SOUTH PARCEL A CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN SITE PLAN

ATTN: STEVE SOKA

OWNER 2385 E ELLSWORTH ROAD, LLC 28500 FRANKLIN ROAD SOUTHFIELD, MI 48304 PH (248) 231-6016

ARCHITECH

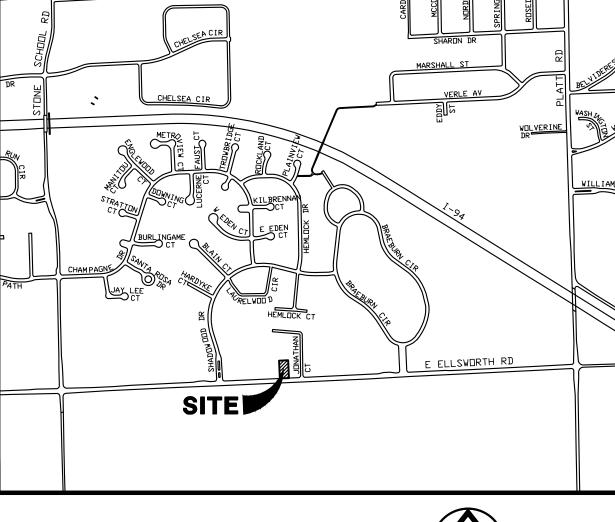
DAMIEN FARREL DESIGN GROUP 359 METTY DRIVE, SUITE 4A ANN ARBOR, MI 48103 PH (734) 998-1331 ATTN: KYLE GONZALEZ

SURVEYOR/CIVIL ENGINEER

EX. BUILDING

E. ELLSWORTH ROAD

MIDWESTERN CONSULTING, LLC 3815 PLAZA DR. ANN ARBOR, MI 48108 PH. (734) 995-0200 ATTN: HEATH HARTT, PE







LEGAL DESCRIPTION - OVERALL PARCEL

(FROM ABSOLUTE TITLE, INC., FILE NUMBER: 85004, EFFECTIVE DATE: 9/26/2018) THE EASTERLY 95 FEET OF THE SOUTHERLY 210 FEET OF LOT 122, ARBOR OAKS SUBDIVISION NO.1, AS RECORDED IN LIBER 19 OF PLATS, PAGES 67 THROUGH 7L, WASHTENAW COUNTY RECORDS.

LEGAL DESCRIPTION - PROPOSED PARCELS

SOUTH PARCEL

PROPOSED PARCEL OF LAND LOCATED IN THE SW 1/4 OF SECTION 10, T3S, R6E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN.

Commencing at the SE corner of Lot 122, Arbor Oaks Subdivision No. 1, also being the POINT OF

thence S87°54'33"W 95.00 feet along the North right-of-way line of E. Ellsworth Rd.

(120' wide);

thence N02°05'35"W 155.00 feet

thence S02°05'35"E 155.00 feet along the East line of said Lot 122 of Arbor Oaks Subdivision No.1 to the POINT OF BEGINNING. Being part of Lot 122 of Arbor Oaks Subdivision No.1 and also part of SW 1/4 of Section 10, T3S, R6E, City of Ann Arbor, Washtenaw County, Michigan, and containing 0.34 acres of land more or less. Being subject to easements and restrictions of record, if any.

SUBJECT TO the following variable width access and public utility easement described as the following:

Commencing at the SE corner of Lot 122, Arbor Oaks Subdivision No. 1, as recorded in Liber 19 of Plats Pages 67-71, Washtenaw County Records; thence S87°54'33"W 15.00 feet along the North right-of-way

line of E. Ellsworth Rd. (120' wide) to the POINT OF BEGINNING; thence continuing S87°54'33"W 28.00 feet along said North right—of—way line;

thence N02°05'32"W 50.97 feet;

thence S87°54'25"W 52.00 feet;

thence N02°05'35"W 25.00 feet; thence N87°54'25"E 52.00 feet:

thence N02°05'32"W 79.03 feet;

thence N87°54'25"E 28.00 feet;

thence S02°05'32"E 155.00 feet to the POINT OF BEGINNING. Being part of Lot 122 of Arbor Oaks Subdivision No.1 and also part of SW 1/4 of Section 10, T3S, R6E, City of Ann Arbor, Washtenaw County, Michigan. Being subject to easements and restrictions of record, if any.

PROPOSED PARCEL OF LAND LOCATED IN THE SW 1/4 OF SECTION 10, T3S, R6E,

CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN.

Commencing at the SE corner of Lot 122, Arbor Oaks Subdivision No. 1, NO2°05'35"W 155.00 feet along the East line of said Lot 122 of Arbor Oaks Subdivision No.1 to the POINT OF BEGINNING;

thence S87°54'25"W 95.00 feet; thence N02°05'35"W 55.00 feet;

thence N87°54'33"E 95.00 feet; thence S02°05'35"E 55.00 feet along said East line of Lot 122 to the POINT OF BEGINNING. Being part of Lot 122 of Arbor Oaks Subdivision No.1 and also part of SW 1/4 of Section 10, T3S, R6E, City of Ann Arbor, Washtenaw County, Michigan, and containing 0.12 acres of land more or less. Being subject to easements and restrictions of record, if any.

TOGETHER WITH the following variable width access and public utility easement described as the following: Commencing at the SE corner of Lot 122, Arbor Oaks Subdivision No. 1, as recorded in Liber 19 of Plats, Pages 67-71, Washtenaw County Records; thence S87°54'33"W 15.00 feet along the North right-of-way

line of E. Ellsworth Rd. (120' wide) to the POINT OF BEGINNING; thence continuing S87°54'33"W 28.00 feet along said North right-of-way line;

thence N02°05'32"W 50.97 feet;

thence S87°54'25"W 52.00 feet; thence N02°05'35"W 25.00 feet;

thence N87°54'25"E 52.00 feet;

thence N02°05'32"W 79.03 feet;

thence N87°54'25"E 28.00 feet; thence S02°05'32"E 155.00 feet to the POINT OF BEGINNING. Being part of Lot 122 of Arbor Oaks Subdivision No.1 and also part of SW 1/4 of Section 10, T3S, R6E, City of Ann Arbor, Washtenaw County,

Michigan. Being subject to easements and restrictions of record,

NATURAL FEATURES IMPACT STATEMENTS

TREE IMPACTS - NO LANDMARK TREES ARE LOCATED ON THE SITE. THREE LANDMARK TREES ARE LOCATED WITHIN THE ELLSWORTH ROAD RIGHT-OF-WAY SURVEY AREA.

WOODLANDS - NO WOODLANDS ARE LOCATED ON THE SITE.

FLOODPLAINS/WATERCOURSES - NO FLOODPLAINS OR WATERCOUSES ARE LOCATED ON THE SITE.

WETLANDS - NO WETLANDS ON THE SITE.

STEEPSLOPES - NO STEEP SLOPES ARE LOCATED ON THE SITE.

LAND DIVISION ZONING COMPARISON CHART

LAND DIVISION	Existing Parent Parcel 2385 E. Ellsworth Road	Parcel A (South) 2375 E. Ellsworth Road	Parcel B (North) 2365 E. Ellsworth Road	
ZONING COMPARISON	Required/ Permitted	Proposed	Proposed	
Zoning:	C1	C1	C1	
Building Height	35 ft			
Max Stories	3	1		
Minimum Lot Area	2,000 sq ft	14,725sf	5,225sf	
Minimum Width	20 ft	95 ft	95 ft	
FAR	100% max.	18%	0%	
Floor Area per Non-Residential Use	8000sf max.	2,533sf	0sf	
Setbacks Front	10 ft min/ 25 ft max	98 ft	10 ft	
Side - West	0/30*	O ft	O ft	
Side - East	0/30*	44 ft	30 ft	
Rear	0/30*	7 ft	O ft	
Vehicular Parking	Min 1 per 310 sf	9 min/ 10 max required		
	Max 1 per 265 sf	9 provided		
		(1 ADA Van)		
Bicycle Parking	1 per 3,000 sf Floor Area	1 space required		
	(50% B/C)	2 provided - shared		
Traffic		Total: 640 Trips		
		AM Peak: 26 Trips		
		PM Peak: 55 Trips		

* 30' where abutting Residential Zoned Land, otherwise none

+1ft per building ht ft over 30 ft

OVERALL SITE 1" = 40'

DEVELOPMENT PROGRAM

2385 E. ELLSWORTH ROAD LLC CURRENTLY OWNS THE RIGHTS TO THE PROPERTY AT 2385 E ELLSWORTH ROAD, ANN ARBOR. THE PROPOSED PROJECT CONSISTS OF A LOT SPLIT AND THE REFURBISHING OF AN EXISTING SINGLE STORY BUILDING TO BE USED AS A MEDICAL MARIJUANA DISPENSARY. A TOTAL OF 9 PARKING SPACES ARE PROPOSED FOR THE SOUTH PARCEL, WHICH INCLUDES 8 STANDARD SPACES AND 1 BARRIER FREE PARKING SPACE. STORMWATER WILL BE DIRECTED TO UNDERGROUND DETENTION CHAMBERS THROUGH THE USE OF A STORM SEWER SYSTEM. CONSTRUCTION WILL OCCUR AS A SINGLE PHASE, WITH WORK STARTING IN THE SPRING OF 2020. A SPECIAL EXCEPTION USE FOR A MARIJUANA PROVISIONING CENTER WAS GRANTED ON NOVEMBER 19, 2019 WITH CONDITIONS. AN AMENDMENT WAS APPROVED TO EXTEND THE CONDITIONAL DEADLINE TO MAY 19 2021. ANTICIPATED CONSTRUCTION COSTS ARE \$750,000.

COMMUNITY ANALYSIS

THE PROPOSED DEVELOPMENT IS LOCATED WITHIN C1 COMMERCIAL ZONING AND NOT LOCATED WITHIN A RESIDENTIAL DISTRICT AND NOT WITHIN A HISTORICAL DISTRICT. NO IMPACT TO SCHOOL CAPACITY IS ANTICIPATED. THE SITE CURRENTLY DOES NOT HAVE ANY STORMWATER BEST MANAGEMENT PRACTICES ON THE SITE AND IMPROVEMENTS TO STORM WATER QUALITY WILL BE REALIZED WITH THE DEVELOPMENT.

TRAFFIC ANALYSIS

A TRAFFIC IMPACT STUDY WAS DEVELOPED FOR THE SITE. UNDER FUTURE CONDITIONS (WITH THE PROPOSED DEVELOPMENT), OPERATIONS ARE NEARLY IDENTICAL TO BACKGROUND CONDITIONS. NO FURTHER IMPROVEMENTS ARE RECOMMENDED TO SUPPORT THE PROPOSED DEVELOPMENT. FORECASTING THE WEEKDAY AM AND PM PEAK HOUR TRIPS ASSOCIATED WITH THE PROPOSED DEVELOPMENT ARE SUMMARIZED IN THE COMPARISON CHART.

GENERAL NOTES:

- 1. PER CHAPTER 49, SECTION 4:58 OF THE CITY CODE, "ALL SIDEWALKS ARE TO BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME." PRIOR TO ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS.
- 2. "THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS WHICH ARE INCLUDED BY REFERENCE."
- 3. "THE OMISSION OF ANY STANDARD DETAILS DOES NOT RELIEVE THE CONTRACTORS OF THEIR OBLIGATION TO CONSTRUCT
- ITEMS IN COMPLETE ACCORDANCE WITH PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS." 4. WORK IN THE ELLSWORTH RIGHT-OF-WAY REQUIRE A CITY RIGHT-OF-WAY PERMIT(S). PROJECT MANAGEMENT SHALL INSPECT ALL WORK IN THE RIGHT-OF-WAY INCLUDING BUT NOT LIMITED TO DRIVE APPROACHÉS, SIDEWALKS, CURB & GUTTER, UTILITIES, RELOCATION OF STREET LIGHTS, ETC.
- 5. PUBLIC STREET LIGHT RELOCATION REQUIRED REVIEW AND APPROVAL OF THE CITY TRAFFIC ENGINEER. THE PROJECT OWNER WILL BE RESPONSIBLE FOR ALL ASSOCIATED COSTS OF THE RELOCATION.

