LS500	
1.4	PLAY SURFACE - POURED IN PLACE	04/LS500	
1.5	PLAY SURFACE - SAND	05/LS500	
1.6	CONCRETE CURB - VEHICULAR	08/LS500	
1.7	CONCRETE CURB - PEDESTRIAN	09/LS500	
1.8	ADA CONCRETE RAMP	PER MDOT STANDARDS	
1.9	TRENCH DRAIN CURB INLET	08/LS501	
2.0	**JOINTING**	DETAIL	REFERENCE
2.1	EXPANSION JOINT	07/LS500	
2.2	CONTROL JOINT	06/LS500	
3.0	**STEPS**	DETAIL	REFERENCE
3.1	CONCRETE STAIR	06/LS501	
4.0	**SITE WALLS / EMBANKMENTS**	DETAIL	REFERENCE
4.1	CONCRETE SEAT WALL WITH WOOD TOP	05/LS501	
5.0	**SITE FURNISHINGS**	DETAIL	REFERENCE
5.1	BIKE RACK	01/LS501	
5.2	LITTER RECEPTACLE	02/LS501	
5.3	BENCH SEAT	03/LS501	
5.4	SHADE STRUCTURE - TYPE 1	04/LS501	
5.5	SHADE STRUCTURE - TYPE 2	01/LS502	
5.6	PLAY STRUCTURE - SWINGS	02/LS502	
5.7	PLAY STRUCTURE - AGE 2-5	03/LS502	
5.8	PLAY STRUCTURE - AGE 5-12	04/LS502	
5.9	BEACH MAT ACCESS	07/LS502	
6.0	**RAILINGS, BARRIERS, & FENCING**	DETAIL	REFERENCE
6.1	STAIR HANDRAIL	06/LS501	
7.0	**SITE LIGHTING**	DETAIL	REFERENCE
7.1	STREETLIGHT	PER MDOT STANDARDS	
8.0	**DRAINAGE**	DETAIL	REFERENCE
	NOT USED		
9.0	**UTILITIES**	DETAIL	REFERENCE
9.1	RELOCATED POWER POLE	COORDINATE WITH UTILITY CO	

- DUNE GRASS PLANTING AREA
- DUNE RESTORATION PLANTING AREA
- STORMWATER BASIN PLANTING AREA
- DUNE GRASS & SHRUB PLANTING AREA
- DRY PRAIRIE PLANTING AREA
- SHORT PRAIRIE FOCAL PLANTING AREA

KEYMAP



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Permit-Seal

Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

ENLARGED SITE LAYOUT PLAN

Project No.	Scale	
227707083		
Drawing No.	**Sheet**	**Revision**
LS-201	of	0

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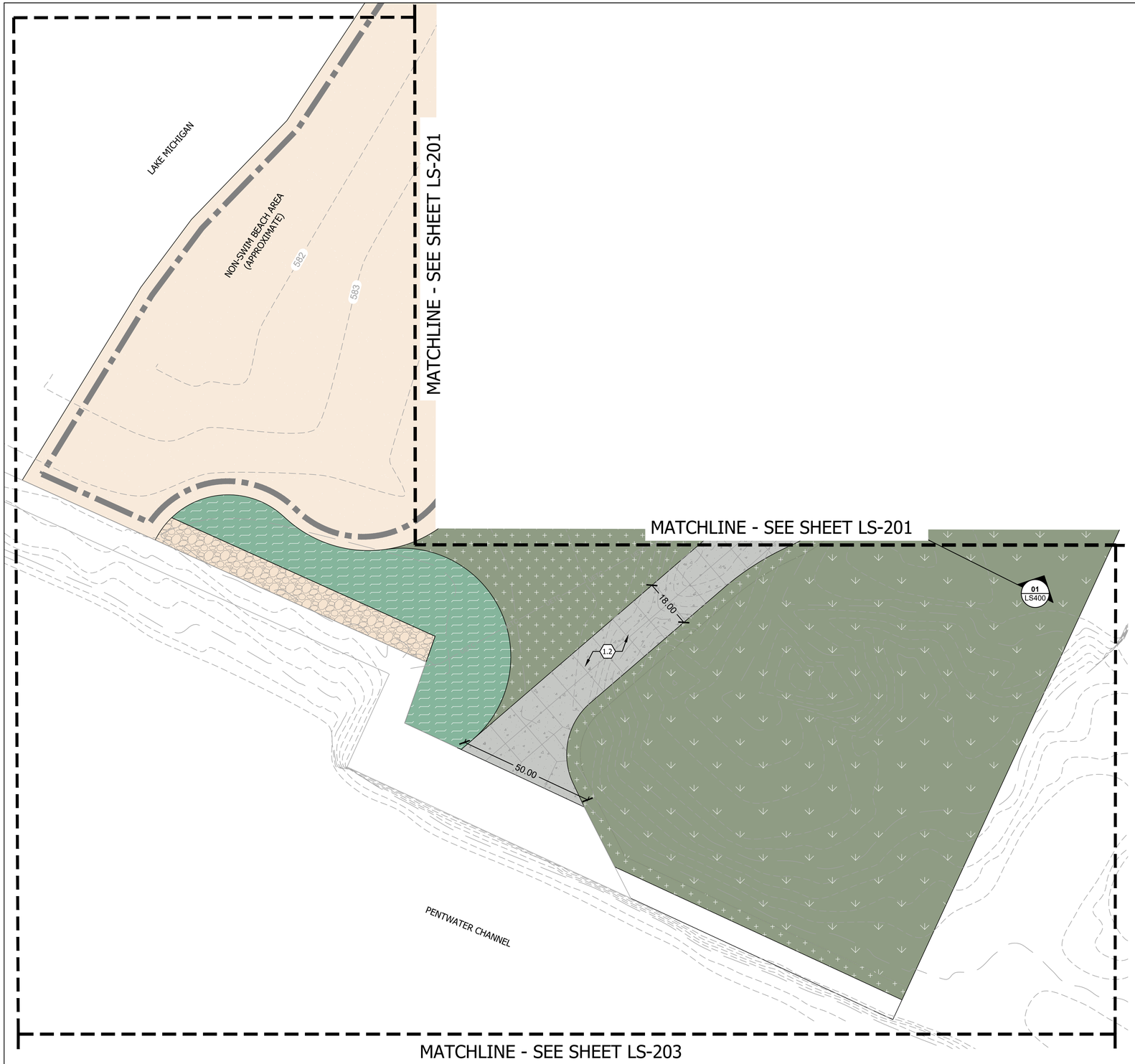

01 ENLARGED SITE LAYOUT PLAN

N

0 20' 40'

SCALE: 1" = 20'-0"

SITE KEYNOTES

		DETAIL	REFERENCE
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1.2	CONCRETE PAVING - HEAVY DUTY	02/LS500	
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1.5	PLAY SURFACE - SAND	05/LS500	
1.6	CONCRETE CURB - VEHICULAR	08/LS500	
1.7	CONCRETE CURB - PEDESTRIAN	09/LS500	
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1.9	TRENCH DRAIN CURB INLET	08/LS501	
2.0	**JOINTING**	DETAIL	REFERENCE
2.1	EXPANSION JOINT	07/LS500	
2.2	CONTROL JOINT	06/LS500	
3.0	**STEPS**	DETAIL	REFERENCE
3.1	CONCRETE STAIR	06/LS501	
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4.1	CONCRETE SEAT WALL WITH WOOD TOP	05/LS501	
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7.1	STREETLIGHT	PER MDOT STANDARDS	
8.0	**DRAINAGE**	DETAIL	REFERENCE
	NOT USED		
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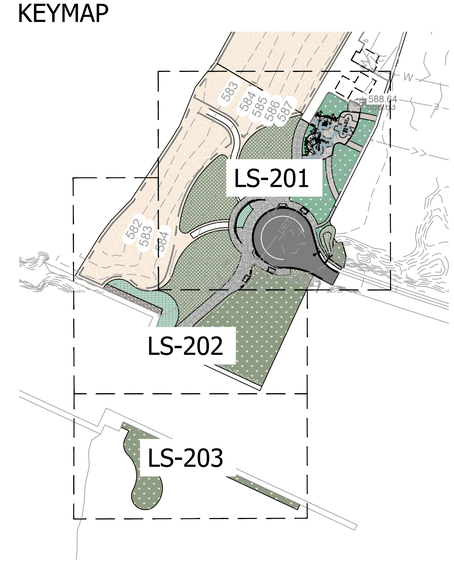
9.1	RELOCATED POWER POLE	COORDINATE WITH UTILITY CO	

- DUNE GRASS PLANTING AREA
- DUNE RESTORATION PLANTING AREA
- STORMWATER BASIN PLANTING AREA
- DUNE GRASS & SHRUB PLANTING AREA
- DRY PRAIRIE PLANTING AREA
- SHORT PRAIRIE FOCAL PLANTING AREA

KEYMAP



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Permit-Seal

Client/Project
GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
ENLARGED SITE LAYOUT PLAN

Project No. 227707083

Scale

Drawing No. LS-202

Sheet of

Revision 0

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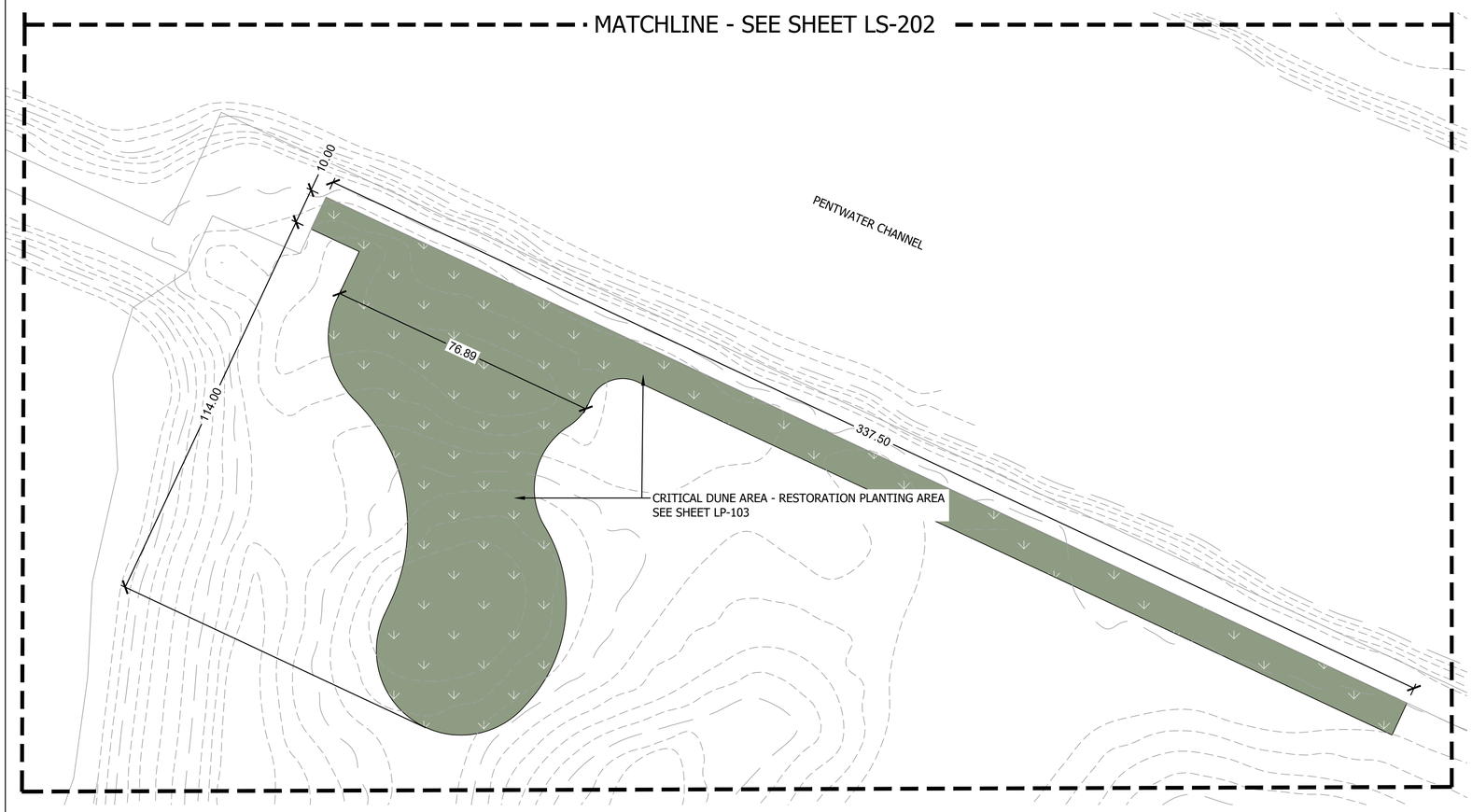

