CHELSEA PLANNING COMMISSION
WORK SESSION
Agenda

February 7, 2023
7:00 PM
311 S. Main St. (Council Chambers)
Commissioners must attend in person, a zoom option is available for members of the public.

Agenda:

1. Public Comment
2. Gestamp Expansion – Combined Preliminary and Final Site Plan Review
3. Proposed Zoning Ordinance Amendments
    a. Article 7: Landscaping

Persons requiring reasonable accommodations due to disabilities in order that the meeting is accessible to them are requested to notify the Chelsea Planning Commission of such disability no later than five business days prior to the date of the meeting.

Sarah Haselschwardt, Secretary

Zoom Information:

Topic: Planning Commission Work Session – February 7, 2023
When: Feb 7, 2023 07:00 PM Eastern Time (US and Canada)

Please click the link below to join the webinar:
https://us02web.zoom.us/j/87006959608?pwd=Y0Q3SDc1d2YrV3ZDdlJsTThubURMQT09

Passcode: 754552
Or One tap mobile :
US: +13092053325,,87006959608#,,,,*754552# or +13126266799,,87006959608#,,,,*754552#
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Dial(for higher quality, dial a number based on your current location):
US: +1 309 205 3325 or +1 312 626 6799 or +1 646 558 8656 or +1 646 931 3860 or +1 301 715 8592 or +1 305 224 1968 or +1 360 209 5623 or +1 386 347 5053 or +1 507 473 4847 or +1 564 217 2000 or +1 669 444 9171 or +1 669 900 9128 or +1 689 278 1000 or +1 719 359 4580 or +1 253 205 0468 or +1 253 215 8782 or +1 346 248 7799
Webinar ID: 870 0695 9608
Passcode: 754552
International numbers available: https://us02web.zoom.us/u/klx2jK4Fw

Item 2

Gestamp Expansion

Combined Preliminary and Final Site Plan Review

Gestamp

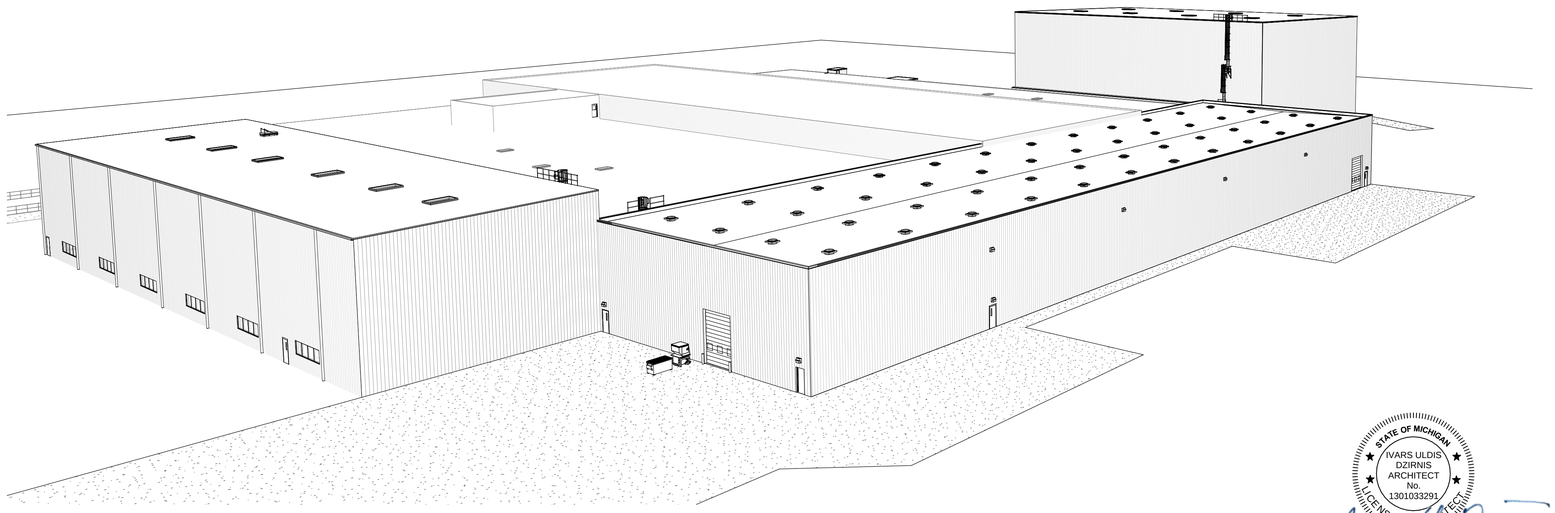
CHELSEA BUILDING ADDITION

5800 SIBLEY ROAD
CHELSEA , MI 48118

ISSUED FOR: SITE PLAN APPROVAL

SHEET INDEX

NUMBER	TITLE	10-28-22 SITE PLAN	11-22-22 REVISED PER CITY COMMENTS	01-20-23 SITE PLAN
CS	COVER SHEET	X	X	X
ARCHITECTURAL				
A1.1	COMPOSITE SITE PLAN	X	X	X
A2.1	COMPOSITE FLOOR PLAN	X	X	X
A2.2	ENLARGED FLOOR PLAN	X	X	X
A4.0	EXTERIOR ELEVATIONS	X	X	X
ELECTRICAL				
E1	PHOTOMETRIC PLAN		X	X



CONTACT INFORMATION

OWNER / CLIENT: GESTAMP NORTH AMERICA DIVISION
2701 TROY CENTER DRIVE, SUITE 150
TROY, MI 48084

PHONE: (734) 593-9036
EMAIL: gestamp.com

ARCHITECT / ENGINEER:
IVARS DZIRNIS, AIA, NCARB, LEED AP
PROJECT MANAGER/ARCHITECT
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KAITLYN MIKLOVICH
PROJECT DESIGNER
PHONE: (989) 752-5000
EMAIL: KMIKLOVICH@KIBBE.COM

CODE AUTHORITY: CITY OF CHELSEA PLANNING & ZONING DEPARTMENT
305 S. MAIN ST. SUITE 100
CHELSEA, MI 48118
(734) 475-1771

PROJECT INFORMATION

BUILDING CODE COMPLIANCE
- 2015 MICHIGAN BUILDING CODE (MBC)
- 2018 MICHIGAN PLUMBING CODE (MPC)
- 2015 MICHIGAN MECHANICAL CODE (MMC)
- 2017 NATIONAL ELECTRICAL CODE (NEC)
- 2012 INTERNATIONAL FIRE CODE (IFC)
- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

BUILDING USE GROUP [SECTION 306.3]
- LOW-HAZARD FACTORY INDUSTRIAL, GROUP F-2

CONSTRUCTION CLASSIFICATION [SECTION 602]
- IIB - NON COMBUSTIBLE

BUILDING AREA [SECTION 503]
- ALLOWABLE - UNLIMITED BY SPECIAL EXEMPTION
- ORIGINAL BUILDING FIRST FLOOR = 184,000 SQ. FT.
- ORIGINAL BUILDING SECOND FLOOR = 7,677 SQ. FT.
- EXISTING PENTHOUSE = 2,657 SQ. FT.
- PRESS PIT = 1,907 SQ. FT.
- SCRAP TUNNEL = 751 SQ. FT.
- FIRST FLOOR CMM = 275 SQ. FT.
- SCRAP BUILDING = 1,793 SQ. FT.
- TRANSFER PRESS = 24,102 SQ. FT.
- E-COAT = 18,323 SQ. FT.
- SECOND FLOOR = 275 SQ. FT.
- STAIR TOWER = 218 SQ. FT.
- ELEVATOR = 98 SQ. FT.
- TOTAL SQUARE FOOTAGE = 239,435 SQ. FT.
- PROPOSED ADDITION = 35,393 SQ. FT.
- TOTAL = 274,828 SQ. FT.

BUILDING HEIGHT AND AREA [SECTION 503.1.1]
- SPECIAL INDUSTRIAL OCCUPANCIES EXEMPT FROM TABLE 504.3, 504.4 AND 506.2 HEIGHT AND AREA LIMITATIONS.

OCCUPANT LOAD [TBL 1004.1.2]
- 1,943 EX + 354 PROP = 2,297 OCCUPANTS

MINIMUM NUMBER OF EXITS PER STORY [TBL 1006.3.1]
- REQUIRED - (4) OCCUPANT LOAD > 1000
- PROVIDED - 20

EXIT ACCESS TRAVEL DISTANCE [SECTION 1017, TBL 1017.2]
- USE GROUP F-2 W/ SPRINKLER SYSTEM
  - 400'

CORRIDORS [SECTION 1020, TBL 1020.1]
- 0 RATING W/ SPRINKLERS

MEANS OF EGRESS SIZING [SECTION 1005]
- OCCUPANT LOAD 2,297 X .15 = 345" MIN. WIDTH
- REQUIRED EXIT DOORS @ 33"/DR = 11
- DOORS PROVIDED - 20

FIRE PROTECTION SYSTEMS [CHAPTER 9]
FULLY SPRINKLED - AUTOMATIC SPRINKLER SYSTEM

FIRE RESISTANCE RATING FOR BUILDING ELEMENTS (HOURS) [TBL 601]
- 0 - STRUCTURAL FRAME
- 0 - BEARING WALLS
- 0 - NON BEARING WALLS
- 0 - FLOOR CONSTRUCTION
- 0 - FLOOR CONSTRUCTION

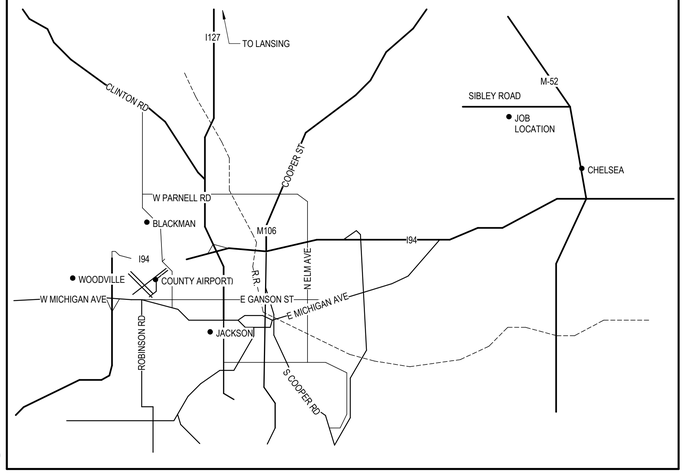
EXTERIOR WALLS [SECTION 705]
- NON-COMBUSTIBLE TYPE 2 CONSTRUCTION

WALL AND CEILING FINISHES [SECTION 803, TBL 803.11]
- *FLAME SPREAD INDEX*
  - *CLASS A(0-25), CLASS B(26-75), CLASS C(76-200)*
- *SMOKE DEVELOPED INDEX*
  - *CLASS A(0-450), CLASS B(0-450), CLASS C(0-450)*
- CLASS C - VERTICAL EXIT & EXIT PASSAGEWAY
- CLASS C - EXIT ACCESS & OTHER EXITS
- CLASS C - ROOMS & ENCLOSED SPACES

AUTOMATIC SPRINKLER SYSTEMS [SECTION 903, 903.3.1.1]
- NFPA 13 SPRINKLER SYSTEM

PORTABLE FIRE EXTINGUISHERS [SECTION 906]
- CLASS A, 75' - TYPE 2A EXTINGUISHERS

LOCATION MAP



STATE OF MICHIGAN
IVARS ULDIS DZIRNIS
ARCHITECT
No. 1301033291
LICENSED ARCHITECT

WILLIAM A. KIBBE & ASSOCIATES, INC.
ENGINEERS | ARCHITECTS | SURVEYORS

Gestamp

GESTAMP NORTH AMERICA DIVISION
CHELSEA BUILDING ADDITION
CHELSEA, MI 48118

COVER SHEET

NO.	STATUS / REVISIONS	DATE
	SITE PLAN	10-28-22
	REVISED PER CITY COMMENTS	11-22-22
	SITE PLAN	01-20-23

CHCK'D BY: E. MANNOR
DES'D BY: B. DZIRNIS
DRAWN BY: K. MIKLOVICH
PROJ #: 22-2373-0265

SHEET
CS

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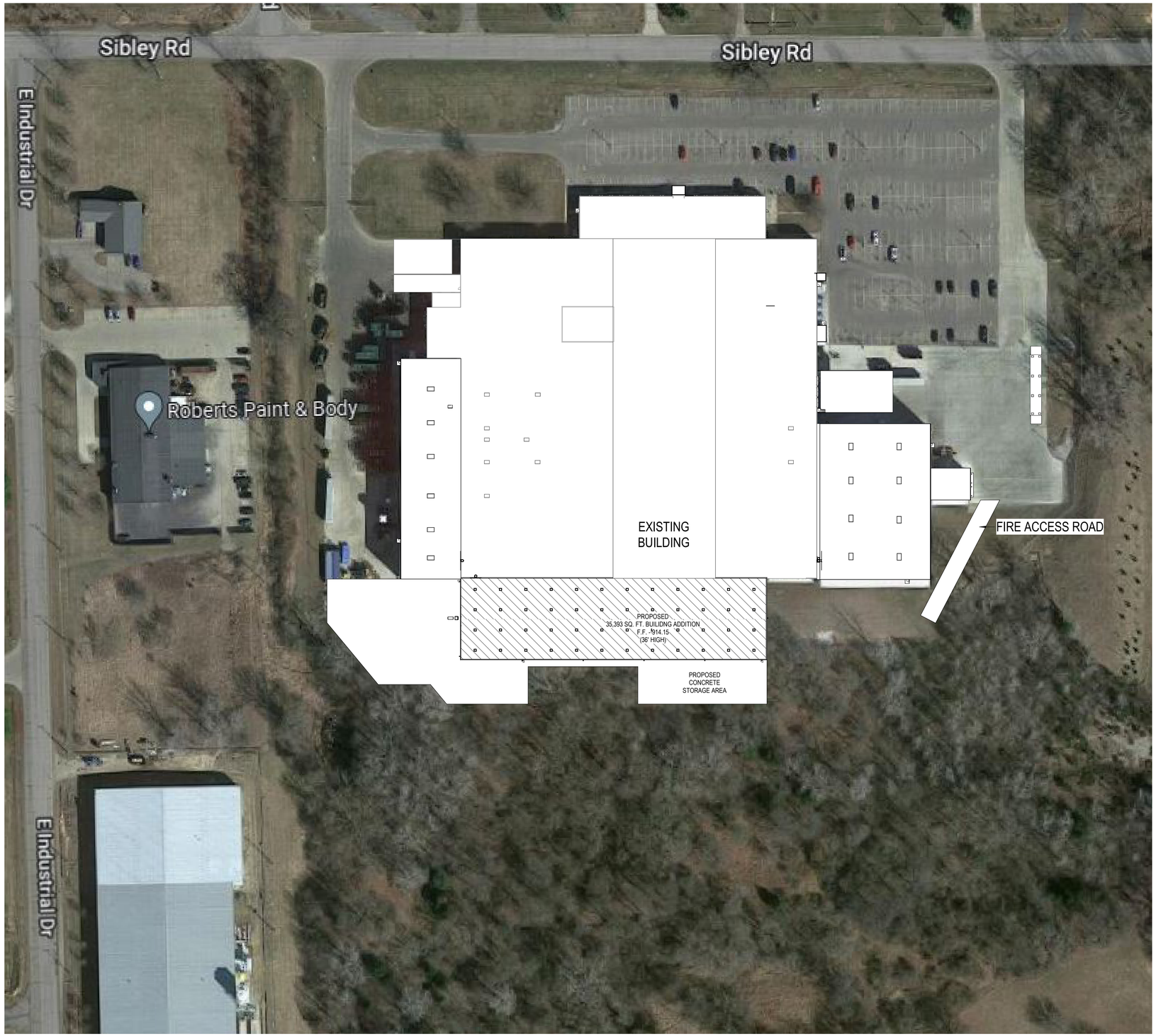

N

COMPOSITE SITE PLAN

SCALE: 1" = 60'-0"

STATE OF MICHIGAN
IVARS ULDIS DZIRNIS
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CHCK'D BY: E. MANNOR
DES'D BY: B. DZIRNIS
DRAWN BY: K. MIKLOVICH
PROJ #: 22-2373-0265

SHEET
A1.1

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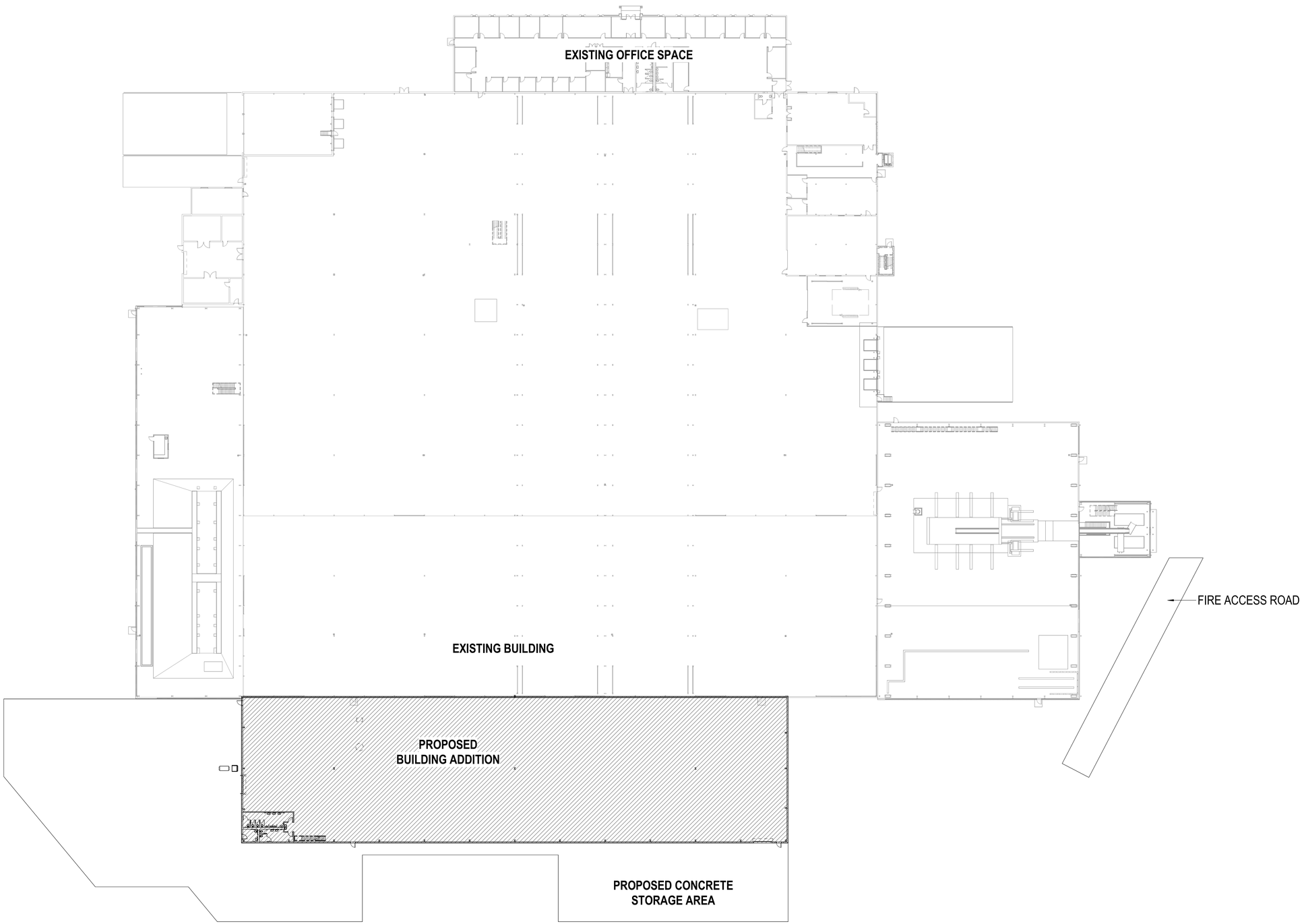

N

COMPOSITE FLOOR PLAN

SCALE: 1/32" = 1'-0"

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ARCHITECT
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LICENSED ARCHITECT

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CHELSEA BUILDING ADDITION
CHELSEA, MI 48118

COMPOSITE FLOOR PLAN

NO.	STATUS / REVISIONS	DATE
	SITE PLAN	10-28-22
	REVISED PER CITY COMMENTS	11-22-22
	SITE PLAN	01-20-23

CHCK'D BY: E. MANNOR
DES'D BY: B. DZIRINIS
DRAWN BY: K. MIKLOVICH
PROJ #: 22-2373-0265

SHEET
A2.1

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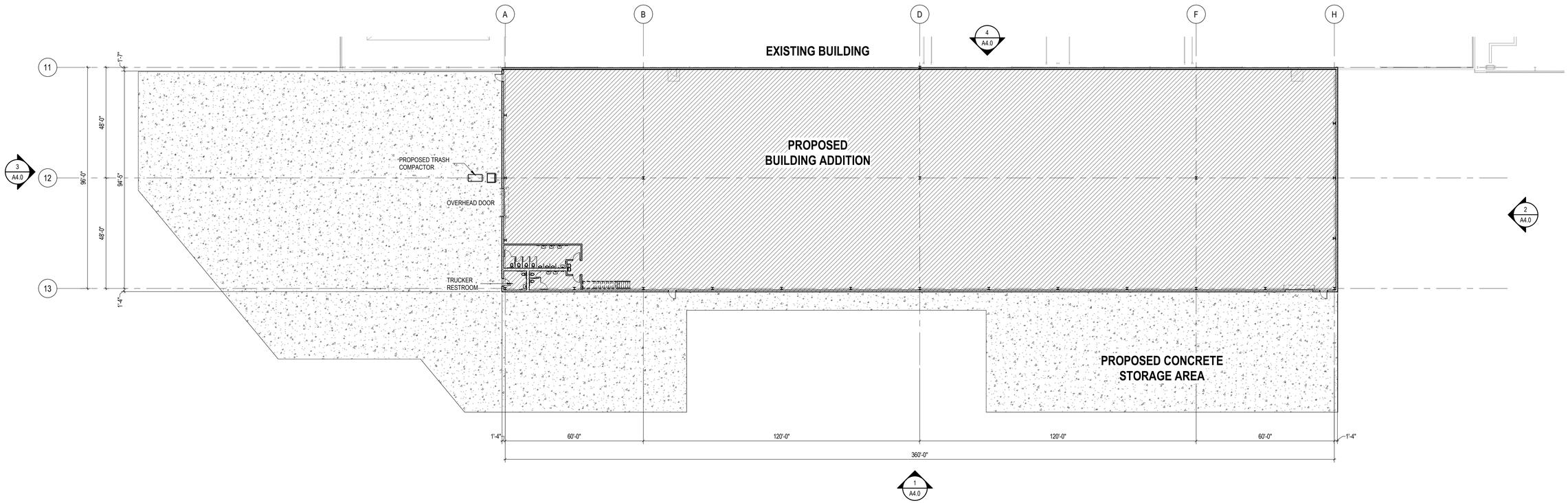

N

ENLARGED FLOOR PLAN - BUILDING ADDITION

SCALE: 3/64" = 1'-0"

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GESTAMP NORTH AMERICA DIVISION
CHELSEA BUILDING ADDITION
CHELSEA, MI 48118

ENLARGED FLOOR PLAN

NO.	STATUS / REVISIONS	DATE
	SITE PLAN	10-28-22
	REVISED PER CITY COMMENTS	11-22-22
	SITE PLAN	01-20-23

CHCK'D BY: E. MANNOR
DES'D BY: B. DZIRNIS
DRAWN BY: K. MIKLOVICH
PROJ #: 22-2373-0265

SHEET
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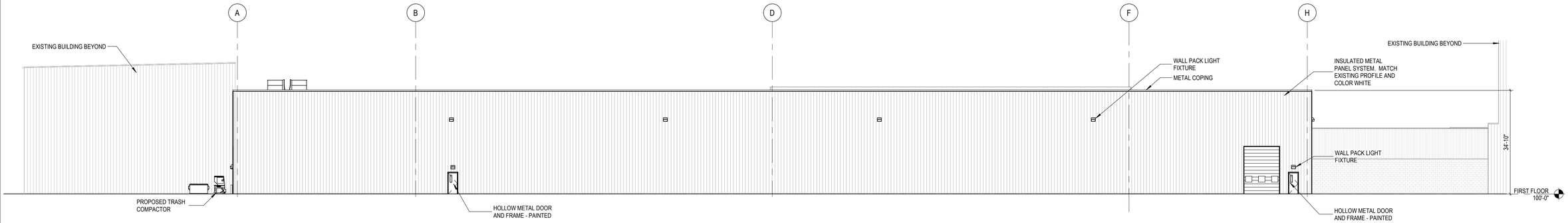
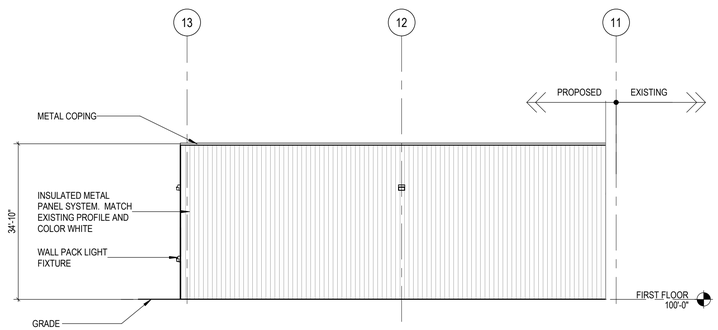
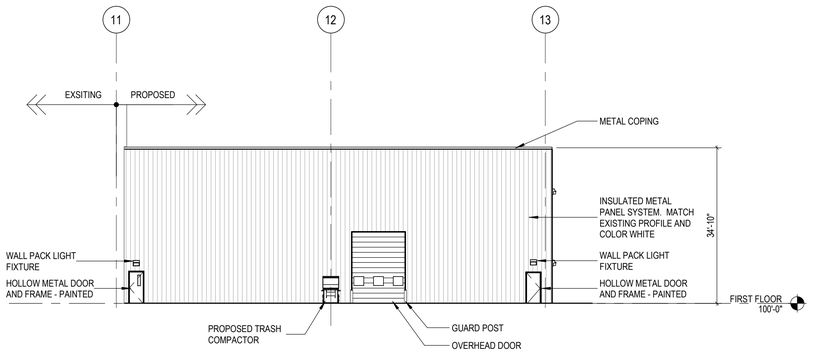


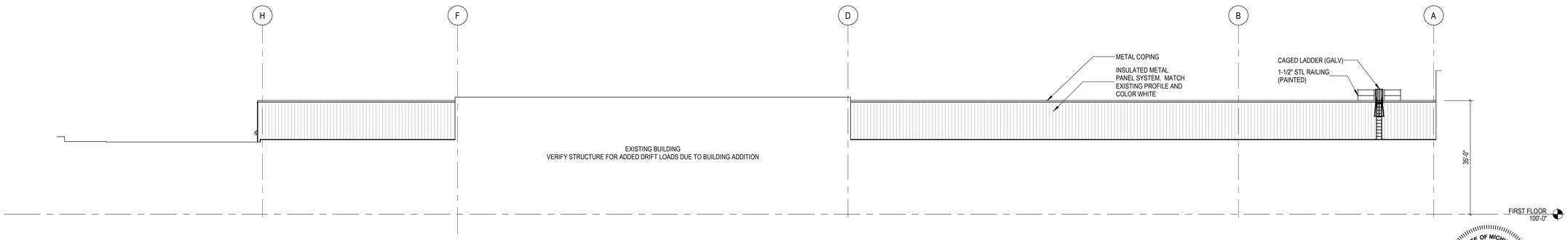
1 A4.0 **SOUTH ELEVATION**
SCALE: 1/16" = 1'-0"



2 A4.0 **EAST ELEVATION**
SCALE: 1/16" = 1'-0"



3 A4.0 **WEST ELEVATION**
SCALE: 1/16" = 1'-0"



4 A4.0 **NORTH ELEVATION**
SCALE: 1/16" = 1'-0"

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IVARS ULDIS DZIRNIS
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GESTAMP NORTH AMERICA DIVISION
CHELSEA BUILDING ADDITION
CHELSEA, MI 48118

EXTERIOR ELEVATIONS

NO.	STATUS / REVISIONS	DATE
	SITE PLAN	10-28-22
	REVISED PER CITY COMMENTS	11-22-22
	SITE PLAN	01-20-23

CHCK'D BY: E. MANNOR
DES'D BY: B. DZIRNIS
DRAWN BY: K. MIKLOVICH
PROJ #: 22-2373-0265

SHEET
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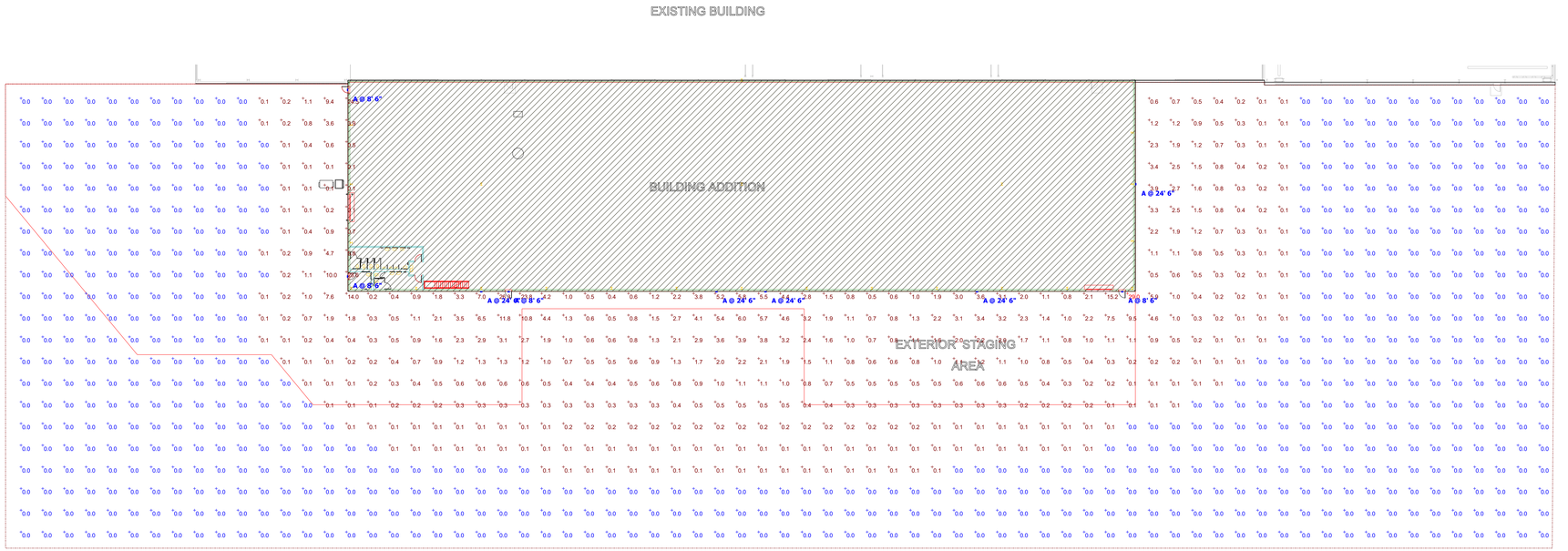


Plan View
Scale - 1" = 30ft

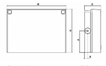
Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Exterior Lighting	+	0.5 fc	29.0 fc	0.0 fc	N/A	N/A

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
	A	9	Lithonia Lighting	WPX3 LED 50K MVolt	WPX3 LED wallpack 9000lm 5000K color temperature 120-277V	1	9394	0.95	71.16

WPX LED
Wall Packs

Specifications



Front View Side View

Luminaire	Height (H)	Width (W)	Depth (D)	Side Conduit Location	Weight
WPX1	8.7" (26.6 cm)	11.1" (28.3 cm)	3.2" (8.1 cm)	4.6" (10.5 cm)	0.6" (1.6 cm)	6.1 lbs (2.8kg)
WPX2	9.7" (25.1 cm)	12.3" (31.1 cm)	4.1" (10.5 cm)	4.5" (11.5 cm)	0.7" (1.7 cm)	8.2 lbs (3.7kg)
WPX3	9.7" (24.1 cm)	13.8" (35.0 cm)	3.5" (11.7 cm)	4.7" (12.0 cm)	0.7" (1.7 cm)	11.0 lbs (5.0kg)

Catalog Number
Notes
Type

Introduction

The WPX LED wall packs are energy-efficient, cost-effective, and aesthetically appealing solutions for both HID wall pack replacement and new construction opportunities. Available in three sizes, the WPX family delivers 1,550 to 9,200 lumens with a wide, uniform distribution.

The WPX full cut-off solutions fully cover the footprint of the HID glass wall packs that they replace, providing a neat installation and an upgraded appearance. Reliable IP66 construction and excellent LED lumen maintenance ensure a long service life. Photocell and emergency egress battery options make WPX ideal for every wall mounted lighting application.

Ordering Information

EXAMPLE: WPX2 LED 40K MVOLT DDBXD

Series		Color Temperature		Voltage		Options		Finish	
WPX1 LED P1	1,550 Lumens, 19W	30K	3000K	MVOLT	120 - 277V	(blank)	None	DDBXD	Dark bronze
WPX1 LED P2	2,900 Lumens, 29W	40K	4000K	347	347V	E4WH	Emergency battery backup, CEC compliant (4W, 3°C min)*	DWHXD	White
WPX2 LED	6,200 Lumens, 47W	50K	5000K			E14WC	Emergency battery backup, CEC compliant (14W, -20°C min)*	DBLXD	Black
WPX3 LED	9,200 Lumens, 69W					PE	Photocell*	Note: For other options, consult factory.	

Note: The lumen output and input power shown in the ordering tree are average representations of all configuration options. Specific values are available on request.

NOTES
1. All WPX wall packs come with 6kV surge protection standard, except WPX1 LED P1 package which comes with 2.5kV surge protection standard. Add SPD6KV option to get WPX1 LED P1 with 6kV surge protection.
   Sample nomenclature: WPX1 LED P1 40K MVOLT SPD6KV DDBXD
2. Battery pack options only available on WPX1 and WPX2.
3. Battery pack options not available with 347V and PE options.

FEATURES & SPECIFICATIONS

INTENDED USE
The WPX LED wall packs are designed to provide a cost-effective, energy-efficient solution for the one-for-one replacement of existing HID wall packs. The WPX1, WPX2 and WPX3 are ideal for replacing up to 150W, 250W, and 400W HID luminaires respectively. WPX luminaires deliver a uniform, wide distribution. WPX is rated for -40°C to 40°C.

CONSTRUCTION
WPX feature a die-cast aluminum main body with optimal thermal management that both protects the LEDs and ensures maximum lumen output. The luminaires are IP66 rated, and sealed against moisture or environmental contaminants.

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs and LED lumen maintenance of L90/100,000 hours. Color temperature (CCT) options of 3000K, 4000K and 5000K with minimum 70 CRI. Class 1 electronic drivers have a power factor >0.9 and THD <20%. All models have 6kV surge protection (Note: WPX1 LED P1 package comes with a standard 2.5kV surge protection rating of 2.5kV. It can be ordered with an optional 6kV surge protection) rating. All (universal (PE) operate on MVOLT (120V - 277V) input.

Note: The standard WPX LED wall pack luminaires come with field-adjustable drive current settings. Refer to page 2 for programming the output current of the LED drivers to adjust the lumen output (to dim the luminaire).

INSTALLATION
WPX can be mounted directly over a standard electrical junction box. Three 1/2 inch conduit ports are provided on three sides for surface conduit wiring. A port on the back surface allows pole-through conduit wiring on surfaces that don't have an electrical junction box. Wiring can be made in the integral wiring compartment in all cases. WPX is only recommended for installations with LEDs facing downwards.

LISTINGS
WPX is designed to meet U.S. and Canadian standards. Suitable for wet locations. IP66 Rated. DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which DLC listings are applicable to this luminaire. Suitable for mounting to a nominal 4"sq. (Universal (PE)A) is available for all products on this page utilizing 3000K color temperature only.

WARRANTY
5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.lithonia.com/support/commercial-terms-and-conditions-of-sale

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25°C. Specifications subject to change without notice.

Performance Data

Electrical Load

Luminaire	Input Power (W)	120V	208V	240V	277V	347V
WPX1 LED P1	19W	0.09	0.05	0.05	0.04	0.03
WPX1 LED P2	29W	0.20	0.12	0.10	0.09	0.07
WPX2	47W	0.35	0.23	0.20	0.17	0.14
WPX3	69W	0.58	0.33	0.29	0.25	0.20

Projected LED Lumen Maintenance

Data references the extrapolated performance projections in a 25°C ambient, based on 10,000 hours of LED operation, testing tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate L28, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	50,000	75,000	100,000
Lumen Maintenance Factor	>0.94	>0.92	>0.90

HID Replacement Guide

Luminaire	Equivalent HID Lamp	WPX Input Power
WPX1 LED P1	100W	19W
WPX1 LED P2	150W	29W
WPX2	250W	47W
WPX3	400W	69W

Lumen Output

Luminaire	Color Temperature	Lumen Output
WPX1 LED P1	3000K	1,537
	4000K	1,568
	5000K	1,602
WPX1 LED P2	3000K	2,748
	4000K	2,912
	5000K	2,954
WPX2	3000K	5,739
	4000K	5,896
	5000K	6,201
WPX3	3000K	8,984
	4000K	9,269
	5000K	9,393

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for ambient temperatures from 0-50°C (32-122°F).

Ambient	Ambient	Lumen Multiplier
0°C	32°F	1.05
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

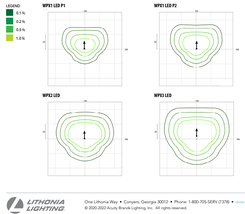
Emergency Egress Battery Packs

The emergency battery backup is integral to the luminaire — no external housing or back box is required. The emergency battery will power the luminaire for a minimum duration of 90 minutes and deliver minimum initial output of 550 lumens. Both battery pack options are CEC compliant.

Battery Type	Minimum Temperature Rating	Power (Watts)	Controls Option	Ordering Example
Standard	0°C	4W	E4WH	WPX2 LED 40K MVOLT E4WH DDBXD
Cold Weather	-20°C	14W	E14WC	WPX2 LED 40K MVOLT E14WC DDBXD

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting WPX LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.