01	COVER
02	EXISTING CONDITIONS & ALTA SURVEY
03	REMOVALS
04	DIMENSIONAL SITE PLAN
05	SOIL EROSION CONTROL PLAN
06	UTILITY PLAN
07	STORMWATER MANAGEMENT PLAN
80	STORMWATER CALCULATIONS
09	LANDSCAPE PLAN
10	FIRE PROTECTION AND REFUSE PLAN
11	SITE DETAILS
12	PHOTOMETRIC PLAN
A0.00	PERSPECTIVE
A1.00	EXISTING FLOOR PLAN & SECTION
A4.00	EXISTING ELEVATIONS

SHEET INDEX

2385 E ELLSWORTH

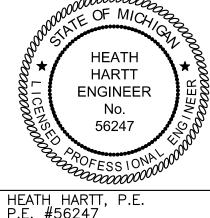
DB No. 18300		DATE: 9/29/20
	554 5475	SHEET 1 OF 14
VISIONS:	REV. DATE	CARR STO TES
R MUNICIPAL REVIEW	12/22/20	CADD: CTS, TES
R MUNICIPAL REVIEW	1/25/21	ENG: HTH
		PM: HTH
		TECH:
		18300CV.DWG

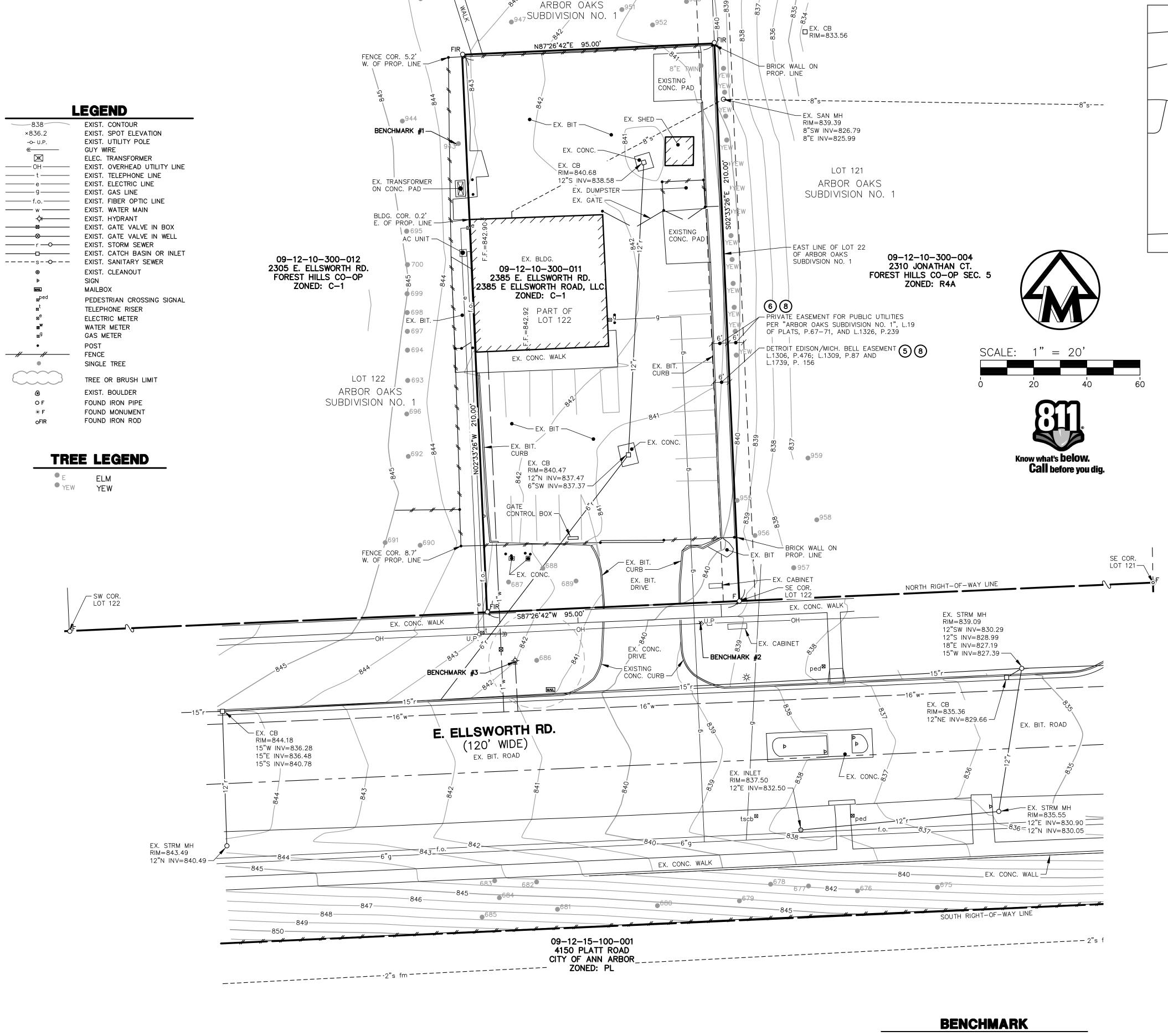


MIDWESTERN

3815 Plaza Drive Ann Arbor, Michigan 48108 (734) 995-0200 • www.midwesternconsulting.com Land Development • Land Survey • Institutional • Municipal Wireless Communications • Transportation • Landfill Services

RELEASED FOR: DATE





The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

BM#1: SPIKE IN EAST FACE OF 15" COTTONWOOD

±28" NORTH OF NW BLDG. CORNER

ELEV=845.55 (NAVD 88 DATUM) BM#2: SPIKE IN WEST FACE OF UTILITY POLE EAST

OF ENTRANCE ELEV=841.18 (NAVD 88 DATUM)

BM#3: NORTH FACE TOP STEAMER OF FIRE HYDRANT WEST OF ENTRANCE ELEV=844.11 (NAVD 88 DATUM)

E ELLSWORTH RD



LEGAL DESCRIPTION

(from Absolute Title, Inc., File No.: 85004 Rev. 1, with Effective Date of July 19, 2019)

The Easterly 95 feet of the Southerly 210 feet of Lot 122, Arbor Oaks Subdivision No. 1, as recorded in Liber 19 of Plats, Pages 67 through 71, Washtenaw County Records.

Being more particularly described as the following: Commencing at the SE corner of Lot 122, Arbor Oaks Subdivision No. 1, as recorded in Liber 19 of Plats, pages 67 through 71, Washtenaw County records, also being the POINT OF BEGINNING;

thence S87°54'33"W 95.00 feet along the North right-of-way line of E. Ellsworth Rd. (120' wide);

thence N02°05'35"W 210.00 feet;

thence N87°54'33"E 95.00 feet;

thence S02°05'35"E 210.00 feet along the East line of said Lot 122 of Arbor Oaks Subdivision No.1 to the POINT OF BEGINNING. Being part of Lot 122 of Arbor Oaks Subdivision No.1 and also part of SW 1/4 of Section 10, T3S, R6E, City of Ann Arbor, Washtenaw County, Michigan, and containing 0.46 acres of land more or less. Being subject to easements and restrictions of record, if

EXCEPTIONS

- Building and use restrictions contained in instrument recorded in Liber 1326, Page 239, and in Liber 1688, Page 939, Washtenaw County Records, which are not accompanied by a right of reverter, but omitting any such covenant or restrictions based on race, color, religion, sex, handicap, familial status, or national origin. (NOT PLOTTABLE)
- Easement Grant and Declaration of Restrictions in favor of The Detroit Edison Company and Michigan Bell Telephone Company, as recorded in Liber 1306, Page 476, Washtenaw County Records, and Agreement pertaining thereto, as recorded in Liber 1309, Page 87, Washtenaw County records. (PLOTTED)
- Easement for public utilities and drainage facilities, as shown on the recorded plat, and as disclosed by instrument recorded in Liber 1326, Page 239, Washtenaw County Records (PLOTTED)
- Easements, covenants and restrictions recorded in Liber 1344, Page 193, Washtenaw County Records. (NOT PLOTTABLE)
- Right of Way in favor of The Detroit Edison Company, as recorded in Liber 1739, Page 156, Washtenaw County Records. (PLOTTED)

NOTES

- 1) THIS SURVEY WAS PREPARED USING ABSOLUTE TITLE, INC. FILE No. 85004 REV. 1 WITH AN EFFECTIVE DATE OF JULY 19, 2019.
- 2) THE LEGAL DESCRIPTION DESCRIBES THE SAME PROPERTY AS INSURED IN THE TITLE COMMITMENT AND ANY EXCEPTIONS HAVE BEEN NOTED HEREIN.
- 3) BEARINGS ARE BASED ON THE EAST LINE OF LOT 22 OF ARBOR OAKS SUBDIVISION NO. 1, AS RECORDED IN LIBER 19 OF PLATS, PAGES 67 THROUGH 71, WASHTENAW COUNTY RECORDS.
- 4) SAID DESCRIBED PROPERTY IS NOT LOCATED WITHIN A 100-YEAR FLOOD PLAIN ZONE PER FLOOD INSURANCE RATE MAP NO. 26161C0402E WITH AN EFFECTIVE DATE OF APRIL 3, 2012, FOR COMMUNITY NUMBER 260213 AND 260623, IN WASHTENAW COUNTY, STATE OF MICHIGAN, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS
- 5) THERE IS NO EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.
- 6) THERE IS NO OBSERVED EVIDENCE OF THIS BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
- 7) THERE IS NO OBSERVED EVIDENCE INDICATING ANY CEMETERIES ARE LOCATED ON THE PARCEL HEREIN DESCRIBED.
- 8) SITE ADDRESS: 2385 E. ELLSWORTH, ANN ARBOR MI

SURVEYORS CERTIFICATE

To: 2385 East Ellsworth Road, LLC, a Michigan limited liability company, Absolute Title, Inc.:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 8, 11, 13, and 16 of Table A thereof. The fieldwork was completed on November 11, 2018.