01 ENLARGED SITE LAYOUT PLAN

N

0 20' 40'

SCALE: 1" = 20'-0"

SITE KEYNOTES

		DETAIL	REFERENCE
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	NOT USED		
9.0	**UTILITIES**	DETAIL	REFERENCE
9.1	RELOCATED POWER POLE	COORDINATE WITH UTILITY CO	

- DUNE GRASS PLANTING AREA
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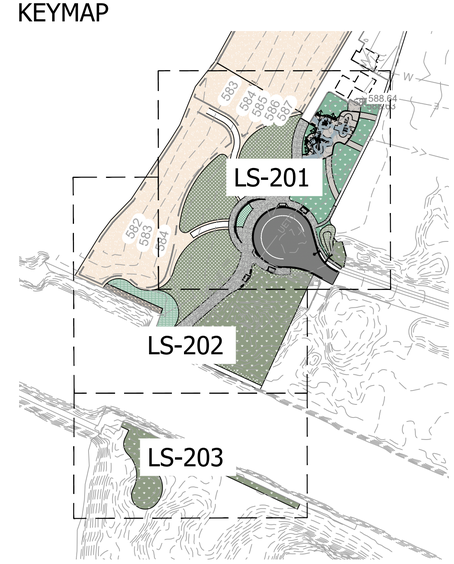
- SHORT PRAIRIE FOCAL PLANTING AREA

KEYMAP



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Notes

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Client/Project
GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY
BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
ENLARGED SITE LAYOUT PLAN

Project No. 227707083
Scale
Drawing No. LS-203
Sheet of
Revision 0

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2025/04/09 3:03 PM By: Sloado, Jake

ORIGINAL SHEET - ANSI D

LANDSCAPE GRADING & DRAINAGE NOTES

1. REFER TO GENERAL NOTES, THIS SHEET, FOR GENERAL SITE DEVELOPMENT INFORMATION AND REQUIREMENTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH SUBCONTRACTORS AND OTHER TRADES AS REQUIRED TO ACCOMPLISH ALL GRADING OPERATIONS.
3. NO CHANGE IN CONTRACT PRICE WILL BE ALLOWED FOR ACTUAL OR CLAIMED DISCREPANCY BETWEEN EXISTING GRADE AND THOSE SHOWN ON PLANS AFTER CONTRACTOR HAS ACCEPTED EXISTING GRADES AND MOVED ONTO SITE.
4. CONTRACTOR SHALL EMPLOY A LICENSED SURVEYOR TO ESTABLISH ALL GRADE AND WORK LINES. HAVE OWNER'S REPRESENTATIVE REVIEW AND APPROVE IN WRITING ALL GRADE STAKES PRIOR TO FINAL GRADING.
5. EROSION CONTROL - SEE CIVIL ENGINEERING DRAWINGS AND JURISDICTIONAL REQUIREMENTS FOR CONTRACTOR RESPONSIBILITIES, MEANS, AND METHODS. APPLY INDUSTRY STANDARD BEST MANAGEMENT PRACTICES (BMP) FOR DURATION OF CONSTRUCTION.
6. EXISTING ELEVATIONS INDICATED ON PLANS SHALL BE VERIFIED IN FIELD AS TO AS-BUILT CONDITION.
7. CONTRACTOR SHALL NOT PROCEED WITH CONSTRUCTION WHEN IT BECOMES EVIDENT THAT UNFORESEEN OBSTRUCTIONS, AREA DISCREPANCIES AND/OR GRADE DIFFERENCES EXIST. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE FOR DECISION. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
8. REFER TO CIVIL ENGINEER'S DRAWINGS FOR DRAINAGE STRUCTURE LOCATIONS, INVERT ELEVATIONS AND RIM ELEVATIONS.
9. ALL LANDSCAPE FINISH GRADES ARE BASED UPON ELEVATIONS SHOWN ON THE CIVIL ENGINEER DRAWINGS.
10. CONTOUR LINES ARE SHOWN ON LANDSCAPE PLANS FOR REFERENCE ONLY- REFER TO CIVIL DRAWINGS FOR ACTUAL GRADING AND DRAINAGE INFORMATION. IF ANY DISCREPANCIES OR CONFLICTS WITH STATED GRADES AND/OR ELEVATIONS ARISE IN FIELD, NOTIFY LANDSCAPE ARCHITECT PRIOR TO COMPLETION OF ROUGH OR FINISH GRADING WORK FOR RESOLUTION.
11. ALL PROPOSED GRADES SHALL MEET AND BLEND SMOOTHLY WITH EXISTING GRADES AT PROJECT LIMIT OF WORK AND AT ALL CURBS, SIDEWALKS, DRAINAGE INLETS AND ROADWAYS. MEET EXISTING FEATURES IN LINE AND GRADE.
12. WARP AND CONTOUR ALL GRADES AND SURFACES TO PROVIDE SMOOTH, CONTINUOUS TRANSITIONS BETWEEN GRADES SHOWN UNLESS OTHERWISE NOTED OR INDICATED IN THE DRAWINGS.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR 'ROUNDING OFF' ALL SHARP RIDGES EXISTING ON SITE WHETHER OR NOT SUCH CONDITIONS ARE INDICATED ON PLANS. ROUND TOPS AND TOES OF SLOPE TO PROVIDE SMOOTH TRANSITION TO EXISTING GRADE AND DRAINAGE PATTERNS. BERMS AND LANDFORMS WILL BE SMOOTH AND ROUNDED VERTICAL CURVES WITH NO SHARP TRANSITION IN GRADE.
14. SUBSURFACE DRAINAGE LINES SHALL BE PLACED WITH A MINIMUM OF 12" COVER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING INVERT ELEVATIONS AT ALL DRAINS AND PIPE DEPTHS TO ENSURE POSITIVE DRAINAGE AT THE SLOPE INDICATED TO THE OUTLET SHOWN ON THE PLANS.
15. MAINTAIN POSITIVE DRAINAGE AWAY FROM STRUCTURES, BUILDINGS AND ROADWAY EDGES, UNLESS SPECIFICALLY DESIGNED FOR PONDING, AT ALL TIMES. MINIMUM 1.5% SLOPE ON ALL PAVED SURFACES AND MINIMUM 2% SLOPE IN PLANTED AREAS, UNLESS OTHERWISE NOTED.
16. ALL PUBLICLY ACCESSIBLE ROUTES, INCLUDING STAIRS, RAMPS AND WALKWAYS, SHALL COMPLY WITH ADA, ADAG, AND LOCAL JURISDICTIONAL REQUIREMENTS.
17. PROVIDE A MAXIMUM 2% CROSS SLOPE ON ALL PAVED SURFACES TO ENSURE POSITIVE DRAINAGE OFF OF TRAVELED SURFACE, UNLESS OTHERWISE NOTED. MAXIMUM SLOPES ON WALKS SHALL NOT EXCEED 5% IN THE DIRECTION OF TRAVEL, WITHOUT A HANDRAIL.
18. MAXIMUM SLOPE IN LANDSCAPE PLANTING AREAS IS 3:1. MAXIMUM SLOPE IN TURF/SOD AREAS IS 4:1. MINIMUM SLOPE 2% IN LANDSCAPE AREAS UNLESS OTHERWISE NOTED.
19. HOLD FINISH GRADES OF SHRUB AND GROUND COVER PLANTING AREAS 1" BELOW THE TOP OF ADJACENT PAVEMENTS OR CURBS, UNLESS OTHERWISE NOTED.
20. FINAL GRADING TO BE REVIEWED IN FIELD AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO START OF PLANTING OPERATIONS.

LEGEND

— LOW — LIMIT OF WORK

01 OVERALL GRADING PLAN

N

0 50' 100'

SCALE: 1" = 50'-0"

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Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

OVERALL GRADING PLAN

Project No. 227707083

Scale

Drawing No. LS-300

Sheet of

Revision 0

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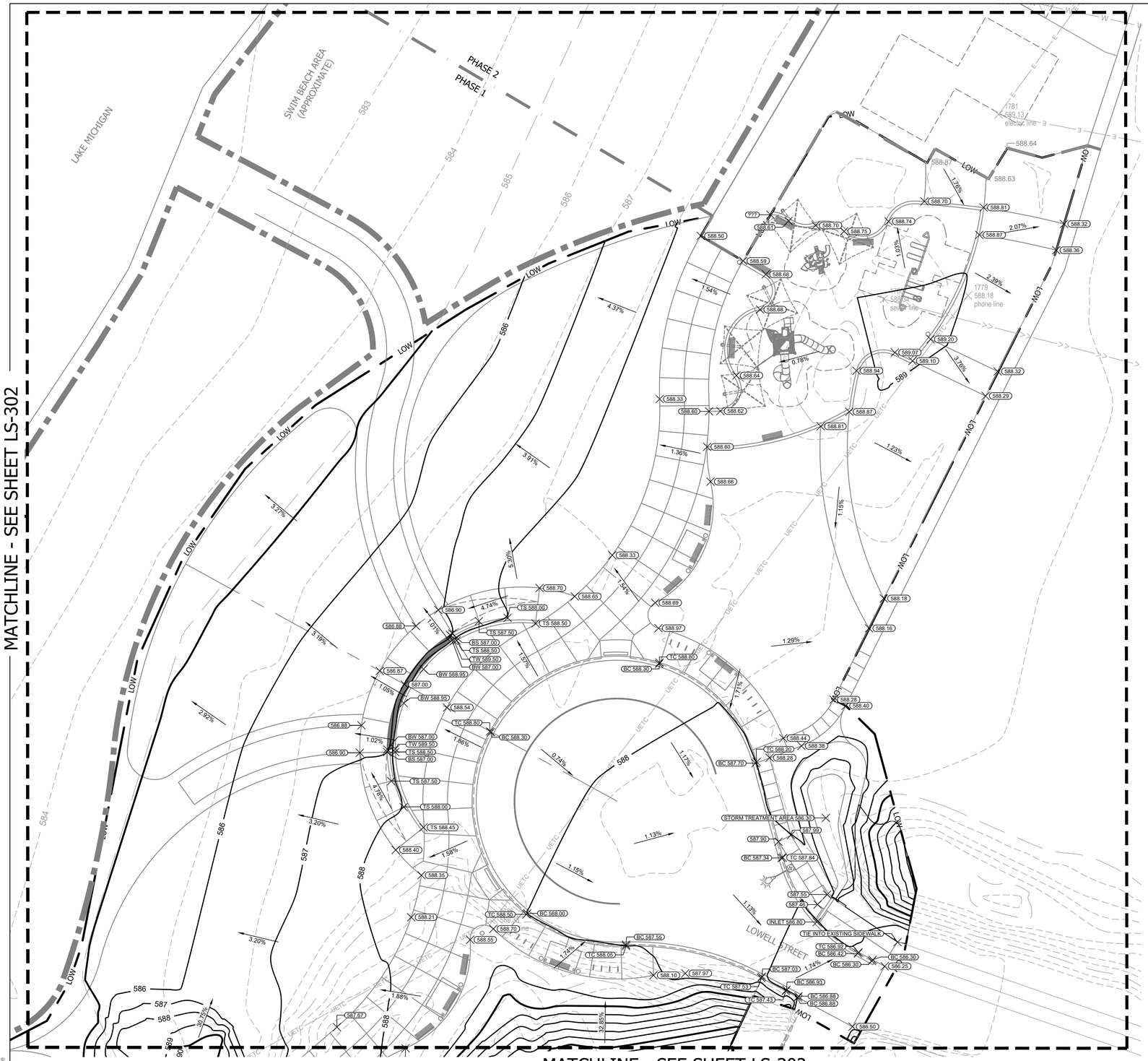
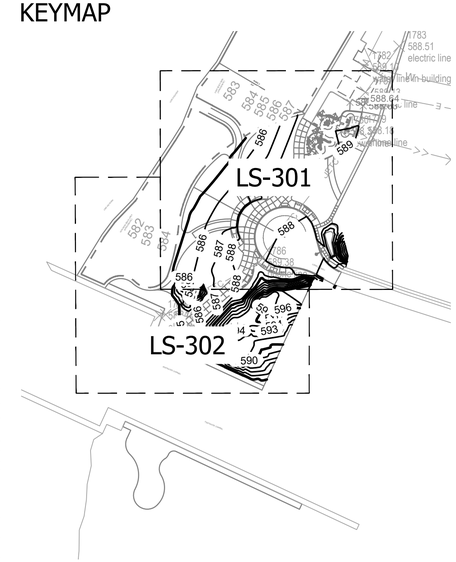


