

**PROPERTY DESCRIPTION:**

**GENERAL INFORMATION:**

PARCEL NOS.: 17-34-412-022, 17-34-412-023, 17-34-412-024, & PLATTED 66'  
 R.O.W. EAST ST (NOT CONSTRUCTED)  
 ZONING: COMMUNITY SERVICE DISTRICT (CS)  
 AREA: 0.57 AC (BEACH AREA AS DESCRIBED)  
 PRESENT USE: PUBLIC BEACH  
 PROPOSED USE: PUBLIC BEACH

**MERCER BEACH DESCRIPTION, AS SURVEYED:**

Lots 33, 34, 35, 36 and part of East Street (as platted and not constructed) of "SUPERVISOR'S PLAT NO. 2", a subdivision as recorded in Liber 54A of Plats, Pages 54 and 54A, Oakland County Records, being part of the Southeast 1/4 of Section 34, T2N-R8E, Commerce Township, Oakland County, Michigan, more particularly described as follows: BEGINNING at the Northwest corner of Lot 36; thence along the South line of Walled Lake Drive (Platted as Main Street - 66 feet wide), N 86°54'21" E, 263.60 feet (recorded as S 88°36'20"E, 263.77 feet), to the Northwest Corner of Lot 32; thence along the East line of East Street (as platted) and the West line of Lot 32, S 03°35'09" E (recorded as S 01°23'40" W), 78.88 feet, to Traverse Point "A"; thence continuing S 03°35'09" E, 25 feet, more or less, along the extended line of Lot 32, to the water's edge of Walled Lake; thence westerly along the water's edge of Walled Lake, 266 feet, more or less, thence along the West line of Lot 36, extended, N 03°05'33" W, 47 feet, more or less, to Traverse Point "B", said point being N 87°43'00" W, 265.45 feet, along an intermediate Traverse Line, from Traverse Point "A"; thence continuing along the West line of Lot 36, N 03°05'33" W, 54.00 feet, to the POINT OF BEGINNING, containing 0.57 acres, more or less, and including the use of Walled Lake Drive. Also subject to any easements or restrictions of record.

Tax Parcels: 17-34-412-022, 17-34-412-023, 17-34-412-024 & part of East Street (as platted)

Bearings are based on Michigan State Plane Coordinate System, South Zone.

**CONSTRUCTION NOTES**

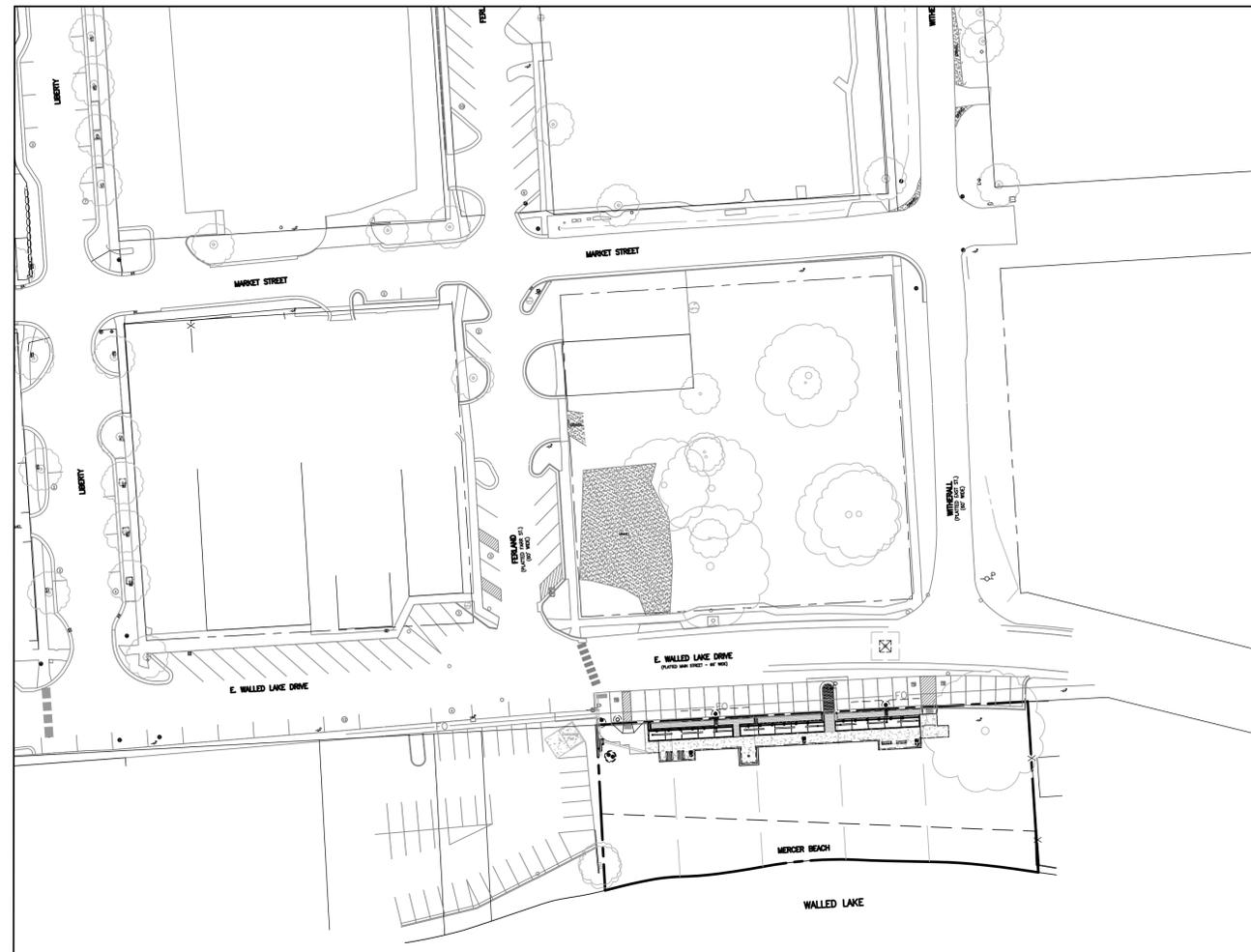
THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING NOTES AND ANY WORK INVOLVED SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT:

- DO NOT SCALE THESE DRAWINGS AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
- A GRADING PERMIT FOR SOIL EROSION-SEDIMENTATION CONTROL SHALL BE OBTAINED FROM THE GOVERNING AGENCY PRIOR TO THE START OF CONSTRUCTION.
- IF DUST PROBLEM OCCURS DURING CONSTRUCTION, CONTROL WILL BE PROVIDED BY AN APPLICATION OF WATER, EITHER BY SPRINKLER OR TANK TRUCK.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED CITY, COUNTY, AND STATE OF MICHIGAN PERMITS.
- PAVED SURFACES, WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES SHALL BE MAINTAINED IN A SAFE, ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED.
- ALL BARRIER-FREE FEATURES SHALL BE CONSTRUCTED TO MEET ALL LOCAL, STATE AND A.D.A. REQUIREMENTS.
- ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON BEFORE BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHTS-OF-WAY, PUBLIC OR PRIVATE, PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE WITH ALL OWNERS TO DETERMINE THE LOCATION OF EXISTING LANDSCAPING, IRRIGATION LINES & PRIVATE UTILITY LINES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING LANDSCAPING, IRRIGATION LINES, AND PRIVATE UTILITY LINES.
- THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKERS AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
- THE CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT THE END OF EACH WORK DAY.
- THE CONTRACTOR SHALL CALL MISS DIG A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ALL EXCAVATION UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED SHALL BE BACKFILLED AND COMPACTED WITH SAND (MDOT CLASS II).
- ALL PAVEMENT REPLACEMENT AND OTHER WORKS COVERED BY THESE PLANS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY, INCLUDING THE LATEST MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
- NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO THE MATERIAL SHORTAGES OR RESPONSIBLE DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DOING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE SPECIFICATION OR FOR ANY REASONABLE DELAYS IN CONSTRUCTION DUE TO THE ENCOUNTERING OR EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.
- DURING THE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT.
- IF WORK EXTENDS BEYOND NOVEMBER 15, NO COMPENSATION WILL BE DUE TO THE CONTRACTOR FOR ANY WINTER PROTECTION MEASURES THAT MAY BE REQUIRED BY THE ENGINEER.
- NO TREES ARE TO BE REMOVED UNTIL MARKED IN THE FIELD BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE CONSTRUCTION LIMITS INCLUDING BUT NOT LIMITED TO EXISTING FENCE, LAWN, TREES AND SHRUBBERY.
- ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE NORMAL CONSTRUCTION LIMITS OF THE PROJECT SHALL BE SODDER OR SEEDED AS SPECIFIED OR DIRECTED BY THE ENGINEER.
- ALL ROOTS, STUMPS AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED AND THE HOLE BACKFILLED WITH SUITABLE MATERIAL. WHERE GRADE CORRECTION IS REQUIRED, THE SUBGRADE SHALL BE CUT TO CONFORM TO THE CROSS-SECTION AS SHOWN IN THE PLANS.
- TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SIGNS AND TRAFFIC CONTROL DEVICES. FLAG PERSONS SHALL BE PROVIDED BY THE CONTRACTOR IF DETERMINED NECESSARY BY THE ENGINEER. ALL SIGNS SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AT NO COST TO THE CITY. NO WORK SHALL BE COMPLETED UNLESS THE APPROPRIATE TRAFFIC CONTROL DEVICES ARE IN PLACE.
- ALL DEMOLISHED MATERIALS AND SOIL SPOILS SHALL BE REMOVED FROM THE SITE AT NO ADDITIONAL COST, AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
- AFTER REMOVAL OF TOPSOIL, THE SUBGRADE SHALL BE COMPACTED TO 95% OF ITS UNIT WEIGHT.
- ALL GRADING IN THE PLANS SHALL BE COMPLETED AS PART OF THIS CONTRACT. ALL DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SUBGRADE PRIOR TO COMPACTING.
- NO SEEDING SHALL BE COMPLETED AFTER OCTOBER 15 WITHOUT APPROVAL OF THE ENGINEER.
- ANY EXISTING APPURTENANCES SUCH AS MANHOLES, GATE VALVES, ETC. SHALL BE ADJUSTED TO THE PROPOSED GRADE AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- SOIL EROSION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION HAS BEEN RE-ESTABLISHED.
- ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE MICHIGAN MUTCD MANUAL AND SHALL BE INCIDENTAL TO THE CONTRACT.

**INDEMNIFICATION STATEMENT**

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

# CONSTRUCTION PLAN FOR CITY OF WALLED LAKE MERCER BEACH IMPROVEMENT, PHASE 2 E. WALLED LAKE DRIVE CITY OF WALLED LAKE, OAKLAND COUNTY, MICHIGAN



OVERALL SITE MAP  
SCALE: 1" = 50'



LOCATION MAP  
NOT TO SCALE

SHEET INDEX	
SHEET NO.	DESCRIPTION
C1	COVER SHEET
C2	EXISTING CONDITIONS & SELECTIVE DEMOLITION PLAN
C3	SITE PLAN
C4	GRADING & DRAINAGE PLAN
C5	LANDSCAPE PLAN
C6A	LIGHTING & ELECTRICAL PLAN
C6B	LIGHTING & ELECTRICAL DETAILS
C7	SOIL EROSION CONTROL PLAN
C8	BIO-RETENTION & MISC. CONSTRUCTION DETAILS
C9	OCWRC SOIL EROSION CONTROL DETAILS



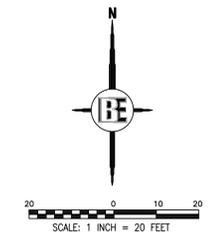
PREPARED FOR:  
 CITY OF WALLED LAKE  
 1499 E. WEST MAPLE ROAD  
 WALLED LAKE, MI 48390  
 CONTACT: CHELSEA PESTA  
 PHONE: (248) 624-4847  
 CPESTA@CWALLEDLAKE.COM

PREPARED BY:  
**BEBOSS**  
*Engineering*  
 Engineers Surveyors Planners Landscape Architects  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670  
 CONTACT: BRADD MAKI

3	PC	FOR BID	5-10-22
2	PC	MDNR REVIEW COMMENTS	3-29-22
1	PC	MDNR REVIEW	1-24-22
NO	BY	CK	REVISION
			DATE
			JOB NO. 20-048-1-MB

C1

# SELECTIVE DEMOLITION PLAN



**LEGEND**

---	EXISTING CONTOUR
---	EXISTING SPOT ELEVATION
---	STORM DRAINAGE FLOW
—P	POWER POLE
—	GUY WIRE
⊠	TRANSFORMER PAD
⊠	ELECTRICAL RISER
⊠	U.G. ELECTRIC MARKER
⊠	ELECTRICAL METER
⊠	LIGHT POLE
⊠	ORNAMENTAL LIGHT
⊠	HYDRANT
⊠	GATE VALVE
⊠	WATER MANHOLE
⊠	MANHOLE
⊠	STORM CATCH BASIN (BEEHIVE)
⊠	STORM CATCH BASIN (SQUARE)
⊠	STORM INVERT
⊠	TELEPHONE RISER
⊠	U.G. TELEPHONE MARKER
⊠	GAS METER
⊠	GAS RISER
⊠	U.G. GAS MARKER
⊠	CABLE TV RISER
⊠	U.G. CABLE TV MARKER
⊠	MAILBOX
⊠	SIGN
⊠	DECIDUOUS TREE
⊠	CONIFEROUS TREE
⊠	SOIL BORING
⊠	STEEL ROD SET
⊠	STEEL ROD/PIPE FOUND
⊠	MONUMENT
⊠	SECTION CORNER
⊠	SANITARY SEWER
⊠	WATER MAIN
⊠	STORM SEWER
⊠	GAS MAIN
⊠	ELECTRIC
⊠	TELEPHONE
⊠	OVERHEAD WIRES
⊠	FENCE
⊠	CONC.
⊠	SAN MH
⊠	ST MH
⊠	CENTERLINE
⊠	LIBER
⊠	PAGE
⊠	LIVINGSTON COUNTY RECORDS
⊠	RECORD AND MEASURED
⊠	P.O.B.
⊠	POINT OF BEGINNING
⊠	HANDICAP SYMBOL
⊠	HUB
⊠	WOOD LATH SET