LITHONIA LIGHTING
COMMERCIAL OUTDOOR
One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
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WPX LED
Rev. 03/08/22

GESTAMP CHELSEA
PROPOSED EXPANSION - PHASE 1
PHOTOMETRIC PLAN

STATE OF MICHIGAN
IVARS ULDIS DZIRNIS
ARCHITECT
No. 1301033291
REGISTERED ARCHITECT

Designer
B. KUSHION
Date
01/18/2023
Scale
AS NOTED
Drawing No.
E1
Summary

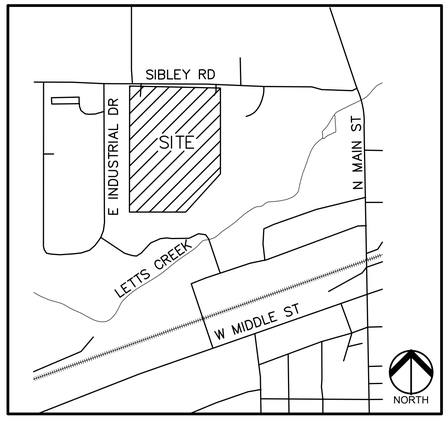
REVISED SITE & CONSTRUCTION PLANS

GESTAMP

5800 SIBLEY ROAD

CHELSEA, MICHIGAN 48118

PERMIT / APPROVAL SUMMARY		
DATE SUBMITTED	DATE APPROVED	PERMIT / APPROVAL
1/20/2023		FINAL SITE PLAN



LOCATION MAP
NO SCALE

INDEX OF DRAWINGS	
NUMBER	TITLE
	COVER SHEET
C-1.0	TOPOGRAPHIC SURVEY
C-1.1	TREE SURVEY INDEX TABLE
C-1.2	TREE SURVEY INDEX TABLE
C-1.3	TREE SURVEY INDEX TABLE
C-2.0	DEMOLITION PLAN
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DESIGN TEAM

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PEA GROUP

UTILITY PROVIDERS

PHONE: AT&T

FIBER/CABLE: COMCAST

GAS: DTE

ELECTRIC: CONSUMERS ENERGY

ELECTRIC: CITY OF CHELSEA

WATER: CITY OF CHELSEA

SANITARY SEWER: CITY OF CHELSEA

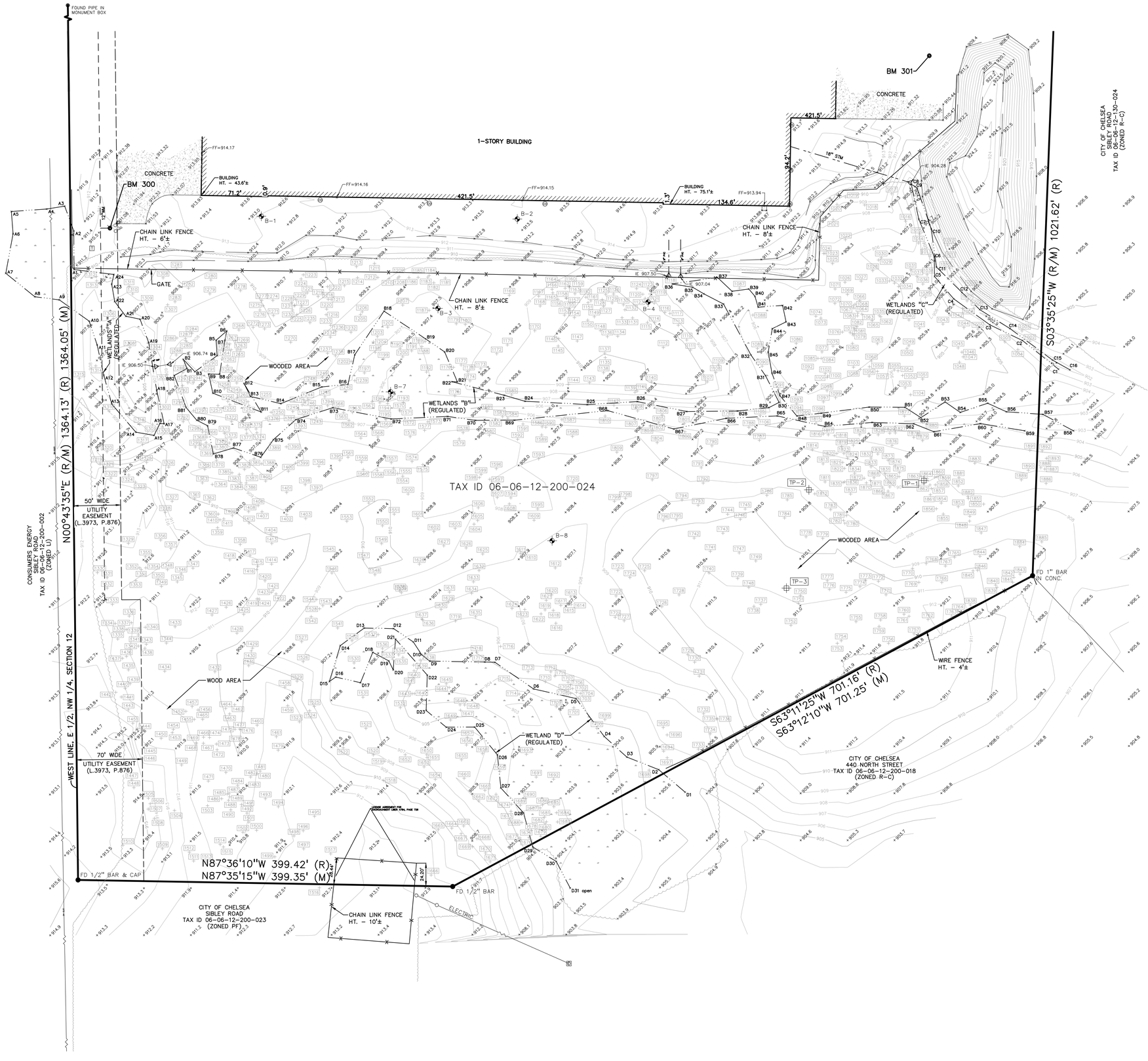
STORM DRAIN: CITY OF CHELSEA

REVISIONS	
DESCRIPTION	DATE
ORIGINAL ISSUE DATE	1/20/2023

STATE OF MICHIGAN
ALAN D. BOYER
ENGINEER
No. 32017
LICENSED PROFESSIONAL ENGINEER

STATE OF MICHIGAN
ERIC A. IVERSEN
ENGINEER
NO. 33609
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION



LEGEND:

- EX. OH, ELEC, POLE & GUY WIRE
- EX. U.G. CABLE TV & PEDESTAL
- EX. U.G. COMMUNICATION LINE, PEDESTAL & MANHOLE
- EX. U.G. ELEC.MANHOLE, METER & HANDHOLE
- EX. GAS LINE
- EX. GAS VALVE & GAS LINE MARKER
- EX. TRANSFORMER & IRRIGATION VALVE
- EX. WATER MAIN
- EX. HYDRANT, GATE VALVE & POST INDICATOR VALVE
- EX. WATER VALVE BOX & SHUTOFF
- EX. SANITARY SEWER
- EX. SANITARY CLEANOUT & MANHOLE
- EX. COMBINED SEWER MANHOLE
- EX. STORM SEWER
- EX. CLEANOUT & MANHOLE
- EX. SQUARE, ROUND, & BEEHIVE CATCH BASIN
- EX. YARD DRAIN & ROOF DRAIN
- EX. UNIDENTIFIED STRUCTURE
- EX. MAILBOX, SIGN & LIGHTPOLE
- EX. FENCE
- EX. GUARD RAIL
- EX. SPOT ELEVATION
- EX. CONTOUR
- EX. WETLAND

- IRON FOUND / SET
- NAIL FOUND / NAIL & CAP SET
- BRASS PLUG SET
- MONUMENT FOUND / SET
- SECTION CORNER FOUND
- R M C — RECORDED / MEASURED / CALCULATED
- INFILTRATION TEST PIT LOCATION
- SOIL BORING PIT LOCATION

REFERENCE DRAWINGS:
SURVEY PLAN - MOORE & BRUGGINK, INC. DATED APRIL 20, 2017

MISS DIG TICKET NO.: 2022080301697-000

CABLE	AT&T MAP A1, DATED 09/08/2022
GAS	NO EMAIL AS 09/12/2022
WATER MAIN	NO EMAIL AS 09/12/2022
STORM SEWER	NO EMAIL AS 09/12/2022
ELECTRIC	NO EMAIL AS 09/12/2022

PROPERTY DESCRIPTION
(PER MOORE & BRUGGINK, INC. SURVEY PLAN DATED APRIL 28, 2017)

Part of the East one-half of the Northwest one-quarter of Section 12, Town 2 South, Range 3 East, Village (now City) of Chelsea, Washtenaw County, Michigan, described as: COMMENCING at the North one-quarter corner of said Section 12; thence along the North line of said Section 12 and along the centerline of Sibley Road, North 87°36'10" West 250.44 feet to the POINT OF BEGINNING; thence South 03°35'25" West 1021.61 feet; thence South 63°11'25" West 701.16 feet; thence North 87°36'10" West 399.42 feet to the West line of the East one-half of the Northwest one-quarter of said Section 12; thence along said West line North 00°43'35" East 1364.13 feet to the North line of said Section 12 and the centerline of Sibley Road; thence along the North line and along said centerline South 87°36'10" East 1072.49 feet to the point of beginning.

TOGETHER WITH a non-exclusive easement for ingress and egress across the Southerly 30 feet of Lot 5 of Chelsea Industrial Park, Village (now City) of Chelsea, Washtenaw County, Michigan as set forth in the Easement Agreement recorded in Liber 4050, Page 755.

SURVEYOR'S NOTES
1) Bearing base on west line of survey property Per Boundary information obtained from a prior survey by MOORE & BRUGGINK, INC., Job No. 170148.01. dated APRIL 28, 2017.

BENCHMARKS
(GPS DERIVED - NAVD88)

BM 300 - Arrow on fire hydrant off the the West of the Southwest building corner.
Elevation: 912.78

BM 301 - Set Mag Nail in the West side of concrete light pole base East of building.
Elevation: 912.71

FLOODPLAIN NOTE:
By graphical plotting, site is within zone 'x', area determined to be outside of the 0.2% annual chance floodplain per flood insurance rate map number 26161c0184e dated April 3, 2012.

PEA GROUP
t: 844.813.2949
www.peagroup.com

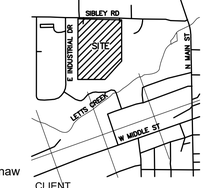
STATE OF MICHIGAN — WENDY SUE FULLER — License No. 4001047969 — LICENSED PROFESSIONAL SURVEYOR

NORTH

0 25 50 100
SCALE: 1" = 50'

811 Know what's below. Call before you dig.

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.



CLIENT
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

REVISIONS
-

ORIGINAL ISSUE DATE:
SEPTEMBER 8, 2022

DRAWING TITLE
TOPOGRAPHIC SURVEY

PEA JOB NO.	2022-0484
P.M.	JH
SUR.	WSF
DN.	JML

DRAWING NUMBER:
C-1.0

NOT FOR CONSTRUCTION

\\peainc\proj\PROJECTS\2022\2022-0484 GESTAMP ADDITION, CHELSEA\DWG\CONSTRUCTION\C-1.0_C-1.3TOPO-22-0484.dwg PLOT DATE: 1/20/2023 7:57 AM BY: Shannon Pugh

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENTS
1001	CT	9	Cottonwood	Populus deltoides	Fair	
1002	BWW	8	Black Willow	Salix nigra	Fair	X2
1003	BWW	8	Black Willow	Salix nigra	Fair	
1004	RC	6	Red Cedar	Juniperus virginiana	Poor	
1005	CT	6	Cottonwood	Populus deltoides	Fair	
1006	CT	10	Cottonwood	Populus deltoides	Good	
1007	CT	10	Cottonwood	Populus deltoides	Good	
1008	CT	12	Cottonwood	Populus deltoides	Good	
1009	CT	12	Cottonwood	Populus deltoides	Good	
1010	CT	13	Cottonwood	Populus deltoides	Good	
1011	NS	8	Norway Spruce	Picea Abies	Good	
1012	CT	14	Cottonwood	Populus deltoides	Good	
1013	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1014	BG	10	Bigtooth Aspen	Populus grandidentata	Fair	
1015	CT	6	Cottonwood	Populus deltoides	Fair	
1016	BWW	12	Black Willow	Salix nigra	Fair	
1017	BX	18	Box elder	Acer negundo	Fair	
1018	BX	8	Box elder	Acer negundo	Fair	x5
1019	BX	14	Box elder	Acer negundo	Poor	
1020	CT	29	Cottonwood	Populus deltoides	Good	x1
1021	CT	10	Cottonwood	Populus deltoides	Poor	
1022	BC	9	Wild Black Cherry	Prunus serotina	Good	
1023	E	6	American Elm	Ulmus americana	Good	
1024	MW	10	White Mulberry	Morus alba	Good	x1
1025	RC	8	Red Cedar	Juniperus virginiana	Poor	
1026	BG	8	Bigtooth Aspen	Populus grandidentata	Good	
1027	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1028	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1029	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1030	BG	8	Bigtooth Aspen	Populus grandidentata	Good	
1031	BG	8	Bigtooth Aspen	Populus grandidentata	Good	
1032	CT	23	Cottonwood	Populus deltoides	Good	
1033	BO	9	Black Oak	Quercus velutina	Good	
1034	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1035	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1036	CT	9	Cottonwood	Populus deltoides	Fair	
1037	CT	7	Cottonwood	Populus deltoides	Good	
1038	CT	9	Cottonwood	Populus deltoides	Good	
1039	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1040	BG	8	Bigtooth Aspen	Populus grandidentata	Good	
1041	BG	6	Bigtooth Aspen	Populus grandidentata	Very Poor	
1042	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1043	CT	11	Cottonwood	Populus deltoides	Good	
1044	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1045	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1046	BG	8	Bigtooth Aspen	Populus grandidentata	Good	
1047	CT	6	Cottonwood	Populus deltoides	Fair	
1048	CT	6	Cottonwood	Populus deltoides	Fair	
1049	CT	6	Cottonwood	Populus deltoides	Fair	
1050	CT	6	Cottonwood	Populus deltoides	Fair	
1051	CT	6	Cottonwood	Populus deltoides	Fair	
1052	CT	9	Cottonwood	Populus deltoides	Fair	
1053	CT	6	Cottonwood	Populus deltoides	Fair	
1054	CT	11	Cottonwood	Populus deltoides	Good	
1055	BG	15	Bigtooth Aspen	Populus grandidentata	Good	
1056	BG	11	Bigtooth Aspen	Populus grandidentata	Good	
1057	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1058	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1059	CT	8	Cottonwood	Populus deltoides	Fair	
1060	CT	18	Cottonwood	Populus deltoides	Good	
1061	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1062	CT	12	Cottonwood	Populus deltoides	Good	
1063	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1064	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1065	BG	8	Bigtooth Aspen	Populus grandidentata	Fair	
1066	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1067	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1068	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1069	BG	8	Bigtooth Aspen	Populus grandidentata	Good	
1070	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1071	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1072	BF	10	Balsam Fir	Abies balsamea	Good	
1073	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1074	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1075	BG	9	Bigtooth Aspen	Populus grandidentata	Poor	
1076	BG	7	Bigtooth Aspen	Populus grandidentata	Poor	
1077	BG	6	Bigtooth Aspen	Populus grandidentata	Very Poor	
1078	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1079	BG	10	Bigtooth Aspen	Populus grandidentata	Good	
1080	BG	10	Bigtooth Aspen	Populus grandidentata	Good	
1081	BG	9	Bigtooth Aspen	Populus grandidentata	Poor	
1082	BG	13	Bigtooth Aspen	Populus grandidentata	Poor	
1083	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1084	CT	11	Cottonwood	Populus deltoides	Good	
1085	CT	15	Cottonwood	Populus deltoides	Good	
1086	RC	7	Red Cedar	Juniperus virginiana	Poor	
1087	CT	21	Cottonwood	Populus deltoides	Good	
1088	CT	20	Cottonwood	Populus deltoides	Good	
1089	CT	20	Cottonwood	Populus deltoides	Good	
1090	CT	11	Cottonwood	Populus deltoides	Fair	
1091	CT	11	Cottonwood	Populus deltoides	Fair	
1092	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1093	CT	12	Cottonwood	Populus deltoides	Good	
1094	CT	17	Cottonwood	Populus deltoides	Fair	
1095	CT	13	Cottonwood	Populus deltoides	Fair	
1096	CT	11	Cottonwood	Populus deltoides	Good	
1097	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1098	CT	12	Cottonwood	Populus deltoides	Fair	

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENTS
1099	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1100	CT	13	Cottonwood	Populus deltoides	Good	
1101	CT	18	Cottonwood	Populus deltoides	Good	
1102	CT	13	Cottonwood	Populus deltoides	Fair	
1103	BC	7	Wild Black Cherry	Prunus serotina	Fair	
1104	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1105	CT	16	Cottonwood	Populus deltoides	Good	
1106	CT	6	Cottonwood	Populus deltoides	Fair	
1107	BC	9	Wild Black Cherry	Prunus serotina	Fair	
1108	BO	9	Black Oak	Quercus velutina	Good	
1109	BC	15	Wild Black Cherry	Prunus serotina	Good	
1110	BX	13	Box elder	Acer negundo	Good	x1
1111	BO	13	Black Oak	Quercus velutina	Good	x1
1112	CA	10	Crab Apple	Malus caronaria	Very Poor	
1113	BO	12	Black Oak	Quercus velutina	Fair	
1114	BO	12	Black Oak	Quercus velutina	Fair	
1115	BO	6	Black Oak	Quercus velutina	Fair	
1116	BO	13	Black Oak	Quercus velutina	Fair	
1117	BO	8	Black Oak	Quercus velutina	Good	
1118	BX	7	Box elder	Acer negundo	Fair	
1119	BO	16	Black Oak	Quercus velutina	Fair	x1
1120	BO	14	Black Oak	Quercus velutina	Fair	
1121	BO	10	Black Oak	Quercus velutina	Good	
1122	BO	15	Black Oak	Quercus velutina	Good	
1123	BO	14	Black Oak	Quercus velutina	Fair	
1124	BO	9	Black Oak	Quercus velutina	Fair	
1125	BC	10	Wild Black Cherry	Prunus serotina	Poor	
1126	BO	9	Black Oak	Quercus velutina	Fair	
1127	BO	7	Black Oak	Quercus velutina	Fair	
1128	BO	11	Black Oak	Quercus velutina	Fair	
1129	BO	13	Black Oak	Quercus velutina	Fair	
1130	BO	7	Black Oak	Quercus velutina	Fair	
1131	BO	16	Black Oak	Quercus velutina	Fair	
1132	BO	12	Black Oak	Quercus velutina	Fair	
1133	BO	20	Black Oak	Quercus velutina	Good	
1134	BO	10	Black Oak	Quercus velutina	Fair	x1
1135	BO	12	Black Oak	Quercus velutina	Poor	x1
1136	BO	7	Black Oak	Quercus velutina	Very Poor	
1137	BO	34	Black Oak	Quercus velutina	Good	x1
1138	CA	15	Crab Apple	Malus caronaria	Very Poor	
1139	BC	21	Wild Black Cherry	Prunus serotina	Good	x1
1140	CA	8	Crab Apple	Malus caronaria	Very Poor	
1141	BC	8	Wild Black Cherry	Prunus serotina	Good	
1142	RC	6	Red Cedar	Juniperus virginiana	Very Poor	x1
1143	RC	11	Red Cedar	Juniperus virginiana	Very Poor	
1144	EE	20	Siberian Elm	Ulmus pumila	Good	
1145	BC	16	Wild Black Cherry	Prunus serotina	Fair	x1
1146	RC	12	Red Cedar	Juniperus virginiana	Fair	
1147	BO	22	Black Oak	Quercus velutina	Fair	
1148	RC	9	Red Cedar	Juniperus virginiana	Fair	
1149	BO	9	Black Oak	Quercus velutina	Fair	
1150	BO	7	Black Oak	Quercus velutina	Fair	
1151	BC	11	Wild Black Cherry	Prunus serotina	Good	
1152	BO	11	Black Oak	Quercus velutina	Fair	
1153	BO	15	Black Oak	Quercus velutina	Fair	
1154	BO	11	Black Oak	Quercus velutina	Fair	
1155	BO	8	Black Oak	Quercus velutina	Fair	
1156	BO	19	Black Oak	Quercus velutina	Good	x1
1157	BO	10	Black Oak	Quercus velutina	Good	
1158	BO	19	Black Oak	Quercus velutina	Good	
1159	BC	6	Wild Black Cherry	Prunus serotina	Good	
1160	BO	13	Black Oak	Quercus velutina	Fair	
1161	BC	13	Wild Black Cherry	Prunus serotina	Good	
1162	BO	13	Black Oak	Quercus velutina	Fair	
1163	BO	11	Black Oak	Quercus velutina	Good	
1164	BC	8	Wild Black Cherry	Prunus serotina	Poor	
1165	BO	17	Black Oak	Quercus velutina	Good	
1166	BO	6	Black Oak	Quercus velutina	Good	
1167	BO	7	Black Oak	Quercus velutina	Fair	
1168	BO	21	Black Oak	Quercus velutina	Fair	
1169	BX	14	Box elder	Acer negundo	Fair	
1170	SWO	7	Swamp White Oak	Quercus bicolor	Good	
1171	E	6	American Elm	Ulmus americana	Good	
1172	SWO	6	Swamp White Oak	Quercus bicolor	Good	
1173	BC	12	Wild Black Cherry	Prunus serotina	Good	
1174	BG	10	Bigtooth Aspen	Populus grandidentata	Good	
1175	BG	11	Bigtooth Aspen	Populus grandidentata	Good	
1176	BX	9	Box elder	Acer negundo	Fair	
1177	SWO	11	Swamp White Oak	Quercus bicolor	Good	
1178	SWO	12	Swamp White Oak	Quercus bicolor	Good	
1179	BX	11	Box elder	Acer negundo	Fair	
1180	SWO	20	Swamp White Oak	Quercus bicolor	Good	
1181	BX	15	Box elder	Acer negundo	Good	x5
1182	BX	16	Box elder	Acer negundo	Good	x1
1183	MW	7	White Mulberry	Morus alba	Good	
1184	BX	14	Box elder	Acer negundo	Good	
1185	BX	8	Box elder	Acer negundo	Good	
1186	BX	15	Box elder	Acer negundo	Good	
1187	SWO	6	Swamp White Oak	Quercus bicolor	Good	
1188	SWO	6	Swamp White Oak	Quercus bicolor	Good	
1189	SWO	10	Swamp White Oak	Quercus bicolor	Good	
1190	SWO	11	Swamp White Oak	Quercus bicolor	Good	
1191	BX	15	Box elder	Acer negundo	Fair	
1192	SWO	6	Swamp White Oak	Quercus bicolor	Good	
1193	BWW	20	Black Willow	Salix nigra	Good	
1194	E	9	American Elm	Ulmus americana	Good	
1195	BWW	19	Black Willow	Salix nigra	Good	x1
1196	E	11	American Elm	Ulmus americana	Good	
1197	SWO	9	Swamp White Oak	Quercus bicolor	Good	

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENTS
1198	BWW	32	Black Willow	Salix nigra	Good	
1199	BX	9	Box elder	Acer negundo	Poor	
1200	BX	9	Box elder	Acer negundo	Poor	
1201	BX	14	Box elder	Acer negundo	Poor	
1202	SM	31	Silver Maple	Acer saccharinum	Good	x4
1203	E	11	American Elm	Ulmus americana	Good	
1204	E	9	American Elm	Ulmus americana	Good	
1205	BWW	38	Black Willow	Salix nigra	Poor	
1206	BC	11	Wild Black Cherry	Prunus serotina	Good	
1207	BX	9	Box elder	Acer negundo	Good	
1208	BX	6	Box elder	Acer negundo	Good	
1209	BX	13	Box elder	Acer negundo	Good	
1210	BX	14	Box elder	Acer negundo	Good	x4
1211	BX	7	Box elder	Acer negundo	Good	
1212	BX	8	Box elder	Acer negundo	Fair	
1213	BX	7	Box elder	Acer negundo	Fair	
1214	BX	12	Box elder	Acer negundo	Fair	
1215	BX	9	Box elder	Acer negundo	Fair	
1216	BX	8	Box elder	Acer negundo	Good	
1217	BX	11	Box elder	Acer negundo	Fair	x1
1218	BX	6	Box elder	Acer negundo	Fair	
1219	BX	8	Box elder	Acer negundo	Good	
1220	BX	8	Box elder	Acer negundo	Fair	
1221	CT	28	Cottonwood	Populus deltoides	Good	
1222	CT	15	Cottonwood	Populus deltoides	Good	
1223	CT	19	Cottonwood	Populus deltoides	Good	
1224	CT	14	Cottonwood	Populus deltoides	Good	
1225	CT	16	Cottonwood	Populus deltoides	Good	
1226	CT	16	Cottonwood	Populus deltoides	Good	
1227	CT	9	Cottonwood	Populus deltoides	Good	
1228	CT	19	Cottonwood	Populus deltoides	Good	
1229	CT	10	Cottonwood	Populus deltoides	Good	
1230	CT	19	Cottonwood	Populus deltoides	Good	
1231	CT	17	Cottonwood	Populus deltoides	Good	x1
1232	BX	12	Box elder	Acer negundo	Fair	
1233	SWO	6	Swamp White Oak	Quercus bicolor	Good	
1234	SWO	7	Swamp White Oak	Quercus bicolor	Good	
1235	BX	8	Box elder	Acer negundo	Fair	
1236	BC	14	Wild Black Cherry	Prunus serotina	Fair	
1237	SWO	8	Swamp White Oak	Quercus bicolor	Good	
1238	BC	14	Wild Black Cherry	Prunus serotina	Good	
1239	E	8	American Elm	Ulmus americana	Good	
1240	SWO	7	Swamp White Oak	Quercus bicolor	Good	
1241	E	10	American Elm	Ulmus americana	Good	
1242	SWO	9	Swamp White Oak	Quercus bicolor	Good	
1243	E	10	American Elm	Ulmus americana	Good	
1244	BG	9	Bigtooth Aspen	Populus grandidentata	Poor	
1245	SWO	8	Swamp White Oak	Quercus bicolor	Good	
1246	SWO	10	Swamp White Oak	Quercus bicolor	Good	
1247	PO	11	Pin Oak	Quercus palustris	Good	
1248	PO	9	Pin Oak	Quercus palustris	Fair	
1249	BO	20	Black Oak	Quercus velutina	Good	
1250	CT	12	Cottonwood	Populus deltoides	Good	x1
1251	E	13	American Elm	Ulmus americana	Good	
1252	CT	13	Cottonwood	Populus deltoides	Good	
1253	E	11	American Elm	Ulmus americana	Good	
1254	CT	11	Cottonwood	Populus deltoides	Good	
1255	CT	7	Cottonwood	Populus deltoides	Good	
1256	CT	21	Cottonwood	Populus deltoides	Good	
1257	CT	9	Cottonwood	Populus deltoides	Good	
1258	CT	18	Cottonwood	Populus deltoides	Good	
1259	E	6	American Elm	Ulmus americana	Good	
1260	E	10	American Elm	Ulmus americana	Good	
1261	CT	18	Cottonwood	Populus deltoides	Good	
1262	CT	6	Cottonwood	Populus deltoides	Good	
1263	CT	6	Cottonwood	Populus deltoides	Good	
1264	CT	11	Cottonwood	Populus deltoides	Good	
1265	CT	15	Cottonwood	Populus deltoides	Good	
1266	CT	17	Cottonwood	Populus deltoides	Good	
1267	CT	19	Cottonwood	Populus deltoides	Good	
1268	CT	18	Cottonwood	Populus deltoides	Good	
1269	CT	17	Cottonwood	Populus deltoides	Good	
1270	SWO	8	Swamp White Oak	Quercus bicolor	Good	
1271	RC	8	Red Cedar	Juniperus virginiana	Fair	
1272	BX	7	Box elder	Acer negundo	Good	
1273	BX	8	Box elder	Acer negundo	Good	
1274	BX	11	Box elder	Acer negundo	Good	
1275	CT	18	Cottonwood	Populus deltoides	Good	
1276	CT	13	Cottonwood	Populus deltoides	Good	
1277	CT	11	Cottonwood	Populus deltoides	Fair	
1278	SWO	7	Swamp White Oak	Quercus bicolor	Good	
1279	SWO	7	Swamp White Oak	Quercus bicolor	Good	
1280	BX	16	Box elder	Acer negundo	Good	
1281	E	10	American Elm	Ulmus americana	Fair	
1282	E	6	American Elm	Ulmus americana	Good	
1283	CT	24	Cottonwood	Populus deltoides	Good	
1284	CT	20	Cottonwood	Populus deltoides	Good	
1285	CT	16	Cottonwood	Populus deltoides	Good	
1286	CT	6	Cottonwood	Populus deltoides	Poor	
1287	CT	17	Cottonwood	Populus deltoides	Fair	
1288	BX	6	Box elder	Acer negundo	Fair	
1289	E	8	American Elm	Ulmus americana	Good	
1290	BX	16	Box elder	Acer negundo	Fair	
1291	BX	7	Box elder	Acer negundo	Poor	
1292	BWW	13	Black Willow	Salix nigra	Fair	
1293	E	13	American Elm	Ulmus americana	Good	
1294	CT	32	Cottonwood	Populus deltoides	Good	x3
1295	E	9	American Elm	Ulmus americana	Good	
1296	CT	19	Cottonwood	Populus deltoides	Good	

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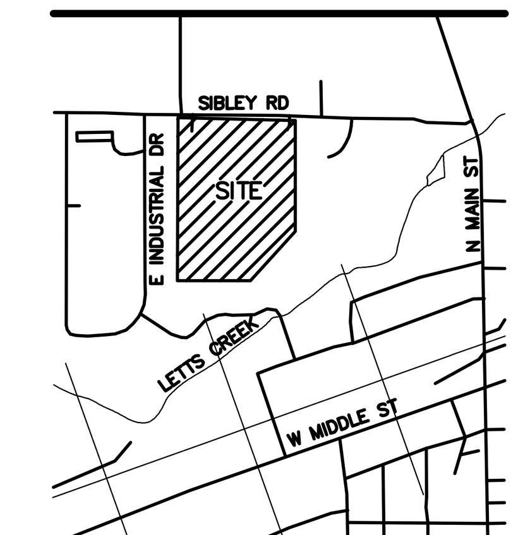
STATE OF MICHIGAN
WENDY SUE FULLER
License No. 4001047969
LICENSED PROFESSIONAL SURVEYOR

NO SCALE

811. Know what's below. Call before you dig.

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.



CLIENT
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

REVISIONS
- -

ORIGINAL ISSUE DATE:
SEPTEMBER 8, 2022

DRAWING TITLE
TREE SURVEY INDEX TABLE

PEA JOB NO. 2022-0484
P.M. JH
SUR. WSF
DN. JML
DRAWING NUMBER:
C-1.1

NOT FOR CONSTRUCTION

\\peainc\pea\PROJECTS\2022\2022-0484 GESTAMP ADDITION CHELSEA\DWG\CONSTRUCTION\(C-1.0_C-1.3)TOPO-22-0484.dwg PLOT DATE:1/20/2023 7:57 AM BY: Shannon Pugh

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENTS
1297	CT	16	Cottonwood	Populus deltoides	Poor	
1298	BX	6	Box elder	Acer negundo	Poor	
1299	BX	11	Box elder	Acer negundo	Fair	
1300	BX	8	Box elder	Acer negundo	Good	
1301	BX	7	Box elder	Acer negundo	Fair	
1302	BX	7	Box elder	Acer negundo	Good	
1303	BX	6	Box elder	Acer negundo	Good	
1304	BX	6	Box elder	Acer negundo	Fair	
1305	SM	10	Silver Maple	Acer saccharinum	Good	
1306	BWW	7	Black Willow	Salix nigra	Good	
1307	E	15	American Elm	Ulmus americana	Good	
1308	E	10	American Elm	Ulmus americana	Good	
1309	E	6	American Elm	Ulmus americana	Good	
1310	E	8	American Elm	Ulmus americana	Good	
1311	CT	32	Cottonwood	Populus deltoides	Good	
1312	E	6	American Elm	Ulmus americana	Good	
1313	BWW	10	Black Willow	Salix nigra	Good	x1
1314	BR	27	Bur oak	Quercus macrocarpa	Good	x1
1315	BX	6	Box elder	Acer negundo	Good	
1316	BX	18	Box elder	Acer negundo	Good	
1317	BX	29	Box elder	Acer negundo	Good	x2
1318	BC	6	Wild Black Cherry	Prunus serotina	Good	
1319	BX	11	Box elder	Acer negundo	Good	
1320	BX	9	Box elder	Acer negundo	Good	
1321	BC	7	Wild Black Cherry	Prunus serotina	Good	
1322	BX	8	Box elder	Acer negundo	Good	
1323	BX	6	Box elder	Acer negundo	Good	
1324	SM	54	Silver Maple	Acer saccharinum	Good	x1
1325	SM	18	Silver Maple	Acer saccharinum	Good	
1326	BX	8	Box elder	Acer negundo	Very Poor	
1327	BX	13	Box elder	Acer negundo	Poor	
1328	BX	11	Box elder	Acer negundo	Fair	
1329	MW	7	White Mulberry	Morus alba	Good	
1330	BC	7	Wild Black Cherry	Prunus serotina	Fair	
1331	BC	8	Wild Black Cherry	Prunus serotina	Fair	
1332	RC	8	Red Cedar	Juniperus virginiana	Good	
1333	BC	9	Wild Black Cherry	Prunus serotina	Good	x1
1334	BC	9	Wild Black Cherry	Prunus serotina	Good	
1335	BC	7	Wild Black Cherry	Prunus serotina	Fair	
1336	CT	10	Cottonwood	Populus deltoides	Good	
1337	CT	12	Cottonwood	Populus deltoides	Good	
1338	CT	8	Cottonwood	Populus deltoides	Good	
1339	CT	18	Cottonwood	Populus deltoides	Good	
1340	CT	7	Cottonwood	Populus deltoides	Good	
1341	CT	7	Cottonwood	Populus deltoides	Good	
1342	CT	16	Cottonwood	Populus deltoides	Good	
1343	CT	7	Cottonwood	Populus deltoides	Good	
1344	RC	7	Red Cedar	Juniperus virginiana	Fair	x1
1345	BX	9	Box elder	Acer negundo	Good	
1346	BX	8	Box elder	Acer negundo	Good	
1347	BX	8	Box elder	Acer negundo	Good	
1348	AA	7	Tree-of-Heaven	Ailanthus Altissima	Good	
1349	BO	17	Black Oak	Quercus velutina	Poor	
1350	BWW	11	Black Willow	Salix nigra	Fair	x3
1351	RC	7	Red Cedar	Juniperus virginiana	Fair	x1
1352	BO	16	Black Oak	Quercus velutina	Good	
1353	RC	8	Red Cedar	Juniperus virginiana	Fair	
1354	BO	13	Black Oak	Quercus velutina	Good	
1355	BO	21	Black Oak	Quercus velutina	Fair	
1356	BO	7	Black Oak	Quercus velutina	Fair	
1357	BX	6	Box elder	Acer negundo	Fair	
1358	CT	25	Cottonwood	Populus deltoides	Good	
1359	BX	10	Box elder	Acer negundo	Good	x1
1360	BX	9	Box elder	Acer negundo	Good	
1361	BX	10	Box elder	Acer negundo	Fair	
1362	BX	10	Box elder	Acer negundo	Fair	
1363	CT	23	Cottonwood	Populus deltoides	Fair	
1364	BX	6	Box elder	Acer negundo	Good	
1365	SWO	11	Swamp White Oak	Quercus bicolor	Good	
1366	CT	18	Cottonwood	Populus deltoides	Good	
1367	CT	16	Cottonwood	Populus deltoides	Good	
1368	CT	12	Cottonwood	Populus deltoides	Good	
1369	CT	9	Cottonwood	Populus deltoides	Good	
1370	CT	9	Cottonwood	Populus deltoides	Good	
1371	E	6	American Elm	Ulmus americana	Good	
1372	E	7	American Elm	Ulmus americana	Good	
1373	CT	17	Cottonwood	Populus deltoides	Good	
1374	CT	16	Cottonwood	Populus deltoides	Good	
1375	CT	14	Cottonwood	Populus deltoides	Good	
1376	E	9	American Elm	Ulmus americana	Good	
1377	CT	12	Cottonwood	Populus deltoides	Good	
1378	CT	7	Cottonwood	Populus deltoides	Good	
1379	CT	10	Cottonwood	Populus deltoides	Poor	
1380	CT	18	Cottonwood	Populus deltoides	Poor	
1381	SWO	7	Swamp White Oak	Quercus bicolor	Good	
1382	E	7	American Elm	Ulmus americana	Good	
1383	CT	14	Cottonwood	Populus deltoides	Good	
1384	E	8	American Elm	Ulmus americana	Good	
1385	E	12	American Elm	Ulmus americana	Good	
1386	BO	6	Black Oak	Quercus velutina	Good	
1387	SWO	6	Swamp White Oak	Quercus bicolor	Good	
1388	E	6	American Elm	Ulmus americana	Good	
1389	E	15	American Elm	Ulmus americana	Good	
1390	SWO	9	Swamp White Oak	Quercus bicolor	Good	
1391	SWO	8	Swamp White Oak	Quercus bicolor	Good	
1392	SWO	6	Swamp White Oak	Quercus bicolor	Fair	
1393	BX	10	Box elder	Acer negundo	Poor	
1394	E	13	American Elm	Ulmus americana	Fair	
1395	BC	9	Wild Black Cherry	Prunus serotina	Good	