LEGEND

- - - - -	EXISTING CONTOUR
————	PROPOSED CONTOUR
— LOW —	LIMIT OF WORK
TC	TOP OF CURB
BC	BOTTOM OF CURB
TW	TOP OF WALL
BW	BOTTOM OF WALL
TS	TOP OF STAIR
BS	BOTTOM OF STAIR

KEYMAP



01 ENLARGED GRADING PLAN

N

0 20' 40'

SCALE: 1" = 20'-0"

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Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY
BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

ENLARGED GRADING PLAN

Project No.	Scale	
227707083		
Drawing No.	Sheet	Revision
LS-301	of	0

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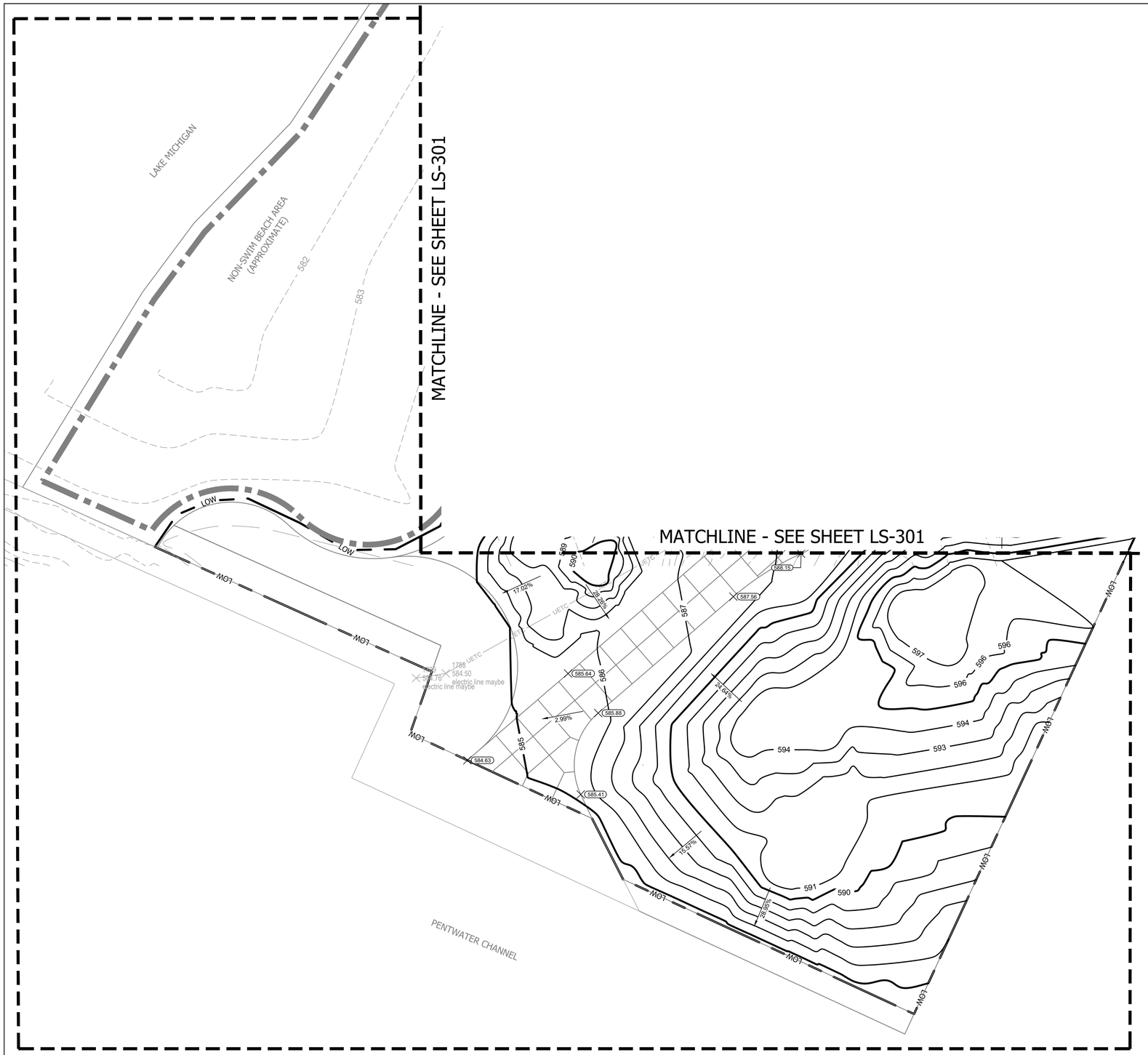
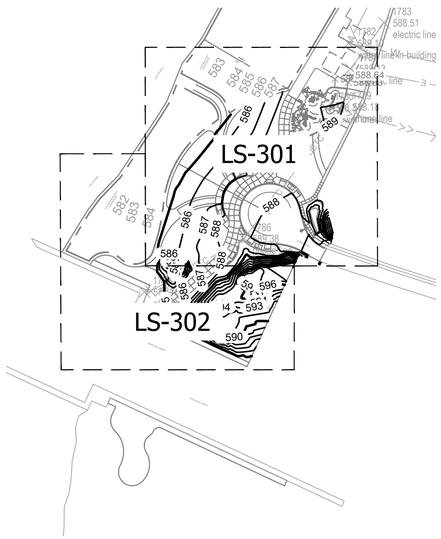


LEGEND

- - - - - -	EXISTING CONTOUR
————	PROPOSED CONTOUR
— LOW —	LIMIT OF WORK
TC	TOP OF CURB
BC	BOTTOM OF CURB
TW	TOP OF WALL
BW	BOTTOM OF WALL
TS	TOP OF STAIR
BS	BOTTOM OF STAIR

KEYMAP



01 ENLARGED GRADING PLAN

N

0 20' 40'

SCALE: 1" = 20'-0"

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Notes

Revision	By	Appd.	YY.MM.DD
30% CONSTRUCTION DOCUMENTS	JS	SH	04.10.2025

Issued	By	Appd.	YY.MM.DD

File Name:	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
ENLARGED GRADING PLAN

Project No. 227707083

Scale

Drawing No. LS-302

Sheet of

Revision 0

\\us0242-pcfs01\shared_projects\227707083\03_dwgs\30% CD\30 SHEETS\227707083-LS-300 - GRADING PLAN.dwg
2025/04/09 3:05 PM By: StoddG, Jake

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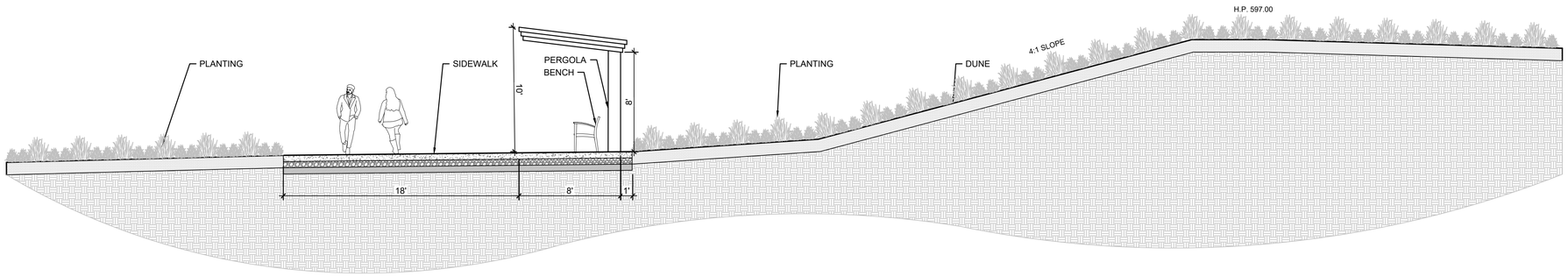
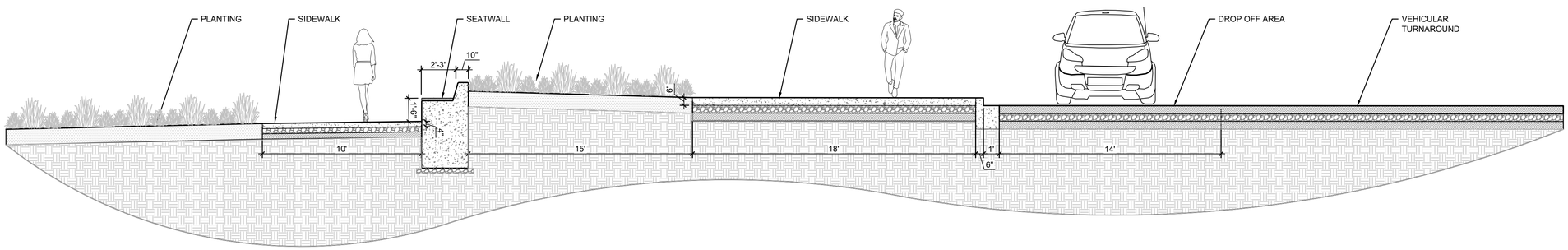


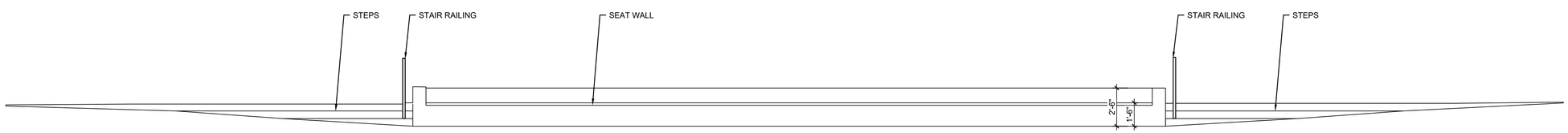
01 SECTION - PERGOLA TO DUNE

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



02 SECTION - SEATWALL TO TURNAROUND

SCALE: 1/4" = 1'-0"



03 ELEVATION - SEAT WALL

SCALE: 1/4" = 1'-0"

\\us0242-ppfss01\shared_projects\227707083\03_data\307E CD\30 SHEETS\227707083-LS-400 - SITE SECTIONS.dwg
2025/04/09 3:03 PM By: SKodalo, Jake

ORIGINAL SHEET - ANSI D

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30% CONSTRUCTION DOCUMENTS	JS	SH	04.10.2025

File Name:	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY
BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