- ELEVATIONS WERE ESTABLISHED RELATIVE TO WATER AND SEWER DEPARTMENT PLANS FOR 42" WATERMAIN:
- BM #6 FROM DRAWING SHEET NO. WS-611-8 = ARROW ON HYDRANT, NW CORNER OF INTERSECTION OF WALLED LAKE AND PONTIAC TRAIL. ELEVATION = 941.58 (940.93 NAVD88)
  - BM #1 FROM DRAWING SHEET NO. WS-611-9 = TOP OF S. BOLT ON HYDRANT N/S WALLED LAKE RD AT HOUSE #350. ELEVATION = 948.90 (948.25 NAVD88)
  - BM 200 ARROW ON HYDRANT NE QUADRANT OF INTERSECTION OF WITHERALL AND MARKET. ELEVATION = 955.39 (954.74 NAVD88)
  - BM 201 ARROW ON HYDRANT SW QUADRANT OF INTERSECTION OF NORTHPORT AND FERLAND. ELEVATION = 955.51 (954.86 NAVD88)
  - BM 202 ARROW ON HYDRANT N/S WALLED LAKE RD, 120" W. OF WITHERALL AND MARKET. ELEVATION = 941.21 (940.56 NAVD88)
  - BM 203 ARROW ON HYDRANT, NW CORNER OF INTERSECTION OF WALLED LAKE AND PONTIAC TRAIL. ELEVATION = 941.58 (940.93 NAVD88)
  - BM 204 ARROW ON HYDRANT NW QUADRANT OF INTERSECTION OF PONTIAC TRAIL AND NORTHPORT. ELEVATION = 950.91 (950.26 NAVD88)
  - BM 205 ARROW ON HYDRANT SE QUADRANT OF INTERSECTION OF LIBERTY AND MARKET. ELEVATION = 944.56 (943.91 NAVD88)
  - BM 206 RR SPIKE ON POWER POLE 115' SOUTH OF CL OF FERLAND AND MARKET INTERSECTION. ELEVATION 942.80
  - BM 207 RR SPIKE ON POWER POLE AT SE QUADRANT OF FERLAND AND EAST WALLED LAKE. ELEVATION = 938.40

**GENERAL SURVEY NOTES:**

- SUBSURFACE UTILITIES NOT LOCATED FOR THIS SURVEY MAY EXIST. IT IS THE RESPONSIBILITY OF THE OWNER OF THE RESPECTIVE UTILITY TO ACCURATELY LOCATE SUCH UTILITIES.
- EASEMENTS OR RESTRICTIONS OF RECORD NOT DEPICTED ON THIS DRAWING MAY EXIST.
- ELEVATIONS WERE ESTABLISHED FROM GPS OBSERVATION AND USING OPUS POST-PROCESS SYSTEM. (NAVD88 DATUM)
- ALL ELEVATIONS ARE SHOWN TO THE NEAREST 0.01 FOOT; HOWEVER SOFT-SURFACE ELEVATIONS CAN ONLY BE PRESUMED ACCURATE TO THE NEAREST 0.1 FOOT.
- THE LOCATIONS OF STORM SEWER, SANITARY SEWER & WATERMAIN, AS SHOWN ON THIS DRAWING ARE APPROXIMATE. THE LOCATIONS ARE BASED ON PHYSICAL FIELD LOCATIONS OF STRUCTURES OR FROM PROVIDED UTILITY DRAWINGS.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY, THE COUNTY, AND THE STATE OF MICHIGAN.

**DEMOLITION LEGEND**

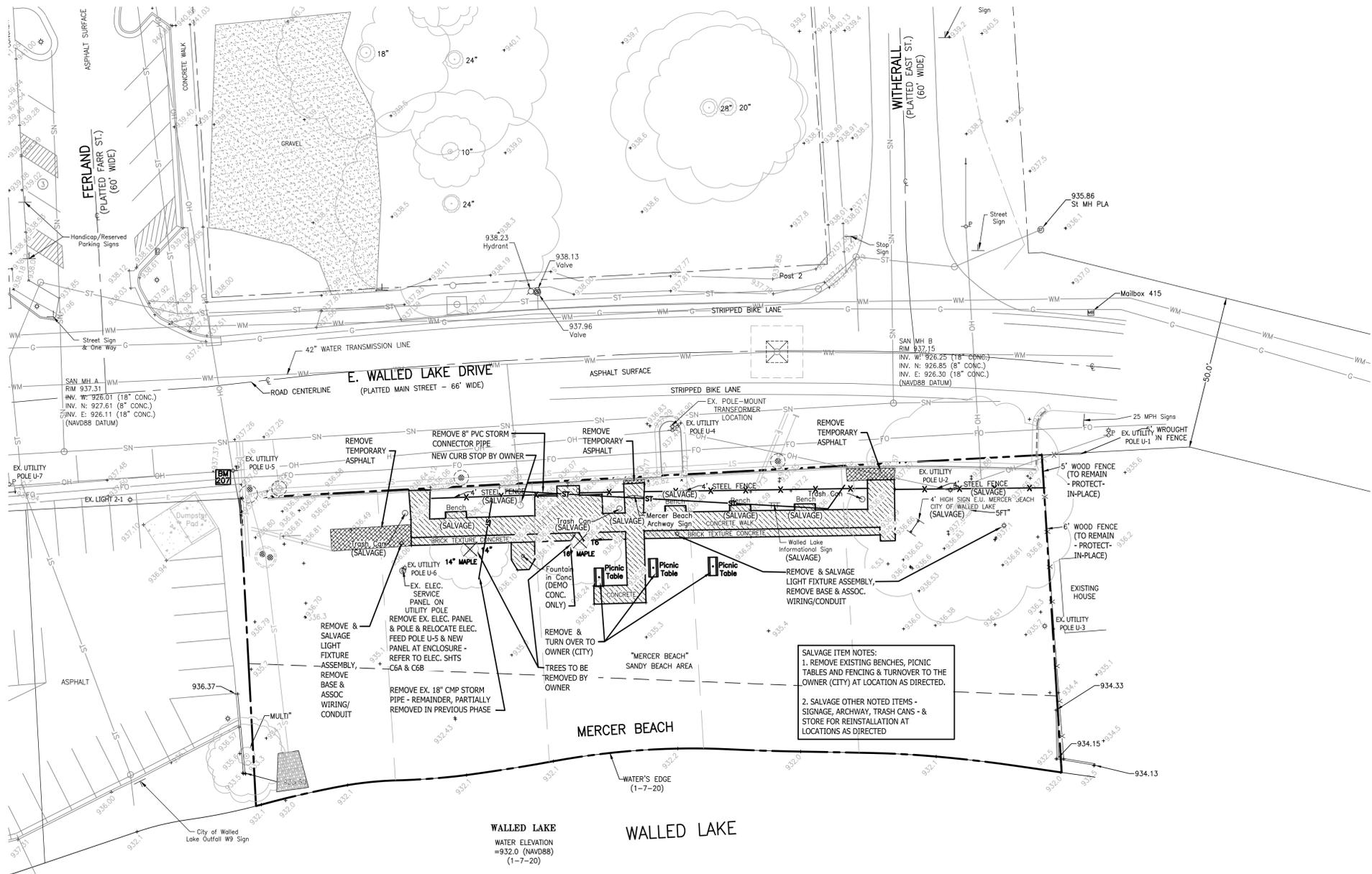
NOTES:

- TYPICAL - DEMOLITION ITEMS NOTED & SHOWN IN **BOLD**
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF IDENTIFIED ITEMS FROM THE SITE IN ACCORDANCE WITH APPLICABLE LOCAL, COUNTY, STATE, & FEDERAL STATUTES

**TBR TO BE REMOVED**

⊠ TREE/SHRUB TO BE REMOVED

⊠ CONCRETE TO BE REMOVED



**SALVAGE ITEM NOTES:**

- REMOVE EXISTING BENCHES, PICNIC TABLES AND FENCING & TURN OVER TO THE OWNER (CITY) AT LOCATION AS DIRECTED.
- SALVAGE OTHER NOTED ITEMS - SIGNAGE, ARCHWAY, TRASH CANS - & STORE FOR REINSTALLATION AT LOCATIONS AS DIRECTED

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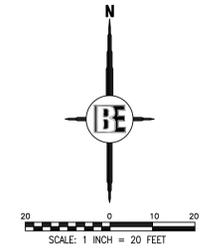
**PROJECT:** MERCER BEACH IMPROVEMENTS, PHASE 2  
**PREPARED FOR:** CITY OF WALLED LAKE  
 1499 E. WEST MAPLE  
 WALLED LAKE, MI 48390  
 (248) 624-4847

**TITLE:** EXISTING CONDITIONS & SELECTIVE DEMOLITION PLAN

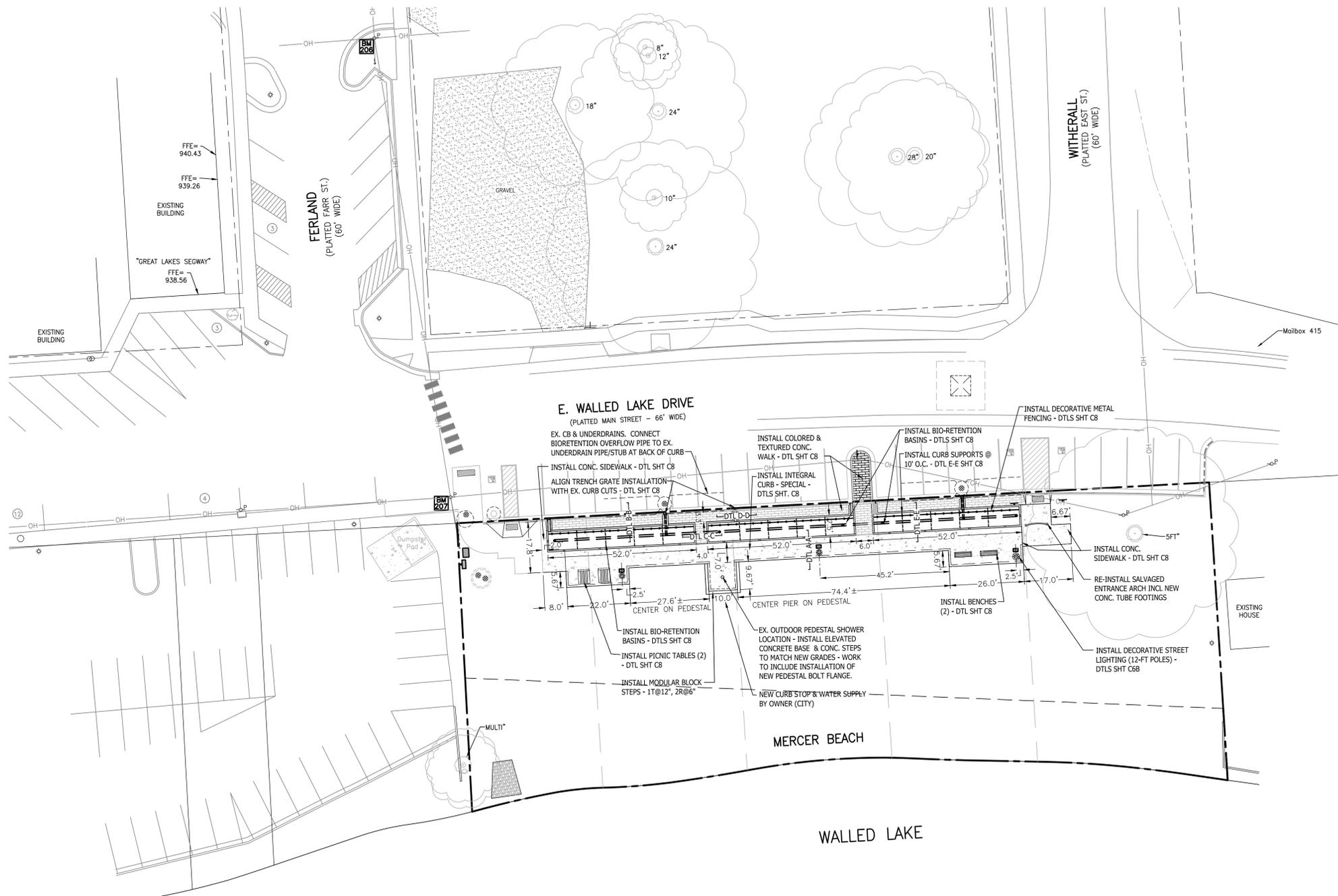
NO	BY	DATE	REVISION PER
1	PC	5-10-22	
2	PC		
3	PC		

DESIGNED BY: PC  
 DRAWN BY: PC  
 CHECKED BY:  
 SCALE: 1" = 20'  
 JOB NO. 20-048-1  
 DATE: 1-24-22  
 SHEET NO. **C2**

