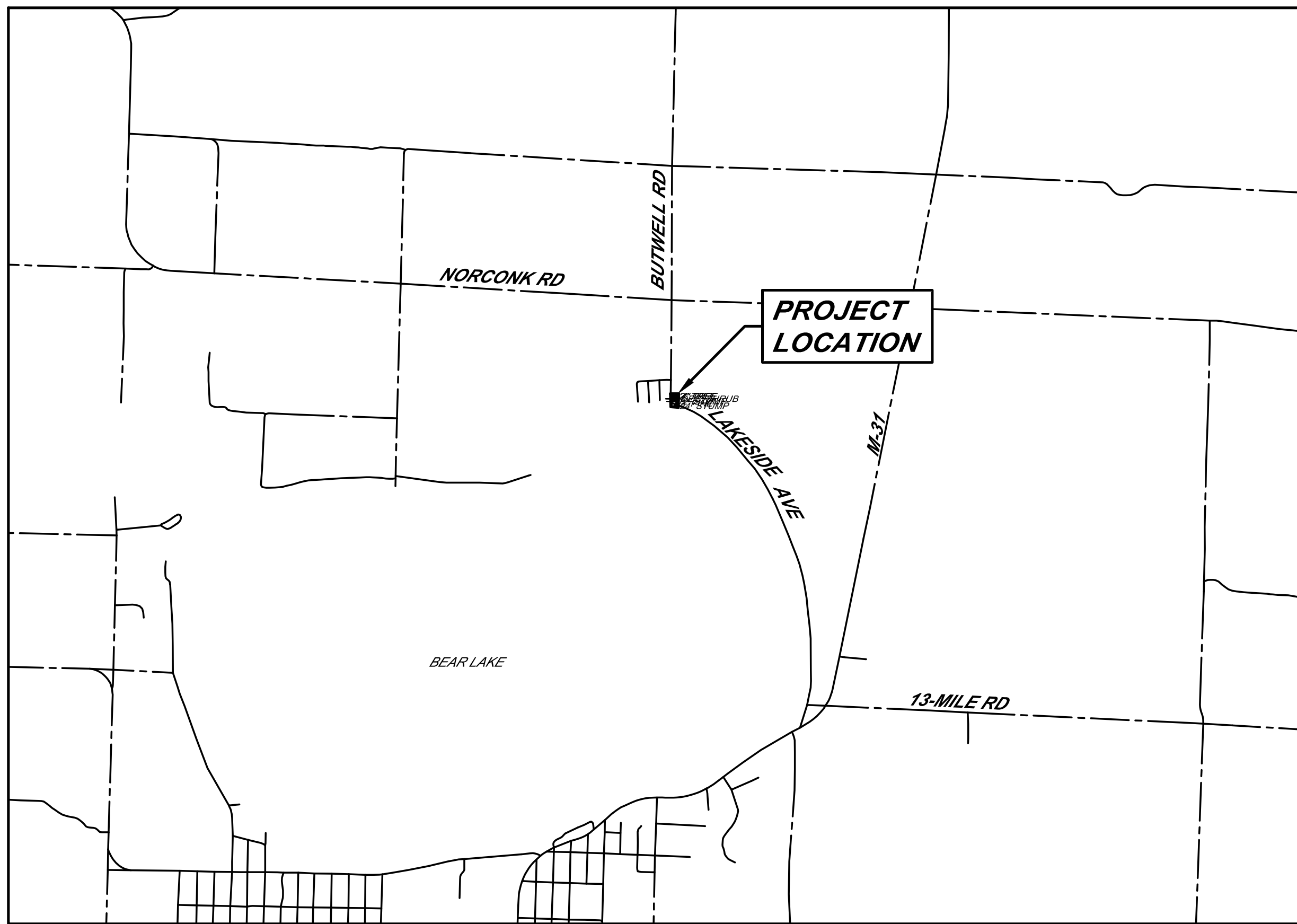


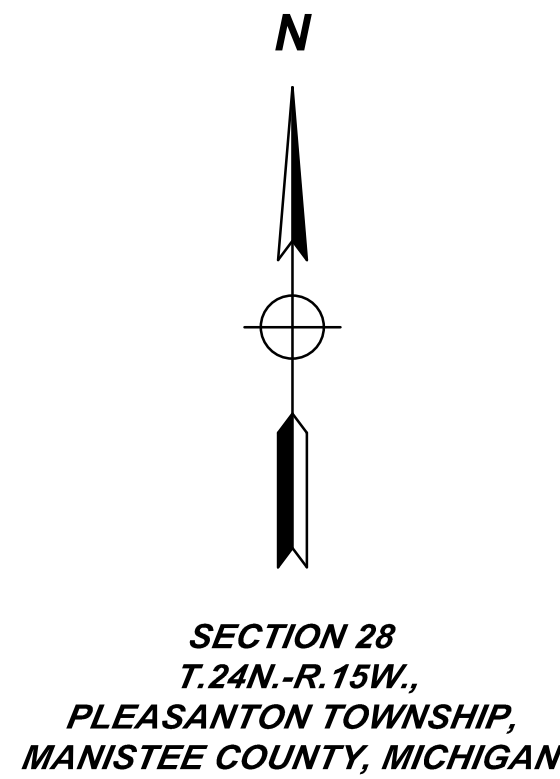
BUELL PARK  
IMPROVEMENTS  
PLEASANTON TOWNSHIP



AREA MAP  
NOT TO SCALE



LOCATION MAP  
NOT TO SCALE



SECTION 28  
T.24N.-R.15W.,  
PLEASANTON TOWNSHIP,  
MANISTEE COUNTY, MICHIGAN

PLAN INDEX

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PRELIMINARY - NOT FOR  
CONSTRUCTION

BY	MARK	REVISIONS	DATE
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PLEASANTON TOWNSHIP 8958 LUMLEY ROAD BEAR LAKE, MICHIGAN			
TITLE SHEET BUELL PARK IMPROVEMENTS PLEASANTON TOWNSHIP MANISTEE COUNTY, MICHIGAN			
MANISTEE OFFICE 302 River Street Manistee, MI 49660 Tel: 231-794-5620 www.SpicerGroup.com		PROJECT NO. 130761SG2021	
DE. BY: JDW	CH. BY:	C	
DR. BY: JDW	APP. BY:		
STDS.	SHEET 1 OF 12	1.0	
DATE SEPTEMBER 2021	FILE NO. DPL-1154-01		
SCALE N/A			



GENERAL NOTES

NO WORK SHALL BE PERFORMED BEFORE 7:00 AM OR AFTER 7:00 PM MONDAY THROUGH SATURDAY. NO WORK SHALL HAPPEN ON SUNDAYS OR HOLIDAYS. UNLESS AUTHORIZED BY THE OWNER.

CONTRACTOR SHALL NOTIFY ENGINEER 48 HOURS PRIOR TO START OF CONSTRUCTION, CONSTRUCTION STAKING AND INSPECTION.

CONTRACTOR TO PROVIDE DUST CONTROL AND SWEEP ROADS DAILY.

ALL EXCAVATED MATERIAL NOT TO BE REUSED OR DISPOSED OF ON SITE SHALL BE REMOVED FROM SITE. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSING MATERIALS ACCORDING TO LOCAL AND STATE REQUIREMENTS.

UNDERGROUND UTILITIES/MISS DIG FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 1-800-482-7171 OR 811 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED, THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE EXISTING UTILITIES ON THESE DRAWINGS HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND SHALL NOTIFY THE ENGINEER AS TO WHERE POSSIBLE CONFLICT EXISTS.

ALL CONSTRUCTION UNDER EXISTING UTILITIES, INCLUDING HOUSE SERVICES, SHALL BE COMPLETELY BACKFILLED WITH SAND, IN 12" LAYERS, AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT.

ANY UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE SUPPORTED, PER THE SPECIFICATIONS OF THE INDIVIDUAL UTILITY COMPANY CLAIMING OWNERSHIP OF THE UTILITY.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTH-DISTURBING ACTIVITIES. PLACE TURF ESTABLISHMENT ITEMS AS SOON AS POSSIBLE ON POTENTIAL ERODABLE SLOPES AS DIRECTED BY THE ENGINEER. CRITICAL DITCH GRADES SHALL BE PROTECTED WITH EITHER SOD OR SEED/MULCH OR MULCH BLANKET AS DIRECTED BY THE ENGINEER.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE AND MAINTAINED UNTIL THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MEASURES SHALL ONLY BE PAID FOR ONCE.

ALL CATCHBASINS AND SEDIMENTATION TRAP/BASIN SHALL BE CLEANED OUT UPON COMPLETION OF THE PROJECT.

ALL DEWATERING REQUIRED FOR CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR UTILITY BEING INSTALLED.

ALL RIPRAP SHALL BE MDOT PLAIN RIPRAP TYPE MATERIAL, UNLESS OTHERWISE NOTED.

CONTRACTORS SHALL FINISH GRADE, SEED, FERTILIZE, AND MULCH DAILY ON ALL DISTURBED AREAS.

CONTRACTOR SHALL CONFORM TO SOIL EROSION AND SEDIMENTATION CONTROL ACT, PART 91 OF ACT 451 OF 1994.

PROPERTY OWNERS PROPERTY OWNERS' NAMES, WHERE SHOWN, ARE FOR INFORMATION ONLY, AND THEIR ACCURACY IS NOT GUARANTEED.

ADJUSTING MONUMENT BOXES ALL GOVERNMENT CORNERS ON THIS PROJECT SHALL BE PRESERVED, WHETHER SHOWN OR NOT. IT MAY BE NECESSARY TO PLACE OR ADJUST MONUMENT BOXES, AS REQUIRED.

TRAFFIC THE CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES. SIGNAGE MUST BE IN ACCORDANCE WITH THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SHALL BE COORDINATED WITH THE ENGINEER AND GOVERNING ROAD AGENCY. PERMITS MAY BE REQUIRED.

PERMITS PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED BY THE APPROPRIATE AGENCIES.

CONSTRUCTION PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE AGENCIES.

CONCRETE AND ACCESSORIES ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 301, ACI 350 AND MDOT STANDARD SPECIFICATION FOR CONSTRUCTION (LATEST EDITION). CONCRETE PLACED IN COLD WEATHER SHALL CONFORM TO ACI-306R. CONCRETE PLACED IN HOT WEATHER SHALL CONFORM TO ACI-305R.

CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.

CONCRETE SHALL HAVE A SLUMP RANGE OF 2"-4".

CONCRETE SUBJECT TO FREEZE/THAW CYCLES SHALL HAVE A AIR CONTENT OF 5%-7% BY VOLUME PER ASTM C260.

FINE AGGREGATE AND COARSE AGGREGATE SHALL CONFORM TO ASTM C33.

CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGN TO OWNER FOR REVIEW AND APPROVAL.

NON-SHRINK GROUT SHALL CONFORM TO ASTM C1107 AND BE PREMIXED AND CONSIST OF COMPOUND CONSISTING OF NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AGENT AND PLASTICIZING AGENTS CAPABLE OF DEVELOPING MINIMUM COMPRESSIVE STRENGTHS OF 2,400 PSI IN 48 HOURS AND 7,000 PSI IN 58 DAYS.

WATERSTOP SHALL BE CONTINUOUS 1"x3/4" STRIPS CONTAINING 75% BENTONITE (WATERSTOP-RX-101 OR APPROVED EQUAL). INSTALL PER MANUFACTURERS INSTRUCTIONS.

CONCRETE REINFORCING STEEL SHALL CONFORM TO ASTM A615 AND HAVE A YIELD STRENGTH OF 60 ksi.. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO OWNER FOR REVIEW AND APPROVAL.

EPOXY FOR ANCHOR BOLTS AND REINFORCING STEEL SHALL BE HILTI-HY-200 EPOXY INJECTABLE MORTAR. INSTALL PER MANUFACTURERS INSTRUCTIONS.

THREADED ANCHOR RODS SHALL BE HILTI HAS-R ANCHOR RODS (PICK TYPE FOR PROJECT = HAS-E CARBON STEEL ZINC COATED, HAS-B HIGH STRENGTH STEEL, HAS-R 304 STAINLESS STEEL, HAS-R 316 STAINLESS STEEL)

PLYWOOD FORMWORK SHALL BE CONSTRUCTED OF 5-PLY DOUGLAS FIR, SOUND SHEETS WITH CLEAN, TRUE EDGES. STEEL FORMS SHALL BE SMOOTH, TRUE AND UNDAMAGED. ALL FORMWORK SHALL BE STIFFENED OR BRACED TO SUPPORT THE WEIGHT OF THE CONCRETE WITH MINIMUM DEFLECTION. DO NOT REMOVE FORMS OR BRACING UNTIL CONCRETE HAS GAINED SUFFICIENT STRENGTH TO CARRY ITS OWN WEIGHT AND IMPOSED LOADS.

PROVIDE 3/4" CHAMFER STRIPS ON EXTERNAL CORNERS OF VISUALLY EXPOSED CONCRETE CORNERS.

HOT POURED JOINT SEALANT SHALL CONFORM WITH ASTM D-3405.

GENERAL NOTES CONT.

SITE WORK ELECTRIC SERVICE TO BUILDING AND PARKING LOT LIGHTS SHALL BE UNDERGROUND. ALL UTILITY COMPANY SERVICE LINES AND PAD LOCATIONS ARE SHOWN FOR REFERENCE ONLY. EXACT LOCATIONS TO BE COORDINATED WITH UTILITY COMPANY.

ALL TRENCHED CONSTRUCTION UNDER EXISTING, PROPOSED AND FUTURE GRAVEL, PAVED SURFACES OR UTILITIES SHALL BE COMPLETELY BACKFILLED WITH CLASS II SAND OR OTHER APPROVED GRANULAR MATERIAL IN 12" LAYERS AND COMPACTED TO 95% OF ITS MAXIMUM UNIT WEIGHT.

UNPAVED AREAS SHALL BE SMOOTHLY GRADED AND THE SURFACE STABILIZED BY SEEDING OR OTHERWISE. THE MAXIMUM DESIRABLE SLOPE IS 3 HORIZONTAL TO 1 VERTICAL UNLESS NOTED OTHERWISE.

CONTRACTOR IS RESPONSIBLE TO MAINTAIN POSITIVE DRAINAGE PATTERN TO ENSURE NO PONDING OF WATER ON ADJACENT EXISTING AND PROPOSED PAVED SURFACES.

DIMENSIONS SHOWN ARE GIVEN TO THE BACK OF CURBS AND FACE OF BUILDINGS UNLESS NOTED OTHERWISE.

WHERE A DISCREPANCY OCCURS BETWEEN PROPOSED WORK AND FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR CLARIFICATION.

PAVEMENT / SIDEWALK CONTRACTOR SHALL SAWCUT PAVEMENT AND CURB & GUTTER FOR A CLEAN EDGE TO INSTALL PROPOSED PAVEMENT AND CURB & GUTTER.

HMA PAVEMENT AND OR CONCRETE SHALL NOT BE PLACED WHEN THE SURFACE BEING OVERLAID IS WET, OR WHEN RAIN IS FORECAST OR THREATENING.

SIDEWALK SHALL BE CONSTRUCTED WITH A CROSS SLOPE SLOPED TOWARD THE STREET OR PARKING AREAS, SLOPES NOT TO EXCEED 2% UNLESS NECESSARY TO PROVIDE POSITIVE DRAINAGE OR MEET EXISTING SIDEWALKS, CURBS OR PAVEMENT.

IN GRASS AREAS, THE SURFACE OF THE SIDEWALK SHALL BE ABOUT ¼ INCH HIGH THAN THE ADJACENT GROUND SURFACE, UNLESS NECESSARY TO PROVIDE POSITIVE DRAINAGE OR MEET EXISTING SIDEWALKS, CURBS OR PAVEMENT.

THE CONTRACTOR SHALL PROTECT FRESH HMA OR CONCRETE FROM DAMAGE BY THE WEATHER, TRAFFIC OR VANDALISM. DAMAGED HMA OR CONCRETE SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.

PAVEMENT MARKINGS AND SIGNS ALL PERMANENT PAVEMENT MARKINGS, SHAPES, AND DIMENSIONS SHALL CONFORM WITH MDOT PAVEMENT MARKING TYPICALS PAVE-900 SERIES.

STORM SEWER PIPE MATERIALS SHALL BE AS FOLLOWS: • 12" DIAMETER AND ABOVE - CONCRETE PIPE, C-76, ASTM C-443 OR PVC PIPE SDR35. • LESS THAN 12" DIAMETER - PVC PIPE SDR35, OR HIGH DENSITY POLYETHYLENE (HDPE), DUAL WALL, CORRUGATED.

ALL MANHOLE RIMS IN ROADWAYS AND DRIVES SHALL BE ADJUSTED PRIOR TO FINAL PAVING TO BE FLUSH WITH FINISHED GRADE.

GRADING AROUND MANHOLES/CATCHBASINS, FLARED END SECTIONS, AND OTHER INLETS SHALL BE SMOOTH AND SHAPED TO PROVIDE POSITIVE DRAINAGE INTO THE INLETS.

ALL MANHOLE TO PLASTIC PIPE CONNECTIONS SHALL BE MADE WITH KOR-N-SEAL BOOT.

ALL FLARED END SECTIONS TO HAVE FACTORY SUPPLIED ANIMAL GUARD.

DRAINAGE STRUCTURE IN PROPOSED CURB - OFFSETS AND ELEVATIONS SHOWN ARE TO THE BACK AND TOP OF CURB. ALIGN THE STRUCTURE WITH THE BACK OF THE CASTING AND THE TOP OF THE CASTING FLUSH WITH THE PROPOSED BACK AND TOP OF CURB. DRAINAGE STRUCTURES IN OUTLAWN AREA AND PAVED AREA - OFFSET SHOWN IS TO CENTER OF STRUCTURE. RIM ELEVATIONS FOR DOME COVERS AND FLAT COVERS ARE TO THE TOP OF THE CASTING FRAME.

SANITARY SEWER ALL SANITARY SEWER SHALL BE PVC, SDR35, TYPE PSM PLASTIC, CONFORMING TO ANSI/ASTM D3034 WITH RUBBER GASKET JOINTS, UNLESS SPECIFIED OTHERWISE.

ALL SEWER JOINTS SHALL CONFORM TO A.S.T.M. C-425.

ALL SEWER PIPE SHALL CONFORM TO A.S.T.M. C-700.

INFILTRATION SHALL NOT EXCEED 100 GAL./INCH DIA./MILE/DAY.

WATER MAIN WATER MAIN PIPE SHALL CONFORM TO THE MUNICIPALITY'S STANDARDS AND SHALL BE PVC C-900 OR DUCTILE IRON, CLASS 52, CEMENT LINED.

WATER SERVICE PIPE FROM 3/4" TO 2-1/2" SHALL BE SEAMLESS, TYPE-K COPPER.

WATER MAIN SHALL HAVE A MINIMUM COVER OF 5'-6" UNLESS OTHERWISE SPECIFIED.

THE CONTRACTOR SHALL SECURE ALL MECHANICAL JOINT FITTINGS WITH RETAINERS GLANDS IN ADDITION TO THRUST BLOCKING. RETAINER GLANDS SHALL BE MEGA-LUG AS MANUFACTURED BY EBAA IRON OR APPROVED EQUAL.

WRAP ALL FITTINGS, VALVES, HYDRANTS, AND ALL D.I. PIPE IN 8 MIL. POLYETHYLENE SHEET PER AWWA C105.

THE CONCRETE USED FOR BLOCKING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS.

ALL FITTINGS SHALL BE MECHANICAL JOINT. ALL HYDRANTS AND VALVES SHALL CONFORM TO THE MUNICIPALITY'S STANDARDS.

ALL BURIED FERROUS PARTS SHALL RECEIVE A 10 MIL (DRY MILL THICKNESS) COATING OF COAL TAR EPOXY.

