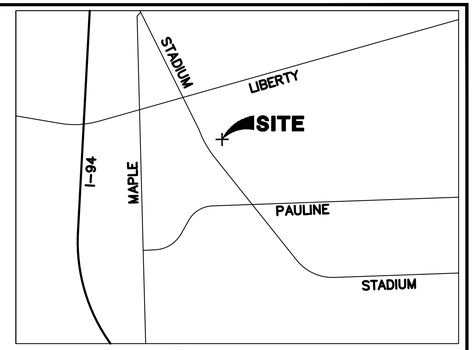
2060 W. STADIUM REDEVELOPMENT PROJECT

SECTION 31, T2S, R6E

CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

SITE PLAN FOR CITY COUNCIL APPROVAL



VICINITY MAP
SCALE : NTS

OWNER

NORTHSTAR ANN ARBOR PROPERTIES, LLC
175 THOMPSON ROAD, SUITE B
BAD AXE, MI 48413
PH: 989-269-3767
ATTN: DAVID SASS

DEVELOPER/PETITIONER

NORTHSTADIUM, LLC
30100 TELEGRAPH ROAD, SUITE 220
BINGHAM FARMS, MI 48025
PH: (248) 647-2600
ATTN: MIKE KENNEDY, SEAN HAVERA

ENGINEER/SURVEYOR/LANDSCAPE ARCH.

MIDWESTERN CONSULTING, LLC
3815 PLAZA DR.
ANN ARBOR, MI 48108
PH: 734-995-0200
CONTACT: THOMAS COVERT

ARCHITECT

HOBBS & BLACK ARCHITECTS
100 N. STATE STREET
ANN ARBOR, MI 48104
PH: (734) 663-4189
ATTN: DAVID NIMS

PROJECT NARRATIVE

TWO EXISTING PARCELS ARE LOCATED ON THE EASTERN SIDE OF WEST STADIUM BOULEVARD, DIRECTLY SOUTH OF ZAL GAZ GROTTO CLUB AND NORTH OF DIMO'S DELI AND DONUTS. THE EXISTING SITE CONSISTS OF A LARGE VACANT BUILDING AND SURROUNDING PARKING AREA. EXISTING STORMWATER RUNOFF DRAINS INTO ON-SITE INLETS AND DISCHARGES DIRECTLY TO THE CITY STORM SEWER.

A LOT LINE ADJUSTMENT IS PROPOSED TO BE MADE TO THE NORTH PROPERTY LINE OF 2040 W. STADIUM BLVD. (S. LINE OF 2060 W. STADIUM BLVD.). THE EXISTING BUILDING ON THE NORTHERN RESULTING PARCEL WILL BE DEMOLISHED AND THE SITE WILL BE STABILIZED WITH LAWN. THE SOUTHERN RESULTING PARCEL WILL BE DEVELOPED TO INCLUDE A 2-STORY MIXED-USE BUILDING WITH A GROUND FLOOR BANK WITH DRIVE-THROUGH AND 2nd FLOOR NON-MEDICAL OFFICES, AND ASSOCIATED OFF-STREET PARKING. THE SOUTHERN PROPOSED PARCEL IS ZONED C2B, BUSINESS SERVICE DISTRICT, WHICH SUPPORTS THE PROPOSED USES. A PORTION OF THE PARCEL IS CURRENTLY ZONED P, PARKING AND WILL REMAIN PARKING. A SPECIAL EXCEPTION USE IS BEING REQUESTED FOR THE BANK DRIVE-THROUGH. TWO VARIANCES ARE PROPOSED FOR PLACEMENT OF TREES ON THE SITE INSTEAD OF STREET TREES IN THE ROW AND FOR NOT PROVIDING BIO-RETENTION ISLANDS DUE TO CONTAMINATION ON THE SITE.

STORMWATER RUNOFF FROM THE PROPOSED DEVELOPMENT WILL BE ROUTED INTO AN UNDERGROUND STORAGE CHAMBER, WHICH WILL THEN OUTLET TO THE CITY STORM SEWER AT A RATE NOT EXCEEDING 0.15 CFS/ACRE.