# SITE PLAN



PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
T/C	+ 922.08	STORM DRAINAGE FLOW
XXX		SPOT ELEVATION
FFE	FFE	FINISHED FLOOR ELEVATION
F/G	F/G	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/CONC	T/CONC	TOP OF CONCRETE
T/WALK	T/WALK	TOP OF WALK
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
GV	GV	GATEVALVE STRUCTURE
HYD	HYD	HYDRANT
UP	UP	UTILITY POLE
INSTALL	INSTALL	PROVIDE AND INSTALL
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
MANHOLE	MANHOLE	MANHOLE
INLET / CATCHBASIN	INLET / CATCHBASIN	INLET / CATCHBASIN
FLARED END-SECTION	FLARED END-SECTION	FLARED END-SECTION
GATE VALVE	GATE VALVE	GATE VALVE
HYDRANT	HYDRANT	HYDRANT
UTILITY POLE	UTILITY POLE	UTILITY POLE
FENCE	FENCE	FENCE
SIGN	SIGN	SIGN
SILT FENCE	SILT FENCE	SILT FENCE
DRAINAGE LIMITS	DRAINAGE LIMITS	DRAINAGE LIMITS
GRADING LIMITS	GRADING LIMITS	GRADING LIMITS
CONCRETE (THICKNESS AS NOTED)		CONCRETE (THICKNESS AS NOTED)
HEAVY-DUTY ASPHALT		HEAVY-DUTY ASPHALT
ASPHALT		ASPHALT
CURB AND GUTTER		CURB AND GUTTER
MODIFIED CURB & CUTTER		MODIFIED CURB & CUTTER
SPECIAL CURB & GUTTER - AS NOTED		SPECIAL CURB & GUTTER - AS NOTED
TREE PROTECTION FENCING / TREE TO BE PROTECTED		TREE PROTECTION FENCING / TREE TO BE PROTECTED



**BEBOSS**  
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PROJECT: **MERCER BEACH IMPROVEMENTS, PHASE 2**  
 PREPARED FOR: **CITY OF WALLED LAKE**  
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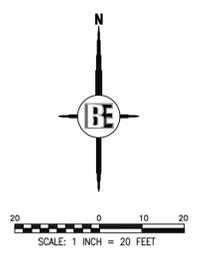
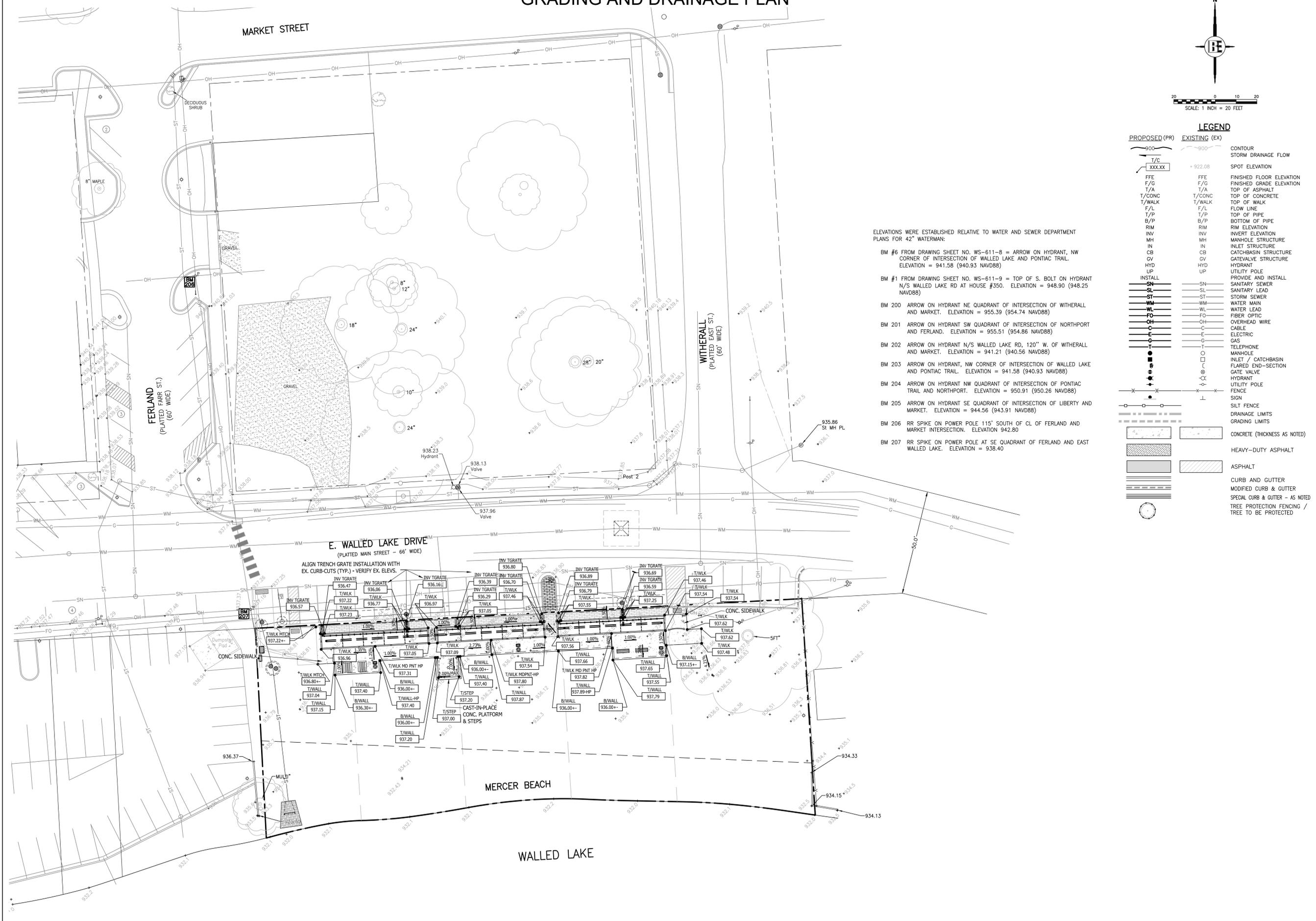
TITLE: **SITE PLAN**

NO	BY	REVISION PER	DATE
3	PC	FOR BID	5-10-22

DESIGNED BY: PC  
 DRAWN BY: PC  
 CHECKED BY:  
 SCALE: 1" = 20'  
 JOB NO. 20-048-1  
 DATE: 1-24-22  
 SHEET NO. **C3**



# GRADING AND DRAINAGE PLAN



### LEGEND

PROPOSED (PR)	EXISTING (EX)	DESCRIPTION
900	900	CONTOUR
T/C	T/C	STORM DRAINAGE FLOW
XXX.XX	XXX.XX	SPOT ELEVATION
FFE	FFE	FINISHED FLOOR ELEVATION
F/G	F/G	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/CONC	T/CONC	TOP OF CONCRETE
T/WALK	T/WALK	TOP OF WALK
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
GV	GV	GATEVALVE STRUCTURE
HYD	HYD	HYDRANT
UP	UP	UTILITY POLE
INSTALL	INSTALL	PROVIDE AND INSTALL
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
MH	MH	MANHOLE
INLET / CB	INLET / CB	INLET / CATCHBASIN
FLARED END-SECTION	FLARED END-SECTION	FLARED END-SECTION
GATE VALVE	GATE VALVE	GATE VALVE
HYDRANT	HYDRANT	HYDRANT
UTILITY POLE	UTILITY POLE	UTILITY POLE
FENCE	FENCE	FENCE
SILT FENCE	SILT FENCE	SILT FENCE
DRAINAGE LIMITS	DRAINAGE LIMITS	DRAINAGE LIMITS
GRADING LIMITS	GRADING LIMITS	GRADING LIMITS
CONCRETE (THICKNESS AS NOTED)	CONCRETE (THICKNESS AS NOTED)	CONCRETE (THICKNESS AS NOTED)
HEAVY-DUTY ASPHALT	HEAVY-DUTY ASPHALT	HEAVY-DUTY ASPHALT
ASPHALT	ASPHALT	ASPHALT
CURB AND GUTTER	CURB AND GUTTER	CURB AND GUTTER
MODIFIED CURB & GUTTER	MODIFIED CURB & GUTTER	MODIFIED CURB & GUTTER
SPECIAL CURB & GUTTER - AS NOTED	SPECIAL CURB & GUTTER - AS NOTED	SPECIAL CURB & GUTTER - AS NOTED
TREE PROTECTION FENCING / TREE TO BE PROTECTED	TREE PROTECTION FENCING / TREE TO BE PROTECTED	TREE PROTECTION FENCING / TREE TO BE PROTECTED

ELEVATIONS WERE ESTABLISHED RELATIVE TO WATER AND SEWER DEPARTMENT PLANS FOR 42" WATERMAN:

BM #6 FROM DRAWING SHEET NO. WS-611-8 = ARROW ON HYDRANT, NW CORNER OF INTERSECTION OF WALLED LAKE AND PONTIAC TRAIL. ELEVATION = 941.58 (940.93 NAVD88)

BM #1 FROM DRAWING SHEET NO. WS-611-9 = TOP OF S. BOLT ON HYDRANT N/S WALLED LAKE RD AT HOUSE #350. ELEVATION = 948.90 (948.25 NAVD88)

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BM 201 ARROW ON HYDRANT SW QUADRANT OF INTERSECTION OF NORTHPORT AND FERLAND. ELEVATION = 955.51 (954.86 NAVD88)

BM 202 ARROW ON HYDRANT N/S WALLED LAKE RD, 120" W. OF WITHERALL AND MARKET. ELEVATION = 941.21 (940.56 NAVD88)

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BM 205 ARROW ON HYDRANT SE QUADRANT OF INTERSECTION OF LIBERTY AND MARKET. ELEVATION = 944.56 (943.91 NAVD88)

BM 206 RR SPIKE ON POWER POLE 115' SOUTH OF CL OF FERLAND AND MARKET INTERSECTION. ELEVATION 942.80

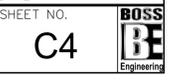
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 PREPARED FOR: CITY OF WALLED LAKE  
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NO	BY	DATE	REVISION PER
3	PC	5-10-22	FOR BID
1	PC	1-24-22	NO BY

DESIGNED BY: PC  
 DRAWN BY: PC  
 CHECKED BY:  
 SCALE: 1" = 20'  
 JOB NO. 20-048-1  
 DATE 1-24-22  
 SHEET NO. C4



**GENERAL LANDSCAPE SPECIFICATIONS:**

- ALL PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE GOVERNING MUNICIPALITY. ALL STOCK SHALL BE NURSERY GROWN, CONFORMING TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK", AND IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE. STOCK SHALL EXHIBIT NORMAL GROWTH HABIT AND BE FREE OF DISEASE, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN-SCALD, INJURIES, ABRASIONS, OR DISFIGUREMENT. ALL PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
- ALL PLANT MATERIALS SHALL BE BALLED OR BURLAPPED OR CONTAINER STOCK. NO BARE ROOT STOCK IS PERMITTED. ALL PLANT BALLS SHALL BE FIRM, INTACT, AND SECURELY WRAPPED AND BOUND.
- ALL PLANT BED MATERIALS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS, OTHER EXTRANEIOUS OBJECTS, AND POOR SOILS TO A MINIMUM DEPTH OF 12-INCHES AND BACKFILLED TO GRADE WITH SPECIFIED PLANTING MIX (SEE BELOW).
- PLANTING MIXTURE SHALL CONSIST OF 5 PARTS TOPSOIL FROM ON-SITE (AS APPROVED), 4 PARTS COARSE SAND, 1 PART SPHAGNUM PEAT MOSS (OR APPROVED COMPOST), AND 5 LBS OF SUPERPHOSPHATE FERTILIZER PER CU. YD. OF MIX. INGREDIENTS SHALL BE THOROUGHLY BLENDED FOR UNIFORM CONSISTENCY.
- ALL PLANT BEDS AND INDIVIDUAL PLANTS, NOT OTHERWISE NOTED SHALL BE MULCHED WITH A 4-INCH LAYER OF SHREDDED BARK MULCH. EDGE OF MULCH BEDS AS SHOWN. DECIDUOUS TREES IN LAWN AREAS SHALL RECEIVE A 5-FT DIAMETER CIRCLE OF MULCH AND CONIFER TREES 8-FT (PLANTED CROWN OF TREE) UNLESS OTHERWISE NOTED.
- LANDSCAPE STONE SHALL BE INSTALLED WHERE NOTED OR INDICATED (HATCHED). STONE SHALL BE 3/4"-1-1/4" WASHED RIVER GRAVEL OR AS SELECTED AND SHALL BE INSTALLED TO A MINIMUM DEPTH OF 3-INCHES.
- ALL LANDSCAPE BEDS, UNLESS OTHERWISE NOTED SHALL BE INSTALLED OVER WEED BARRIER FABRIC - WATER PERMEABLE FILTRATION FABRIC OF NON-WOVEN POLYPROPYLENE OR POLYESTER FABRIC. FABRIC SHALL BE OF SUITABLE THICKNESS FOR APPLICATION.
- ALL PLANTS AND PLANT BEDS SHALL BE THOROUGHLY WATERED UPON COMPLETION OF PLANTING AND STAKING OPERATIONS.
- THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF 1 YEAR FROM THE DATE THE WORK IS ACCEPTED, IN WRITING, BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE, WITHOUT COST TO THE OWNER, WITH A SPECIFIED PERIOD OF TIME, ALL DEAD PLANTS, AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE ARCHITECT, DURING AND AT THE END OF THE GUARANTEE PERIOD. REPLACEMENT STOCK SHALL CONFORM TO THE ORIGINAL SPECIFICATIONS.
- EDGING SHALL BE PROVIDED FOR ALL LANDSCAPE BEDS NOT ADJACENT TO CONCRETE PAVEMENT. EDGING SHALL BE BLACK ALUMINUM EDGING, 3/16-INCH X 4-INCH. INSTALL PER MANUFACTURER'S INSTRUCTIONS, ALL EDGING SHALL BE INSTALLED IN STRAIGHT LINES OR SMOOTH CURVES WITHOUT IRREGULARITIES.
- SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUE GRASSES AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4-INCH AT TIME OF PLANTING, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10-INCHES BY 18-INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36-HOURS AFTER CUTTING.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ALL SODDED AREAS THAT BROWN-OUT OR HAVE NOT FIRMLY KNITTED TO THE SOIL BASE WITHIN A PERIOD OF 1 MONTH SHALL BE REPLACED BY THE CONTRACTOR, AT NO COST TO THE OWNER.