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENTS
1396	CA	10	Crab Apple	Malus caronaria	Very Poor	
1397	CA	13	Crab Apple	Malus caronaria	Very Poor	
1398	SM	9	Silver Maple	Acer saccharinum	Fair	
1399	E	7	American Elm	Ulmus americana	Fair	
1400	E	8	American Elm	Ulmus americana	Fair	
1401	CA	7	Crab Apple	Malus caronaria	Very Poor	x2
1402	BC	11	Wild Black Cherry	Prunus serotina	Fair	
1403	BC	24	Wild Black Cherry	Prunus serotina	Fair	
1404	BC	11	Wild Black Cherry	Prunus serotina	Fair	
1405	BO	16	Black Oak	Quercus velutina	Fair	
1406	BC	6	Wild Black Cherry	Prunus serotina	Fair	
1407	BC	9	Wild Black Cherry	Prunus serotina	Fair	
1408	BC	11	Wild Black Cherry	Prunus serotina	Fair	
1409	BC	16	Wild Black Cherry	Prunus serotina	Fair	
1410	RC	9	Red Cedar	Juniperus virginiana	Fair	
1411	RC	10	Red Cedar	Juniperus virginiana	Fair	
1412	RC	11	Red Cedar	Juniperus virginiana	Fair	
1413	BL	13	Black Locust	Robinia pseudoacacia	Good	
1414	BC	12	Wild Black Cherry	Prunus serotina	Fair	x7
1415	BC	9	Wild Black Cherry	Prunus serotina	Good	
1416	RC	11	Red Cedar	Juniperus virginiana	Fair	x1
1417	RC	11	Red Cedar	Juniperus virginiana	Fair	
1418	AA	7	Tree-of-Heaven	Ailanthus Altissima	Good	
1419	BX	11	Box elder	Acer negundo	Good	
1420	BX	10	Box elder	Acer negundo	Good	
1421	BX	9	Box elder	Acer negundo	Good	
1422	BX	12	Box elder	Acer negundo	Good	
1423	BX	6	Box elder	Acer negundo	Poor	
1424	SWO	11	Swamp White Oak	Quercus bicolor	Good	
1425	CA	14	Crab Apple	Malus caronaria	Poor	x1
1426	BX	8	Box elder	Acer negundo	Fair	
1427	BX	14	Box elder	Acer negundo	Good	x1
1428	RC	8	Red Cedar	Juniperus virginiana	Fair	
1429	RC	8	Red Cedar	Juniperus virginiana	Fair	
1430	SWO	15	Swamp White Oak	Quercus bicolor	Good	
1431	RC	6	Red Cedar	Juniperus virginiana	Fair	
1432	CT	26	Cottonwood	Populus deltoides	Good	
1433	RC	9	Red Cedar	Juniperus virginiana	Fair	x1
1434	RC	8	Red Cedar	Juniperus virginiana	Fair	
1435	AS	12	Quaking Aspen	Populus tremuloides	Fair	
1436	AS	8	Quaking Aspen	Populus tremuloides	Good	
1437	BO	16	Black Oak	Quercus velutina	Good	
1438	AS	6	Quaking Aspen	Populus tremuloides	Good	
1439	BO	10	Black Oak	Quercus velutina	Good	x1
1440	BO	13	Black Oak	Quercus velutina	Good	x1
1441	WO	9	White Oak	Quercus alba	Good	
1442	WO	8	White Oak	Quercus alba	Good	
1443	WO	19	White Oak	Quercus alba	Good	
1444	AS	8	Quaking Aspen	Populus tremuloides	Good	
1445	AS	9	Quaking Aspen	Populus tremuloides	Good	
1446	BO	18	Black Oak	Quercus velutina	Good	
1447	BO	14	Black Oak	Quercus velutina	Good	
1448	SH	11	Shagbark Hickory	Carya ovata	Good	
1449	RC	11	Red Cedar	Juniperus virginiana	Fair	
1450	BX	6	Box elder	Acer negundo	Fair	x1
1451	RC	8	Red Cedar	Juniperus virginiana	Fair	
1452	AS	6	Quaking Aspen	Populus tremuloides	Fair	
1453	BG	7	Bigtooth Aspen	Populus grandidentata	Fair	
1454	BG	8	Bigtooth Aspen	Populus grandidentata	Very Poor	
1455	CT	19	Cottonwood	Populus deltoides	Fair	
1456	CT	10	Cottonwood	Populus deltoides	Fair	
1457	CT	11	Cottonwood	Populus deltoides	Fair	
1458	BC	8	Wild Black Cherry	Prunus serotina	Good	
1459	WO	7	White Oak	Quercus alba	Good	
1460	RC	9	Red Cedar	Juniperus virginiana	Fair	
1461	RC	11	Red Cedar	Juniperus virginiana	Fair	
1462	CT	16	Cottonwood	Populus deltoides	Good	
1463	CT	9	Cottonwood	Populus deltoides	Good	
1464	RC	9	Red Cedar	Juniperus virginiana	Fair	
1465	CT	6	Cottonwood	Populus deltoides	Good	
1466	CT	10	Cottonwood	Populus deltoides	Good	
1467	CT	8	Cottonwood	Populus deltoides	Good	
1468	CT	9	Cottonwood	Populus deltoides	Good	
1469	CT	14	Cottonwood	Populus deltoides	Good	
1470	RC	12	Red Cedar	Juniperus virginiana	Fair	
1471	CT	23	Cottonwood	Populus deltoides	Good	
1472	CT	9	Cottonwood	Populus deltoides	Poor	
1473	CT	8	Cottonwood	Populus deltoides	Poor	
1474	CT	10	Cottonwood	Populus deltoides	Fair	
1475	CT	7	Cottonwood	Populus deltoides	Fair	
1476	CT	12	Cottonwood	Populus deltoides	Fair	
1477	CT	14	Cottonwood	Populus deltoides	Fair	
1478	CT	11	Cottonwood	Populus deltoides	Good	
1479	RC	10	Red Cedar	Juniperus virginiana	Fair	
1480	BC	14	Wild Black Cherry	Prunus serotina	Fair	
1481	BC	16	Wild Black Cherry	Prunus serotina	Fair	
1482	EE	10	Siberian Elm	Ulmus pumila	Fair	
1483	RC	8	Red Cedar	Juniperus virginiana	Fair	
1484	CT	14	Cottonwood	Populus deltoides	Good	
1485	CT	25	Cottonwood	Populus deltoides	Good	
1486	CT	13	Cottonwood	Populus deltoides	Good	
1487	CT	6	Cottonwood	Populus deltoides	Good	
1488	CT	7	Cottonwood	Populus deltoides	Good	
1489	CT	12	Cottonwood	Populus deltoides	Fair	
1490	CT	9	Cottonwood	Populus deltoides	Poor	
1491	CT	15	Cottonwood	Populus deltoides	Fair	
1492	CT	9	Cottonwood	Populus deltoides	Fair	
1493	CA	9	Crab Apple	Malus caronaria	Poor	
1494	BG	6	Bigtooth Aspen	Populus grandidentata	Good	

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENTS
1495	BO	15	Black Oak	Quercus velutina	Good	
1496	BC	15	Wild Black Cherry	Prunus serotina	Fair	
1497	BC	15	Wild Black Cherry	Prunus serotina	Fair	
1498	CA	6	Crab Apple	Malus caronaria	Poor	
1499	SM	8	Silver Maple	Acer saccharinum	Good	
1500	BG	9	Bigtooth Aspen	Populus grandidentata	Very Poor	
1501	BG	8	Bigtooth Aspen	Populus grandidentata	Good	
1502	CT	11	Cottonwood	Populus deltoides	Poor	x1
1503	RC	6	Red Cedar	Juniperus virginiana	Fair	
1504	CT	16	Cottonwood	Populus deltoides	Fair	
1505	BO	23	Black Oak	Quercus velutina	Good	
1506	BO	15	Black Oak	Quercus velutina	Good	
1507	BO	15	Black Oak	Quercus velutina	Good	
1508	BX	21	Box elder	Acer negundo	Good	x1
1509	CA	10	Crab Apple	Malus caronaria	Very Poor	x1
1510	E	12	American Elm	Ulmus americana	Good	
1511	CT	6	Cottonwood	Populus deltoides	Good	
1512	BG	10	Bigtooth Aspen	Populus grandidentata	Good	
1513	BG	12	Bigtooth Aspen	Populus grandidentata	Good	
1514	BG	12	Bigtooth Aspen	Populus grandidentata	Good	
1515	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1516	BC	12	Wild Black Cherry	Prunus serotina	Good	x1
1517	BC	12	Wild Black Cherry	Prunus serotina	Poor	x2
1518	BO	6	Black Oak	Quercus velutina	Good	
1519	BX	11	Box elder	Acer negundo	Good	x1
1520	BW	8	Black Walnut	Juglans nigra	Good	
1521	WO	6	White Oak	Quercus alba	Good	
1522	BC	20	Wild Black Cherry	Prunus serotina	Fair	x2
1523	BC	10	Wild Black Cherry	Prunus serotina	Good	
1524	BX	6	Box elder	Acer negundo	Good	
1525	CA	15	Crab Apple	Malus caronaria	Very Poor	
1526	BX	10	Box elder	Acer negundo	Fair	
1527	CA	10	Crab Apple	Malus caronaria	Very Poor	x2
1528	BC	21	Wild Black Cherry	Prunus serotina	Good	
1529	CT	26	Cottonwood	Populus deltoides	Good	
1530	BX	12	Box elder	Acer negundo	Good	
1531	WO	24	White Oak	Quercus alba	Good	
1532	BX	21	Box elder	Acer negundo	Fair	x2
1533	BX	7	Box elder	Acer negundo	Fair	
1534	BX	7	Box elder	Acer negundo	Fair	
1535	CT	42	Cottonwood	Populus deltoides	Good	
1536	BX	7	Box elder	Acer negundo	Good	
1537	BX	8	Box elder	Acer negundo	Fair	
1538	BO	13	Black Oak	Quercus velutina	Good	
1539	CA	13	Crab Apple	Malus caronaria	Very Poor	x2
1540	CA	13	Crab Apple	Malus caronaria	Very Poor	x3
1541	CA	9	Crab Apple	Malus caronaria	Very Poor	
1542	BC	9	Wild Black Cherry	Prunus serotina	Fair	
1543	BC	13	Wild Black Cherry	Prunus serotina	Fair	
1544	BC	14	Wild Black Cherry	Prunus serotina	Fair	x1
1545	E	8	American Elm	Ulmus americana	Good	
1546	BC	16	Wild Black Cherry	Prunus serotina	Good	
1547	BC	15	Wild Black Cherry	Prunus serotina	Fair	x1
1548	BX	12	Box elder	Acer negundo	Fair	
1549	BX	7	Box elder	Acer negundo	Good	
1550	E	8	American Elm	Ulmus americana	Good	
1551	E	6	American Elm	Ulmus americana	Good	
1552	E	9	American Elm	Ulmus americana	Good	
1553	BC	27	Wild Black Cherry	Prunus serotina	Good	
1554	E	8	American Elm	Ulmus americana	Good	
1555	BC	12	Wild Black Cherry	Prunus serotina	Good	
1556	BC	8	Wild Black Cherry	Prunus serotina	Good	
1557	BC	11	Wild Black Cherry	Prunus serotina	Good	
1558	BC	12	Wild Black Cherry	Prunus serotina	Fair	
1559	CA	11	Crab Apple	Malus caronaria	Very Poor	
1560	BO	20	Black Oak	Quercus velutina	Good	
1561	BC	10	Wild Black Cherry	Prunus serotina	Fair	
1562	BC	9	Wild Black Cherry	Prunus serotina	Good	
1563	BO	13	Black Oak	Quercus velutina	Good	
1564	CT	17	Cottonwood	Populus deltoides	Good	
1565	CT	7	Cottonwood	Populus deltoides	Poor	
1566	SWO	6	Swamp White Oak	Quercus bicolor	Good	
1567	BWW	13	Black Willow	Salix nigra	Fair	
1568	BWW	14	Black Willow	Salix nigra	Fair	
1569	BWW	18	Black Willow	Salix nigra	Fair	
1570	BWW	19	Black Willow	Salix nigra	Fair	
1571	BWW	18	Black Willow	Salix nigra	Fair	
1572	BWW	23	Black Willow	Salix nigra	Fair	
1573	E	8	American Elm	Ulmus americana	Good	
1574	BX	10	Box elder	Acer negundo	Fair	
1575	BWW	23	Black Willow	Salix nigra	Fair	
1576	SM	26	Silver Maple	Acer saccharinum	Good	
1577	SM	23	Silver Maple	Acer saccharinum	Good	
1578	SM	21	Silver Maple	Acer saccharinum	Good	
1579	BWW	22	Black Willow	Salix nigra	Poor	
1580	BWW	22	Black Willow	Salix nigra	Good	
1581	SWO	7	Swamp White Oak	Quercus bicolor	Good	
1582	CT	42	Cottonwood	Populus deltoides	Good	
1583	CT	20	Cottonwood	Populus deltoides	Good	
1584	CT	15	Cottonwood	Populus deltoides	Good	
1585	SWO	8	Swamp White Oak	Quercus bicolor	Good	
1586	CT	24	Cottonwood	Populus deltoides	Good	
1587	SWO	10	Swamp White Oak	Quercus bicolor	Fair	
1588	E	6	American Elm	Ulmus americana	Good	
1589	BO	14	Black Oak	Quercus velutina	Good	
1590	E	12	American Elm	Ulmus americana	Good	
1591	MW	11	White Mulberry	Morus alba	Fair	
1592	BG	8	Bigtooth Aspen	Populus grandidentata	Fair	
1593	BW	10	Black Walnut	Juglans nigra	Good	

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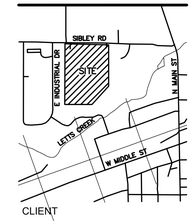
STATE OF MICHIGAN
WENDY SUE FULLER
License No. 4001047969
LICENSED PROFESSIONAL SURVEYOR

NO SCALE

811 Know what's below. Call before you dig.

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THEIR ACCURACY OR COMPLETENESS. IT SHALL BE THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.



CLIENT
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

REVISIONS
- -

ORIGINAL ISSUE DATE:
SEPTEMBER 8, 2022

DRAWING TITLE
TREE SURVEY INDEX TABLE

PEA JOB NO.	2022-0484
P.M.	JH
SUR.	WSF
DN.	JML

DRAWING NUMBER:
C-1.2

NOT FOR CONSTRUCTION

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENTS
1594	BX	13	Box elder	Acer negundo	Fair	
1595	BO	25	Black Oak	Quercus velutina	Good	
1596	BX	8	Box elder	Acer negundo	Fair	
1597	BWW	21	Black Willow	Salix nigra	Good	
1598	BWW	22	Black Willow	Salix nigra	Very Poor	
1599	BWW	30	Black Willow	Salix nigra	Fair	
1600	BP	15	Bradford Pear	Pyrus calleryanna	Fair	
1601	BC	14	Wild Black Cherry	Prunus serotina	Poor	
1602	CA	11	Crab Apple	Malus caronaria	Very Poor	
1603	E	7	American Elm	Ulmus americana	Fair	
1604	E	7	American Elm	Ulmus americana	Fair	
1605	E	15	American Elm	Ulmus americana	Fair	
1606	E	8	American Elm	Ulmus americana	Fair	
1607	SWO	10	Swamp White Oak	Quercus bicolor	Good	
1608	BX	13	Box elder	Acer negundo	Fair	
1609	RC	12	Red Cedar	Juniperus virginiana	Very Poor	
1610	BC	18	Wild Black Cherry	Prunus serotina	Good	
1611	BC	16	Wild Black Cherry	Prunus serotina	Fair	
1612	BX	24	Box elder	Acer negundo	Poor	
1613	BX	11	Box elder	Acer negundo	Fair	
1614	BX	14	Box elder	Acer negundo	Fair	
1615	BX	14	Box elder	Acer negundo	Poor	
1616	BX	15	Box elder	Acer negundo	Fair	
1617	BX	10	Box elder	Acer negundo	Poor	
1618	BC	13	Wild Black Cherry	Prunus serotina	Fair	
1619	BX	9	Box elder	Acer negundo	Poor	
1620	BX	6	Box elder	Acer negundo	Very Poor	
1621	BX	7	Box elder	Acer negundo	Fair	
1622	BX	16	Box elder	Acer negundo	Fair	
1623	BG	12	Bigtooth Aspen	Populus grandidentata	Fair	
1624	BX	12	Box elder	Acer negundo	Fair	
1625	BC	16	Wild Black Cherry	Prunus serotina	Good	
1626	BC	23	Wild Black Cherry	Prunus serotina	Good	
1627	BW	7	Black Walnut	Juglans nigra	Fair	
1628	BX	8	Box elder	Acer negundo	Fair	
1629	BC	31	Wild Black Cherry	Prunus serotina	Fair	
1630	BW	6	Black Walnut	Juglans nigra	Fair	
1631	BC	12	Wild Black Cherry	Prunus serotina	Fair	
1632	AS	12	Quaking Aspen	Populus tremuloides	Fair	
1633	AS	11	Quaking Aspen	Populus tremuloides	Fair	
1634	BX	7	Box elder	Acer negundo	Fair	
1635	BX	9	Box elder	Acer negundo	Poor	
1636	BC	18	Wild Black Cherry	Prunus serotina	Fair	
1637	CA	8	Crab Apple	Malus caronaria	Fair	
1638	BX	8	Box elder	Acer negundo	Good	
1639	BX	7	Box elder	Acer negundo	Fair	
1640	BX	6	Box elder	Acer negundo	Fair	
1641	BWW	16	Black Willow	Salix nigra	Fair	
1642	BX	12	Box elder	Acer negundo	Poor	
1643	BX	25	Box elder	Acer negundo	Fair	
1644	BWW	14	Black Willow	Salix nigra	Poor	
1645	CT	14	Cottonwood	Populus deltoides	Fair	
1646	BWW	10	Black Willow	Salix nigra	Fair	
1647	BWW	12	Black Willow	Salix nigra	Fair	
1648	BWW	7	Black Willow	Salix nigra	Very Poor	
1649	BX	10	Box elder	Acer negundo	Fair	
1650	CA	23	Crab Apple	Malus caronaria	Very Poor	
1651	SWO	8	Swamp White Oak	Quercus bicolor	Fair	
1652	BC	9	Wild Black Cherry	Prunus serotina	Poor	
1653	BC	6	Wild Black Cherry	Prunus serotina	Good	
1654	CA	8	Crab Apple	Malus caronaria	Poor	
1655	SWO	6	Swamp White Oak	Quercus bicolor	Fair	
1656	SWO	6	Swamp White Oak	Quercus bicolor	Fair	
1657	BX	25	Box elder	Acer negundo	Fair	
1658	SWO	9	Swamp White Oak	Quercus bicolor	Fair	
1659	BO	12	Black Oak	Quercus velutina	Good	
1660	SWO	10	Swamp White Oak	Quercus bicolor	Good	
1661	SWO	7	Swamp White Oak	Quercus bicolor	Good	
1662	BO	18	Black Oak	Quercus velutina	Good	
1663	BW	6	Black Walnut	Juglans nigra	Good	
1664	AS	9	Quaking Aspen	Populus tremuloides	Fair	
1665	BC	6	Wild Black Cherry	Prunus serotina	Good	
1666	BW	8	Black Walnut	Juglans nigra	Good	
1667	BW	7	Black Walnut	Juglans nigra	Good	
1668	CA	15	Crab Apple	Malus caronaria	Very Poor	
1669	BC	12	Wild Black Cherry	Prunus serotina	Fair	
1670	BO	20	Black Oak	Quercus velutina	Fair	
1671	BX	12	Box elder	Acer negundo	Poor	
1672	BC	15	Wild Black Cherry	Prunus serotina	Good	
1673	SWO	12	Swamp White Oak	Quercus bicolor	Good	
1674	SWO	6	Swamp White Oak	Quercus bicolor	Fair	
1675	SH	6	Shagbark Hickory	Carya ovata	Good	
1676	SH	9	Shagbark Hickory	Carya ovata	Fair	
1677	SWO	9	Swamp White Oak	Quercus bicolor	Good	
1678	BC	18	Wild Black Cherry	Prunus serotina	Poor	
1679	SWO	7	Swamp White Oak	Quercus bicolor	Fair	
1680	SWO	14	Swamp White Oak	Quercus bicolor	Good	
1681	SWO	11	Swamp White Oak	Quercus bicolor	Good	
1682	SWO	10	Swamp White Oak	Quercus bicolor	Good	
1683	SWO	6	Swamp White Oak	Quercus bicolor	Fair	
1684	SWO	7	Swamp White Oak	Quercus bicolor	Fair	
1685	SWO	7	Swamp White Oak	Quercus bicolor	Very Poor	
1686	SWO	7	Swamp White Oak	Quercus bicolor	Good	
1687	SWO	10	Swamp White Oak	Quercus bicolor	Good	
1688	SWO	11	Swamp White Oak	Quercus bicolor	Fair	
1689	SWO	9	Swamp White Oak	Quercus bicolor	Fair	
1690	SWO	11	Swamp White Oak	Quercus bicolor	Fair	
1691	SWO	6	Swamp White Oak	Quercus bicolor	Good	
1692	SWO	42	Swamp White Oak	Quercus bicolor	Good	

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENTS
1693	SWO	15	Swamp White Oak	Quercus bicolor	Good	
1694	SWO	9	Swamp White Oak	Quercus bicolor	Good	
1695	BC	12	Wild Black Cherry	Prunus serotina	Good	
1696	BX	9	Box elder	Acer negundo	Good	
1697	BO	22	Black Oak	Quercus velutina	Good	
1698	SH	11	Shagbark Hickory	Carya ovata	Good	
1699	SWO	13	Swamp White Oak	Quercus bicolor	Good	
1700	BO	26	Black Oak	Quercus velutina	Fair	
1701	BX	8	Box elder	Acer negundo	Fair	
1702	BX	6	Box elder	Acer negundo	Fair	
1703	BX	10	Box elder	Acer negundo	Fair	
1704	BX	8	Box elder	Acer negundo	Fair	
1705	BX	6	Box elder	Acer negundo	Fair	
1706	BX	6	Box elder	Acer negundo	Fair	
1707	BX	9	Box elder	Acer negundo	Good	
1708	BX	11	Box elder	Acer negundo	Fair	
1709	BX	10	Box elder	Acer negundo	Fair	
1710	BC	10	Wild Black Cherry	Prunus serotina	Good	
1711	BX	6	Box elder	Acer negundo	Fair	
1712	BX	8	Box elder	Acer negundo	Fair	
1713	BC	20	Wild Black Cherry	Prunus serotina	Fair	
1714	BX	9	Box elder	Acer negundo	Fair	
1715	BG	10	Bigtooth Aspen	Populus grandidentata	Very Poor	
1716	BC	14	Wild Black Cherry	Prunus serotina	Poor	
1717	BX	6	Box elder	Acer negundo	Fair	
1718	E	7	American Elm	Ulmus americana	Good	
1719	BX	6	Box elder	Acer negundo	Fair	
1720	BO	16	Black Oak	Quercus velutina	Fair	
1721	BX	7	Box elder	Acer negundo	Fair	
1722	BX	18	Box elder	Acer negundo	Fair	
1723	RC	7	Red Cedar	Juniperus virginiana	Fair	
1724	BC	7	Wild Black Cherry	Prunus serotina	Good	
1725	BC	10	Wild Black Cherry	Prunus serotina	Good	
1726	BC	8	Wild Black Cherry	Prunus serotina	Good	
1727	BX	10	Box elder	Acer negundo	Fair	
1728	BX	15	Box elder	Acer negundo	Fair	
1729	BC	16	Wild Black Cherry	Prunus serotina	Fair	
1730	BC	20	Wild Black Cherry	Prunus serotina	Fair	
1731	CA	8	Crab Apple	Malus caronaria	Very Poor	
1732	BC	12	Wild Black Cherry	Prunus serotina	Fair	
1733	CA	8	Crab Apple	Malus caronaria	Very Poor	
1734	BC	19	Wild Black Cherry	Prunus serotina	Good	
1735	BC	12	Wild Black Cherry	Prunus serotina	Good	
1736	BX	12	Box elder	Acer negundo	Good	
1737	BX	7	Box elder	Acer negundo	Fair	
1738	WO	7	White Oak	Quercus alba	Good	
1739	BC	12	Wild Black Cherry	Prunus serotina	Good	
1740	CA	17	Crab Apple	Malus caronaria	Poor	
1741	BX	7	Box elder	Acer negundo	Fair	
1742	BX	8	Box elder	Acer negundo	Good	
1743	CA	9	Crab Apple	Malus caronaria	Very Poor	
1744	BC	18	Wild Black Cherry	Prunus serotina	Poor	
1745	RC	7	Red Cedar	Juniperus virginiana	Poor	
1746	BX	14	Box elder	Acer negundo	Poor	
1747	CA	7	Crab Apple	Malus caronaria	Very Poor	
1748	C	14	Catalpa	Catalpa speciosa	Very Poor	
1749	BC	16	Wild Black Cherry	Prunus serotina	Fair	
1750	CA	14	Crab Apple	Malus caronaria	Very Poor	
1751	BX	6	Box elder	Acer negundo	Poor	
1752	BO	6	Black Oak	Quercus velutina	Good	
1753	WO	8	White Oak	Quercus alba	Good	
1754	WO	6	White Oak	Quercus alba	Good	
1755	BX	11	Box elder	Acer negundo	Good	
1756	BC	8	Wild Black Cherry	Prunus serotina	Good	
1757	BC	18	Wild Black Cherry	Prunus serotina	Good	
1758	BX	8	Box elder	Acer negundo	Good	
1759	BC	25	Wild Black Cherry	Prunus serotina	Fair	
1760	BX	8	Box elder	Acer negundo	Poor	
1761	EE	17	Siberian Elm	Ulmus pumila	Good	
1762	BX	23	Box elder	Acer negundo	Poor	
1763	BO	8	Black Oak	Quercus velutina	Fair	
1764	BC	7	Wild Black Cherry	Prunus serotina	Good	
1765	RC	10	Red Cedar	Juniperus virginiana	Poor	
1766	RC	7	Red Cedar	Juniperus virginiana	Poor	
1767	RC	8	Red Cedar	Juniperus virginiana	Poor	
1768	RC	7	Red Cedar	Juniperus virginiana	Poor	
1769	RC	9	Red Cedar	Juniperus virginiana	Poor	
1770	BC	17	Wild Black Cherry	Prunus serotina	Good	
1771	BX	10	Box elder	Acer negundo	Poor	
1772	BX	9	Box elder	Acer negundo	Fair	
1773	BW	7	Black Walnut	Juglans nigra	Fair	
1774	BX	6	Box elder	Acer negundo	Fair	
1775	BW	8	Black Walnut	Juglans nigra	Fair	
1776	BW	6	Black Walnut	Juglans nigra	Fair	
1777	CA	8	Crab Apple	Malus caronaria	Very Poor	
1778	BX	11	Box elder	Acer negundo	Good	
1779	BC	12	Wild Black Cherry	Prunus serotina	Fair	
1780	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1781	BC	11	Wild Black Cherry	Prunus serotina	Fair	
1782	RC	7	Red Cedar	Juniperus virginiana	Poor	
1783	BC	7	Wild Black Cherry	Prunus serotina	Good	
1784	BC	19	Wild Black Cherry	Prunus serotina	Good	
1785	BX	18	Box elder	Acer negundo	Fair	
1786	BC	16	Wild Black Cherry	Prunus serotina	Fair	
1787	BC	15	Wild Black Cherry	Prunus serotina	Good	
1788	CT	13	Cottonwood	Populus deltoides	Fair	
1789	CT	15	Cottonwood	Populus deltoides	Fair	
1790	CT	24	Cottonwood	Populus deltoides	Good	
1791	BC	13	Wild Black Cherry	Prunus serotina	Fair	

TAG NO.	CODE	DBH	COMMON NAME	LATIN NAME	COND	COMMENTS
1792	EB	13	European Buckthorn	Rhamnus cathartica	Good	
1793	BO	7	Black Oak	Quercus velutina	Good	
1794	BX	7	Box elder	Acer negundo	Good	
1795	CA	8	Crab Apple	Malus caronaria	Very Poor	
1796	BO	9	Black Oak	Quercus velutina	Good	
1797	BC	13	Wild Black Cherry	Prunus serotina	Good	
1798	BC	18	Wild Black Cherry	Prunus serotina	Good	
1799	BX	11	Box elder	Acer negundo	Fair	
1800	BC	10	Wild Black Cherry	Prunus serotina	Fair	
1801	CT	13	Cottonwood	Populus deltoides	Good	
1802	RC	7	Red Cedar	Juniperus virginiana	Fair	
1803	RC	8	Red Cedar	Juniperus virginiana	Fair	
1804	CT	22	Cottonwood	Populus deltoides	Good	
1805	CA	15	Crab Apple	Malus caronaria	Good	
1806	CT	14	Cottonwood	Populus deltoides	Good	
1807	CT	13	Cottonwood	Populus deltoides	Fair	
1808	CT	11	Cottonwood	Populus deltoides	Good	
1809	RC	12	Red Cedar	Juniperus virginiana	Poor	
1810	SWO	7	Swamp White Oak	Quercus bicolor	Good	
1811	BG	13	Bigtooth Aspen	Populus grandidentata	Good	
1812	BG	11	Bigtooth Aspen	Populus grandidentata	Good	
1813	BG	8	Bigtooth Aspen	Populus grandidentata	Good	
1814	BG	8	Bigtooth Aspen	Populus grandidentata	Good	
1815	CT	8	Cottonwood	Populus deltoides	Fair	
1816	BG	7	Bigtooth Aspen	Populus grandidentata	Fair	
1817	BG	8	Bigtooth Aspen	Populus grandidentata	Good	
1818	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1819	BG	11	Bigtooth Aspen	Populus grandidentata	Good	
1820	RC	7	Red Cedar	Juniperus virginiana	Fair	
1821	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1822	BG	12	Bigtooth Aspen	Populus grandidentata	Good	
1823	BG	13	Bigtooth Aspen	Populus grandidentata	Good	
1824	BG	12	Bigtooth Aspen	Populus grandidentata	Fair	
1825	BG	12	Bigtooth Aspen	Populus grandidentata	Fair	
1826	BG	7	Bigtooth Aspen	Populus grandidentata	Fair	
1827	CT	7	Cottonwood	Populus deltoides	Good	
1828	BG	13	Bigtooth Aspen	Populus grandidentata	Fair	
1829	CT	12	Cottonwood	Populus deltoides	Good	
1830	CT	18	Cottonwood	Populus deltoides	Fair	
1831	BG	7	Bigtooth Aspen	Populus grandidentata	Fair	
1832	BG	12	Bigtooth Aspen	Populus grandidentata	Fair	
1833	BG	10	Bigtooth Aspen	Populus grandidentata	Good	
1834	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1835	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1836	BG	11	Bigtooth Aspen	Populus grandidentata	Good	
1837	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1838	BX	12	Box elder	Acer negundo	Fair	x1
1839	BX	20	Box elder	Acer negundo	Fair	
1840	BX	21	Box elder	Acer negundo	Good	x1
1841	BO	6	Black Oak	Quercus velutina	Good	
1842	BX	8	Box elder	Acer negundo	Poor	
1843	BC	6	Wild Black Cherry	Prunus serotina	Good	
1844	RC	11	Red Cedar	Juniperus virginiana	Poor	
1845	BC	7	Wild Black Cherry	Prunus serotina	Fair	
1846	BC	16	Wild Black Cherry	Prunus serotina	Fair	x3
1847	BG	7	Bigtooth Aspen	Populus grandidentata	Fair	
1848	BG	15	Bigtooth Aspen	Populus grandidentata	Fair	
1849	BG	10	Bigtooth Aspen	Populus grandidentata	Good	
1850	BG	10	Bigtooth Aspen	Populus grandidentata	Fair	
1851	BG	15	Bigtooth Aspen	Populus grandidentata	Good	
1852	BG	9	Bigtooth Aspen	Populus grandidentata	Fair	
1853	BG	6	Bigtooth Aspen	Populus grandidentata	Poor	
1854	BC	13	Wild Black Cherry	Prunus serotina	Fair	
1855	CT	16	Cottonwood	Populus deltoides	Fair	
1856	CT	17	Cottonwood	Populus deltoides	Fair	
1857	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1858	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1859	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1860	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1861	BG	10	Bigtooth Aspen	Populus grandidentata	Poor	
1862	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1863	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1864	BG	9	Bigtooth Aspen	Populus grandidentata	Good	
1865	CT	8	Cottonwood	Populus deltoides	Good	
1866	BG	11	Bigtooth Aspen	Populus grandidentata	Good	
1867	BG	7	Bigtooth Aspen	Populus grandidentata	Good	
1868	BG	12	Bigtooth Aspen	Populus grandidentata	Good	
1869	BG	12	Bigtooth Aspen	Populus grandidentata	Good	
1870	BG	14	Bigtooth Aspen	Populus grandidentata	Fair	
1871	BG	13	Bigtooth Aspen	Populus grandidentata	Fair	
1872	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1873	BG	12	Bigtooth Aspen	Populus grandidentata	Fair	
1874	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1875	BG	8	Bigtooth Aspen	Populus grandidentata	Fair	
1876	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1877	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1878	BG	6	Bigtooth Aspen	Populus grandidentata	Fair	
1879	BG	6	Bigtooth Aspen	Populus grandidentata	Good	
1880	CT	7	Cottonwood	Populus deltoides	Fair	
1881	RC	8	Red Cedar	Juniperus virginiana	Fair	
1882	RC	7	Red Cedar	Juniperus virginiana	Fair	
1883	CT	11	Cottonwood	Populus deltoides	Fair	
1884	CA	11	Crab Apple	Malus caronaria	Very Poor	
1885	BX	6	Box elder	Acer negundo	Very Poor	
1886	CT	15	Cottonwood	Populus deltoides	Fair	
1887	CT	9	Cottonwood	Populus deltoides	Fair	
1888	CT	6	Cottonwood	Populus deltoides	Fair	
1889	CT	11	Cottonwood	Populus deltoides	Poor	
1890	CT	9	Cottonwood	Populus deltoides	Good	
1891	CT	10	Cottonwood	Populus deltoides	Fair	x1
1892	CT	6	Cottonwood	Populus deltoides	Poor	
1893	RC	11	Red Cedar	Juniperus virginiana	Fair	

PEA GROUP
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NO SCALE

Know what's below. Call before you dig.