MIDWESTERN CONSULTING, LLC

Mark Vander Veen, P.S. No. 56788

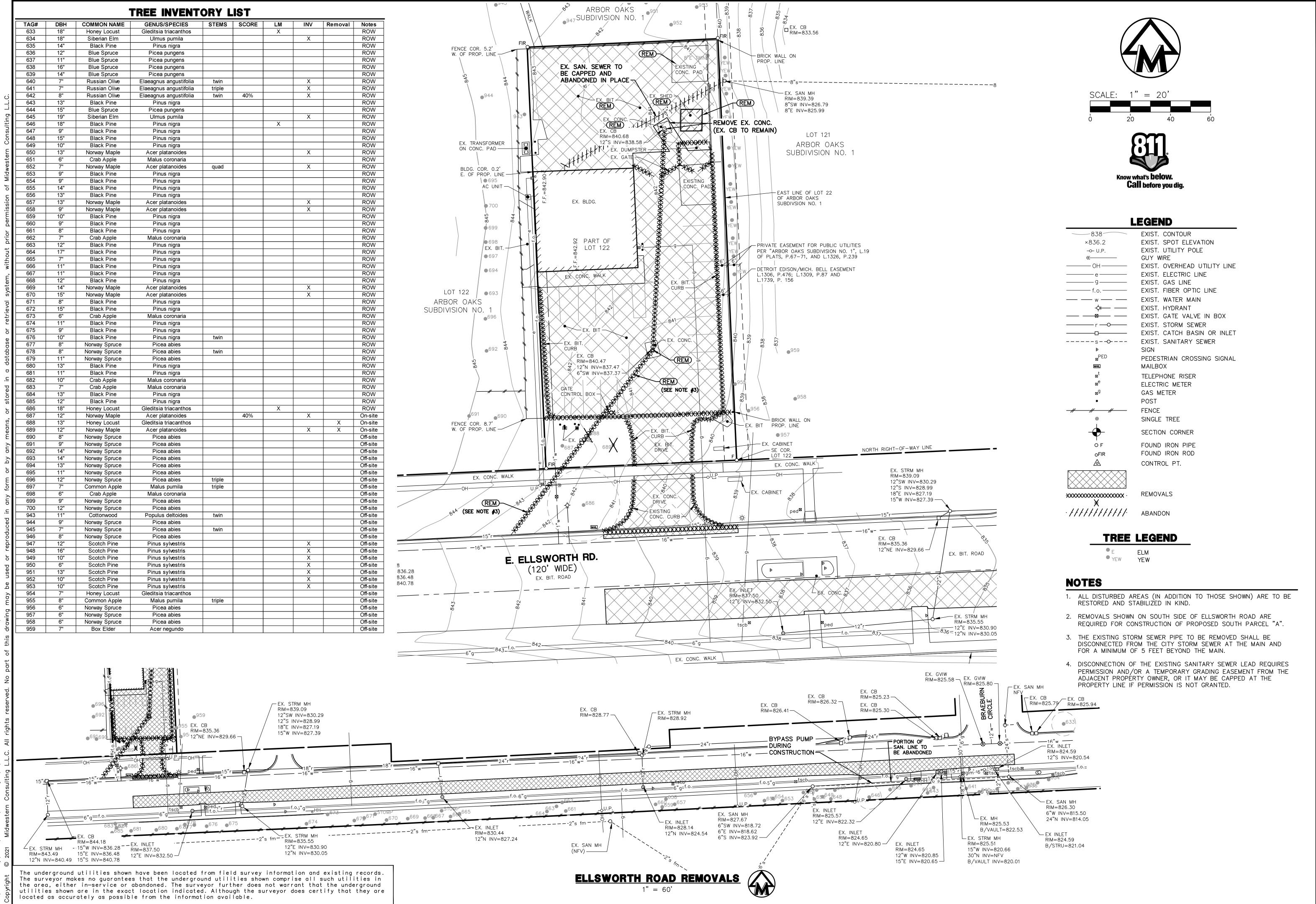
Date: September 11, 2019



Ä ∐N

 $oldsymbol{\alpha}$ 0

3 S

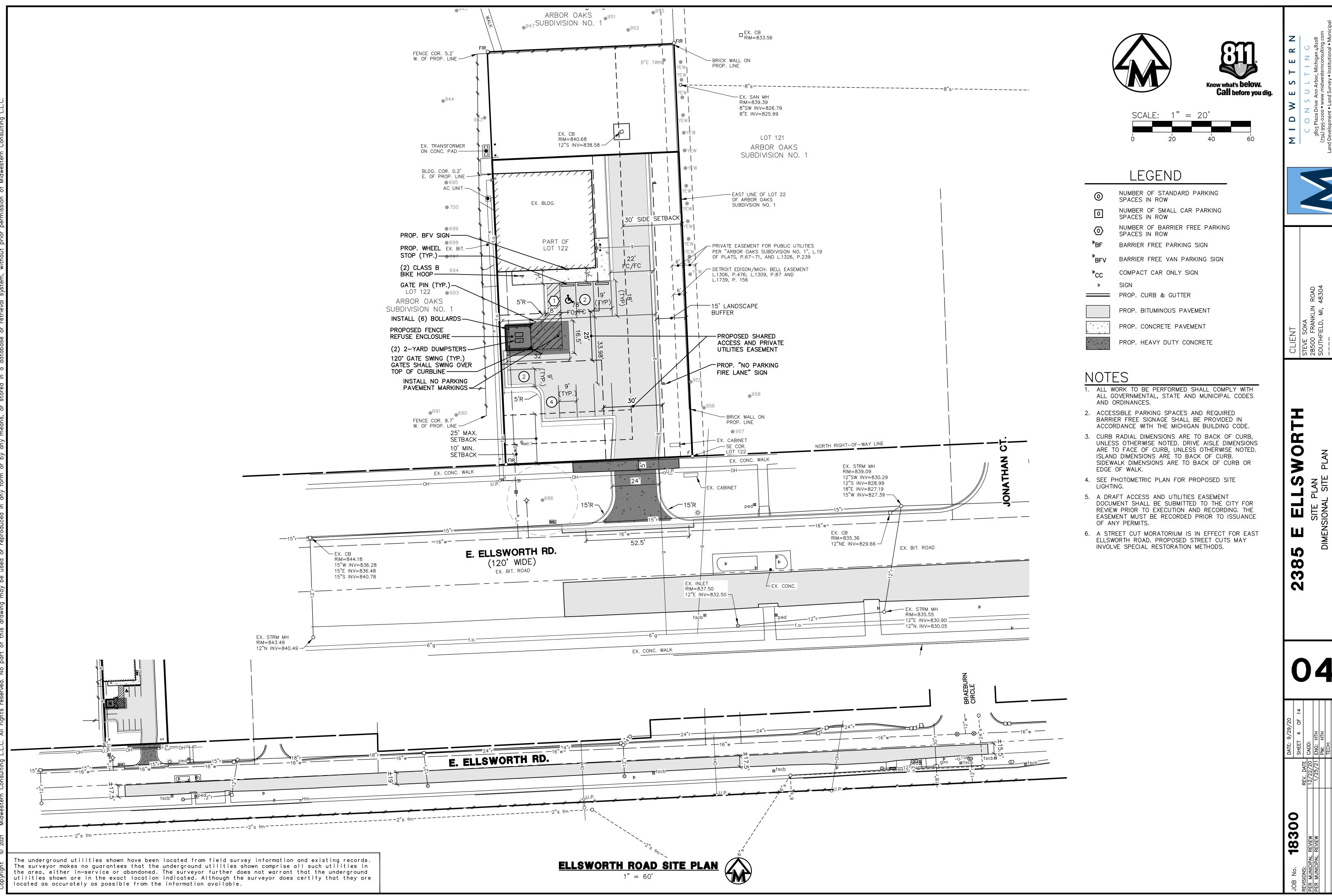


Ä,

0 LS PLAN

Ш

3 S



ROAD 48304

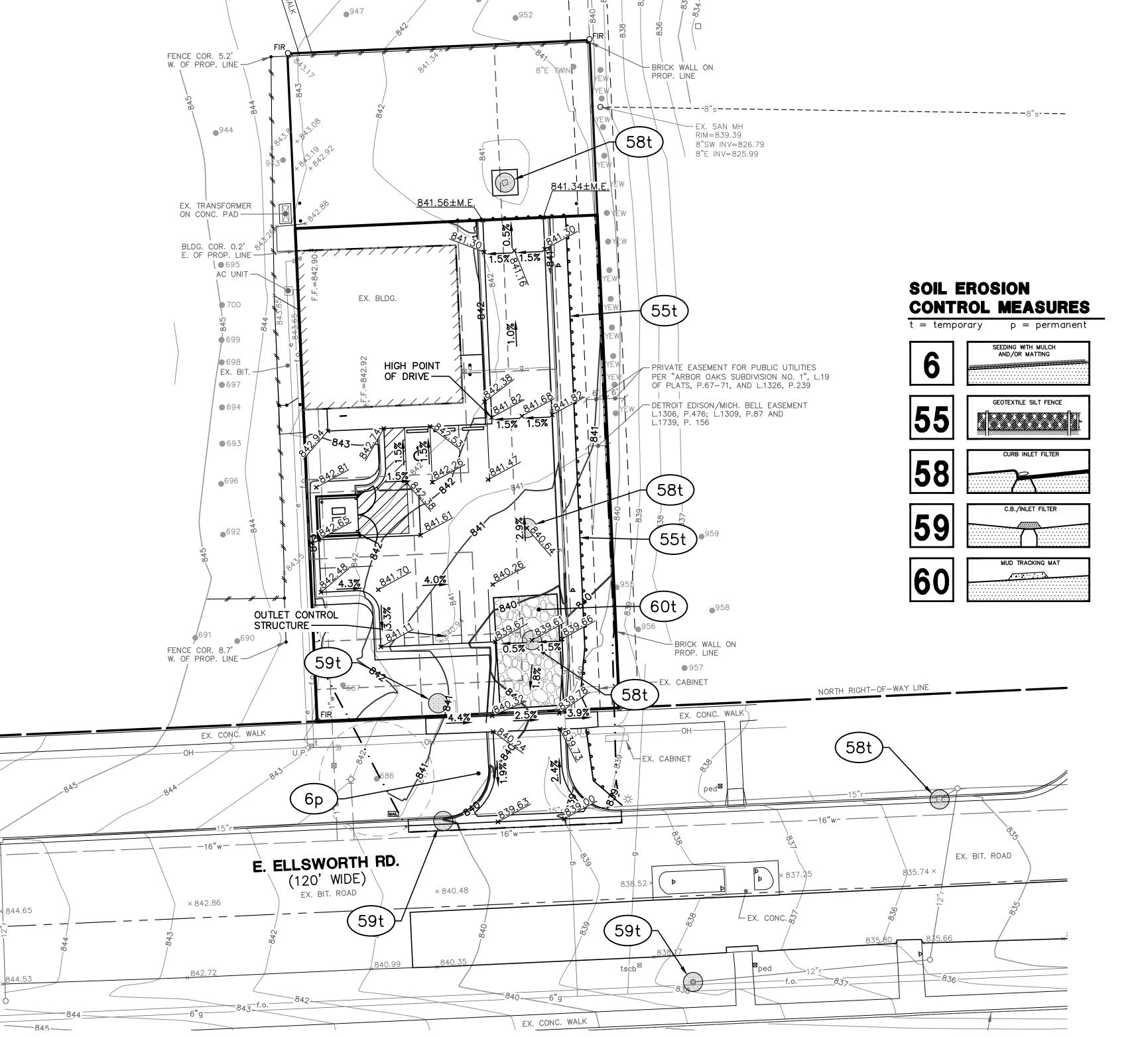
PROGRAM PROPOSAL

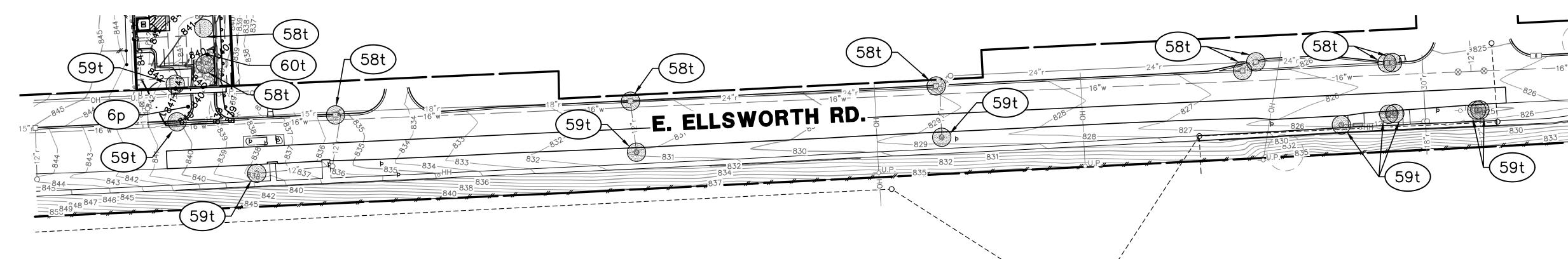
THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPLACEMENT, IF NECESSARY, OF ANY AND ALL OF THE PERMANENT SOIL EROSION CONTROL FEATURES ASSOCIATED WITH SEDIMENT AND SOIL EROSION CONTROL WITHIN THE DEVELOPMENT. THE FINANCIAL IMPLICATION OF SAID MAINTENANCE WILL BE THE RESPONSIBILITY OF THE OWNER.

Maintenance Plan Budget

Responsible Party - Property Owner	
Annual inspection for sediment accumulation	\$100.00
Removal of sediment accumulation every year as needed	\$750.00
Inspect for floatables and debris annually and after major storms	\$100.00
Removal of floatables and debris annually and after major storms	\$150.00
Inspect system for erosion annually and after major storms	\$100.00
Re-establish permanent vegetation on eroded slopes as needed	\$350.00
Replacement of stone	\$100.00
Mowing 0-2 times per year	\$400.00
Inspect structural elements during wet weather and compare to as-	
built plans every 2 years	\$150.00
Make structural adjustments or replacements as determined by	
inspection as needed	\$400.00
Have a professional engineer carry out emergency inspections	
upon identification of severe problems	\$200.00

Total Annual Budget



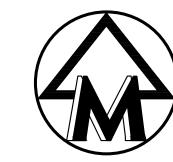


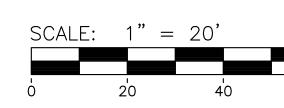
The underground utilities shown have been located from field survey information and existing records. The surveyor makes no quarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

\$2,800.00

ELLSWORTH ROAD SOIL EROSION CONTROL PLAN

1" = 60'







Call before you dig.

SESC NOTES.

- 1. ALL SILT FENCE SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. IF AT ANY TIME THE DEPTH OF SILT AND SEDIMENT COMES TO WITHIN 12" OF THE TOP OF ANY SILT FENCE, ALL SILT AND SEDIMENT SHALL BE REMOVED TO ORIGINAL GRADE.
- 2. ALL TEMPORARY GRAVEL FILTERS SHOULD BE ADJUSTED AS TO LOCATION PER ACTUAL FIELD CONDITIONS. THE REMOVAL OF TRAPPED SEDIMENT AND THE CLEANOUT OR REPLACEMENT OF CLOGGED STONE MAY BE NECESSARY AFTER EACH STORM EVENT DURING THE PROJECT.
- 3. ONLY UPON STABILIZATION OF ALL DISTURBED AREAS MAY THE SILT FENCE, AND TEMPORARY GRAVEL FILTERS BE REMOVED. ALSO, ALL STORM SEWERS MUST BE CLEANED OF ALL SEDIMENT.
- 4. ESTIMATED COST TO STABILIZE SITE SHOULD CONSTRUCTION CEASE: $0.5ac \times $10,500/ac = $5,250$
- 5. ESTIMATED SOIL MOVEMENTS ON SITE:
 - 250 C.Y CUT; 50 C.Y. FILL
- 6. PERMANENT SOIL EROSION CONTROLS ARE REQUIRED TO BE INSTALLED WITHIN FIVE (5) DAYS AFTER FINAL GRADING.