- ALL AREAS OF THE SITE THAT BECOME DISTURBED DURING CONSTRUCTION AND ARE NOT TO BE PAVED, STONED, LANDSCAPED, OR SODDED SHALL BE SEEDED AND MULCHED.

SEE MIXTURE SHALL BE AS FOLLOWS:

KENTUCKY BLUEGRASS (CHOOSE 3 VARIETIES - ADELPHI, RUGBY, GLADE, OR PARADE)	30%
RUBY RED OR DAWSON RED FINE FESCUE	30%
ATLANTA RED FESCUE	20%
PENNFINE PERENNIAL RYE	20%

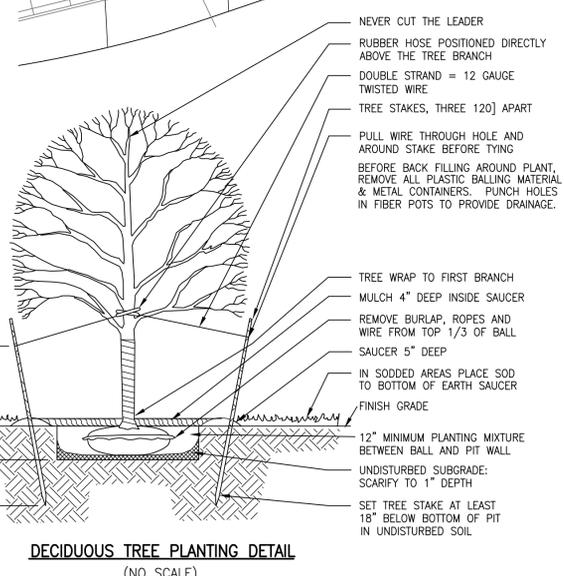
THE ABOVE SEED MIXTURE SHALL BE SOWN AT A RATE OF 250 LBS PER ACRE. PRIOR TO SEEDING, THE TOPSOIL SHALL BE FERTILIZED WITH A COMMERCIAL FERTILIZER WITH A 10-0-10 ANALYSIS:

10% NITROGEN - MIN 25% FROM A UREA FORMALDEHYDE SOURCE  
 0 % PHOSPHATE  
 10% POTASH - SOURCE POTASSIUM SULFATE OR POTASSIUM NITRATE

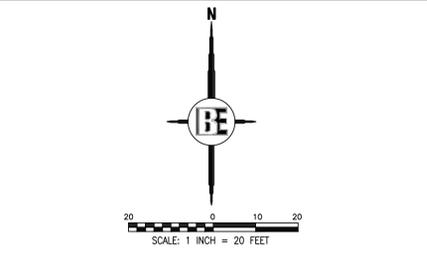
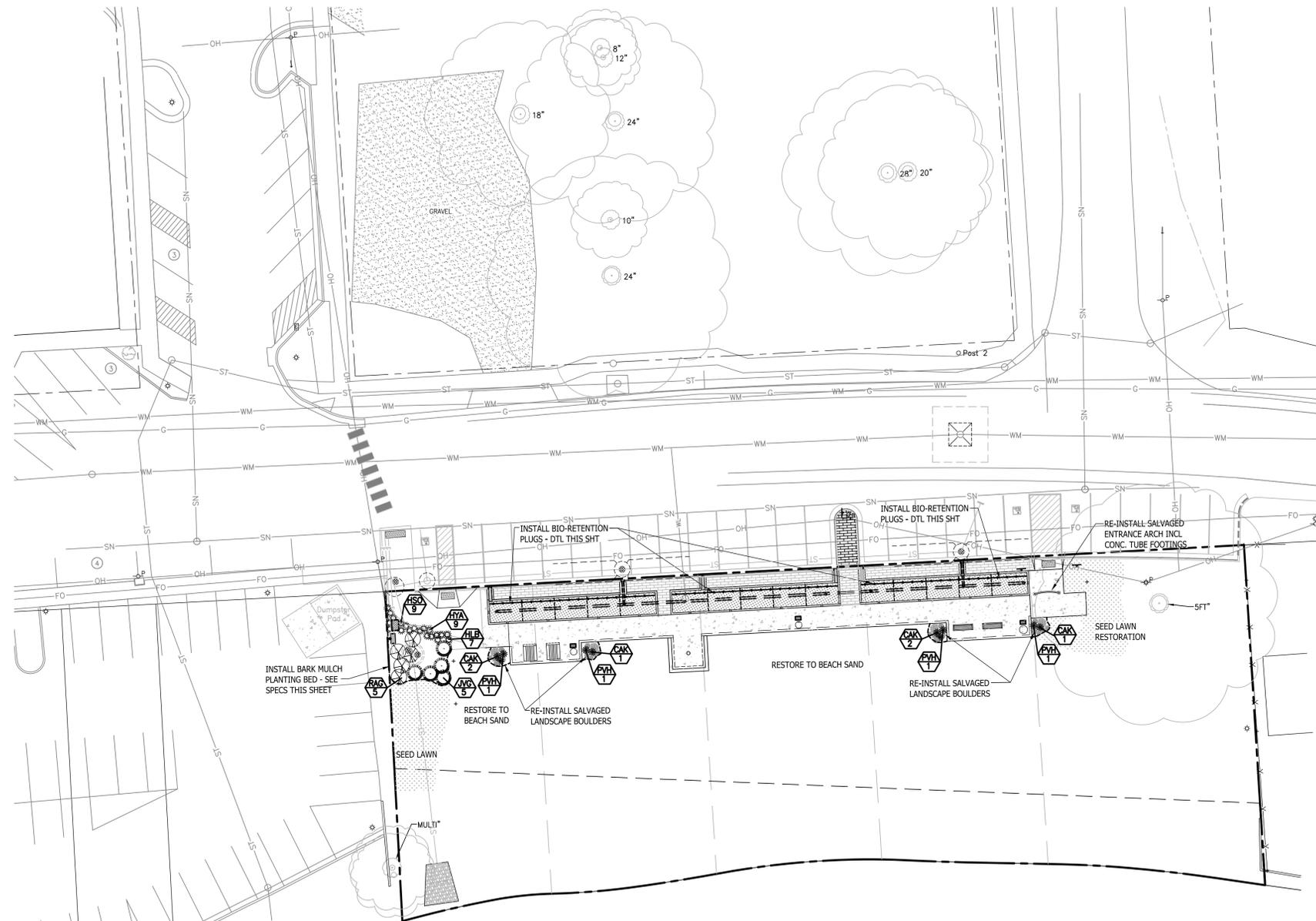
THE FIRST FERTILIZER APPLICATION SHALL BE AT A RATE OF 10 LBS PER 1000 SQ FT OF BULK FERTILIZER.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ANY PART OF THE AREA THAT FAILS TO SHOW A UNIFORM GERMINATION SHALL BE RE-SEEDED AND SUCH RE-SEEDED SHALL CONTINUE UNTIL A DENSE LAWN IS ESTABLISHED. DAMAGE TO SEEDED AREAS RESULTING FROM EROSION SHALL BE REPAIRED BY THE CONTRACTOR.

- ALL AREAS OF THE SITE SCHEDULED FOR SEEDING OR SODDING SHALL FIRST RECEIVE A 6-INCH LAYER OF CLEAN, FRIABLE TOPSOIL. THE SOIL SHALL BE DISCED AND SHALL BE GRADED IN CONFORMANCE WITH THE GRADING PLAN.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES AND TO INFORM THE LANDSCAPE ARCHITECT OF ANY CONFLICTS PRIOR TO COMMENCING LANDSCAPING.



**LANDSCAPE PLAN**



**PLANT LIST - SHRUBS & CONTAINER PERENNIALS**

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
SHRUBS					
RAG	5	Rhus aromatica	Gro-low Fragrant Sumac	24"ht./#3 Cont.	
JVG	5	Juniperus virginiana 'Grey Guardian'	Grey Guardian Juniper	36"ht./#5 Cont.	
PERENNIALS AND GRASSES - PLANTS					
CAK	6	Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass	#2 Cont.	
HLB	7	Hemerocallis 'Lavender Baby Blue'	Lavender Baby Blue Daylily	#2 Cont.	
HSD	9	Hemerocallis 'Stella D'oro'	Stella D'Oro Daylily	#2 Cont.	
HYA	9	Hemerocallis 'You Are My Sunshine'	You Are My Sunshine Daylily	#2 Cont.	
PVH	4	Panicum virgatum 'Hot Rod'	Hot Rod Switch Grass	#2 Cont.	

**PLANT LIST - BIO-RETENTION (PER BED - TOTAL OF 3)**

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
SEDGES AND RUSHES - PLUGS					
CHY	(12EA)	Carex hystericina	Porcupine Sedge	PLUG	FLAT
CLP	(6EA)	Carex lupulina	Hop Sedge	PLUG	FLAT
CLR	(9EA)	Carex lurida	Lurid Sedge	PLUG	FLAT
CST	(30EA)	Carex stricta	Tussock Sedge	PLUG	FLAT
CVU	(12EA)	Carex vulpinoidea	Fox Sedge	PLUG	FLAT
SAT	(7EA)	Scirpus atrovirens	Green Bulrush	PLUG	FLAT
PERENNIALS - PLUGS					
EPE	(15EA)	Eupatorium perfoliatum	Boneset	PLUG	FLAT
IVE	(7EA)	Iris versicolor	Harlequin Blue Flag Iris	PLUG	FLAT
LCA	(7EA)	Lobelia cardinalis	Cardinal Flower	PLUG	FLAT
LSY	(7EA)	Lobelia siphilitica	Great Blue Lobelia	PLUG	FLAT
RTR	(11EA)	Rudbeckia triloba	Brown Eyed Susan	PLUG	FLAT
VHA	(11EA)	Verbena hastata	Blue Vervain	PLUG	FLAT
ZAU	(9EA)	Zizia aurea	Golden Alexanders	PLUG	FLAT

SUBTOTAL OF 149 PLUGS PER BED \* 3 BEDS = 447 TOTAL PLANTS

**BIO-RETENTION PLANTING DETAIL - TYPICAL OF 3 BEDS**  
 SCALE: 1"=8'

BEFORE ANY EXCAVATION OR OTHER DISTURBANCE TO UTILITIES IS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL GOVERNMENT AND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES FROM THE PLANS.

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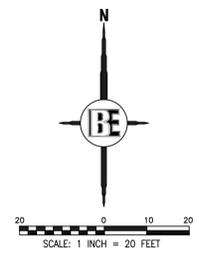
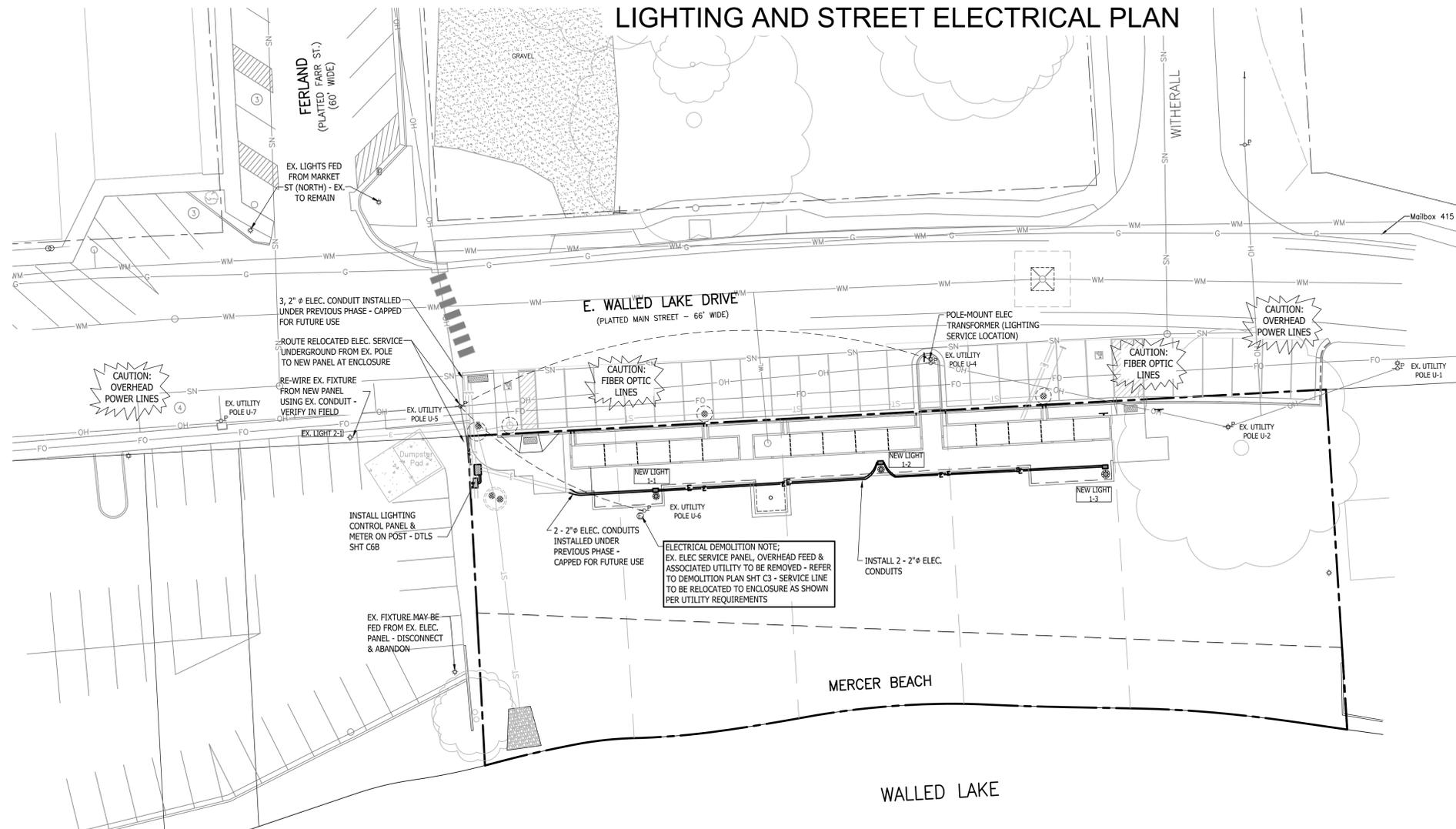
**BEBOSS Engineering**  
 Engineers Surveyors Planners Landscape Architects  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670