NOTES:

1. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT. THE WORK SHALL BE PERFORMED IN COMPLETE CONFORMANCE WITH THE CURRENT CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS AND DETAILS.
2. SIDEWALKS CONSTRUCTED IN THE PUBLIC RIGHT-OF-WAY SHALL MEET ALL REQUIREMENTS AND GUIDELINES AS SET FORTH IN THE ADA STANDARDS FOR ACCESSIBLE DESIGN. SIDEWALK AND CURB RAMP GRADES WILL BE REVIEWED DURING CONSTRUCTION PLAN SUBMITTALS.
3. ALL SIDEWALKS SHALL BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME. PRIOR TO THE ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS IN NEED OF REPAIR MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS.
4. PAVEMENT MARKINGS DISTURBED DUE TO PAVEMENT CUTS OR CONSTRUCTION RELATED ACTIVITIES SHALL BE REPLACED. REPLACEMENT DURING CONSTRUCTION MAY BE CONSIDERED TEMPORARY, WITH FINAL PAVEMENT MARKING RESTORATION TO OCCUR AT THE END OF THE PROJECT.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING PUBLIC ROAD PAVEMENT. DAMAGE TO THE PUBLIC ROAD PAVEMENT DURING CONSTRUCTION MAY NECESSITATE MILLING AND RESURFACING OF THE DAMAGED AREAS.
6. SIGN RE-USE OR RELOCATION INCLUDES THE INSTALLATION OF EXISTING SIGN ON A NEW POST.

SITE MAP
SCALE : 1"=40'

Sheet Index

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

2060 W. STADIUM REDEVELOPMENT PROJECT

JOB No. 20034

REVISIONS:	REV. DATE
PER REVIEW COMMENTS	09/11/20
PER CITY REVIEW	10/07/20
PER CITY REVIEW	10/15/20
REVISED SITE PLAN	05/06/21
PER CITY REVIEW	06/11/21
PER CITY REVIEW	06/24/21

DATE: 07/23/20
SHEET 01 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
/20034CV1

01

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

RELEASED FOR:	DATE

STATE OF MICHIGAN
THEODORE HIRSCH
ENGINEER
No. 65179
LICENSED PROFESSIONAL ENGINEER

P.E. #

REQUIRED STATEMENTS

Required Statements

i. General Project Information:

Northstar Ann Arbor Properties, LLC owns the properties at 2040 and 2060 W Stadium Boulevard, Ann Arbor, Michigan. In conjunction with North Stadium, LLC as the petitioner, the owner is seeking a site plan approval from City Council, and special exception use approval after review by the Planning Department and recommendation by the Planning Commission. Additionally, the applicant is requesting two variances from the Zoning Board of Appeals. One for installation of trees on the site instead of street trees and one is for not providing bio-retention due to existing contamination on the site.

A lot line adjustment is proposed to be made to the northern property line of 2040 W. Stadium (S. line of 2060 W. Stadium Blvd.) The northern parcel will have the existing building and parking demolished and will be stabilized with lawn for future potential development. The development on the southern parcel includes a two-story building with a bank (with drive-through) on the first floor and non-medical office on the second floor. Site improvements include parking, stormwater management, utilities, and landscaping. The parcels are currently zoned C2B and Parking District. No amendment to the zoning is proposed. The drive-through associated with the proposed bank is a special exception use. No regulated natural features exist on the site.