ABBREVIATIONS

BC = BACK OF CURB  
BM = BENCH MARK  
C/C = CENTER TO CENTER  
CB = CATCH BASIN  
CL = CENTERLINE  
CJ = CONSTRUCTION JOINT  
CMP = CORRUGATED METAL PIPE  
CSP = CORRUGATED STEEL PIPE  
CONC = CONCRETE  
DI = DUCTILE IRON PIPE  
EF = EACH FACE  
ELEC = ELECTRIC  
EL OR ELEV = ELEVATION  
EOM = EDGE OF METAL  
EOP = EDGE OF PAVEMENT  
EQ/SP = EQUALLY SPACED  
ESMT = EASEMENT  
EW = EACH WAY  
EX OR EXIST = EXISTING  
FF = FINISH FLOOR  
FL = FLOW LINE  
FS = FINISH SURFACE  
FG = FINISH GROUND  
GALV = GALVANIZED  
G = GUTTER  
HDG = HOT DIP GALVANIZED  
HDPE = HIGH DENSITY POLYETHYLENE  
HP = HIGH POINT  
HMA = HOT MIX ASPHALT  
HYD = HYDRANT  
INV = INVERT  
LP = LOW POINT  
OC = ON CENTER  
OH = OVERHEAD  
MH = MANHOLE  
MIN = MINIMUM  
MON = MONUMENT  
NFL = NOT FIELD LOCATED  
NTS = NOT TO SCALE  
PROP = PROPOSED  
PVC = POLYVINYL CHLORIDE  
RCP = REINFORCED CONCRETE PIPE  
ROW = RIGHT OF WAY  
SAN = SANITARY  
SB = SOIL BORING  
SS = STAINLESS STEEL  
STA = STATION  
STM = STORM  
SWR = SEWER  
TB = TOP AND BOTTOM  
TC = TOP OF CURB  
TOB = TOP OF BANK  
TOS = TOE OF SLOPE  
TELE = TELEPHONE  
TRW = TOP OF RETAINING WALL  
TW = TOP OF WALK  
UNO = UNLESS NOTED OTHERWISE  
WM = WATER MAIN  
WS = WATER SURFACE ELEVATION

LINE TYPE LEGEND

--- --- - EXISTING ROAD CENTERLINE  
- - - - - EXISTING WATER MAIN  
- - - - - EXISTING SANITARY SEWER OR FORCEMAIN  
- - - - - EXISTING STORM SEWER  
- - - - - EXISTING TELEPHONE CABLE  
- - - - - EXISTING GAS MAIN  
- - - - - EXISTING ELECTRIC  
- - - - - PROPOSED UTILITY  
- - - - - EXISTING CURB & GUTTER  
- - - - - PROPOSED CURB & GUTTER  
- - - - - FENCE LINE  
- - - - - OVERHEAD UTILITY  
- - - - - RAILROAD TRACKS  
- - - - - STATION LINE  
- - - - - LIMITS OF RIGHT OF WAY  
- - - - - EASEMENT  
- - - - - SILT FENCE  
- - - - - REVERSE PAN CURB & GUTTER  
- - - - - TREE LINE  
- - - - - EXISTING CONTOURS  
- - - - - PROPOSED CONTOURS

SYMBOL LEGEND  
EXISTING SYMBOLS

○ - MANHOLE  
⊗ - CATCH BASIN  
⊗ - CURB CATCH BASIN  
☞ - FIRE HYDRANT  
⊗ - GAS VALVE  
⊗ - WATER VALVE  
□ - TELEPHONE PEDESTAL  
● - POWER POLE  
⊗ - TELEPHONE POLE  
⊗ - POWER AND TELEPHONE POLE  
☼ - LIGHT POLE  
⊗ - GUY ANCHOR AND POLE  
▣ - MAIL BOX  
= - WATER METER  
① - TELEPHONE MANHOLE  
⊗ - ELECTRIC MANHOLE  
⊗ - MONITORING WELL  
+ - HAND HOLE  
■ - TRANSFORMER  
■ - ELECTRICAL PEDESTAL  
♿ - BARRIER FREE PARKING  
⚡ - SPRINKLER  
⊗ - RAILROAD SIGNAL  
⊗ - ANTENNA  
⊗ - SATELLITE DISH  
⊗ - AIR CONDITIONING UNIT  
⊗ - SOIL BORING  
⊗ - BENCH MARK  
⊗ - FOUND SURVEY CORNER  
○ - SET 1/2" IRON ROD  
● - 1/4 SECTION CORNER  
⊗ - BREAK IN LINE  
- - - - - EXISTING SIGN-1 POST  
- - - - - EXISTING SIGN-2 POST  
⊗ - STUMP  
⊗ - WETLANDS  
⊗ - PINE  
⊗ - BUSH  
⊗ - TREE

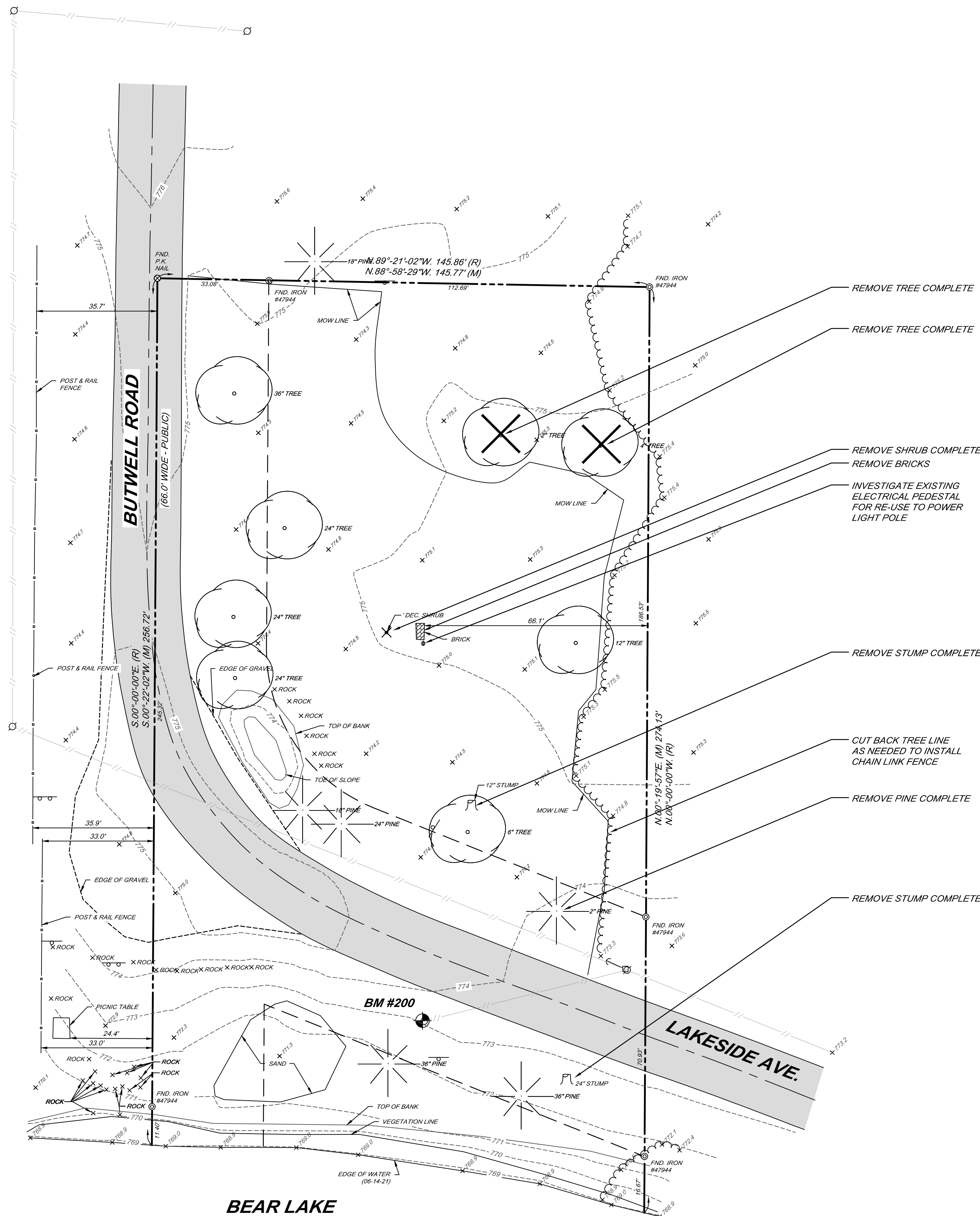
FOR UTILITIES CONTACT:

PROPOSED SYMBOLS

○ - MANHOLE  
⊗ - CATCHBASIN  
☞ - FIRE HYDRANT  
● - WATER VALVE  
♿ - BARRIER FREE PARKING  
■ - LIGHT POLES  
⇒ - DRAINAGE FLOW  
⊗ - SPOT ELEVATION LABELS  
G = GUTTER  
TW = WALK  
TC = TOP OF CURB  
FS = FINISH SURFACE

BY	MARK	REVISIONS	DATE
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PLEASANTON TOWNSHIP 8958 LUMLEY ROAD BEAR LAKE, MICHIGAN			
NOTES BUELL PARK IMPROVEMENTS PLEASANTON TOWNSHIP MANISTEE COUNTY, MICHIGAN			
DE. BY: JDW DR. BY: JDW		CH. BY: APP. BY:	PROJECT NO. 130761SG2021
STDS.		SHEET 2 OF 12	C
DATE SEPTEMBER 2021 SCALE N/A		FILE NO. DPL-1154-02	2.0





SECTION 28, T.24 N. - R.15 W.  
PLEASANTON TOWNSHIP  
MANISTEE COUNTY, MICHIGAN

LEGEND

- |                              |                                     |
|------------------------------|-------------------------------------|
| ○ - MANHOLE                  | ✱ - PINE                            |
| ⊗ - CATCHBASIN               | ⊗ - BUSH                            |
| ⊗ - CURB CATCHBASIN          | ○ - TREE                            |
| ⊗ - FIRE HYDRANT             | □ - TELEPHONE PEDESTAL              |
| ⊗ - WATER VALVE              | ⊗ - FOUND SURVEY CORNER             |
| ⊗ - GAS VALVE                | ○ - SET 1/2" IRON ROD               |
| ⊗ - TELEPHONE POLE           | △ - SET WOOD LATH                   |
| ⊗ - POWER POLE               | ● - SET P.K. NAIL                   |
| ⊗ - POWER AND TELEPHONE POLE | —○— - GUY ANCHOR AND POLE           |
| ⊗ - LIGHT POLE               | N.F.L. - NOT FIELD LOCATED          |
| ⊗ - MAIL BOX                 | □ - CABLE TV PEDESTAL               |
| ⊗ - SIGN                     | ⊗ - ANTENNA                         |
| ⊗ - SPRINKLER                | ⊗ - SATELLITE DISH                  |
| ⊗ - RAILROAD SIGNAL          | ⊗ - AIR CONDITIONING UNIT           |
| ⊗ - TRANSFORMER              | ⊗ - SOIL BORING                     |
| ⊗ - BARRIER FREE PARKING     | ⊗ - ELECTRICAL PEDESTAL             |
| ⊗ - BITUMINOUS SURFACE       | — - - - - CTY - - - - -             |
| ⊗ - CONCRETE SURFACE         | — E - - - - - BURIED CABLE LINES    |
| ⊗ - CONCRETE CURB            | — G - - - - - BURIED ELECTRIC LINES |
| ⊗ - FENCE LINE               | — G - - - - - GASMAINS              |
| ⊗ - OVERHEAD POWER LINES     | — T - - - - - SANITARY SEWER LINES  |
| ⊗ - TREE LINE                | — T - - - - - STORM SEWER LINES     |
| ⊗ - STUMP                    | — W - - - - - TELEPHONE LINES       |
|                              | — W - - - - - WATERMAINS            |

PARCEL DESCRIPTION

PER ABONMARCHÉ CONSULTANTS, INC. CERTIFICATE OF SURVEY DATED SEPT. 25, 2003

Part of Government Lot 1, Commencing at the intersection of West line of Section and Bear Lake; thence North, 261.2 feet; thence East, 2.21 Chains; thence South, to Lake; thence Westerly, to Point of Beginning, Section 28, T.24 N.-R.15 W.

More accurately described as: Commencing at the West Quarter Corner of Section 28, T.24 N.-R.15 W., Pleasanton Township, Manistee County, Michigan; thence Bearing South, along the West line of said Section, 1846.40 feet to the point of beginning; thence continuing bearing South, 260.63 feet to the shore of Bear Lake; thence S.90°-11'-03"E., along said Shore, 148.02 feet; thence Bearing North, parallel with the West line of said Section, 284.21 feet; thence N.89°-21'-02"W., 145.86 feet to the point of beginning, subject to the rights of the public along Butwell Road.

BENCHMARKS

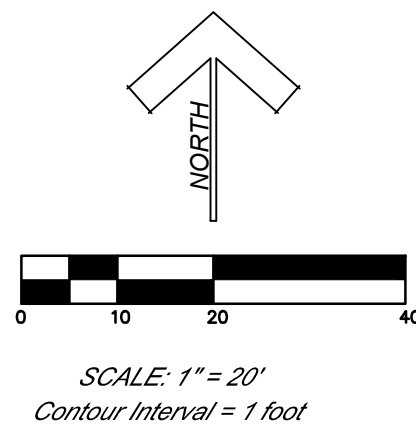
BM #200 - SET GEARSPIKE ON N. FACE OF POWER POLE, 20'± SOUTH OF CENTERLINE OF ROAD.  
NAVD88 EL. 774.50


BEARING BASIS

BEARINGS ARE BASED ON G.P.S. OBSERVATIONS OF PROPERTY CORNERS.

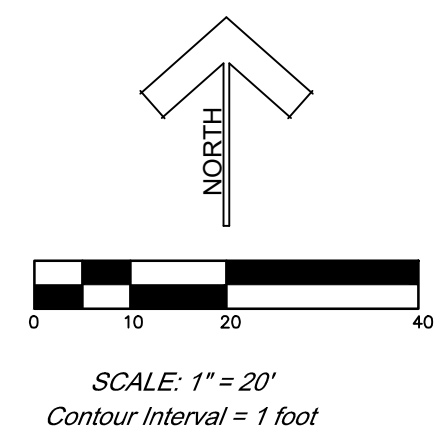
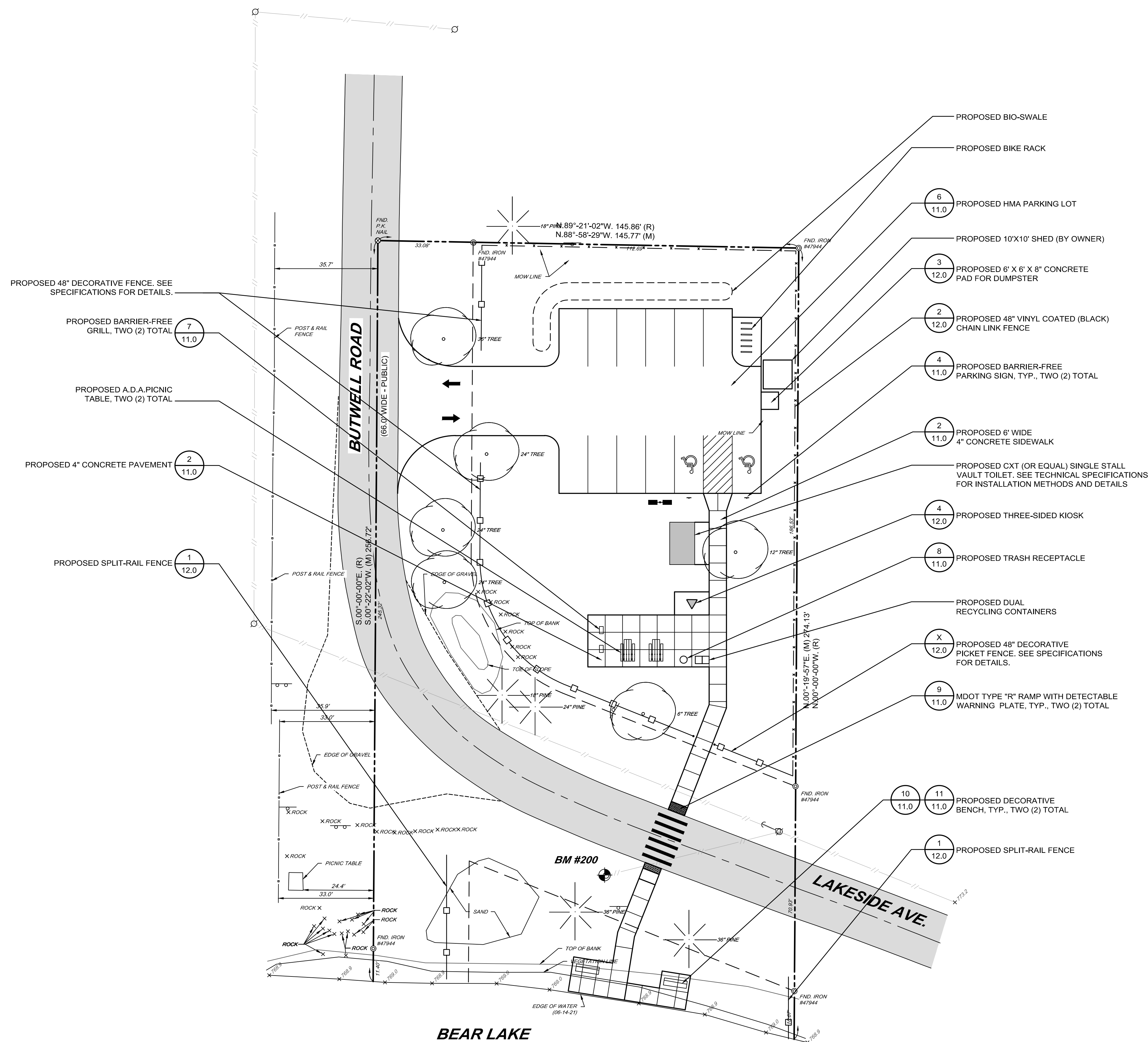
FLOODPLAIN INFORMATION

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY MAPS, COMMUNITY PANEL #26101C0150D, EFFECTIVE DATE OF JUNE 2, 2021, THE SUBJECT PROPERTY LIES WITHIN ZONE X, AREAS OF MINIMAL FLOOD HAZARD.