SITE SECTIONS

Project No. 227707083

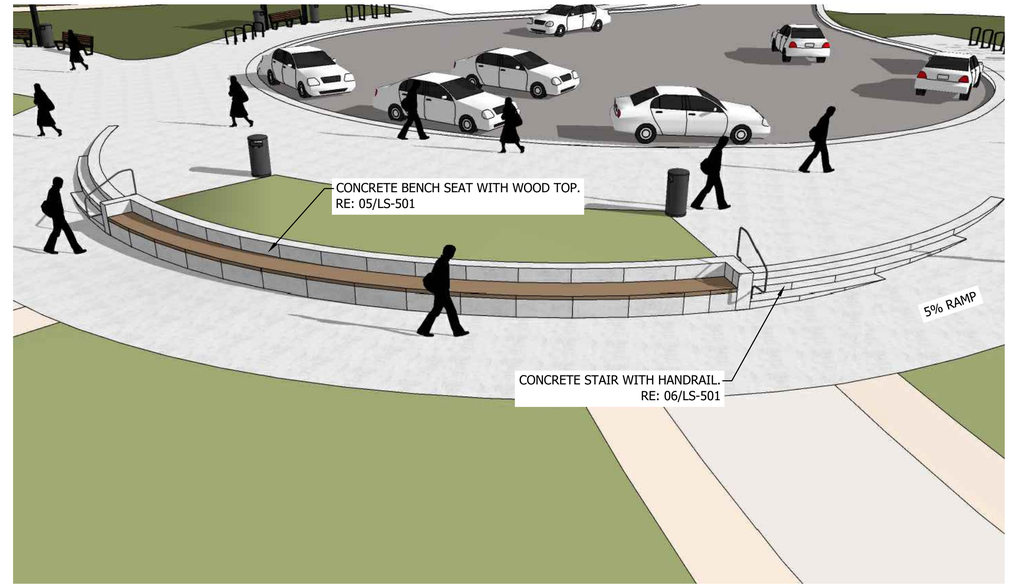
Scale

Drawing No. LS-400

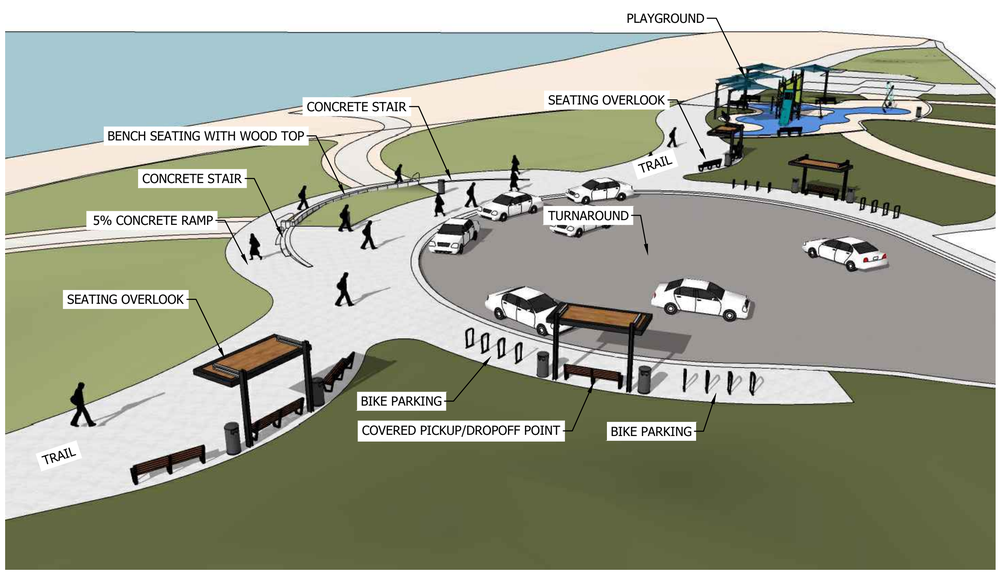
Sheet of

Revision 0

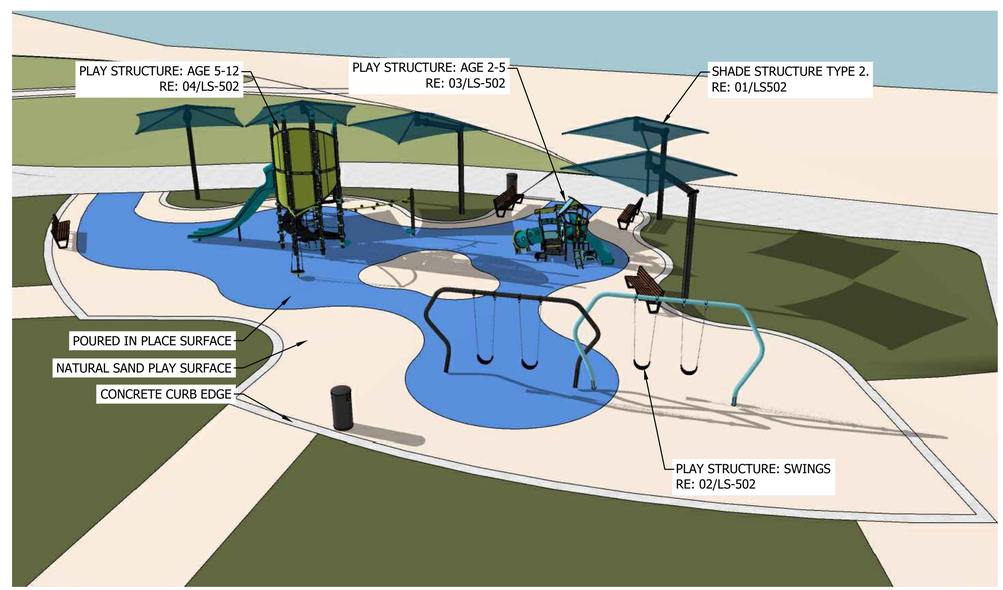
01 MODEL PERSPECTIVE - FROM TURNAROUND



02 MODEL PERSPECTIVE - AT BENCH SEATING



03 MODEL PERSPECTIVE - AERIAL VIEW



04 MODEL PERSPECTIVE - AT PLAYGROUND

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Permit-Seal

Client/Project
GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY
BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
SITE PERSPECTIVES

Project No. 227707083
Scale

Drawing No. LS-401
Sheet of
Revision 0

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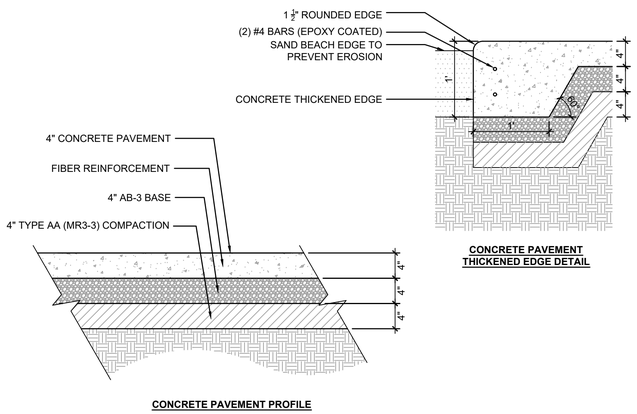
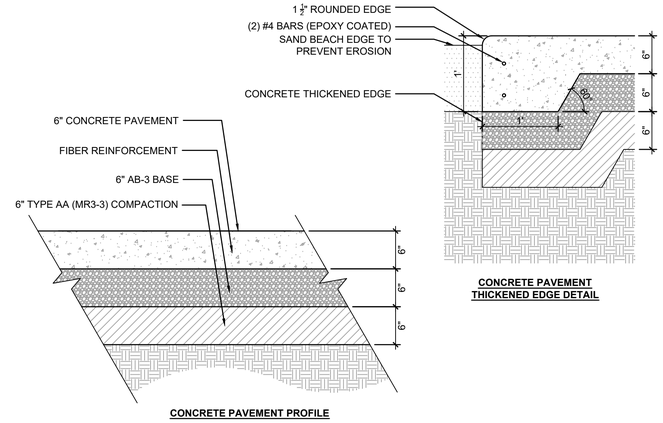
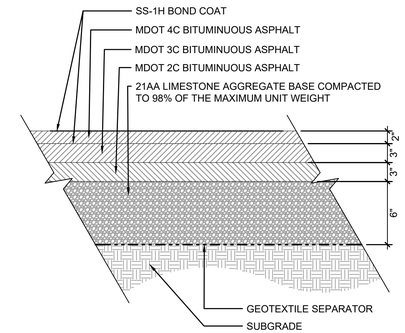


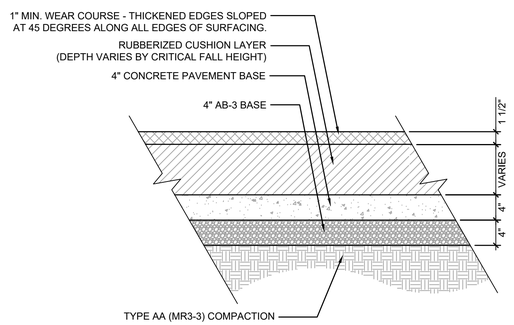
01 CONCRETE PAVEMENT - LIGHT DUTY
SCALE: 1" = 1'-0"



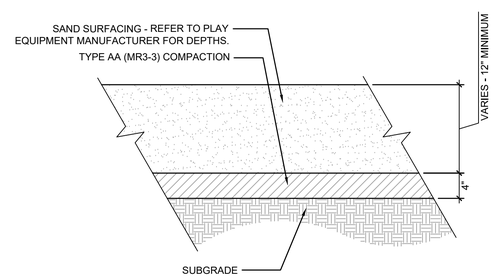
02 CONCRETE PAVEMENT - HEAVY DUTY
SCALE: 1" = 1'-0"



03 VEHICULAR ASPHALT PAVEMENT
SCALE: 1" = 1'-0"

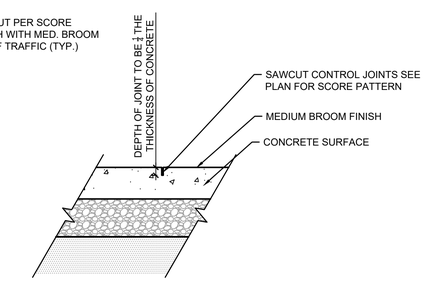


04 PLAY SURFACE - POURED IN PLACE
SCALE: 1" = 1'-0"



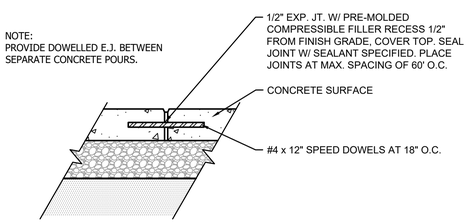
05 PLAY SURFACE - SAND
SCALE: 1" = 1'-0"

NOTES:
ALL JOINTS SHALL BE SAWCUT PER SCORE PATTERN, SEE PLANS. FINISH WITH MED. BROOM FINISH PERPEND. TO LINE OF TRAFFIC (TYP.)

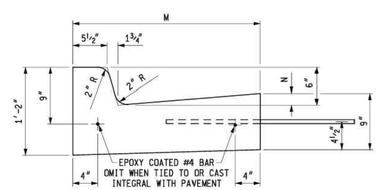


06 CONTROL JOINT
SCALE: 1" = 1'-0"

NOTE:
PROVIDE DOWELLED E.J. BETWEEN SEPARATE CONCRETE POURS.



07 EXPANSION JOINT
SCALE: 1" = 1'-0"



DETAIL	DIMENSION M	DIMENSION N	LANE TIES	CONCRETE CYD / LFT
F1	1'-6"	7/8"	AS SHOWN	0.0484
F2	1'-6"	7/8"	OMITTED	0.0484
F3	2'-0"	1 3/8"	AS SHOWN	0.0610
F4	2'-0"	1 3/8"	OMITTED	0.0610
F5	2'-6"	1 7/8"	AS SHOWN	0.0737
F6	2'-6"	1 7/8"	OMITTED	0.0737

F

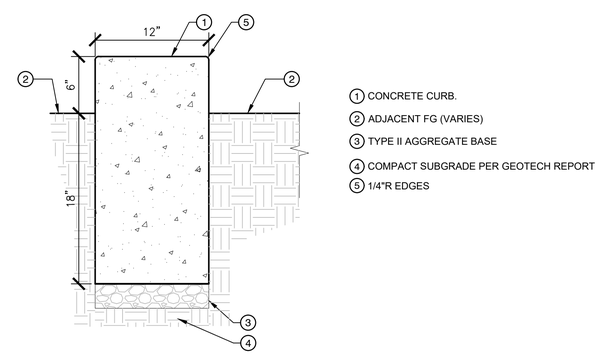
MDOT Michigan Department of Transportation
PREPARED BY DESIGN DIVISION
DRAWN BY: B.L.F.
CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle
APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES
APPROVED BY: DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR
CONCRETE CURB AND CONCRETE CURB & GUTTER

9-30-2014 F.H.W.A. APPROVAL	2-6-2014 PLAN DATE	R-30-G	SHEET 1 OF 2

08 CONCRETE CURB - VEHICULAR
SCALE: 1" = 1'-0"



09 CONCRETE CURB - PEDESTRIAN
SCALE: 1-1/2" = 1'-0"

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Permit-Seal

Client/Project
GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
SITE DETAILS - PAVEMENT

Project No. 227707083
Scale

Drawing No. LS-500
Sheet of
Revision 0

\\us2242-pcfs01\shared_projects\227707083\03_plans\30% CD\30 SHEETS\227707083-LS-500 - SITE DETAILS.dwg
2025/04/09 3:07 PM By: Sloado, Jake
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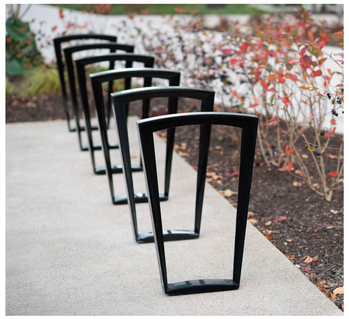
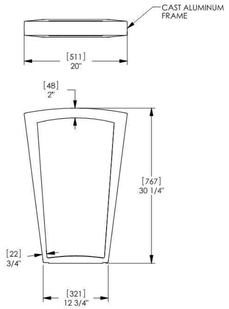
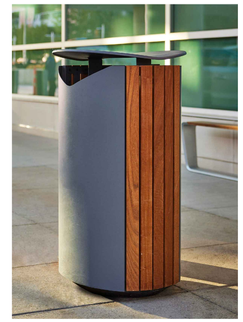


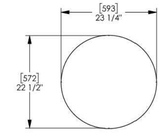


BASIS OF DESIGN PRODUCT:

MANUFACTURER:	LANDSCAPE FORMS (822) 430-6206 ext. 1320
MODEL:	EMERSON BIKE RACK
MATERIAL:	ALUMINUM
FINISH:	POWDERCOAT
METAL COLOR:	TBD
MOUNT:	SURFACE MOUNT