Northstar Ann Arbor Properties, LLC and North Stadium, LLC do not own or have an interest in any land contiguous to the site.

ii. Development Program:

- The proposed development includes one building for a total of 12,711sf of floor area with a floor area ratio of 41.2%. The building includes a bank on the first floor with associated drive-through aisles and non-medical office building on the second floor. The proposed building has a maximum 39 foot height, which is below the maximum for the C2B zoning district.
- The combined uses for the development require a total of 45 vehicular parking spaces. A total of 52 spaces are provided on the site (with 27% compact spaces). The proposed bank includes two drive-through aisles, which require a special exception use approval. Additionally, the combined uses for the site require 1 Class A and 4 Class C bicycle parking spaces. The required number of bicycle spaces are being provided.
- The site will be accessed from two different locations along W. Stadium Boulevard. A one way entry is proposed near the southern property boundary to facilitate access to the bank drive-through aisles and the parking lot. The main entry in the central portion of the site will provide ingress and egress access to the site for the parking lot. Additionally, it is anticipated this access would be utilized for emergency vehicle access and solid waste pick-up. One solid waste enclosure will be located in the southeastern portion of the property and will include trash and recycling dumpsters.
- Site improvements will include new parking lots and driveways with associated lighting, underground utilities, landscaping, underground stormwater management systems, and solid waste management facilities.
- Construction will occur in one phase. The existing building and utilities will be demolished during construction. Probable construction cost for the proposed site work, utilities, landscaping, and building construction (excluding property) is estimated to be $2,300,000.

iii. Community analysis:

a. Impact on public schools:
The development does not include any residential development and no impact to public schools is anticipated. The development will provide additional tax revenue for schools.

b. Relationship to neighboring uses:
The site is located in the Liberty/Stadium Commercial district in the Stadium Boulevard Commercial Corridor as identified in the City of Ann Arbor Land Use Element of the City Master Plan. The Liberty/Stadium General Commercial District is identified as serving local neighborhood residents as well as a wider, regional population. The proposed development will be a mixture of financial institution and non-medical office consistent with the uses in the Liberty/Stadium General Commercial District as well as permitted uses in the current zoning district for the property (C2B). The financial institution is intended to serve the surrounding residential neighborhood while the non-medical office use is an opportunity for both local residences and a more regional population based on the location along W. Stadium with convenient access to the I-94/M-14 interchange. The existing parking district on the eastern portion of the site will be maintained and the conflicting land use buffer that is required along the east, and southeast corner of the property provide a buffer and screening of the proposed development from the residential parcels to the east.

c. Impact of adjacent uses on proposed development:
The adjacent uses along W. Stadium Boulevard are office and commercial uses that will have no negative impact on the proposed development. It is anticipated that residents within the surrounding residential areas will utilize the financial institution proposed with the development.

d. Impact on air and water quality and existing natural features:
- There will be no anticipated negative impact to air quality.
- The property currently does not have stormwater detention facilities. The proposed stormwater management system improvements are designed to pre-treat, detain, and release the runoff into the public storm sewer at a controlled rate. Water quality controls will be implemented to ensure that runoff during construction is controlled and managed.

e. There are no known endangered species habitats, floodplains, woodland, landmark trees, watercourses, or steep slopes on the site.

f. Impact on historic sites/structures:
No historic structures exist on site. The site itself is not historic.

g. Natural features general descriptions and impacts
- Woodland – no woodland exists on the site
- Wetland – no wetland exists on the site
- Watercourses – no watercourses exist on site
- Landmark trees – no landmark trees exist on the site. The critical root zone of one off-site landmark tree will be avoided by grading with the proposed development.
- Steep slopes – no natural steep slopes exist on the site; man-made existing steep slopes are present along the eastern property line
- Endangered species habitat – no known endangered species habitat exists on the site

iv. Traffic Statement:

The site is located in a commercial area along W. Stadium Boulevard, with a residential neighborhood to the east of the site. The speed limit on W. Stadium Boulevard is 35 MPH, and it is five-lanes wide with bike lanes and sidewalks on either side of the roadway. The site will have one full access driveway at its existing location south of the abandoned car dealership building and one inbound only driveway near the southern edge of the site that will lead to the drive-through lanes of the bank and the site's parking lot. Neither of the site driveways meet the MDOT criteria for a dedicated right-turn deceleration lane and both driveways will have access to the center-left-turn lane on W. Stadium Boulevard. Per the traffic impact study, the development will not significantly impact any of the study intersections which are W. Stadium Boulevard at Liberty, Federal/Arbordale and Pauline Boulevard.

v. Public sidewalk maintenance statement.