EXIST. CONTOUR

PROP. CONTOUR

EXIST. SPOT ELEVATION PROP. SPOT ELEVATION

7. AFTER SITE GRADING ALL DISTURBED AREAS NOT IMMEDIATELY UNDER CONSTRUCTION ARE TO BE STABILIZED.

LEGEND

----838-

----838

×836.2

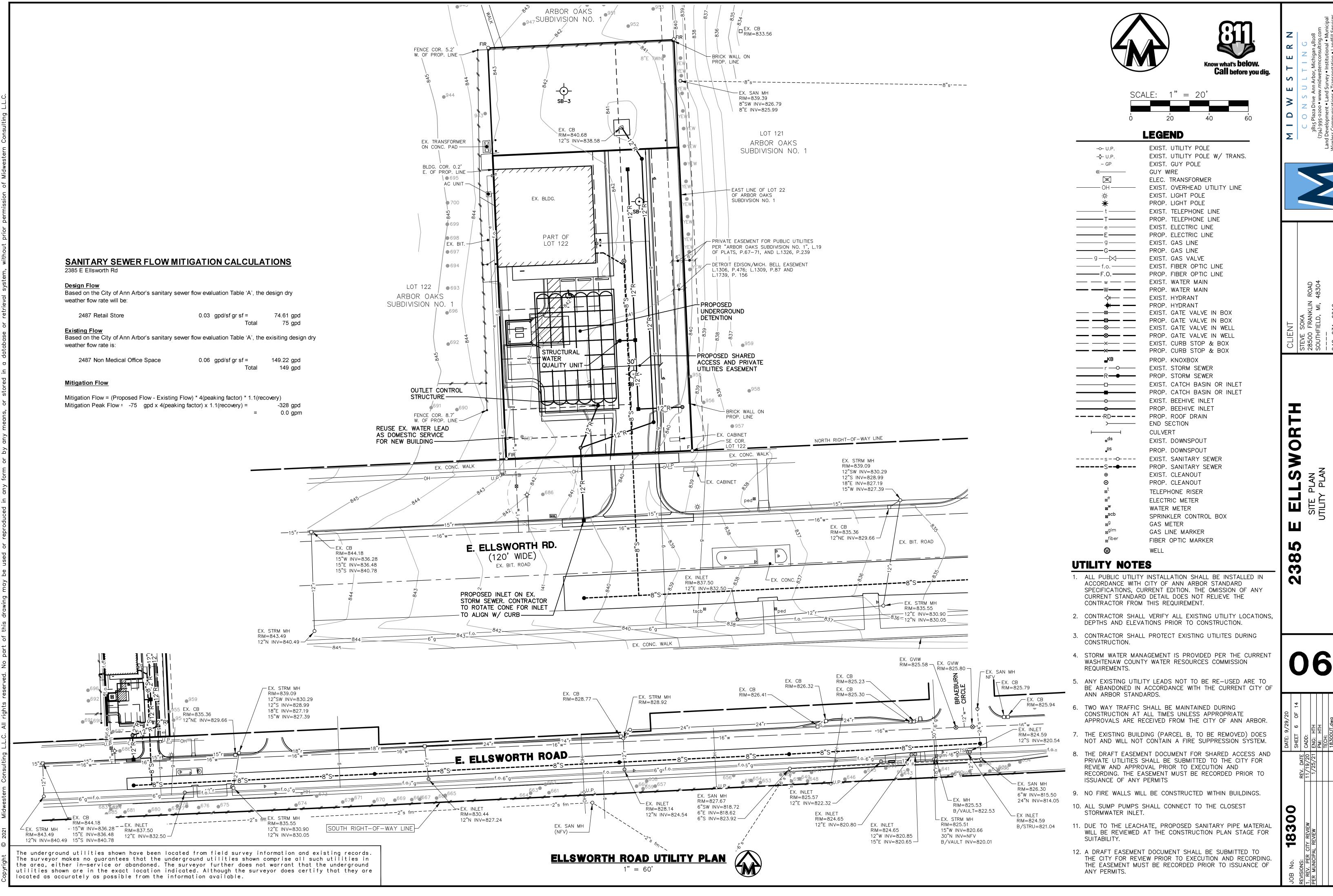
X	PROP. SPOT ELEVATION
-0- U.P.	EXIST. UTILITY POLE
-\$- U.P.	EXIST. UTILITY POLE W/ TRANS
(C	GUY WIRE
	ELEC. TRANSFORMER
——— OH———	EXIST. OVERHEAD UTILITY LINE
*	EXIST. LIGHT POLE
*	PROP. LIGHT POLE
本 	EXIST. TELEPHONE LINE
e	EXIST. FLEET HONE LINE
g	
	EXIST. GAS LINE
g 🖂	
f.o. —	
— w — —	
— — W— —	PROP. WATER MAIN
-∳	EXIST. HYDRANT
• — —	PROP. HYDRANT
——————————————————————————————————————	EXIST. GATE VALVE IN BOX
	PROP. GATE VALVE IN BOX
— — ⊗ — —	EXIST. GATE VALVE IN WELL
——————	PROP. GATE VALVE IN WELL
×	EXIST. CURB STOP & BOX
	PROP. CURB STOP & BOX
r	EXIST. STORM SEWER
——R —	PROP. STORM SEWER
	EXIST. CATCH BASIN OR INLET
	PROP. CATCH BASIN OR INLET
•	EXIST. BEEHIVE INLET
	PROP. BEEHIVE INLET
•	
	END SECTION
	HEAD WALL
· .	CULVERT
_o ds	EXIST. DOWNSPOUT
•DS	PROP. DOWNSPOUT
so	EXIST. SANITARY SEWER
S	PROP. SANITARY SEWER
⊚	EXIST. CLEANOUT
⊙ ⊙	PROP. CLEANOUT
	C/L OF DITCH
	,
þ	SIGN
•	SINGLE TREE
	TREE OR BRUSH LIMIT
	INCL ON BINDSH LIMIT
	FELLOE

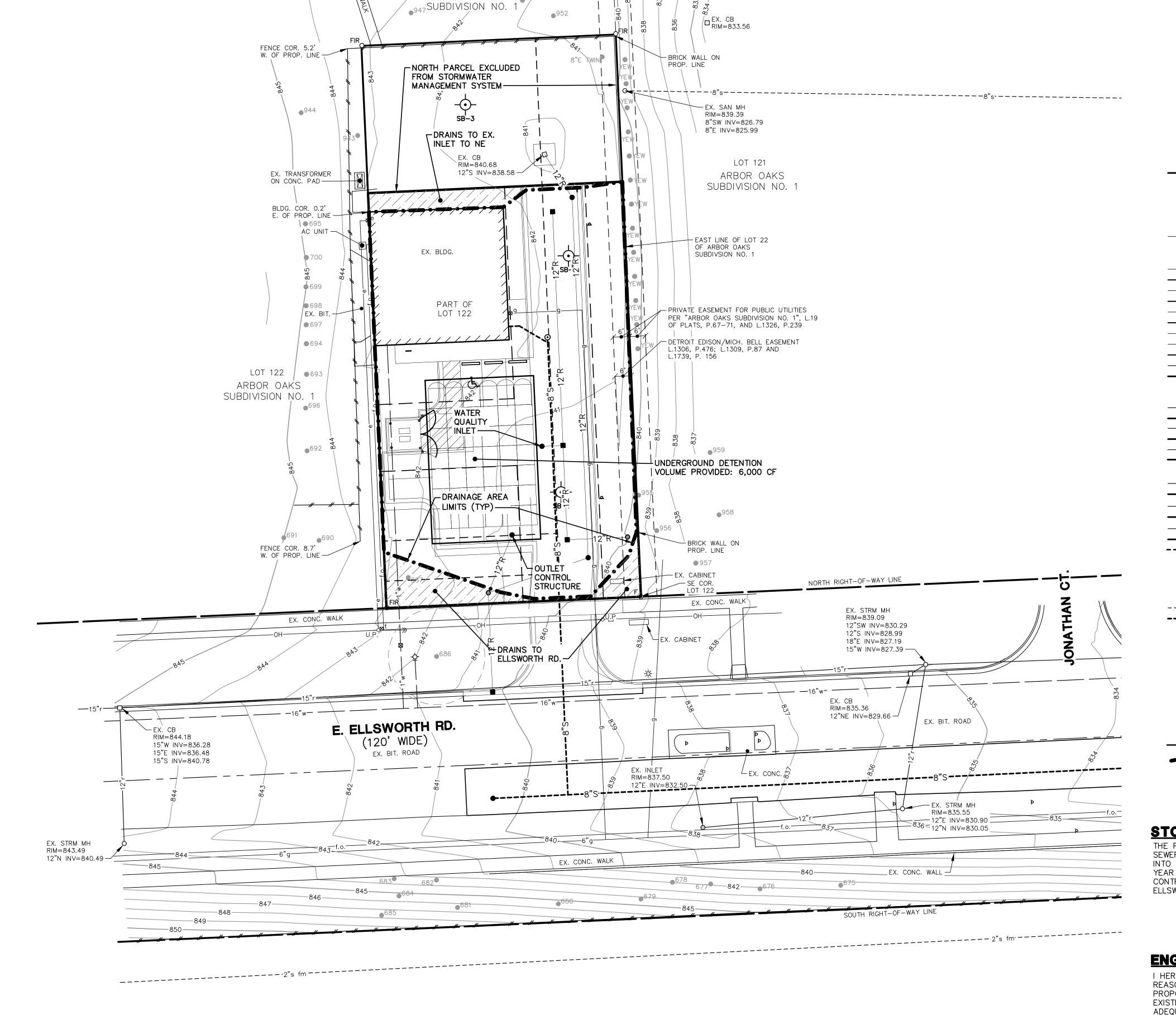
LIMITS OF DISTURBANCE



0

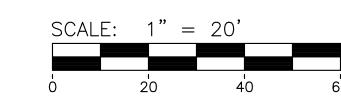
3 S











LEGEND

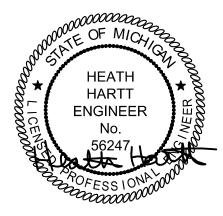
-o- U.P.	EXIST. UTILITY POLE
-\$- U.P.	EXIST. UTILITY POLE W/ TRANS.
დ	EXIST. GUY POLE
	GUY WIRE
\boxtimes	ELEC. TRANSFORMER
——————————————————————————————————————	EXIST. OVERHEAD UTILITY LINE
	EXIST. LIGHT POLE
<u></u> ★	PROP. LIGHT POLE
本 ———-t ———-	
T	EXIST. TELEPHONE LINE
	PROP. TELEPHONE LINE
e — — e — — E — — —	EXIST. ELECTRIC LINE
	PROP. ELECTRIC LINE
g	EXIST. GAS LINE
	PROP. GAS LINE
	EXIST. GAS VALVE
f.o	EXIST. FIBER OPTIC LINE
	PROP. FIBER OPTIC LINE
— w — —	EXIST. WATER MAIN
— — W— —	PROP. WATER MAIN
ф— —	EXIST. HYDRANT
——————————————————————————————————————	PROP. HYDRANT EXIST. GATE VALVE IN BOX
<u> </u>	PROP. GATE VALVE IN BOX EXIST. GATE VALVE IN WELL
	PROP. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
	PROP. CURB STOP & BOX
_KB	
_	PROP. KNOXBOX
r	EXIST. STORM SEWER
R	PROP. STORM SEWER
	EXIST. CATCH BASIN OR INLET
	PROP. CATCH BASIN OR INLET
	EXIST. BEEHIVE INLET
	PROP. BEEHIVE INLET
	PROP. ROOF DRAIN
)	END SECTION
do.	CULVERT
₀ ds	EXIST. DOWNSPOUT
•DS	PROP. DOWNSPOUT
s 	EXIST. SANITARY SEWER
S- 	PROP. SANITARY SEWER
©	EXIST. CLEANOUT
©	PROP. CLEANOUT
⊠ ^t	TELEPHONE RISER
_⊠ e	ELECTRIC METER
⊠ ^W	WATER METER
⊠scp	SPRINKLER CONTROL BOX
_ ⊠g	GAS METER
_ glm	GAS LINE MARKER
⊒fiber	FIBER OPTIC MARKER
_	
@	WELL
	LIMITS OF DISTURBANCE
	SOIL TYPE BOUNDARY
	EVICE COULDED IN CONTROL
 SB−1	EXIST. SOIL BORING LOCATION

STORMWATER NARRATIVE

THE PROPOSED SITE WILL DRAIN THROUGH A PROPOSED STORM SEWER SYSTEM IN THE PARKING AREAS AND WILL BE ROUTED INTO UNDERGROUND DETENTION CHAMBERS SIZED FOR THE 100 YEAR STORM. THE STORMWATER WILL DISCHARGE THROUGH A CONTROL STRUCTURE INTO THE STORM SEWER SYSTEM ON ELLSWORTH ROAD.

ENGINEER'S CERTIFICATE OF OUTLET

I HEREBY CERTIFY THAT THE EXISTING DRAIN IS THE ONLY REASONABLE AVAILABLE STORMWATER OUTLET FOR THE PROPOSED STORMWATER MANAGEMENT SYSTEM AND THAT THE EXISTING DRAIN HAS SUFFICIENT CAPACITY TO SERVE AS AN ADEQUATE OUTLET FOR THE PROPOSED SYSTEM, WITHOUT DETRIMENT TO, OR DIMINUTION OF, THE DRAINAGE SERVICE THAT THE EXISTING OUTLET PRESENTLY PROVIDES.