01 BIKE RACK
SCALE: 1" = 1'-0"

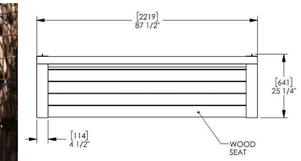




BASIS OF DESIGN PRODUCT:

MANUFACTURER:	LANDSCAPE FORMS (822) 430-6206 ext. 1320
MODEL:	GENERATION 50 - SIDE OPENING
MATERIAL:	PER MANUFACTURER
FINISH:	POWDERCOAT
METAL COLOR:	TBD
MOUNT:	SURFACE MOUNT

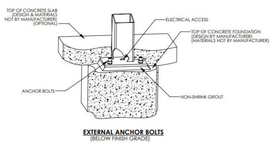
02 LITTER RECEPTACLE
SCALE: 1" = 1'-0"



BASIS OF DESIGN PRODUCT:

MANUFACTURER:	LANDSCAPE FORMS (822) 430-6206 ext. 1320
MODEL:	LINK BENCH - METAL SUPPORTS, INLINE, STRAIGHT, FULL BACKREST, BOTH END ARMS
MATERIAL:	PER MANUFACTURER
FINISH:	POWDERCOAT
METAL COLOR:	TBD
MOUNT:	SURFACE MOUNT

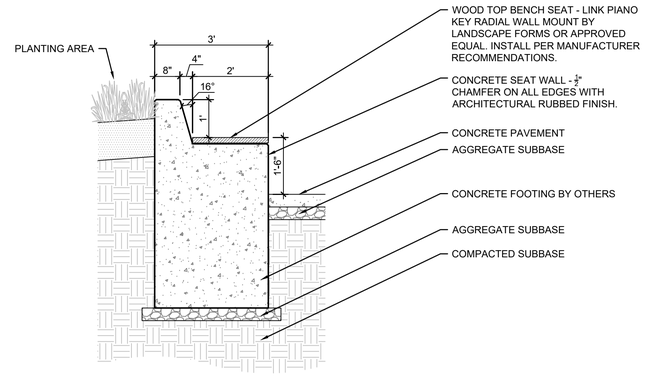
03 BENCH SEAT
SCALE: 1" = 1'-0"



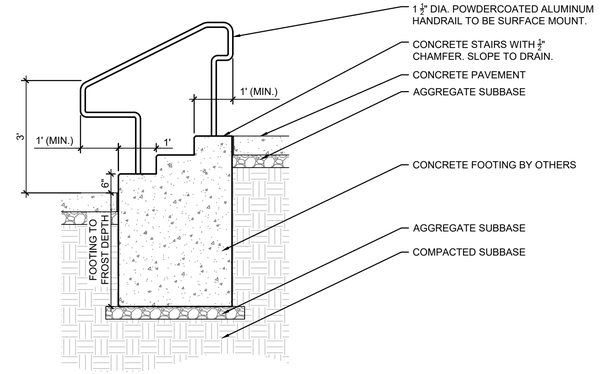
BASIS OF DESIGN PRODUCT:

MANUFACTURER:	POLIGON (616) 888-3500
MODEL:	CWC 8X12 - CANTILEVERED MONOSLOPE
MATERIAL:	STEEL FRAME - WOOD ROOF DECK - MULTI-RIB STEEL ROOF
FINISH:	POWDERCOAT OVER GALVANIZED STEEL - STAINED TONGUE AND GROOVE WOOD
METAL COLOR:	BLACK POWDERCOAT - BURNT HICKORY WOOD STAIN
MOUNT:	EXTERNAL ANCHOR BOLTS BELOW FINISH GRADE

04 SHADE STRUCTURE - TYPE 1
SCALE: 1" = 1'-0"



05 CONCRETE SEAT WALL WITH WOOD TOP BENCH
SCALE: 1/2" = 1'-0"

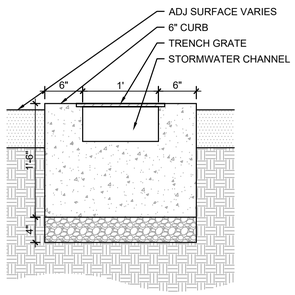


06 CONCRETE STAIR DETAIL
SCALE: 1/2" = 1'-0"

BASIS OF DESIGN PRODUCT:

MANUFACTURER:	MARINE RESCUE PRODUCTS 1 (800) 341-9500
MODEL:	ACCESSMAT BEACH ACCESS SURFACE 10FT-WIDTH
MATERIAL:	100% POLYESTER
COLOR:	BLUE
MOUNT:	GALVANIZED SPIKES IN PLASTIC GROMMETS

07 BEACH ACCESS MAT
SCALE: 1" = 1'-0"



BASIS OF DESIGN PRODUCT:

MANUFACTURER:	IRON AGE DESIGNS (877) 418-3568
MODEL:	RAIN
MATERIAL:	CAST IRON
FINISH:	CAST IRON
METAL COLOR:	CAST IRON
MOUNT:	SET ON CONCRETE CURB AND THICKENED EDGE CONCRETE PAVEMENT

08 TRENCH DRAIN CURB INLET
SCALE: 1" = 1'-0"

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Permit-Seal

Client/Project
GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
SITE DETAILS - FURNISHING

Project No. 227707083

Scale

Drawing No. LS-501

Sheet of

Revision 0

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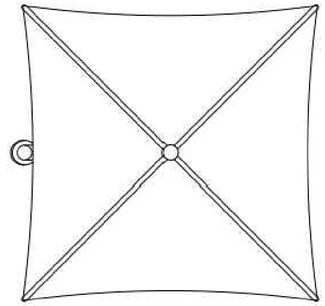
2025/04/09 3:07 PM By: SGadalo, Jake
ORIGINAL SHEET - ANSI D

3D VIEW



01

PLAN VIEW

BASIS OF DESIGN PRODUCT:

MANUFACTURER:	LANDSCAPE STRUCTURES (810) 229-6245
MODEL:	SKYWAYS CANTILEVER SINGLE POST PYRAMID 14'X14' SHADE STRUCTURE
MATERIAL:	PER MANUFACTURER
FINISH:	PER MANUFACTURER
METAL COLOR:	TBD
MOUNT:	DIRECT EMBED POSTS

01 SHADE STRUCTURE - TYPE 2

SCALE: 1" = 1'-0"

3D VIEW

BUILT PHOTO

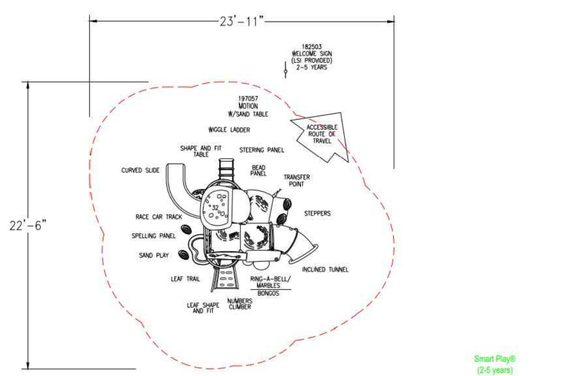
BASIS OF DESIGN PRODUCT:

MANUFACTURER:	LANDSCAPE STRUCTURES (810) 229-6245
MODEL:	HEDRA SWING SET - 2 BAY
MATERIAL:	PER MANUFACTURER
FINISH:	PER MANUFACTURER
METAL COLOR:	TBD
MOUNT:	DIRECT EMBED POSTS

02 PLAY STRUCTURE - SWINGS

SCALE: 1" = 1'-0"

3D VIEW



PLAN VIEW

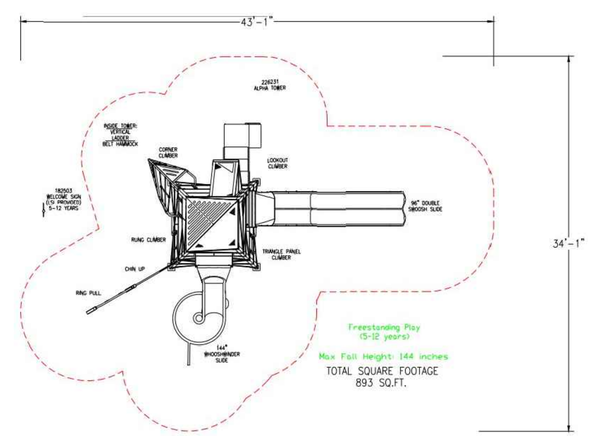
BASIS OF DESIGN PRODUCT:

MANUFACTURER:	LANDSCAPE STRUCTURES (810) 229-6245
MODEL:	SMART PLAY MOTION
MATERIAL:	PER MANUFACTURER
FINISH:	PER MANUFACTURER
METAL COLOR:	TBD
MOUNT:	DIRECT EMBED POSTS

03 PLAY STRUCTURE - AGE 2-5

SCALE: 1" = 1'-0"

3D VIEW



PLAN VIEW

BASIS OF DESIGN PRODUCT:

MANUFACTURER:	LANDSCAPE STRUCTURES (810) 229-6245
MODEL:	ALPHA TOWER
MATERIAL:	PER MANUFACTURER
FINISH:	PER MANUFACTURER
METAL COLOR:	TBD
MOUNT:	DIRECT EMBED POSTS

04 PLAY STRUCTURE - AGE 5-12

SCALE: 1" = 1'-0"

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Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY
BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

SITE DETAILS - PLAY

Project No. 227707083

Scale

Drawing No. LS-502

Sheet of

Revision 0

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PLANTING NOTES

1. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH SUBCONTRACTORS AND OTHER TRADES AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
2. NO SUBSTITUTIONS OF PLANT MATERIAL SHALL BE MADE WITHOUT THE WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT PRIOR TO DELIVERY TO THE SITE.
3. ALL PLANT MATERIAL SHALL BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO DELIVERY TO THE SITE.
4. ALL SHRUB TAGS SHALL REMAIN ON THE PLANTS UNTIL THE TIME OF FINAL ACCEPTANCE.
5. ALL PLANT MATERIAL AND FINAL LOCATIONS OF ALL PLANT MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST THE LOCATION OF PLANT MATERIAL DURING INSTALLATION AS APPROPRIATE TO THE PROJECT.
6. MINOR ADJUSTMENTS IN PLANT PLACEMENT AND SPECIES MAY BE PROPOSED BY THE CONTRACTOR FOR CONSIDERATION AND APPROVAL BY THE LANDSCAPE ARCHITECT AT THE CONSTRUCTION STAGE TO RESPOND TO FIELD CONDITIONS AND PLANT AVAILABILITY. THERE SHALL BE NO REDUCTION IN PLANT MATERIAL.
7. OBTAIN LANDSCAPE ARCHITECT'S APPROVAL OF FINISH GRADING PRIOR TO THE COMMENCEMENT OF PLANTING OPERATIONS.
8. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE "AMERICAN STANDARDS FOR NURSERY STOCK" (ANSI Z60.1-2014) PUBLISHED BY THE AMERICAN HORTICULTURE INDUSTRY ASSOCIATION.
9. ALL PLANT MATERIAL FURNISHED SHALL BE HEALTHY SPECIMENS FREE FROM PESTS, PLANT DISEASE OR DAMAGE. PRE-SELECTED, OR "TAGGED" MATERIAL MUST BE INSPECTED BY THE CONTRACTOR AND CERTIFIED PEST AND DISEASE FREE. IT IS THE CONTRACTOR'S OBLIGATION TO WARRANTY ALL PLANT MATERIALS PER THE SPECIFICATIONS.
10. SUPPLY ALL PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING BED AS SHOWN ON THE DRAWINGS. IF CONFLICTS ARISE BETWEEN SIZE OF AREAS AND PLANS, CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT FOR IMMEDIATE RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN TO THE LANDSCAPE ARCHITECT WILL RESULT IN CONTRACTOR'S LIABILITY TO RELOCATE THE MATERIALS.
11. ALL SHRUB PLANTING AREAS ARE TO BE PREPARED AS CONTINUOUS BEDS. ALL SHRUBS, ORNAMENTAL GRASSES AND GROUND COVERS SHALL BE TRIANGULARLY SPACED, UNLESS OTHERWISE NOTED.
12. ALL PROPOSED LANDSCAPING LOCATED IN THE RIGHT-OF-WAY SHALL COMPLY WITH LOCAL JURISDICTIONAL REQUIREMENTS FOR HEIGHT CLEARANCE, SPACING AND RELATIONSHIP TO OTHER IMPROVEMENTS TO PROVIDE ADEQUATE SIGHT DISTANCES AT ALL INTERSECTIONS AND ROADWAY CURVES.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF ANY EXISTING PLANT MATERIAL DAMAGED DURING PLANTING OPERATIONS AND PRIOR TO FINAL ACCEPTANCE.
14. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT INSPECTION SCHEDULES.
15. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE THROUGHOUT THE SITE WITH ACCURATELY SET FLOW LINES. NO LOW SPOTS OR PONDING OF SURFACE WATER WILL BE ACCEPTED IN TEMPORARY OR FINAL WORK.
16. PERFORM PERCOLATION TEST ON ALL TREE HOLES AND PLANTING BEDS PRIOR TO PLANTING. INFORM LANDSCAPE ARCHITECT OF RESULTS. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
17. SEE SPECIFICATIONS FOR PLANTING REQUIREMENTS, SOIL PREPARATION TESTING, MATERIALS AND EXECUTION. ARRANGE FOR VISIT OF LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL A MINIMUM OF 48 HOURS PRIOR TO INSTALLATION.
18. CONTRACTOR IS TO FAMILIARIZE THEMSELVES WITH THE LAYOUT, GRADING AND CIVIL ENGINEERING DOCUMENTS TO COORDINATE ACTUAL LOCATION OF TREES AND SHRUBS.
19. REFER TO LAYOUT DRAWINGS FOR LANDSCAPE EDGING LAYOUT. FIELD STAKE AND REVIEW LAYOUT WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
20. FIELD STAKE AND REVIEW LOCATIONS OF ALL PROPOSED TREES WITH LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF PLANTING OPERATIONS.
21. SEE DETAILS AND SPECIFICATIONS FOR STAKING METHOD, PLANT PIT DIMENSIONS AND BACKFILL REQUIREMENTS.
22. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE WATER TO NEWLY INSTALLED MATERIALS TO MAINTAIN PLANT HEALTH FOR THE DURATION OF THE CONSTRUCTION PERIOD UNTIL FINAL ACCEPTANCE IS GRANTED AND THE REQUIRED MAINTENANCE PERIOD TAKES EFFECT.
23. PLANT MATERIAL QUANTITIES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF QUANTITY TAKEOFFS FOR ALL PLANT MATERIAL AS SHOWN ON PLANS.
24. COORDINATE INSTALLATION OF LARGE PLANT MATERIAL WITH INSTALLATION OF WALL FOOTINGS AND ADJACENT PAVEMENTS. ANY DAMAGE TO IMPROVEMENTS IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.