Provided. See Notes on the Cover sheet.

vi. Comparison Chart of requirements and existing and proposed conditions:

Provided. See the Site Data Comparison chart for additional information.

vii. Special Exception Use Considerations:

1. The proposed use(s) shall be of such location, size and character as to be compatible with the appropriate and orderly development of the zoning district and adjacent zoning districts in which the Site is situated.

The bank with a proposed drive-through is considered a special exception use in the C2B zoning district. The bank with drive-through will:

- *Be consistent with the general objectives of the Master Plan*
The site is located in the Liberty/Stadium Commercial District of the Stadium Boulevard Commercial Corridor which identifies the area as commercial developments that serve both the local neighborhoods and a more regional population. The proposed financial institution will provide services to both populations. Economically viable financial institutions currently include drive-through facilities for their customers.
- *Be designed, constructed, operated, and maintained in a manner that is consistent with the existing and planned character of the general vicinity.*
Businesses along the W. Stadium Boulevard have individual parking lots and businesses that serve the local neighborhood and a more regional population due to proximity to the freeway interchange. The proposed two story building including the financial institution has similar character of adjacent businesses. Additionally, the proposed drive-through with access behind the building and below the second and third stories is consistent with several other businesses along the W. Stadium Blvd. Additionally, the unique circumstances of the Covid-19 pandemic has led to the trend for customers of financial institutions to prefer drive-through service as opposed to face to face interaction inside the building.
- *Be consistent with the general character of the neighborhood considering population density, design, scale and bulk; and the intensity and character of activity*
The proposed financial institution and drive-through are consistent with existing financial institutions and fast food restaurants along W. Stadium Blvd commercial corridor with drive-through facilities.
- *Not be detrimental to the use, peaceful enjoyment, economic value or Development of neighboring property, or the neighborhood area in general.*
The proposed financial institution and drive-through are consistent with adjacent commercial businesses along W. Stadium Blvd commercial corridor. The drive-through facility is located on the western portion of the property along the commercial corridor and adjacent to commercial businesses. This location allows for parking to be located between the proposed building and the adjacent residential to the east.
- *Not have a detrimental effect on the natural environment.*

There are no regulated natural features near the proposed location for the financial institution and drive-through. The existing street trees that will be removed will be replaced with the proposed development and the street tree canopy loss fee will be provided.

2. The location and size of the proposed use(s), the nature and intensity of the Principal Use and all Accessory Uses, the Site layout and its relation to the streets giving access to it, shall be such that traffic to and from the uses(s), the assembly of Persons in connection with the use(s), and the effect of the proposed use(s) on public services and facilities, will not be Hazardous or inconvenient to the neighborhood nor unduly conflict with the normal traffic of the neighborhood.

- *The location of and access to off-street parking and the save provision for pedestrian traffic.*
The proposed development includes a one-way access point to the drive-through lanes. The proposed development includes a widened pedestrian sidewalk along W. Stadium Blvd to promote pedestrian accessibility along the commercial corridor. Additionally, the sidewalk along the northern side of the proposed financial institution will extend to the drive-through lanes and a cross walk will be painted along the lanes to promote pedestrian safety from the parking lot to the proposed building.
- *The relationship of the proposed use to main traffic thoroughfares and to streets and road intersections.*
Per the traffic impact study for the proposed development, the development will not significantly impact any of the study intersections which are W. Stadium Boulevard at Liberty, Federal/Arbordale and Pauline Boulevard.
- *Vehicular turning movements in relationship to traffic flow routes*
Per the traffic impact study for the proposed development, neither of the site driveways meet the MDOT criteria for a dedicated right-turn deceleration lane and both driveways will have access to the center-left-turn lane on W. Stadium Boulevard.
- *The intensity and character of traffic and parking conditions on the Site, and in the general area.*
The proposed uses will include demolition of an abandoned car dealership which has existing impervious surface on the majority of the site. The proposed development is anticipated to primarily serve local neighborhood residents and is located along an existing commercial corridor with individual parking lots for businesses. Per the traffic impact study, the proposed development will not significantly impact any of the study intersections in close proximity to the site.
- *The requirements for additional public services and facilities that will be created by the proposed use will not be detrimental to the social and economic welfare of the community.*
The proposed development will be a redevelopment of an existing and abandoned site with a large amount of impervious surface. The facilities will connect to existing water and sanitary services along W. Stadium Blvd. The proposed stormwater management facilities will improve treatment and control of stormwater runoff from the site prior to entering the City storm system.