**MERCER BEACH IMPROVEMENTS, PHASE 2**  
 CITY OF WALLED LAKE  
 1499 E. WEST MAPLE  
 WALLED LAKE, MI 48390  
 (248) 624-4847

PROJECT: MERCER BEACH IMPROVEMENTS, PHASE 2  
 PREPARED FOR: CITY OF WALLED LAKE  
 TITLE: LANDSCAPE PLAN AND DETAILS  
 DATE: 5-10-22  
 FOR BID: 3 PC  
 NO BY: 3 PC  
 REVISION PER: 3 PC

DESIGNED BY: PC  
 DRAWN BY: PC  
 CHECKED BY:  
 SCALE: 1" = 20'  
 JOB NO. 20-048-1  
 DATE 1-24-22  
 SHEET NO. C5

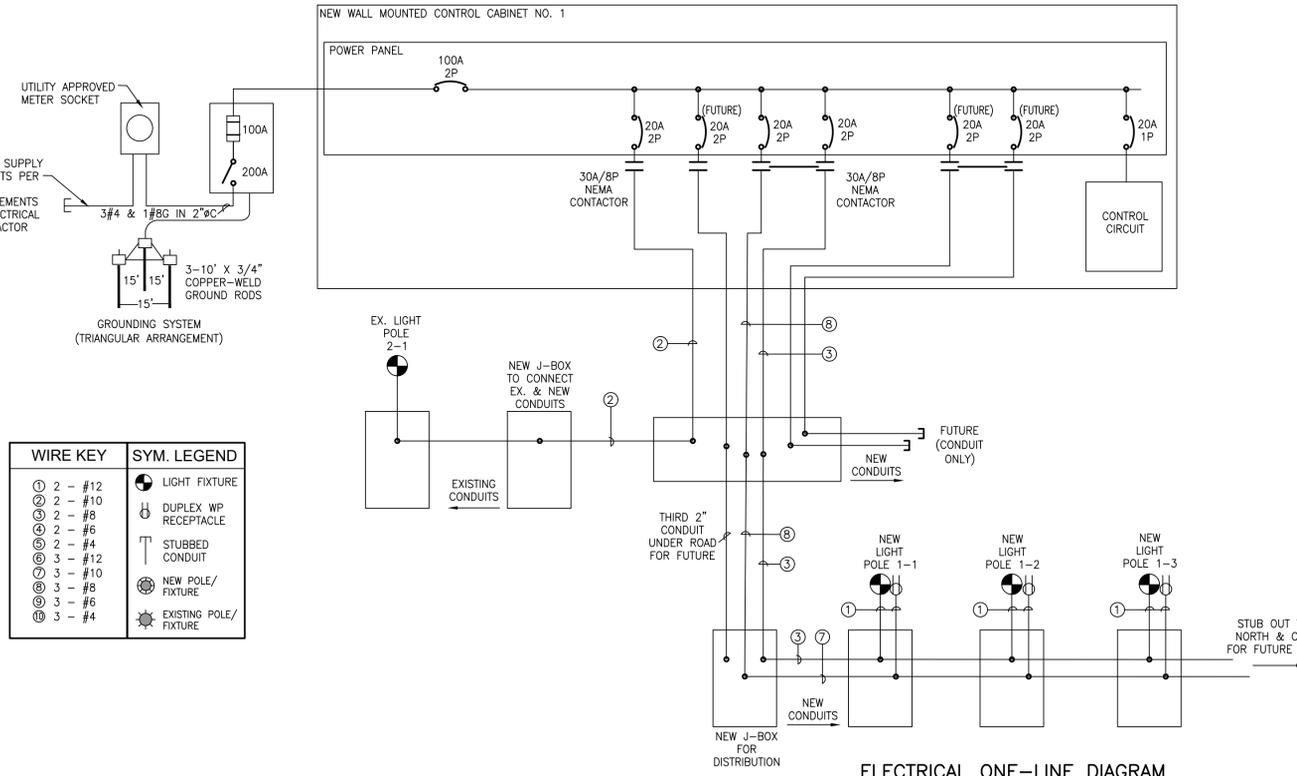
# LIGHTING AND STREET ELECTRICAL PLAN



**LEGEND**

PROPOSED (PR)	EXISTING (EX)	DESCRIPTION
900	900	CONTOUR
T/C		STORM DRAINAGE FLOW
XXX.XX	+ 922.08	SPOT ELEVATION
FFE	FFE	FINISHED FLOOR ELEVATION
F/G	F/G	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/CONC	T/CONC	TOP OF CONCRETE
T/WALK	T/WALK	TOP OF WALK
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
GV	GV	GATEVALVE STRUCTURE
HYD	HYD	HYDRANT
UP	UP	UTILITY POLE
INSTALL	INSTALL	PROVIDE AND INSTALL
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
MH	MH	MANHOLE
INLET / CATCHBASIN	INLET / CATCHBASIN	INLET / CATCHBASIN
FLARED END-SECTION	FLARED END-SECTION	FLARED END-SECTION
GATE VALVE	GATE VALVE	GATE VALVE
UTILITY POLE	UTILITY POLE	UTILITY POLE
FENCE	FENCE	FENCE
SIGN	SIGN	SIGN
SILT FENCE	SILT FENCE	SILT FENCE
DRAINAGE LIMITS	DRAINAGE LIMITS	DRAINAGE LIMITS
GRADING LIMITS	GRADING LIMITS	GRADING LIMITS
CONCRETE (THICKNESS AS NOTED)	CONCRETE (THICKNESS AS NOTED)	CONCRETE (THICKNESS AS NOTED)
COLLECTOR ST ASPHALT	COLLECTOR ST ASPHALT	COLLECTOR ST ASPHALT
STANDARD ASPHALT	STANDARD ASPHALT	STANDARD ASPHALT
CURB AND GUTTER	CURB AND GUTTER	CURB AND GUTTER
MODIFIED CURB & GUTTER	MODIFIED CURB & GUTTER	MODIFIED CURB & GUTTER
SPECIAL CURB & GUTTER - AS NOTED	SPECIAL CURB & GUTTER - AS NOTED	SPECIAL CURB & GUTTER - AS NOTED
TREE PROTECTION FENCING / TREE TO BE PROTECTED	TREE PROTECTION FENCING / TREE TO BE PROTECTED	TREE PROTECTION FENCING / TREE TO BE PROTECTED

REFER TO SHTS C4B & C12 FOR VARYING REMOVAL & REPLACEMENT AREAS AND DETAILS



WIRE KEY	SYM. LEGEND
① 2 - #12	☉ LIGHT FIXTURE
② 2 - #10	⌚ DUPLEX WP RECEPTACLE
③ 2 - #8	⌚ STUBBED CONDUIT
④ 2 - #6	⌚ NEW POLE/FIXTURE
⑤ 2 - #4	☉ EXISTING POLE/FIXTURE
⑥ 3 - #12	
⑦ 3 - #10	
⑧ 3 - #8	
⑨ 3 - #6	
⑩ 3 - #4	

- ELECTRICAL NOTES:**
- EXISTING POLE-MOUNTED TRANSFORMER LOCATED ON E. WALLED LAKE DR AT BEACH AS SHOWN (POLE U-4). THIS TRANSFORMER CURRENTLY FEEDS OVERHEAD TO A POLE MOUNTED ELECTRIC SERVICE PANEL AT THE WEST END OF THE BEACH AS SHOWN (POLE U-6 VIA POLE U-5). ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE UTILITY TO RELOCATE ELECTRIC SERVICE FROM POLE U-6 TO FEED UNDERGROUND FROM U-5 TO THE NEW SERVICE LOCATION AT THE BUILDING ENCLOSURE (POLE U-6 AND EX. SERVICE TO BE REMOVED - REFER TO SELECTIVE DEMOLITION PLAN SHEET C3)
  - DECORATIVE 14-FT HADCO LIGHT POLES AND MH LUMINAIRE ASSEMBLIES TO BE PROVIDED BY OWNER AND ASSEMBLED AND INSTALLED BY ELECTRICAL CONTRACTOR
  - CONTROL CABINET SHALL BE WALL-MOUNTED AT / NEAR LOCATION SHOWN; FIELD COORDINATE BEST LOCATION WITH CITY PUBLIC WORKS DIRECTOR / CITY ENGINEER.
  - INSTALL 2 - 2" Ø CONDUIT FROM CONTROL CABINET TO FIRST SIDEWALK BOX.
  - INSTALL 2 - 2" Ø CONDUIT BETWEEN SIDEWALK BOXES
  - INSTALL 1 - 1" Ø CONDUIT BETWEEN LIGHT POLES AND SIDEWALK BOXES.

BEFORE ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES SHOWN ON THESE DRAWINGS AND ONLY APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

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PROJECT: MERCER BEACH IMPROVEMENTS, PHASE 2  
 CITY OF WALLED LAKE  
 1499 E. WEST MAPLE  
 WALLED LAKE, MI 48390  
 (248) 624-4847

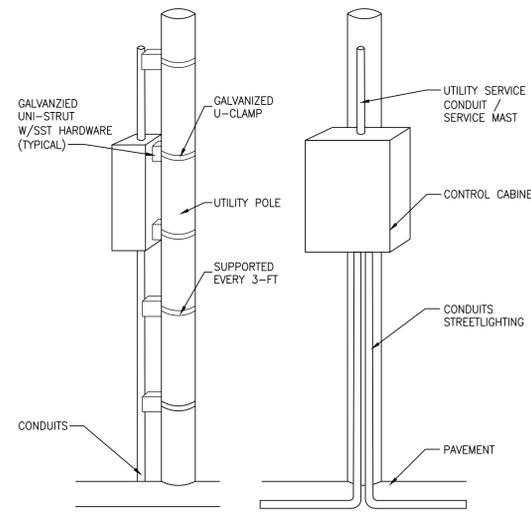
PREPARED FOR: CITY OF WALLED LAKE

TITLE: LIGHTING AND STREET ELECTRICAL PLAN

NO	BY	DATE	REVISION PER
1	PC	5-10-22	
2	PC		
3	PC		

DESIGNED BY: PC  
 DRAWN BY: PC  
 CHECKED BY:  
 SCALE 1" = 20'  
 JOB NO. 20-048-1  
 DATE 2-10-22  
 SHEET NO. C6A

# LIGHTING AND STREET ELECTRICAL DETAILS



**LIGHTING CONTROL CABINET**  
(NOT TO SCALE)

**LIGHTING CONTROL CABINET COMPONENTS:**

**CABINET:** WALL-MOUNT NEMA TYPE 4X ENCLOSURE WITH BACK PANEL AND KEY LATCH. POWDER-COAT PAINT FINISH AS SELECTED AND AS MANUFACTURED BY NEMA ENCLOSURES OR EQUIVALENT. INCLUDE PROVISIONS FOR PADLOCKING.

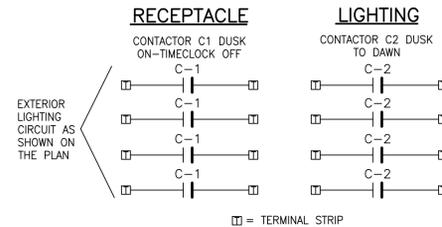
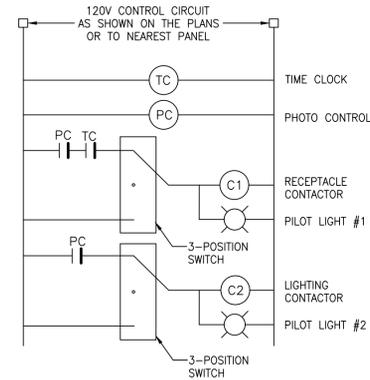
**TIME CLOCK:** INTERMATIC ET-70215/120 ELECTRONIC 7-DAY INTERMATIC-K4221. MOUNT WHERE SHOWN ON PLAN, OR IF NOT INDICATED, ON THE NORTH SIDE OF BUILDING OR STRUCTURE OUT OF DIRECT SUN EXPOSURE.