CONCEPT PLANT SCHEDULE

DUNE GRASS & SHRUB PLANTING AREA	3,537 SF	
SHRUB AND PLUG MIX		
CORYLUS AMERICANA / AMERICAN HAZELNUT	22	1 GAL
JUNIPERUS COMMUNIS / COMMON JUNIPER	15	1 GAL
LOCALLY HARVESTED / SOURCED DUNE GRASS PLUG	276	PLUG
RHUS COPALLINUM / WINGED SUMAC	22	1 GAL
SALIX CORDATA / SAND DUNE WILLOW	22	1 GAL
SALIX HUMILIS / PRAIRIE WILLOW	22	1 GAL
SHORT PRAIRIE FOCAL PLANTING AREA	588 SF	
ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK	31	1 GAL
ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	31	1 GAL
JUNIPERUS HORIZONTALIS 'BLUE CHIP' / BLUE CHIP CREEPING JUNIPER	7	3 GAL
SPOROBOLUS HETEROLEPIS 'TARA' / TARA PRAIRIE DROPSEED	45	1 GAL
STORMWATER BASIN PLANTING AREA	1,014 SF	
ASCLEPIAS INCARNATA / SWAMP MILKWEED	158	PLUG
CEANOTHUS AMERICANUS / NEW JERSEY TEA	2	1 GAL
DASIPHORA FRUTICOSA / BUSH CINQUEFOIL	2	1 GAL
JUNCUS BALTICUS / BALTIC RUSH	210	PLUG
SPARTINA PECTINATA / PRAIRIE CORDGRASS	157	PLUG
SPIRAEA ALBA / WHITE MEADOWSWEET	2	1 GAL
SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED	209	PLUG
VERONICASTRUM VIRGINICUM / CULVER'S ROOT	157	PLUG
DUNE GRASS PLANTING AREA	31,851 SF	
PLUG MIX		
LOCALLY HARVESTED / SOURCED DUNE GRASS PLUG	33,100	PLUG
DUNE RESTORATION PLANTING AREA	33,144 SF	
PLUG AND SEED MIX		
AMMOPHILA BREVILIGULATA / AMERICAN BEACHGRASS	1,722	PLUG
ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK	69	1 GAL
CALAMOVILFA LONGIFOLIA / SANDREED GRASS	1,722	PLUG
CAMPANULA ROTUNDIFOLIA / HAREBELL	1,722	PLUG
JUNIPERUS HORIZONTALIS / CREEPING JUNIPER	206	1 GAL
PRUNUS PUMILA / SAND CHERRY	69	1 GAL
ROSA CAROLINA / PASTURE ROSE	69	1 GAL
SALIX CORDATA / SAND DUNE WILLOW	69	1 GAL
SALIX MYRICOIDES / BLUE-LEAF WILLOW	69	1 GAL
DRY PRAIRIE PLANTING AREA	11,428 SF	
PLUG AND SEED MIX		
AMMOPHILA BREVILIGULATA / AMERICAN BEACHGRASS	268	PLUG
ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK	148	PLUG
ARGENTINA ANSERINA / SILVERWEED CINQUEFOIL	90	PLUG
ARTEMISIA CAMPESTRIS / FIELD SAGEWORT	90	PLUG
ASCLEPIAS SYRIACA / COMMON MILKWEED	90	PLUG
ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	148	PLUG
CALAMOVILFA LONGIFOLIA / PRAIRIE SANDREED	743	PLUG
CAMPANULA ROTUNDIFOLIA / HAREBELL	148	PLUG
CEANOTHUS AMERICANUS / JERSEY TEA	90	PLUG
COMANDRA UMBELLATA / BASTARD TOADFLAX	148	PLUG
COREOPSIS LANCEOLATA / LANCELEAF TICKSEED	90	PLUG
MAIANTHEMUM STELLATUM / FALSE LILY-OF-THE-VALLEY	90	PLUG
POLYGONATUM BIFLORUM / SOLOMON'S SEAL	90	PLUG
SCHIZACHYRIUM SCOPARIUM / LITTLE BLUESTEM	743	PLUG

DRY PRAIRIE SEED MIX – 11,428 SF

Scientific Name	Common Name	Oz/Acre
Bouteloua curtipendula	Side oats Grama	45.00
Eragrostis spectabilis	Purple Love Grass	0.50
Koeleria macrantha	June Grass	2.00
Schizachyrium scoparium	Little Bluestem	25.00
Sporobolus cryptandrus	Sand Dropseed	4.00
Carex brevior	Plains Oval Sedge	2.00
Artemisia campestris	Beach Wormwood	0.50
Asclepias syriaca	Common Milkweed	2.00
Asclepias tuberosa	Butterfly Weed	3.00
Asclepias verticillata	Whorled Milkweed	2.00
Campanula rotundifolia	Harebell	0.20
Coreopsis lanceolata var. lanceolata	Sand Coreopsis	8.00
Dalea purpurea	Purple Prairie Clover	3.00
Lespedeza capitata	Round-headed Bush Clover	2.00
Liatris aspera	Rough Blazing Star	1.50
Liatris cylindracea	Cylindrical Blazing Star	1.50
Monarda fistulosa	Wild Bergamot	1.00
Monarda punctata	Spotted Bee Balm	2.00
Phlox pilosa	Prairie Phlox	1.50
Rudbeckia hirta	Black-eyed Susan	2.50
Solidago nemoralis	Old Field Goldenrod	0.75
Symphyotrichum laeve	Smooth Blue Aster	1.50
Tradescantia ohiensis	Ohio Spiderwort	2.00

DUNE RESTORATION SEED MIX – 33,144 SF

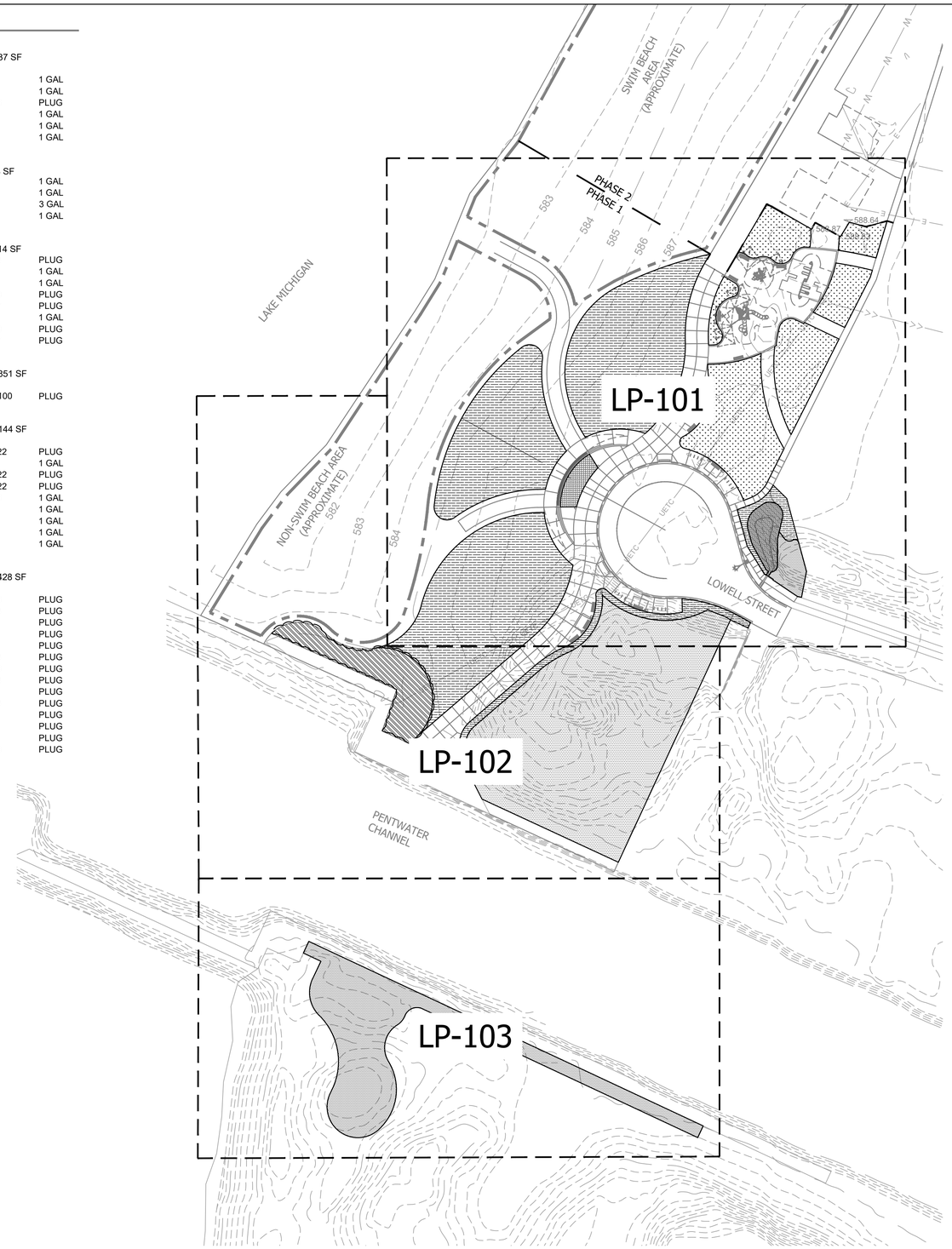
Scientific Name	Common Name	Oz/Acre
Ammophila breviligulata	Beach Grass or Marram Grass	
Calamovilfa longifolia	Sand Reed Grass	
Asclepias syriaca	Common Milkweed	
Coreopsis lanceolata	Sand Coreopsis	
Campanula rotundifolia	Harebell or Bluebell	
Elymus canadensis	Wild Rye	
Prunus pumila	Sand Cherry	
Schizachyrium scoparium	Little Bluestem	
Monarda punctata	Spotted Bee Balm	
Artemisia campestris	Wild Wormwood	
Rudbeckia hirta	Black-eyed Susan	
Symphyotrichum laeve	Smooth Blue Aster	
Tradescantia ohioensis	Ohio Spiderwort	
Arctostaphylos uva-ursi	Bearberry or Kinnikinick	
Salix myricoides	Blueleaf Willow	