3. The standards of density and required open space for the proposed use shall be at least equal to those required by this chapter in the zoning district in which the proposed use is to be located, unless a variance is granted pursuant to Section 5.29.12.

The standards of density and required open space for the proposed development are consistent with the area, height, and placement requirements for the C2B zoning district.

SITE DATA COMPARISON CHART

	Existing C2B / P Districts	Allowed / Required - C2B Business District	Allowed / Required - P Parking District	Proposed South Parcel C2B Business District	Proposed South Parcel Parking	Proposed North C2B / P Districts
Zoning						
Permitted Land Use	Vacant	Commercial, Office, Warehousing & Storage	Parking Lots and Structures	Bank/Office Building	Parking Lot	Vacant
Special Exception Use				Drive-thru		
Site Area	100,857 sf	4,000 sf min.	NA	30,819 sf (43,046sf total)	12,227 sf	57,811 sf
Total	2.32 Acres			0.71 Acres (0.99 acres total)	0.28 Acres	1.33 Acres
Lot Width	324 ft	40 ft min.	NA	195 ft	NA	129 ft
Building						
Number of Buildings	1 Vacant	NA	NA	1 Building	NA	NA
Ground Floor Area	16542 sf	NA	NA	4,438 sf ground floor area	NA	NA
Floor Area Ratio	16.4 %	200 % max.	NA	4,438 sf Ground Floor 8,273 sf 2nd Floor 12,711 sf Total 41.2 % FAR	NA	NA
Building Height	1 Story	55 ft; 4 stories	Equal to lowest max. ht (ft.) of abutting residential. Abutting residential is R1C, maximum height is 30 ft.	39'-0" ft max. (Corner Tower); 2 stories	NA	NA
Setbacks						
Front	21.3 ft	10 ft minimum	10 ft minimum	10 ft min.	NA	NA
		25 ft maximum	No maximum		NA	NA
Rear	112.8 ft	None required - not abutting residential	2.5 ft minimum	180 ft min.	NA	NA
Side	22.7 ft	None required - not abutting residential	2.5 ft min. except. 15 ft min. abutting residentially zoning.	9 ft min. south 50 ft min. north	NA	NA
Vehicular Parking						
Bank	NA	1 space/220 sf Floor Area min. 3,925 sf / 220 sf = 18 spaces	NA	34 spaces provided in C2B District	18 spaces provided in Parking District	NA
Offices	NA	1 space/333 sf Floor Area min. 8,786 sf / 333 sf = 27 spaces	NA			NA
Total	NA	18 + 27= 45 spaces required	NA	34+18 = 52 total spaces provided (14 compact / 27%)		NA
Electric Vehicle Parking						
Bank	NA	10% EV-I, 10% EV-R 18 x 0.1 = 2 EV-I and 2 EV-R	NA	2 EV-I provided 2 EV-R provided	NA	NA
Bank - Offices	NA	10% EV-I, 15% EV-R, 25% EV-C 27 x 0.1 = 3 EV-I 27 x 0.15 = 5 EV-R 27 x 0.25 = 7 EV-C	NA	4 EV-I provided 4 EV-R provided 7 EV-C provided	NA	NA
Total	NA	5 EV-I required, 7 EV-R required, 7 EV-C required	NA	6 EV-I provided 6 EV-R provided (1 EV-I instead) 7 EV-C provided	NA	NA
Bicycle Parking						
Bank	NA	1 space/2,000 sf Floor Area min. 3,925 sf / 2,000 sf = 2 Class C	NA	4 Class C spaces provided	NA	NA
Bank - Offices	NA	1 space/3,000 sf Floor Area min. 8,786sf / 3,000 sf = 3 spaces 30% Class A, 70% Class C 1 Class A, 2 Class C spaces	NA	1 Class A space provided 4 Class C spaces provided	NA	NA
Total	NA	1 Class A spaces required 4 Class C spaces required	NA	1 Class A space provided total 8 Class C spaces provided total	NA	NA