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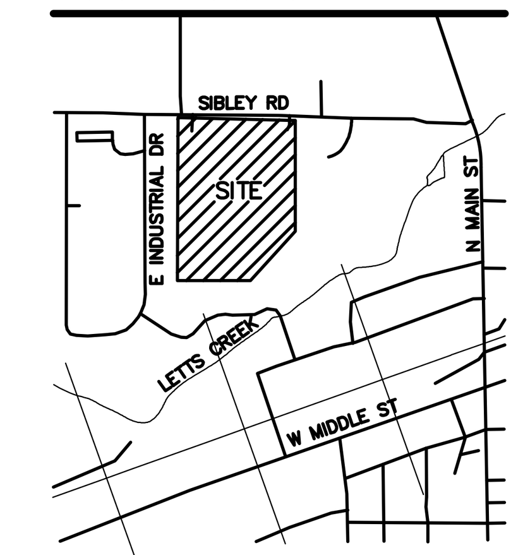

CLIENT
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
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CHELSEA, MICHIGAN 48118

REVISIONS
- -

ORIGINAL ISSUE DATE:
SEPTEMBER 8, 2022

DRAWING TITLE
TREE SURVEY INDEX TABLE

PEA JOB NO. 2022-0484
P.M. JH
SUR. WSF
DN. JML
DRAWING NUMBER:
C-1.3

NOT FOR CONSTRUCTION

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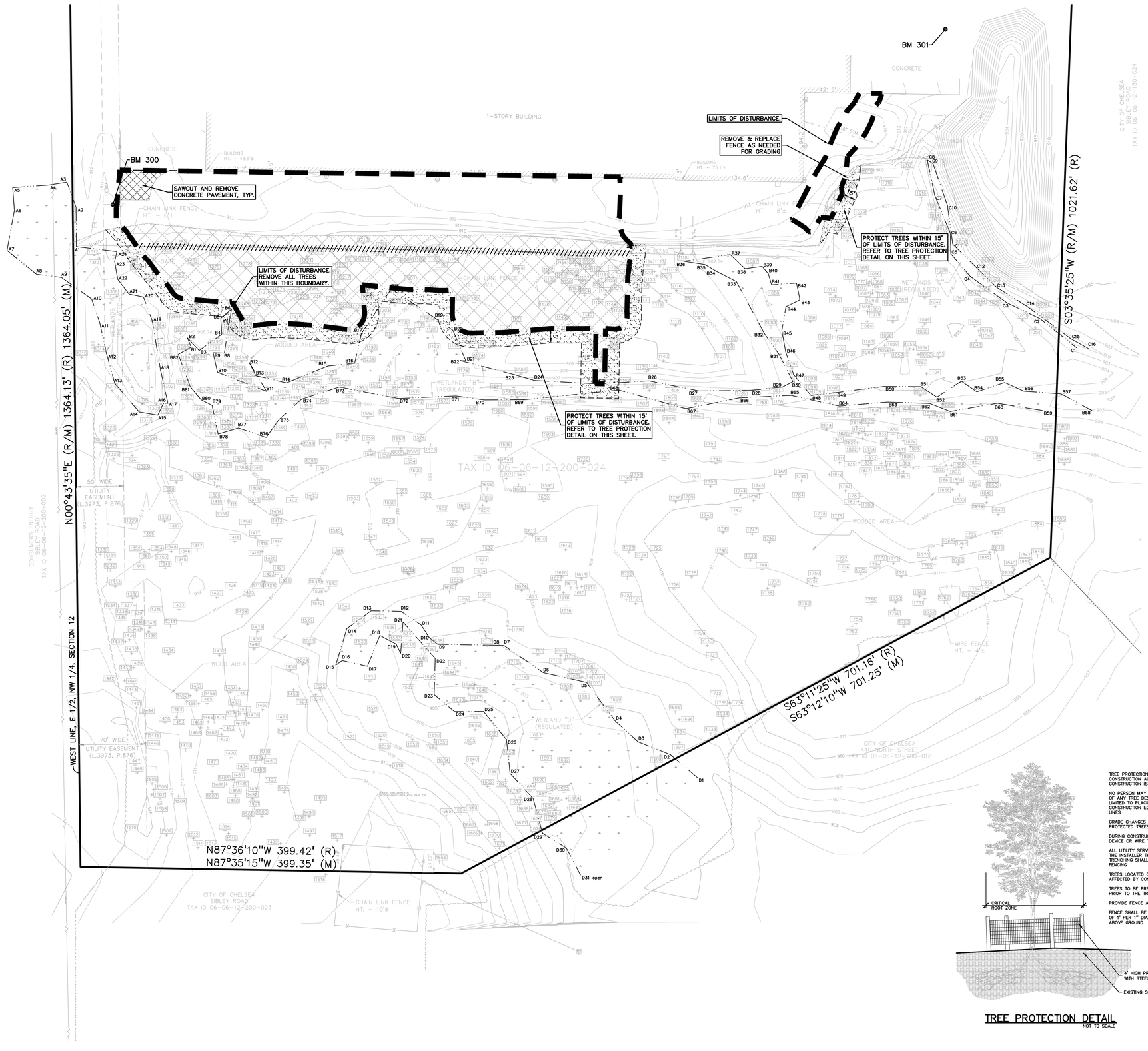

GENERAL DEMOLITION NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT:

1. ALL MATERIAL TO BE REMOVED, WHETHER SPECIFICALLY NOTED IN THE PLANS OR NOT, SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A LEGAL MANNER. NO ON-SITE BURY OR BURN PITS SHALL BE ALLOWED.
2. ALL DEMOLITION WORK SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCES.
3. STAGING/PHASING OF DEMOLITION AND CONSTRUCTION IS TO BE COORDINATED WITH THE OWNER AND THE CONTRACTOR PRIOR TO CONSTRUCTION.
4. SPECIFIC DEMOLITION ITEMS HAVE BEEN INDICATED ON THE PLANS AS A GUIDE TO THE GENERAL SCOPE OF THE WORK. IT IS THE INTENT THAT THESE ITEMS SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR ABOVE AND BELOW GROUND, UNLESS SPECIFICALLY NOTED OTHERWISE, AND THAT DEMOLITION WILL INCLUDE BUT WILL NOT NECESSARILY BE LIMITED TO THESE ITEMS. CONTRACTOR SHALL VISIT SITE TO VERIFY EXISTING CONDITIONS AND EXTENTS OF THE DEMOLITION THAT WILL BE REQUIRED PRIOR TO SUBMITTING A BID.
5. REMOVE ALL STRUCTURES DESIGNATED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDES FOUNDATIONS, FOOTINGS, FOUNDATION WALLS, FLOOR SLABS, UNDERGROUND UTILITIES, CONCRETE, ASPHALT, TREES, ETC.
6. REFER TO THIS SHEET FOR TREE PROTECTION DETAILS.
7. THE CONTRACTOR SHALL, AS A MINIMUM, PROVIDE TREE PROTECTION FENCING AROUND EXISTING TREES TO BE SAVED THAT ARE WITHIN 15 FEET OF CONSTRUCTION ACTIVITIES AND AS INDICATED IN THE PLANS OR PER LOCAL AGENCY REQUIREMENTS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP, NOISE, DUST CONTROL, STREET SWEEPING AND HOURS OF OPERATION IN ACCORDANCE WITH THE LOCAL CODES.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, SIGNAGE, MARKINGS, LIGHTS AND OTHER TRAFFIC CONTROL DEVICES TO PROTECT THE WORK ZONE AND SAFELY MAINTAIN TRAFFIC PER AGENCY REQUIREMENTS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
10. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES TO CONFIRM THAT UTILITY LEADS HAVE BEEN TAKEN OUT OF SERVICE PRIOR TO DEMOLITION.
11. ALL BUILDING GAS LEADS, METERS AND ASSOCIATED EQUIPMENT SHALL BE REMOVED AS SHOWN ON THE PLANS. COORDINATE ALL ASSOCIATED WORK WITH THE APPROPRIATE UTILITY COMPANY.
12. REMOVE ALL OVERHEAD AND UNDERGROUND ELECTRICAL LINES WITHIN THE AREA OF CONSTRUCTION AS SHOWN ON THE PLANS. COORDINATE SHUTDOWNS AND REMOVALS WITH ELECTRICAL SERVICE PROVIDER OR THE APPROPRIATE UTILITY COMPANY. (NOTE: PHONE AND CABLE T.V. SERVICES MAY ALSO BE LOCATED ON OVERHEAD LINES.)
13. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF SIGNS AND SUPPORTS WITHIN THE WORK AREA, AS NECESSARY TO FACILITATE CONSTRUCTION. SIGNS SHALL BE PROTECTED OR STOCKPILED FOR REUSE AS SPECIFIED IN THE PLANS OR AS REQUIRED BY THE AGENCY OF JURISDICTION. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SIGNS AND SUPPORTS AT NO ADDITIONAL COST TO THE OWNER.
14. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE 811/ONE CALL UTILITY LOCATING CENTER, THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

DEMOLITION LEGEND:

- ITEM TO BE PROTECTED
- ITEM TO BE REMOVED
- CURB/FENCE REMOVAL
- CONCRETE PAVEMENT AND SIDEWALK REMOVAL
- AREA OR ITEMS TO BE REMOVED
- UTILITY REMOVAL
- ABANDON UTILITY
- TREE AND BRUSH REMOVAL
- TREE REMOVAL
- SAWCUT LINE
- TREE PROTECTION AREA

TREE PROTECTION WILL BE ERECTED PRIOR TO START OF CONSTRUCTION ACTIVITIES AND SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE

NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN, INCLUDING, BUT NOT LIMITED TO PLACING SOLVENTS, BUILDING MATERIAL, CONSTRUCTION EQUIPMENT OR SOIL DEPOSITS WITHIN DRIP LINES

GRADE CHANGES MAY NOT OCCUR WITHIN THE DRIP LINE OF PROTECTED TREES

DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY REMAINING TREE

ALL UTILITY SERVICE REQUESTS MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING

TREES LOCATED ON ADJACENT PROPERTY THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED

TREES TO BE PRESERVED SHALL BE IDENTIFIED WITH FLAGGING PRIOR TO THE TREE CLEARING OPERATIONS

PROVIDE FENCE AROUND CRITICAL ROOT ZONE OF TREE

FENCE SHALL BE PLACED IN A CIRCLE WITH A MINIMUM RADIUS OF 1' PER 1" DIAMETER OF THE TREE MEASURED AT 4.5' ABOVE GROUND

TREE PROTECTION DETAIL
NOT TO SCALE

PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN
ALAN D. BOYER
ENGINEER
No. 32017
LICENSED PROFESSIONAL ENGINEER

NORTH

0 25 50 100
SCALE: 1" = 50'

811 Know what's below. Call before you dig.

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE LOCATIONS. NO REPRESENTATION IS MADE OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

STATE OF MICHIGAN
CRAIG A. IVERSEN
ENGINEER
NO. 33609
LICENSED PROFESSIONAL ENGINEER

CLIENT
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

REVISIONS

SITE PLAN	1/20/23

ORIGINAL ISSUE DATE:
JANUARY 20, 2023

DRAWING TITLE
DEMOLITION PLAN

PEA JOB NO.	2022-0484
P.M.	EAI
DN.	SEP
DES.	EAI

DRAWING NUMBER:
C-2.0

NOT FOR CONSTRUCTION

Building

Tree Number	DBH	Common Name	Conditon	6-8" Trees	8.1-16" Trees	>16" Trees	Number of Replacement Trees
1159	6	Wild Black Cherry	Prunus serotina	1			1
1160	13	Black Oak	Quercus velutina		1		1.5
1162	13	Black Oak	Quercus velutina		1		1.5
1164	8	Wild Black Cherry	Prunus serotina	1			1
1166	6	Black Oak	Quercus velutina	1			1
1181	15	Box elder	Acer negundo		1		1.5
1182	16	Box elder	Acer negundo		1		1.5
1183	7	White Mulberry	Morus alba	1			1
1184	14	Box elder	Acer negundo		1		1.5
1185	8	Box elder	Acer negundo	1			1
1186	15	Box elder	Acer negundo		1		1.5
1208	6	Box elder	Acer negundo	1			1
1209	13	Box elder	Acer negundo		1		1.5
1210	14	Box elder	Acer negundo		1		1.5
1211	7	Box elder	Acer negundo	1			1
1212	8	Box elder	Acer negundo	1			1
1213	7	Box elder	Acer negundo	1			1
1214	12	Box elder	Acer negundo		1		1.5
1215	9	Box elder	Acer negundo		1		1.5
1222	15	Cottonwood	Populus deltoides		1		1.5
1223	19	Cottonwood	Populus deltoides			1	2
1224	14	Cottonwood	Populus deltoides		1		1.5
			Subtotal of the Number of Trees	9	12	1	**Subtotal of Replacement** 29
			Combinded Number of Trees		22		

Outside of Building

Tree Number	DBH	Common Name	Condition	6-8" Trees	8.1-16" Trees	>16" Trees	Number of Replacement Trees
1125	10	Wild Black Cherry	Poor		1		1.5
1126	9	Black Oak	Fair		1		1.5
1127	7	Black Oak	Quercus velutina	1			1
1128	11	Black Oak	Quercus velutina		1		1.5
1129	13	Black Oak	Quercus velutina		1		1.5
1136	7	Black Oak	Quercus velutina	1			1
1143	11	Red Cedar	Juniperus virginiana		1		1.5
1145	16	Wild Black Cherry	Prunus serotina		1		1.5
1146	12	Red Cedar	Juniperus virginiana		1		1.5
1147	22	Black Oak	Quercus velutina			1	2
1148	9	Red Cedar	Juniperus virginiana		1		1.5
1149	9	Black Oak	Quercus velutina		1		1.5
1150	7	Black Oak	Quercus velutina	1			1
1151	11	Wild Black Cherry	Prunus serotina		1		1.5
1152	11	Black Oak	Fair		1		1.5
1153	15	Black Oak	Quercus velutina		1		1.5
1154	11	Black Oak	Quercus velutina		1		1.5
1155	8	Black Oak	Quercus velutina	1			1
1156	19	Black Oak	Quercus velutina			1	2
1157	10	Black Oak	Quercus velutina		1		1.5
1158	19	Black Oak	Quercus velutina			1	2
1161	13	Wild Black Cherry	Prunus serotina		1		1.5
1163	11	Black Oak	Good		1		1.5
1165	17	Black Oak	Good			1	2
1167	7	Black Oak	Fair	1			1
1168	21	Black Oak	Quercus velutina			1	2
1169	14	Box elder	Fair		1		1.5
1170	7	Swamp White Oak	Quercus bicolor	1			1
1171	6	American Elm	Ulmus americana	1			1
1172	6	Swamp White Oak	Quercus bicolor	1			1
1179	11	Box elder	Acer negundo		1		1.5
1180	20	Swamp White Oak	Quercus bicolor			1	2
1187	6	Swamp White Oak	Quercus bicolor	1			1
1207	9	Box elder	Acer negundo		1		1.5
1216	8	Box elder	Acer negundo	1			1
1217	11	Box elder	Acer negundo		1		1.5
1218	6	Box elder	Acer negundo	1			1
1219	8	Box elder	Acer negundo	1			1
1220	8	Box elder	Acer negundo	1			1
1221	28	Cottonwood	Populus deltoides			1	2
1225	16	Cottonwood	Populus deltoides		1		1.5
1226	16	Cottonwood	Populus deltoides		1		1.5
1227	9	Cottonwood	Populus deltoides		1		1.5
1228	19	Cottonwood	Populus deltoides			1	2
1229	10	Cottonwood	Populus deltoides		1		1.5
1230	19	Cottonwood	Populus deltoides			1	2
1231	17	Cottonwood	Populus deltoides			1	2
1232	12	Box elder	Acer negundo		1		1.5
1233	6	Swamp White Oak	Quercus bicolor	1			1
1234	7	Swamp White Oak	Quercus bicolor	1			1
1235	8	Box elder	Acer negundo	1			1
1236	14	Wild Black Cherry	Prunus serotina		1		1.5
1268	18	Cottonwood	Populus deltoides			1	6
1270	8	Swamp White Oak	Quercus bicolor	1			1
1271	8	Red Cedar	Juniperus virginiana	1			1
1272	7	Box elder	Acer negundo	1			2
1273	8	Box elder	Acer negundo	1			1
1274	11	Box elder	Acer negundo		1		1.5
1275	18	Cottonwood	Populus deltoides			1	6
1276	13	Cottonwood	Populus deltoides		1		3
1277	11	Cottonwood	Populus deltoides		1		3
1278	7	Swamp White Oak	Quercus bicolor	1			2
1279	7	Swamp White Oak	Quercus bicolor	1			2
1280	16	Box elder	Acer negundo		1		3
1281	10	American Elm	Ulmus americana		1		3
1282	6	American Elm	Ulmus americana	1			2
1283	24	Cottonwood	Populus deltoides			1	6
1307	15	American Elm	Good		1		2
1308	10	American Elm	Good		1		2
			Subtotal of the Number of Trees	23	33	13	**Subtotal of Replacement** 122
			Combinded Number of Trees		69		

TOTAL REPLACEMENT (WITHOUT PRESERVATION CREDITS) [29+122] = 151

SEE SHEET C-2.3 FOR REQUIRED TREE REPLACEMENT WITH PRESERVATION CREDITS

sub

Tree Number	DBH	Common Name	Condition	6-8" Trees	8.1-16" Trees	>16" Trees	Number of Tree Preservation Credits
1001	9	Cottonwood	Fair		1		0
1002	8	Black Willow	Fair	1			1
1003	8	Black Willow	Fair	1			1
1004	6	Red Cedar	Poor	1			1
1005	6	Cottonwood	Fair	1			0
1006	10	Cottonwood	Good		1		0
1007	10	Cottonwood	Good		1		0
1008	12	Cottonwood	Good		1		0
1009	12	Cottonwood	Good		1		0
1010	13	Cottonwood	Good		1		0
1011	8	Norway Spruce	Good	1			1
1012	14	Cottonwood	Good		1		0
1013	6	Bigtooth Aspen	Fair	1			1
1014	10	Bigtooth Aspen	Fair		1		2
1015	6	Cottonwood	Fair	1			0
1016	12	Black Willow	Fair		1		2
1017	18	Box elder	Fair			1	0
1018	8	Box elder	Fair	1			0
1019	14	Box elder	Poor		1		0
1020	29	Cottonwood	Good			1	0
1021	10	Cottonwood	Poor		1		0
1022	9	Wild Black Cherry	Good		1		2
1023	6	American Elm	Good	1			1
1024	10	White Mulberry	Good		1		2
1025	8	Red Cedar	Poor	1			0
1026	8	Bigtooth Aspen	Good	1			1
1027	7	Bigtooth Aspen	Good	1			1
1028	6	Bigtooth Aspen	Good	1			1
1029	6	Bigtooth Aspen	Good	1			1
1030	8	Bigtooth Aspen	Good	1			1
1031	8	Bigtooth Aspen	Good	1			1
1032	23	Cottonwood	Good			1	0
1033	9	Black Oak	Good		1		2
1034	6	Bigtooth Aspen	Good	1			1
1035	6	Bigtooth Aspen	Good	1			1
1036	9	Cottonwood	Fair		1		0
1037	7	Cottonwood	Good	1			0
1038	9	Cottonwood	Good		1		0
1039	6	Bigtooth Aspen	Fair	1			1
1040	8	Bigtooth Aspen	Good	1			1
1041	6	Bigtooth Aspen	Very Poor	1			0
1042	6	Bigtooth Aspen	Fair	1			1
1043	11	Cottonwood	Good		1		0
1044	6	Bigtooth Aspen	Fair	1			1
1045	6	Bigtooth Aspen	Good	1			1
1046	8	Bigtooth Aspen	Good	1			1
1047	6	Cottonwood	Fair	1			0
1048	6	Cottonwood	Fair	1			0
1049	6	Cottonwood	Fair	1			0
1050	6	Cottonwood	Fair	1			0
1051	6	Cottonwood	Fair	1			0
1052	9	Cottonwood	Fair		1		0
1053	6	Cottonwood	Fair	1			0
1054	11	Cottonwood	Good		1		0
1055	15	Bigtooth Aspen	Good		1		2
1056	11	Bigtooth Aspen	Good		1		2
1057	7	Bigtooth Aspen	Good	1			1
1058	6	Bigtooth Aspen	Good	1			1
1059	8	Cottonwood	Fair	1			0
1060	18	Cottonwood	Good			1	0
1061	6	Bigtooth Aspen	Fair	1			1
1062	12	Cottonwood	Good		1		0
1063	6	Bigtooth Aspen	Good	1			1
1064	6	Bigtooth Aspen	Good	1			1
1065	8	Bigtooth Aspen	Fair	1			1
1066	9	Bigtooth Aspen	Good		1		2
1067	9	Bigtooth Aspen	Good		1		2
1068	9	Bigtooth Aspen	Good		1		2
1069	8	Bigtooth Aspen	Good	1			1
1070	9	Bigtooth Aspen	Good		1		2
1071	9	Bigtooth Aspen	Good		1		2
1072	10	Balsam Fir	Good		1		2
1073	7	Bigtooth Aspen	Good	1			1
1074	7	Bigtooth Aspen	Good	1			1
1075	9	Bigtooth Aspen	Poor		1		0
1076	7	Bigtooth Aspen	Poor	1			0
1077	6	Bigtooth Aspen	Very Poor	1			0
1078	6	Bigtooth Aspen	Good	1			1
1079	10	Bigtooth Aspen	Good		1		2
1080	10	Bigtooth Aspen	Good		1		2
1081	9	Bigtooth Aspen	Poor		1		0
1082	13	Bigtooth Aspen	Poor		1		0
1083	6	Bigtooth Aspen	Fair	1			1
1084	11	Cottonwood	Good		1		0
1085	15	Cottonwood	Good		1		0
1086	7	Red Cedar	Poor	1			0
1087	21	Cottonwood	Good			1	0
1088	20	Cottonwood	Good			1	0
1089	20	Cottonwood	Good			1	0
1090	11	Cottonwood	Fair		1		0
1091	11	Cottonwood	Fair		1		0
1092	6	Bigtooth Aspen	Good	1			1
1093	12	Cottonwood	Good		1		0
1094	17	Cottonwood	Fair			1	0
1095	13	Cottonwood	Fair		1		0
1096	11	Cottonwood	Good		1		0
1097	7	Bigtooth Aspen	Good	1			1
1098	12	Cottonwood	Fair		1		0
1099	6	Bigtooth Aspen	Good	1			1
1100	13	Cottonwood	Good		1		0
1101	18	Cottonwood	Good			1	0
1102	13	Cottonwood	Fair		1		0
1103	7	Wild Black Cherry	Fair	1			1
1104	6	Bigtooth Aspen	Fair	1			1
1105	16	Cottonwood	Good		1		0
1106	6	Cottonwood	Fair	1			0
1107	9	Wild Black Cherry	Fair		1		2
1108	9	Black Oak	Good		1		2
1109	15	Wild Black Cherry	Good		1		2
1110	13	Box elder	Good		1		0
1111	13	Black Oak	Good		1		2
1112	10	Crab Apple	Very Poor		1		0
1113	12	Black Oak	Fair		1		2
1114	12	Black Oak	Fair		1		2
1115	6	Black Oak	Fair	1			1
1116	13	Black Oak	Fair		1		2
1117	8	Black Oak	Good	1			1
1118	7	Box elder	Fair	1			0
1119	16	Black Oak	Fair		1		2
1120	14	Black Oak	Fair		1		2
1121	10	Black Oak	Good		1		2
1122	15	Black Oak	Good		1		2
1123	14	Black Oak	Fair		1		2
1124	9	Black Oak	Fair		1		2
1130	7	Black Oak	Fair	1			1
1131	16	Black Oak	Fair		1		2
1132	12	Black Oak	Fair		1		2
1133	20	Black Oak	Good			1	3
1134	10	Black Oak	Fair		1		2

SUBTOTAL(A) 104

sub

Tree Number	DBH	Common Name	Condition	6-8" Trees	8.1-16" Trees	>16" Trees	Number of Tree Preservation Credits
1135	12	Black Oak	Poor		1		0
1137	34	Black Oak	Good			1	3
1138	15	Crab Apple	Very Poor		1		0
1139	21	Wild Black Cherry	Good			1	3
1140	8	Crab Apple	Very Poor	1			0
1141	8	Wild Black Cherry	Good	1			1
1142	6	Red Cedar	Very Poor	1			0
1144	20	Siberian Elm	Good			1	3
1173	12	Wild Black Cherry	Good		1		2
1174	10	Bigtooth Aspen	Good		1		2
1175	11	Bigtooth Aspen	Good		1		2
1176	9	Box elder	Fair		1		0
1177	11	Swamp White Oak	Good		1		2
1178	12	Swamp White Oak	Good		1		2
1188	6	Swamp White Oak	Good	1			1
1189	10	Swamp White Oak	Good		1		2
1190	11	Swamp White Oak	Good		1		2
1191	15	Box elder	Fair		1		0
1192	6	Swamp White Oak	Good	1			1
1193	20	Black Willow	Good			1	3
1194	9	American Elm	Good		1		2
1195	19	Black Willow	Good			1	3
1196	11	American Elm	Good		1		2
1197	9	Swamp White Oak	Good		1		2
1198	32	Black Willow	Good			1	3
1199	9	Box elder	Poor		1		0
1200	9	Box elder	Poor		1		0
1201	14	Box elder	Poor		1		0
1202	31	Silver Maple	Good			1	0
1203	11	American Elm	Good		1		2
1204	9	American Elm	Good		1		2
1205	38	Black Willow	Poor			1	0
1206	11	Wild Black Cherry	Good		1		2
1237	8	Swamp White Oak	Good	1			1
1238	14	Wild Black Cherry	Good		1		2
1239	8	American Elm	Good	1			1
1240	7	Swamp White Oak	Good	1			1
1241	10	American Elm	Good		1		2
1242	9	Swamp White Oak	Good		1		2
1243	10	American Elm	Good		1		2
1244	9	Bigtooth Aspen	Poor		1		0
1245	8	Swamp White Oak	Good	1			1
1246	10	Swamp White Oak	Good		1		2
1247	11	Pin Oak	Good		1		2
1248	9	Pin Oak	Fair		1		2
1249	20	Black Oak	Good			1	3
1250	12	Cottonwood	Good		1		0
1251	13	American Elm	Good		1		2
1252	13	Cottonwood	Good		1		0
1253	11	American Elm	Good		1		2
1254	11	Cottonwood	Good		1		0
1255	7	Cottonwood	Good	1			0
1256	21	Cottonwood	Good			1	0
1257	9	Cottonwood	Good		1		0
1258	18	Cottonwood	Good			1	0
1259	6	American Elm	Good	1			1
1260	10	American Elm	Good		1		2
1261	18	Cottonwood	Good			1	0
1262	6	Cottonwood	Good	1			0
1263	6	Cottonwood	Good	1			0
1264	11	Cottonwood	Good		1		0
1265	15	Cottonwood	Good		1		0
1266	17	Cottonwood	Good			1	0
1267	19	Cottonwood	Good			1	0
1269	17	Cottonwood	Good			1	0
1284	20	Cottonwood	Good			1	0
1285	16	Cottonwood	Good		1		0
1286	6	Cottonwood	Poor	1			0
1287	17	Cottonwood	Fair			1	0
1288	6	Box elder	Fair	1			0
1289	8	American Elm	Good	1			1
1290	16	Box elder	Fair		1		0
1291	7	Box elder	Poor	1			0
1292	13	Black Willow	Fair		1		2
1293	13	American Elm	Good		1		2
1294	32	Cottonwood	Good			1	0
1295	9	American Elm	Good		1		2
1296	19	Cottonwood	Good			1	0
1297	16	Cottonwood	Poor		1		0
1298	6	Box elder	Poor	1			0
1299	11	Box elder	Fair		1		0
1300	8	Box elder	Good	1			0
1301	7	Box elder	Fair	1			0
1302	7	Box elder	Good	1			0
1303	6	Box elder	Good	1			0
1304	6	Box elder	Fair	1			0
1305	10	Silver Maple	Good		1		0
1306	7	Black Willow	Good	1			1
1309	6	American Elm	Good	1			1
1310	8	American Elm	Good	1			1
1311	32	Cottonwood	Good			1	0
1312	6	American Elm	Good	1			1
1313	10	Black Willow	Good		1		2
1314	27	Bur oak	Good			1	3
1315	6	Box elder	Good	1			0
1316	18	Box elder	Good			1	0
1317	29	Box elder	Good			1	0
1318	6	Wild Black Cherry	Good	1			1
1319	11	Box elder	Good		1		0
1320	9	Box elder	Good		1		0
1321	7	Wild Black Cherry	Good	1			1
1322	8	Box elder	Good	1			0
1323	6	Box elder	Good	1			0
1324	54	Silver Maple	Good			1	0
1325	18	Silver Maple	Good			1	0
1326	8	Box elder	Very Poor	1			0
1327	13	Box elder	Poor		1		0
1328	11	Box elder	Fair		1		0
1329	7	White Mulberry	Good	1			1
1330	7	Wild Black Cherry	Fair	1			1
1331	8	Wild Black Cherry	Fair	1			1
1332	8	Red Cedar	Good	1			1
1333	9	Wild Black Cherry	Good		1		2
1334	9	Wild Black Cherry	Good		1		2
1335	7	Wild Black Cherry	Fair	1			1
1336	10	Cottonwood	Good		1		0
1337	12	Cottonwood	Good		1		0
1338	8	Cottonwood	Good	1			0
1339	18	Cottonwood	Good			1	0
1340	7	Cottonwood	Good	1			0
1341	7	Cottonwood	Good	1			0
1342	16	Cottonwood	Good		1		0
1343	7	Cottonwood	Good	1			0
1344	7	Red Cedar	Fair	1			1
1345	9	Box elder	Good		1		0
1346	8	Box elder	Good	1			0
1347	8	Box elder	Good	1			0
1348	7	Tree-of-Heaven	Good	1			0
1349	17	Black Oak	Poor			1	0

SUBTOTAL(B) 103

NOT FOR CONSTRUCTION

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STATE OF MICHIGAN — ALAN D. BOYER — ENGINEER — No. 32017 — LICENSED PROFESSIONAL ENGINEER

NO SCALE

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CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

STATE OF MICHIGAN — ERIC A. IVERSEN — ENGINEER NO. 33609 — LICENSED PROFESSIONAL ENGINEER

CLIENT
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

REVISIONS

SITE PLAN	1/20/23

ORIGINAL ISSUE DATE:
JANUARY 20, 2023

DRAWING TITLE
TREE REPLACEMENT CALCULATIONS

PEA JOB NO.	2022-0484
P.M.	EAI
DN.	SEP
DES.	EAI

DRAWING NUMBER:
C-2.1

				sub			
Tree Number	DBH	Common Name	Condition	6-8" Trees	8.1-16" Trees	>16" Trees	Number of Tree Preservation Credits
1350	11	Black Willow	Fair		1		2
1351	7	Red Cedar	Fair	1			1
1352	16	Black Oak	Good		1		2
1353	8	Red Cedar	Fair	1			1
1354	13	Black Oak	Good		1		2
1355	21	Black Oak	Fair			1	3
1356	7	Black Oak	Fair	1			1
1357	6	Box elder	Fair	1			0
1358	25	Cottonwood	Good			1	0
1359	10	Box elder	Good		1		0
1360	9	Box elder	Good		1		0
1361	10	Box elder	Fair		1		0
1362	10	Box elder	Fair		1		0
1363	23	Cottonwood	Fair			1	0
1364	6	Box elder	Good	1			0
1365	11	Swamp White Oak	Good		1		2
1366	18	Cottonwood	Good			1	0
1367	16	Cottonwood	Good		1		0
1368	12	Cottonwood	Good		1		0
1369	9	Cottonwood	Good		1		0
1370	9	Cottonwood	Good		1		0
1371	6	American Elm	Good	1			1
1372	7	American Elm	Good	1			1
1373	17	Cottonwood	Good			1	0
1374	16	Cottonwood	Good		1		0
1375	14	Cottonwood	Good		1		0
1376	9	American Elm	Good		1		2
1377	12	Cottonwood	Good		1		0
1378	7	Cottonwood	Good	1			0
1379	10	Cottonwood	Poor		1		0
1380	18	Cottonwood	Poor			1	0
1381	7	Swamp White Oak	Good	1			1
1382	7	American Elm	Good	1			1
1383	14	Cottonwood	Good		1		0
1384	8	American Elm	Good	1			1
1385	12	American Elm	Good		1		2
1386	6	Black Oak	Good	1			1
1387	6	Swamp White Oak	Good	1			1
1388	6	American Elm	Good	1			1
1389	15	American Elm	Good			1	3
1390	9	Swamp White Oak	Good		1		2
1391	8	Swamp White Oak	Good	1			1
1392	6	Swamp White Oak	Fair	1			1
1393	10	Box elder	Poor		1		0
1394	13	American Elm	Fair		1		2
1395	9	Wild Black Cherry	Good		1		2
1396	10	Crab Apple	Very Poor		1		0
1397	13	Crab Apple	Very Poor		1		0
1398	9	Silver Maple	Fair		1		0
1399	7	American Elm	Fair	1			1
1400	8	American Elm	Fair	1			1
1401	7	Crab Apple	Very Poor	1			0
1402	11	Wild Black Cherry	Fair		1		2
1403	24	Wild Black Cherry	Fair			1	3
1404	11	Wild Black Cherry	Fair		1		2
1405	16	Black Oak	Fair		1		2
1406	6	Wild Black Cherry	Fair	1			1
1407	9	Wild Black Cherry	Fair		1		2
1408	11	Wild Black Cherry	Fair		1		2
1409	16	Wild Black Cherry	Fair		1		2
1410	9	Red Cedar	Fair		1		2
1411	10	Red Cedar	Fair		1		2
1412	11	Red Cedar	Fair		1		2
1413	13	Black Locust	Good		1		0
1414	12	Wild Black Cherry	Fair		1		2
1415	9	Wild Black Cherry	Good		1		2
1416	11	Red Cedar	Fair		1		2
1417	11	Red Cedar	Fair		1		2
1418	7	Tree-of-Heaven	Good	1			0
1419	11	Box elder	Good		1		0
1420	10	Box elder	Good		1		0
1421	9	Box elder	Good		1		0
1422	12	Box elder	Good		1		0
1423	6	Box elder	Poor	1			0
1424	11	Swamp White Oak	Good		1		2
1425	14	Crab Apple	Poor		1		0
1426	8	Box elder	Fair	1			0
1427	14	Box elder	Good		1		0
1428	8	Red Cedar	Fair	1			1
1429	8	Red Cedar	Fair	1			1
1430	15	Swamp White Oak	Good		1		2
1431	6	Red Cedar	Fair	1			1
1432	26	Cottonwood	Good			1	0
1433	9	Red Cedar	Fair		1		2
1434	8	Red Cedar	Fair	1			1
1435	12	Quaking Aspen	Fair		1		2
1436	8	Quaking Aspen	Good	1			1
1437	16	Black Oak	Good		1		2
1438	6	Quaking Aspen	Good	1			1
1439	10	Black Oak	Good		1		2
1440	13	Black Oak	Good		1		2
1441	9	White Oak	Good		1		2
1442	8	White Oak	Good	1			1
1443	19	White Oak	Good			1	3
1444	8	Quaking Aspen	Good	1			1
1445	9	Quaking Aspen	Good		1		2
1446	18	Black Oak	Good			1	3
1447	14	Black Oak	Good		1		2
1448	11	Shagbark Hickory	Good		1		2
1449	11	Red Cedar	Fair		1		2
1450	6	Box elder	Fair	1			0
1451	8	Red Cedar	Fair	1			1
1452	6	Quaking Aspen	Fair	1			1
1453	7	Bigtooth Aspen	Fair	1			1
1454	8	Bigtooth Aspen	Very Poor	1			0
1455	19	Cottonwood	Fair			1	0
1456	10	Cottonwood	Fair		1		0
1457	11	Cottonwood	Fair		1		0
1458	8	Wild Black Cherry	Good	1			1
1459	7	White Oak	Good	1			1
1460	9	Red Cedar	Fair		1		2
1461	11	Red Cedar	Fair		1		2
1462	16	Cottonwood	Good		1		0
1463	9	Cottonwood	Good		1		0
1464	9	Red Cedar	Fair		1		2
1465	6	Cottonwood	Good	1			0
1466	10	Cottonwood	Good		1		0
1467	8	Cottonwood	Good	1			0
1468	9	Cottonwood	Good		1		0
1469	14	Cottonwood	Good		1		0
1470	12	Red Cedar	Fair		1		2
1471	23	Cottonwood	Good			1	0
1472	9	Cottonwood	Poor		1		0
1473	8	Cottonwood	Poor	1			0
1474	10	Cottonwood	Fair		1		0
1475	7	Cottonwood	Fair	1			0
1476	12	Cottonwood	Fair		1		0
1477	14	Cottonwood	Fair		1		0
1478	11	Cottonwood	Good		1		0

SUBTOTAL(C) 120

				sub			
Tree Number	DBH	Common Name	Condition	6-8" Trees	8.1-16" Trees	>16" Trees	Number of Tree Preservation Credits
1479	10	Red Cedar	Fair		1		2
1480	14	Wild Black Cherry	Fair		1		2
1481	16	Wild Black Cherry	Fair		1		2
1482	10	Siberian Elm	Fair		1		2
1483	8	Red Cedar	Fair	1			1
1484	14	Cottonwood	Good		1		0
1485	25	Cottonwood	Good			1	0
1486	13	Cottonwood	Good		1		0
1487	6	Cottonwood	Good	1			0
1488	7	Cottonwood	Good	1			0
1489	12	Cottonwood	Fair		1		0
1490	9	Cottonwood	Poor		1		0
1491	15	Cottonwood	Fair		1		0
1492	9	Cottonwood	Fair		1		0
1493	9	Crab Apple	Poor		1		0
1494	6	Bigtooth Aspen	Good	1			1
1495	15	Black Oak	Good		1		2
1496	15	Wild Black Cherry	Fair		1		2
1497	15	Wild Black Cherry	Fair		1		2
1498	6	Crab Apple	Poor	1			0
1499	8	Silver Maple	Good	1			0
1500	9	Bigtooth Aspen	Very Poor		1		0
1501	8	Bigtooth Aspen	Good	1			1
1502	11	Cottonwood	Poor		1		0
1503	6	Red Cedar	Fair	1			1
1504	16	Cottonwood	Fair		1		0
1505	23	Black Oak	Good			1	3
1506	15	Black Oak	Good		1		2
1507	15	Black Oak	Good		1		2
1508	21	Box elder	Good			1	0
1509	10	Crab Apple	Very Poor		1		0
1510	12	American Elm	Good		1		2
1511	6	Cottonwood	Good	1			0
1512	10	Bigtooth Aspen	Good		1		2
1513	12	Bigtooth Aspen	Good		1		2
1514	12	Bigtooth Aspen	Good		1		2
1515	7	Bigtooth Aspen	Good	1			1
1516	12	Wild Black Cherry	Good		1		2
1517	12	Wild Black Cherry	Poor		1		0
1518	6	Black Oak	Good	1			1
1519	11	Box elder	Good		1		0
1520	8	Black Walnut	Good	1			1
1521	6	White Oak	Good	1			1
1522	20	Wild Black Cherry	Fair			1	3
1523	10	Wild Black Cherry	Good		1		2
1524	6	Box elder	Good	1			0
1525	15	Crab Apple	Very Poor		1		0
1526	10	Box elder	Fair		1		0
1527	10	Crab Apple	Very Poor		1		0
1528	21	Wild Black Cherry	Good			1	3
1529	26	Cottonwood	Good			1	0
1530	12	Box elder	Good		1		0
1531	24	White Oak	Good			1	3
1532	21	Box elder	Fair			1	0
1533	7	Box elder	Fair	1			0
1534	7	Box elder	Fair	1			0
1535	42	Cottonwood	Good			1	0
1536	7	Box elder	Good	1			0
1537	8	Box elder	Fair	1			0
1538	13	Black Oak	Good		1		2
1539	13	Crab Apple	Very Poor		1		0
1540	13	Crab Apple	Very Poor		1		0
1541	9	Crab Apple	Very Poor		1		0
1542	9	Wild Black Cherry	Fair		1		2
1543	13	Wild Black Cherry	Fair		1		2
1544	14	Wild Black Cherry	Fair		1		2
1545	8	American Elm	Good	1			1
1546	16	Wild Black Cherry	Good		1		2
1547	15	Wild Black Cherry	Fair		1		2
1548	12	Box elder	Fair		1		0
1549	7	Box elder	Good	1			0
1550	8	American Elm	Good	1			1
1551	6	American Elm	Good	1			1
1552	9	American Elm	Good		1		2
1553	27	Wild Black Cherry	Good			1	3
1554	8	American Elm	Good	1			1
1555	12	Wild Black Cherry	Good		1		2
1556	8	Wild Black Cherry	Good	1			1
1557	11	Wild Black Cherry	Good		1		2
1558	12	Wild Black Cherry	Fair		1		2
1559	11	Crab Apple	Very Poor		1		0
1560	20	Black Oak	Good			1	3
1561	10	Wild Black Cherry	Fair		1		2
1562	9	Wild Black Cherry	Good		1		2
1563	13	Black Oak	Good		1		2
1564	17	Cottonwood	Good			1	0
1565	7	Cottonwood	Poor	1			0
1566	6	Swamp White Oak	Good	1			1
1567	13	Black Willow	Fair		1		2
1568	14	Black Willow	Fair		1		2
1569	18	Black Willow	Fair			1	3
1570	19	Black Willow	Fair			1	3
1571	18	Black Willow	Fair			1	3
1572	23	Black Willow	Fair			1	3
1573	8	American Elm	Good	1			1
1574	10	Box elder	Fair		1		0
1575	23	Black Willow	Fair			1	3
1576	26	Silver Maple	Good			1	0
1577	23	Silver Maple	Good			1	0
1578	21	Silver Maple	Good			1	0
1579	22	Black Willow	Poor			1	0
1580	22	Black Willow	Good			1	3
1581	7	Swamp White Oak	Good	1			1
1582	42	Cottonwood	Good			1	0
1583	20	Cottonwood	Good			1	0
1584	15	Cottonwood	Good		1		0
1585	8	Swamp White Oak	Good	1			1
1586	24	Cottonwood	Good			1	0
1587	10	Swamp White Oak	Fair		1		2
1588	6	American Elm	Good	1			1
1589	14	Black Oak	Good		1		2
1590	12	American Elm	Good		1		2
1591	11	White Mulberry	Fair		1		2
1592	8	Bigtooth Aspen	Fair	1			1
1593	10	Black Walnut	Good		1		2
1594	13	Box elder	Fair		1		0
1595	25	Black Oak	Good			1	3
1596	8	Box elder	Fair	1			0
1597	21	Black Willow	Good			1	3
1598	22	Black Willow	Very Poor			1	0
1599	30	Black Willow	Fair			1	3
1600	15	Bradford Pear	Fair		1		2
1601	14	Wild Black Cherry	Poor		1		0
1602	11	Crab Apple	Very Poor		1		0
1603	7	American Elm	Fair	1			1
1604	7	American Elm	Fair	1			1
1605	15	American Elm	Fair		1		2
1606	8	American Elm	Fair	1			1
1607	10	Swamp White Oak	Good		1		2