**PHOTOCONTROL:** 'SQUARE D' 8903-L060-V02 MINIMUM CONFIGURATION. PROVIDE ADDITIONAL CONTACTOR POLES IF REQUIRED.

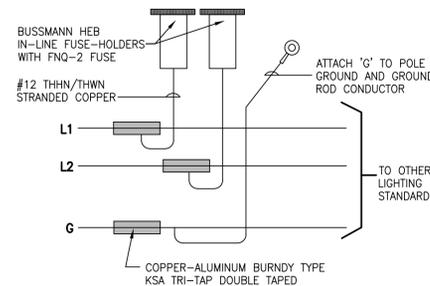
**CONTACTORS:** 'SQUARE D' 8903-L060-V02 MINIMUM CONFIGURATION. PROVIDE ADDITIONAL CONTACTOR POLES IF REQUIRED.

**PILOT LIGHTS:** 'DUSK TO DAWN' AND 'DUSK ON-TIME CLOCK OFF' CENTER-OFF TYPE, HEAVY-DUTY TOGGLE SWITCH. PROVIDE ENGRAVED LABEL FOR EACH SWITCH.

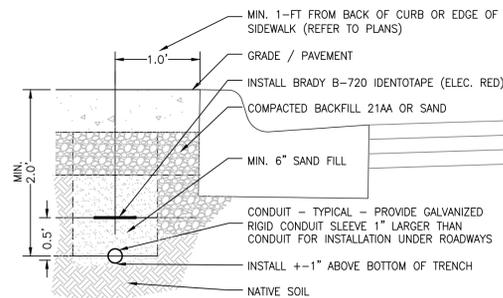
**3-POS. SWITCHES:** 'AUTO-OFF-ON'.



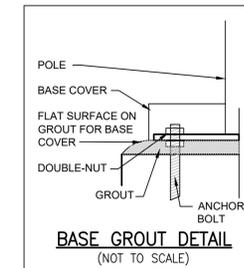
**CONTROL CABINET CONNECTION DIAGRAMS**  
(NOT TO SCALE)



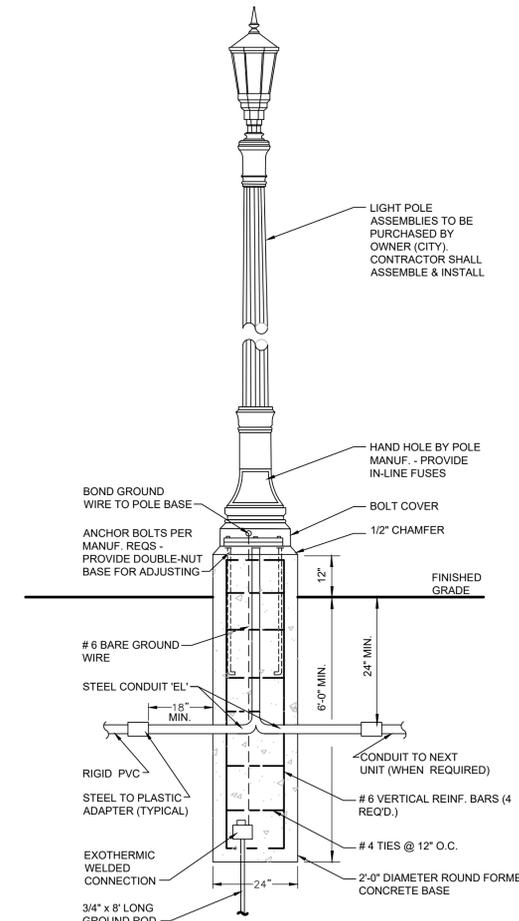
**LIGHT POLE WIRING CONNECTION DIAGRAM**  
(NOT TO SCALE)



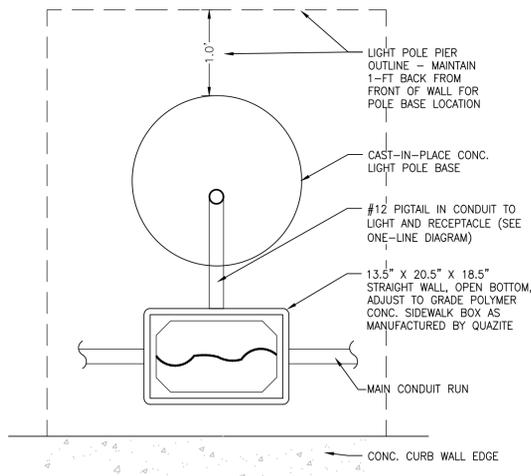
**ELEC. CONDUIT INSTALLATION AT BACK OF CURB**  
SCALE: 1"=1'-0"



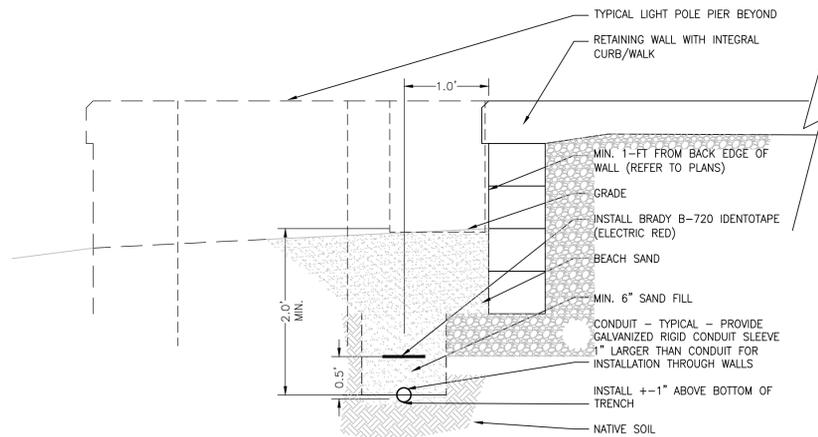
**BASE GROUT DETAIL**  
(NOT TO SCALE)



**LIGHT POLE BASE DETAIL**  
(NOT TO SCALE)



**LIGHT POLE INSTALLATION PLAN DETAIL**  
SCALE: 1"=1'-0"



**ELEC. CONDUIT INSTALLATION AT WALL**  
SCALE: 1"=1'-0"

BEFORE YOU BEGIN ANY WORK, VERIFY THE EXISTING UTILITIES ARE SHOWN ON THESE DRAWINGS. NO GUARANTEE IS MADE FOR THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE THE LOCATION OF SUCH UTILITIES.

**BEFORE YOU DIG**  
CALL MISS DIG  
1-800-368-7171

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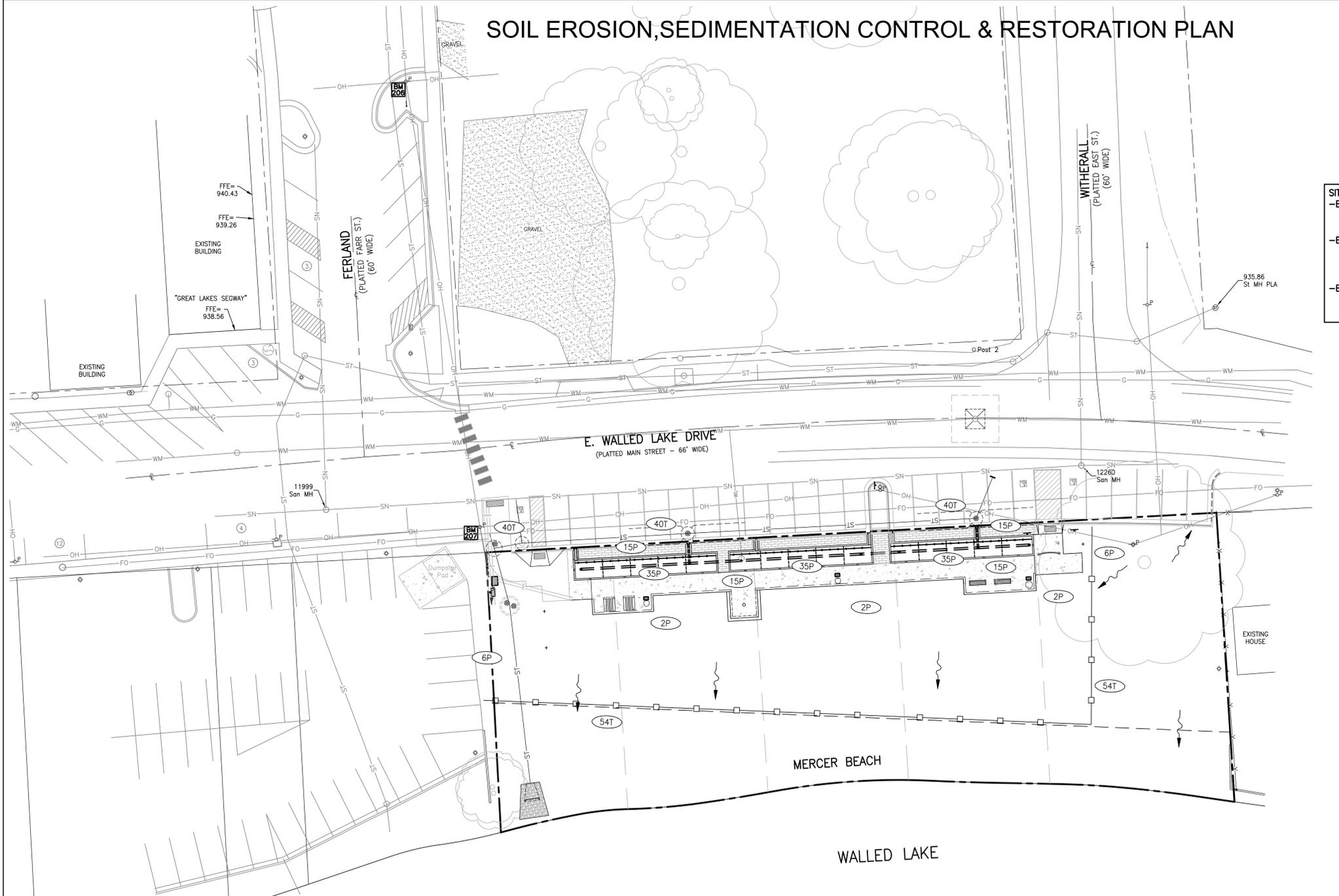
TITLE: **LIGHTING AND STREET ELECTRICAL DETAILS**

NO.	BY	DATE
1	PC	5-10-22
2	PC	
3	PC	

DESIGNED BY: PC  
DRAWN BY: PC  
CHECKED BY:

SCALE: 1" = 20'  
JOB NO. 20-048-1-MB  
DATE: 2-10-22  
SHEET NO. **C6B**

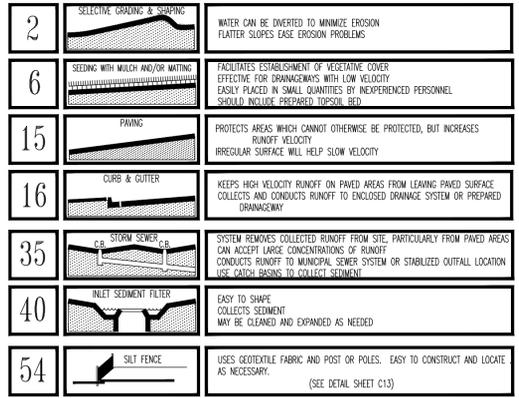
# SOIL EROSION, SEDIMENTATION CONTROL & RESTORATION PLAN



LEGEND	
PROPOSED (PR)	EXISTING (EX)
900	900
T/C	XXX.XX
FFE	FFE
F/G	F/G
T/A	T/A
T/CONC	T/CONC
T/WALK	T/WALK
F/L	F/L
T/P	T/P
B/P	B/P
RIM	RIM
INV	INV
MH	MH
IN	IN
CB	CB
GV	GV
HYD	HYD
UP	UP
INSTALL	INSTALL
SN	SN
SL	SL
ST	ST
WM	WM
WL	WL
FO	FO
OH	OH
C	C
E	E
G	G
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**SITE BENCHMARKS (NAVD88 DATUM):**  
**-BM #201** = BOSS NAIL/TAG W/S 24" CHERRY TREE WEST SIDE OF THE NORTH TREE LINE. ELEV.=943.02  
**-BM #202** = BOSS NAIL/TAG E/S 20" HICKORY TREE 50'± WEST EDGE OF SIDEWALK & 25'± SOUTH OF NORTH EDGE OF BUILDING. ELEV.=938.24  
**-BM #203** = BOSS NAIL/TAG N/S 24" WHITE OAK 20'± EAST OF WOOD LINE & 40'± SOUTH OF EDGE OF ASPHALT DRIVE. ELEV.=940.49