07

OR

3

S

DATE: 9/29/20	SHEET 7 OF 14		CADD:	ENG: HTH	PM: HTH	TECH:	18300DA.dwg	# 8 4
		KEV. DAIE	12/22/20	1/25/21				

to. **18300**us:
INICIPAL REVIEW
INICIPAL REVIEW

Rational Method Variables

W1 - Determining Post-Development Cover Types, Areas, Curve Numbers, and Runoff Coefficients

Cover Type	Soil Type	Area (sft)	Area (ac)	Runoff Coeff. (C)	(C) x (Area)
Building/Pavement		10,041	0.23	0.95	0.22
Grass	D	3,410	0.08	0.45	0.04
Total		13,451	0.31		0.25
		Weighted C = (Sum(C	(Area))/(Area Total)=	0.82	
NRCS Variables (P	ervious)				
Cover Type	Soil Type	Area (sft)	Area (ac)	Curve Number	(CN) x (Area)
Grass	D	3,410	0.08	84	0.07
Total		3,410	0.08		0.07
		Weighted CN = (Sum(CN	l)x(Area))/(Area Total)=	84	
NCRS Variables (In	npervious)				
Cover Type	Soil Tyne	Area (sft)	Area (ac)	Cune Number	(CN) v (Area)

	my sold rallables (iii	ipoi viodo,							
	Cover Type	Soil Type		Area (sft)	Area	(ac)	Curve Number	(0
	Building/Pavement			10,04	11	0.2	23	98	
	Total			10,04	11	0.2	23		
			V	Veighted CN	l = (Sum(CN)x(Area))/(Ar	rea Total)=	98	
W2 -	W2 - First Flush Ru	noff Calculations (Vff)							
A.	Vff = 1" x 1/12" x 43	3560 sft/ac x A x C	wh	nere A=	0.31	and	where C= 0.8	82	
	Vff = 1" x 1/12" x 43	8560 sft/ac x	0.31	х	0.82	=	919 cf		
W3 -	W3 - Pre-Developm	nent Bankfull Runoff Cald	ulations (Vbf	-pre)					
Α	. 2 year / 24 hour stor	m event:	•	•		P=	2.35 in		
В	. Pre-Development CN								
	(Good Cover Woods	Type D Soils)				CN=	92		
C.	S = (1000 / CN) - 10	,				S=	0.870 in		
	$O = \hat{I} / D = O = O \times \hat{O} / V / V = O = O \times \hat{O} $.0.001				^	4 555 14		

	D.	$Q = [(P-0.2S)^2] / [P+0.8S]$	Q=	1.555 in
	E.	Total Site Area excluding "Self-Crediting" BMPs		13,451 sft
	F.	Vbf -pre = $Q \times (1/12) \times Area$	Vbf-pre =	1,743 cft
W4	-	Pervious Cover Post-Development Bankfull Runoff Calcula	ations (Vbf-per-post)	
	Α.	2 year / 24 hour storm event:	P=	2.35 in
	В.	Pervious Cover CN From Worksheet 1	CN=	84
	C.	S = (1000 / CN) - 10	S=	1.905 in
	D.	$Q = [(P-0.2S)^2] / [P+0.8S]$	Q=	1.001 in
	E.	Pervious Cover Area from Worksheet 1		3,410 sft
	F.	Vbf -per-post = $Q \times (1/12) \times Area$	Vbf-per-post =	284 cft

W5	- V	N5 - Impervious Cover Post-Development Bankfull Runoff Calculations	(Vbf-imp-post)	
		year / 24 hour storm event:	P=	2.35 in
	B. Ir	mpervious Cover CN From Worksheet 1	CN=	98
	C. S	S = (1000 / CN) - 10	S=	0.204 in
	D. C	$Q = [(P-0.2S)^2] / [P+0.8S]$	Q=	2.122 in
	E. Ir	mpervious Cover Area from Worksheet 1		10,041 sft
	F. V	$/bf-imp-post = Q \times (1/12) \times Area$	Vbf-imp-post =	1,775 cft
W6	- V	V6 - Pervious Cover Post-Development 100-Year Runoff Calculations (\	/100-per-post)	
	A. 1	00 year / 24 hour storm event:	P=	5.11 in
	B. F	Pervious Cover CN From Worksheet 1	CN=	84
	C. S	S = (1000 / CN) - 10	S=	1.905 in
	D. C	$Q = [(P-0.2S)^2] / [P+0.8S]$	Q=	3.371 in
	E. P	Pervious Cover Area from Worksheet 1		3,410 sft
	F. V	/100-per-post = Q x (1/12) x Area	V100-per-post =	958 cft
W7	- V	V7 - Impervious Cover Post-Development 100-Year Runoff Calculations	s (V100-imp-post)	
	A. 2	! year / 24 hour storm event:	P=	5.11 in
	B. Ir	mpervious Cover CN From Worksheet 1	CN=	98
	C. S	S = (1000 / CN) - 10	S=	0.204 in

W8	_	Time of Concentration (Tc-hrs)		
	F.	Vbf-imp-post = Q x (1/12) x Area	Vbf-imp-post=	4,077 cft
	Ε.	Impervious Cover Area from Worksheet 1		10,041 sft
	D.	$Q = [(P-0.2S)^2] / [P+0.8S]$	Q=	4.873 in

٧9	-	Runoff Summary & On-Site Infiltration Requirement
	Δ	Summary from Previous Worksheets

A. Assume 15-minute minimum time of concentration

-	Runoff Summary & On-Site Infiltration Requirement	
Α.	Summary from Previous Worksheets	
	First Flush Volume (Vff)	919 cft
	Pre-Development Bankfull Runoff Volume (Vbf-pre)	1,743 cft
	Pervious Cover Post-Development Bankfull Volume (Vbf-per-post)	284 cft
	Impervious Cover Post-Development Bankfull Volume (Vbf-imp-post)	1,775 cft
	Total BF Volume (Vbf-post)	2,060 cft
	Pervious Cover Post-Development 100-Year Volume (V100-per-post)	958 cft
	Impervious Cover Post-Development 100-Year Volume (V100-imp-post)	4,077 cft
	Total 100-Year Volume (V100)	5,035 cft
В.	Determine Onsite Infiltration Requirement	
	Subtract the Pre-Development Bankfull from the Post-Development Bankfull Volume	
	Total Post-Development Bankfull Volume (Vbf-post)	2,060 cft
	Pre-Development Bankfull Runoff Volume (Vbf-pre)	1,743 cft

Tc= 0.25 hr

919 cft

0 cft

0 %

	Bankfull Volume Difference Infiltration Requirement (Vinf)	317 cft 919 cft
W12 -	Natural Features Inventory There are no natural features located on this site due to it being an existing built out urban site.	

W13	_	Site Summary of Infiltration & Detention
	A.	Stormwater Management Summary
		Min Infiltration Requirement (Vinf)
		Designed/Provided Infiltration Volume
		% Minimum Required Infiltration Provided

Total Calculated Detention Volume, Vdet	4,957 cft
Net Required Detention Volume	4,957 cft
(Vdet - Designed/Provided Infiltration Volume)	
B. Detention Volume Increase for sites where the required infiltrat	ion volume cannot be achieved.
% Required Infiltration NOT Provided	100 n %

76 Nequired initiation NOT Flowded	100.0	70
(100% - % Minimum Required Infiltration Provided)		
Net % Penalty (20% x % Required Infiltration NOT Provided)	20.0	%
Total Required Detention Volume, including penalty	5,948	cft
[(100% + Net % Penalty) x Net Required Detention Volume)]		

Detentio	n Outlet Calculcations
A.	Required Detention Volumes (Reduced by 6-hour infiltration)

Storm Event	Req'd Volume	less	Infil. Credit	=	Final Volume
First Flush	919 cft	-	0 cft	=	919 cft
Bankfull	2,060 cft	-	0 cft	=	2,060 cft
100 -year	4,957 cft	-	0 cft	=	4,957 cft
100-year + Req'd Penalty	5,948 cft	-	0 cft	=	5,948 cft
Forebay Volume Required (5% of 100-yr)				=	248 cft

B. Detention Volumes Provided

Elevation	Area (sft)	Depth (ft)	Volume (cft)	Cum. Volume (cft)
834.0	2,037	0	0	0
835.0	2,037	1	2,037	2,037
836.0	2,037	1	2,037	4,074
837.0	2,037	1	2,037	6,111
			Total Volume =	6,111

Storage Elevation Calcula	tion								
First Flush Elevation (Xff)=	835.0	-	834.0	=	Xff	-	834.0	Xff =	834.45 1
_	2,037	-	0	-	919	-	0	_	
Bankfull Elevation (Xbf)=	836.0	-	835.0	=	Xbf	-	835.0	Xbf =	835.01 1
_	4,074	-	2,037	•	2,060	-	2,037	_	
100-Year Elevation (X100)=	837.0	-	836.0	=	X100	-	836.0	X100 =	836.92 1
_	6,111	-	4,074		5,948	-	4,074		

C. Two-Stage Outlet Design

First Flush Discharge (24-36 hours for the detention of first flush storm event)	
Average Head (Have) = 2/3 (Xff - Xbot) = 2/3 (834.45 - 834) =	0.30 ft
First Flush Max. Flowrate (Qff-max) = Vff / 24 hrs = 919cfs / (24 hrs*3600) =	0.01 cfs
Req Area (Aff) = Qff-max / 0.62 / sqrt(2*g*Have) = 0.01/0.62/(2*32.2*0.3)^0.5=	0.0037 sft
Orifice Diameter, Proposed	0.813 in
Orifice Area =	0.0036 sft
Number Required for 24 hr drainage = Aff / Orifice Area = 0.004 sft / 0.0036 sft =	1.02 holes
Number of Holes to Use	1 holes
Area of (1) - 0.8125 inch Ori Aff	0.0036 sft
Actual Flow (Qff) = 0.62 * Aff * sqrt(2*g*Have) = 0.62 * 0.0036 *sqrt(2*32.2*0.3) =	0.010 cfs
Actual Time (Tff) = Vff / Qff = 919 cf / 0.01 cfs / 3600 =	26.02 hr

- 16 11 - 1 1 1 1 1 1		
Bankfull Discharge (36-48 hours)		
Average Head (Have) = 2/3 (Xbf - Xb	ot) = 2/3 (835.01 - 834) =	0.67 ft
Actual Flow (Qbf) = 0.62 * Aff * sqrt(2*g*	Have) = 0.62 * 0.0036 * sqrt(2 * 32.2 * 0.67)=	0.015 cf
Actual Time (Tbf) = Vbf / Qbf =	2060 cf / 0.015 cfs / 3600 =	39.03 hr
Drawdown Time for Bankfull Volume is b	etween 36 and 48 hours	
Therefore use (1) 0.8125 inch D	iameter Holes at Elev 834	

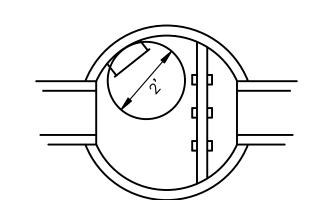
100-year Discharge (0.15 cfs/acre max. allowed)	
Max Head to Lowest Holes (Hmax100-ff) = X100 - Xbot= 836.92 - 834 =	2.92 ft
Max Flow at Lowest Holes (Qmax-ff)= 0.62 * Aff * sqrt(2 * g * Hmax) =	
= 0.62 * 0.0036 * sqrt(2 * 32.2 * 2.92) =	0.031 cfs
Max Head to 100yr Holes (Hmax-100) = X100 - Xbf = 836.92 - 835.01 =	1.91 ft
QA (Allowable 100-year release rate)= 0.15 cfs/acre = 0.15 cfs * 0.31 ac =	0.046 cfs
Max flow through 100-year holes = Qmax-100 = QA - Qmax-ff = 0.05 cfs - 0.03 cfs =	0.02 cfs
Max. Area for Orifices (A100) = Qmax / 0.62 / sqrt (2*g*h-100max)	0.00 sft
Orifice Diameter	0.438 in
Orifice Area	0.001 sft
Number Required for 0.15 cfs/acre drainage	2.19
Number of holes used	2 ea
Area of (2) - 0.4375 inch Or (A100)	0.002 sft
100-year orifices - Actual Flow (Qmax-100) = 0.62 * A100 * sqrt (2 * g * Hmax100)	
= 0.62 * 0.002 * sqrt (2 * 32.2 * 1.91) =	0.010 cfs

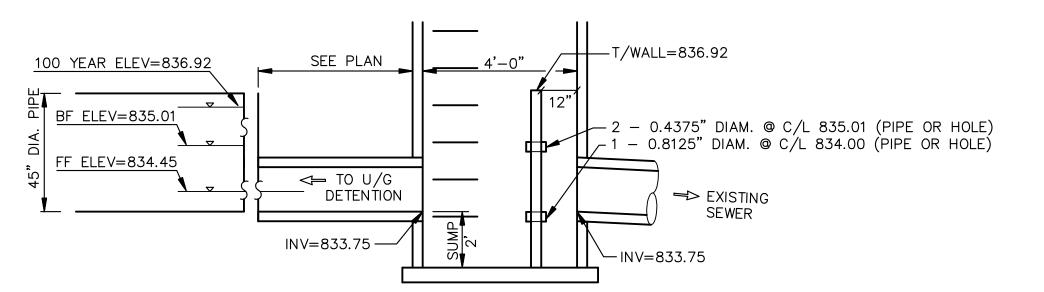
Actual Max Release Rate (Qmax) = Qmax-100 + Qmax-ff =	0.01 cfs + 0.031 cfs =	0.04 cfs
100-year Drawdown Time (72-hour max. to the lowest or	rifice)	
Average head to first flush holes with all orfice in use (Hff-ave)	= 2/3 (X100 - Xbf) + (Xbf -	Xbot)
Hff-ave = 2/3 (836.92 - 835.01) + (835.01 -834) =	2.28 ft
Average flow through lowest holes to bankfull elevation = 0.62	* Aff * sqrt (2 * g * Hff-av	e)
Qff-ave = 0.62 * 0.0036 * SQRT(2 * 32.2 * 2.28)		0.027 cfs
Average head to 100-year holes with all orifices in use = 2/3 (X100-Xbf)	
H100-ave = 2/3 * (836.92 - 835.01) =		1.27 ft
Average flow through 100-yr holes with all holes in use = 0.62	* A100 * sqrt (2 * g * H10	0-ave)
Q100-ave = 0.62 * 0.002 * sq	rt(2 * 32.2 * 1.27) =	0.011 cfs
Combined drawdown flow (Q100-bf) = Qff-ave + Q100-ave = 0.0	027 cfs + 0.011 cfs =	0.038 cfs