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 MANISTEE OFFICE 302 River Street Manistee, MI 49660 Tel. 231-794-5620 www.SpicerGroup.com			
DE. BY:	CH. BY:	PROJECT NO.	
DR. BY: MLW	APP. BY: PGB	130761SG2021	
STDs.	SHEET 3 OF 12	C	
DATE SEPTEMBER 2021	FILE NO. JD-1765-01	3.0	
SCALE 1" = 20'			



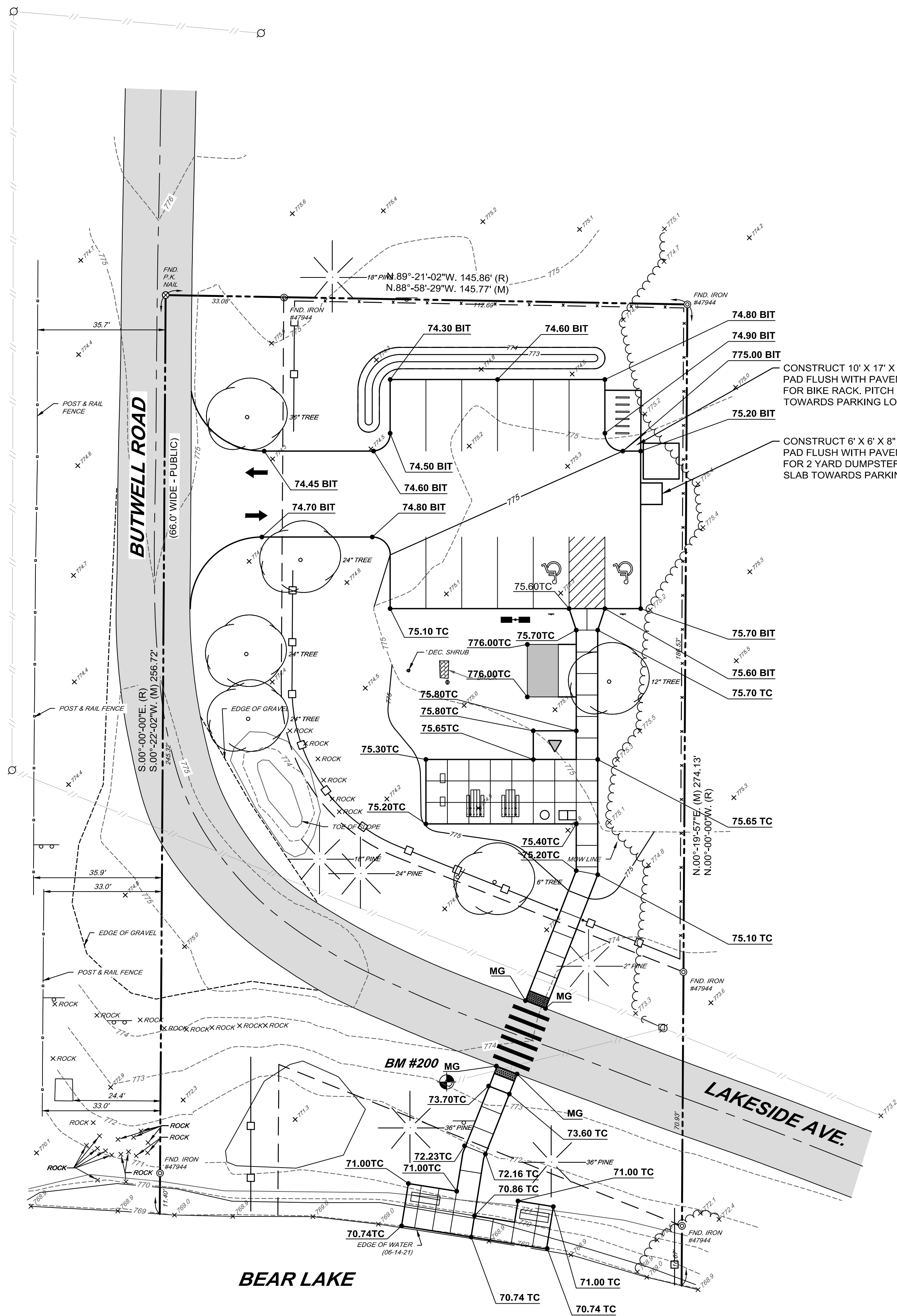


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Spicer group		MANISTEE OFFICE 302 River Street Manistee, MI 49660 Tel. 231-794-5620 www.SpicerGroup.com	
DE. BY: JDW	CH. BY: JDW	PROJECT NO. 130761SG2021	
DR. BY: JDW	APP. BY:	SHEET 4 OF 12	
STDs.		C	
DATE SEPTEMBER 2021		FILE NO. DPL-1154-05	
SCALE 1" = 20'		4.0	



## BENCHMARKS





**GENERAL GRADING NOTES**

ALL CONSTRUCTION SHALL CONFORM TO ALL ASPECTS OF THE STATE OF MICHIGAN BUILDING CODE (MBC), UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS), THE ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAS), AND THE AMERICANS WITH DISABILITIES ACT (ADA).

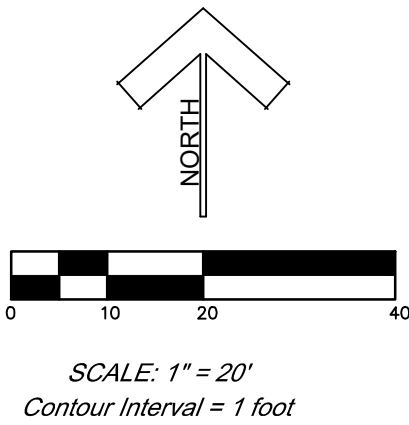
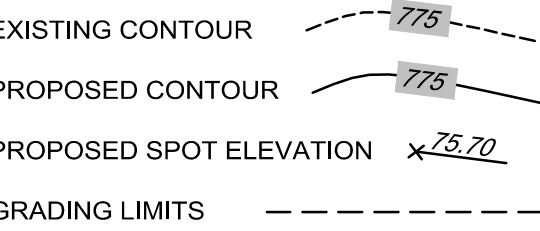
FINISH GRADED AREAS SHALL BE SMOOTH AND EVEN WITH NO SHARP OR AWKWARD GRADE CHANGES. FINISHED GRADE MUST BE APPROVED BY THE ENGINEER OR LANDSCAPE ARCHITECT.


GRADE ALL SURFACES AS NOTED ON PLANS. MAXIMUM LONGITUDINAL OR RUNNING SLOPE SHALL NOT EXCEED 5% UNLESS OTHERWISE NOTED. MAXIMUM TRANSVERSE OR CROSS SLOPE SHALL NOT EXCEED 2% UNLESS OTHERWISE NOTED.

CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS, AND SHALL SEE ALL AREAS THAT CALL FOR NEW TURF. A MINIMUM OF 4" OF SCREENED TOPSOIL SHALL BE USED TO ACHIEVE FINISHED GRADE.

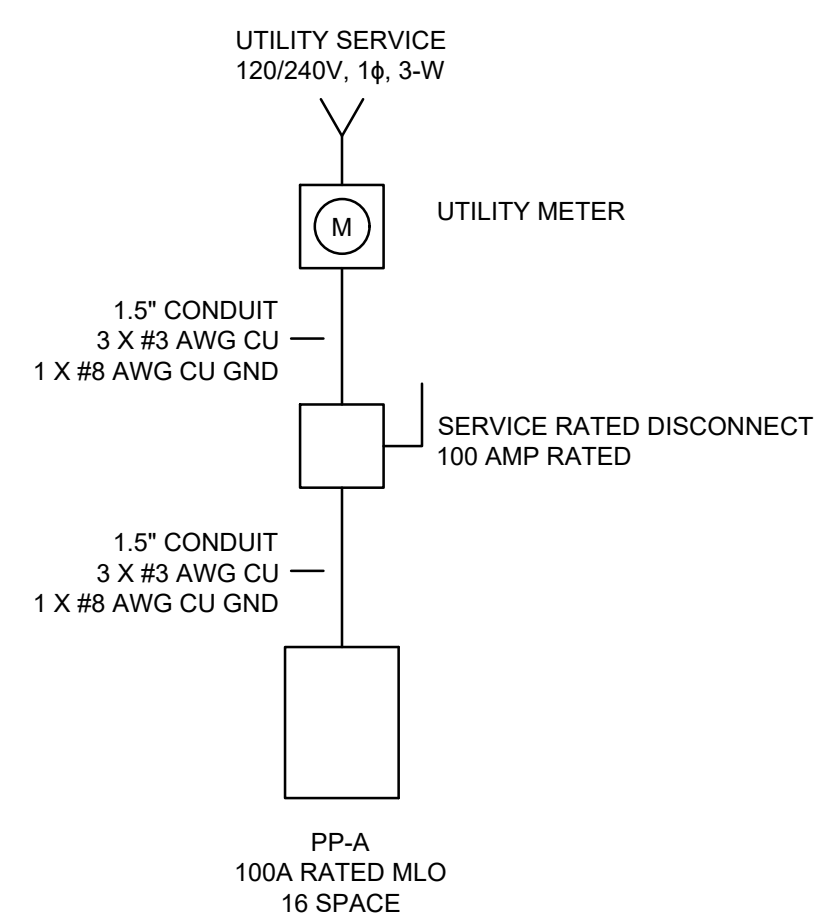
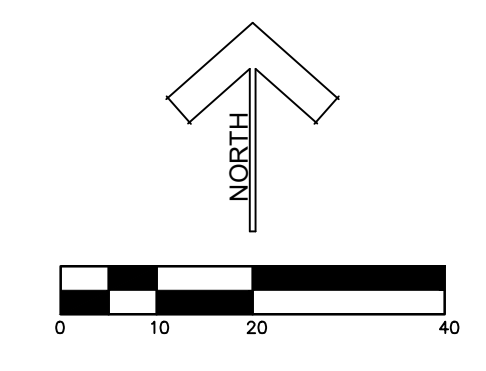
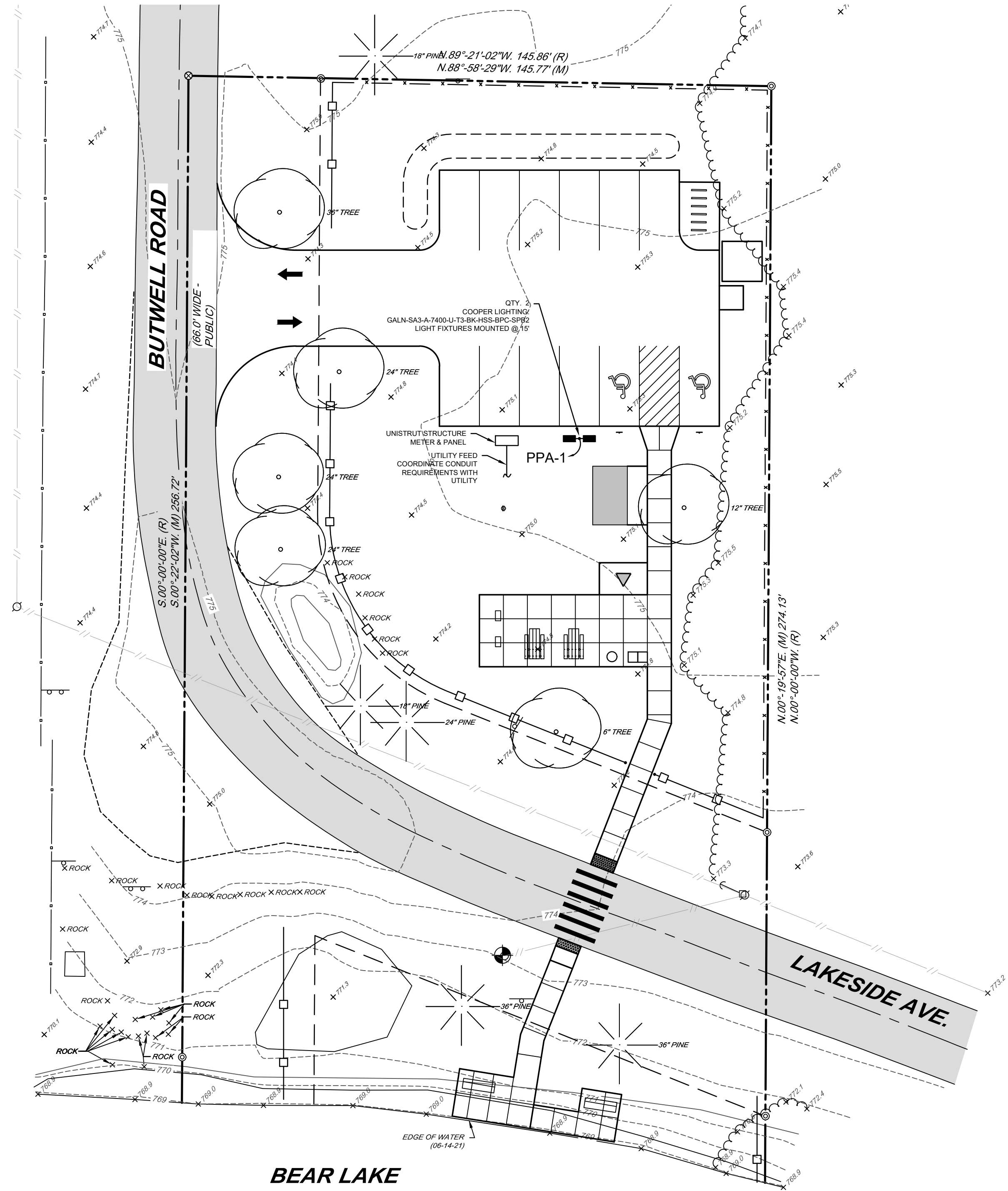
**GRADING KEY**

- MG MATCH EXISTING GRADE
- TC TOP OF CONCRETE
- BIT TOP OF BITUMINOUS PAVEMENT

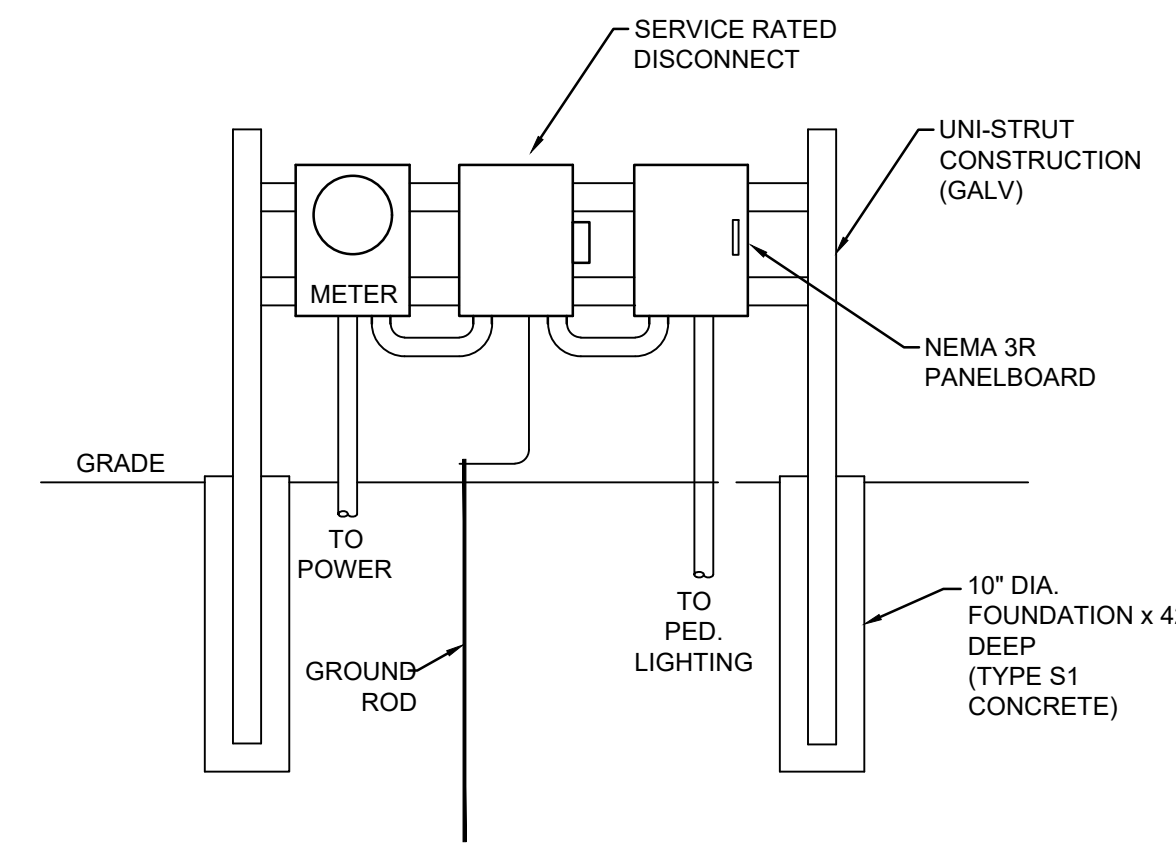


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THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.			
PLEASANTON TOWNSHIP 8958 LUMLEY ROAD BEAR LAKE, MICHIGAN			
GRADING PLAN BUELL PARK IMPROVEMENTS PLEASANTON TOWNSHIP MANISTEE COUNTY, MICHIGAN			
 MANISTEE OFFICE 302 River Street Manistee, MI 49660 Tel: 231-794-5620 www.SpicerGroup.com			
DE. BY:	JDW	CH. BY:	PROJECT NO.
DR. BY:	JDW	APP. BY:	130761SG2021
STDs.	SHEET 6 OF 12		C
DATE	SEPTEMBER 2021	FILE NO.	6.0
SCALE	1" = 20'	DPL-1154-06	

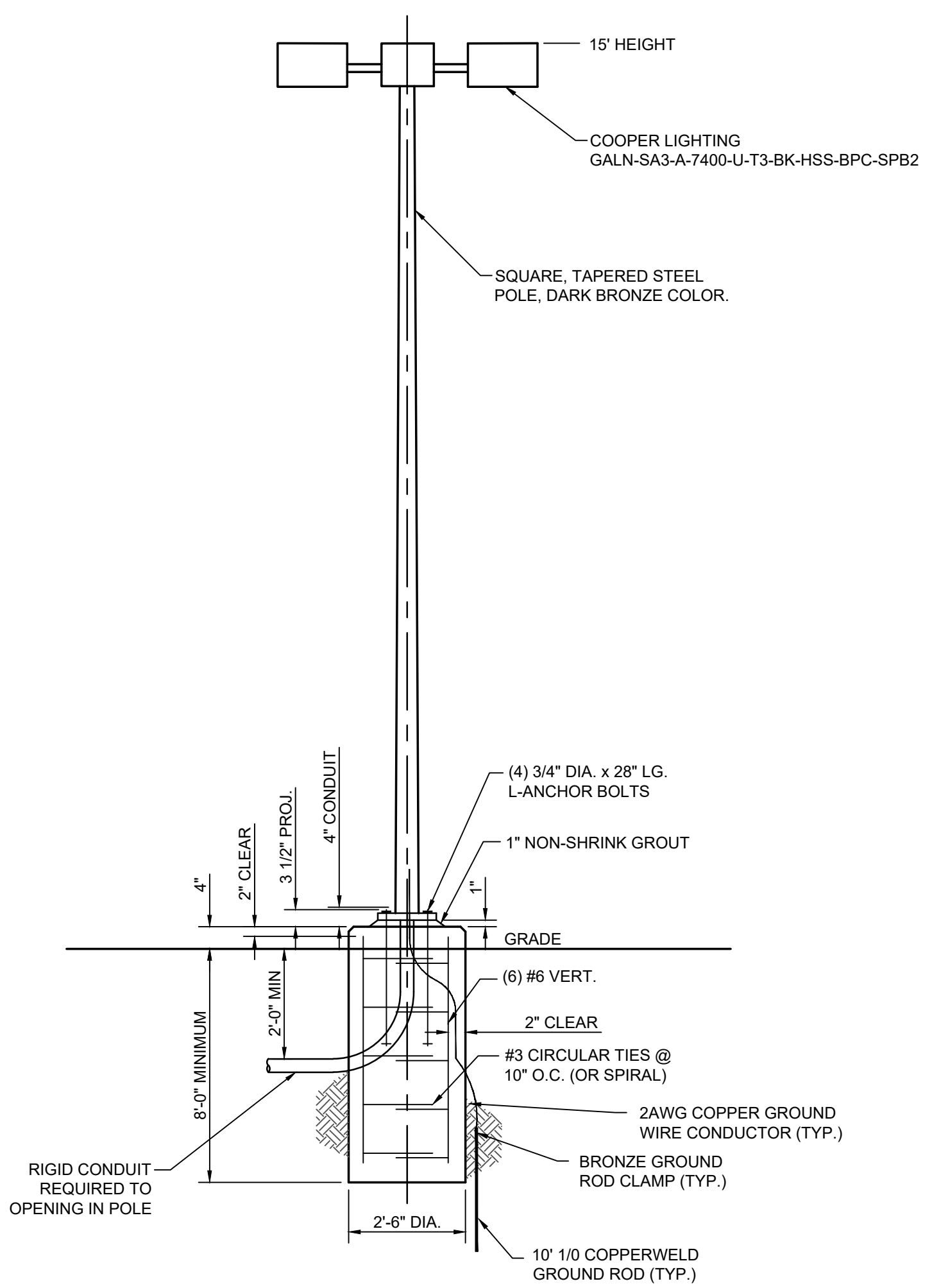
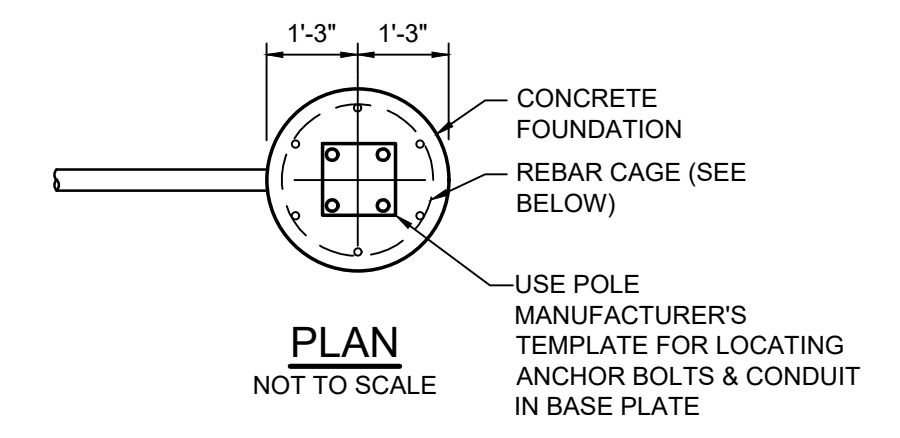