SUBTOTAL(D) 143

				sub			
Tree Number	DBH	Common Name	Condition	6-8" Trees	8.1-16" Trees	>16" Trees	Number of Tree Preservation Credits
1608	13	Box elder	Fair		1		0
1609	12	Red Cedar	Very Poor		1		0
1610	18	Wild Black Cherry	Good			1	3
1611	16	Wild Black Cherry	Fair		1		2
1612	24	Box elder	Poor			1	0
1613	11	Box elder	Fair		1		0
1614	14	Box elder	Fair		1		0
1615	14	Box elder	Poor		1		0
1616	15	Box elder	Fair		1		0
1617	10	Box elder	Poor		1		0
1618	13	Wild Black Cherry	Fair		1		2
1619	9	Box elder	Poor		1		0
1620	6	Box elder	Very Poor	1			0
1621	7	Box elder	Fair	1			0
1622	16	Box elder	Fair		1		0
1623	12	Bigtooth Aspen	Fair		1		2
1624	12	Box elder	Fair		1		0
1625	16	Wild Black Cherry	Good		1		2
1626	23	Wild Black Cherry	Good			1	3
1627	7	Black Walnut	Fair	1			1
1628	8	Box elder	Fair	1			0
1629	31	Wild Black Cherry	Fair			1	3
1630	6	Black Walnut	Fair	1			1
1631	12	Wild Black Cherry	Fair		1		2
1632	12	Quaking Aspen	Fair		1		2
1633	11	Quaking Aspen	Fair		1		2
1634	7	Box elder	Fair	1			0
1635	9	Box elder	Poor		1		0
1636	18	Wild Black Cherry	Fair			1	3
1637	8	Crab Apple	Fair	1			1
1638	8	Box elder	Good	1			0
1639	7	Box elder	Fair	1			0
1640	6	Box elder	Fair	1			0
1641	16	Black Willow	Fair		1		2
1642	12	Box elder	Poor		1		0
1643	25	Box elder	Fair			1	0
1644	14	Black Willow	Poor		1		0
1645	14	Cottonwood	Fair		1		0
1646	10	Black Willow	Fair		1		2
1647	12	Black Willow	Fair		1		2
1648	7	Black Willow	Very Poor	1			0
1649	10	Box elder	Fair		1		0
1650	23	Crab Apple	Very Poor			1	0
1651	8	Swamp White Oak	Fair	1			1
1652	9	Wild Black Cherry	Poor		1		0
1653	6	Wild Black Cherry	Good	1			1
1654	8	Crab Apple	Poor	1			0
1655	6	Swamp White Oak	Fair	1			1
1656	6	Swamp White Oak	Fair	1			1
1657	25	Box elder	Fair			1	0
1658	9	Swamp White Oak	Fair		1		2
1659	12	Black Oak	Good		1		2
1660	10	Swamp White Oak	Good		1		2
1661	7	Swamp White Oak	Good	1			1
1662	18	Black Oak	Good			1	3
1663	6	Black Walnut	Good	1			1
1664	9	Quaking Aspen	Fair		1		2
1665	6	Wild Black Cherry	Good	1			1
1666	8	Black Walnut	Good	1			1
1667	7	Black Walnut	Good	1			1
1668	15	Crab Apple	Very Poor		1		0
1669	12	Wild Black Cherry	Fair		1		2
1670	20	Black Oak	Fair			1	3
1671	12	Box elder	Poor		1		0
1672	15	Wild Black Cherry	Good		1		2
1673	12	Swamp White Oak	Good		1		2
1674	6	Swamp White Oak	Fair	1			1
1675	6	Shagbark Hickory	Good	1			1
1676	9	Shagbark Hickory	Fair		1		2
1677	9	Swamp White Oak	Good		1		2
1678	18	Wild Black Cherry	Poor			1	0
1679	7	Swamp White Oak	Fair	1			1
1680	14	Swamp White Oak	Good		1		2
1681	11	Swamp White Oak	Good		1		2
1682	10	Swamp White Oak	Good		1		2
1683	6	Swamp White Oak	Fair	1			1
1684	7	Swamp White Oak	Fair	1			1
1685	7	Swamp White Oak	Very Poor	1			0
1686	7	Swamp White Oak	Good	1			1
1687	10	Swamp White Oak	Good		1		2
1688	11	Swamp White Oak	Fair		1		2
1689	9	Swamp White Oak	Fair		1		2
1690	11	Swamp White Oak	Fair		1		2
1691	6	Swamp White Oak	Good	1			1
1692	42	Swamp White Oak	Good			1	3
1693	15	Swamp White Oak	Good		1		2
1694	9	Swamp White Oak	Good		1		2
1695	12	Wild Black Cherry	Good		1		2
1696	9	Box elder	Good		1		0
1697	22	Black Oak	Good			1	3
1698	11	Shagbark Hickory	Good		1		2
1699	13	Swamp White Oak	Good		1		2
1700	26	Black Oak	Fair			1	3
1701	8	Box elder	Fair	1			0
1702	6	Box elder	Fair	1			0
1703	10	Box elder	Fair		1		0
1704	8	Box elder	Fair	1			0
1705	6	Box elder	Fair	1			0
1706	6	Box elder	Fair	1			0
1707	9	Box elder	Good		1		0
1708	11	Box elder	Fair		1		0
1709	10	Box elder	Fair		1		0
1710	10	Wild Black Cherry	Good		1		2
1711	6	Box elder	Fair	1			0
1712	8	Box elder	Fair	1			0
1713	20	Wild Black Cherry	Fair			1	3
1714	9	Box elder	Fair		1		0
1715	10	Bigtooth Aspen	Very Poor		1		0
1716	14	Wild Black Cherry	Poor		1		0
1717	6	Box elder	Fair	1			0
1718	7	American Elm	Good	1			1
1719	6	Box elder	Fair	1			0
1720	16	Black Oak	Fair		1		2
1721	7	Box elder	Fair	1			0
1722	18	Box elder	Fair			1	0
1723	7	Red Cedar	Fair	1			1
1724	7	Wild Black Cherry	Good	1			1
1725	10	Wild Black Cherry	Good		1		2
1726	8	Wild Black Cherry	Good	1			1
1727	10	Box elder	Fair		1		0
1728	15	Box elder	Fair		1		0
1729	16	Wild Black Cherry	Fair		1		2
1730	20	Wild Black Cherry	Fair			1	3
1731	8	Crab Apple	Very Poor	1			0
1732	12	Wild Black Cherry	Fair		1		2
1733	8	Crab Apple	Very Poor	1			0
1734	19	Wild Black Cherry	Good			1	3
1735	12	Wild Black Cherry	Good		1		2
1736	12	Box elder	Good		1		0

SUBTOTAL(E) 133

PEA GROUP

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STATE OF MICHIGAN
ALAN D. BOYER
ENGINEER
No. 32017
LICENSED PROFESSIONAL ENGINEER

NO SCALE

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STATE OF MICHIGAN
ERIC A. IVERSEN
ENGINEER
NO. 33609
LICENSED PROFESSIONAL ENGINEER

CLIENT
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

REVISIONS
SITE PLAN 1/20/23

ORIGINAL ISSUE DATE:
JANUARY 20, 2023

DRAWING TITLE
TREE REPLACEMENT CALCULATIONS

PEA JOB NO. 2022-0484
P.M. EAI
DN. SEP
DES. EAI
DRAWING NUMBER:
C-2.2

NOT FOR CONSTRUCTION

Tree Number	DBH	Common Name	Condition	sub 6-8" Trees	8.1-16" Trees	>16" Trees	Number of Tree Preservation Credits
1737	7	Box elder	Fair	1			0
1738	7	White Oak	Good	1			1
1739	12	Wild Black Cherry	Good		1		2
1740	17	Crab Apple	Poor			1	0
1741	7	Box elder	Fair	1			0
1742	8	Box elder	Good	1			0
1743	9	Crab Apple	Very Poor		1		0
1744	18	Wild Black Cherry	Poor				0
1745	7	Red Cedar	Poor	1			0
1746	14	Box elder	Poor		1		0
1747	7	Crab Apple	Very Poor	1			0
1748	14	Catalpa	Very Poor		1		0
1749	16	Wild Black Cherry	Fair		1		2
1750	14	Crab Apple	Very Poor		1		0
1751	6	Box elder	Poor	1			0
1752	6	Black Oak	Good	1			1
1753	8	White Oak	Good	1			1
1754	6	White Oak	Good	1			1
1755	11	Box elder	Good		1		0
1756	8	Wild Black Cherry	Good	1			1
1757	18	Wild Black Cherry	Good			1	3
1758	8	Box elder	Good	1			0
1759	25	Wild Black Cherry	Fair			1	3
1760	8	Box elder	Poor	1			0
1761	17	Siberian Elm	Good			1	3
1762	23	Box elder	Poor			1	0
1763	8	Black Oak	Fair	1			1
1764	7	Wild Black Cherry	Good	1			1
1765	10	Red Cedar	Poor		1		0
1766	7	Red Cedar	Poor	1			0
1767	8	Red Cedar	Poor	1			0
1768	7	Red Cedar	Poor	1			0
1769	9	Red Cedar	Poor		1		0
1770	17	Wild Black Cherry	Good			1	3
1771	10	Box elder	Poor		1		0
1772	9	Box elder	Fair		1		0
1773	7	Black Walnut	Fair	1			1
1774	6	Box elder	Fair	1			0
1775	8	Black Walnut	Fair	1			1
1776	6	Black Walnut	Fair	1			1
1777	8	Crab Apple	Very Poor	1			0
1778	11	Box elder	Good		1		0
1779	12	Wild Black Cherry	Fair		1		2
1780	9	Bigtooth Aspen	Good		1		2
1781	11	Wild Black Cherry	Fair		1		2
1782	7	Red Cedar	Poor	1			0
1783	7	Wild Black Cherry	Good	1			1
1784	19	Wild Black Cherry	Good			1	3
1785	18	Box elder	Fair			1	0
1786	16	Wild Black Cherry	Fair		1		2
1787	15	Wild Black Cherry	Good		1		2
1788	13	Cottonwood	Fair		1		0
1789	15	Cottonwood	Fair		1		0
1790	24	Cottonwood	Good			1	0
1791	13	Wild Black Cherry	Fair		1		2
1792	13	European Buckthorn	Good		1		2
1793	7	Black Oak	Good	1			1
1794	7	Box elder	Good	1			0
1795	8	Crab Apple	Very Poor	1			0
1796	9	Black Oak	Good		1		2
1797	13	Wild Black Cherry	Good		1		2
1798	18	Wild Black Cherry	Good			1	3
1799	11	Box elder	Fair		1		0
1800	10	Wild Black Cherry	Fair		1		2
1801	13	Cottonwood	Good		1		0
1802	7	Red Cedar	Fair	1			1
1803	8	Red Cedar	Fair	1			1
1804	22	Cottonwood	Good			1	0
1805	15	Crab Apple	Good		1		2
1806	14	Cottonwood	Good		1		0
1807	13	Cottonwood	Fair		1		0
1808	11	Cottonwood	Good		1		0
1809	12	Red Cedar	Poor		1		0
1810	7	Swamp White Oak	Good	1			1
1811	13	Bigtooth Aspen	Good		1		2
1812	11	Bigtooth Aspen	Good		1		2
1813	8	Bigtooth Aspen	Good	1			1
1814	8	Bigtooth Aspen	Good	1			1
1815	8	Cottonwood	Fair	1			0
1816	7	Bigtooth Aspen	Fair	1			1
1817	8	Bigtooth Aspen	Good	1			1
1818	7	Bigtooth Aspen	Good	1			1
1819	11	Bigtooth Aspen	Good		1		2
1820	7	Red Cedar	Fair	1			1
1821	9	Bigtooth Aspen	Good		1		2
1822	12	Bigtooth Aspen	Good		1		2
1823	13	Bigtooth Aspen	Good		1		2
1824	12	Bigtooth Aspen	Fair		1		2
1825	12	Bigtooth Aspen	Fair		1		2
1826	7	Bigtooth Aspen	Fair	1			1
1827	7	Cottonwood	Good	1			0
1828	13	Bigtooth Aspen	Fair		1		2
1829	12	Cottonwood	Good		1		0
1830	18	Cottonwood	Fair			1	0
1831	7	Bigtooth Aspen	Fair	1			1
1832	12	Bigtooth Aspen	Fair		1		2
1833	10	Bigtooth Aspen	Good		1		2
1834	7	Bigtooth Aspen	Good	1			1
1835	6	Bigtooth Aspen	Good	1			1
1836	11	Bigtooth Aspen	Good		1		2
1837	9	Bigtooth Aspen	Good		1		2
1838	12	Box elder	Fair		1		0
1839	20	Box elder	Fair			1	0
1840	21	Box elder	Good			1	0
1841	6	Black Oak	Good	1			1
1842	8	Box elder	Poor	1			0
1843	6	Wild Black Cherry	Good	1			1
1844	11	Red Cedar	Poor		1		0
1845	7	Wild Black Cherry	Fair	1			1
1846	16	Wild Black Cherry	Fair		1		2
1847	7	Bigtooth Aspen	Fair	1			1
1848	15	Bigtooth Aspen	Fair		1		2
1849	10	Bigtooth Aspen	Good		1		2
1850	10	Bigtooth Aspen	Fair		1		2
1851	15	Bigtooth Aspen	Good		1		2
1852	9	Bigtooth Aspen	Fair		1		2
1853	6	Bigtooth Aspen	Poor	1			0
1854	13	Wild Black Cherry	Fair		1		2
1855	16	Cottonwood	Fair		1		0
1856	17	Cottonwood	Fair			1	0
1857	9	Bigtooth Aspen	Good		1		2
1858	6	Bigtooth Aspen	Fair	1			1
1859	9	Bigtooth Aspen	Good		1		2
1860	7	Bigtooth Aspen	Good	1			1
1861	10	Bigtooth Aspen	Poor		1		0
1862	6	Bigtooth Aspen	Good	1			1
1863	7	Bigtooth Aspen	Good	1			1
1864	9	Bigtooth Aspen	Good		1		2
1865	8	Cottonwood	Good	1			0

SUBTOTAL(F) 123

Tree Number	DBH	Common Name	Condition	sub 6-8" Trees	8.1-16" Trees	>16" Trees	Number of Tree Preservation Credits
1866	11	Bigtooth Aspen	Good		1		2
1867	7	Bigtooth Aspen	Good	1			1
1868	12	Bigtooth Aspen	Good		1		2
1869	12	Bigtooth Aspen	Good		1		2
1870	14	Bigtooth Aspen	Fair		1		2
1871	13	Bigtooth Aspen	Fair		1		2
1872	6	Bigtooth Aspen	Good	1			1
1873	12	Bigtooth Aspen	Fair		1		2
1874	6	Bigtooth Aspen	Good	1			1
1875	8	Bigtooth Aspen	Fair	1			1
1876	6	Bigtooth Aspen	Fair	1			1
1877	6	Bigtooth Aspen	Fair	1			1
1878	6	Bigtooth Aspen	Fair	1			1
1879	6	Bigtooth Aspen	Good	1			1
1880	7	Cottonwood	Fair	1			0
1881	8	Red Cedar	Fair	1			1
1882	7	Red Cedar	Fair	1			1
1883	11	Cottonwood	Fair		1		0
1884	11	Crab Apple	Very Poor		1		0
1889	11	Cottonwood	Poor		1		0
1890	9	Cottonwood	Good		1		0
1891	10	Cottonwood	Fair		1		0

SUBTOTAL(G) 22

SUBTOTAL(A) = 104
SUBTOTAL(B) = 103
SUBTOTAL(C) = 120
SUBTOTAL(D) = 143
SUBTOTAL(E) = 133
SUBTOTAL(F) = 123
SUBTOTAL(G) = 22

TOTAL = 748 TREE PRESERVATION CREDITS

REQUIRED TREES TO BE REPLACED (NO CREDIT)	151 TREES
TREE PRESERVATION POTENTIAL CREDITS	748
ALLOWABLE CREDITS	75 TREES
REPLACEMENT TREES REQUIRED (WITH CREDITS)	76 TREES

PEA GROUP
t: 844.813.2949
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STATE OF MICHIGAN
ALAN D. BOYER
ENGINEER
No. 32017
LICENSED PROFESSIONAL ENGINEER

NO SCALE

811 Know what's below. Call before you dig.

CAUTION!!
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STATE OF MICHIGAN
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CHELSEA, MICHIGAN 48118

REVISIONS
SITE PLAN 1/20/23

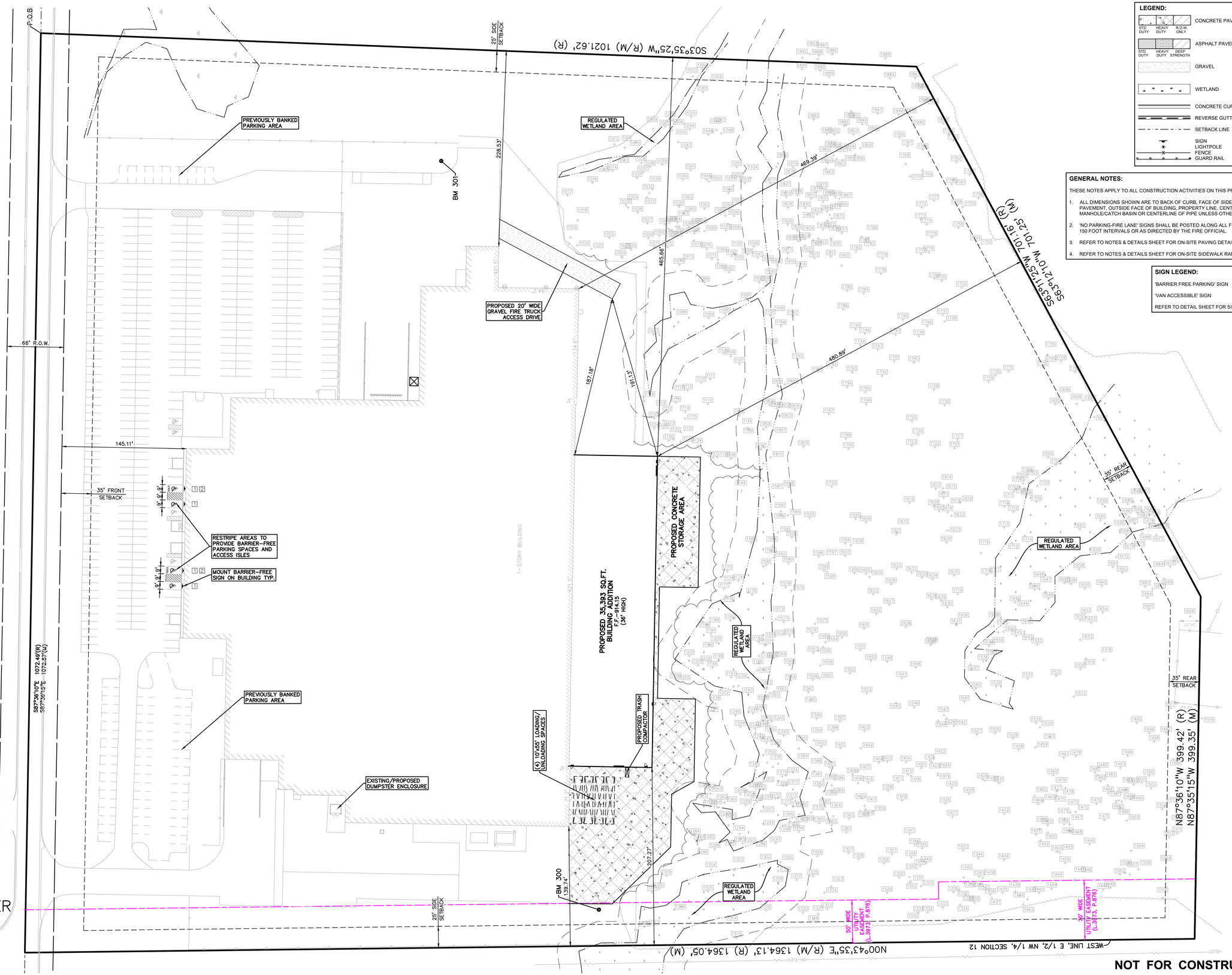
ORIGINAL ISSUE DATE:
JANUARY 20, 2023

DRAWING TITLE
TREE REPLACEMENT CALCULATIONS

PEA JOB NO.	2022-0484
P.M.	EAI
DN.	SEP
DES.	EAI

DRAWING NUMBER:
C-2.3

NOT FOR CONSTRUCTION



LEGEND:

- CONCRETE PAVEMENT (STD DUTY / HEAVY DUTY / R.O.W. ONLY)
- ASPHALT PAVEMENT (STD DUTY / HEAVY DUTY / DEEP STRENGTH)
- GRAVEL
- WETLAND
- CONCRETE CURB AND GUTTER
- REVERSE GUTTER PAN
- SETBACK LINE
- SIGN
- LIGHTPOLE
- FENCE
- GUARD RAIL

GENERAL NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

1. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, EDGE OF PAVEMENT, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
2. 'NO PARKING-FIRE LANE' SIGNS SHALL BE POSTED ALONG ALL FIRE LANES AT 150 FOOT INTERVALS OR AS DIRECTED BY THE FIRE OFFICIAL.
3. REFER TO NOTES & DETAILS SHEET FOR ON-SITE PAVING DETAILS.
4. REFER TO NOTES & DETAILS SHEET FOR ON-SITE SIDEWALK RAMP DETAILS

SIGN LEGEND:

'BARRIER FREE PARKING' SIGN	1
'VAN ACCESSIBLE' SIGN	2

REFER TO DETAIL SHEET FOR SIGN DETAILS

PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN — ALAN D. BOYER — ENGINEER — No. 32017 — LICENSED PROFESSIONAL ENGINEER

NORTH

0 25 50 100

SCALE: 1" = 50'

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STATE OF MICHIGAN — ERIC A. IVERSEN — ENGINEER NO. 33609 — LICENSED PROFESSIONAL ENGINEER

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5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

REVISIONS	
SITE PLAN	1/20/23

ORIGINAL ISSUE DATE:
JANUARY 20, 2023

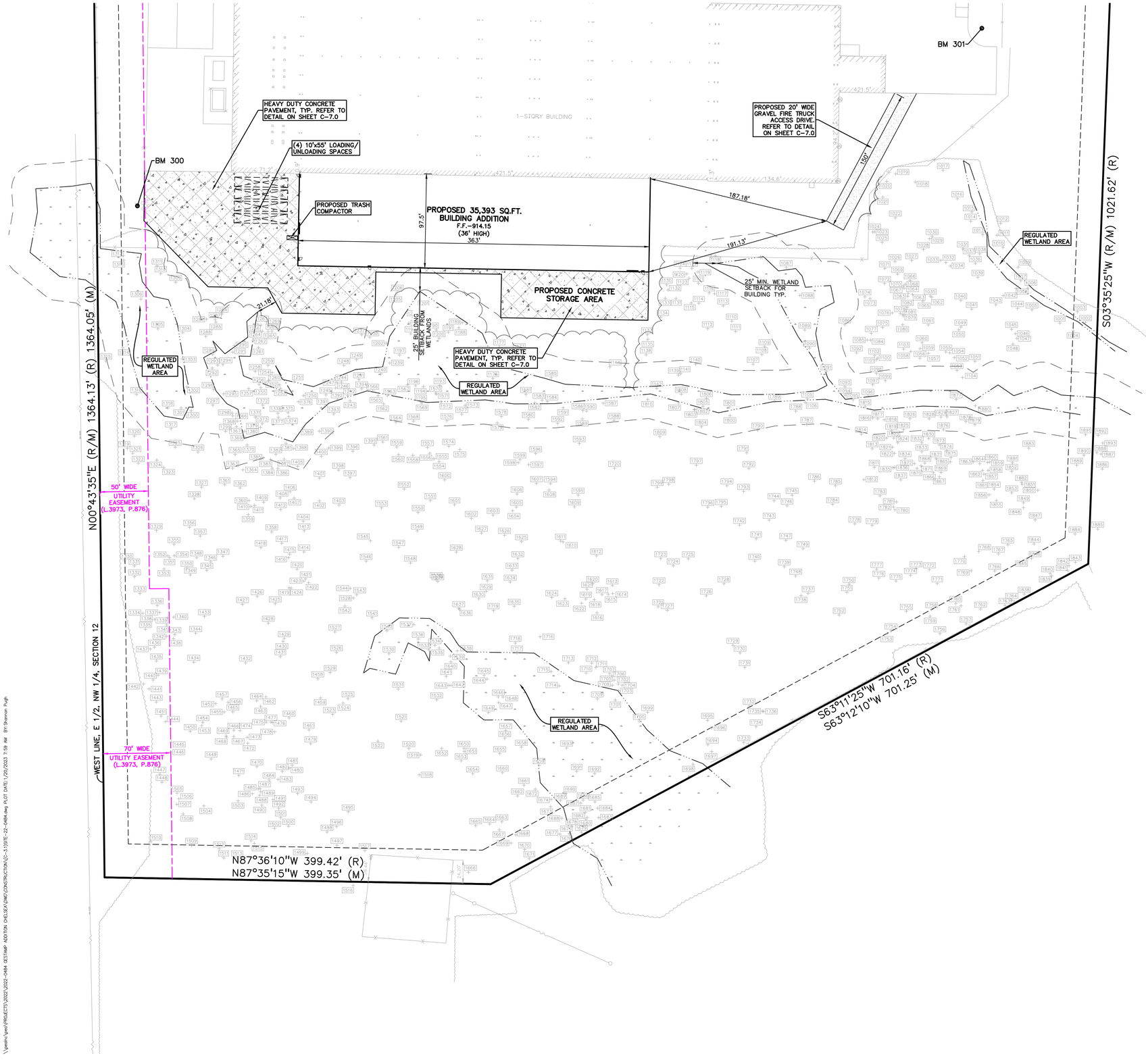
DRAWING TITLE
OVERALL SITE PLAN

PEA JOB NO.	2022-0484
P.M.	EAI
DN.	SEP
DES.	EAI

DRAWING NUMBER:
C-3.0

NOT FOR CONSTRUCTION

\\peainc.local\PROJECTS\2022\2022-0484 GESTAMP ADDITION CHELSEA\DWG\CONSTRUCTION\C-3.0\OVERALLSITE-22-0484.dwg PLOT DATE:1/20/2023 7:58 AM BY:Shannon Pugh



LEGEND:

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- SIGN
- LIGHTPOLE
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GENERAL NOTES:

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3. REFER TO NOTES & DETAILS SHEET FOR ON-SITE PAVING DETAILS.
4. REFER TO NOTES & DETAILS SHEET FOR ON-SITE SIDEWALK RAMP DETAILS
5. SEE GRADING PLAN SHEET C-4.0 FOR WETLAND TO GRADING SETBACKS.

SITE DATA TABLE:

SITE AREA: 30.13 ACRES (1,312,431 SF.) GROSS
29.32 ACRES (1,277,036 SF.) NET (LOT AREA)

ZONING: GI - GENERAL INDUSTRIAL

PROPOSED USE: MANUFACTURING

BUILDING INFORMATION:
MAXIMUM ALLOWABLE BUILDING HEIGHT = 40 FT.
PROPOSED BUILDING HEIGHT = 36 FT.

GROUND FLOOR AREA (GFA) :
EXISTING
MANUF. = 221,714 SF. GFA
OFFICE = 11,190 SF. GFA
TOTAL = 232,904 SF. GFA
PROPOSED
ADDITION = 35,393 SF. GFA
TOTAL = 268,297 SF. GFA

SECOND FLOOR OFFICE AREA = 7,677 SF. (EXISTING/PROPOSED)
SECOND FLOOR MANUF. AREA = 2,932 SF. (EXISTING/PROPOSED)
TOTAL FLOOR AREA = 278,906 SF. (GROSS)

BUILDING LOT COVERAGE = 18.2% (EXISTING)
21.0% (AFTER ADDITION)

SETBACK REQUIREMENTS:	REQUIRED:	EXIST.:	PROPOSED:
FRONT (NORTH)	35'	145.1'	N/A
SIDE (EAST)	25'	228.5'	465.7'
SIDE (WEST)	25'	139.7'	207.3'
REAR (SOUTH)	35'	469.4'	480.9'

PARKING CALCULATIONS:
MANUF. USES - LESSER OF: 1 SPACE PER 1,000 SF. USABLE FLOOR AREA (UFA)= [(221,714+2,932+35,393) x 0.85] 221,033 SF. / 1000 = 221 SPACES
OR
1.2 SPACES PER EMPLOYEE IN LARGEST SHIFT = 1.2 x 100 EMPLOYEES = 120 SPACES
PLUS
1 SPACE PER COMPANY VEHICLE = 0 SPACES
PLUS
OFFICE USE : 1 SPACE PER 500 SF. OFFICE UFA = [(11,190+7,677) x 0.85] 16,037 SF. / 500 = 32 SPACES

TOTAL REQUIRED PARKING = 120 + 0 + 32 = 152 SPACES

TOTAL EXISTING/PROPOSED PARKING SPACES = 313 SPACES INC. 8 H/C SPACES

IMPERVIOUS COVERAGE:
MAXIMUM ALLOWED = 80%
EXISTING = 34%
AFTER ADDITION = 39%

SITE SOILS INFORMATION:
ACCORDING TO THE USDA NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY FOR WASHTENAW COUNTY, THE SITE CONSISTS OF THE FOLLOWING SOIL TYPES:

KENDALLVILLE LOAM, 2 TO 6 PERCENT SLOPES
MACOMB LOAM, 0 TO 4 PERCENT SLOPES
OWOSSO-MIAMI COMPLEX, 2 TO 6 PERCENT SLOPES
OWOSSO-MIAMI COMPLEX, 6 TO 12 PERCENT SLOPES
SEBEWA LOAM, DISINTEGRATION MORAINE, 0 TO 2 PERCENT SLOPES

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STATE OF MICHIGAN — ALAN D. BOYER — ENGINEER — No. 32017 — LICENSED PROFESSIONAL ENGINEER

NORTH

0 25 50 100
SCALE: 1" = 50'

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REVISIONS	
SITE PLAN	1/20/23

ORIGINAL ISSUE DATE:
JANUARY 20, 2023

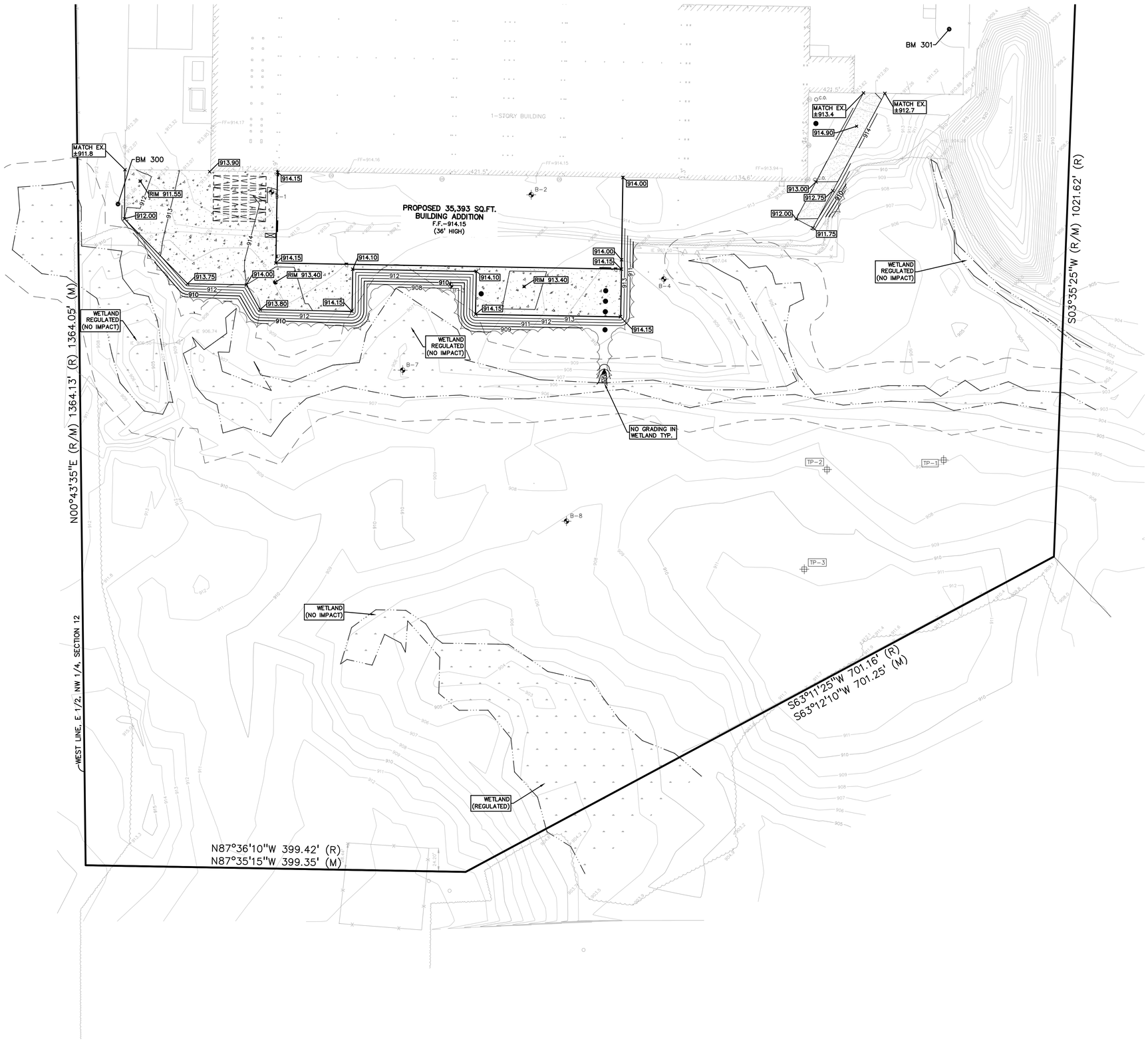
DRAWING TITLE
ENLARGED SITE PLAN

PEA JOB NO.	2022-0484
P.M.	EAI
DN.	SEP
DES.	EAI

DRAWING NUMBER:
C-3.1

NOT FOR CONSTRUCTION

\\peainc\proj\PROJECTS\2022-0484 GESTAMP ADDITION CHELSEA\CIVIL\CONSTRUCTION\C-3.1SITE-22-0484.dwg PLOT DATE: 1/20/2023 7:59 AM BY: Shannon Pugh



GRADING LEGEND:

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION: TYPICALLY TOP OF PAVEMENT IN PAVED AREAS, GUTTER GRADE IN CURB LINES.
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED REVERSE GUTTER PAN
- PROPOSED RIDGE LINE
- PROPOSED SWALE/DITCH
- INFILTRATION TEST PIT LOCATION DONE BY PEA GROUP, AUGUST 10, 2022
- SOIL BORING PIT LOCATION DONE BY PSI , NOVEMBER 8, 2016

ABBREVIATIONS

T/C = TOP OF CURB	G = GUTTER GRADE
T/P = TOP OF PAVEMENT	F.G. = FINISH GRADE
T/S = TOP OF SIDEWALK	RIM = RIM ELEVATION
T/W = TOP OF WALL	B/W = BOTTOM OF WALL

REFER TO GRADING NOTES ON SHEET C-7.1.

RETAINING WALL NOTE:

TOP OF WALL (T/W) AND BOTTOM OF WALL (B/W) GRADES ARE THE FINISH GRADE AT THE TOP AND BOTTOM OF THE RETAINING WALL, NOT ACTUAL TOP AND BOTTOM OF THE WALL STRUCTURE.