*SEED MIX RATIO TO BE DETERMINED IN FURTHER DESIGN

STORMWATER BASIN SEED MIX – 1,014 SF

Scientific Name	Common Name	Oz/Acre
Calamagrostis canadensis	Canada Bluejoint Grass	
Carex Scoparia	Pointed Broom Sedge	
Carex molesta	Troublesome Sedge	
Eupatorium perfoliatum	Boneset	
Liatris pycnostachya	Prairie Blazing Star	
Monarda fistulosa	Wild Bergamot	
Penstemon digitalis	Foxglove Beardtongue	
Pycnanthemum virginianum	Mountain Mine	
Rudbeckia hirta	Black-eyed Susan	
Symphyotrichum novae-angliae	New England Aster	
Tradescantia ohioensis	Ohio Spiderwort	
Verbena hastata	Blue Vervain	

*SEED MIX RATIO TO BE DETERMINED IN FURTHER DESIGN



01 OVERALL PLANTING SHEET

N

0 50' 100'

SCALE: 1" = 50'-0"

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File Name:

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Permit-Seal

Client/Project

GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY BEACHFRONT RESTORATION

PENTWATER, MICHIGAN

Title

OVERALL PLANTING SHEET

Project No. 227707083

Scale

Drawing No. LP-100

Sheet of

Revision 0

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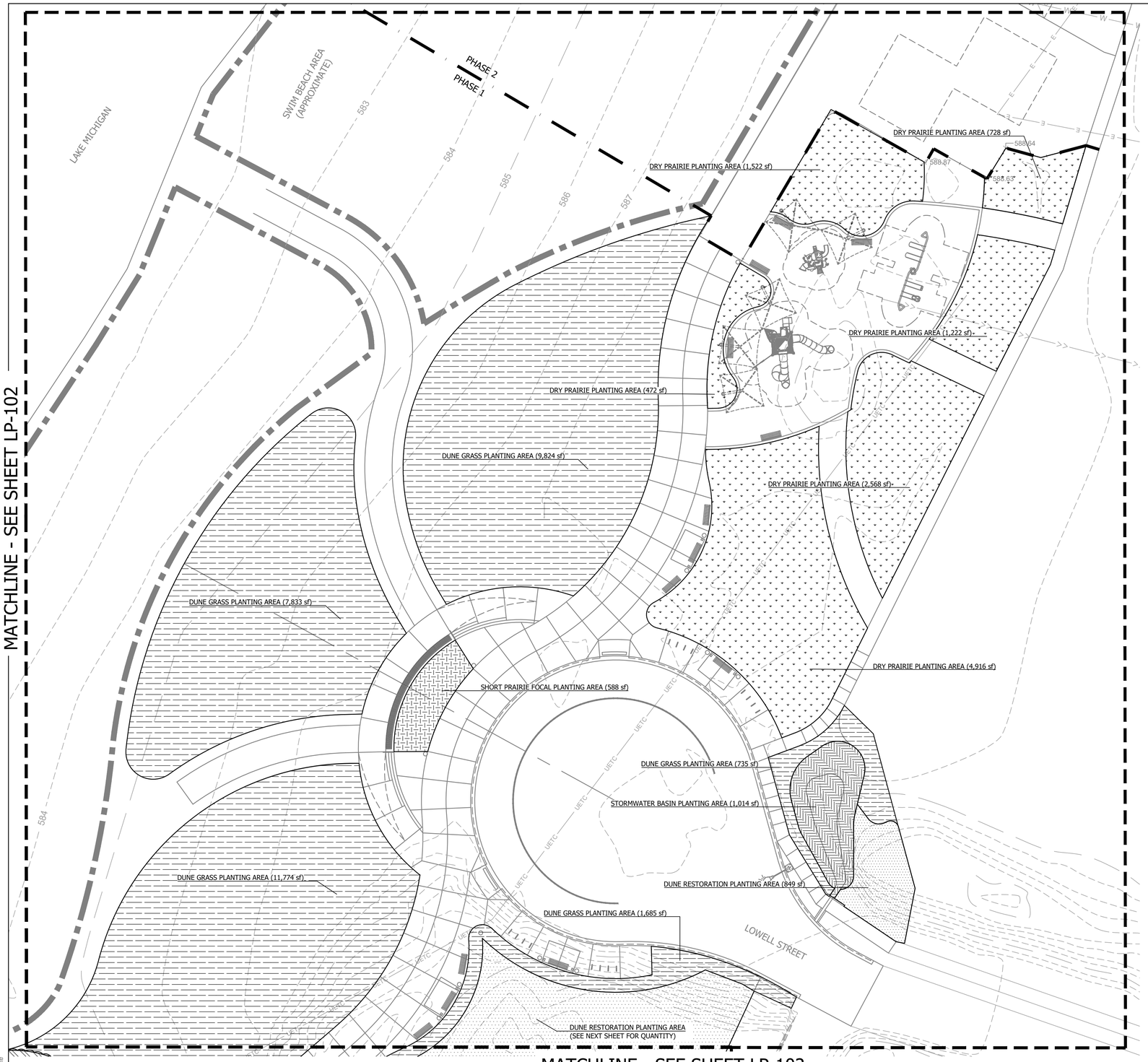

MATCHLINE - SEE SHEET LP-102

01 ENLARGED PLANTING PLAN

N

0 20' 40'

SCALE: 1" = 20'-0"

CONCEPT PLANT SCHEDULE

DUNE GRASS & SHRUB PLANTING AREA
SHRUB AND PLUG MIX
CORYLUS AMERICANA / AMERICAN HAZELNUT
JUNIPERUS COMMUNIS / COMMON JUNIPER
LOCALLY HARVESTED / SOURCED DUNE GRASS PLUG
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SALIX HUMILIS / PRAIRIE WILLOW

SHORT PRAIRIE FOCAL PLANTING AREA
ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK
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PLUG MIX
LOCALLY HARVESTED / SOURCED DUNE GRASS PLUG

DUNE RESTORATION PLANTING AREA
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AMMOPHILA BREVILIGULATA / AMERICAN BEACHGRASS
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ROSA CAROLINA / PASTURE ROSE
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DRY PRAIRIE PLANTING AREA
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POLYGONATUM BIFLORUM / SOLOMON'S SEAL
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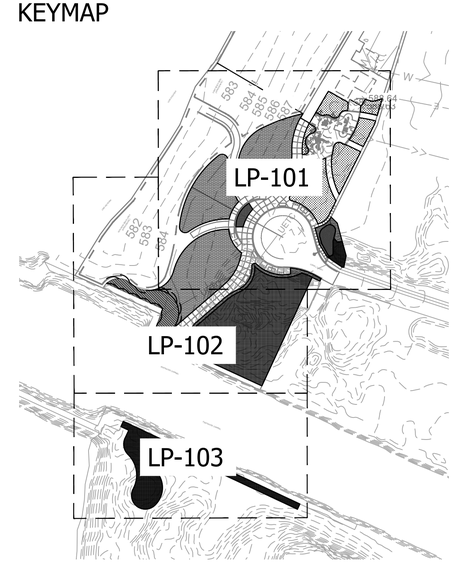
KEYMAP



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Permit-Seal

Client/Project
GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY
BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
ENLARGED PLANTING PLAN

Project No. 227707083

Scale

Drawing No. LP-101

Sheet of

Revision 0

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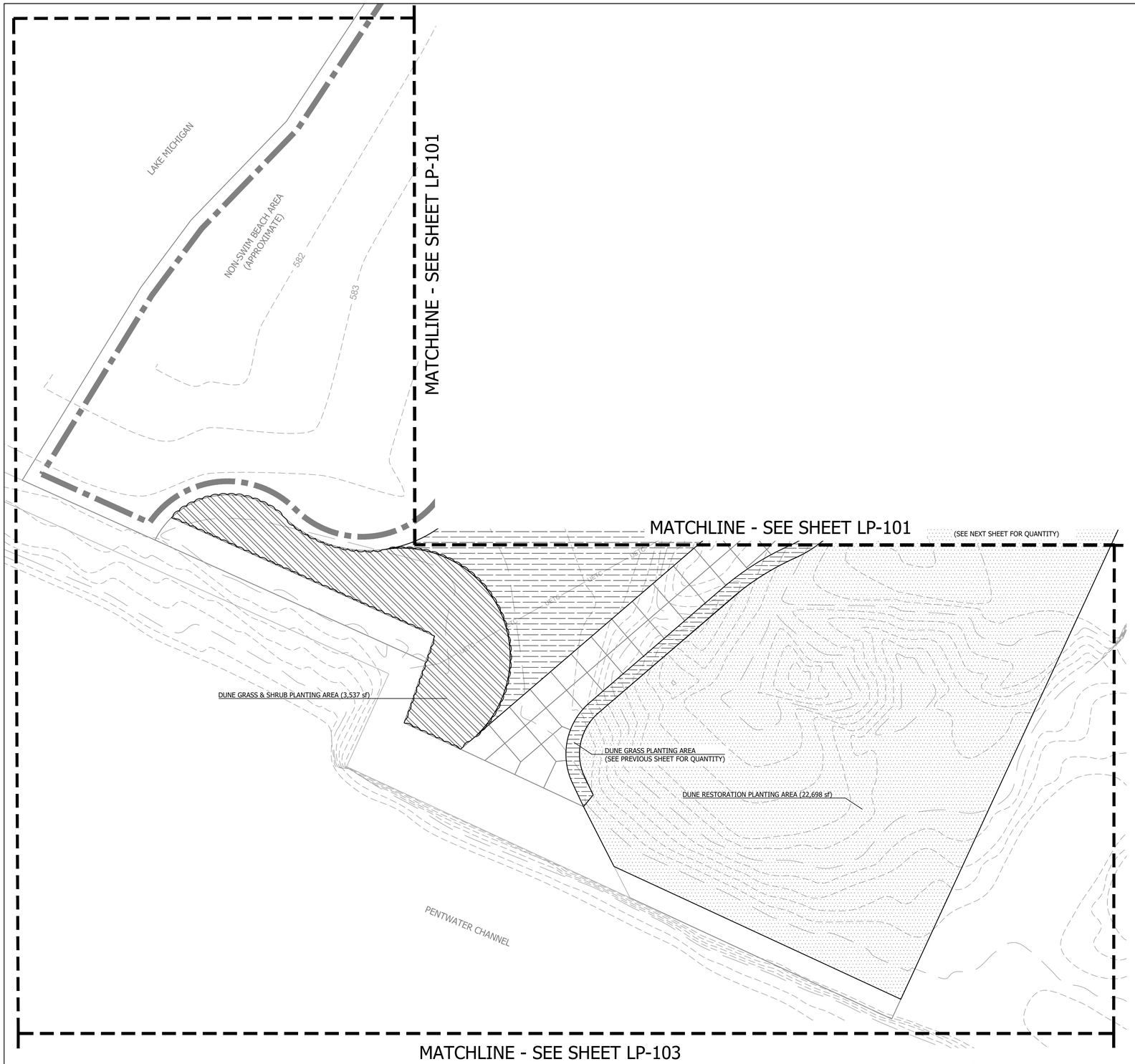

01 ENLARGED PLANTING PLAN

N

0 20' 40'

SCALE: 1" = 20'-0"

CONCEPT PLANT SCHEDULE

DUNE GRASS & SHRUB PLANTING AREA
SHRUB AND PLUG MIX
CORYLUS AMERICANA / AMERICAN HAZELNUT
JUNIPERUS COMMUNIS / COMMON JUNIPER
LOCALLY HARVESTED / SOURCED DUNE GRASS PLUG
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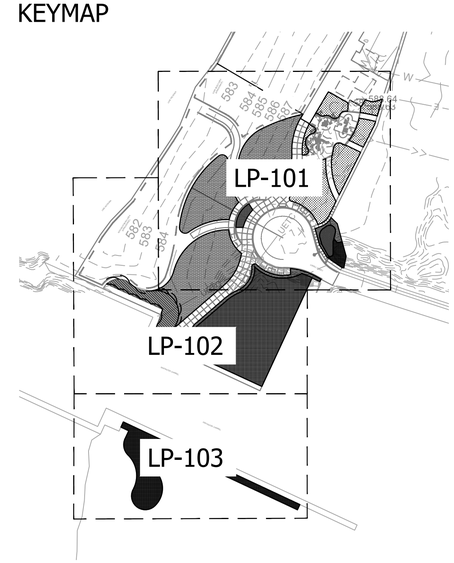
KEYMAP