Volume of Storage above Bankfull Elev (Vrem) = V100 - Vbf =	5948 - 2060 =	3,888 cft
Time to drain Volume between 100yr and bankfull elevations = Vre	m/Q100-bf/3600	
= 3888 cf / 0.0	038 cfs / 3600 =	28.23 hr
Total 100-year drawdown time = T100 = T100-bf + Tbf = 39.03 h	rs + 28.23 hrs =	67.26 hr
Therefore use (2) 0.4375 inch Diameter Holes at Elev 835.	01	

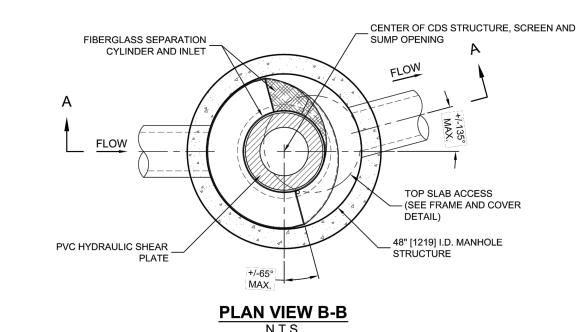
STORMWATER VOLUME PROVIDED

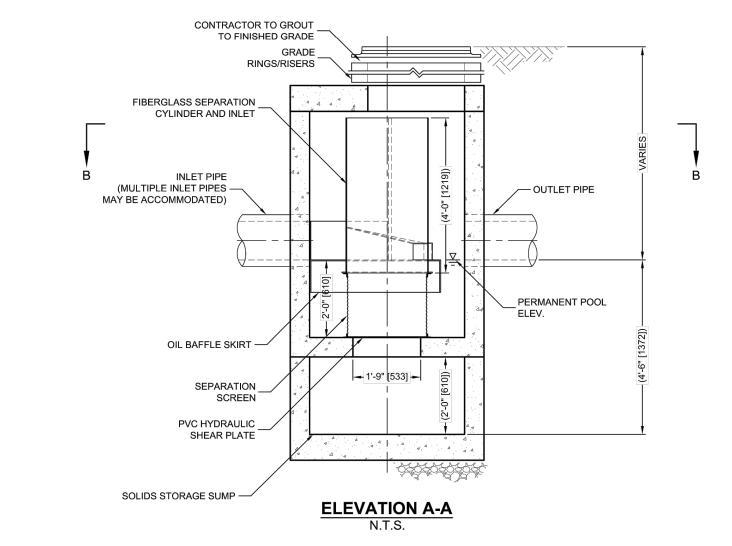
System Requirements				System Sizing			
Units		Imperial		Number of Chambers Required	35	each	
Required Storage Volume		6000	CF	Number of End Caps Required	10	each	
Stone Porosity (Industry Standa	rd = 40%)	30	3 %	Bed Size (including perimeter stone)	2,037	square feet	
Stone Above Chambers	(12 inch min.)	12	inches	Stone Required (including perimeter stone)	372	tons	
Stone Foundation Depth	(9 inch min.)	9	inches	Volume of Excavation	490	cubic yards	
Average Cover over Chambers	(24 inch min.)	24	inches	Non-woven Filter Fabric Required (20% Safety Factor)	678	square yards	
Bed size controlled by WIDTH of	r LENGTH?	LENGTH	1	Length of Isolator Row	54.9	feet	
Limiting WIDTH or LENGTH dim	ension	55	feet	Non-woven Isolator Row Fabric (20% Safety Factor)	95	square yards	
			-	Woven Isolator Row Fabric (20% Safety Factor)	121	square yards	
Storage Volume per Chamber		161.6	CF				
Storage Volume per End Cap		39.1	CF	Installed Storage Volume	6,047	cubic feet	



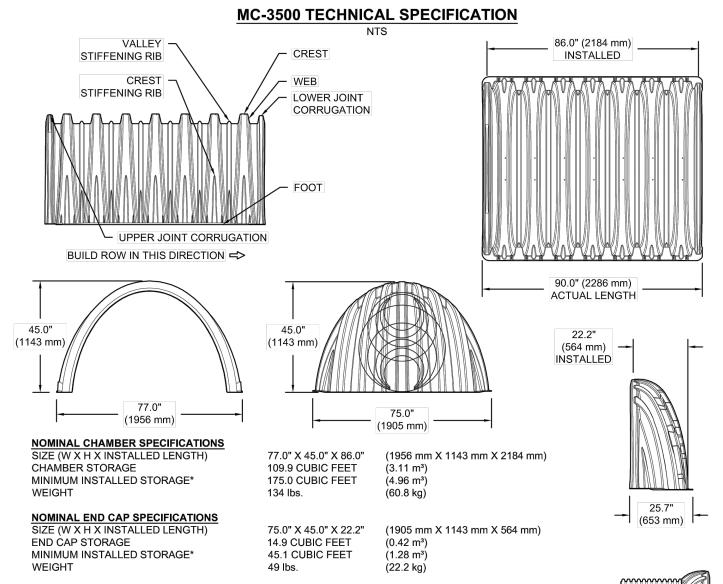


DETENTION AREA OUTLET MANHOLE DETAIL W/RESTRICTED OUTLET









BE	`	m) STONE ABOVE, 9" S, 6" (152 mm) STONE	` '	, ,	,	

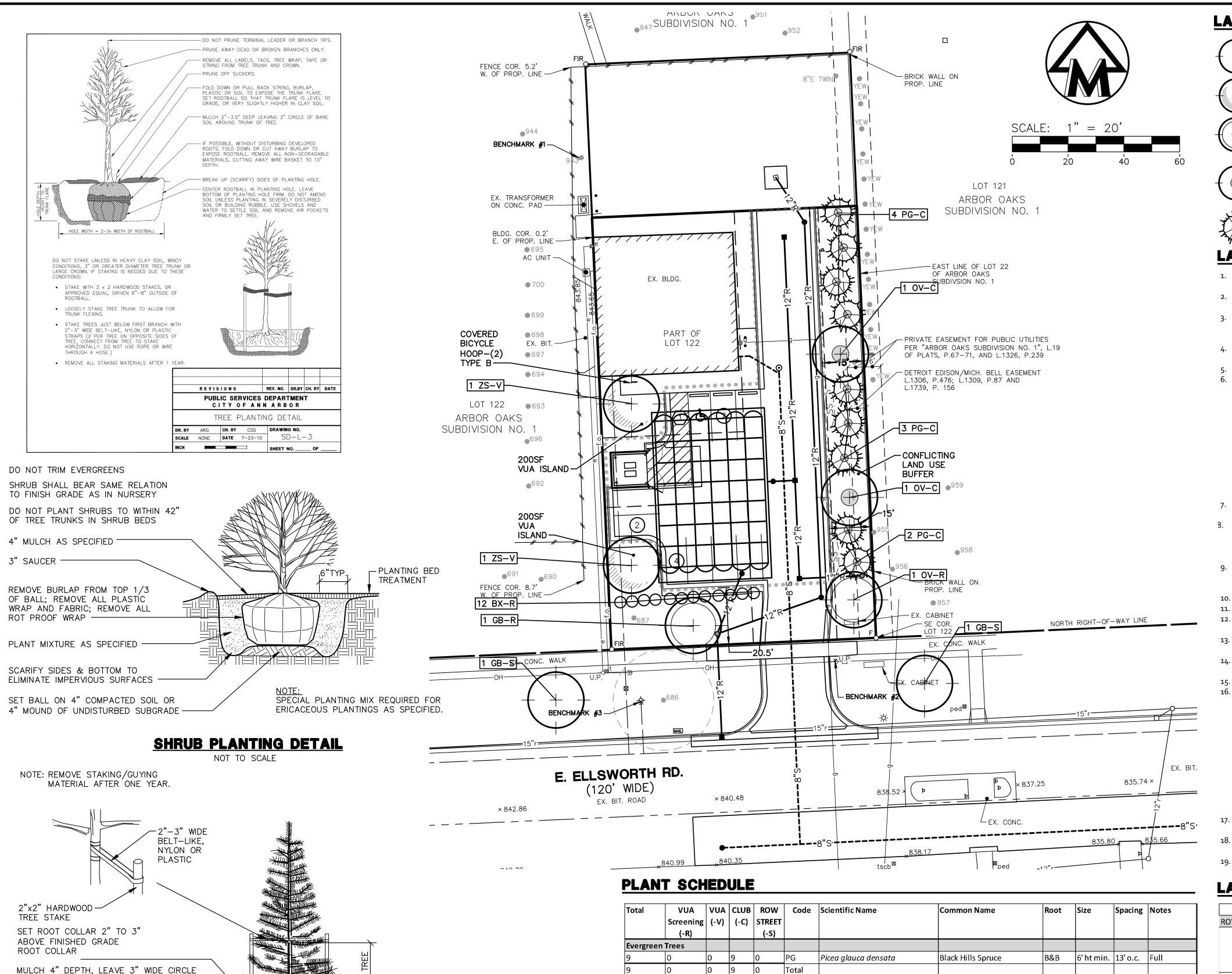
		ND CAP FOR PART NUMBERS	
		CAP FOR PART NUMBERS I FD CROWN PLATE FND W	
	END CAPS WITH A PREFA	ABRICATED WELDED STU	B END WITH "W"
- 1			

PART#	STUB	B	С
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	
MC3500IEPP06B	0 (130 Hill)		0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	
MC3500IEPP08B	6 (200 11111)		0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	
MC3500IEPP10B	10 (23011111)		0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	
MC3500IEPP12B	12 (300 11111)		1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	
MC3500IEPP15B	15" (375 mm)		1.50" (38 mm)
MC3500IEPP18TC		20.03" (509 mm)	
MC3500IEPP18TW	18" (450 mm)	20:03 (309 11111)	
MC3500IEPP18BC	10 (40011111)		1.77" (45 mm)
MC3500IEPP18BW			1.77 (40 111111)
MC3500IEPP24TC		14.48" (368 mm)	
MC3500IEPP24TW	24" (600 mm)	14.40 (000 11111)	
MC3500IEPP24BC	2+ (000 mm)		2.06" (52 mm)
MC3500IEPP24BW			2.00 (02 11111)
MC3500IEPP30BC	30" (750 mm)		2.75" (70 mm)

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. NVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE
AND 15-48" (375-1200 mm)
ECCENTRIC MANIFOLDS. CUSTOM
INVERT LOCATIONS ON THE MC-3500
END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE NVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

3 S

WOR



Total	VUA			ROW	Code	Scientific Name	Common Name	Root	Size	Spacing	Notes
	Screening	(-V)	(-C)	STREET							
	(-R)			(-S)							
vergreen	Trees										
)	0	0	9	0	PG	Picea glauca densata	Black Hills Spruce	в&в	6' ht min.	13' o.c.	Full
)	0	0	9	0	Total						
Deciduous	Trees										
}	1	0	0	2	GB	Ginkgo biloba 'Autumn Gold'	Ginkgo	B&B	2.5" cal.	20' o.c.	Male
<u>)</u>	0	2	0	0	ZS	Zelkova serrata 'Village Green'	Village Green Zelkova	B&B	2.5" cal.	20' o.c.	
}	1	0	2		ov	Ostrya virginiana	American Hophornbeam	В&В	2.5" Cal.	20' o.c.	
3	2	2	2	2	Total						
hrubs											
_2	12	0	0		вх	Buxus x 'Green Mountain'	Green Mountain Boxwood	#5 Cont	18-24" ht.	4' o.c.	

ROOT BALL

OF BARE SOIL AROUND TRUNK -

ALL ROT PROOF BURLAP -

3" SAUCER

REMOVE BURLAP AND WIRE BASKET FROM TOP 1/3 OF BALL; REMOVE ALL PLASTIC WRÁP AND FABRIC; REMOVE

SCARIFY SIDES AND BOTTOM TO ELIMINATE ALL IMPERVIOUS SURFACES; BACKFILL WITH

PLANTING MIXTURE AS SPECIFIED -

SET BALL ON 4" COMPACTED SOIL

OR 4" MOUND OF UNDISTURBED SOIL -

EVERGREEN TREE PLANTING DETAIL

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

HOLE WIDTH

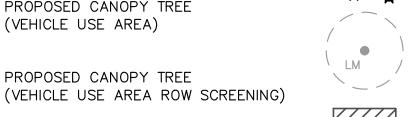
2 TO 3x WIDTH OF

LANDSCAPE LEGEND

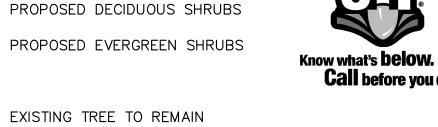
PROPOSED CANOPY TREE (ROW STREET TREE)

PROPOSED CANOPY TREE (VEHICLE USE AREA)