EARTHWORK BALANCING NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

BENCHMARKS
(GPS DERIVED – NAVD88)

BM #300
ARROW ON FIRE HYDRANT OFF THE THE WEST OF THE SOUTHWEST BUILDING CORNER.
ELEV. – 912.78

BM #301
SET MAG NAIL IN THE WEST SIDE OF CONCRETE LIGHT POLE BASE EAST OF BUILDING.
ELEV. – 912.71

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0 25 50 100
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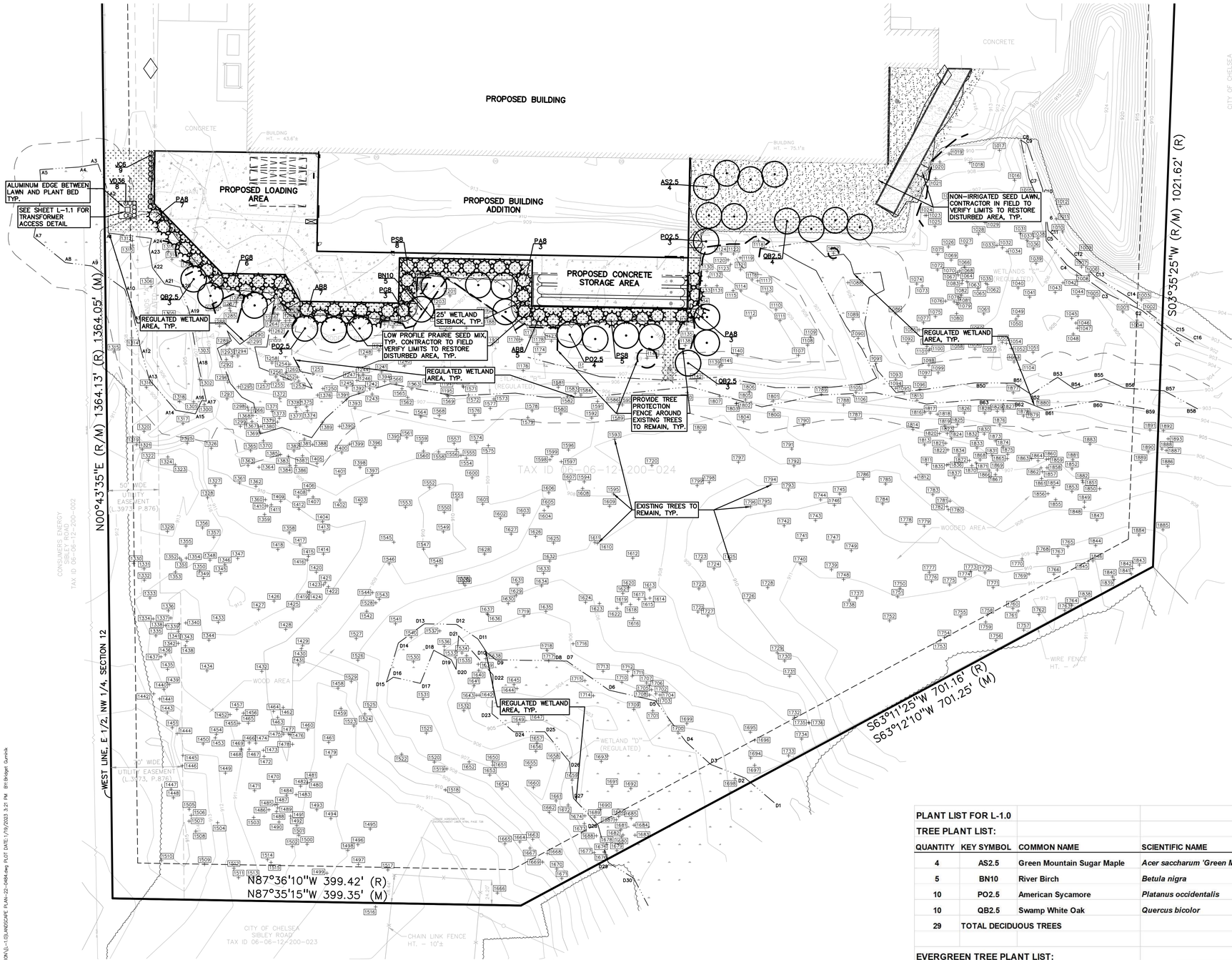
DRAWING TITLE
GRADING PLAN

PEA JOB NO.	2022-0484
P.M.	EAI
DN.	SEP
DES.	EAI

DRAWING NUMBER:
C-4.0

NOT FOR CONSTRUCTION



KEY

- = DECIDUOUS TREES
- = EVERGREEN TREES
- = DECIDUOUS SHRUBS
- = LOW-PROFILE PRAIRIE SEED MIX
- = RESTORE SEED LAWN
- (#2782) = EXISTING TREES TO REMAIN WITH TREE PROTECTION FENCE

SEE DETAIL SHEET L-1.1 FOR NATIVE SEED MIX INFORMATION AND LANDSCAPE DETAILS

LANDSCAPE CALCULATIONS:

PER CITY OF CHELSEA ZONING ORDINANCE

REPLACEMENT TREES
REQUIRED PER CITY ORDINANCE, REFER TO TREE PRESERVATION SHEETS FOR DETAILS

REQUIRED: 76 TREES

PROVIDED: 47 EVG TREES TO SERVE AS SCREENING AND 29 DEC TREES

GENERAL PLANTING NOTES:

1. LANDSCAPE CONTRACTOR SHALL VISIT SITE, INSPECT EXISTING SITE CONDITIONS AND REVIEW PROPOSED PLANTING AND RELATED WORK. IN CASE OF DISCREPANCY BETWEEN PLAN AND PLANT LIST, PLAN SHALL GOVERN QUANTITIES. CONTACT LANDSCAPE ARCHITECT WITH ANY CONCERNS.
2. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION ON HIS/HER PHASE OF WORK. ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION MAY BE LOCATED BY CALLING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF CONTRACTOR. CONTRACTOR SHALL COORDINATE ALL RELATED ACTIVITIES WITH OTHER TRADES ON THE JOB AND SHALL REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER'S REPRESENTATIVE PRIOR TO COMMENCING.
3. ALL PLANT MATERIAL TO BE PREMIUM GRADE NURSERY STOCK AND SHALL SATISFY AMERICAN ASSOCIATION OF NURSERYMEN STANDARD FOR NURSERY STOCK. ALL LANDSCAPE MATERIAL SHALL BE NORTHERN GROWN, NO. 1. GRADE.
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON LANDSCAPE PLAN PRIOR TO PRICING THE WORK.
5. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL NOT MEETING SPECIFICATIONS.
6. ALL SINGLE STEM SHADE TREES TO HAVE STRAIGHT TRUNKS AND SYMMETRICAL CROWNS.
7. ALL SINGLE TRUNK SHADE TREES TO HAVE A CENTRAL LEADER; TREES WITH FORKED OR IRREGULAR TRUNKS WILL NOT BE ACCEPTED.
8. ALL MULTI STEM TREES SHALL BE HEAVILY BRANCHED AND HAVE SYMMETRICAL CROWNS. ONE SIDED TREES OR THOSE WITH THIN OR OPEN CROWNS SHALL NOT BE ACCEPTED.
9. ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND, SYMMETRICAL IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
10. ALL TREES TO HAVE CLAY OR CLAY LOAM BALLS, TREES WITH SAND BALLS WILL BE REJECTED.
11. NO MACHINERY IS TO BE USED WITHIN THE DRIP LINE OF EXISTING TREES. HAND GRADE ALL LAWN AREAS WITHIN THE DRIP LINE OF EXISTING TREES.
12. ALL TREE LOCATIONS SHALL BE STAKED BY LANDSCAPE CONTRACTOR AND ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF THE PLANT MATERIAL.
13. IT IS MANDATORY THAT POSITIVE DRAINAGE IS PROVIDED AWAY FROM ALL BUILDINGS.
14. ALL PLANTING BEDS SHALL RECEIVE 3" SHREDDED HARDWOOD BARK MULCH WITH PRE EMERGENT. SEE SPECIFICATIONS. SHREDDED PALETTE AND DYED MULCH WILL NOT BE ACCEPTED.
15. ALL LANDSCAPED AREAS SHALL RECEIVE 3" COMPACTED TOPSOIL.
16. SEE SPECIFICATIONS FOR ADDITIONAL COMMENTS, REQUIREMENTS, PLANTING PROCEDURES AND WARRANTY STANDARDS.
17. FOR NON-LAWN SEED MIX AREAS, AS NOTED ON PLAN, BRUSH MOW ONCE SEASONALLY FOR INVASIVE SPECIES CONTROL.
18. CONTRACTOR SHALL NOT INSTALL PLANTS UNDER BUILDING OVERHANG AND SHALL NOTIFY LANDSCAPE ARCHITECT IF DRAWINGS CONFLICT WITH BUILDING OVERHANGS.
19. TREES SHALL NOT CONFLICT/ BLOCK PROPOSED REGULATORY/ DIRECTION SIGNAGE, MONUMENT SIGNS, ADDRESS OR LIGHT POLES. SHIFT TREES AS NECESSARY TYP.
20. USE OF FERTILIZERS ALONG THE SIDE SLOPES OR WITHIN THE STORMWATER BASIN IS PROHIBITED.

PLANT LIST FOR L-1.0					
TREE PLANT LIST:					
QUANTITY	**KEY SYMBOL**	**COMMON NAME**	**SCIENTIFIC NAME**	**SIZE**	**SPEC**
4	AS2.5	Green Mountain Sugar Maple	*Acer saccharum 'Green Mountain'*	2.5" Cal.	B&B
5	BN10	River Birch	*Betula nigra*	10' Ht.	B&B
10	PO2.5	American Sycamore	*Platanus occidentalis*	2.5" Cal.	B&B
10	QB2.5	Swamp White Oak	*Quercus bicolor*	2.5" Cal.	B&B
29	TOTAL DECIDUOUS TREES				
EVERGREEN TREE PLANT LIST:					
QUANTITY	**KEY SYMBOL**	**COMMON NAME**	**SCIENTIFIC NAME**	**SIZE**	**SPEC**
12	AB8	Balsam Fir	*Abies balsamea*	8' Ht.	B&B
13	PA8	Norway Spruce	*Picea abies*	8' Ht.	B&B
9	PG8	Black Hills Spruce	*Picea glauca 'Densata'*	8' Ht.	B&B
13	PS8	Eastern White Pine	*Pinus strobus*	8' Ht.	B&B
47	TOTAL EVERGEEN TREES				
SHRUB PLANT LIST:					
QUANTITY	**KEY SYMBOL**	**COMMON NAME**	**SCIENTIFIC NAME**	**SIZE**	**SPEC**
9	JC6	Keteleer Juniper	Juniperus chinensis 'Keteleeri'	6' Ht.	B&B
8	VD36	Blue Muffin Viburnum	*Viburnum dentatum 'Christom'*	36" Ht.	Cont.
17	TOTAL SHRUBS				

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PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN — JANET L. EVANS — LANDSCAPE ARCHITECT — NO. 1300 — REGISTERED LANDSCAPE ARCHITECT

NORTH

0 25 50 100
SCALE: 1" = 50'

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CAUTION!!
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CLIENT
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
GESTAMP
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CHELSEA, MICHIGAN 48118

REVISIONS	
SITE PLAN	1/20/23

ORIGINAL ISSUE DATE:
JANUARY 20, 2023

DRAWING TITLE
LANDSCAPE PLAN

PEA JOB NO.	2022-0484
P.M.	EAI
DN.	BGG
DES.	JLE

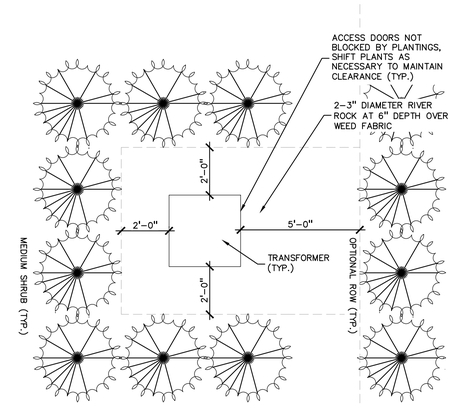
DRAWING NUMBER:
L-1.0

\\peainc\pea\PROJECTS\2022\2022-0484 GESTAMP ADDITION CHELSEA\DWG\CONSTRUCTION\L-1.0_LANDSCAPE PLAN-22-0484.dwg PLOT DATE: 1/19/2023 3:21 PM BY: Bridget Gumina

Low-profile Prairie Seed Mix
Stantec Native Plant Nursery 574-586-2412
stantec.com/native-plant-nursery

Botanical Name	Common Name
Permanent Grasses:	
Bouteloua curtipendula	Side Oats Grama
Carex spp.	Prairie Carex Mix
Elymus canadensis	Canada Wild Rye
Koeleria pyramidata	June Grass
Panicum virgatum	Switch Grass
Schizachyrium scoparium	Little Bluestem
Temporary Cover:	
Avena sativa	Common Oat
Lolium multiflorum	Annual Rye
Forbs:	
Amorpha canescens	Lead Plant
Anemone cylindrica	ThimbleWeed
Asclepias syriaca	Common Milkweed
Asclepias tuberosa	Butterfly MilkWeed
Baptisia alba	White Wild Indigo
Chamaecrista fasciculata	Partridge Pea
Coreopsis lanceolata	Sand Coreopsis
Coreopsis palmata	Prairie Coreopsis
Dalea candida	White Prairie Clover
Dalea purpurea	Purple Prairie Clover
Desmanthus illinoensis	Illinois Sensitive Plant
Echinacea purpurea	Broad-Leaved Purple Coneflower
Eryngium yuccifolium	Rattlesnake Master
Lespedeza capitata	Round-Head Bush Clover
Liatris aspera	Rough Blazing Star
Lupinus perennis	Wild Lupine
Monarda fistulosa	Wild Bergamot
Oligoneuron rigidum	Stiff Goldenrod
Parthenium integrifolium	Wild Quinine
Penstemon digitalis	Foxglove Beard Tongue
Penstemon hirsutus	Hairy Beard Tongue
Pycnanthemum virginianum	Common Mountain Mint
Ratibida pinnata	Yellow Coneflower
Rudbeckia hirta	Black-Eyed Susan
Rudbeckia subtomentosa	Sweet Black-Eyed Susan
Silphium terebinthinaceum	Prairie Dock
Solidago speciosa	Showy Goldenrod
Symphyotrichum ericoides	Heath Aster
Symphyotrichum laeve	Smooth Blue Aster
Symphyotrichum novae-angliae	New England Aster
Tradescantia ohiensis	Common Spiderwort
Verbena stricta	Hoary Vervain
Vernonia spp.	Ironweed (Various Mix)
Veronicastrum virginicum	Culvers Root

FOR ALL SEED MIXES, PROVIDE EROSION MAT ON SLOPES AND AREAS OF WASH OUT TYP. INSTALL AND PREP PER MANUFACTURES SPECIFICATIONS.



6 TRANSFORMER SCREENING DETAIL
SCALE: 1" = 3'–0"

TREE PROTECTION WILL BE ERECTED PRIOR TO START OF CONSTRUCTION ACTIVITIES AND SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE

NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN, INCLUDING, BUT NOT LIMITED TO PLACING SOLVENTS, BUILDING MATERIAL, CONSTRUCTION EQUIPMENT OR SOIL DEPOSITS WITHIN DRIP LINES

GRADE CHANGES MAY NOT OCCUR WITHIN THE DRIP LINE OF PROTECTED TREES

DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY REMAINING TREE

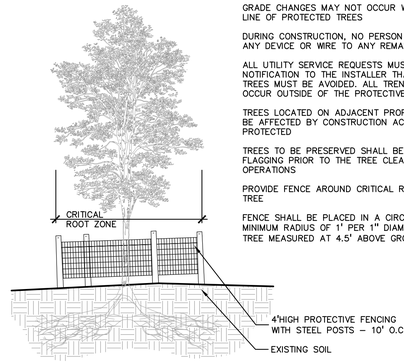
ALL UTILITY SERVICE REQUESTS MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING

TREES LOCATED ON ADJACENT PROPERTY THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED

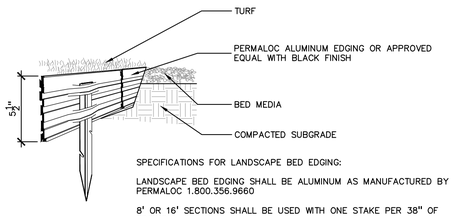
TREES TO BE PRESERVED SHALL BE IDENTIFIED WITH FLAGGING PRIOR TO THE TREE CLEARING OPERATIONS

PROVIDE FENCE AROUND CRITICAL ROOT ZONE OF TREE

FENCE SHALL BE PLACED IN A CIRCLE WITH A MINIMUM RADIUS OF 1' PER 1" DIAMETER OF THE TREE MEASURED AT 4.5' ABOVE GROUND



3 TREE PROTECTION DETAIL
SCALE: 1" = 3'–0"



SPECIFICATIONS FOR LANDSCAPE BED EDGING:

LANDSCAPE BED EDGING SHALL BE ALUMINUM AS MANUFACTURED BY PERMALOC 1.800.356.9660

8' OR 16' SECTIONS SHALL BE USED WITH ONE STAKE PER 38" OF EDGING

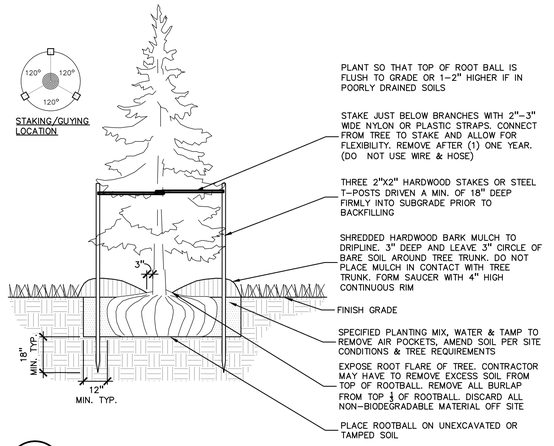
EDGING SHALL BE $\frac{3}{16}$" THICK X 4" DEPTH WHEN ADJ. TO MULCH AND $\frac{3}{16}$" THICK X 5 $\frac{1}{2}$" DEPTH WHEN ADJ. TO ROCK, FINISH: BLACK DURAFLEX MEETING AAMA 2603

STAKE SHALL SECURELY ENGAGE EDGING AND SHALL BE ENTIRELY BELOW TOP SURFACE OF EDGING

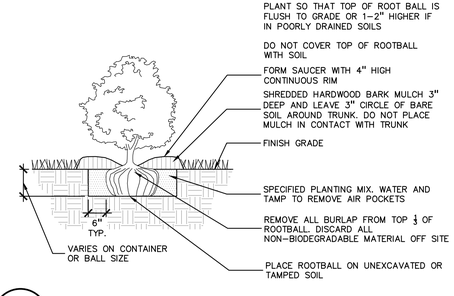
EDGING SHALL HAVE A MINIMUM OF 2" OF INTERLOCKING OVERLAP BETWEEN SECTIONS

INSTALL AS PER MANUFACTURER'S SPECIFICATIONS WITH TOP OF EDGING $\frac{1}{2}$"–1" ABOVE COMPACTED FINISH GRADE. FINISH GRADE TO BE COMPACTED ON BOTH SIDES OF EDGING TO MAINTAIN STABILITY

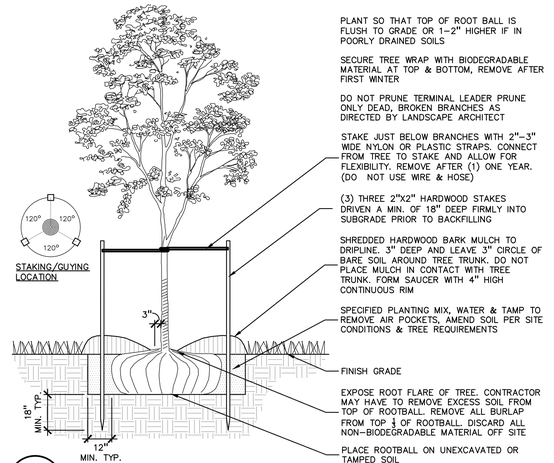
5 ALUMINUM EDGE DETAIL
SCALE: 1/2" = 1'–0"



2 EVERGREEN TREE PLANTING DETAIL
SCALE: 1" = 3'–0"



4 SHRUB PLANTING DETAIL
SCALE: 1" = 2'–0"



1 DECIDUOUS TREE PLANTING DETAIL
SCALE: 1" = 3'–0"

PEA GROUP
t: 844.813.2949
www.peagroup.com

STATE OF MICHIGAN
JANET L. EVANS
LANDSCAPE ARCHITECT
No. 1390
REGISTERED LANDSCAPE ARCHITECT

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REVISIONS	
SITE PLAN	1/20/23

ORIGINAL ISSUE DATE:
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DRAWING TITLE
LANDSCAPE DETAILS

PEA JOB NO.	2022-0484
P.M.	EI
DN.	BGG
DES.	JLE

DRAWING NUMBER:
L-1.1

NOT FOR CONSTRUCTION

GENERAL LANDSCAPING REQUIREMENTS

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. General procedures and requirements for Site Work.

2.0 PRODUCTS – Not Used

3.0 EXECUTION

3.1 PREPARATION

3.1.1 Protection

1. Spillage:

A. Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways.

B. Remove spillage and sweep, wash, or otherwise clean project, streets, and highways.

2. Erosion Control:

A. Take precautions necessary to prevent erosion and transportation of soil downstream, to adjacent properties, and into on–site or off–site drainage systems.

B. Develop, install, and maintain an erosion control plan if required by law.

C. Repair and correct damage caused by erosion.

3. Existing Plants And Features:

A. Do not damage tops, trunks, and roots of existing trees and shrubs on site which are intended to remain.

B. Do not use heavy equipment within branch spread. Interfering branches may be removed only with permission of Landscape Architect.

C. Do not damage other plants and features which are to remain.

3.1.2 If specified precautions are not taken or corrections and repairs made promptly, Owner may take such steps as may be deemed necessary and deduct costs of such from monies due to Contractor. Such action or lack of action on Owner's part does not relieve Contractor from responsibility for proper protection of the Work.

END OF SECTION

LANDSCAPING PREPARATION

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. General landscape work requirements.

1.2 QUALITY ASSURANCE

1.2.1 Comply with all applicable local, state and federal requirements, regarding materials, methods of work, and disposal of excess and waste materials.

1.2.2 Obtain and pay for all required inspections, permits, and fees.

1.2.3 Provide notices required by governmental authorities.

1.3 PROJECT CONDITIONS

1.3.1 Locate and identify existing underground and overhead services and utilities within contract limit work areas. (Call Miss Dig: 1–800–482–7171 in Michigan).

1.3.2 Provide adequate means to protect utilities and services designated to remain.

1.3.3 Repair utilities damaged during site work operations at Subcontractor's expense.

1.3.4 When uncharted or incorrectly charted underground piping or other utilities and services are encountered during site work operations, notify the applicable utility company immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active services in operation.

1.3.5 Locate, protect, and maintain benchmarks, monuments, control points and project engineering reference points. Re–establish disturbed or destroyed items at Subcontractor's expense.

1.3.6 Perform landscape work operations and the removal of debris and materials to assure minimum interference with streets, walks, and other adjacent facilities.

1.3.7 Obtain governing authorities' written permission when required to close or obstruct streets, walks and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways when required by governing authorities.

1.3.8 Protect and maintain street lights, utility poles and services, traffic signal control boxes, curb boxes, valves and other services, except items designated for removal.

1.3.9 The General Contractor will occupy the premises and adjacent facilities during the entire period of construction. Perform landscape work operations to minimize conflicts and to facilitate General Contractor's use of the premises and conduct of his normal operations.

1.3.10 Perform landscape preparation work before commencing landscape construction.

1.3.11 Provide necessary barricades, coverings and protection to prevent damage to existing improvements indicated to remain.

1.3.12 Protect existing trees scheduled to remain against injury or damage including cutting, breaking or skinning of roots, trunks or branches, smothering by stockpiled construction materials, excavated materials or vehicular traffic within branch spread.

2.0 PRODUCTS

2.1 MATERIALS/EQUIPMENT

2.1.1 As selected by the General Contractor, except as indicated.

1. Tree protection:

A. Wood fencing – Snow fencing 4' height.

B. Posts – Steel fence post.

C. Herbicide for lawn restoration – "Round–up" by Monsanto.

3.0 EXECUTION

3.1 EXISTING UTILITIES

3.1.1 Call "MISS DIG" 811 before construction begins. Information on the drawings related to existing utility lines and services is from the best sources presently available. All such information is furnished only for information and is not guaranteed. Excavate test pits as required to determine exact locations of existing utilities.

3.2 CLEARING

3.2.1 Locate and suitably identify trees and improvements indicated to remain.

3.2.2 Fencing/soil erosion fence is to be installed.

3.2.3 Any equipment that compacts the soil in the areas of existing trees is not allowed.

3.2.4 Protect trees scheduled to remain with 4' high snow fence per plans.

3.2.5 No vehicular traffic is permitted beneath drip line at any time. All lawn areas are to be worked by hand.

3.2.6 Clear and grub areas within contract limits as required for site access and execution of the work.

3.2.7 Remove trees, plants, undergrowth, other vegetation and debris, except items indicated to remain.

3.2.8 Treat planting and lawn areas as required with herbicide per manufacturer recommendations to kill existing vegetation prior to planting, seeding and sodding.

3.2.9 Remove stumps and roots to a clear depth of 36" below subgrades. Remove stumps and roots to their full depth within 5'0" of underground structures, utility lines, footings, and paved areas.

3.3 DISPOSAL OF WASTE MATERIALS

3.3.1 Stockpile, haul from site and legally dispose of waste materials and debris. Accumulation is not permitted.

3.3.2 Maintain disposal routes, clear, clean and free of debris.

3.3.3 On site burning of combustible cleared materials is not permitted.

3.3.4 Upon completion of landscape preparation work, clean areas within contract limits, remove tools and equipment. Site to be clear, clean and free of materials and debris and suitable for site work operations.

3.3.5 Materials, items and equipment not scheduled for reinstallation or salvaged for the General Contractor are the property of the Landscape Contractor. Remove cleared materials from the site as the work progresses. Storage and sale of Landscape Contractors salvage items on site is not permitted.

END OF SECTION

FINISH GRADING AND TOPSOIL PLACEMENT

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. Perform finish grading and topsoil placement required to prepare site for installation of landscaping as described in Contract Documents.

1.2 SUBMITTALS

1.2.1 Quality Assurance

1. Submit test on imported topsoil and on site stockpiled topsoil by independent licensed testing laboratory prior to use. Imported topsoil shall meet minimum specified requirements and be approved by Landscape Architect prior to use.

2. Provide and pay for testing and inspection during topsoil operations. Laboratory, inspection services, and Soils Engineer shall be acceptable to the Landscape Architect.

3. Submit report stating location of source of imported topsoil and account of recent use.

4. Test for pH factor, mechanical analysis, and percentage of organic content.

5. Submit test reports to General Contractor.

6. Sub–Contractor, or testing agency to make recommendations on type of quantity of additives required to establish satisfactory pH factor and supply of nutrients to bring nutrients to satisfactory level for planting.

1.3 QUALITY ASSURANCE

1.3.1 Participate in pre–installation meeting with Landscape Architect.

1.4 PROJECT CONDITIONS

1.4.1 Also see Landscape Preparation Section.

1.4.2 Protect existing trees, plants, lawns, and other features designated to remain as part of the landscaping work.

1.4.3 Promptly repair damage to adjacent facilities caused by topsoil operations. Cost of repair at Subcontractor's expense.

1.4.4 Promptly notify the General Contractor and Landscape Architect of unexpected subsurface conditions.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Topsoil: supplied and stockpiled topsoil proposed for use must meet the testing criteria results specified. Topsoil must conform to adjustments and recommendations from the soil test and by the Landscape Architect.

2.1.2 Existing topsoil: existing topsoil from on–site stockpile shall be utilized. All processing, cleaning, and preparation of this stored topsoil to render it acceptable for use is the responsibility of the Subcontractor.

2.1.3 Provide additional topsoil as required to complete the job. Topsoil must meet testing criteria results specified.

2.1.4 All processing, cleaning, and preparation of this supplied topsoil to render it acceptable for use is the responsibility of the Subcontractor.

2.1.5 Supplied and stockpiled topsoil, shall be fertile, friable, dark in color and representative of local productive soil, capable of sustaining vigorous plant growth and free of clay lumps, subsoil, noxious weeds or other foreign matter such as stones of 1" in any dimension, roots, sticks, and other extraneous material: not frozen or muddy. PH of soil range between 5.0 and 7.5

2.1.6 Soil shall not contain more than 2 percent of particles measuring over 2.0 mm in largest size

2.1.7 Prepared topsoil shall be used in planting mixtures as specified in Trees, Plants, and Ground Cover; all beds prepared as specified.

3.0 EXECUTION

3.1 EXAMINATION

3.1.1 Do not commence work of this Section until grading tolerances specified are met.

3.2 PREPARATION

3.2.2 Prior to grading, dig out weeds from planting areas by their roots and remove from site. Before placing top soil in landscape areas, remove rocks larger than 1 inch in any dimension and foreign matter such as building rubble, wire, cans, sticks, concrete, etc.

3.2.3 Prior to placing topsoil, remove any imported base material present in planting areas down to natural subgrade or other material acceptable to Landscape Architect.

3.3 PERFORMANCE

3.3.1 Site Tolerances

1. Total Topsoil Depth –

A. Lawn And Groundcover Planting Areas – 3 inches minimum compacted.

B. Shrub Planting Areas – 12 inches minimum throughout entire shrub bed area.

2. Elevation of topsoil relative to walks or curbs –

A. Seeded Lawn Areas – 1/4 inch below

B. Sodded Lawn Areas – 1 1/2 inches below

C. Shrub And Ground Cover Areas – 3 inches below

3.3.2 Do not expose or damage existing shrub or tree roots.

3.3.3 Redistribute approved existing top soil stored on site as a result of rough grading. Remove organic material, rocks and clods greater than 1 inch in any dimension, and other objectionable materials. Provide additional approved imported topsoil required for specified topsoil depth and bring surface to specified elevation relative to walk or curb.

3.3.4 For trees, shrubs, ground cover beds and plant mix for beds see Exterior Plants section.

3.3.5 Provide earth berming where indicated on Plans.

3.3.6 Berming to be free flowing in shape and design, as indicated, and to blend into existing grades gradually so that the toe of slope is not readily visible. Landscape Architect or General Contractor's representative to verify final contouring before planting.

3.3.7 Regardless of finish grading elevations indicated, it is intended that grading be such that proper drainage of surface water away from buildings will occur and that no low areas are created to allow ponding. Subcontractor to consult the General Contractor and Landscape Architect regarding variations in grade elevations before rough grading is completed.

3.3.8 Slope grade away from building for 12 feet minimum from walls at slope of 1/2 inch per ft minimum unless otherwise noted. High point of finish grade at building foundation shall be 6 inches minimum below finish floor level. Direct surface drainage in manner indicated on Drawings by molding surface to facilitate natural run–off of water. Fill low spots and pockets with top soil and grade to drain properly.

3.3.9 Rake all topsoil to remove clods, rocks, weeds, and debris.

3.3.10 Grade and shape area to bring surface to true uniform planes free from irregularities and to provide proper drainage and slopes per plans.

3.4 CLEANING

3.4.1 Upon completion of topsoil operations, clean areas within contract limits, remove tools, equipment, and haul all excess topsoil off–site. Site shall be clear, clean, free of debris, and suitable for site work operations.

END OF SECTION

LAWN SEEDING

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. Furnish and install seeded lawn as described in Contract Documents.

1.2 SUBMITTALS

1.2.1 Submit seed vendor's certification for required grass seed mixture, indicating percentage by weight, and percentage of purity, germination, and weed seed for each grass species.

1.3 DELIVERY AND STORAGE

1.3.1 Deliver seed and fertilizer materials in original unopened containers, showing weight, analysis, and name of manufacturer. Store in a manner to prevent wetting and deterioration.

1.4 PROJECT CONDITIONS

1.4.1 See landscape preparation section.

1.4.2 Work notification: Notify Landscape Architect of General Contractor's representative at least seven (7) working days prior to start of seeding operation.

1.4.3 Protect existing utilities, paving, and other facilities from damage caused by seeding operations.

1.4.4 Perform seeding work only after planting and other work affecting ground surface has been completed.

1.4.5 Provide hose and lawn watering equipment as required.

1.4.6 The irrigation system will be installed prior to seeding. Locate, protect, and maintain the irrigation system during seeding operations. Repair irrigation system components damaged during seeding operations at the Sub–Contractor's expense.

1.5 WARRANTY

1.5.1 See Landscape Maintenance and Warranty Section

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Topsoil for Seeded Areas: See Topsoil Placement and Drawings.

2.1.2 Lawn seeded areas: Fresh, clean and new crop seed mixture. Mixed by approved methods.

2.1.3 Seed mixture composed of the following varieties, mixed to the specified proportions by weight and tested to minimum percentages of purity and germination.

2.1.4 Irrigated Lawn Seed Mixture proportioned by volume as indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Kentucky Bluegrass	50%	90%	75%
Penn Lawn Fescue	30%	95%	80%
Annual Ryegrass	20%	95%	80%

2.1.5 Non–Irrigated Seed Mixture proportioned by volume as indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Penn Lawn Fescue	60%	90%	85%
Kentucky 28# Common Bluegrass	20%	90%	90%
Pennfine Perennial Rye	20%	90%	90%

2.1.6 Fertilizer: granular, non burning product composed of not less that 50% organic slow acting, guaranteed analysis professional fertilizer.

2.1.7 Ground Limestone: Used if required by soil test report: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20% mesh sieve.

2.1.8 Straw Mulch: Used in crimping process only. Clean oat or wheat straw well seasoned before baling, free from mature seed–bearing status, or roots of prohibited or noxious weeds.

2.1.9 Water: Free of substance harmful to seed growth. Hoses or other methods to transpiration furnished by Sub Contractor.

3.0 EXECUTION

3.1 INSPECTION

3.1.1 Landscape Architect or General Contractor's representative must approve finish surfaces, grades, topsoil quality and depth. Do not start seeding work until unsatisfactory conditions are corrected.

3.2 PREPARATION

3.2.1 SURFACE PREPARATION

1. Seven days maximum prior to seeding, –

A. Treat Lawn areas if required with "Round–Up" by Monsanto, per label direction to kill existing vegetation prior to seeding.

B. Loosen topsoil areas to minimum depth of 4", dampen thoroughly, and cultivate to properly break up clods and lumps.

C. Rake area to remove clods, rocks, weeds, roots, debris, and stones over 1" in any dimension.

D. Grade lawn areas to smooth, free draining even surface with a loose, moderately coarse texture. Roll and rake, remove ridges, and fill depressions as required to drain.

E. Apply limestone to supplied topsoil if required by soil test report at rate determined by the soil test, to adjust pH of topsoil to not less than 6.0 no more that 6.8. Distribute evenly by machine and incorporate thoroughly into topsoil.

F. Apply fertilizers to indicated turf areas at a rate equal to 1 lb. of actual nitrogen 1,000 sq. ft. (43 lbs / acre).

G. Apply fertilizers by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 1" by approved method. Fertilize areas inaccessible to power equipment with hand tools and incorporate into soil.

H. After lawn areas have been prepared, take no heavy objects over them except lawn rollers.

I. After preparation of lawn areas and with topsoil in semi–dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs according to soil type.

J. Rake or scarify and cut or fill irregularities that develop as required until area is true and uniform, free from lumps, depressions, and irregularities.

K. Restore prepared areas to specified condition if eroded, settled or otherwise disturbed after fine grading and prior to seeding.

3.3 INSTALLATION

3.3.1 SEEDING

1. Seed lawns only between April 1, and June 1, and fall seeding between August 15, and October 15, or at such other times acceptable to Landscape Architect.

2. Seed immediately after preparation of bed. Seed indicated areas within contract Limits and areas adjoining contract limits disturbed as a result of construction operations.

3. Perform seeding operations when the soil is dry and when the winds do not exceed five(5) miles per hour velocity.

4. Apply seed with a rotary or drop type distributor. Install seed evenly by sowing equal quantities in two (2) directions, at right angles to each other.

5. Sow seed at a rate of 300 lbs./acre.

6. After seeding, rake or drag surface of soil lightly to incorporate seed into top 1/8" of soil. Roll with light lawn roller.

7. Provide soil erosion planting mat where grade conditions required to stabilize the planting area.

3.3.2 HYDRO–SEEDING

1. Hydro–seeding: The application of grass seed and a wood cellulose fiber mulch tinted green shall be accomplished in one operation by use of an approved spraying machine.

A. Mix seed, fertilizer, and wood cellulose fiber in required amount of water to produce a homogeneous slurry. Add wood cellulous fiber after seed, water, and fertilizer have been thoroughly mixed and apply at the rate of 200 pounds per acre dry weight.

B. For hydro–seeding, wood cellulose fiber shall be used. Silva–Fiber Mulch by Weyerhaeuer Company, Tacoma, WA (800–443–9179).

C. Hydraulically spray material on ground to form a uniform cover impregnated with grass seed.

D. Immediately following application of slurry mix, make separate application of wood cellulose mulch at the rate of 1,000 pounds, dry weight, per acre.

E. Apply cover so that rainfall or applied water will percolate to underlying soil.

3.3.3 MULCHING

1. Place straw mulch on seeded areas within 24–hours after seeding.

2. Place straw mulch uniformly in a continuous blanket at a rate of 2–1/2 tons per acre, or two (2) 50 lb. bales per 1,000 sq. ft. of area. A mechanical blower may be used for straw mulch application when acceptable to the Landscape Architect.

3. Crimp straw into soil by use of a "crimper". Two passes in alternate direction required. Alternative methods on areas too small for crimper must be approved by the Landscape Architect or Owner's Representative.

3.3.3 ESTABLISH LAWN

1. Establish dense lawn of permanent grasses, free from lumps and depressions. Any area failing to show uniform germination to be reseeded; continue until dense lawn established.

2. Damage to seeded area resulting from erosion to be repaired by Sub Contractor.

3. In event Sub Contractor does not establish dense lawn during first germination period, return to project to refertilize and reseed to establish dense lawn.

4. Should the seeded lawn become largely weeds after germination, Sub Contractor is responsible to kill the weeds and reseed the proposed lawn areas to produce a dense turf, as specified.

3.4 CLEANING

3.4.1 Perform Cleaning during installation of the work and upon completion of the work to the approval of the Landscape Architect. Remove from site all excess materials, debris, and equipment. Repair damage resulting from seeding operations.

3.5 MAINTENANCE

3.5.1 See Landscape Maintenance and Warranty Section.

3.6 ACCEPTANCE

3.6.1 See Landscape Maintenance and Warranty Section.

END OF SECTION

LAWN SODDING

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. Furnish and install sodded lawn as described in Contract Documents.

1.2 QUALITY ASSURANCE

1.2.1 Sod: Comply with American Sod Producers Association (ASPA) classes of sod materials.

1.3 SUBMITTALS

1.3.1 Submit sod growers certification of grass species. Identify source location.

1.3.2 Submit manufacturer's certification of fertilizer.

1.4 DELIVERY, STORAGE, AND HANDLING

1.4.1 Cut, deliver, and install sod within 24 hour period.

1.4.2 Do not harvest or transport sod when moisture content may adversely affect sod survival.

1.4.3 Protect sod from sun, wind, and dehydration prior to installation. Do not tear, stretch, or drop sod during handling and installation.

1.4.4 Sod which dries out before installation will be rejected.

1.5 PROJECT CONDITIONS

1.5.1 See Landscape Preparation section.

1.5.2 Work notification: Notify Landscape Architect or General Contractor's representative at least seven (7) working days prior to start of sodding operation.

1.5.3 Protect existing utilities, paving, and other facilities from damage caused by sodding operations.

1.5.4 Perform sodding work only after planting and other work affecting ground surface has been completed.

1.5.5 Restrict traffic from lawn areas until grass is established. Erect signs and barriers as required.

1.5.6 Provide hose and lawn watering equipment as required.

1.5.7 The irrigation system will be installed prior to sodding. Locate, protect, and maintain the irrigation system during sodding operations. Repair irrigation system components damaged during sodding operations at the Subcontractor's expense.

1.6 WARRANTY

1.6.1 See Landscape Maintenance and Warranty Section.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Sod: An "approved" nursery grown blend of improved Kentucky Bluegrass varieties.

2.1.2 Sod containing Common Bermudagrass, Quackgrass, Johnsongrass, Poison Ivy, Nutsedge, Nimblewill, Canada Thistle, Timothy, Bentgrass, Wild Garlic, Ground Ivy, Perennial Sorrel, or Bramegrass weeds will not be acceptable.

2.1.3 Provide well rooted, healthy sod, free of diseases, nematodes and soil borne insects. Provide sod uniform in color, leaf texture, density, and free of weeds, undesirable grasses, stones, roots, thatch, and extraneous material; viable and capable of growth and development when planted.

2.1.4 Furnish sod, machine stripped in square pads or strips not more than 3'–0" long; uniformly 1" to 1–1/2" thick with clean cut edges. Mow sod before stripping.

2.1.5 Fertilizer: granular, non burning product composed of not less that 50% organic slow acting, guaranteed analysis professional fertilizer.

2.1.6 Type A: starter fertilizer containing 20% nitrogen, 12% phosphoric acid, and 8% potash by by weight or similar approved composition.

2.1.7 Ground Limestone: Used if required by soil test report: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20% mesh sieve.

2.1.8 Stakes: softwood, 3/4" x 8" long.

2.1.9 Water: Free of substance harmful to seed growth. Hoses or other methods to transpiration furnished by Sub Contractor.