ELECTRICAL ONELINE



ELECTRICAL PANEL ELEVATION



TYPICAL LIGHT POLE  
NOT TO SCALE

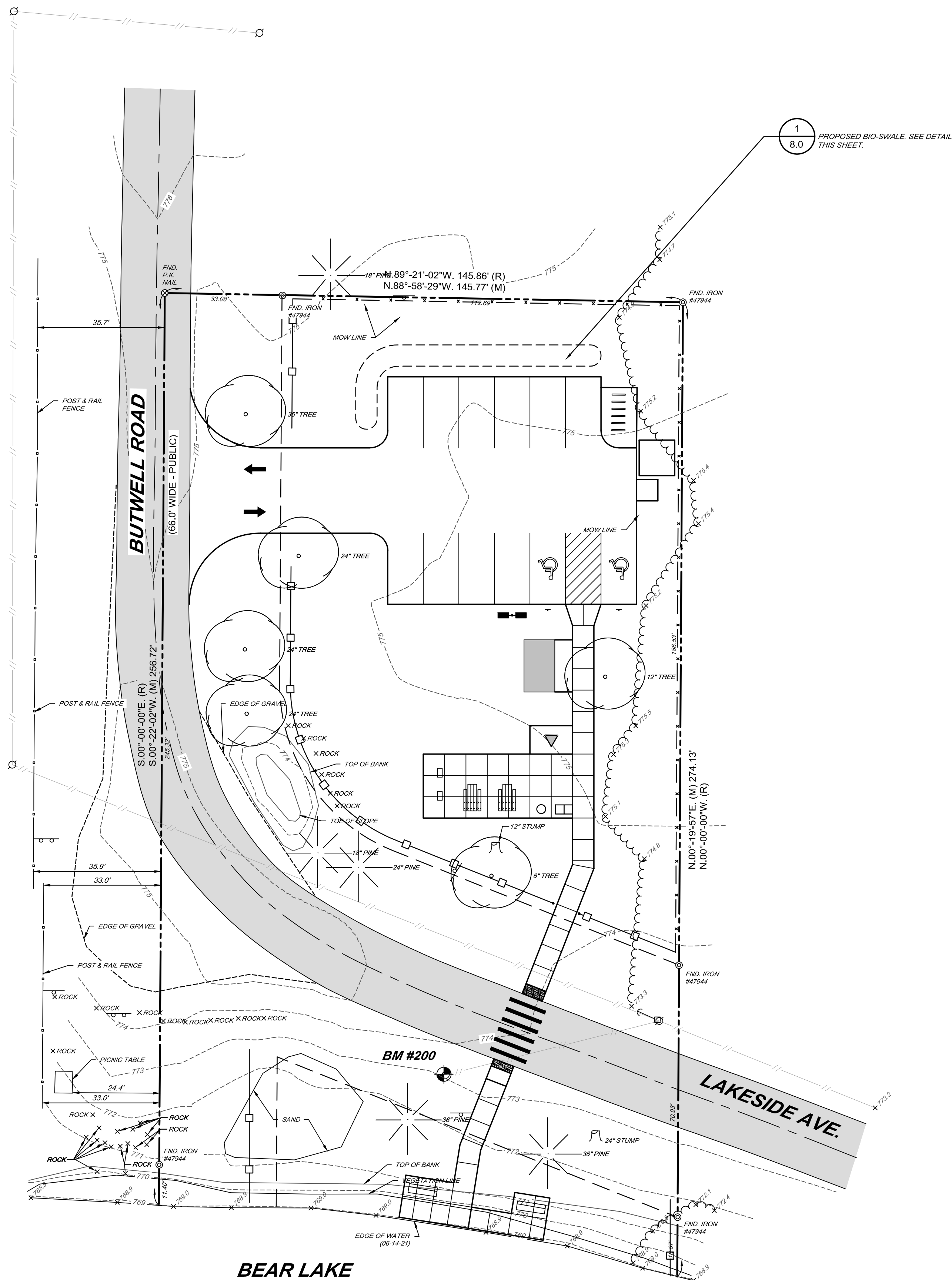
- GENERAL ELECTRICAL NOTES**
1. PROVIDE ALL LABOR & MATERIALS FOR A COMPLETE AND OPERABLE SYSTEM.
  2. PROVIDE ALL LABOR & MATERIALS TO MEET THE NATIONAL ELECTRIC CODE & AHJ.
  3. FIELD VERIFY ALL DIMENSIONS OF EQUIPMENT.
  4. COORDINATE INSTALLATION WITH UTILITY. VERIFY WITH UTILITY ON SERVICE ENTRANCE CONDUIT REQUIREMENTS. FIELD VERIFY ROUTING.

PANEL						PPA					
VOLTAGE (L-N):				120		ENCLOSURE TYPE:		NEMA 3R			
VOLTAGE (L-L):				240		MOUNTING:		SURFACE			
PHASES, WIRES:				1 $\phi$ , 3 W		AIC RATING:		0			
MINIMUM BUS CAPACITY (A):				100 A		NOTES:		----			
MAIN O.C. DEVICE (A):				100 A							
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA)				POLE	TRIP AMPS	DESCRIPTION	CKT NO
				A		B					
1	LIGHT POLE	20	1	186	0			1	20	SPARE	2
3	SPARE	20	1			0	0	1	20	SPARE	4
5	SPARE	20	1	0	0			1	20	SPARE	6
7	----	20	1			0	0	1	20	----	8
9	----	20	1	0	0			1	20	----	10
11	----	20	1			0	0	1	20	----	12
13	----	20	1	0	0			1	20	----	14
15	----	20	1			0	0	1	20	----	16
				CONNECTED LOAD PHASE TOTALS (VA)							
				186		0					
				CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)		DEMAND LOAD		0.2 KVA	
Lighting				0.2	1.25	0.2		SPARE CAPACITY		19.0 KVA	
								SPARE CAPACITY		79.0 AMPS	
								SPARE CAPACITY		99 %	
TOTAL:				0.2		0.2					
LOAD (AMPS):				0.8		1.0					

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SITE ELECTRICAL PLAN BUELL PARK IMPROVEMENTS PLEASANTON TOWNSHIP MANISTEE COUNTY, MICHIGAN			
Spicer group		MANISTEE OFFICE 302 River Street Manistee, MI 49660 Tel: 231-794-5620 www.SpicerGroup.com	
DE BY: JAJ	CH BY: C	PROJECT NO. 130761SG2021	
DR BY: JAJ	APP BY:		
STDs.	SHEET 7 OF 12	C	
DATE: SEPTEMBER 2021	FILE NO. DPL-1154-13	7.0	
SCALE: 1" = 20'			

ACAD FILE: PG. F.B. RET. PLOTTING SCALE:





PLANTINGS SCHEDULE									
QTY	KEY	BOTANICAL NAME	COMMON NAME	HEIGHT	SPREAD	SPACING	FLOWERS		PLANTING SIZE
6	PV	<i>Panicum virgatum</i> 'Shenandoah'	Shenandoah Red Switch Grass	36-48"	24-36"	24" O.C.	JULY	N/A	1 GALLON
16	AT	<i>Asclepias tuberosa</i>	Butterfly Weed	18-24"	10-12"	10" O.C.	JULY-AUG	ORANGE	1 GALLON
12	RH	<i>Rudbeckia hirta</i>	Black Eyed Susan	24-36"	12-24"	24" O.C.	JUNE-SEPT	YELLOW	1 GALLON
10	LC	<i>Lobelia cardinalis</i>	Cardinal Flower	24-48"	12"-24"	24" O.C.	JULY-SEPT	RED	1 GALLON
10	IV	<i>Iris versicolor</i>	Blue Flag Iris	24-30"	24-30"	24" O.C.	MAY-JUNE	VIOLET	1 GALLON

CONSTRUCTION NOTES:

- PLANT BED TO BE INFILLED WITH MULCH AS SPECIFIED.
- PLANT LOCATIONS TO BE FIELD FLAGGED BY OWNER'S REPRESENTATIVE.

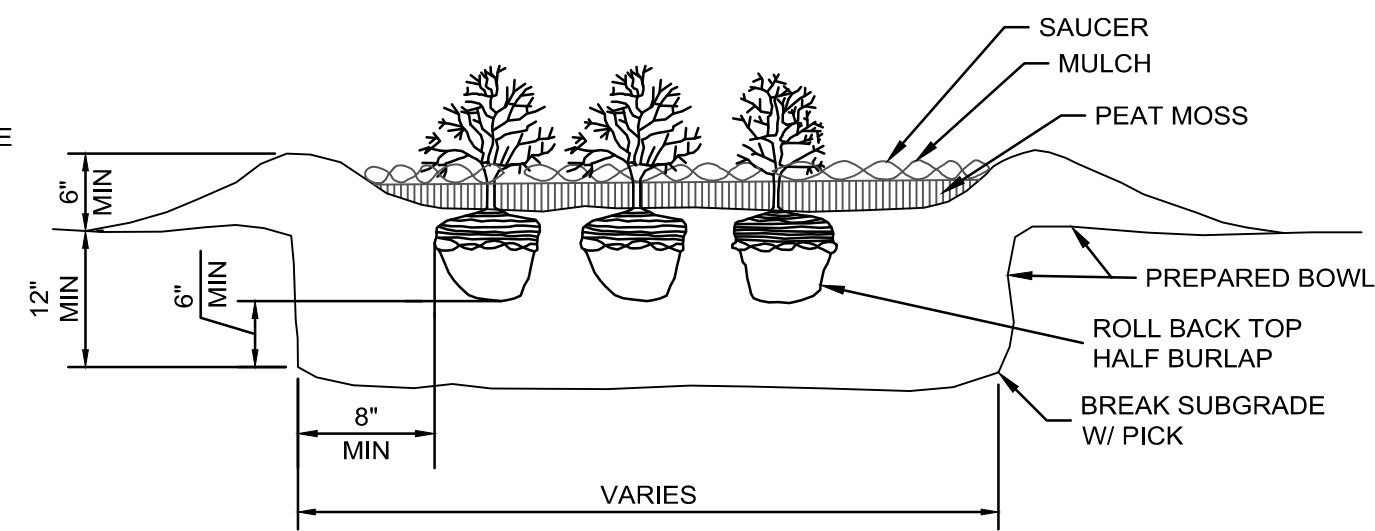
NOTES:  
FOR MASS PLANTINGS EXCAVATE ENTIRE BED & BACKFILL W/ PREPARED SOIL.

CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION

SEE PLANT LIST FOR SPACING

1-1/2" DEPTH CANADIAN PEAT TOP DRESSING OR 1-1/2" DOUBLE PROCESSED SHREDDED BARK MULCH

EXCAVATE EXISTING SOIL 12" DEEP FILL WITH PLANT MIX (SEE SPECS)



1  
8.0  
PERENNIAL PLANTING DETAIL  
NOT TO SCALE

LAWN AND RESTORATION: FERTILIZER, SEED, AND MULCH

GENERAL NOTES: ALL AREAS SURROUNDING THE BUILDINGS AND ALL DISTURBED AREAS SHALL BE SEEDED, AND QUALITY TURF SHALL BE ESTABLISHED.

FERTILIZER

- Apply fertilizer at application rate recommended by soil supplier.
- Apply after smooth raking of topsoil and prior to roller compaction.
- Do not apply fertilizer at same time or with same machine used to apply seed.
- Mix fertilizer thoroughly into upper 2 inches of topsoil.
- E. Lightly water soil to aid dissipation of fertilizer. Irrigate top level of soil uniformly.

SEEDING

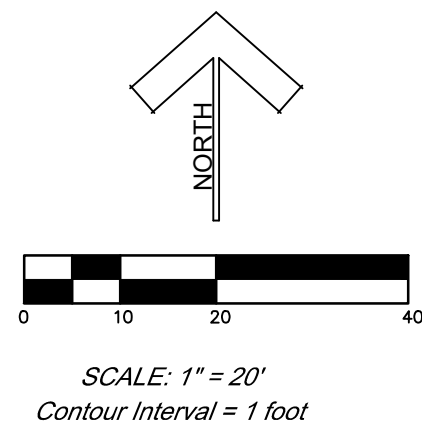
- Apply seed at rate recommended by the supplier for high traffic turf areas evenly in two intersecting directions. Rake in lightly.
- Do not seed areas in excess of that which can be mulched on same day.
- Planting Season: April 15 - May 15; September 15 - October 15.
- Do not sow immediately following rain, when ground is too dry, or when winds are over 12 mph.
- Roll seeded area with roller not exceeding.
- Immediately following seeding and compacting, apply mulch to thickness of 1/8 inches. Maintain clear of shrubs and trees.
- Apply water with fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

HYDROSEEDING

- Apply fertilizer, mulch and seeded slurry with hydraulic seeder at rate recommended by the supplier for athletic fields evenly in one pass.
- After application, apply water with fine spray immediately after each area has been hydroseeded. Saturate to 4 inches of soil and maintain moisture levels two to four inches

SEED PROTECTION AND MAINTENANCE

- Cover seeded slopes where grade is 4 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.
- Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Overlap edges and ends of adjacent rolls minimum 12 inches. Backfill trench and rake smooth, level with adjacent soil.
- Secure outside edges and overlaps at 36 inch intervals with stakes.
- Lightly dress slopes with topsoil to ensure close contact between fabric and soil.
- At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.
- Water to prevent grass and soil from drying out. The Contractor shall be responsible for watering during the one-year guarantee period.
- Roll surface to remove minor depressions or irregularities.
- Control growth of weeds. Apply herbicides. Remedy damage resulting from improper use of herbicides.
- Immediately reseed areas showing bare spots.
- Repair washouts or gullies.
- Protect seeded areas with warning signs during maintenance period.
- Final payment will not be issued until a uniform growth of grass is established for period of one year on all areas disturbed as a result of the construction of this Project. A minimum of eighty percent of the native species seeded shall be established prior to final payment.
- The Contractor shall replace, at no cost to the Owner, all dead vegetation during the Guarantee period.
- Judgment of the plant's health will be the Engineers or the Owners.
- Protection from traffic and erosion in newly seeded areas is the responsibility of the Contractor. Safety fences and/or silt fences with appropriate signage may be used at the Contractor's expense until the grasses and flowers are fully established.








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LANDSCAPE PLAN BUELL PARK IMPROVEMENTS PLEASANTON TOWNSHIP MANISTEE COUNTY, MICHIGAN				
DE. BY: JDW		CH. BY: JDW		PROJECT NO. 130761SG2021
DR. BY: JDW		APP. BY:		
STDs.		SHEET 8 OF 12		C
DATE SEPTEMBER 2021		FILE NO. DPL-1154-08		8.0
SCALE 1" = 20'				

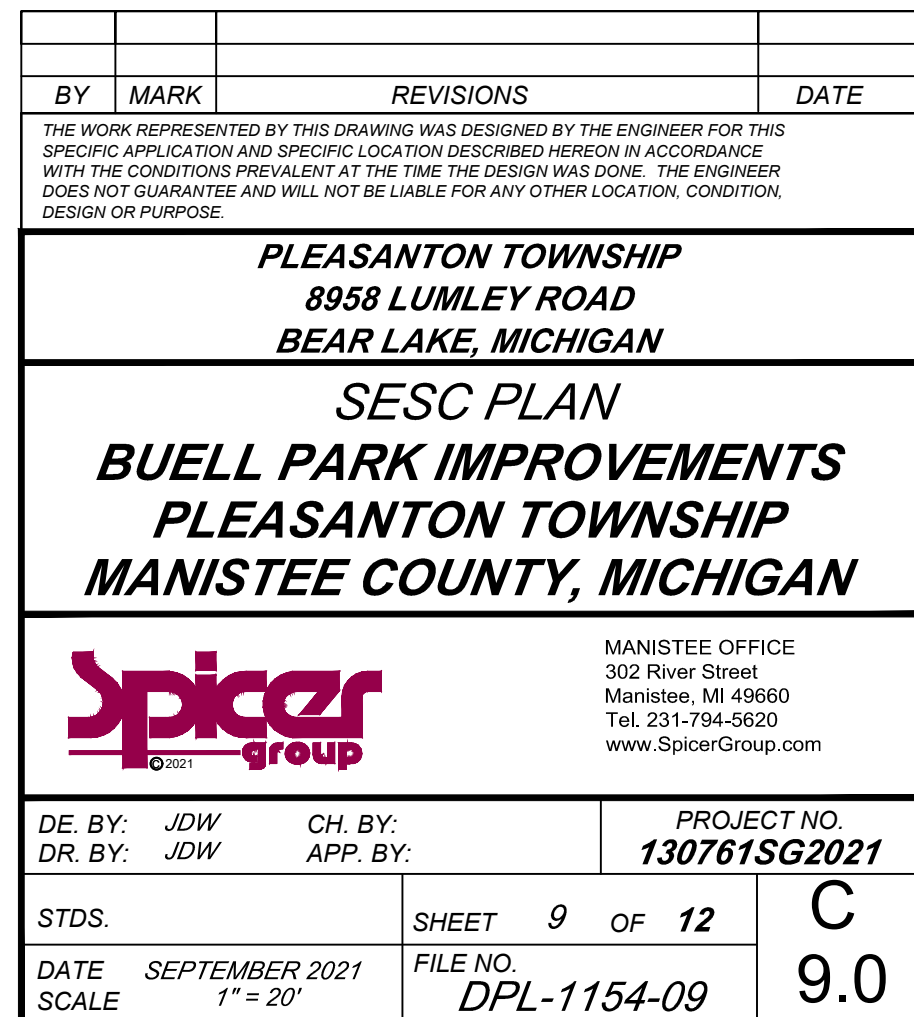
MANISTEE OFFICE  
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Manistee, MI 49660  
Tel. 231-794-5620  
www.SpicerGroup.com





## SEDIMENT CONTROL MEASURES

 = PERMANENT MEASURE  
 = TEMPORARY MEASURE  
 = SILT FENCE  
 = SOIL TYPE BOUNDARY  
 = LIMITS OF DISTURBANCE





MAINTENANCE PROGRAM FOR SESC MEASURES

GENERAL MAINTENANCE

- CONTRACTOR SHALL MAINTAIN ALL PERMANENT SESC MEASURES FOR A PERIOD OF 1 YEAR FOLLOWING THEIR INSTALLATION.
- TEMPORARY SESC MEASURES SHALL BE INSTALLED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.
- TEMPORARY MEASURES MUST BE MAINTAINED AND IN PLACE UNTIL AREAS ARE PERMANENTLY STABILIZED.
- PERMANENT MEASURES SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR UNTIL FINAL COMPLETION.
- DAILY MAINTENANCE IS THE CONTRACTOR'S RESPONSIBILITY.
- TEMPORARY SESC MEASURES SHALL BE REMOVED AT THE END OF THE PROJECT ONCE PERMANENT MEASURES ARE ESTABLISHED.
- TEMPORARY SESC MEASURES SHALL BE INSTALLED PRIOR TO OR AT THE TIME OF EARTH DISTURBANCE.