PROPOSED CANOPY TREE

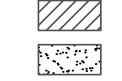


PROPOSED EVERGREEN SHRUBS

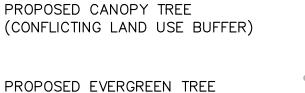


EXISTING TREE TO REMAIN

PROPOSED GROUND COVER



PROPOSED LAWN AREA



PROPOSED EDGING • • • • • • • • • VEHICULAR USE AREA LIMITS (CONFLICTING LAND USE BUFFER) SNOW STORAGE AREA

LANDSCAPE NOTES

- 1. For any plant quantity discrepancies between the plan view and the plant schedules, the plant
- schedule shall take precedence. 2. Plant materials shall be selected and installed in accordance with standards established by City of
- 3. In-ground automatic irrigation shall be provided for all landscaped areas except for the detention basin and naturalized wetland buffer or water outlets shall be provided within 150 feet of all
- 4. All diseased, damaged or dead material shown on the site plan as proposed plantings shall be replaced by the end of the following growing season.
- Restore disturbed areas with a minimum of six (6) inches of topsoil and then seed/fertilize/mulch. 6. All disturbed areas shall be seeded with lawn seed mix. Fertilizer for the initial installation of lawns shall provide not less than one (1) pound of actual nitrogen per 1,000 sq ft of lawn area and shall contain not less than two percent (2%) potassium and four percent (4%) phosphoric acid. Lawn (turfgrass) seed mix shall consist of:
- 15% Rugby Kentucky Bluegrass 10% Park Kentucky Bluegrass
- 40% Ruby Creeping Red Fescue
- 15% Pennifine Perennial Ryegrass 20% Scaldis Hard Fescue
- Seed shall be applied at a rate of five pounds (5 lbs) per 1000 sq ft. Mulch within 24 hours with two (2) tons of straw per acre, or 71 bales of excelsior mulch per acre. Anchor straw mulch with spray coating of adhesive material applied at the rate of 150 gals. / acre.
- 7. After the first growing season, only fertilizers that contain NO phosphorus shall be used on the
- 8. All seeded areas with slopes less than 1:3 (one vertical foot for every 3 horizontal feet) shall be mulched with straw mulch at the rate of two (2) bales per 1,000 square feet. All seeded areas with slopes greater than 1:3 shall be seeded and biodegradable erosion control blanket North American Green SC150, or equivalent, shall be applied with biodegradable stakes.
- 9. Deciduous plants shall be planted between March 1 and May 15 and from October 1 until the prepared soil becomes frozen. Evergreen plants shall be planted between March 1 and June 1 and from August 15 to September 15.
- 10. All planting beds are to receive four (4) inches of shredded bark mulch.
- 11. All trees to be located a minimum of 10 feet from public utilities. 12. All single trunk, deciduous trees shall have a straight and a symmetrical crown with a central
- leader. One sided trees or those with thin or open crowns shall not be accepted.
- 13. All evergreen trees shall be branched fully to the ground, symmetrical in shape and have not been sheared in the last three (3) growing seasons.
- 14. All compacted subgrade soils in proposed landscape areas shall be tilled to a minimum 12-inch depth prior to placement of topsoil, geotextile fabric, or other planting media as specified.
- 15. Proposed trees will be planted a minimum of 15 feet apart.
- 16. Planting Soil: Existing, in-place or stockpiled topsoil. Supplement with imported topsoil as
- needed. Verify suitability of existing surface soil to produce viable planting soil. Remove stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth. Mix surface soil with the following soil amendments to produce planting soil:
 - a. Ratio of Loose Compost to Topsoil by Volume: 1:4.
 - b. Weight of Lime per 1000 Sq. Ft.: Amend with lime only on recommendation of soil
 - c. Weight of Sulfur or Aluminum Sulfate per 1,000 Sq. Ft.: Amend with sulfur or
- aluminum sulfate only on recommendation of soil test to adjust soil pH.
- d. Volume of Sand: Amend with sand only on recommendation of Landscape Architect to adjust soil texture.
- 17. Weight of Slow-Release Fertilizer per 1,000 Sq. Ft.: Amend with fertilizer only on recommendation of soil test to adjust soil fertility.
- 18. Any tree species deviations from the approved site plan must first be approved in writing by the
- City of Ann Arbor prior to installation.

19. Snow shall not be pushed onto interior landscape islands unless designed for snow storage.

LANDSCAPE REQUIREMENTS

	Allowed/ Required	Proposed Dispensary - South Lot
ROW		
Street Trees (-S)	1 tree per 45 lienar feet frontage	95 / 45 = 3 trees required
		1 existing tree to remain, 2 trees provided
		with ROW adjacent to site due to utility and
		existing cabinet conflicts
Street Tree Escrow	\$1.30 per linear foot road frontage	95lf - 45lf (1 existing tree) = 50lf x \$1.30 =
		\$65.00
Vehicle Use Area		
Front Greenbelt (-R)	10ft, 1 tree per 30lf, 30" ht screening	79If frongage = 3 trees required
	hedge/berm/wall	20 ft min. provided, 2 trees provided , 1
		existing tree to remain, 12 shrubs provided
Interior islands	>3,300sf and <50,000sf VUA = 1:20 ratio	6,452sf VUA - 323sf required
	50% bioretention required of >750sf	400sf provided
Interior island trees (-V)	1 tree per 250sf of required island	2 trees required; 2 trees provided
Street trees (internal)		
	1 tree per 30lf	Not Applicable
Outdoor refuse		
	screening wall, trash and recycling	1 trash enclosure provided (shared with
	dumpsters each	northern parcel)
Conflicting Land Use buffer		
(-C)	15 ft landscape buffer, 1 tree per 15 ft	155 lf / 15 = 11 trees required,
	with 50% evergreen, 4ft screening	11 trees provided (81% evergreen),
		existing wall to remain
Tree Mitigation		
	50% removed DBH - LM/woodland	Not applicable

STREET TREE ESCROW

STREET TREE ESCROW OF \$65.00 WILL BE PROVIDED PRIOR TO ISSUING BUILDING PERMITS AND WILL BE REFUNDED AFTER CITY STAFF INSPECTION SHOWS LONG TERM SURVIVAL OF THE PROPOSED STREET TREES.

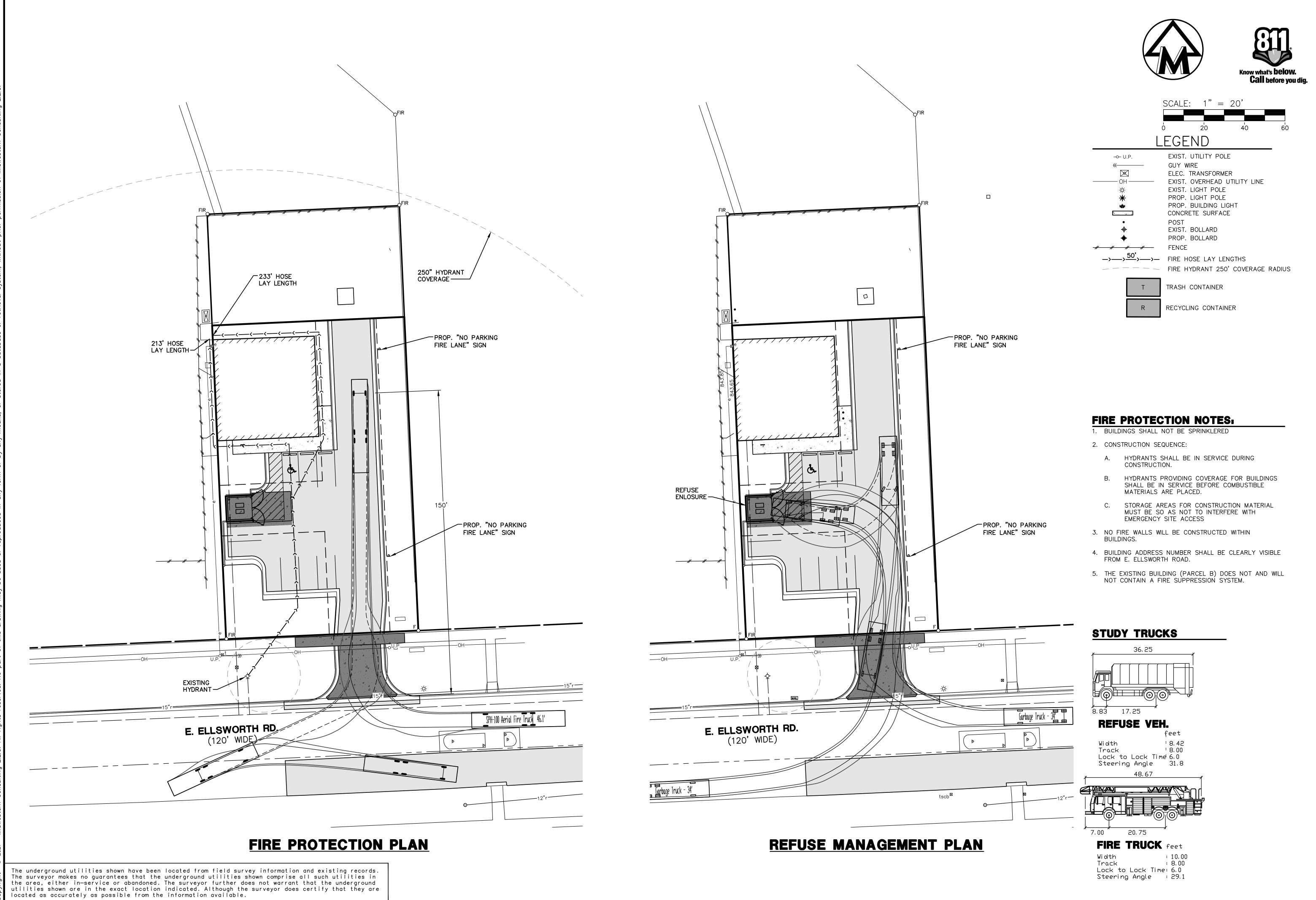
Call before you dig.

Λ M,

\(\begin{array}{c} \b

Ш

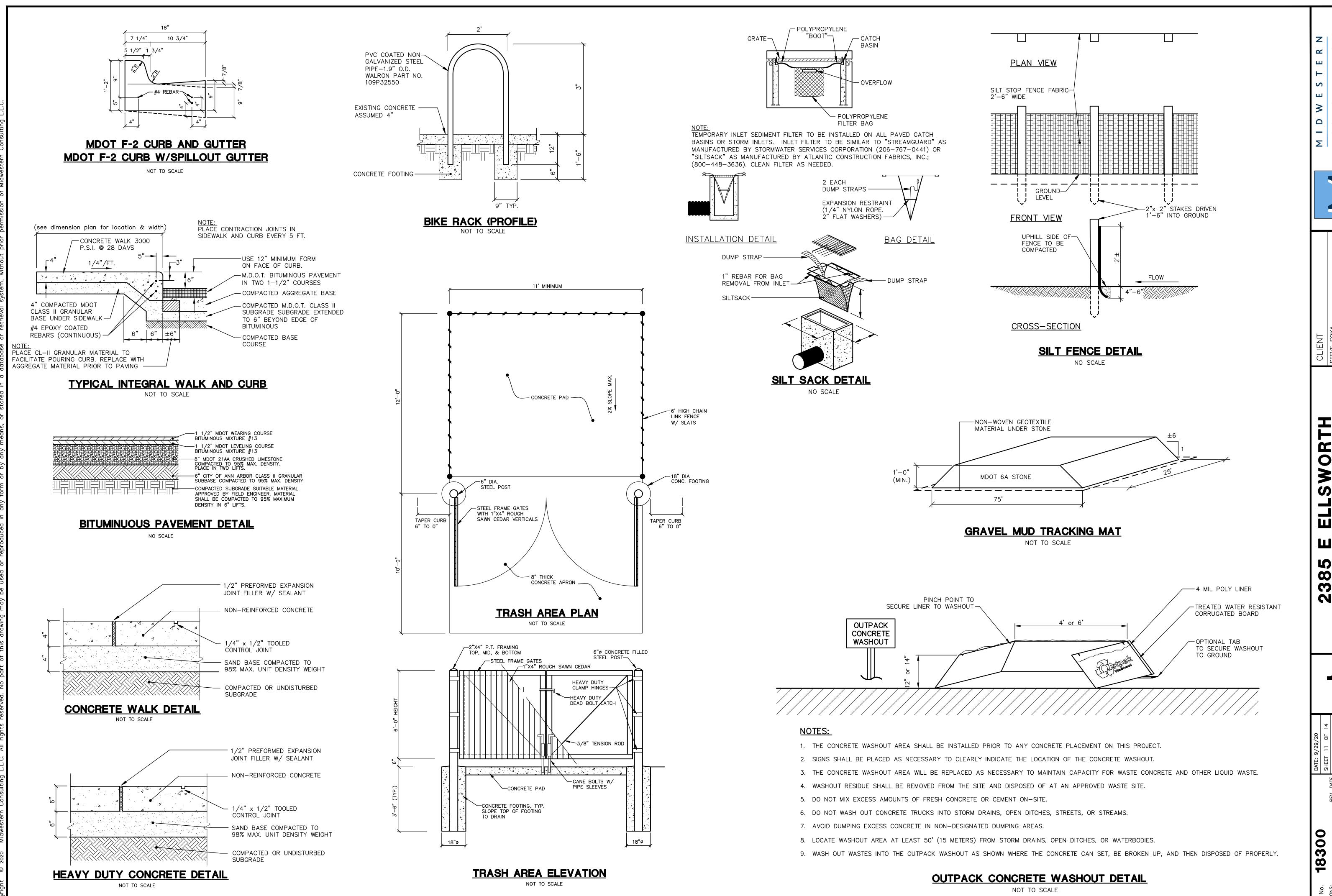
 ∞ 3 S



WORT

38

S

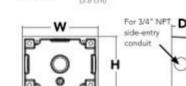


ROAD 48304 SOKA FRANKLIN FIELD, MI,

0 LLS E PLAN DETAILS

Optional Back Box (BBW)

5-1/2* (14.0 cm) 1-1/2"



Architectural Wall Sconce

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- · All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification

for luminaire to photocontrol interoperability1

- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background¹
- To learn more about A+, visit www.acuitybrands.com/aplus.