2.1.10 Topsoil: see Topsoil Placement section.

3.0 EXECUTION

3.1 INSPECTION

3.1.1 Landscape Architect or General Contractor's representative must approve finish surfaces, grades, topsoil quality and depth. Do not start sodding work until unsatisfactory conditions are corrected.

3.2 PREPARATION

3.2.1 Surface Preparation:

1. Seven days maximum prior to sodding, –

a. Treat Lawn areas if required with herbicide per manufacturer recommendations to kill existing vegetation prior to sodding.

b. Loosen topsoil areas to minimum depth of 4", dampen thoroughly, and cultivate to properly break up clods and lumps.

c. Rake area to remove clods, rocks, weeds, roots, debris, and stones over 1" in any dimension.

d. Grade lawn areas to smooth, free draining even surface with a loose, moderately coarse texture. Roll and rake, remove ridges, and fill depressions as required to drain.

e. Apply limestone to supplied topsoil if required by soil test report at rate determined by the soil test, to adjust pH of topsoil to not less than 6.0 no more that 6.8. Distribute evenly by machine and incorporate thoroughly into topsoil.

f. Apply fertilizers to indicated turf areas at a rate equal to 1 lb. of actual nitrogen 1,000 sq. ft. (43 lbs / acre).

g. Apply fertilizers by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 1" by approved method. Fertilize areas inaccessible to power equipment with hand tools and incorporate into soil.

h. After lawn areas have been prepared, take no heavy objects over them except lawn rollers.

i. After preparation of lawn areas and with topsoil in semi–dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs.

j. Rake or scarify and cut or fill irregularities that develop as required until area is true and uniform, free from lumps, depressions, and irregularities.

k. Restore prepared areas to specified condition if eroded, settled or otherwise disturbed after fine grading and prior to sodding.

l. Dampen dry soil prior to sodding.

3.3 INSTALLATION

3.3.1 Sodding:

1. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips. Do not overlay edges. Stagger strips to offset joints in adjacent course. Remove excess sod to avoid othering of adjacent grass. Provide sod pad top flush with adjacent curbs, sidewalks, drains, and seeded areas.

2. Do not lay dormant sod or install sod on saturated, frozen soil.

3. Install initial row of sod in a straight line, beginning at the bottom of slopes, perpendicular to direction of the sloped area. Place subsequent rows parallel to and lightly against previously installed row.

4. Peg sod on slopes greater than 3 to 1 or in centerline of swales to prevent slippage at a rate of 2 stakes per yard of sod.

5. Water sod thoroughly with a fine spray immediately after laying to obtain moisture penetration through sod into top 4 inches of topsoil.

6. Roll with light lawn roller in two directions perpendicular to each other to ensure contact with sub grade.

7. Install sod at indicated areas within contract limits and areas adjoining contract limits disturbed as a result of construction operations.

8. Damage to sodded area resulting from erosion to be repaired by Subcontractor.

3.4 CLEANING

3.4.1 Perform Cleaning during installation of the work and upon completion of the work to the approval of the Landscape Architect. Remove from site all excess materials, debris, and equipment. Repair damage resulting from sodding operations.

3.5 MAINTENANCE

3.5.1 See Landscape Maintenance and Warranty Section.

3.6 ACCEPTANCE

3.6.1 See Landscape Maintenance and Warranty Section.

END OF SECTION

NOT FOR CONSTRUCTION

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JANET L. EVANS
LANDSCAPE ARCHITECT
NO. 1300
REGISTERED
LANDSCAPE ARCHITECT

811 Know what's below. Call before you dig.

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY AND ARE NOT GUARANTEED TO BE EXACT OR PROCESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

REVISIONS

SITE PLAN	10/31/22
REVISED PER CITY COMMENTS	11/22/22

ORIGINAL ISSUE DATE:
OCTOBER 31, 2022

DRAWING TITLE
LANDSCAPE SPECIFICATIONS

PEA JOB NO.	2022-0484
P.M.	EI
DN.	BGG
DES.	JLE

DRAWING NUMBER:
L-2.1

EXTERIOR PLANTS

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. Furnish and install landscaping plants as described in Contract Documents.

1.2 QUALITY ASSURANCE

1.2.1 Plant names indicated, comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.

1.2.2 Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensioned as it stands in its natural position.

1.2.3 All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of two years.

1.2.4 Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional charge. Larger plants shall not be cut back to size indicated.

1.2.5 Provide "specimen" plants with a special height, shape, or character of growth. Landscape Subcontractor is to tag specimen trees or shrubs at the source of supply. The Landscape Subcontractor shall inspect all plant material at source prior to Landscape Architect's approval. Landscape Subcontractor shall accompany Landscape Architect on final selection trip. The Landscape Architect will inspect specimen selections for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.

1.2.6 Plants may be inspected and approved at the place of growth for compliance with specification requirements for quality, size, and variety.

1.2.7 Approval of plant selection at the place of growth shall not impair the right of inspection and rejection upon delivery at the site or during progress of the work.

1.2.8 Provide percolation testing by filling plant pits with water and monitoring length of time for water to completely percolate into soil. Submit test results to Landscape Architect prior to starting work.

1.2.9 Before proceeding with work, check and verify dimensions and quantities. Report variations between Drawings and site to Landscape Architect before proceeding with work of this section.

1.2.10 Plant totals are for convenience only and are not guaranteed. Verify amounts shown on Drawings. All plantings indicated on Drawings are required unless indicated otherwise.

1.3 SUBMITTALS

1.3.1 Provide and pay for material testing. Testing agency shall be acceptable to the Landscape Architect. Provide the following data:

1. The loss of weight by ignition and moisture absorption capacity shall be tested for peat moss.

1.3.2 Submit the following material samples to Landscape Architect:

1. Peat moss, shredded hardwood bark mulch, planting accessories, pre-emergent herbicides, and plant fertilizers.

1.3.3 Submit the following materials certification to Landscape Architect:

1. Topsoil source and ph value, peat moss, and plant fertilizer.

1.4 DELIVERY, STORAGE, AND HANDLING

1.4.1 Deliver fertilizer materials in original, unopened and undamaged containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.

1.4.2 Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected.

1.4.3 Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration.

1.4.4 Dig, pack, transport, and handle plants with care to ensure protection against injury.

1.4.5 Inspection certificates required by law shall accompany each shipment invoice or order to stock on arrival. The certificate shall be filed with the General Contractor's representative.

1.4.6 Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, shredded hardwood bark mulch, or in a manner acceptable to the General Contractor's representative.

1.4.7 Water heeled in plantings daily.

1.4.8 No plant shall be bound with rope or wire in a manner that could damage or break the branches.

1.4.9 Cover plants transported on open vehicles with a protective covering to prevent wind burn.

1.4.10 Frozen or muddy topsoil is not acceptable.

1.5 PROJECT CONDITIONS

1.5.1 See Landscape Preparation Section.

1.5.2 Work notification: notify Landscape Architect at least seven working days prior to installation of plant material.

1.5.3 Protect existing utilities, paving, and other facilities from damage caused by landscaping operations.

1.5.4 A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the proposal form. In the event that quantity discrepancies or material omissions occur in the proposal form, Subcontractor shall notify the Landscape Architect during the proposal bidding process.

1.5.5 An irrigation system will be installed prior to planting. Locate, protect, and maintain the irrigation system during planting operations. Repair irrigation system components, damaged during planting operations, at the Landscape Subcontractor's expense.

1.5.6 The Landscape Subcontractor shall inspect existing soil conditions in all areas of the site where his operations will take place, prior to the beginning of work. It is the responsibility of the Landscape Subcontractor to notify the General Contractor's representative and the Landscape Architect in writing of any conditions which could affect the survivability of plant material to be installed.

1.6 WARRANTY

1.6.1 See Landscape Maintenance and Warranty Standards.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Plants: Provide plants typical of their species or variety; with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sunscald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces.

1. Dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock". Cracked or mushroomed balls are not acceptable.

2. All trees shall have clay or clay loam balls. Trees with sand balls will be rejected.

3. Provide tree species that mature at heights over 25'-0" with a single, main trunk. Trees that have the main trunk forming a "V" shape are not acceptable.

4. Plants planted in rows shall be matched in form, (see specimen stock).

5. Plants larger than those specified in the plant list may be used when acceptable to the Landscape Architect.

6. No pruning wounds shall be present with a diameter of more than 1" and such wounds must show vigorous bark on all edges.

7. Evergreen trees shall be unsheared and branched to the ground.

8. Shrubs and small plants shall meet the requirements for spread and height indicated on the drawings.

9. Plant materials shall be subject to approval by the Landscape Architect as to size, health, quality, and character.

10. Bare root trees are not acceptable.

11. Provide plant materials from licensed nursery or grower.

2.1.2 Bare root plants: dug with adequate fibrous roots, to be covered with a uniformly thick coating of mud by being puddled immediately after they are dug or packed in moist straw or peat moss.

2.1.3 Container grown stock: grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm, and whole.

1. No plants shall be loose in the container.

2. Container stock shall not be root bound.

3. Single stemmed or thin plants will not be accepted.

4. Side branches shall be generous, well twigged, and the plant as a whole well bushed to the ground.

5. Plants shall be in a moist, vigorous condition, free from dead wood, bruises or other root or branch injuries.

2.1.4 Collected stock consists of plants growing under natural conditions in soils and climate as defined at location to be planted, in locations lending themselves to proper collecting practices. Root system (balls) to be at least twenty-five (25%) percent larger than specified for nursery grown material.

2.1.5 Specimen stock: all specimen designated plantings are to be nursery grown, fully developed, excellent quality, and typical example of the species. Plants designated to be planted in rows must be matched, symmetrical, and uniform in height, spread, caliper, and branching density.

1. Matched plantings should be obtained from the same nursery and, preferably, from the same row or line. All specimen material will be approved by the Landscape Architect at nursery.

2.1.6 Topsoil for planting mix: fertile, friable, natural topsoil of loamy character, without admixture of subsoil material, obtained from a well drained arable site, reasonably free from clay, lumps, coarse sands, stones, plants, roots, sticks, and other foreign materials with acidity range of between ph 6.0-6.8 for ericaceous plants.

2.1.7 Peat moss: brown to black in color, weed and seed free granulated raw peat.

1. Provide ASTM D2607 sphagnum peat moss with a ph below 6.0 for ericaceous plants.

2.1.8 Planting mixture Type A - trees: standard planting backfill shall be a mixture of ½native soil (excavated from plant pits), ¼topsoil, and ¼sand. Add fertilizer Type "A" and "B" to planting mixture per manufacturer's requirements. Follow planting details.

2.1.9 Planting mixture Type B for perennial flowers, groundcover beds, and ericaceous plants: planting backfill shall be a mixture of 1/3 screened topsoil, 1/3 sand and 1/3 peat. All existing soil shall be excavated and removed. Adding fertilizer types "A" and "B" to mixture per manufacturer's requirements. Follow planting details. Planting mixture Type C for annual flower beds: same as Type "B". Submit a sample to the Landscape Architect for approval prior to installation.

2.1.10 Plant fertilizer Type A to be "Drimanure" applied per manufacturer recommendations.

2.1.11 Plant fertilizer Type B to be "14-14-14". Apply per manufacturer recommendations.

2.1.12 Bone Meal - 5 lbs. per cubic yard of soil mixes.

2.1.13 Lime to be ground dolomitic limestone, ninety-five percent (95%) passing through #100 mesh screen. Use to adjust soil pH only, under direction of Landscape Architect.

2.1.14 Sand to be clean, coarse, ungraded conforming to ASTM-C-3 for fine aggregates.

2.1.15 Anti-Desiccant: protective film emulsion providing a protective film over plant surfaces permeable to permit transpiration. Mixed and applied in accordance with Manufacturer's instructions.

2.1.16 Shredded bark mulch shall be double processed, dark shredded hardwood bark that is clean, free of debris and sticks. Materials shall be uniform in size, shape, and texture. Submit samples to Landscape Architect for approval prior to installation. Install mulch to finish grade, level smooth, without ridges, humps, or depressions.

2.1.17 Water: free of substances harmful to plant growth. Hoses or other methods of transportation shall be furnished by Sub Contractor.

2.1.18 Stakes for staking :(3) Three Hardwood, 2" x 2" x 8'-0" long. Driven a min. of 18" deep firmly into subgrade prior to backfilling. Stakes for guying: Hardwood, 2" x 2" x 36" long.

2.1.19 Guying/staking material: With 2"-3" wide fabric straps, connect from tree to stake. Remove after (1) year, allow for flexibility (do not use wire & hose).

2.1.20 Tree wrap: standard waterproofed tree wrapping paper, 2-1/2" wide, made of 2 layers of crepe kraft paper weighing not less than 30 lbs. per ream, cemented together with asphalt. Secure tree wrap with biodegradable material at top and bottom. Remove after first winter.

2.1.21 Twine: two-ply jute material.

2.2 MEASUREMENTS

2.2.1 Measure height and spread of specimen plant materials with branches in their normal positions as indicated on Drawings or Plant List.

2.2.2 The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.

2.2.3 Measurement should be average of plant, not greatest diameter. For example, plant measuring 15 inches in widest direction and 9 inches in narrowest direction would be classified as 12 inch stock.

2.2.4 Plants properly trimmed and transplanted should measure same in every direction.

2.2.5 Measure caliper of trees 6 inches above surface of ground.

2.2.6 Where caliper or other dimensions of plant materials are omitted from Plant List, plant materials shall be normal stock for type listed.

2.2.7 Plant materials larger than those specified may be supplied, with prior written approval of Landscape Architect, and:

1. If complying with Contract Document requirements in all other respects.

2. If at no additional cost to Owner.

3. If sizes of roots or balls are increased proportionately.

2.2.8 The height of the trees, specified by height, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated on the drawings.

3.0 EXECUTION

3.1 INSPECTION

3.1.1 Landscape Architect or General Contractor's representative must approve proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected.

3.1.2 Individual plant locations shall be staked on the project site by the Landscape Contractor and approved by the Landscape Architect before any planting pits are dug. The Landscape Architect reserves the right to adjust plant material locations to meet field conditions, without additional cost to the General Contractor / Owner.

3.1.3 Accurately stake plant material according to the Drawings. Stakes shall be above grade, painted a bright color, and labeled with the name of the plant material to be installed at that location.

3.2 TIME OF PLANTING

3.2.1 Evergreen material: Plant Evergreen materials between September 1 and October 15 or in spring before new growth begins. If project requirements require planting at other times, plants shall be sprayed with anti-desiccant prior to planting operations.

3.2.2 Deciduous material: Plant deciduous materials in a dormant condition. If deciduous trees are planted in leaf, they shall be sprayed with anti-desiccant prior to planting operation.

3.2.3 Planting times other than those indicated must be acceptable to the Landscape Architect.

3.3 PREPARATION

3.3.1 General: See Landscape Preparation Section

3.3.2 Vegetation Removal

1. Strip existing grass and weeds, including roots from all bed areas leaving the soil surface one (1") inch below finish grade.

2. Herbicide: as required to prepare area for new planting applied to all ground cover, evergreen and shrubbery beds and all mulch areas before application of preemergence herbicide, per manufacture's recommendations. Clean area of all dead material after five (5) days.

3. Pre-Emergence Herbicide: applied per manufacturer recommendations to same area where "Herbicide" has been applied and to planting bed areas, after area is cleared of dead vegetation.

4. Herbicides to be applied by licensed applicator as required by the State.

5. Excavate circular plant pits with vertical sides, except for plants specifically indicated to be planted in beds. Provide plant pits per planting details. Depth of pit shall accommodate the root system. Scarify the bottom of the pit to a depth of 6".

6. Roughen sides of excavations.

7. Provide premixed planting mixture Type "A" for use around the balls and roots of all deciduous and evergreen tree plantings.

3.3.3 Ground Cover Beds, Perennial Flower Beds, and Ericaceous Plant Beds

1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Plant ground cover through mulch and into plant mix.

3.3.4 Mass Shrub Beds / Hedge Beds:

1. Excavate existing soil to 18" depth over entire bed area and remove soil from site. Scarify bottom of the bed to a 4" depth. Set plants according to drawings and Specifications. Backfill entire bed with (premixed) specified planting mixture Type "A".

3.3.5 Annual Flower Beds:

1. Excavate existing soil to 8" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Backfill entire bed to an 8" depth with premixed planting mixture "Type B".

3.4 INSTALLATION

3.4.1 Planting shall be performed only by experienced workman familiar with planting procedures under the supervision of a qualified supervisor.

3.4.2 Planting pits shall be round, with vertical sides and flat bottoms, and sized in accordance with outlines and dimensions shown on the planting details.

3.4.3 See drawings for planting details.

3.4.4 If obstructions are encountered that are not indicated, do not proceed with planting operations until alternative plant locations have been selected and approved in writing by the Landscape Architect. Where location or spacing dimensions are not clearly shown, request clarification by the Landscape Architect.

3.4.5 Set plant material in the planting pit to proper grade and alignment.

1. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure.

2. Set plant material so it is flush to finish grade after settling, or 1-2" higher in poorly drained soil, or as directed by Landscape Architect.

3. No filling will be permitted around the trunks or stems.

4. Do not cover top of root ball with soil.

5. Backfill pit with planting mixture. Do not use frozen or muddy mixtures for backfilling.

6. Form a ring of soil around the edge of the planting pit to retain water.

3.4.6 After balled and burlapped plants are set, tamp planting mixture around of balls and fill all voids and remove air pockets.

3.4.7 Remove all burlap, ropes, and wires from top 1/3 of balls.

3.4.8 Space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 12" of trunks and shrubs and to within 6" of planting bed.

3.4.9 Spread and arrange roots of bare rooted plants in their natural position. Work in planting mixture. Do not mat roots together. Cut all broken and frayed roots before installing planting mixture.

3.4.10 Water immediately after planting.

3.4.11 Apply pre-emergent herbicide to bed areas per manufacturer's recommendations before mulching.

3.5 MULCHING

3.5.1 Mulch trees and shrub planting pits and shrub beds with shredded hardwood bark mulch 3" deep to dripline immediately after planting. Leave 3" circle of bare soil around tree trunk. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

3.5.2 Mulch shall not be placed in contact with trunks or stems.

3.5.3 Mulch ground cover beds with shredded bark mulch 2" to 3" deep prior to planting.

3.5.4 Plant ground cover through mulch.

3.6 WRAPPING, GUYING, AND STAKING

3.6.1 Inspect trees for injury to trunks, evidence of insect infestation and improper pruning before wrapping.

3.6.2 Wrap trunks of all trees spirally from bottom to top with specified tree wrap and secure in place.

3.6.3 Stake deciduous trees under 4" caliper. Stake evergreen trees under 6'-0" tall and over with metal fence post, three (3)per tree.

3.6.4 Stake/guy all trees immediately after installation. When high winds or other conditions which may effect tree survival or appearance occur during the warranty period, the Sub-Contractor shall immediately repair the staking/guying.

3.6.5 Guy deciduous trees 4" caliper and over. Stake evergreen trees 6'-0" tall and over with metal fence post, three (3) per tree.

3.6.6 All work shall be acceptable to the Landscape Architect/Owner's representative.

3.7 PRUNING

3.7.1 Remove or cut back broken, damaged, and unsymmetrical growth of new wood.

3.7.2 Multiple leader plants: preserve the leader which will best promote the symmetry of the plant. Do not prune terminal leader.
Cut branches flush with the trunk of the main branch, at a point beyond a lateral shoot or bud a distance of not less than ⅓the diameter of the supporting branch. Make cut on an angle.

3.7.3 Prune evergreens only to remove broken or damaged branches.

3.8 MAINTENANCE

3.8.1 See Landscape Maintenance and Warranty Standards.

3.9 CLEANING

3.9.1 Perform cleaning during installation of the work and upon completion of the work. Remove from all site excess materials, soil, debris, and equipment. Repair damage resulting from planting operations.

END OF SECTION

LANDSCAPE MAINTENANCE AND WARRANTY STANDARDS

1.0 GENERAL

1.1 SUMMARY

1.1.1 Includes But Not Limited To

1. Provide maintenance for new landscaping as described in Contract Documents.

2. The requirements of the Section include a two (2) year warranty period from date of acceptance of installation performed by the General Contractor's Representative and Landscape Architect.

2.0 PRODUCTS - Not Used

3.0 EXECUTION

3.1 PERFORMANCE

3.1.1 Acceptance of Installation

1. At the completion of all landscape installation, or pre-approved portions thereof, the Landscape Subcontractor shall request in writing an inspection for Acceptance of Installation in which the Landscape Subcontractor, Landscape Architect, and General Contractor's Representative shall be present.

   a. Following the acceptance inspection a punch list will be issued by the Landscape Architect.

   b. Upon completion of all punch list items, the Landscape Architect and/or General Contractor's Representative shall reinspect the project and issue a written statement of Acceptance of Installation and establish the beginning of the Project Warranty Period.

   c. At the time of acceptance all plant material shall be of vigorous health.

   d. It is the responsibility of the Landscape Subcontractor to make the written request for inspection of installation in a timely fashion.

   e. If there is plant material loss prior to the Landscape Subcontractor's written request for inspection of installation, the Landscape Contractor shall make all replacements of this dead material at no additional cost These replacements are not considered to be the required one (1) replacement of dead plant material by the Landscape Subcontractor during the two (2) year project warranty period, as outlined below.

2. Landscape work may be inspected for acceptance in parts agreeable to the General Contractor's Representative and Landscape Architect provided work offered for inspection is complete, including maintenance as required.

3. For work to be inspected for partial acceptance, the Landscape Subcontractor shall provide a drawing outlining work completed and supply a written statement requesting acceptance of this work completed to date.

3.1.2 Project Warranty

1. The Project Warranty Period begins upon written preliminary acceptance of the project installation by the Landscape Architect and General Contractor's representative.

2. The Landscape Subcontractor shall guarantee trees, shrubs, ground cover beds and seeded or sodded areas through construction and for a period of two (2) year after date of Acceptance of Installation against defects including death and unsatisfactory growth, except for defects resulting from neglect, abuse or damage by others or unusual phenomena or incidents which are beyond Landscape Subcontractor's control.

3.1.3 Maintenance During Two (2) Year Project Warranty

1. To insure guarantee standards, the following maintenance procedures for trees, shrubs, and ground covers shall be executed during construction and for the full Project Warranty Periods.

   a. Landscape Subcontractor shall be responsible for only one (1) replacement of any plant materials during the two (2) year Project Warranty Period. These include those which are dead or in the opinion of the Landscape Architect are in an unhealthy or unsightly condition, or having lost natural shape, resulting from dieback, excessive pruning, or inadequate or improper maintenance as part of the guarantee.

   b. Prior to any replacements, Landscape Subcontractor shall review individual plants in question with Landscape Architect to determine reason for plant demise.

2. Replacements must meet the standards specified on the Landscape plans and in the specifications, i.e. quality, species of plant material and planting procedures to receive approval of replacement materials by Landscape Architect.

3. Costs for replacements are assumed part of bid quotations and therefore will not result in an additional cost to General Contractor or Landscape Architect.

4. Areas damaged as a result of replacement operation are to be restored by Landscape Subcontractor at no cost to the General Contractor or Landscape Architect.

5. The Landscape Subcontractor shall be responsible for watering all plantings through the warranty period and shall keep guy wires taut, raise tree balls which settle, furnish and apply sprays as necessary to keep the plantings free of disease and insects until the end of the warranty period.

6. The Landscape Subcontractor shall remove and replace trees, shrubs or other plants found to be dead or in unhealthy condition.

   a. Rejected plants and materials shall be removed promptly.

   b. Replacements shall be made during the following normal planting schedule.

   c. Trees and shrubs which are in doubt shall be replaced, unless, in the opinion of the Landscape Architect, it is advisable to extend Project Warranty Period for full growing Season.

7. The Landscape Contractor shall apply anti-desiccants on evergreen trees and evergreen shrub beds within 150' of major streets and drives, no later than December 1, during the two (2) year project warranty.

8. The first spring after plant installation the contractor shall check all trees to insure twine has rotted from around the trunk. If twine is still present, it shall be removed and disposed of off-site.

9. All stakes, guy wires, tree wrap paper, dead twigs and branches shall be removed from tree and plant materials at the end of this warranty period.

3.1.4 Maintenance of Seeded Lawn Areas

1. The Landscape Subcontractor shall maintain seeded lawn areas.

   a. Water, fertilize, weed, and apply chemicals until a dense lawn of permanent grasses, free from lumps and depressions or any bare spots, none of which is larger than one (1) foot of area up to a maximum of 3% of the total seeded lawn area is established.

   b. Seeded lawn that fails to show a uniform growth and/or germination shall be reseeded until a dense cover is established, regardless of what season the seed was installed.

2. The Landscape Subcontractor shall maintain and mow all lawn areas for until acceptance of installation (typically 3 mows) . When lawn reaches 3" in height it shall be cut to 2" in height.

3. The Owner assumes cutting responsibilities following the Acceptance of Installation of the seeded lawn.

4. At conclusion of Project Warranty Period and after receiving Written Final Acceptance by General Contractor's representative and Landscape Architect, the Owner shall assume all seeded lawn maintenance responsibilities.

3.1.5 Maintenance of Sodded Lawn Areas

1. The Landscape Subcontractor shall maintain sodded lawn areas.

   a. Water, fertilize, spot weed, apply herbicides, fungicides, insecticides and reasod until a full uniform, smooth stand of sod is knitted to topsoil, and accepted by the Landscape Architect or his or her representative.

2. Water sod thoroughly, as required to establish proper rooting.

3. Repair, rework, and resod all areas that have washed out or are eroded. Replace undesirable or dead areas with new sod.

4. Mow lawn areas once as soon as sod has rooted sufficiently and knitted to the topsoil. Cut back to 2" height. Not more than 40% of grass leaf shall be removed at any single mowing. Excess clipping to be removed by the Landscape Subcontractor. The Landscape Subcontractor shall be responsible for lawn mowing until acceptance of installation (typically 3-mows).

5. The Owner assumes mowing responsibilities following the Acceptance of Installation of the sodded lawn.

6. At conclusion of Project Warranty Period and after receiving Written Final Acceptance by General Contractor's representative and Landscape Architect, the Owner shall assume all sodded lawn maintenance responsibilities.

3.1.6 Final Acceptance Upon Conclusion of the Warranty Period

1. At the conclusion of the Project Warranty Period the Landscape Subcontractor shall request a project inspection for final acceptance in which the Landscape Contractor, Landscape Architect and Owner's Representative shall be present.

2. After the inspection for final acceptance, a punch list will be issued by the Landscape Architect. Upon completion of all punch list items, the Landscape Architect and the Owner's Representative shall reinspect the project and issue a Written Statement of Final Acceptance.

END OF SECTION

NOTE: The Owners may at their option elect to utilize a Construction Manager in lieu of a General Contractor for all matters pertaining to these specifications and the site work.

PEA GROUP
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STATE OF MICHIGAN — JANET L. EVANS — LANDSCAPE ARCHITECT — NO. 1390 — REGISTERED LANDSCAPE ARCHITECT

811 Know what's below. Call before you dig.

CAUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE APPROXIMATE. NO GUARANTEE IS MADE AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

PROJECT TITLE
GESTAMP
5800 SIBLEY ROAD
CHELSEA, MICHIGAN 48118

REVISIONS

SITE PLAN	10/31/22
REVISED PER CITY COMMENTS	11/22/22

ORIGINAL ISSUE DATE:
OCTOBER 31, 2022

DRAWING TITLE
LANDSCAPE SPECIFICATIONS

PEA JOB NO.	2022-0484
P.M.	EI
DN.	BGG
DES.	JLE

DRAWING NUMBER:
L-2.2

NOT FOR CONSTRUCTION

Item 3a

Proposed Zoning Ordinance Amendments

Article 7: Landscaping

SECTION 7.01

Purpose and Intent

Landscaping, greenbelts, and screening are necessary for the protection and enhancement of the environment, and for the continued vitality of all land uses in the City. The purposes and intent of this Section are as follows:

A. To aid in stabilizing the environment's ecological balance by contributing to the process of air purification, carbon dioxide storage, oxygen regeneration, groundwater recharge and stormwater runoff mitigation, while at the same time aiding in noise, glare, and heat abatements.

B. To encourage the preservation of existing trees and vegetation.

C. To assist in providing adequate light and air.

D. To provide visual buffering and enhance the beautification of the City.

E. To preserve, protect, and restore the unique identity and environment of Chelsea, and preserve the economic base attracted to the City by such factors.

F. To conserve energy and to protect the public health, safety, and general welfare.

G. To provide habitat for living things.

SECTION 7.02

Applicability

A. Except as otherwise specified in the general requirements for each zoning district, or for the specific use, all landscaping shall conform to the standards of this Article.

B. The requirements set forth in this Article shall apply to all uses, lots, sites, and parcels for which Site Plan Review is required and which are developed or expanded following the Effective Date of this Ordinance. No site plan shall be approved unless that site plan includes the required landscape plan and shows landscaping consistent with the provisions of this Article.

~~**C.** In cases where the use of an existing building or parking lot changes or an existing building or parking lot is altered or re-occupied, all of the standards of this Article shall be met.~~

~~D.~~C. The requirements of this Section are minimum requirements, and nothing in this Article shall preclude a developer and the City from agreeing to more extensive landscaping.

~~E.~~D. Existing landscaping that meets the requirements of this Article may be used to comply with the landscaping standards.

~~F.~~ E. Where landscaping is required, a Zoning Compliance Permit shall not be issued until the required landscape plan is submitted and approved. ~~and a Certificate of Occupancy shall not be issued unless provisions set forth in this Article have been met.~~

SECTION 7.03

Landscape Plan

A. Landscape Plan Requirements. A separate, detailed landscape plan shall be submitted as part of a Site Plan Review. The landscape plan shall contain the following.

(1) *Topography.* Existing and proposed topography, by contours, correlated with a grading plan.

(2) *Existing Trees.* ~~I~~If proposing removal or relocation of trees, or construction within the critical root zone, a tree survey must be conducted by a certified arborist. This tree survey must detail the location, species, size, and condition of existing trees (six (6) inches diameter breast height (DBH) and larger), indicating which are to be preserved, transplanted, or removed. Delineation of tree fencing or other required protection from construction activities should be identified on the plans.

(3) *Landscaping.* Scaled layout of proposed plant materials, indicating the species and quantity within each plant grouping. Landscaping should be shown as applicable for: general site landscaping, frontage areas, parking lots, required buffers/screening, stormwater basins, and screening for outdoor storage, refuse, and utility areas.

(4) *Proposed Plant List.* A plant list of proposed materials, showing: sizes, quantity, botanical and common names, spacing, and root type (bare or balled and burlapped).

(5) *Proposed Site Improvements.* Scaled layout of all proposed improvements as shown on the site plan, including structures, driveways, and parking and loading areas.

(6) *Proposed Landscape Improvements.* Plans, sections, elevations, and details of all landscape site improvements, such as: grading, landscaped berms, water features, pavements, structures, and furnishings.

(7) *Installation.* Planting details notating installation requirements, materials to be used, critical dimensions, and any special requirements to ensure proper installation and establishment of proposed plant materials. Technical specifications indicating general requirements, warranties, submittals, materials, and installation requirements for all items of work shown on the drawing.

(8) *Maintenance Program.* Specify an annual landscape maintenance program including a statement that all diseased, damaged, or dead materials shall be replaced in accordance with the standards of this Article.

(9) *Utilities.* Include the location of all utility infrastructure to ensure the landscaping does not interfere with, block access to, or damage overhead or underground utilities, pavements, or other public facilities.

B. Effect of Approval. The approved landscape plan shall be considered a permanent record and integral part of site plan approval. Unless otherwise approved in accordance with the aforementioned procedures, any revisions to or removal of, plant materials will place the parcel in nonconformity with the originally approved landscape plan and shall be viewed as a violation of this Ordinance and the agreed upon terms of site plan approval.

SECTION 7.04

Frontage Landscaping

A. Required Landscaping. Where the site abuts a public or private street, the following frontage landscaping shall be provided in the front yard area adjacent to the street right-of-way:

Type of Landscaping	Required Landscaping
Street Trees (Deciduous/Canopy Tree)	1 per 50 linear feet of road frontage.
Front Lawn	Grass or suitable living plant material where front yard or planting strip between sidewalk and curb is provided.

Commented [AJ1]: Excluding dedicated utility easements from the frontage calculations?

B. Street Tree Arrangement. Street tree spacing shall be as uniform as possible. Variations will be permitted where necessary to recognize driveways, and to avoid interference with street lights, utility poles, fire hydrants, and other appurtenances. Trees shall be located between the street curb and sidewalk.

C. Calculating Frontage. For the purposes of computing length of road frontage, openings for driveways and sidewalks shall not be counted.

D. Fractions. Where calculations result in a fractional number of required plantings, any fraction up to and including one-half shall be disregarded and fractions over one-half shall require one tree or shrub.

SECTION 7.05

Site Landscaping

A. Location. Site landscaping shall be located near building entrances, along building foundations, along pedestrian walkways, near service areas, or as landscaped plazas.

Interior Site Landscaping. Interior site landscaping shall be provided in accordance with the following standards. excluding wetland areas either unregulated or regulated as delineated by EGLE. ~~Required open or green space on the site should comply with required lot coverage standards for each zoning district.~~

Type of Landscaping	Minimum Required Landscaping
Deciduous (Canopy) or Evergreen Tree	1 per 500 square feet of open/green space.
Ornamental (Flowering) Tree	2 per 500 square feet of open/green space, permitted in lieu of deciduous or evergreen trees.
Shrubs	1 per 300 square feet of open/green space.

B. Site landscaping should be integrated with other ornamental site design elements where appropriate, such as water features, trellises, pergolas, fences, walls, lighting, street furniture, and public art.

C. **Specific Landscaping Requirements for Multi-Family Districts.** All lots or parcels proposed for multiple- family residential use in the R-3 District shall contain a minimum of two (2) deciduous or evergreen trees and four (4) shrubs within the landscaped open space areas ~~per~~ for each dwelling unit located on the first and second floors ~~within the landscaped open space areas~~. These requirements are in addition to the requirements of this Section.

Commented [AJ2]: I wrote it per the 1st and 2nd floors instead of a 3rd and 4th floor exemption because if the height requirement of the R-3 district ever changes (for instance to allow 5 floors) this section will still be accurately written.

SECTION 7.06

Parking Lot Landscaping

All parking areas and other paved ground surface areas used for vehicular parking shall have perimeter and internal landscaping as noted below. ~~to provide visual and climatic relief from broad expanses of pavement and to channelize and define logical areas for pedestrian and vehicular circulation.~~

A. **Screening.** Where parking lots are adjacent to sidewalks, streets, and other public rights-of-way, landscaped screening shall be provided between the public right-of-way and the parking lot area. Such screening shall consist of one or a combination of the following:

(1) *Landscaped Screening*. Landscaping shall include a landscaped yard at least five (5) feet in width containing an opaque screen of landscaping (evergreen or deciduous hedge) at least three (3) feet in height at maturity. Shrubs shall be planted a maximum of 30 inches on center. The landscaping shall be located at least two (2) feet from the front of a parking space curb so as to account for vehicle overhang.

(2) *Screening Wall or Fence*. Walls shall be between three (3) and four (4) feet in height and constructed of durable, natural materials such as stone, brick, wrought iron, or metal.

B. **Interior Landscaping.** All off-street parking areas shall have internal landscaping to provide visual and climatic relief from broad expanses of pavement, improve aesthetics, and define areas for pedestrian and vehicular circulation.

(1) Each parking lot shall provide interior landscaping equal to a minimum of five percent (5%) of all paved parking areas, including parking and loading spaces, driveways, and aisles. Sidewalks shall be excluded from the calculation of paved area.

(2) Parking lot islands shall be curbed and a minimum of 170 square feet in area with a minimum width of ten (10) feet. Parking lot islands shall be one (1) foot shorter than the adjacent parking space.

a) Parking lot islands landscaping may contain canopy trees, living ground cover, perennials, shrubs, grasshardwood mulch, native plantings, rain gardens, and/or bioswales to meet the minimum landscaping requirements of this Section.

b) Rock, stone, or pebbles shall only be permitted as ground cover for rain gardens or bioswales.

(3) Minimum canopy tree requirements are as follows:

a) A minimum of one (1) canopy tree per 10 parking spaces in islands or fraction thereof.

b) A minimum of one (1) canopy tree per 40 linear feet around the perimeter of the lot.

(4) All required interior parking lot landscaping shall be planted within the landscaped islands or in landscaped areas within 20 feet of the perimeter of the parking lot, provided that such landscaping is not also counted toward other landscape or screening requirements.

C. Other Paved Areas. In addition to the above parking lot landscaping requirements, other large paved areas not dedicated to parking, such as gas stations, car washes, shared access lanes and storage lots, shall be landscaped as follows:

(1) A minimum of five percent (5%) of the paved surface area shall be provided for the purpose of planting canopy trees or other landscape materials within the paved areas.

(2) Shade trees shall be provided along the perimeter of a large paved area at a minimum rate of one (1) tree per 40 linear feet. Trees may be planted at uniform intervals or in clusters.

D. Parking Deck Landscaping. A minimum of one (1) tree and six (6) shrubs per 30 linear feet are required along the base of a parking deck structure.

SECTION 7.07

Loading Area Landscaping

A. All loading areas (including, but not limited to, truck docks, overhead doors, or trailer staging areas) shall be screened from view from any public street rights-of-way or adjacent residential zoning district for the entire length of the loading area to the greatest extent possible. Screening for loading areas may be accomplished by one or a combination of the following:

(1) *Landscaped Screening.* Evergreen trees at least eight (8) feet in height and planted in a staggered double row spaced fifteen (15) feet on center. Any plant material used to fulfill these requirements shall meet or exceed the minimum size requirements of this Article when planted.

(2) *Wall or Fence.* An opaque fence or wall which is at least six (6) feet high and is made of the same or compatible material, in terms of texture and quality, as the material and color of the principal building.

SECTION 7.08

Buffering from Residential Uses

All premises used for business, commercial, or industrial, as well as approved or permitted non-residential uses in residential districts, shall be screened along each rear lot line and each interior lot line when the rear lot line or interior lot line abuts to a parcel which is zoned R-1, R-2, or R-3.