SEEDING AND MULCHING

- SEEDING PRACTICES INCLUDE TOPSOIL (AS DIRECTED BY ENGINEER), SEED, POLYMER, AND MULCH OR MULCH MATTING (AS DIRECTED BY ENGINEER OR WHERE SHOWN ON PLANS).
- WHERE NECESSARY, APPROPRIATE MULCH MATTING MUST BE APPLIED BASED ON SLOPE AND GROWING CONDITIONS AS APPROVED BY THE PROJECT ENGINEER.
- ALL SLOPES AND HIGHLY ERODIVE AREAS WILL BE SEEDED, APPLY POLYMER AND MULCH WHEN CONSTRUCTION ACTIVITY IS NOT TAKING PLACE.
- SEED AND MULCH IS TO BE INSPECTED DAILY FOLLOWING EACH RAIN EVENT TO DETERMINE IF CONCENTRATED FLOWS ARE PRESENT.
- IN THE EVENT THAT SEED AND MULCH ARE REMOVED BY ERODIVE RUNOFF, REPAIRS ARE TO BE MADE IMMEDIATELY.
- ALL AREAS DURING CONSTRUCTION WILL BE PERMANENTLY STABILIZED WITHIN 72 HOURS OF FINAL GRADE (GRADE LISTED ON PLAN).
- SEEDING MUST BE COMPLETED BY xxxxx, 2022.

STORM DRAIN INLET PROTECTION

- INSPECT ROUTINELY AND FOLLOWING A PRECIPITATION EVENT THAT RESULTS IN RUNOFF UNTIL SEDIMENT FILTER IS REMOVED.
- ROUTINELY REMOVE SEDIMENT ACCUMULATION.
- REPAIR AND OR REPLACE CONTROL MEASURE AS NEEDED.
- REMOVE TEMPORARY CONTROL MEASURES AND CLEAN SEDIMENT FROM SUMP AFTER SITE IS STABILIZED.
- INLET PROTECTION SHALL BE PROVIDED WITH THE CORRESPONDING SILT SACK, DANDY BAG OR EQUAL PRODUCT UNLESS ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER.
- REMOVE ACCUMULATED SEDIMENT PER MANUFACTURERS DIRECTIONS.

SILT FENCE

- SILT FENCE IS TO BE TRENCHED IN NO LESS THAN 6 INCHES BELOW THE GROUND SURFACE.
- INSPECT SILT FENCE DAILY AND IMMEDIATELY FOLLOWING EACH RAINFALL.
- REPAIR WHEN SILT FENCE IS SAGGING OR HAS BEEN REMOVED/TORN DOWN.
- WHEN SILT COLLECTS TO HALF THE HEIGHT OF THE FENCE ALL SILT IS TO BE REMOVED AND FENCE REPAIRED.
- REMOVE SILT FENCE WHEN PERMANENT SESC MEASURES ARE IN PLACE AND VEGETATION IS ESTABLISHED.

COMPLIANCE WITH PART 91 OF PA 451

- RESPOND IMMEDIATELY TO STORMWATER OPERATOR AND/OR SOIL EROSION AND SEDIMENTATION CONTROL INSPECTOR CONCERNS. MAKE CORRECTIVE MEASURES AS REQUIRED IMMEDIATELY AS DETAILED BY THE APPROVED APA MANUAL(S) THAT APPLY.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- SOIL EROSION SYMBOLS SHOWN ON PLANS ARE TYPICAL FOR UPSTREAM AND DOWNSTREAM SIDE OF PROPOSED STRUCTURE.
- FINAL SEEDING SHALL BE COMPLETED WITHIN 72 HOURS OF FINAL GRADING IN ANY AREA. WEEKLY INSPECTIONS OF SEEDED AREAS SHALL BE COMPLETED TO VERIFY GRASS GROWTH.
- ALL MUD, DIRT AND DEBRIS TRACKED ONTO EXISTING ROADWAYS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR ON A DAILY BASIS BY SCRAPING AND SWEEPING.
- ALL PERMANENT SOIL EROSION CONTROL MEASURES SHALL BE IN PLACE WITHIN 72 HOURS OF FINAL GRADE (GRADE LISTED ON PLANS). SEED, SOIL BINDING POLYMER, MULCH MATTING AND/OR RIPRAP SHALL BE IN PLACE BEFORE PROCEEDING TO THE NEXT WORK AREA. REMOVAL OF TEMPORARY MEASURES, FOLLOWING ACCEPTANCE OF THE PROJECT, IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL SOIL EROSION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED DAILY BY THE CONTRACTOR. CONTRACTOR SHALL INSPECT AFTER EACH RAIN EVENT TO ENSURE PROPER MAINTENANCE OF THE SOIL EROSION CONTROL MEASURES. ANY DEFICIENCIES OR REPAIRS TO SOIL EROSION CONTROL MEASURES SHALL BE CORRECTED IMMEDIATELY.
- INSTALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES BEFORE OR UPON COMMENCEMENT OF THE EARTH CHANGE ACTIVITY AND MAINTAIN MEASURES ON A DAILY BASIS. REMOVE TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AFTER PERMANENT SOIL EROSION MEASURES WERE IN PLACE AND THE AREA IS STABILIZED ("STABILIZED" MEANS THE ESTABLISHMENT OF VEGETATION OR THE PROPER PLACEMENT, GRADING, OR COVERING OF SOIL TO ENSURE ITS RESISTANCE TO SOIL EROSION, SLIDING, OR OTHER EARTH MOVEMENT).
- CONTRACTOR IS RESPONSIBLE TO ENSURE THAT MEASURES ARE INSTALLED IN COMPLIANCE WITH THE COUNTY DRAIN COMMISSIONER'S SOIL EROSION AND SEDIMENTATION CONTROL MANUAL, MANUFACTURERS RECOMMENDATIONS, AND THE PLANS. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE SESC MEASURES ARE MONITORED AND MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED AND TEMPORARY MEASURES ARE REMOVED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP & RESTORATION INCLUDING PROGRESS CLEANING, PROGRESS CLEANING INCLUDES BUT IS NOT LIMITED TO REMOVAL OF WASTE MATERIALS, DEBRIS, RUBBISH, AND EXCESS SPOILS, COMPLETE LEVELING AND RESTORED DAMAGE AT EACH PROJECT SITE PRIOR TO MOVING TO THE NEXT SITE. ALSO INCLUDES DAILY CLEANING OF ALL ROAD SURFACES.
- EARTH CHANGE SHALL BE COMPLETED IN A MANNER THAT LIMITED THE EXPOSED AREA OF ANY DISTURBED LAND FOR THE SHORTEST POSSIBLE PERIOD OF TIME AS DETERMINED BY THE APA.
- SEDIMENTS CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEFT THE SITE OF THE EARTH CHANGE.
- IF NECESSARY, A TEMPORARY CONTROL MEASURE SHALL BE DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF WATER AROUND, THROUGH OR FROM THE EARTH CHANGE AREA TO LIMIT WATER FLOW TO A NON-EROSIVE VELOCITY.
- NOT USED.
- IF FOR ANY REASON THE OWNER IS FOUND TO BE IN VIOLATION OF PART 91 DUE TO CONTRACTOR'S NONCOMPLIANCE, THE CONTRACTOR AGREES TO PAY ALL FINES AND COSTS INCURRED BY THE OWNER INCLUDING ALL LEGAL COSTS IN THE DEFENSE OF THE OWNER.

KEY	SESC MEASURE	SYMBOL
1	SEEDING	
When	Bare soil is exposed to erosive forces from wind and or water.	
Why	A cost effective way to prevent erosion by protecting the soil from raindrop impact, flowing water and wind. Vegetation binds soil particles together with a dense root system, increasing infiltration thereby reducing runoff volume and velocity.	
Where	On all disturbed areas except where non-vegetative stabilization measures are in place or where seeding would interfere with agricultural activity.	
Scheduling	During the recommended temporary and permanent seeding dates outlined below.	
How	1. Site Assessment. Determine site physical characteristics including aspect, exposure, soil type, and local climate, proximity to sensitive areas or natural plant communities, and soil characteristics such as natural drainage class, texture, fertility and pH. 2. Seed Selection. Use seed with acceptable purity and germination tests that are viable for the planned seeding date. Seed that has become wet, moldy or otherwise damaged is unacceptable. Select seed depending on location and intended purpose. Seeding with native species and permanent cover may provide some advantages because they have adapted to native soils and soil if properly selected for site conditions, can dramatically reduce fertilizer, lime and maintenance requirements, and provide a denser root structure. When re-vegetating natural areas, introduced species may spread into adjacent natural areas and species should be used. Noxious or aquatic nuisance species shall not be used (see list below). If seeding is a temporary soil erosion control measure select annual, non-aggressive species such as annual rye, wheat, or oats. 3. Seed Application. Use a broadcast or spot seeder for "Vegetative Erosion Control" or the USDA-NRCS-MCH "Critical Area Planting Guide 342-F" for specific seeding rates by species. 4. Soil Amendments. Final grade or slope area to be seeded. Remove large clods, rocks, tree roots, etc. that will interfere with seeding. A spring tooth drag, field tiller, disk or other suitable equipment may be used. When feasible, replace the topsoil and grow-in. If some composted steer or horse manure is available, it may be used. Water the seeded area to a minimum depth of 3 inches and roughen the surface if necessary. Do not seed areas with concentrated flows away from seeded areas until vegetation is established. 5. Seed Amendments. Properly sited native vegetation should not be fertilized. If seedlings are established, they may promote competition from unwanted species at the expense of native species. Do not apply fertilizer until seedlings are established. If fertilizer is needed, fertilize with a low or no phosphorus fertilizer when near wetlands or in areas where it is necessary for proper establishment and maintenance of vegetation. 6. Site Assessment. See Soil Amendments for disturbed soil amendments if having difficulties with vegetation establishment. 7. Seeding. Apply seed as soon as possible, but within 5 days of final grading, slope, and/or seeded preparation by hand broadcasting, hydroseeding, or using mechanical drills followed by hand broadcasting. Water the seeded area as soon as possible for successful germination. Apply temporary seeding to disturbed areas within 5 days of final grading. Water the permanent seeding will be delayed for more than 5 days. 8. Apply temporary seeding to degraded soil sites that will be initiated at a later date if they do not slope away from the drain except where they will interfere with plowing, tilling or the harvesting of crops. Seed streambanks dolly and other disturbed areas within 5 days. 9. Dormant fall seeding. In late fall after the soil temperature remains consistently below 50° F prior to the ground freezing. No seed germination will take place until spring, therefore mulch or straw or mulch during the winter may be required to prevent erosion and off-site sedimentation. A winter season mulch grass may be added in an attempt to have some fall growth. 10. Dormant winter seeding. Apply seed daily to disturbed areas and eroded soil prior to the ground freezing. Seed will germinate in the early spring. 11. Mulch is recommended for dormant fall and winter seeding and on all slopes, unstable soils, heavy clay soils and all areas adjacent to wetlands, streams, drains, or sensitive areas and should be applied immediately after seeding. 12. Protect seeded areas from pedestrians and vehicular traffic. 13. Repair eroded areas, applying supplemental seed, mulch and water as needed. 14. If seed does not establish, conduct soil tests, amend soils as needed, and reseed seed and/or mulch during the recommended growing season. 15. To assist in the establishment of native species remove unwanted competing vegetation in the first year. 16. Mowing can be used periodically to discourage weeds. 17. Soil is susceptible to erosion until seedbeds are established. Sites may require re-seeding. 18. Seasonal limitations include excessive heat or early frost/freezes and adequate moisture for germination and early growth. 19. May not be appropriate in high traffic areas. 20. Native species may be more costly, however, the increased awareness of the benefits of planting native species is beginning to reduce their price and increase their availability.	

KEY	SESC MEASURE	SYMBOL
2/2A	MULCH/MULCH BLANKET	
When	Protection against raindrop impact, runoff or wind is needed to prevent erosion or loss of seed.	
Why	Moisture retention and temperature control are required for seed germination. Cost effective way to protect seeded and non-seeded areas and slopes against erosion from rain or wind. Holds soil moisture to aid in seed germination and reduces soil erosion and desiccation of germinated seeds. Inhibits seed consumption by birds.	
Where	On flat areas, drain banks, slopes, <i>vegetated channel</i> and <i>swallow diversion ditch and dikes</i> , and borrow and stockpile areas.	
Scheduling	Year around.	
How	1. Install other surface runoff control measures, compact soil as required, final grade and seed or install vegetation sprigs prior to mulching. 2. Select mulch material appropriate for the site characteristics including shade, expected flow, level of traffic, installation method, accessibility and length of time protection is needed. Place loose mulch open enough to allow some sunlight and air to penetrate to the soil but thick enough to shade the ground, conserve soil moisture and prevent or reduce wind and water erosion. 3. On flat and mild slopes (less than 2 horizontal to 1 vertical) with no concentrated flow, straw or hay may be used. Spread clean (no invasive or noxious species), dry straw or hay uniformly at a rate of 1-1/2 to 2 tons per acre or 100 lbs. (2-3 bales) per 1000 square feet. Other organic materials may be used where acceptable rates can be established. For native plantings, only the cleanest straw mulch should be applied, hay should not be used. Hydraulic mulches are used, bonded fiber matrices, which include a biotifier, are preferred. 4. On slopes steeper than 2 horizontal to 1 vertical or areas with concentrated flow apply mulch or other approved material other than loose straw. Mulch should be anchored with, a biotifier, mulch-anchoring disks, cinching with a mulch cinching tool or by placing and stapling netting over the mulch. 5. Mulch blankets are effective in controlling erosion on steeper slopes, graded waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and flat areas and slopes during the winter. 6. On <i>grassed waterways, spillways, and diversion ditches</i> under the mulch blanket across the channel and/or slope and toe or trench in 6 inches deep at the top edge of the mulch blanket. When mulch blanket must be overlaid in the direction of flow always install the downstream blanket first overlapping the upstream blanket top to bottom in a series of 12 inches and secure the joints with staples or stakes. 7. On flat areas and slopes, drain banks, borrow areas and stockpiles under the mulch blanket, install along the slope at roughly the same elevation, installing lower blankets first. Toe or trench in at the top edge of each blanket 6 inches deep, overlap the blankets in a series of 12 inches and secure the joints with staples or stakes. 8. Install mulched areas routinely and after each significant rainfall event to check for movement or erosion until areas are stabilized. If washouts or erosion occur, repair the surface, re-seed and re-mulch. Continue inspections as necessary until vegetation is firmly established. 9. Keep vehicular and pedestrian traffic and concentrated runoff away from mulched areas until they are well established. 10. Mulch effectively controls erosion for at least three months, but can be windblown or washed out. 11. Mulch can be blown or washed away if not secured. 12. Tackifiers are slippery when wet. Equipment must be kept clean to prevent accidents. Tackifiers can also mark vehicles, signs, or other objects if these items are not protected. 13. May not be appropriate in high traffic areas. 14. For native plantings only the cleanest straw should be applied, hay should not be used. 15. Mulch can be blown or washed away if not secured.	

KEY	SESC MEASURE	SYMBOL
41	CATCH BASIN	
When	To provide a stable inlet to an enclosed storm drain, open drain or street flow. May also divert small volumes of sheet flow to protected outlets.	
Why	On enclosed drains to provide a stable inlet and to collect sediment. On open drains with steep slopes or erodible soils to prevent erosion of the inlet and to collect sediment. Where surface water accumulates and needs an outlet.	
Where	Within an enclosed drain system to provide a storm drain inlet and a sump. Where on open drain discharges to a stream or drain at erosive velocities.	
Scheduling	Year around.	
How	1. Excavate to install catch basin with an adequate sump and a positive discharge to the storm system. Design considerations include inlet size, outlet pipe capacity, inlet and outlet elevations, pipe slope, and sump depth. 2. Backfill to grade, adding topsoil and seed, fertilize with a low or no phosphorus fertilizer if necessary. 3. Install soil erosion and sediment control measures to protect inlet. 4. Inspect routinely and following each precipitation event that results in runoff until disturbed areas are stabilized. 5. Remove temporary control measures and clean sediment from sump after site is stabilized. 6. Routinely remove sediment accumulation by hand or with a vacuum truck and haul to an upland site and stabilize. 7. Contaminated sediments must be disposed of at an approved landfill. 8. Repair structure as needed. 9. Disposal cost.	

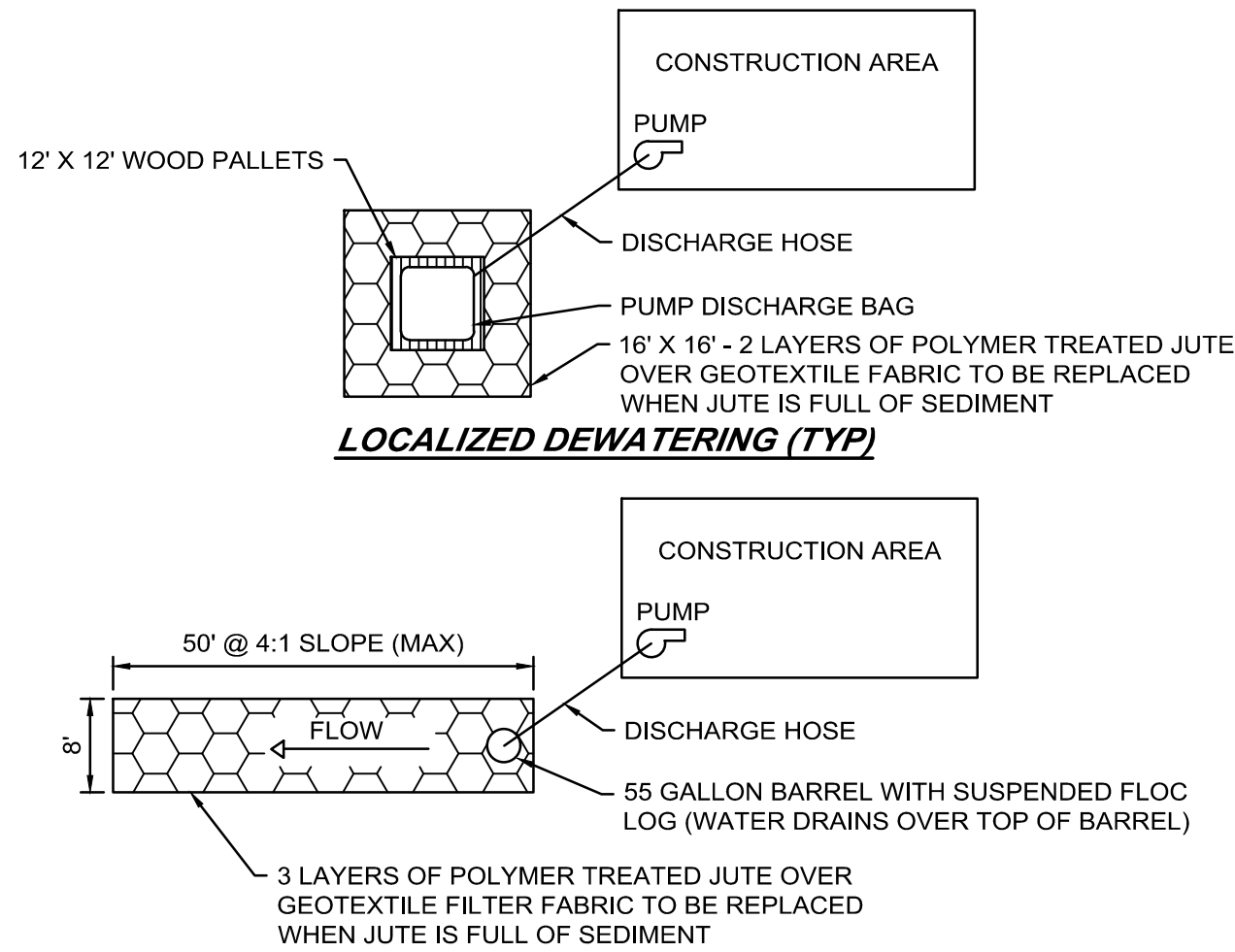
KEY	SESC MEASURE	SYMBOL
60	STORM DRAIN INLET PROTECTION	
When	Runoff from earth change activities will discharge to a catch basin or storm drain inlet.	
Why	A newly constructed catch basin or storm drain inlet needs protection until surrounding area is stabilized. To prevent sediment from entering a stormwater system.	
Where	Around the entrance to a catch basin or storm drain inlet.	
Scheduling	Year around.	
How	1. For catchbasins and storm drain inlets in lawns: install silt fence around the catch basin or inlet perimeter and overlap fence 1-2 feet; wrap catchbasin cover with geotextile fabric or use a prefabricated inlet protection device sized for the inlet. 2. For catchbasins in curb lines wrap catchbasin cover with geotextile fabric or use a prefabricated inlet protection device sized for the inlet. A curb silt dam may also be used for added protection. 3. Provide for secondary bypass to prevent flooding during high runoff conditions. 4. Remove temporary sediment controls when project is complete and all areas are stabilized. 5. Inspect routinely and following a precipitation event that results in runoff until sediment filter is removed. 6. Routinely remove sediment accumulation. 7. Repair and or replace control measures as needed. 8. May cause temporary flooding. 9. Plug easily and require repeated routine maintenance. 10. Catch basin covers and silt sacks should not be used during freezing weather because they become impermeable.	