See ordering tree for details.

A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL

d"series 16 lbs (7.25 kg)

Introduction The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 400W metal halide with typical energy savings of 70% and expected service life of over 100,000 hours.

Order	ing l	nforn	nation	1			EXAMP	E: D	SX0 LED P6	40K T3M N	IVOLT SPA	NLTAIR2 PIRHN DDBX
DSX0 LED												
Series	LEDs			Color te	mperature	Distrib	ution			Voltage	Mounting	
DSX0 LED	P1 P2 P3	P4 P5 P6 ed optics P12 ¹ P13 ¹	P7	30K 40K 50K	3000 K 4000 K 5000 K	T1S T2S T2M T3S T3M T4M TFTM	Type II short Type II short Type II medium Type II short Type II medium Type IV medium Type IV medium Forward throw medium Type V very short	TSS TSM TSW BLC LCCO RCCO	Type Y short Type Y medium Type Y wide Backlight control ² Left corner cutoff ² Right corner cutoff ²	MVOLT 3.4 120 4 208 6 240 4 277 4 347 4.5 480 4.5	Shipped include SPA RPA WBA SPUMBA RPUMBA Shipped separal KMAB DDBXD U	Square pole mounting Round pole mounting Wall bracket Square pole universal mounting adaptor ¹ Round pole universal mounting adaptor ⁴

Control options	Other options		Finish prepared			
Shipped installed NLTAIR2 nLight AIR generation 2 enabled** PIRHN Network, high/low motion/ambient sensor** PER NEMA twist-lock receptacle only (control ordered separate) ** PERS Five-pin receptacle only (control ordered separate) ** PER7 Seven-pin receptacle only (leads exit future) (control ordered separate) ** Seven-pin receptacle only (leads exit future) (control ordered separate) ** DMG -0-10V dimming extend out back of housing for external control -= [control ordered separate) **	PIRH PIRHFGV PIRH1FGV FAO	High/low, motion/ambient sensor, 8–15' mounting height, ambient sensor enabled at 5fc 10.6' High/low, motion/ambient sensor, 15–30' mounting height, ambient sensor enabled at 5fc 10.75' mounting height, ambient sensor enabled at 1fc 10.55' Field adjustable output 10.55' mounting height, ambient sensor enabled at 1fc 10.55' mounting height, ambient sensor enabled at 1fc 10.55' mounting height.	Ship HS SF DF L90 R90 DDL	ped installed House-side shield ¹⁷ Single fuse {120, 277, 347V} ⁴ Double fuse {208, 240, 480V} ⁴ Left rotated optics ¹ Right rotated optics ¹ Offused drop lens ¹⁴ ped separately Bird spikes ¹⁶ External glare shield ¹⁸	DDBXD DBLXD DNAXD DWHXD DDBTXD DBLBXD DNATXD DNATXD	Dark bronze Black Natural aluminum White Textured dark brona Textured black Textured natural aluminum Textured white



© 2011-2019 Acuity Brands Lighting, Inc. All rights reserved.

DSX0-LED Rev. 09/12/19 Page 1 of 8

D-Series Size 0
LED Area Luminaire

Specifications EPA: Length: Width: Height₂:

A+ Capable options indicated by this color background.

Order	ring Information	n /	EXAMPLE: DSX0 LED P6	40K T3M N	MVOLT SPA NLTAIR2 PIRHN DDB)
DSX0 LED					
Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSXO LED	Forward optics P1 P4 P7 P2 P5 P3 P6 Rotated optics P10' P12' P11' P13'	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short TSS Type V short T2S Type II short T5M Type V medium T2M Type II medium T5W Type V wide T3S Type III short BLC Backlight control T3M Type IV medium LCCO Left corner cutoff T4M Type IV medium RCCO Right corner cutoff TFTM Forward throw medium T5VS Type V very short	MVOLT 3.4 120 4 208 * 240 4 277 4 347 43 480 45	Shipped included SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor RPUMBA Round pole universal mounting adaptor Shipped separately KMAB DDBXD U Mast arm mounting bracket adaptor (specify finish)

One Lithonia Way . Convers, Georgia 30012 . Phone: 800.705.7378 . www.lithonia.com

GENERAL CONTROLS NOTES:

GENERAL LIGHTING NOTES:

REPRESENTS ILLUMINATION LEVELS

PERFORMANCE OF ANY MANUFACTURER'S

IN ACCORDANCE WITH

IN LAMPS, AND OTHER

ENGINEERING

AND/OR ARCHITECT

GRADE AND/OR FLOOR UP.

LIGHTING QUALITY COMPLIANCE.

LAYOUT

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS

ENERGY CODE. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS

- CORRIDOR CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0" AFG.

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE

CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS

LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE

VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT

ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER

IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND

TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT

ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL

REQUIRMENTS DEFINED IN ASHRAE 90.1 2013 OR APPLICABLE

GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705

- SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.

- SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.

Specifications

Depth (D1):

Depth (D2):

(without options)

LITHONIA
LIGHTING.

COMMERCIAL OUTDOOR
One Lithonia Way • Conyers, Georgia 30012 • Phone: 800-705-SERV (7378) • www.lithonia.com 1
© 2011-2019 Acuity Brands Lighting, Inc. All rights-reserved.

WDGE1 LED

Standalone / nLight

Rev. 09/06/19

Architectural Wall Sconce

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in solution.

WDGE LED Family Overview Luminaire Standard EM, 0°C Cold EM, -20°C Sensor P1 P2 P3 P4 P5 P6 1,200 2,000 WDGE2 LED 3,000 4,500 1,200 Standalone / nLight Standalone / nLight

16,000

18,000

Ordering Information				EXAMPLE: WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDB					
Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting			
WDGE1 LED	P1 P2	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K ¹ 5000K	80CRI 90CRI	VF Visual comfort forward throw VW Visual comfort wide	MVOLT 347 ²	Shipped included SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only) ⁵ Shipped separately AWS 3/8inch Architectural wall spacer BBW Surface-mounted back box PBBW Permium surface-mounted back box (foo. left, right conduit entry)			

12,000

								BBW PBBW	Surface-mounted Premium surface-	A STATE OF THE STA	k bax (t	top, left, right conduit entry)
Options						Finish						
E4WH ³	Emerge	ncy battery backup, C	EC compliant (4W, 0°C	min)		DDBXD	Dark bronze		DOBTXD	Textured d	lark bro	nze
PE4	PE ⁴ Photocell, Button Type					DBLXD	Black		DBLBXD Textured black			
DS Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details)					DNAXD	Natural aluminum	ral aluminum DNATXD Textured natural aluminum			aluminum		
DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)					ely) DWHXD	White		DWHGXD Textured white				
BCE Bottom conduit entry for premium back box (PBBW). Total of 4 entry points.				DSSXD	Sandstone		DSSTXD	Textured s	andstor	ne		
		Accessor						N	OTES 50K not available i	o once		PE not available with DS.
WDGEAWS DO		Ordered and shipped WDGE 3/8inch Architec	tural Wall Spacer (specify t	finish)				2	347V not available			Not qualified for DLC. Not
WDGE1P88W			ce-mounted back box (spe					3	E4WH, DS or PE. E4WH not available	e with		available with E4WH.
WSBBW DOBX							PE or DS.					

WSBBW DDBXD U Surface - mounted back box (specify finish) COMMERCIAL OUTDOOR

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
© 2019-2020 Aculty Brands Lighting, Inc. All rights reserved.

Introduction

a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

20,000 22,000

Schedule	chedule												
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Filename	Lumens per Lamp	LLF	Wattage	Mounting Height		
	D	3	Lithonia Lighting	WDGE1 LED P2 40K 80CRI VF	WDGE1 LED WITH P2 - PERFORMANCE PACKAGE, 4000K, 80CRI, VISUAL COMFORT FORWARD OPTIC	LED	WDGE1_LED_P 2_40K_80CRI_ VF.ies	1978	0.9	15.0178	11'		
	E	1	Lithonia Lighting	WST LED P1 40K VF MVOLT	WST LED, Performance package 1, 4000 K, visual comfort forward throw, MVOLT	LED	WST_LED_P1_4 0K_VF_MVOLT.i es	1639	0.9	12	11'		
	F	1	Lithonia Lighting	DSX0 LED P4 40K TFTM MVOLT HS	DSX0 LED P4 40K TFTM MVOLT with houseside shield	LED	DSX0_LED_P4_ 40K_TFTM_MVO LT_HS.ies	8243	0.9	92	18'		

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.00 0.0 0.0 0.0 0.0 0.0 0.0 0.0	.0
+0.00 +0.0 +0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0 +0.0 +0.0	.0
+d.0.0 +0.0 +0.0 +0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0 +0.0 +0.0	.0
+0 8.0 +0.0 +0.0 +0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0 +0.0 +0.0	.0
+0.00 +0.0 +0.0 +0.1 +0.1 +0.1 +0.0	+0.0 +0.0 +0.0 +0.0 +0.0 +0.0	.0
+0.0.0 +0.1 +0.1 +0.3 +0.3 +0.2 +0.1	+ <mark>0.1</mark> 0.0 0.0 +0.0 +0.0 +0.0 +0.0	.0
+0.10.1 +0.2 +0.6 +1.5 +2.0 +1.0 +0.3	0.1 +0.0 +0.0 +0.0 +0.0 +0.0	.0
0.0 0.2 0.8 3.0 4.5 REPLACE EXISTING 1.8 INTURE WOH 4/POSE FIXTURE	+0.1 +0.1 +0.0 +0.0 +0.0 +0.0 +0.0 +0.0	.0
+0.0	+0.2 +0.2 +0.0 +0.0 +0.0 0.0 +0.0 0.0 +0.0	.0
+ _{0.0} 0.0	0.9 0.8 0.4 0.2 0.1 0.0 0.0 0.0	.0
0.0	3.8 2.3 0.9 0.2 0.1 0.00.0 0.0	.0
+0.0	4.8 2. EXISTING LIGHT 0.3 0.1 0.00.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	.0
+0.0	1.4 FIXTURE TYP. 1.1 0.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	.0
0.0 PROPOSED WDGE1 FIXTURE	0.3 0.3 0.2 0.1 0.1 0.0 0.0 0.0	.0
0.0 0.0 5.9 6.1 7.1 2.7	0.7 0.3 TING LIGHT.1 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	.0
0.2 0.4 2.2 5.5 6.1 5.9 2.8	*0.8 REPLACED W WST + FIXTURE TYP: 0.1 0.0	.0
0.1 0.5 1.2 2.2 2.4 1.5	*0.6	.0
0.1	*0.6 +0.2 +0.1 +0.1 +0.0 +0.0 +0.0 +0.0 +0.0	.0
0.1 0.4 1.9 1.9 1.6	*0.8 +0.3 +0.1 +0.1 +0.0 +0.0 +0.0 +0.0	.0
0.1 0.2 * 1.5 * 1.7 * 2.2 * 2.6 * 2.1	*1.1 +0.4 +0.1 +0.0 +0.0 +0.0 0.0	.0
0.2 *1.6 *2.5 *2.7 PROPOSED BIGHT POST 2.5	*1.5 +0.6 +0.2 +0.1 +0.1 +0.0 +0.9.	.0
0.2	*1.9	.0
0.5 0.8 3.1 2.5 2.5	*2.0	0
0.1 0.4 0.6 1.4 2.0 1.9 2.0	*1.6 *1.1 *0.5 *0.2 0.1 *0.0 000	b
+0.1 +0.2 +0.3 +0.5 +1.4 +1.3 +1.3	1.2 0.8 +0.5 +0.2 0.1 +0.0 0.9	8
0.0 +0.1 +0.1 +0.6 +0.9 +0.7		
0.0 +0.0 +0.1 +0.1 +0.9.2 +0.9.5 0.9.4	0033 003 0022 001 0.1 0.0 0.0 0.0	.0
+0.0 +0.0 +0.0 +0.0 +0.1 +0.2 +0.2	+0.1 +0.1 +0.1 +0.0 +0.0 +0.0	.0
+0.0 +0.0 +0.0 +0.0 +0.0 +0.0 +0.1	+0.1	0
+0.0 +0.0 +0.0 +0.0 +0.0 +0.0 +0.0 +0.0	+0.0	0
0.0 +0.0 +0.0 +0.0 +0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0
+0.0 +0.0 +0.0 +0.0 +0.0 +0.0 +0.0 +0.0	+0.0 +0.0 +0.0 +0.0 +0.0 +0.0 +0.0 +0.0	0

Plan View Scale - 1" = 14ft

Statistics										
Description	Symbol	Avg	Max	Min	Avg/Max	Avg/Min	Max/Min			
PARKING - NEW	ж	2.0 fc	5.9 fc	0.6 fc	0.3:1	3.3:1	9.8:1			
PL - NEW	+	0.1 fc	0.5 fc	0.0 fc	0.2:1	N/A	N/A			
SITE- NEW	+	0.5 fc	7.1 fc	0.0 fc	0.1:1	N/A	N/A			



Designer AAM/NAE Date 10/2/2019 REV. 9/15/20 Scale Not to Scale Drawing No. #19-42566 V2 1 of 1

U