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CLIENT
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30100 TELEGRAPH ROAD, SUITE 220
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SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT
SITE PLAN
COMPLIANCE INFORMATION

02

DATE: 07/23/20
SHEET 02 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
/20034CV1

JOB No. **20034**

REVISIONS:	REV. DATE
PER REVIEW COMMENTS	09/11/20
NO CHANGES THIS SHEET	10/07/20
REVISED SITE PLAN	05/06/21
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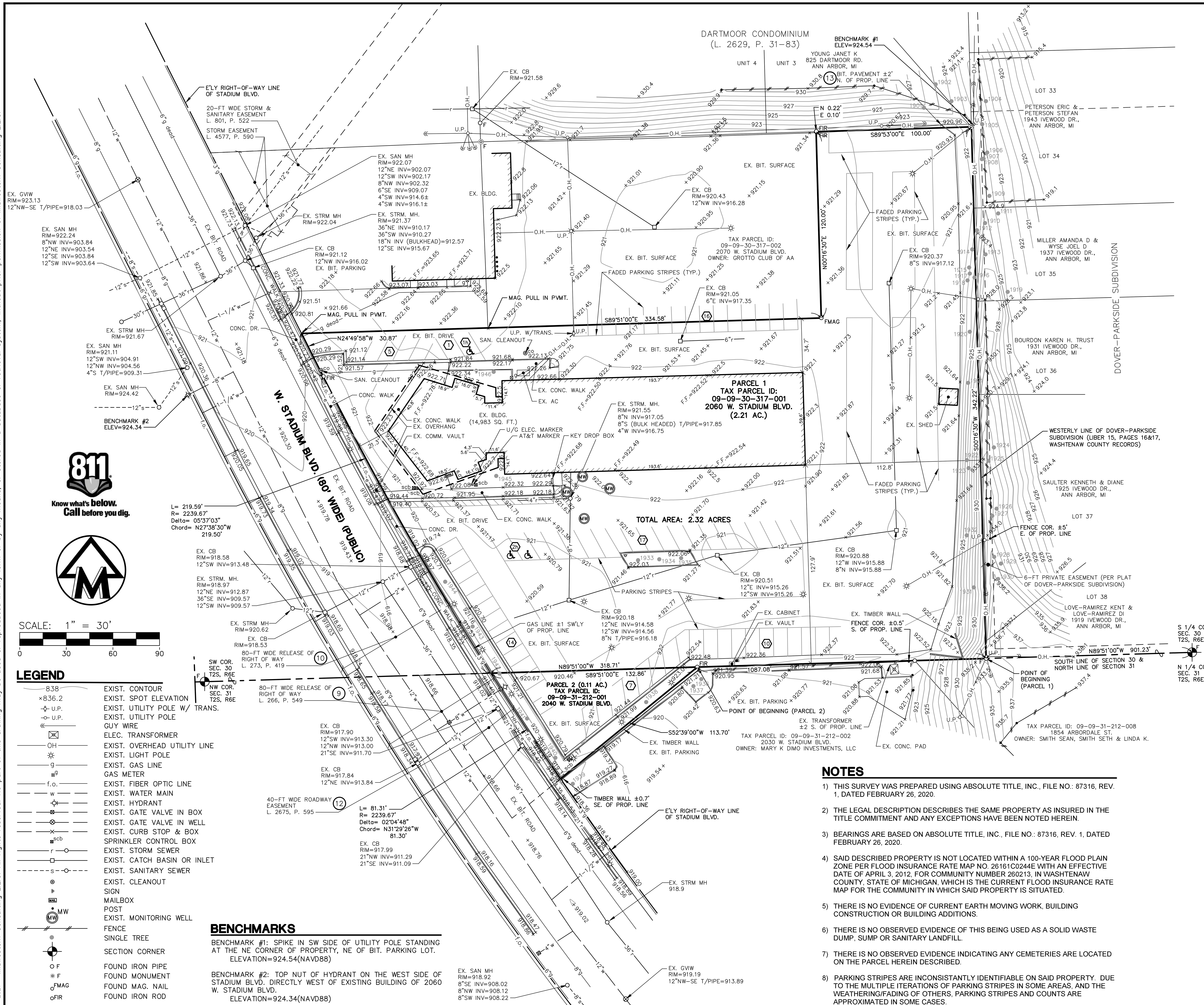
PER CITY REVIEW	06/24/21