**SOIL EROSION CONTROL MEASURES**  
 P=PERMANENT T=TEMPORARY  
 TOTAL DISTURBED AREA = 0.17 AC (7,500 SQFT)



**RESTORATION SPECIFICATIONS**

- ALL SEEDING AREAS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS, OTHER EXTRANEOUS OBJECTS, & POOR SOILS TO A MINIMUM DEPTH OF 12-INCHES AND BACKFILLED TO GRADE.
- SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUE GRASSES AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4-INCH AT TIME OF PLANTING, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10-INCHES BY 18-INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36-HOURS AFTER CUTTING.  
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ANY PART OF A SEEDED AREA THAT FAILS TO SHOW A UNIFORM GERMINATION SHALL BE RE-SEEDING AND SUCH RE-SEEDING SHALL CONTINUE UNTIL A DENSE LAWN IS ESTABLISHED. DAMAGE TO SEEDING AREAS RESULTING FROM EROSION SHALL BE REPAIRED BY THE CONTRACTOR. ALL SOODED AREAS THAT BROWN-OUT OR HAVE NOT FIRMLY KNITTED TO THE SOIL BASE WITHIN A PERIOD OF 1 MONTH SHALL BE REPLACED BY THE CONTRACTOR, AT NO COST TO THE OWNER.
- ALL AREAS OF THE SITE THAT BECAME DISTURBED DURING CONSTRUCTION AND ARE NOT TO BE PAVED, STONED, LANDSCAPED, OR SOODED SHALL BE SEEDED AND MULCHED - EXCEPT WHERE SPECIFICALLY NOTED.  
 SEED MIXTURE SHALL BE AS FOLLOWS:  
 KENTUCKY BLUEGRASS (CHOOSE 3 VARIETIES - ADELPHI, RUGBY, GLADE, OR PARADE) 30%  
 RUBY RED OR DAWSON RED FINE FESCUE 30%  
 ATLANTA RED FESCUE 20%  
 PENNINE PERENNIAL RYE 20%  
 THE ABOVE SEED MIXTURE SHALL BE SOWN AT A RATE OF 250 LBS PER ACRE. PRIOR TO SEEDING, THE TOPSOIL SHALL BE FERTILIZED WITH A COMMERCIAL FERTILIZER WITH A 10-0-10 ANALYSIS:  
 10% NITROGEN - MIN 25% FROM A UREA FORMALDEHYDE SOURCE  
 0% PHOSPHATE  
 10% POTASH - SOURCE POTASSIUM SULFATE OR POTASSIUM NITRATE  
 THE FIRST FERTILIZER APPLICATION SHALL BE AT A RATE OF 10 LBS PER 1000 SQ FT OF BULK FERTILIZER.
- ALL AREAS OF THE SITE SCHEDULED FOR SEEDING OR SOODED SHALL FIRST RECEIVE A 6-INCH LAYER OF CLEAN, FRIABLE TOPSOIL. THE SOIL SHALL BE DISCED AND SHALL BE GRADED IN CONFORMANCE WITH THE GRADING PLAN.
- INSTALL SOIL EROSION CONTROL FABRIC ON ALL SLOPES STEEPER THAN 6:1 UNLESS OTHERWISE NOTED.

**SOIL EROSION CONTROL**

CUTTING, FILLING AND GRADING SHALL BE MINIMIZED AND THE NATURAL TOPOGRAPHY OF THE SITE SHALL BE PRESERVED TO THE MAXIMUM POSSIBLE EXTENT, EXCEPT WHERE SPECIFIC FINDINGS DEMONSTRATE THAT ALTERATIONS WILL STILL MEET THE PURPOSES AND REQUIREMENTS OF THIS ORDINANCE.

DEVELOPMENT SHALL BE STAGED TO KEEP THE EXPOSED AREAS OF SOIL AS SMALL AS PRACTICABLE.

SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED BETWEEN THE DISTURBED AREA AND ANY WATERCOURSES, INCLUDING RIVERS, STREAMS, CREEKS, LAKES, PONDS AND OTHER WATERCOURSES; WETLANDS; OR ROADWAYS ON OR NEAR THE SITE.

TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF WATER AROUND, THROUGH, OR AWAY FROM THE SITE SHALL BE DESIGNED TO LIMIT THE WATER FLOW TO A NON-EROSIVE VELOCITY.

SEDIMENT RESULTING FROM ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE THAT WATER LEAVES THE SITE.

TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE REMOVED AFTER PERMANENT SOIL EROSION CONTROL MEASURES HAVE BEEN IMPLEMENTED. ALL SITES SHALL BE STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES.

IF LAKES, PONDS, CREEKS, STREAMS, OR WETLANDS ARE LOCATED ON OR NEAR THE SITE, EROSION CONTROL MEASURES WHICH DIVERT RUNOFF AND TRAP SEDIMENT MUST BE PROVIDED AT STRATEGIC LOCATIONS. STRAW BALE BERMS MAY BE USED AS TEMPORARY STORMWATER DIVERSION STRUCTURES, BUT WILL NOT BE CONSIDERED SUFFICIENT FOR TRAPPING SEDIMENT. THE USE OF SEDIMENT BASINS, FILTER FABRIC, VEGETATED BUFFER STRIPS, AND ROCK FILTERS IN LIEU OF STRAW BALE BERMS SHALL BE STRONGLY ENCOURAGED. OTHER MEASURES MAY BE REQUIRED IF REASONABLY DETERMINED TO BE NECESSARY TO PROTECT A WATERCOURSE OR WETLAND.

WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH CHANGE HAS BEEN COMPLETED OR WHEN SIGNIFICANT EARTH CHANGE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED.

PERMANENT EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 15 (FIFTEEN) CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH CHANGE HAS BEEN COMPLETED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.

TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL RECEIVE WEEKLY (AND AFTER EVERY STORM EVENT) MAINTENANCE TO ASSURE PROPER FUNCTIONING PER CITY OF WALLED LAKE AND OKLAND COUNTY REQUIREMENTS.

THE PERMANENT SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE OWNER

**CONTROLS & MEASURES POST CONSTRUCTION SEQUENCE**

ACTIVITY	WEEKLY	MONTHLY	AS REQUIRED
MAINTAIN LANDSCAPING, REPLACE MULCH	X	X	X
CLEAN INLETS		X	X
COLLECT LITTER	X		X
SWEEP PARKING LOT		X	X

**CONTROLS & MEASURES NARRATIVE**

ACTIVITY	DESCRIPTION
MAINTAIN LANDSCAPING, REPLACE MULCH	COLLECT GRASS, TREE, AND SHRUB CLIPPINGS. DISPOSE IN APPROVED CONTAINER. REPLACE DEAD SOD, TREES AND SHRUBS.
CLEAN INLETS	REMOVE LITTER, SEDIMENT, AND DEBRIS. DISPOSE OF IN APPROVED LANDFILL.
COLLECT LITTER	DISPOSE OF WITH INLET DEBRIS.
SWEEP PARKING LOT	REMOVE MUD, DIRT, GREASE AND OIL WITH PERIODIC SWEEPING
DUST CONTROL	SPRINKLE WATER AS NEEDED

**CONSTRUCTION SEQUENCE**

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT EROSION IS MINIMIZED AND THAT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES IS MAINTAINED THROUGHOUT EXECUTION OF THIS PROJECT.

APR '22 1. INSTALL SILT FENCE AND STORM DRAINAGE PROTECTION.  
 APR '22 2. SITE DEMOLITION / PAVEMENT REMOVALS  
 MAY '22 3. INSTALL STORM PIPE  
 JUN '22 4. INSTALL WALLS  
 JUN '22 5. INSTALL FLATWORK  
 JUN '22 6. LANDSCAPE PLANTINGS  
 JUN '22 7. FINE GRADE, SPREAD TOPSOIL AND SEED.  
 JUN '22 8. REMOVE ALL EROSION CONTROL STRUCTURES.  
 JUN '22 9. REMOVE ACCUMULATED SILT FROM ALL EXISTING DRAINAGE.

**SOIL EROSION CONTROL NOTES:**

- A SOIL EROSION CONTROL PERMIT SHALL BE OBTAINED FROM THE CITY OF WALLED LAKE PRIOR TO CONSTRUCTION.
- SEE CONSTRUCTION AND EROSION CONTROL DETAILS ON SHEET C13 FOR ADDITIONAL REQUIREMENTS & OKLAND COUNTY REFERENCE DETAILS
- APPROPRIATE SOIL EROSION CONTROL MEASURES SHALL BE ESTABLISHED PRIOR TO CONSTRUCTION AND CONTINUOUSLY MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION HAS BEEN RE-ESTABLISHED.
- ANY MUD OR DEBRIS TRACKED ONTO PONTIAC TRAIL OR ANY STREET ADJACENT TO THE PROJECT SHALL BE REMOVED IMMEDIATELY.