KEY	SESC MEASURE	SYMBOL
61	SILT FENCE	
When	As a temporary measure used to capture sediment from sheet flow. May also divert small volumes of sheet flow to protected outlets.	
Why	The permeable barrier prevents suspended sediments from leaving the work area minimizing downstream sedimentation. Between earth disturbance and drains, on drain easement boundaries and adjacent to sensitive areas, such as wetlands. In shallow standing water to confine sediment during sediment removal.	
Where	Year around except during frozen ground conditions.	
Scheduling	1. Trench in at the bottom a minimum of 6 inches, stretch and support by wooden posts on the downstream side of the silt fence. The wooden stakes should be driven to a depth of 12 inches below the ground surface and the trench should be backfilled and compacted. It may be necessary to add additional staples in the wooden posts to adequately anchor the silt fence. 2. Install along an elevation contour across the slope overlapping and rolling joints. 3. Drainage from no more than 1/2 acre should be passed through 100 feet of silt fence. 4. In areas where water ponds behind the silt fence, a stone filter berm may be needed to provide on outlet and prevent failure of the silt fence. 5. As an extra precautionary measure when the disturbed area is adjacent to a watercourse or on steep slopes two rows of silt fence may be necessary. They should be placed 3 feet apart and at least 3 feet from the edge of the water. 6. All excavated or surplus soils shall be removed to an upland site, disposed of outside of regulated wetlands or on an existing spoil bank and stabilized to prevent erosion in a manner that will not impair flood flows.	
Maintenance	Inspect the silt fence routinely to assure it has not been knocked down and following a precipitation event, results in erosion. Remove sediment when it reaches 50 percent of its capacity and make repairs promptly. Maintain the silt fence until the disturbed area is completely stabilized with an effective vegetative cover. Remove accumulated sediment and silt fence and vegetate the disturbed area. Silt fence may be reused.	
Limitations	Labor intensive to install correctly, however improperly installed silt fence will not control sediment and will be undercut, overlapped or will collapse. Costly for linear projects however less expensive than removing off-site sediment. A very limited amount of water can pass through silt fence therefore it may fail during larger storm events. Stable outlets must be provided to prevent silt fence failure. Silt fence is ineffective in areas of concentrated flow, such as in the drain, or directly downstream of outlets.	

KEY	SESC MEASURE	SYMBOL
66	STABILIZED CONSTRUCTION ACCESS	
When	Prior to initiating major earth change activities when construction equipment is expected to transport soil onto public roads. The project duration and anticipated frequency of use shall be considered when determining if a gravel construction exit is warranted.	
Why	Minimize fugitive dust and tracking of soil onto a roadway. At locations that construction equipment will enter and exit the drain easement and tracking of soil is anticipated.	
Scheduling	Year around.	
How	1. When conducting earth change activities adjacent to public roads locate in accordance with traffic and safety guidelines. 2. Location should consider potential use as a foundation for a permanent access by the landowner or for drain maintenance. 3. Remove vegetation and other objectionable material such as trees, stumps boulders, etc. from the foundation area. 4. Install a culvert and a sediment sump on the downstream end of the culvert whenever gravel construction exit will block surface runoff. 5. Place geotextile fabric beneath the aggregate to stabilize the foundation. 6. The gravel construction exit approach should be a minimum of 50 feet long, 12 feet wide, 6-8 inches deep, and compact for positive drainage. The aggregate should consist of 2-3 inch diameter crushed rock, gravel or reconstituted concrete. 7. If the gravel construction exit approach slopes toward a road or all of a drain easement, or a portion of a culvert, install linear sediment sumps on one or both sides of the gravel construction exit. 8. If the gravel construction exit approach slopes toward a roadway or all of a drain easement, at a 2 percent grade or more, construct a curb transversely 6 to 8 inches high approximately 1 foot from the road or drain easement boundary to divert runoff into sediment sumps on one or both sides of the gravel construction exit. 9. When access is temporary, aggregate and geotextile fabric must be removed and area restored and re-vegetated. 10. To prevent premature failure, large quantities of soil on equipment tires should be removed prior to driving across the gravel construction exit. 11. Inspect gravel construction access routinely and when it becomes ineffective scrape the top layer and add a 2 inch layer of aggregate. 12. Remove materials tracked onto roadways daily and outside of drain easement as soon as possible.	
Limitations	Effectiveness can be limited; sediment may be tracked onto roads requiring street sweeping.	

CONTINUED MAINTENANCE PROGRAM FOR PERMANENT SESC MEASURES	
AGENCY RESPONSIBLE:	T.A. FORSBERG
INSPECTION SCHEDULE:	INSPECT BMP'S MONTHLY DURING FIRST GROWING SEASON AFTER COMPLETION OF CONSTRUCTION OR AS NEEDED. INSPECT A MINIMUM OF THREE TIMES PER GROWING SEASON FOLLOWING THE FIRST GROWING SEASON AND TWICE DURING THE WINTER SEASON.
PERMANENT SESC MEASURE	MAINTENANCE PROCEDURE
SEEDING:	REPAIR BARE AREAS, APPLYING SUPPLEMENTAL SEED, MULCH, AND WATER AS NEEDED. MOWING CAN BE USED PERIODICALLY TO DISCOURAGE WEEDS.
CATCHBASIN:	ROUTINELY REMOVE SEDIMENT ACCUMULATION BY HAND OR WITH A VACUUM TRUCK AND HAUL TO AN UPLAND SITE AND STABILIZE. CONTAMINATED SEDIMENTS MUST BE DISPOSED OF AT AN APPROVED LANDFILL.

NOTE: DEWATERING IS NOT PROPOSED AT THIS TIME. IF DEWATERING SHOULD BECOME NECESSARY DURING CONSTRUCTION AS DETERMINED BY THE ENGINEER OR APA, THE DETAIL BELOW SHALL BE UTILIZED.



LOCALIZED DEWATERING (TYP)

LINEAR DEWATERING (TYP)

- NOTES:
- PUMP/ DISCHARGE BAG, AS APPROVED, ADEQUATELY SIZED FOR PUMP DISCHARGE FLOW RATE.
  - POLYMER: SILT STOP OR APPROVED EQUAL, TESTED FOR SITE CONDITIONS.
  - JUTE MATTING: NORTH AMERICAN GREEN SC150BN OR APPROVED EQUAL.
  - STAKE JUTE & GEOTEXTILE IN PLACE. STAKES INSTALLED/SECURED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. STAKE LENGTH DEPENDENT ON SOIL CONDITIONS. USE STAKES OF SUFFICIENT LENGTH TO SECURE FOR SITE CONDITIONS.
  - TURBIDITY TO BE LESS THAN 100 NTU.

PARCEL DESCRIPTION

PER ABONMARCHÉ CONSULTANTS, INC. CERTIFICATE OF SURVEY DATED SEPT. 25, 2003

Part of Government Lot 1, Commencing at the intersection of West line of Section and Bear Lake; thence North, 261.2 feet; thence East, 2.21 chains; thence South, to Lake; thence Westerly, to Point of Beginning, Section 28, T.24 N.-R.15 W.


More accurately described as: Commencing at the West Quarter Corner of Section 28, T.24 N.-R.15 W., Pleasanton Township, Manistee County, Michigan; thence Bearing South, along the West line of said Section, 1846.40 feet to the point of beginning; thence continuing bearing South, 260.63 feet to the shore of Bear Lake; thence S.80°-11'-03"E., along said Shore, 148.02 feet; thence Bearing North, parallel with the West line of said Section, 284.21 feet; thence N.89°-21'-02"W., 145.86 feet to the point of beginning, subject to the rights of the public along Butwell Road.

BENCHMARKS

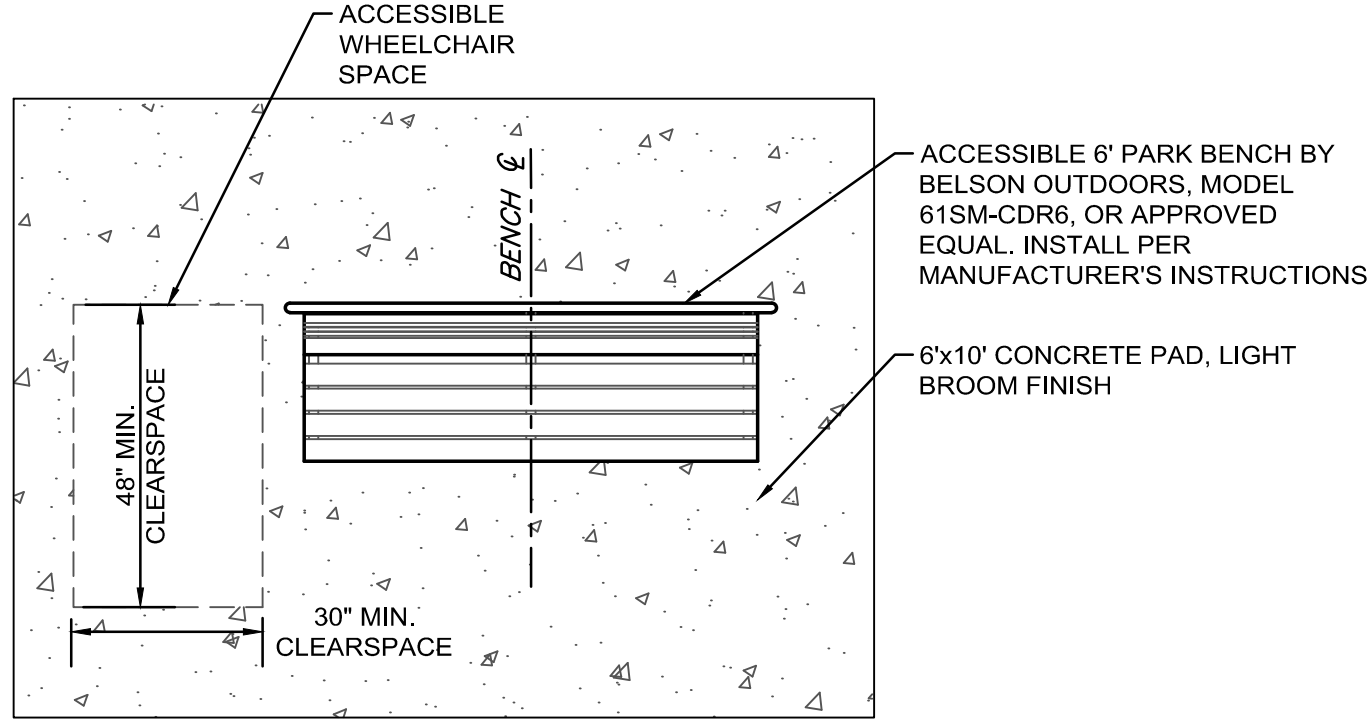
BM #200 - SET GEARSPIKE ON N. FACE OF POWER POLE, 20'± SOUTH OF CENTERLINE OF ROAD.  
NAVD88 EL. 174.50

BEARING BASIS

BEARINGS ARE BASED ON G.P.S. OBSERVATIONS OF PROPERTY CORNERS.

BY	MARK	REVISIONS	DATE
THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREIN IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.			
PLEASANTON TOWNSHIP 8958 LUMLEY ROAD BEAR LAKE, MICHIGAN			
SESC NOTES BUELL PARK IMPROVEMENTS PLEASANTON TOWNSHIP MANISTEE COUNTY, MICHIGAN			
		MANISTEE OFFICE 302 River Street Manistee, MI 49660 Tel. 231-794-5620 www.SpicerGroup.com	
DE. BY: JDW	CH. BY: JDW	PROJECT NO. 130761SG2021	
DR. BY: JDW	APP. BY:		
STDS.	SHEET 10 OF 12	C	
DATE SEPTEMBER 2021	FILE NO. DPL-1154-10	10.0	
SCALE 1" = 20'			

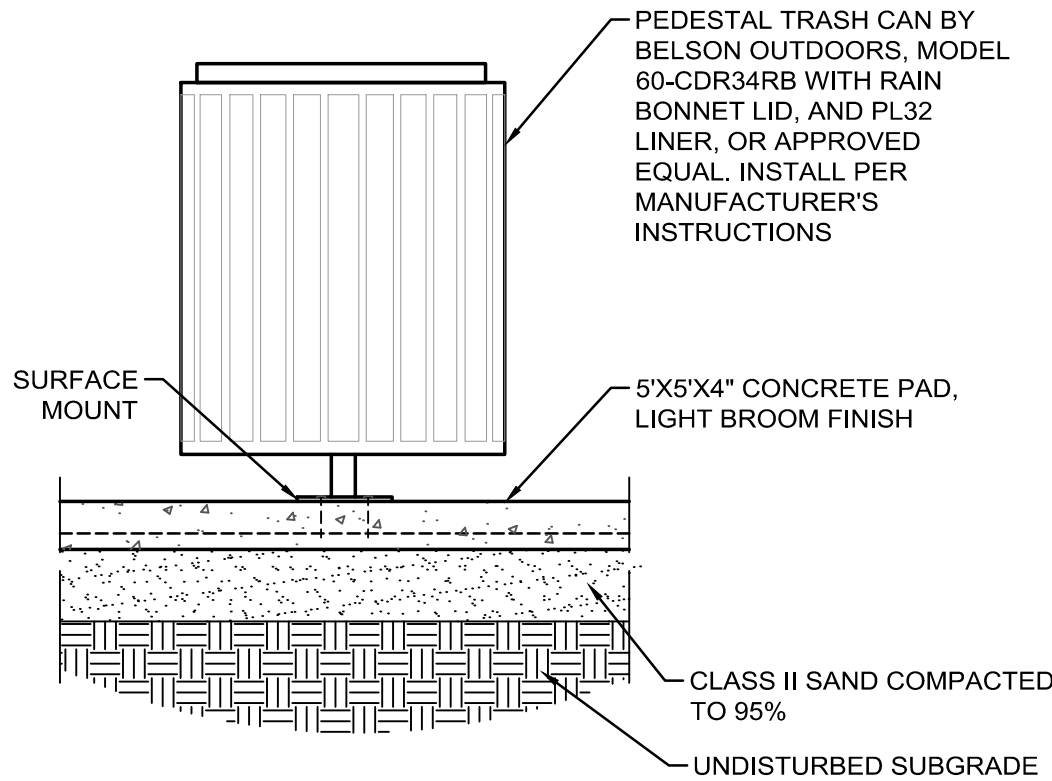




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**SURFACE MOUNTED BENCH - PLAN VIEW**

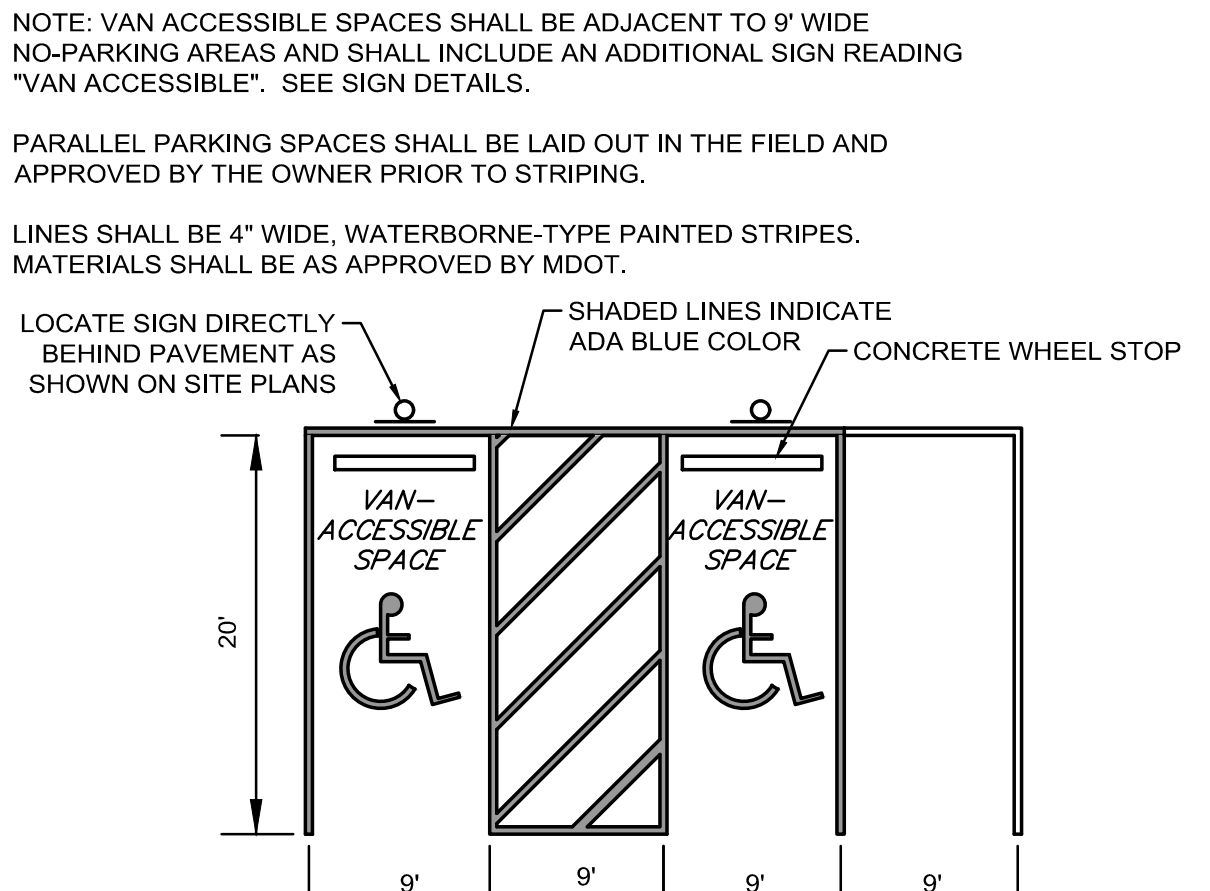
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**SURFACE MOUNTED TRASH RECEPTACLE**

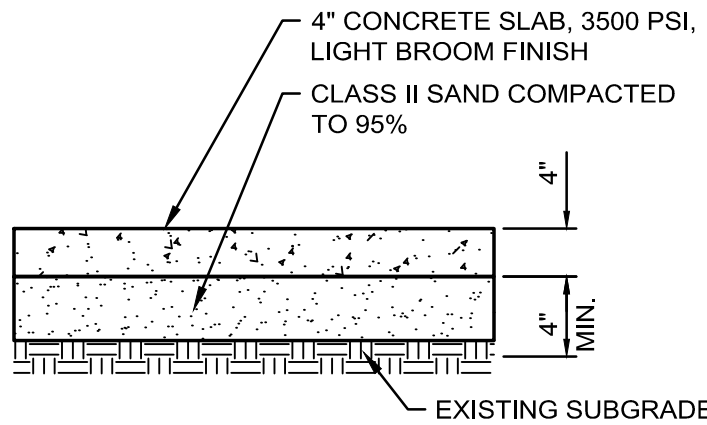
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**STANDARD & A.D.A STRIPING DETAIL**