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PENTWATER, MICHIGAN

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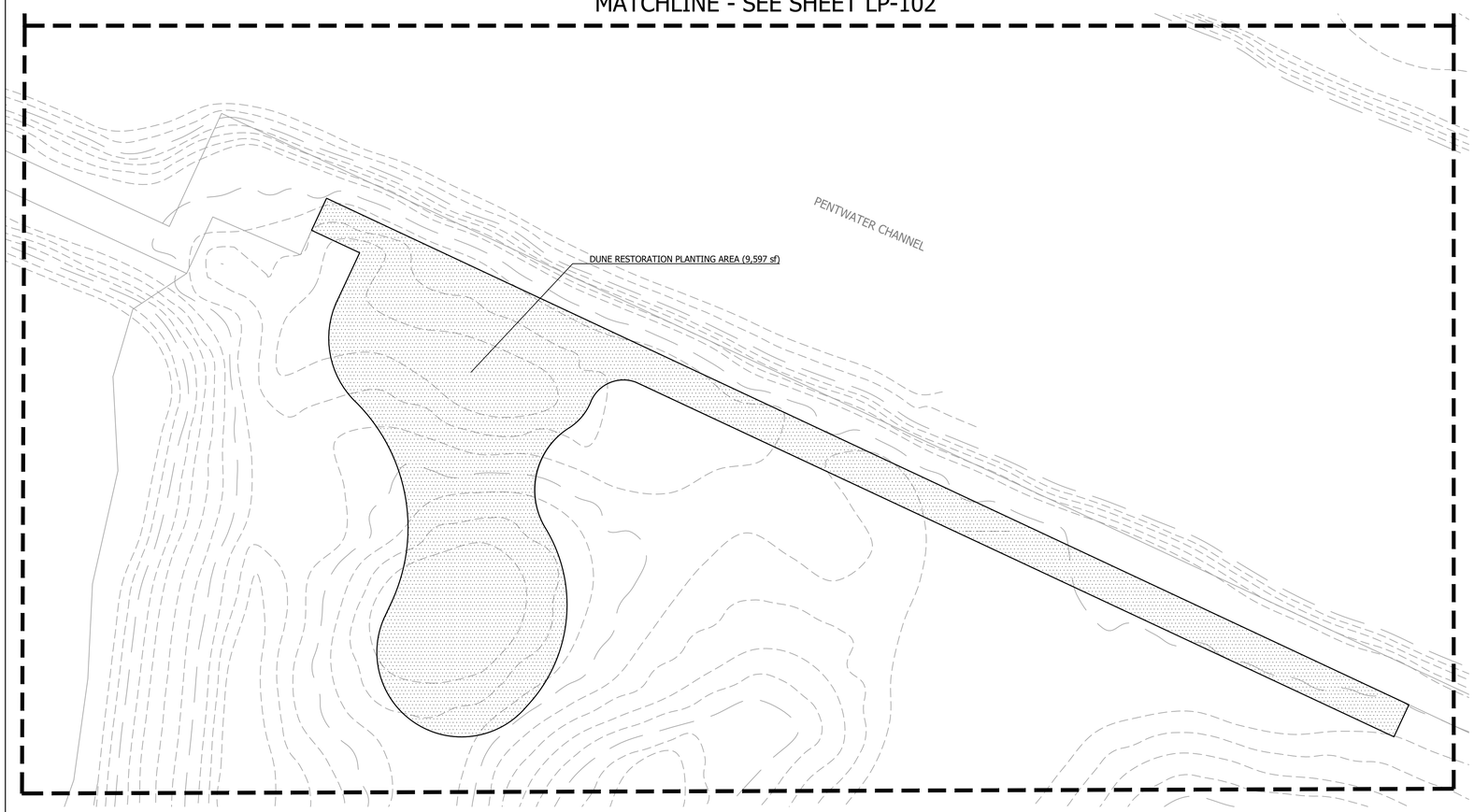
ORIGINAL SHEET - ANSI D

MATCHLINE - SEE SHEET LP-102



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N

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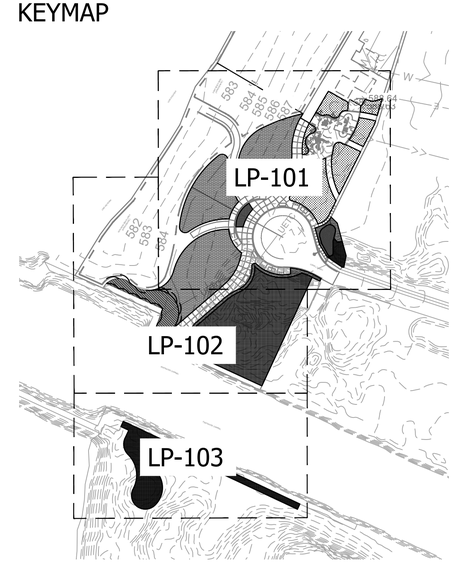
SPARTINA PECTINATA / PRAIRIE CORDGRASS
SPIRAEA ALBA / WHITE MEADOWSWEET
SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED
VERONICASTRUM VIRGINICUM / CULVER'S ROOT

DUNE GRASS PLANTING AREA
PLUG MIX
LOCALLY HARVESTED / SOURCED DUNE GRASS PLUG

DUNE RESTORATION PLANTING AREA
PLUG AND SEED MIX
AMMOPHILA BREVILIGULATA / AMERICAN BEACHGRASS
ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK
CALAMOVILFA LONGIFOLIA / SANDREED GRASS
CAMPANULA ROTUNDIFOLIA / HAREBELL
JUNIPERUS HORIZONTALIS / CREEPING JUNIPER
PRUNUS PUMILA / SAND CHERRY
ROSA CAROLINA / PASTURE ROSE
SALIX CORDATA / SAND DUNE WILLOW
SALIX MYRICOIDES / BLUE-LEAF WILLOW

DRY PRAIRIE PLANTING AREA
PLUG AND SEED MIX
AMMOPHILA BREVILIGULATA / AMERICAN BEACHGRASS
ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK
ARGENTINA ANSERINA / SILVERWEED CINQUEFOIL
ARTEMISIA CAMPESTRIS / FIELD SAGEWORT
ASCLEPIAS SYRIACA / COMMON MILKWEED
ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED
CALAMOVILFA LONGIFOLIA / PRAIRIE SANDREED
CAMPANULA ROTUNDIFOLIA / HAREBELL
CEANOTHUS AMERICANUS / JERSEY TEA
COMANDRA UMBELLATA / BASTARD TOADFLAX
COREOPSIS LANCEOLATA / LANCELEAF TICKSEED
MAIANTHEMUM STELLATUM / FALSE LILY-OF-THE-VALLEY
POLYGONATUM BIFLORUM / SOLOMON'S SEAL
SCHIZACHYRIUM SCOPARIUM / LITTLE BLUESTEM

KEYMAP



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Issued	By	Appd.	YY.MM.DD
30% CONSTRUCTION DOCUMENTS	JS	SH	04.10.2025

File Name:	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
GREAT LAKES ST LAWRENCE CITIES INITIATIVE

PENTWATER COMMUNITY
BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
ENLARGED PLANTING PLAN

Project No. 227707083

Scale

Drawing No. LP-103

Sheet of

Revision 0

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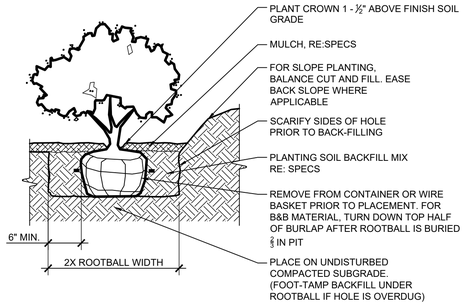
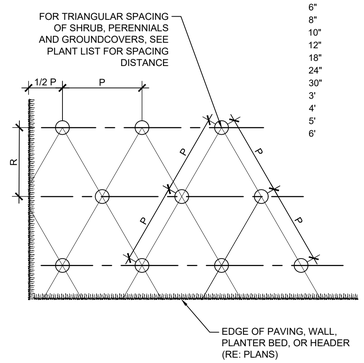


01 SHRUB PLANTING

1/2" = 1'-0"

DETAIL-FILE



P TRIANGULAR	R ROW	AREA (PER PLANT) SQ. FT.
4"	3 7/16"	.096
6"	5 1/4"	.22
8"	7"	.385
10"	8 3/4"	.60
12"	10 3/8"	.87
18"	1'-3 5/8"	1.95
24"	1'-8 3/4"	3.46
30"	2'-2"	5.42
3'	2'-7"	7.80
4'	3'-5 1/2"	13.84
5'	4'-4"	21.65
6'	5'-2 3/8"	31.20

02 TRIANGULAR SPACING

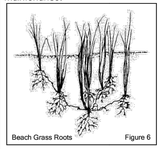
1/2" = 1'-0"

DETAIL-FILE

Planting Dune Vegetation

Like sand fencing, the role of vegetation is to slow onshore winds and trap sand, allowing it to gather and build up. Used together, sand fencing and dune vegetation is an extremely effective way to restore dunes.

Plant stems and leaves help protect the sand surface from wind erosion. The plant's root structure knits the dunes together to stabilize them. Dune vegetation renews itself naturally, providing permanent cover, and needs no ongoing maintenance.



Beach grass facts:
Beach grass will grow as more sand gathers around it, making it suited for the ever-changing dune system to which it has adapted itself.

Planting should occur in late autumn when plants are dormant. Autumn weather provides a cool and moist environment that reduces stress on new plantings. Fall planting also gives the grass a head start for growth in spring.

It is possible to plant beach grass in the spring, but the success rate drops by 25%. It takes about 3-4 years for beach grass to fully establish.

Beach grass, as it is referred to here, also goes by the name Marram or American Beachgrass (*Ammophilia breviligulata*). It is perhaps the most successfully used species in dune restoration along the Lake Huron coastline. Other important beach grasses like Long-Leaved Reedgrass and Great Lakes Wheatgrass are also important stabilizers.

Beach grass should be harvested locally. The closer to your property the better. Avoid plants from other dune systems in order to prevent the transfer of diseases and different plant genetics. Beach grass should be used in areas where sand drifting is a problem. (See Contact Information for specific suppliers)

Planting spacing varies, and grasses should be planted no less than 6" and no more than 18" apart in an irregular pattern to slow wind speeds and prevent erosion. This will also help to achieve a more natural look.

Beach grass is different from the grass we associate with our lawn. Beach grass is a special coastal plant that capture wind blown sand – keeping it from continually blowing inland.

dune planting guide | dune basics | 1

Planting Tips

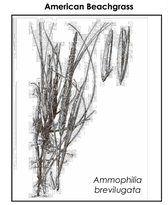
The goal when planting is to achieve a naturalized landscape that will help the dunes.

Native dune vegetation is easy to maintain and a **cheaper alternative** since the plants live for a long time and are lower maintenance. Native dune plants are also your ally in protection from sand drifting and erosion. Healthy vegetated dunes makes the beach more **resilient** to the effects of storms and high lake levels. Plant dune grasses in a **natural random order** for a natural look.

Plant **different species** of native plants to maximize biodiversity. If you wish to have a more formalized garden using ornamental plants, limit this type of gardening to areas around the cottage building, away from the delicate dune system.

Do not use **armour stone** (quarry stone or rocks) as it interrupts the changing nature of the dune landscape.

marram grass
or
American Beachgrass

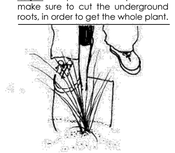


Ammophilia brevilugata

dune planting guide | plant information | 2

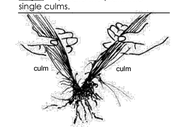
The Nitty Gritty: Beach Grass Harvesting Basics

Step 1: Cut plants with a spade and make sure to cut the underground roots, in order to get the whole plant.

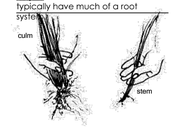


Step 2: Grab leaves of the plant and pull, shaking off sand.

Step 3: Separate the plant into single culms.



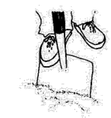
Step 4: Each stem will not typically have much of a root system.



dune planting guide | plant information | 3

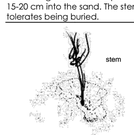
Basics for Transplanting Beach Grass

Step 5: To plant the grass, push the spade's blade (or rebar) 20-30 cm into the sand.



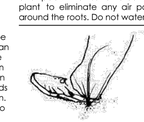
Step 6: Move the spade's handle (rebar) forward, creating a hole in the sand.

Step 7: Place the grass stem into the hole. The grass should be planted 15-20 cm into the sand. The stem tolerates being buried.



Grasses should be planted no less than 6" and no more than 18" apart in an irregular pattern to slow wind speeds and prevent erosion. This will also help to achieve a more natural look.

Step 8: Take the heel of your foot and pack the sand around the plant to eliminate any air pockets around the roots. Do not water.



dune planting guide | plant information | 4

03 DUNE RESTORATION PLANTINGS

1/2" = 1'-0"

DETAIL-FILE

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PENTWATER COMMUNITY
BEACHFRONT RESTORATION
PENTWATER, MICHIGAN

Title
PLANTING DETAILS

Project No. 227707083
Scale

Drawing No. LP-500
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