A. **Buffer Types.** ***Required residential screening may be satisfied by any one or combination of any of the following.***

~~(1) ***Greenbelt.*** A 10-foot-wide greenbelt containing one of the following:~~

~~a) A continuous screen of evergreen trees at least six (6) feet in height.~~

~~b) A wooded area left in its natural state, with no trees or other vegetation removed unless it is deemed to be dead, may serve as the required greenbelt. However, if any vegetation is removed from the greenbelt at any time, then plantings must be added to ensure that there is at least one (1) tree and eight (8) shrubs per 30 feet of the length of the lot line.~~

~~(2)~~(1) ***Green Wall.*** ~~A "green wall" of sufficient density or compactness to effectively obscure vision through it. The wall must be at least six (6) feet in height. A green wall enables plants to grow vertically along its l to provide air and water quality functions as well as aesthetic enhancement. Green walls may have plantings on either side, but any non-planted sides must be visually appealing, in the opinion of the Planning Commission.~~

~~Buffer Types~~	~~Height (min.)~~
~~(1) Greenbelt: 10 ft. wide greenbelt containing one of the following:~~	
a) Continuous screen of evergreens	6 ft.
b) A wooded area left in its natural state, with no trees or other vegetation removed unless it is deemed to be dead, may serve as the required greenbelt. However, if any vegetation is removed from the greenbelt at any time, then plantings must be added to ensure that there is at least one (1) tree and eight (8) shrubs per 30 feet of the length of the lot line.	

Commented [AJ3]: This seems somewhat limiting in terms of options. What about brick walls, board-formed concrete walls, or other patterned or stamped concrete?

Commented [AJ4]: Use versus zone… compare to general wall requirements. Form and function.

Commented [AJ5]: The Zoning Ordinance does not have a definition for "wall".

(2) Green Wall	
A "green wall" of sufficient density or compactness to effectively obscure vision through it. A green wall enables plants to grow vertically along its length to provide air and water quality functions as well as aesthetic enhancement. Green walls may have plantings on either side, but any non-planted sides must be visually appealing, in the opinion of the Planning Commission.	6 ft.

B. Planting Setback. Trees and shrubs shall not be placed closer than four (4) feet to the property line. Fences shall be located in accordance with **Section 6.08B**.

SECTION 7.09

Refuse, Recycling, and Utility Screening

A. Garbage, Refuse, and Recycling Collection Areas. All garbage, refuse, and recycling collection areas (i.e., dumpsters) shall be screened to meet the requirements of **Section 6.09**.

B. Mechanical and Utility Equipment Screening. All mechanical equipment, utility meters, storage tanks, air conditioning equipment, transformers, or similar equipment, incidental to any building, including roof-mounted equipment shall be screened to meet the requirements of **Section 6.10**. This requirement shall not apply to equipment serving a single dwelling unit.

SECTION 7.10

Stormwater Basin Landscaping

Stormwater detention or retention basins shall be designed to provide a natural appearance through the use of gradual side slopes, rock walls, and plant material. The following standards shall be considered minimum requirements for the landscaping of stormwater basins:

A. Vegetation Requirements. The landscape treatment for stormwater basins shall include a mixture of groundcover, wetland, and wildflower species native to Michigan. Native vegetation provides a number of benefits in stormwater basins including enhanced stormwater quality, increased habitat, passive recreational opportunities, and reduced algae growth. The combination of wetland plugs and native seed mixes will provide the optimum opportunities to achieve the benefits described above. The side slopes and the bottom of the basin shall be planted with a combination of a native seed mix and wetland plugs/bare-root stock.

B. Perimeter Greenbelt.

(1) *Basin Perimeter.* Trees and shrubs shall be planted around the basin to buffer and enhance views of the basin, and to replicate a natural environment. Deciduous canopy trees shall be clustered around the sides of the basin to provide shade and minimize solar heating of the water.

(2) *Trees.* Trees shall be planted above the freeboard line of the basin. Any plantings proposed below the freeboard line shall be tolerant of wet or moist soil conditions.

(3) *Native Species.* Plants shall be species native to Michigan, in accordance with the City's list of approved native plant species for stormwater basins.

(4) *Screening of Mechanical Structures.* Any above ground mechanical structures necessary for basin operation shall be identified on the site and landscape plan and shall be fully screened with evergreen trees or trees and shrubs suitable for the wetness zone in which they are to be located.

(5) *Screening.* The area around the stormwater basin riser outlet structure(s) (outlet between forebay and basin and primary outlet to creek/storm sewer) shall be appropriately screened with vegetation appropriate for the applicable basin zone. The screening vegetation shall not inhibit future maintenance access to the structure.

C. Establishment and Maintenance.

(1) The landscape performance guarantee held by the City for a site with a stormwater basin, shall include the stormwater basin-related plantings. The performance guarantee shall be held for two (2) years to ensure sufficient establishment of the stormwater basin plantings.

(2) The homeowner association covenants and restrictions or master deed must include language for stormwater basin maintenance per the approved plans. For multi-family residential, commercial, industrial, and non-residential sites, such maintenance shall be the responsibility of the landowner and consistent with the approved plans.

(3) Use of fertilizers along the side slopes or within the stormwater basin is prohibited.

SECTION 7.11

Standards for Plant Materials

A. Lawn Areas. Lawn areas shall be planted in species of grass normally grown as permanent lawns in Southeast Michigan. Grass may be sodded or seeded and mulched, except that solid sod shall be used in swales or other areas subject to erosion. Sod or seed shall be clean, free of weeds and noxious pests or disease.

B. Recommended Species. Plantings should emphasize native trees, shrubs, and perennials which are hardy to Southeast Michigan. The following is a list of recommended species and required minimum sizes of plant materials. The Planning Commission or Planning and Zoning Administrator may permit other species not listed below.

Recommended Plant Type and Minimum Size	Common Name
Evergreen Trees (8 feet minimum height)	Fir, Hemlock, Juniper, Pine, and Spruce
Narrow Evergreens (5 feet minimum height)	Blue Columnar Chinese Juniper, Column Honoki

	Cypress, Douglas Arborvitae, Pyramidal Red Cedar, Pyramidal White Pine, and Swiss Stone Pine
Deciduous (Canopy) Trees (2.5-inch minimum caliper)	Beech, Birch, Gingko, Hackberry, Honey Locust (Without Thorns), Hickory, Hop Hornbeam, Hornbeam, Horsechesnut, Kentucky Coffeetree, Linden, Maple (Hard Maple), Oak, Planetree (Sycamore), and Zelkova.
Ornamental Trees (2-inch minimum caliper)	Allegheny Serviceberry, Dogwood, Flowering Cherry, Flowering Crab, Flowering Pear, Hawthorn, Magnolia, and Redbud.
Deciduous Shrubs (3 feet minimum height)	Dogwood, Euonymus, Fosythia, Hazelnut, Honeysuckle, Hydrangea, Lilac, Mock- Orange, Ninebark, Privet, Spiraea, Sumac, Rose of Sharon, Winterberry, Witchhazel, and Viburnum.
Evergreen Shrubs (30 inches minimum height)	Holly, Juniper, and Yew.
Spreading Shrubs (18 inches minimum height)	Cotoneaster and Creeping Juniper.
Perennial Flowers/Groundcover	Black-Eyed Susan, Creeping Juniper, Creeping Phlox, Daylily, Fragrant Sumac, Ornamental Grass, and Periwinkle.

C. **Prohibited Species.** The following species are considered undesirable or invasive to this area and are prohibited from being planted as required landscaping. The Planning Commission or Planning and Zoning Administrator may prohibit other species that are not listed below.

***Denotes invasive species.**

Prohibited Species - Common Name	Prohibited Species - Scientific Name
Ash	Fraxinus
Autumn Olive	Elaeagnus umbellata
Black Locust*	Robinia pseudoacacia
Box Elder	Acer negundo
Buckthorn*	Rhamnus cathartica
Catalpa	Catalpa
Cottonwood	Populus section Aigeiros
Elm	Ulmus
Flowering Pear	Pyrus
Ginkgo (Female)	Ginkgo biloba
Honey Locust (With Thorns)	Gleditsia triacanthos
Horse Chestnut (Nut Bearing)	Aesculus hippocastanum
Mulberry	Morus alba
Norway Maple*	Acer platanoides

Poplar	Populus
Silver Maple	Acer saccharinum
Tree of Heaven*	Ailanthus altissima
Willow	Salix

D. Minimum Requirements for Plant Material.

(1) All plant material shall conform to the description consistent with generally accepted and published nursery and landscape standards. Plant materials shall be typical of their species or variety, have normal habitat of growth, well-branched and densely foliated when in leaf.

(2) Plant materials shall be chosen according to soil, climatic conditions and environmental factors for the proposed development, the location of the installation, and its desired function.

(3) Artificial plants are prohibited from satisfying landscape requirements.

SECTION 7.12

Installation and Maintenance

A. Installation

(1) *Installation Period.* Whenever planting is required by this Ordinance, it shall be planted prior to the issuance of the Certificate of Occupancy. If the weather does not permit the planting, the required planting shall take place within six (6) months from the date of issuance of the Certificate of Occupancy and the owner shall post a performance guarantee in accordance with the provisions set forth in **Section 14.08.**

(2) *Installation Method.* All landscaping shall be installed in a manner consistent with generally accepted and published nursery and landscape standards, the approved landscaping plan, and the following:

a) *Balled and Burlapped.* All trees shall be balled and burlapped at the time of planting.

b) *High Quality and Healthy Plant Material.* Plant material shall be freshly dug and nursery grown. Plant material shall be of sound health, vigorous and uniform in appearance with a well-developed root system and free from disease, insects, pests, eggs, or larvae. Trees shall have straight trunks with leaders intact, undamaged and uncut.

c) *Mulching.* Trees, shrubs, hedges, vines, perennials, and live groundcovers (except turf grasses) shall be generously mulched at the time of planting with hardwood bark mulch or similar natural material. Because stone, rocks, and pebbles trap heat and do not retain moisture, these materials shall not be permitted as a ground cover or mulch.

d) *Topsoil.* A minimum of four (4) inches of topsoil shall be provided for all lawn areas, ground covers, berms, and planting beds.

e) *Plant Material Required in All Portions of Landscaped Areas.* All portions of the landscaped areas shall be planted with grass, groundcover, shrubbery, or other suitable plant material, except that paved patios, terraces, sidewalks, and similar site features may be incorporated with Planning Commission approval.

f) *Planting Locations.* Unless a specific planting pattern is required by the Zoning Ordinance or the Planning Commission, required trees and shrubs may be planted at uniform intervals, at random, or in groupings, provided they are planted in accordance with the approved plan. Landscaping shall be located and maintained in a manner that minimizes conflicts with overhead or underground utilities, and that allows reasonable view of storefronts and signs. When trees are planted with five (5) feet of a permanent building, structure, or paved area, structural soil systems shall be used to direct new root growth downward. When soil structural soils are used, a minimum depth of six (6) feet of structural soil shall be provided underneath trees.

g) *Protection of Existing Vegetation.* Existing vegetation to be preserved shall be protected during construction through the use of temporary fencing around the drip line.

B. Irrigation Required. All landscape areas (including lawns) shall be provided with an automatic underground irrigation system. The Planning Commission or Planning and Zoning Administrator may approve an alternate form of irrigation for a particular area, or may waive the irrigation requirement in an area upon determining that the underground irrigation is not necessary to maintain site landscaping in good condition due to the characteristics of the proposed plant materials.

C. Maintenance. The owner of the property is responsible for the regular maintenance of all plants and must replenish mulch, control weeds, fertilize plants, and prune plants as necessary beginning upon completion of construction of landscaping. All diseased, dead, or damaged plants shall be replaced within 30 days, unless the season is not appropriate for planting, in which case such plant material shall be replaced at the beginning of the next planting season.

SECTION 7.13

Preservation and Mitigation

A. Purpose. The purpose of this Section is to encourage and incentivize the preservation of mature trees and healthy plant materials, and promote the protection of the natural environment and tree canopy by requiring replacement of mature trees throughout the City of Chelsea.

B. Applicability. The standards in this Section shall apply for all activities requiring Site Plan Review, except for those submitted for a singular single-family or two-family dwelling.

Commented [AJ6]: These standards should be revised to indicate whether removal and/or preservation of prohibited or prohibited/invasive tree species should be credited at the same rate as other (desirable) tree species. This issue is forthcoming with the Gestamp site.

C. Preserving Existing Trees and Plants. Healthy plant materials on a site prior to its development shall be incorporated into the landscape plan, if such materials meet the standards of the City of Chelsea.

(1) Plant materials and trees to be preserved shall be indicated on the site plan. A matrix shall be provided that lists existing trees and credits for preserved trees in accordance with the standards in **Section 7.13E**.

(2) The Planning Commission may require the preservation of significant existing plant materials based upon its determination that a reasonable layout of the site is incorporating those materials. Significant materials shall be defined as those not readily replaceable by virtue of the size, species, variety, form, condition, quality, or location, and may include vegetation identified as wildlife habitat.

(3) Prior to limb removal, root pruning or other treatments on existing plants being preserved the Planning Commission may require approval of the work by the City's consulting landscape architect or certified arborist.

(4) Plant materials to be saved shall be protected from construction activities. Fencing or other barriers shall be placed at the dripline. Areas to be protected shall be staked. Barriers shall not be supported by the tree or shrubs they are protecting, and shall be of durable materials that will provide the intended protection until construction is completed. No vehicles, soil deposits, nor any other materials may be parked or stored within the driplines of such trees or shrubs unless wells or other devices as shown on the approved landscape plan are used to protect the plant materials.

(5) If trees or plant materials to be preserved are found to be unhealthy, damaged, or removed within three (3) years after completion of construction, the property owner shall replace them or provide a performance guarantee in an equivalent amount plus a ten percent (10%) administrative fee for later replacement. The performance guarantee may be used by the City of Chelsea to replace such materials.

D. Tree Replacement Standards. Existing trees to be removed within the proposed development area that are greater than six (6) caliper inches for deciduous trees or eight (8) feet for evergreen trees shall be replaced in accordance with the following standards.

Size of Tree Removed	Number of Replacement Trees per Tree to Be Removed	
Deciduous or Ornamental Trees (Caliper)	Within Building Footprint	Site
6 - 8 inches	1.0 tree	2.0 trees
8.1 – 16 inches	1.5 trees	3.0 trees
Greater than 16 inches	2.0 tree	6.0 trees
Evergreen Trees (Height)		
8 feet	.5 tree	1.0 trees
8.01 – 10 feet	0.75 trees	1.5 trees
Greater than 10 feet	1.0 trees	2.0 trees

1 tree = One 2.5" - 3" caliper deciduous tree OR 6' coniferous tree.

(1) When the number of replacement trees required results in a fraction, any fraction up to one-half (.5) shall be disregarded, and any fraction over and including one-half (.5) shall require one replacement tree.

(2) A matrix shall be included on the site plan identifying existing trees, trees to be removed, and number of replacement trees provided.

(3) Replacement trees shall be provided in addition to all other trees required by this Article.

E. Tree Preservation Credits. To encourage the preservation of quality and mature trees, the following credits may be granted to waive the number of new trees required by this Article. Tree credits may account for up to 50 percent (50%) of the new trees required by this Section.

Size of Tree Preserved	Credits
Deciduous Trees (Caliper)	
2.6 – 8 inches	1 credit / each
8.1 – 16 inches	2 credits / each
Greater than 16 inches	3 credits / each
Coniferous Trees (Height)	
Greater than 6 feet	1 credit / each
1 credit = One 2.5" - 3" caliper deciduous tree OR One 6' coniferous tree	

SECTION 7.14

Waivers

Recognizing that a wide variety of land uses and the relationships between them can exist, and that varying circumstances can mitigate the need for landscaping, the Planning Commission may allow the following waivers from the provisions of this Article.

A. Permitted or Prohibited Species. The Planning Commission may permit any of the prohibited species or allow for other species not listed in the permitted species list. No waiver shall be granted to permit invasive species.

B. Screening. The Planning Commission may permit an alternate screening plan, upon finding that the alternative screening will ensure compatibility with surrounding and nearby land uses because of one or both of the following:

(1) The site has natural existing vegetation and/or topography, natural bodies of water or wetland areas or other existing conditions which offer sufficient screening. The Planning Commission shall require the preservation of these natural features as a condition of site plan approval in such circumstances.

(2) The arrangement, design and orientation of buildings on the site maximize privacy and isolate adjacent and nearby land uses from any potential negative impacts of the project.

C. Utilities. The Planning Commission may reduce the number of street trees required in Section 7.04.A, the number of parking lot perimeter canopy trees required in Section 7.06.B(3)b, and the number of large paved area perimeter shade trees required in Section 7.06.C(2) upon finding that the presence of utilities interferes with the ability to plant the minimum total number of required trees.

Commented [AJ7]: Do we want to leave this proposed waiver language open-ended or narrow its scope to say something like "The PC may reduce the number of street trees required in Section 7.04.A by (up to 50%, up to 75%, etc?)

Note: Article 7 does not mention any discussion of the City's Tree Trust Fund. The Tree Fund is an entirely separate discussion issue for a future date – especially after Canton Twp's Tree Fund was recently ruled unconstitutional which has potential implications for Chelsea's Tree Fund implementation. See: https://npr.brightspotcdn.com/c6/10/9a637f4a4d5b9c041e352d998ed4/20-1466-documents.pdf

Section 6.08

Fences

A. Permit. Installation of a fence on any property in any district requires a Zoning Compliance Permit. Application for such permit shall contain any and all information, including drawings, required and necessary for the determination of whether the erection of such fence would comply with the provisions of this section.

B. Location. All fences shall be constructed within the property lines of a lot unless there is a written consent from the adjoining property owners. The City shall not be responsible for determination of the location of any fence to be erected on lot lines.

(1) Fences shall be constructed at least one (1) foot from any public sidewalk or right of way line except at intersections subject to Section 3.13 Visibility at Intersections.

(2) Fences placed on corner lots shall meet front yard requirements as specified in **Section 3.07** for each street frontage.

(3) Gates in fences shall not open over public property. The Planning and Zoning Administrator may require a gate if it is needed for access to a public utility easement.

C. Height and Opacity

(1) *Commercial, Industrial, and Residential Fences.* The following height and opacity requirements shall apply to fences constructed on property other than public land or institutional parks.

Location	Commercial / Industrial	Residential		All
	Max. Height [a]	Min. Height	Max. Height	Max. Opacity
Rear yard	8 feet	3 feet	6 feet	100%
Side yard	8 feet	3 feet	6 feet	100%
Front yard	6 feet	3 feet	4 feet	50%

a) The maximum fence height shall not apply to intensive commercial or industrial uses that may generate significant off-site noise, dust, glare, or other nuisances. Fences for such uses shall be high enough to adequately protect neighboring properties from adverse effects.

(2) *Public and Institutional Fences.* Fences which enclose public or institutional parks, playgrounds, or public landscaped areas, situated within an area development with recorded lots, shall not exceed eight (8) feet in height and shall not obstruct vision to an extent greater than 25 percent (25%) of their total area.

(3) The height of a fence shall be measured from the average grade of the fence line.

D. Fence Materials

(1) Fences shall be constructed of materials designed for decorative, landscape effect such as: split-rail, wood, wrought iron, metal, and extruded plastic. Chain link fences shall not be permitted in the front yard.

(2) Razor edge fence, spikes, nails or any other sharp point or instrument of any kind on top or on the sides of any fence, or electrical current or charge in a said fence, shall be prohibited.

(3) Barbed wire shall only be permitted in industrial and municipal use zoning districts, for wireless communication towers, or public or private utility installations which require security. Barbed wire shall be at least ten (10) feet above grade.

E. Temporary Fences. Temporary fences such as construction fences or any other type of temporary fencing may be permitted, but shall not be in place for period greater than one (1) year without special approval of the Zoning Board of Appeals.

F. Maintenance of Fences. Fences shall be maintained so as not to endanger life or property. Any fence which, through lack of repair, type, or construction, or which otherwise endangers life or property, shall be deemed a nuisance per se. If an unsafe condition exists in regard to a fence, the Planning and Zoning Administrator or their appointed designee shall serve written notice to the owner, agent, or person in control of the property upon which such fence is located. The notice shall describe unsafe conditions, shall describe repairs or modifications required to make the fence safe, or shall require an unsafe fence or any portion thereof to be removed. The notice shall provide a 30-day limit for such repairs, modifications, or removal.

G. Alterations. Any person, firm or corporation being an owner, lessee, occupant, or agent of the same, of any property containing a fence which violates provisions of this ordinance, shall not alter, change, repair or rebuild the fence without first having obtained a permit.

H. Nonconforming fences. Nonconforming fences are subject to the requirements of **Section 13.03**.

Section 6.09
Waste Receptacle Enclosures

A. Enclosures shall be provided for outdoor trash receptacles in all multi-family, office, industrial, and mixed-use zoning districts.

B. Enclosure locations and details of construction shall be shown on site plans. A change in location or size of an enclosure that existed prior to the date of adoption of this ordinance, as amended, shall require modification to the enclosure to comply with this section.

C. Waste receptacle or compactor enclosures shall be located in the rear yard or side yard and shall be at least five (5) feet from any lot line and a minimum of 20 feet from any residential district.

D. Waste receptacle or compactor enclosures shall be easily accessed by refuse vehicles without potential to damage vehicles parked in designated parking spaces.

E. Enclosures shall be maintained in a manner consistent with its original design and construction as approved by the City.

F. Waste receptacle enclosures shall consist of walls on three (3) sides, finished with materials that either match or are compatible with the principal building. A gate shall be provided on the fourth side and shall consist of materials compatible with the enclosure. The enclosure shall be a minimum of seven (7) feet or one (1) foot higher than the receptacle in height, whichever is greater.

Section 6.10
Mechanical Equipment

A. Mechanical equipment, such as blowers, ventilating fans, and electrical generating air conditioning units shall not be placed less than three (3) feet from any lot line in the DT District and less than twelve (12) feet from any lot line in all other districts. The location of such equipment shall be shown on all required site plans.

B. Mechanical equipment, including elevator housings, tanks, heating, ventilation, and air conditioning equipment (HVAC), and other similar equipment shall comply with the following standards:

(1) Equipment that is located on the ground shall be screened by a solid wall, fence, landscaping and/or architectural feature that is compatible in appearance with the principal building.

(2) Roof-mounted equipment shall not exceed a height of ten (10) feet above the surrounding roof surface. All roof-mounted mechanical units shall be integrated into the architecture of the building and completely screened from view from ground level by parapet walls or other approved enclosure.

(3) Screening shall reflect and complement the architecture of the principal building.

§ 151.102 FENCES, WALLS, AND SCREENS.

VILLAGE OF MANCHESTER

(A) Any person desiring to build or cause to be built a fence upon property within the Village of Manchester shall first apply to the Zoning Administrator for a permit. Application for the permit shall contain any and all information, including site plan and opacity, which are required and necessary for the determination of whether the erection of the fence would be contrary to the provisions of this chapter. The fee for the permit shall be set by Council resolution.

(B) Except as otherwise required by this chapter, the following regulations shall apply.

(1) In a residential district, fences shall not exceed 6 feet in height. However, fences in the required front yard shall not exceed 4 feet in height and 50% opacity. Opacity is the degree to which a fence is impervious to rays of light. This condition shall be measured by the observation of any 2 square yard area of fence between 1 foot above the ground level and the top of the fence. The observation shall be from a direction perpendicular to the place of the fence.

(a) Residential fences shall only be constructed of the following materials:

1. Treated wood, cedar, or redwood.

2. Simulated wood, including vinyl covered and synthetic wood composite or equivalent.

3. Decorative brick or stone.

4. Chain link.

5. Any other material which the Zoning Administrator determines to be equivalent to the above in terms of quality and appearance.

(b) The use of barbed wire, snow fence, chicken wire, and electric is prohibited as a residential fence.

(c) Welded wire farm fencing and similar is prohibited as a residential fence except within the R1A and AG Districts. All fence supports shall be uniform in height and style.

(d) The Zoning Administrator shall evaluate the fence type to determine which side of the fence shall face outward with the rule being that the finished side faces the neighbor.

(2) In a commercial, industrial, or office district, no fence, wall, or other screening structure shall exceed 12 feet in height.

(3) The use of barbed wire, spikes, nails, or any other sharp point or instrument of any kind on top or on the sides of any fence is prohibited. Barbed wire cradles may be placed on top of fences enclosing public utility buildings or wherever deemed necessary in the interests of public safety.

(4) No fence shall be constructed or maintained which is charged or connected with an electrical current.

(5) Retaining walls shall be designed and constructed in accordance with applicable building code requirements.

(6) Temporary construction fences and fences required for protection around excavations shall comply with Article 18 of the Basic Building Code. The fences shall not remain in place for a period greater than a year.

(7) Clear vision requirements.

(a) No fence, wall, screen, hedge, sign, or other structure or planting shall obstruct visibility between the heights of 30 inches and 10 feet above the sidewalk grade within 25 feet of the intersection of 2 or more streets.

(b) On any interior lot, no fence, wall, screen, hedge, sign, or other structure or planting shall obstruct the visibility of a driveway, either on a parcel or on an adjacent parcel, between the height of 30 inches and 10 feet measured a distance of 20 feet back from the point where the driveway intersects the street.

(Ord. 239, passed 3-5-2001, § 6.3; Am. Ord. 296, passed 12-19-2016) Penalty, see § 151.999

§ 155.074 WALLS. CITY OF INKSTER

For those use districts and uses listed below, there shall be provided and maintained on those sides abutting or adjacent to a residential district an obscuring wall as required below in Table 5-2:

TABLE 5-1	
Use	***Requirements***
TABLE 5-1	
Use	***Requirements***
RM-1 and PD Districts, (where abutting any single-family to two-family residential districts)	5 feet high wall
Off-street parking or loading areas	4 feet, 6 inches to 6 feet, 0 inches
O-1, B-1, B-2, B-3 Districts	6 feet, 0 inches high wall
M-1 Districts, open storage areas, loading or unloading areas, service areas	6 feet, 0 inches to 8 feet, 0 inches high wall
Hospital, ambulance and delivery areas	6 feet, 0 inches high wall
Utility buildings, stations and/or substations; except that in cases where all equipment is contained within a building or structure constructed so as to be similar in appearance to the residential building in the surrounding area, the Planning Commission may waive the wall requirements.	6 feet, 0 inches high wall
Wireless communications facilities	Requirements specified in §§ 155.211 through 155.217
Mechanical and electrical equipment	Height equal to objects being screened
Waste receptacles (dumpsters)	Height one foot taller than waste receptacle. See § 155.075 for additional requirements

NOTES:

(A) Required walls shall be located on the lot line except where underground utilities interfere and except in instances where this chapter requires conformance with front yard setback lines in abutting residential districts. Required walls may, upon approval of the Planning Commission, be located on the opposite side of an alley right-of-way from a nonresidential zone that abuts a residential zone when mutually agreeable to affected property owners. The continuity of the required wall on a given block will be a major consideration of the Planning Commission in reviewing such request.

(B) Such walls and screening barriers shall have no openings for vehicular traffic or other purposes, except as otherwise provided in this chapter, and except such openings as may be approved by the Chief of Police and the Building Official or other official responsible for code enforcement. All walls herein required shall be constructed of materials approved by the Building Official or other official responsible for code enforcement to be durable, weather-resistant, rustproof and easily maintained. Wood, wood products, recycled garage doors and sheet metal may be specifically excluded.

(C) Corner clearance. Obscuring walls shall comply with the specifications for maintenance of unobstructed sight distance for drivers as set forth in § 155.073(B).

(D) Substitution or waiver. As a substitute for a required obscuring wall, the Planning Commission may, in its review of the site plan, approve the use of other existing or proposed living or man-made landscape features (such as closely spaced evergreens) that would produce substantially the same results in terms of screening, durability, and permanence. Any substitute screening shall comply with the applicable requirements as set forth in § 155.073.

(E) In consideration of requests to waive or modify wall requirements, the Planning Commission shall refer the request to the Community Development Director, City Planner, and/or Police Chief for a recommendation.

(Ord. 792, passed 12-3-01; Am. Ord. passed 2-20-17)

5. Banks and other similar financial institutions shall not be required to designate a loading space on the site, provided that the applicant submit documentation concerning the sensitivity of deliveries to the site and the need for these deliveries to occur as near to the door as possible.

5.5 LANDSCAPE STANDARDS: OBSCURING EARTH BERMS AND WALLS, RIGHTS-OF-WAY BUFFERS, AND INTERIOR AND EXTERIOR LANDSCAPE PLANTINGS

1. Intent. The intent of this Section is to achieve landscapes with creative placement and attractive designs that:
   - emphasize the preservation of existing natural resources, the use of native plant materials, and a diversity of plant species;
   - preserve and enhance existing woodlands, wetlands, and natural open areas;
   - reduce impervious surfaces, enhance storm water management, and prevent soil erosion and soil depletion;
   - provide appealing yet opaque visual and audible buffering between non-compatible land uses; and
   - utilize the best ecological concepts and environmental objectives with preservation and sustainability as a priority, in order to protect and enhance the well-being of the residents of the City of Novi.

   Landscape regulation is intended to establish minimum standards for all property in the City. Property owners and occupants are encouraged to exceed these standards, to minimize paved areas and other run-off areas, and to maximize the areas devoted to attractively designed and well-maintained landscapes.

2. Landscape Plan Required. A landscape plan shall be submitted for any new commercial or residential development, and any addition to an existing building that is equal to or greater than a twenty-five (25) percent increase in the overall square footage of the building or four-hundred (400) square feet, whichever is less. With the exception of Section 5.5.3.G, Individual (Non-Subdivision/Non-Site Condominium) Single-Family Street Tree Requirements, an owner of a single-family home-site shall not be required to comply with the provisions of this Section. All landscape plans shall be prepared in accordance with the requirements of this Ordinance and the requirements of the City of Novi Landscaping Design Manual, as adopted by the City Council by resolution and which may similarly be amended by Council resolution from time to time.

3. Landscape Requirements
   A. Residential Adjacent to Non-Residential
      i. Intent. To make provision for a visual buffer strip in each zoning and use classification when a non-residential use abuts or is adjacent to any residential zoning district.
      ii. Requirements for Obscuring Landscaped Earth Berms and Walls. In all locations which abut or are adjacent to any residential district (RA, R-1, R-2, R-3, R-4, RT, RM-1, RM-2, MH and any TC district if developed for residential purposes), an obscuring landscaped earth berm and plantings, as described, shall be proposed, approved, installed and maintained in connection with any development or use identified below. Where TC-1 and RM-2 are adjacent to TC-1 and RM-2, a wall and plantings shall be provided as indicated in the following Berm Requirement Chart:

5.5.3.A.ii Residential Adjacent to Non-Residential Berm Requirement Chart		
Use	Zoning	Berm Height
Parking	P-1 district Off-Street Parking Area	4 ft. 6 in. to 6 ft. high
Residential/Special Land Use	RM-1, RM-2, and MH districts, churches, schools, nursery schools, day care centers and other uses where special land use approval is required	4 ft. 6 in. to 6 ft. high
Office Service/Tech	OST, OS-1, and OSC districts	4 ft. 6 in. high to 6 foot high
Commercial	B-1, B-2, B-3, RC, and NCC districts	6 ft. to 8 ft. high
EXPO, EXO district	EXPO district	8 ft. to 10 ft. high
Conference	C district	8 ft. to 10 ft. high
Freeway Service	FS district	8 ft. to 10 ft. high
Town Center	(a.) TC and TC-1 districts	6 ft. high wall
	(b.) TC-1 and RM-2 districts	6 ft. high wall
Industrial	I-1 district	10-15 ft. ht. berm, 6 ft. crest width, 80% winter/90% summer opacity (See Section 3.14.5.E)
	I-2 district	15 ft. ht. berm, 15 ft. crest width, 80% winter/90% summer opacity (See Section 3.15.2.C)
	Special Land Use	10ft. ht. berm, 6ft. crest width, 80% winter/90% summer opacity (See Section 3.14.5.E)
Auto Wash, Drive-In Restaurants, Service Stations, and Planned Commercial Centers and Regional Shopping Centers	Where permitted or approved	10 ft. to 15 ft.
Hospital-Ambulance and Delivery Areas	Where permitted or approved	6 ft. high
Utility Buildings, Stations, and/or Substations	Where permitted or approved	6 ft. high

iii. Exceptions. Obscuring landscaped berms and walls are not required to separate identically zoned uses or where uses are separated by a street, road, highway, or freeway.

iv. Placement. The berm or wall is required to be on the property seeking approval. The berm may be placed upon the adjacent residential property in order to provide continuity with an adjoining berm. In that case, a recorded permanent easement and a maintenance agreement in a form acceptable to the City Attorney will be required from the adjacent property owner.

v. Berm Requirements. The obscuring berm requirements are as follows:

a. The berm height shall be measured as follows:

(1) The berm height, as specified in the Residential Adjacent to Nonresidential Berm Requirement Chart (Table 5.5.3.A.ii), shall be analyzed from the following locations, and the final measurement of the berm shall be made from that location which results in the maximum screening:

[i] The first-floor elevation of the closest adjacent principal structures;

[ii] The first-floor elevation of the uses requiring screening;

[iii] The elevation of the parking lots closest to the property line when only the parking area requires screening; or

[iv] The elevation of the nearest property line.

Where a range of height is stated for a use on the Chart, the basic berm height shall be deemed to be the lower measurement, with approving body of the City having the discretion to increase the height up to the higher measurement based upon an application of the following considerations on the non-residential property: intensity of use; noise generation customarily associated with the use; height and aesthetic appearance of buildings and structures; topography; distance of buildings, structures and activities from the common property line; and, the extent of disharmony with the adjoining residential use as a result of other considerations.

(2) The site plan shall include the first-floor elevation of all adjacent principal structures within two-hundred (200) feet of the subject site's property lines.

(3) Where the applicant demonstrates, and the Planning Commission finds, that practical difficulties would result from the strict application of berm height standards, as required herein, the Planning Commission may reduce the height of the berm, or eliminate the berm, and may approve an alternate plan which includes landscape treatment or a wall (subject to Section 5.5.3.A.vi below), or a combination of the two, provided that the approved alternate plan achieves adequate noise attenuation and obscuring screening. The Planning Commission may also reduce the height of the berm, or eliminate the berm, where it determines that an alternative design utilizing landscaping or other materials, including a wall subject to Section 5.5.3.A.vi

below, provides adequate and effective noise attenuation and screening, or where such alternative design provides a substantial aesthetic or site design benefit while still providing for noise attenuation and screening to the extent reasonably practicable. The intent of this Section is not to encourage and allow elimination or reduction of berm height for the sake of convenience or cost savings, but rather to allow reasonable development while achieving design excellence not otherwise possible under these requirements.

b. The berm shall be natural in appearance and have overlapping and undulating changes in elevation, both horizontally and vertically, without compromising the minimum height requirement and/or intent of the berm. Where a range of height is stated on the chart for a use, and the approving body determines berm height based upon the criteria specified in sub-paragraph v.(a), above, the height of the undulations on the berm shall be determined by the approving body as part of site plan approval, taking into consideration the location of improvements and activities to be screened, and the criteria in sub-paragraph v.(a), above.

c. The obscuring berm shall have no greater than a maximum slope of thirty-three (33) percent. (3 feet of horizontal plane for each 1 foot of vertical height.) More gradual slopes are strongly encouraged.

d. Plants shall be specified for any "no mow" areas.

e. The crest of the obscuring berm shall have a nearly flat horizontal area of at least five (5) feet in width. (See the previous Berm Requirement Chart for exceptions.)

f. The required earth berm shall be located at the lot line, except where such location would interfere with underground utilities or drainage.

g. Where an existing or proposed parking or vehicular use area abuts an existing berm or wall or other durable landscape barrier on an abutting property, said existing landscaping may be used to satisfy the landscape requirements of this Section 5.5, provided that it meets all applicable noise attenuation and obscuring screening standards of this Section, and provided that the existing berm, wall, or other durable landscape barrier is required to be maintained consistent with the terms of this Section of the Ordinance and consistent with the approved site plan. Where the existing berm, wall, or other durable landscape barrier is not otherwise required to be maintained in connection with the adjacent property, the applicant shall be responsible for such maintenance and shall obtain and record a permanent easement and maintenance agreement from the adjoining property owner in a form approved by the City Attorney, making provision for such maintenance.

h. Where a property has already been lawfully developed for one of the uses listed in the Residential Adjacent to Non-Residential Berm Requirement Chart (Table 5.5.3.A.ii), adjacent residential property which subsequently develops shall provide and maintain the necessary berm.

i. See Landscape Design Manual for additional requirements.

vi. Wall Requirements.

a. Freestanding walls shall have all exterior sides constructed of face brick or stone with a suitable cap, and the interior constructed of masonry or reinforced concrete. The Planning Commission may consider materials of equal durability and aesthetic quality.

b. Walls shall be designed to resist the pressure of the retained material, including both live and dead loads to which they may be subject. Foundations shall be designed to prevent movement due to frost action and a suitable drainage system shall be provided to assure stability. Walls that are greater than 3½ feet in height shall be designed and sealed by a professional design or structural engineer. Walls shall not cause flooding or impound water at any time and are subject to final site plan review. (See Design and Construction Standards (Chapter 11, Novi Code of Ordinances).

c. All other obscuring conditions of this subsection and the Landscape Design Manual must be met.

d. Timber, boulder, and interlocking retaining walls are permitted for the purpose of terracing.

vii. Waiver of Landscaped Berm or Wall for Preservation of Wooded Area. The Planning Commission may waive the requirement for an earth berm or obscuring wall adjacent to a residential use district when the proposed development includes the retention of an existing regulated or non-regulated wooded area adjacent to the residential district, or when an existing regulated or non-regulated wooded area is preserved on the adjacent residential property. In either case, the owners of all such area(s), including the owners of the adjacent residential property, shall provide a permanent preservation easement, including requirements for perpetual maintenance and replacement of woodland features, in recordable form acceptable to the City Attorney for such wooded area, and provided all the following conditions are met:

a. The retained wooded area will provide effective screening consistent with the opacity for visual screening requirements of this Ordinance and intent of this Section.

b. The retained wooded area shall be of a depth and height equal to or greater than the screening requirement being waived.

c. The failure to retain the wooded area will have a negative impact on the preservation of woodlands within the City of Novi.

d. The retained wooded area has been inspected and evaluated by the City relative to the health and desirability of the existing plant material.

e. The Planning Commission may require, during construction phases, as a condition to the waiver, additional and/or modified plantings and/or the erection of a temporary chain link fence within or adjacent to the preserved wooded area to meet the opacity requirements and/or other objectives of this Section, and, in the event all or part of the retained wooded area is removed, destroyed, diminished, or altered in any manner such that it no longer provides the screening required under this Section, the berm or wall shall be installed at the applicant's (or its successor's) expense or additional screening material may be required by the City to be installed and maintained at the applicant's (or its successor's) expense in order to achieve the screening objective under this Section.

B. Adjacent to Public Rights-of-Way

i. Intent. The intent of the landscape planting buffer requirements along public rights-of-way is to improve the appearance of the rights-of-way including screening off-street parking and vehicular use areas of property abutting public rights-of-way.