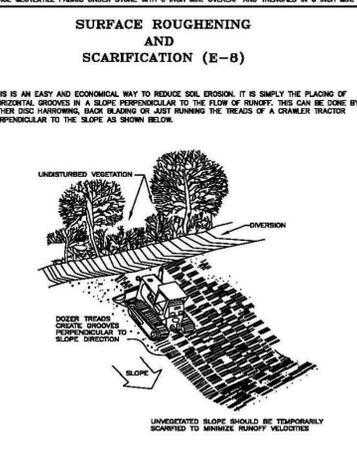
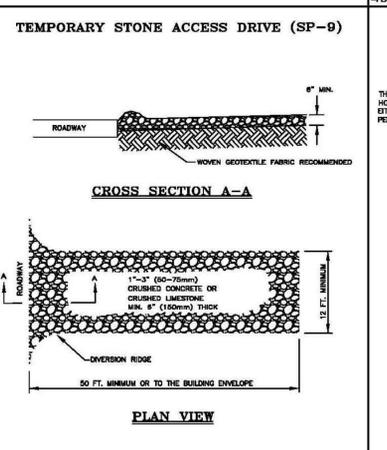
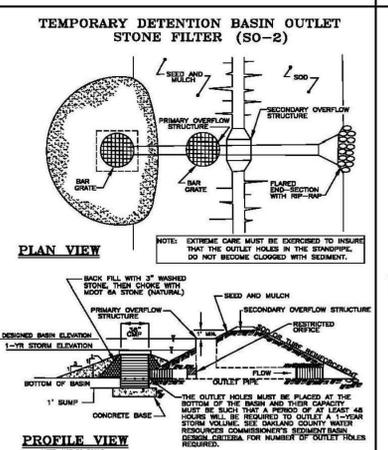
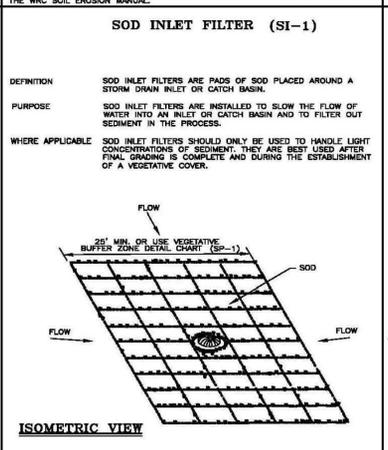
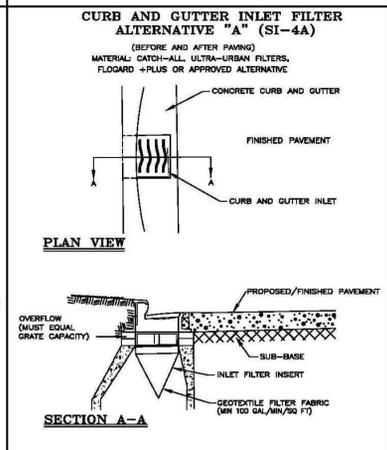
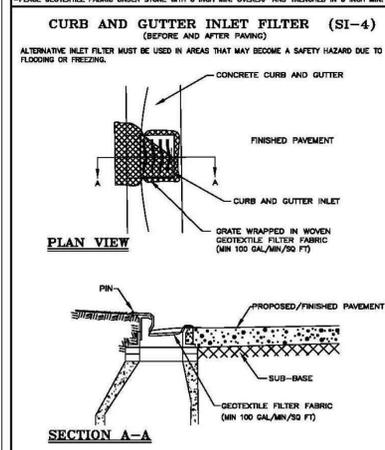
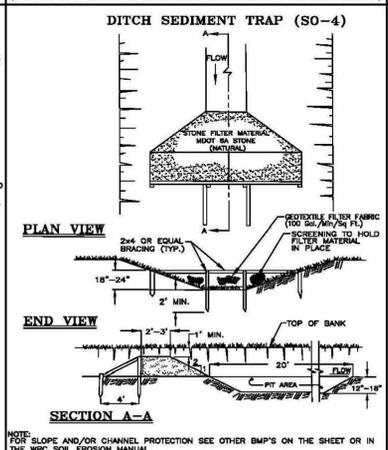
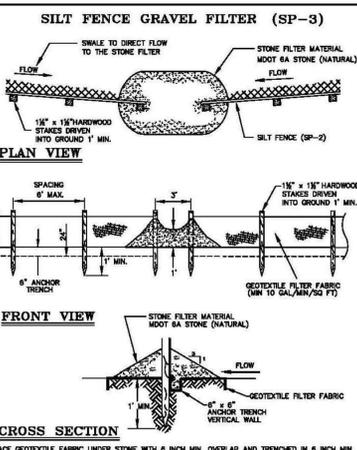
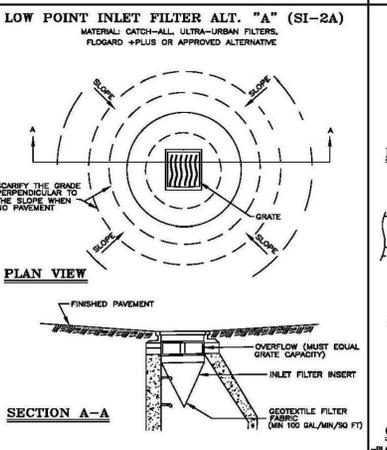
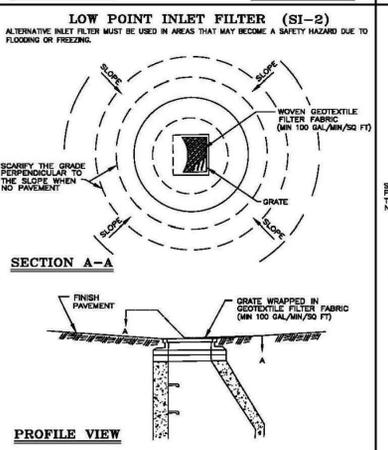
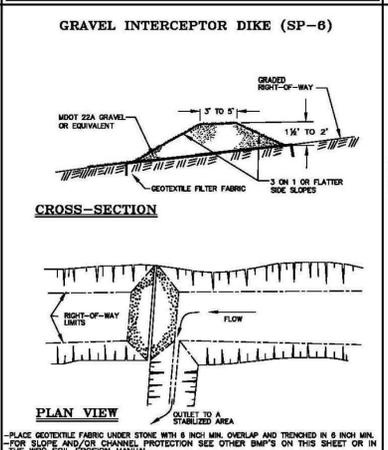
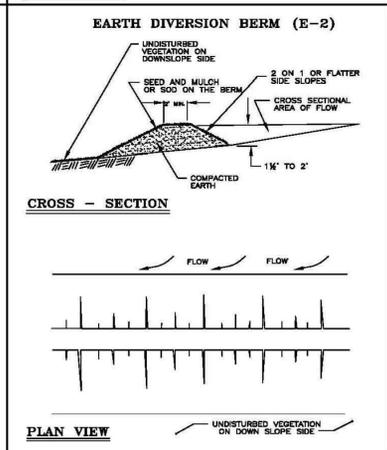
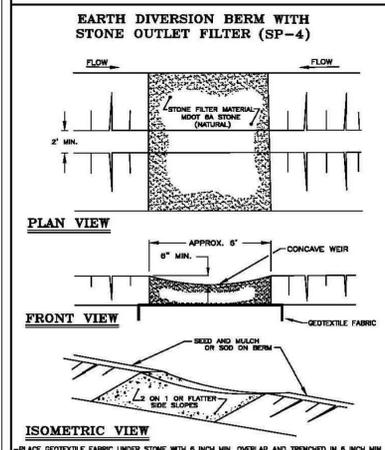
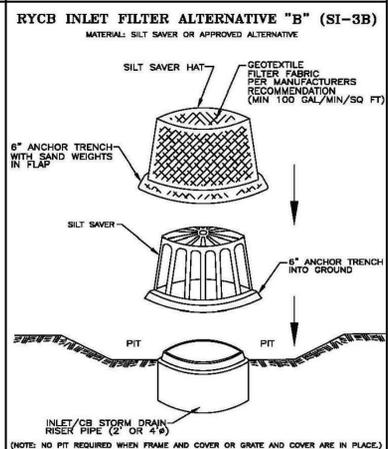
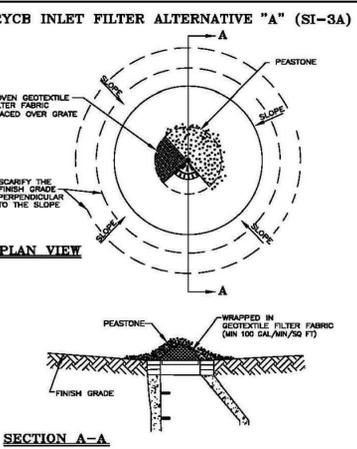
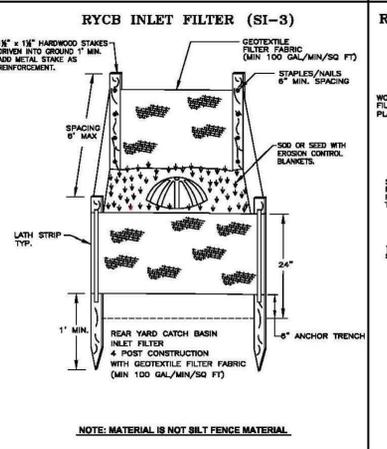
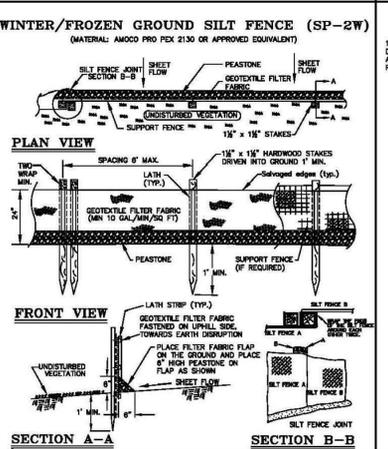
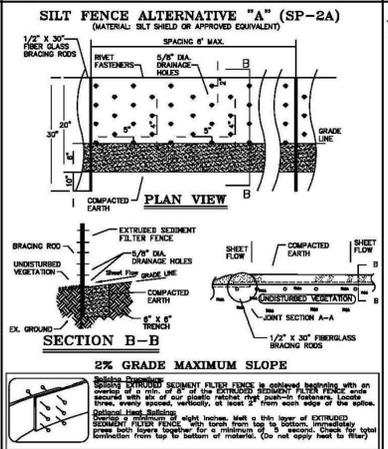
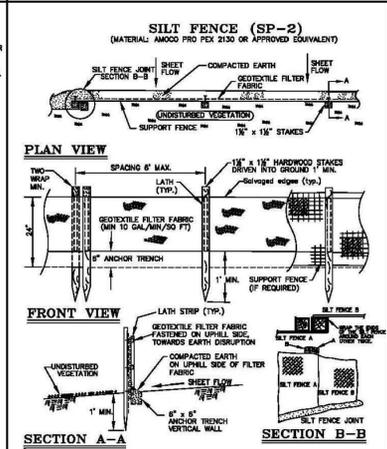
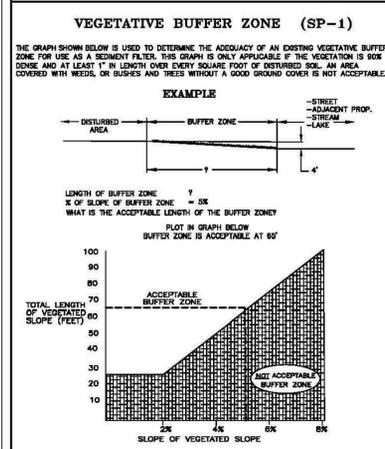
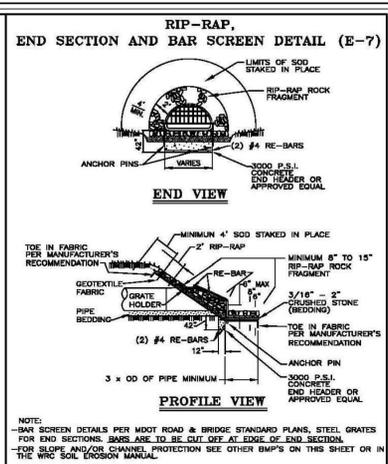
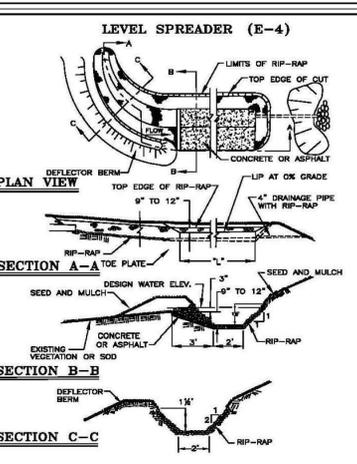
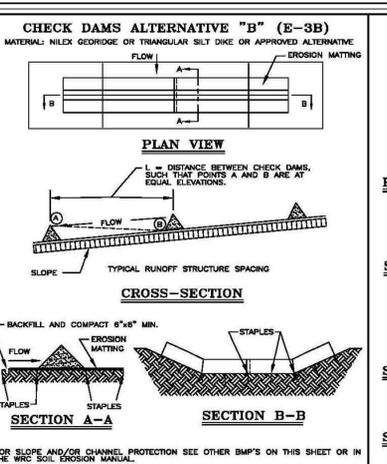
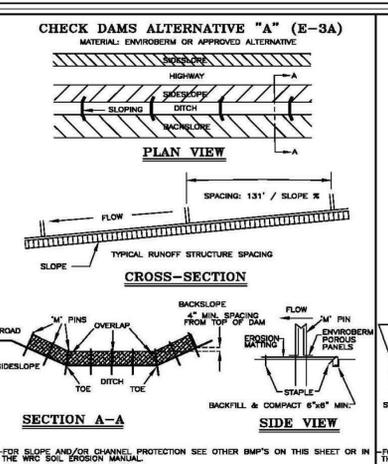
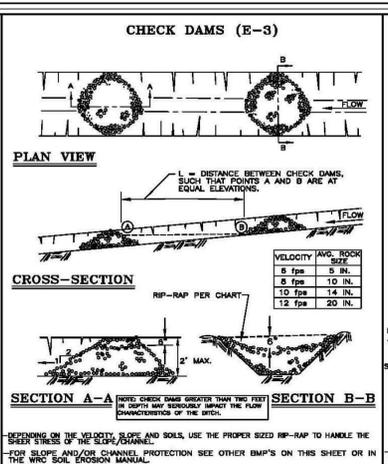
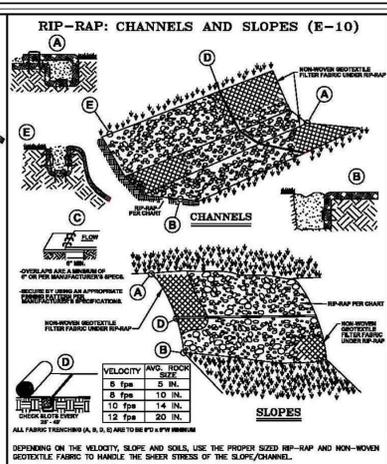
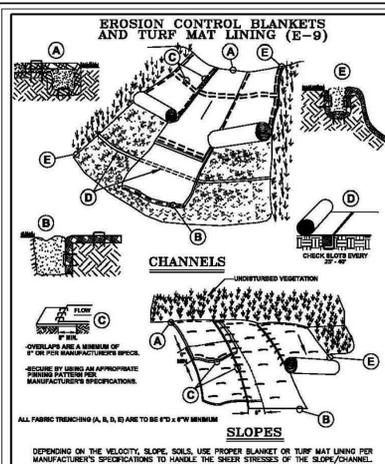
PROJECT: MERCER BEACH IMPROVEMENTS, PHASE 2  
 PREPARED FOR: CITY OF WALLED LAKE  
 1499 E. WEST MAPLE  
 WALLED LAKE, MI 48390  
 (248) 624-6847

TITLE: SOIL EROSION, SEDIMENTATION CONTROL & RESTORATION PLAN

DESIGNED BY: PC  
 DRAWN BY: PC  
 CHECKED BY:  
 SCALE: 1" = 20'  
 JOB NO. 20-048-1  
 DATE: 1-24-22  
 SHEET NO. C7

BOSS Engineering  
 Engineers Surveyors Planners Landscape Architects  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670





**NOTE:**

WHILE PERFORMING WORK INVOLVING GROUNDS MAINTENANCE AND/OR THE CONSTRUCTION/MAINTENANCE OF ANY INFRASTRUCTURE, INCLUDING ROADS, WATER MAINS, SANITARY SEWERS, STORM DRAINS AND STORM WATER BEST MANAGEMENT PRACTICES (BMPs), CONTRACTORS SHALL MINIMIZE POLLUTION FROM STORM WATER RUNOFF THAT CAN AFFECT WATER QUALITY RELATED TO WORK ACTIVITIES. POLLUTANTS THAT COULD IMPAIR WATER QUALITY MAY INCLUDE FUEL, GREASE AND OIL, NUTRIENTS, BACTERIA AND PATHOGENS, LITTER AND DEBRIS, AND SOIL EROSION AND SEDIMENTATION. APPLICABLE BMPs SHALL BE IMPLEMENTED BY THE CONTRACTOR TO THE MAXIMUM EXTENT PRACTICABLE TO PROTECT WATER QUALITY AND WILDLIFE HABITAT.

### SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

DESIGNED BY: WRC  
DRAWN BY: PC  
CHECKED BY:

SCALE: AS NOTED  
JOB NO. 20-048-1  
DATE 1-24-22  
SHEET NO. 1 of 1

**BOSS Engineering**

Engineers Surveyors Planners Landscape Architects

3121 E. GRAND RIVER AVE.  
HOWELL, MI 48843

517-546-4836 FAX 517-548-1670

PROJECT: MERCER BEACH IMPROVEMENTS, PHASE 2  
PREPARED FOR: CITY OF WALLED LAKE  
1499 E. WEST MAPLE  
WALLED LAKE, MI 48390  
(248) 624-4947

TITLE: OCWRC SOIL EROSION CONTROL DETAILS

NO.	DATE	FOR BID	NO. BY
1	5-10-22		
2			
3			

DESIGNED BY: WRC  
DRAWN BY: PC  
CHECKED BY:

SCALE: AS NOTED  
JOB NO. 20-048-1  
DATE 1-24-22  
SHEET NO. 1 of 1

**BOSS Engineering**