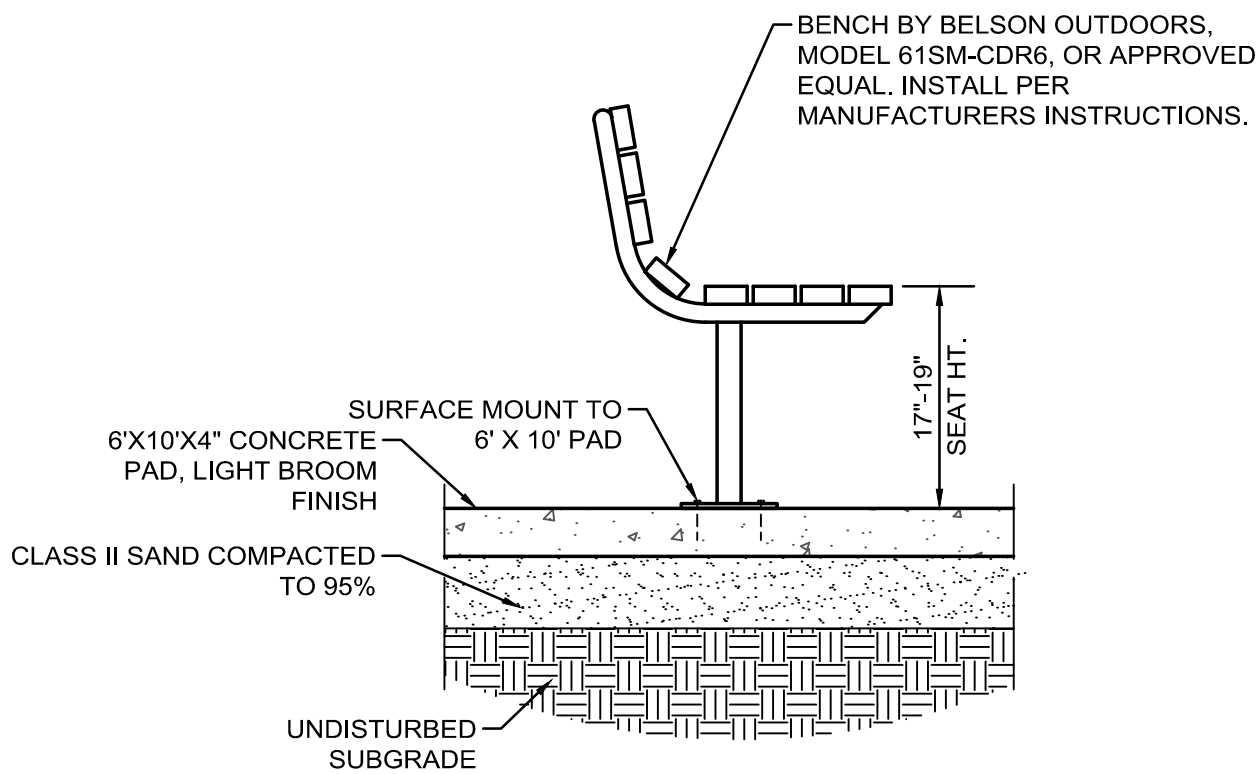
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**4\" CONCRETE PAVEMENT DETAIL**

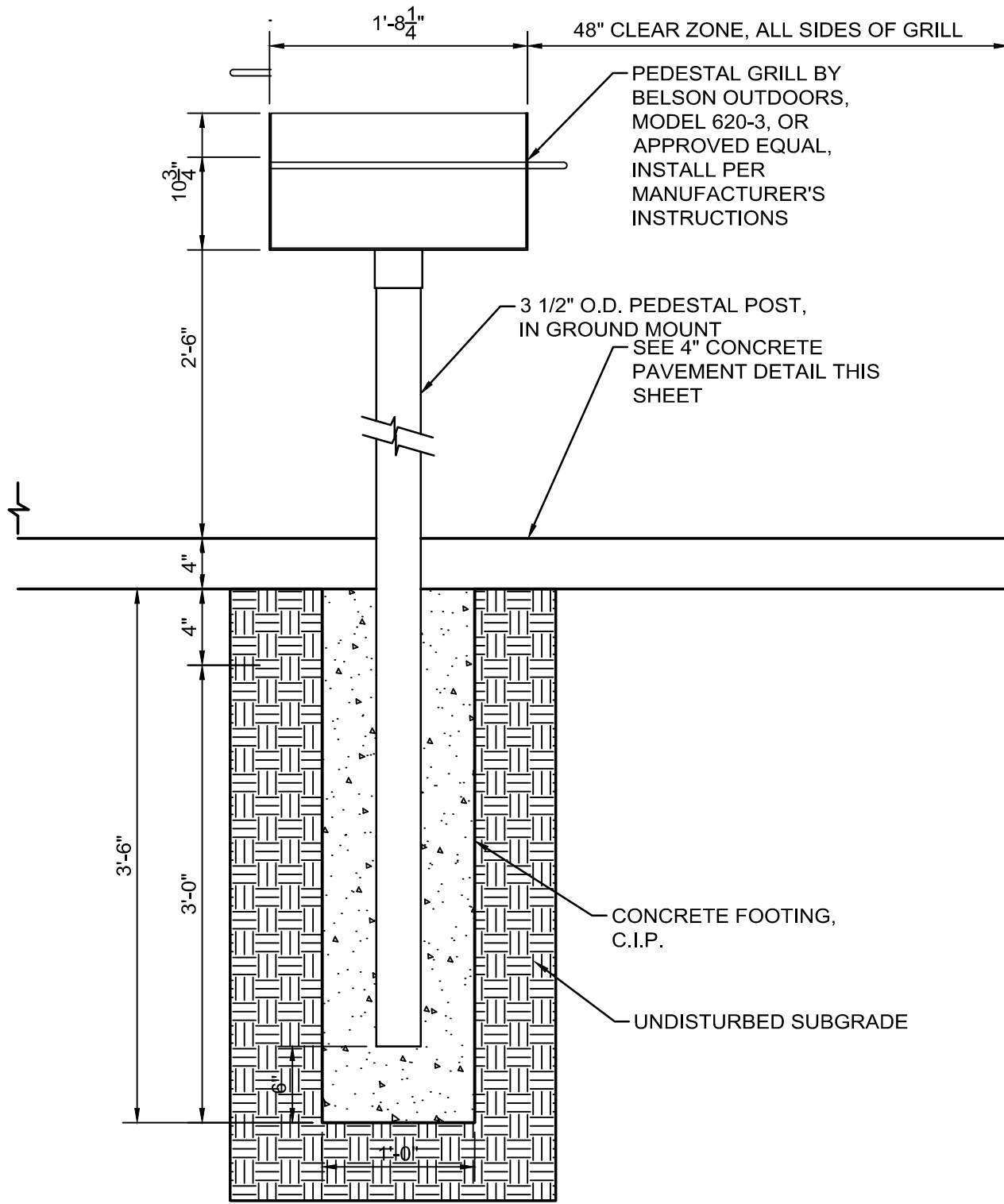
SCALE: 1/2\" = 1'-0"



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**SURFACE MOUNTED BENCH DETAIL**

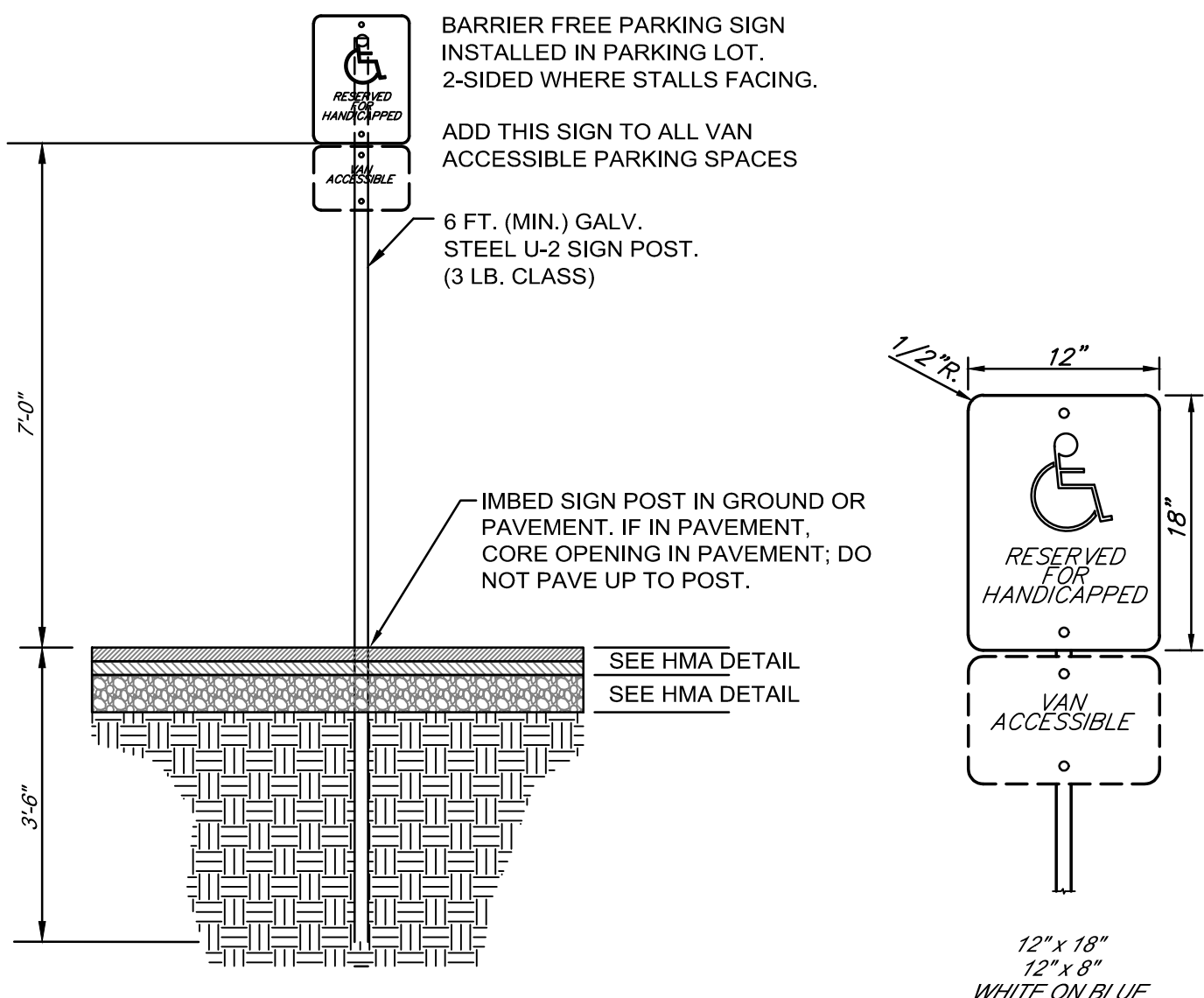
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**A.D.A. GRILL DETAIL**

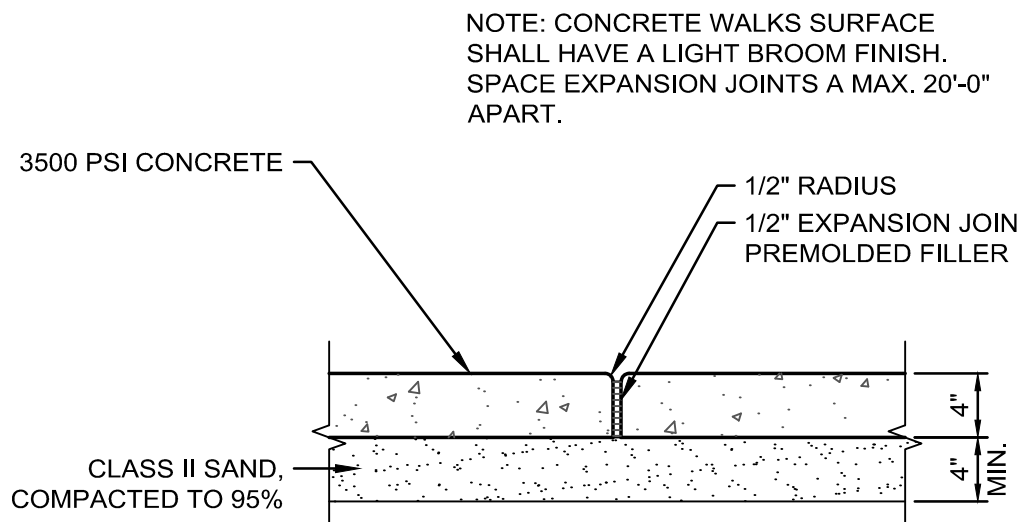
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**A.D.A SIGN AND POST DETAIL**

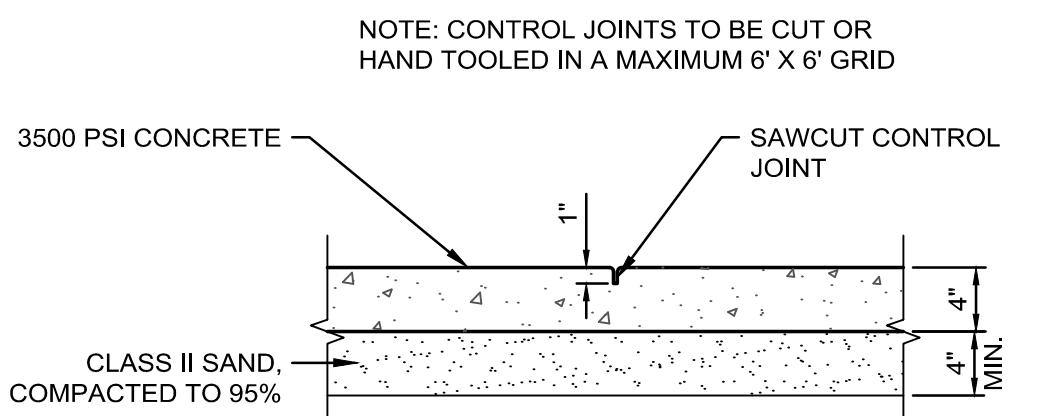
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**EXPANSION JOINT DETAIL - TYPICAL**

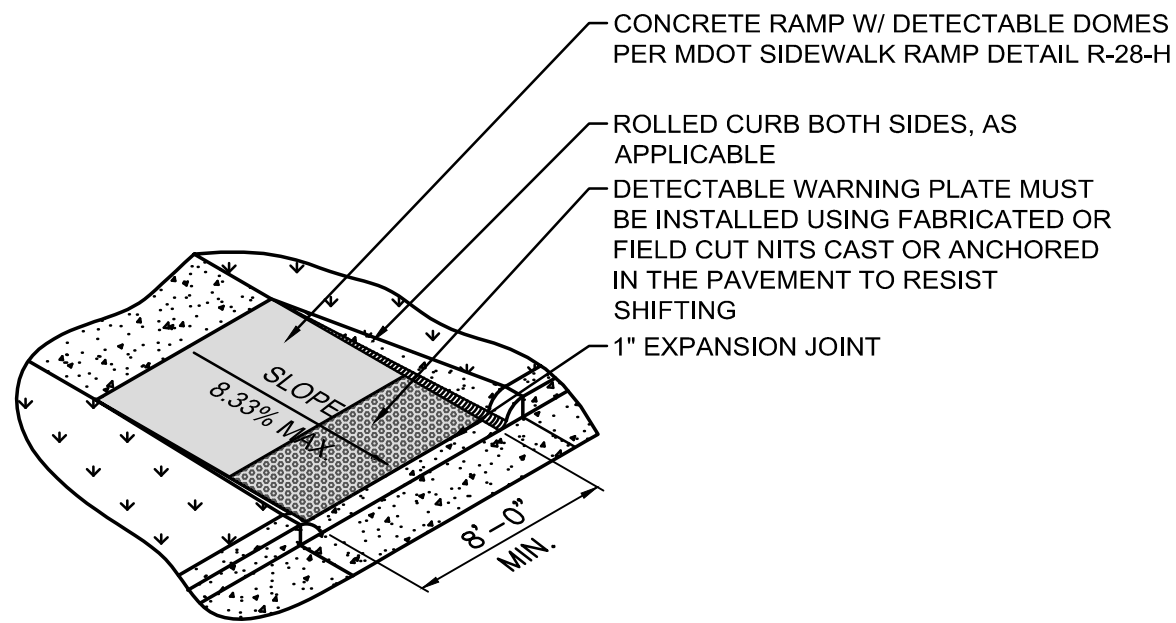
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1A  
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**CONTROL JOINT DETAIL - TYPICAL**

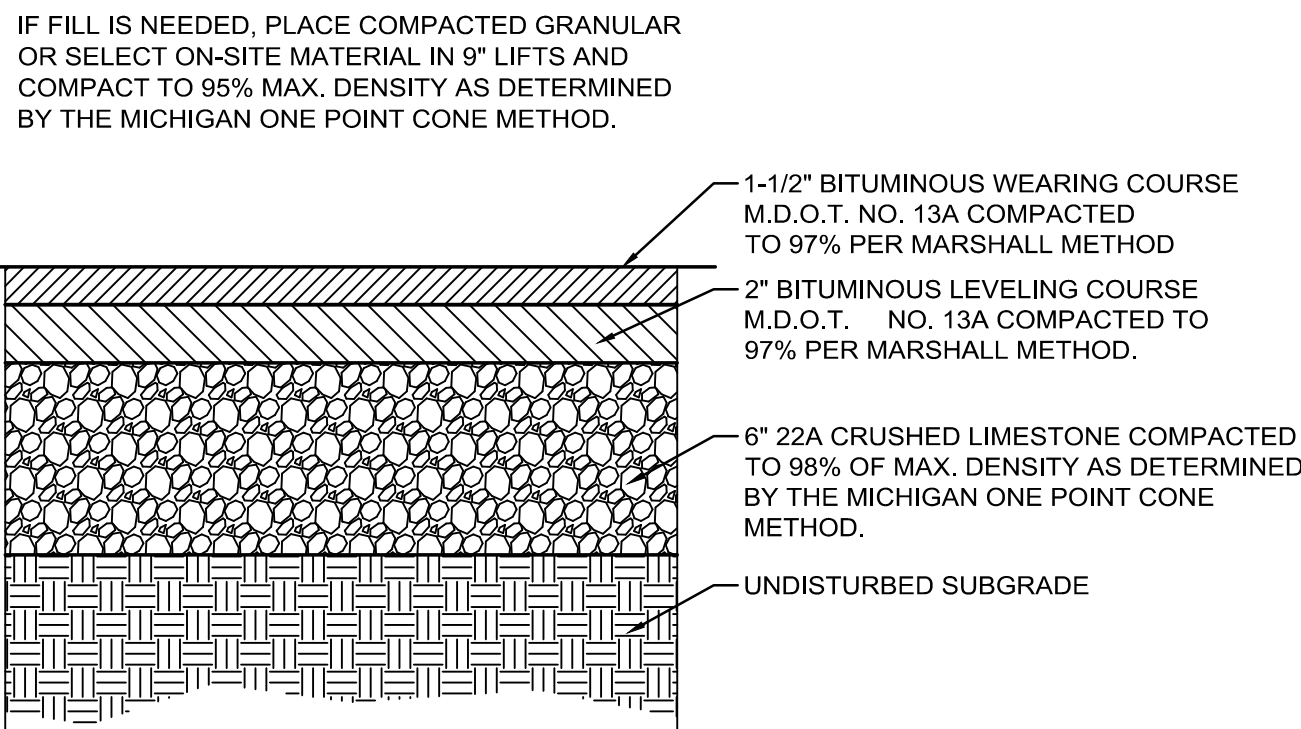
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9  
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**SIDEWALK RAMP MDOT TYPE "R"**

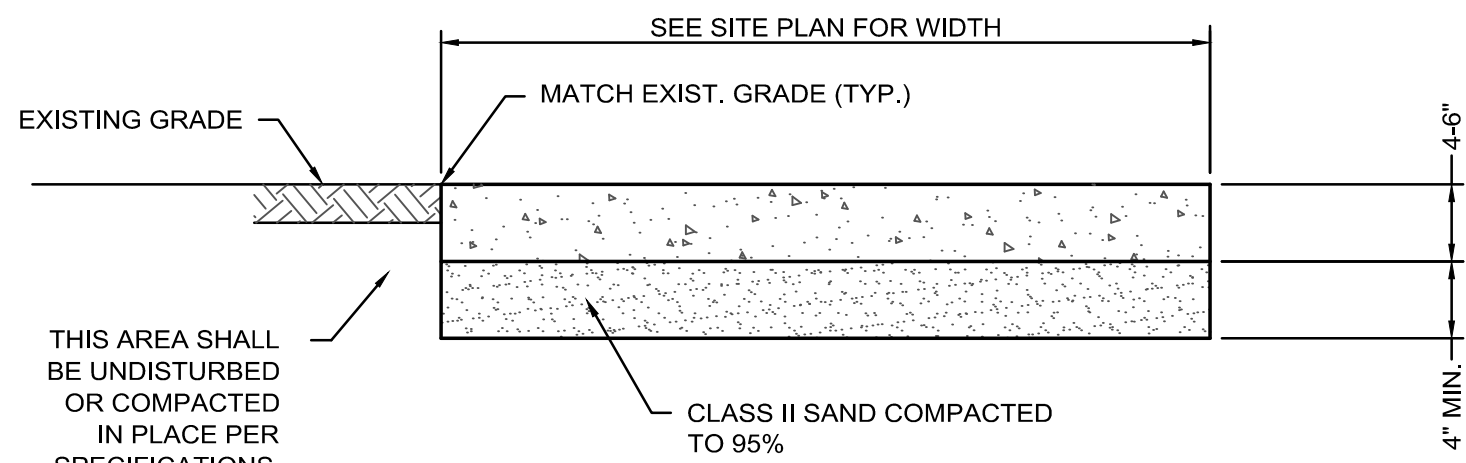
NOT TO SCALE



6  
11.0

**3.5\" HMA PAVEMENT DETAIL - PARKING LOT**

NOT TO SCALE



3  
11.0

**CONCRETE SIDEWALK DETAIL**

NOT TO SCALE

**SIDEWALK CONSTRUCTION NOTES:**  
PROVIDE EXPANSION JOINTS:  
  
AROUND STRUCTURES LOCATED WITHIN THE SIDEWALK.  
  
AT SLAB ADJACENT TO DRIVEWAY CROSSING.  
  
AT SPACING AS SPECIFIED. - AT SAWCUT JOINTS  
  
THICKNESS OF CONCRETE SHALL BE: 6\" THICK AT ALL DRIVE CROSSINGS. 4\" THICK ALL REMAINING AREAS.  
  
4\" SAND SUBBASE TO BE INCLUDED IN UNIT PRICE FOR ALL CONCRETE FLATWORK

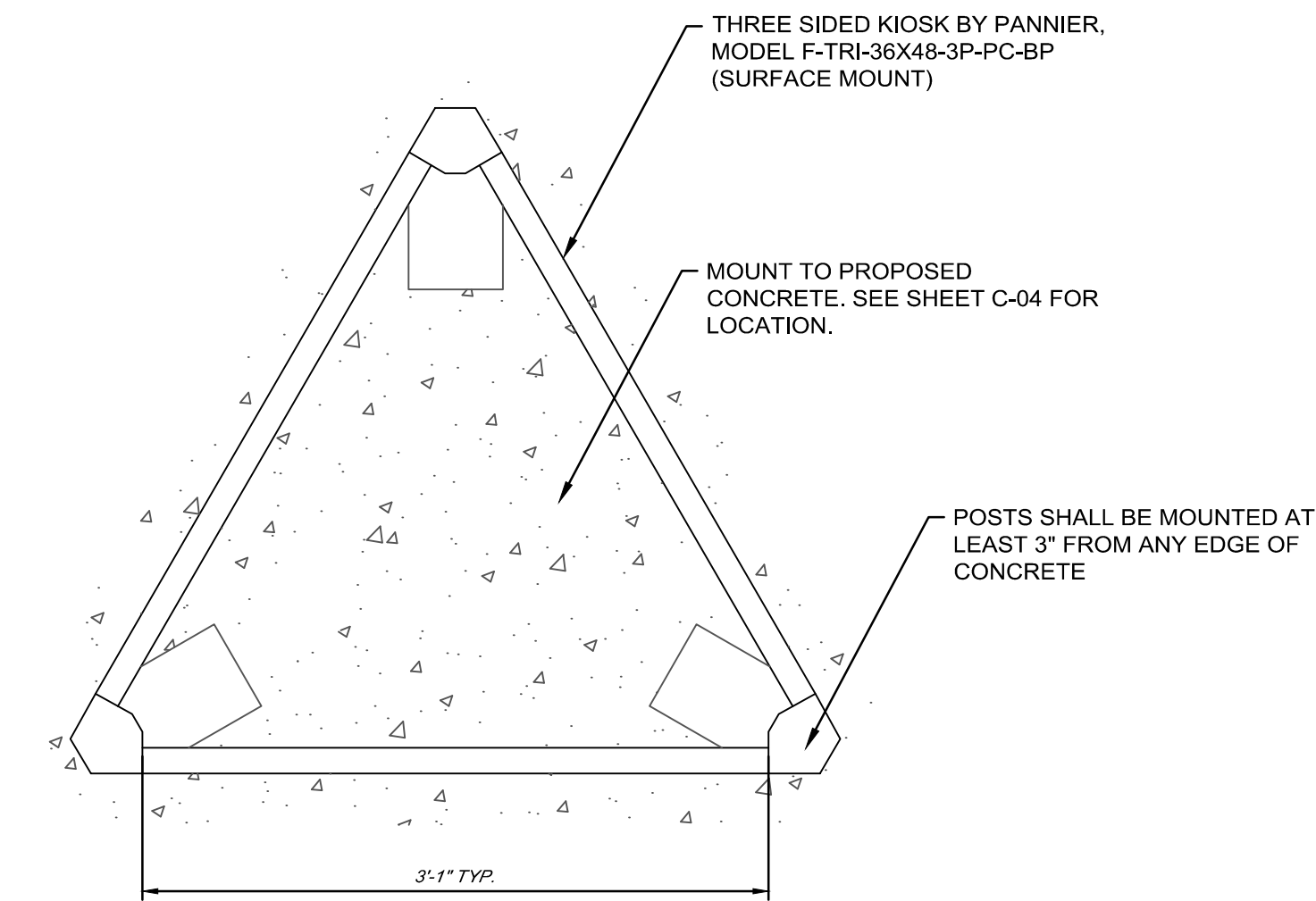
IF FILL IS NEEDED, PLACE COMPACTED GRANULAR OR SELECT ON-SITE MATERIAL IN 9\" LIFTS AND COMPACT TO 95% MAX. DENSITY AS DETERMINED BY THE MICHIGAN ONE POINT CONE METHOD.

ACAD FILE: PG. RET. F.B. PLOT. SCALE: 1\" = 20'

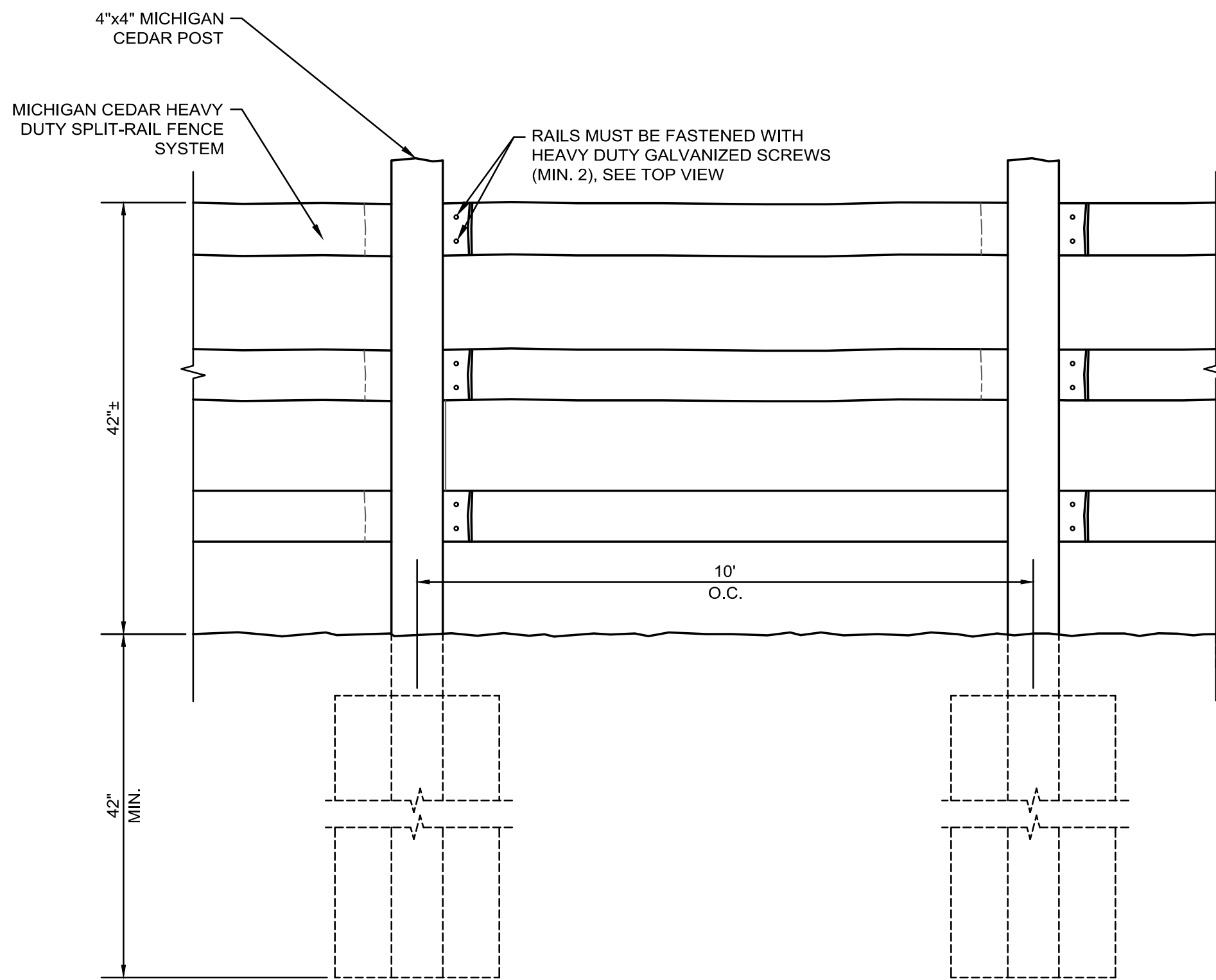
BY	MARK	REVISIONS	DATE
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DE. BY: JDW DR. BY: JDW		CH. BY: APP. BY:	
STDS.		PROJECT NO. 130761SG2021	
DATE SEPTEMBER 2021 SCALE 1\" = 20'		SHEET 11 OF 12 FILE NO. DPL-1154-11	
C 11.0			MANISTEE OFFICE 302 River Street Manistee, MI 49660 Tel. 231-794-5620 www.SpicerGroup.com



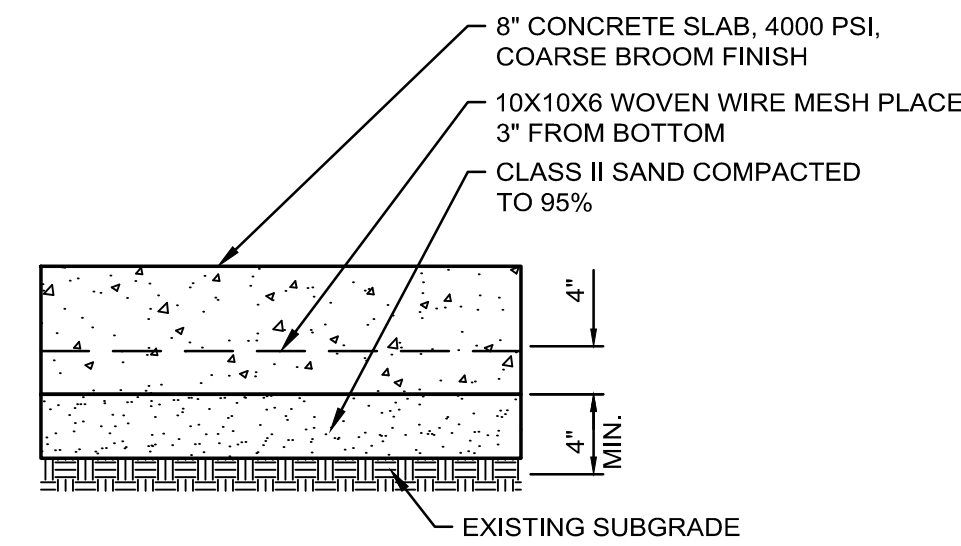
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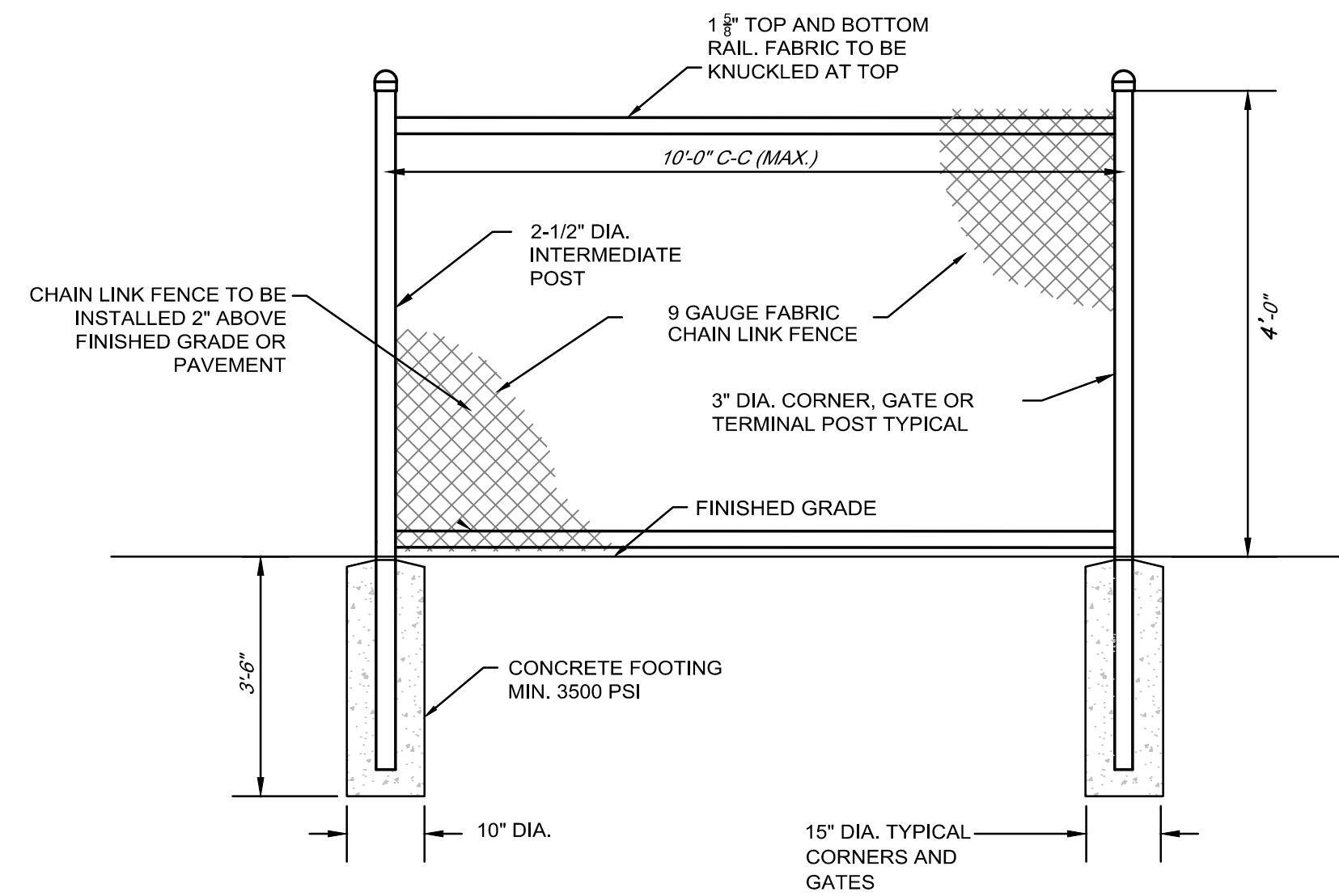
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KIOSK PLAN VIEW  
NOT TO SCALE



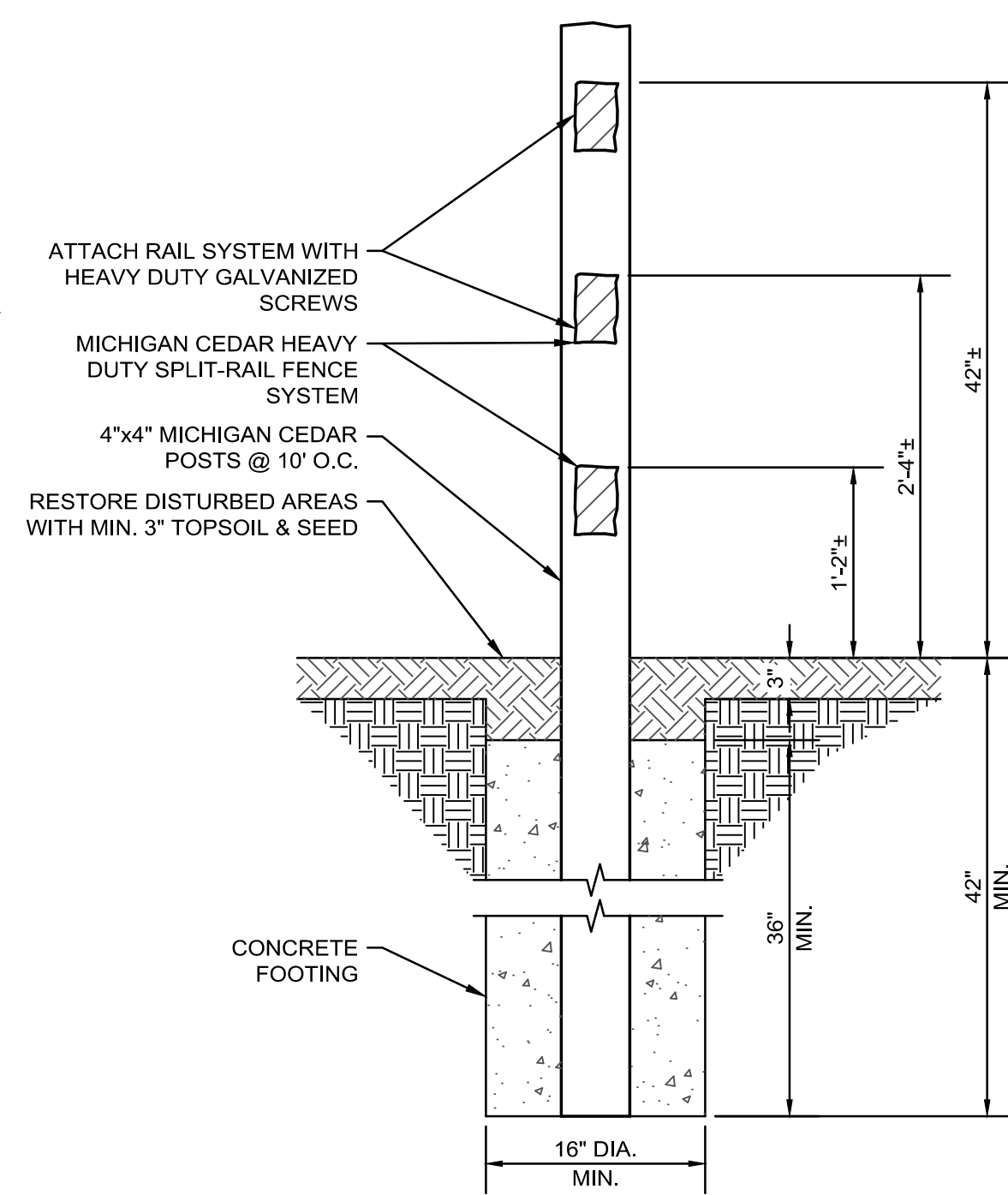
1  
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SPLIT RAIL FENCE DETAIL  
NOT TO SCALE




3  
12.0  
8" REINFORCED CONCRETE DETAIL  
NOT TO SCALE



2  
12.0  
CHAIN LINK FENCE DETAIL  
NOT TO SCALE



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DR. BY: JDW	APP. BY:		
STDs.	SHEET 12 OF 12	C	
DATE SEPTEMBER 2021 SCALE 1" = 20'	FILE NO. DPL-1154-12	12.0	