LEGEND

838	EXIST. CONTOUR
×836.2	EXIST. SPOT ELEVATION
U.P.	EXIST. UTILITY POLE W/ TRANS.
U.P.	EXIST. UTILITY POLE
	GUY WIRE
⊠	ELEC. TRANSFORMER
OH	EXIST. OVERHEAD UTILITY LINE
☼	EXIST. LIGHT POLE
g	EXIST. GAS LINE
⊠g	GAS METER
f.o.	EXIST. FIBER OPTIC LINE
w	EXIST. WATER MAIN
	EXIST. HYDRANT
	EXIST. GATE VALVE IN BOX
	EXIST. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
⊠scb	SPRINKLER CONTROL BOX
r	EXIST. STORM SEWER
	EXIST. CATCH BASIN OR INLET
s	EXIST. SANITARY SEWER
◎	EXIST. CLEANOUT
	SIGN
MAIL	MAILBOX
●	POST
MW	EXIST. MONITORING WELL
	FENCE
●	SINGLE TREE
	SECTION CORNER
○F	FOUND IRON PIPE
◎F	FOUND MONUMENT
○FMAG	FOUND MAG. NAIL
○FIR	FOUND IRON ROD

BENCHMARKS

BENCHMARK #1: SPIKE IN SW SIDE OF UTILITY POLE STANDING AT THE NE CORNER OF PROPERTY, NE OF BIT. PARKING LOT.
ELEVATION=924.54(NAVD88)

BENCHMARK #2: TOP NUT OF HYDRANT ON THE WEST SIDE OF STADIUM BLVD. DIRECTLY WEST OF EXISTING BUILDING OF 2060 W. STADIUM BLVD.
ELEVATION=924.34(NAVD88)

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NOTES

1) THIS SURVEY WAS PREPARED USING ABSOLUTE TITLE, INC., FILE NO.: 87316, REV. 1, DATED FEBRUARY 26, 2020.

2) THE LEGAL DESCRIPTION DESCRIBES THE SAME PROPERTY AS INSURED IN THE TITLE COMMITMENT AND ANY EXCEPTIONS HAVE BEEN NOTED HEREIN.

3) BEARINGS ARE BASED ON ABSOLUTE TITLE, INC., FILE NO.: 87316, REV. 1, DATED FEBRUARY 26, 2020.

4) SAID DESCRIBED PROPERTY IS NOT LOCATED WITHIN A 100-YEAR FLOOD PLAIN ZONE PER FLOOD INSURANCE RATE MAP NO. 26161C0244E WITH AN EFFECTIVE DATE OF APRIL 3, 2012, FOR COMMUNITY NUMBER 260213, IN WASHTENAW COUNTY, STATE OF MICHIGAN, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.

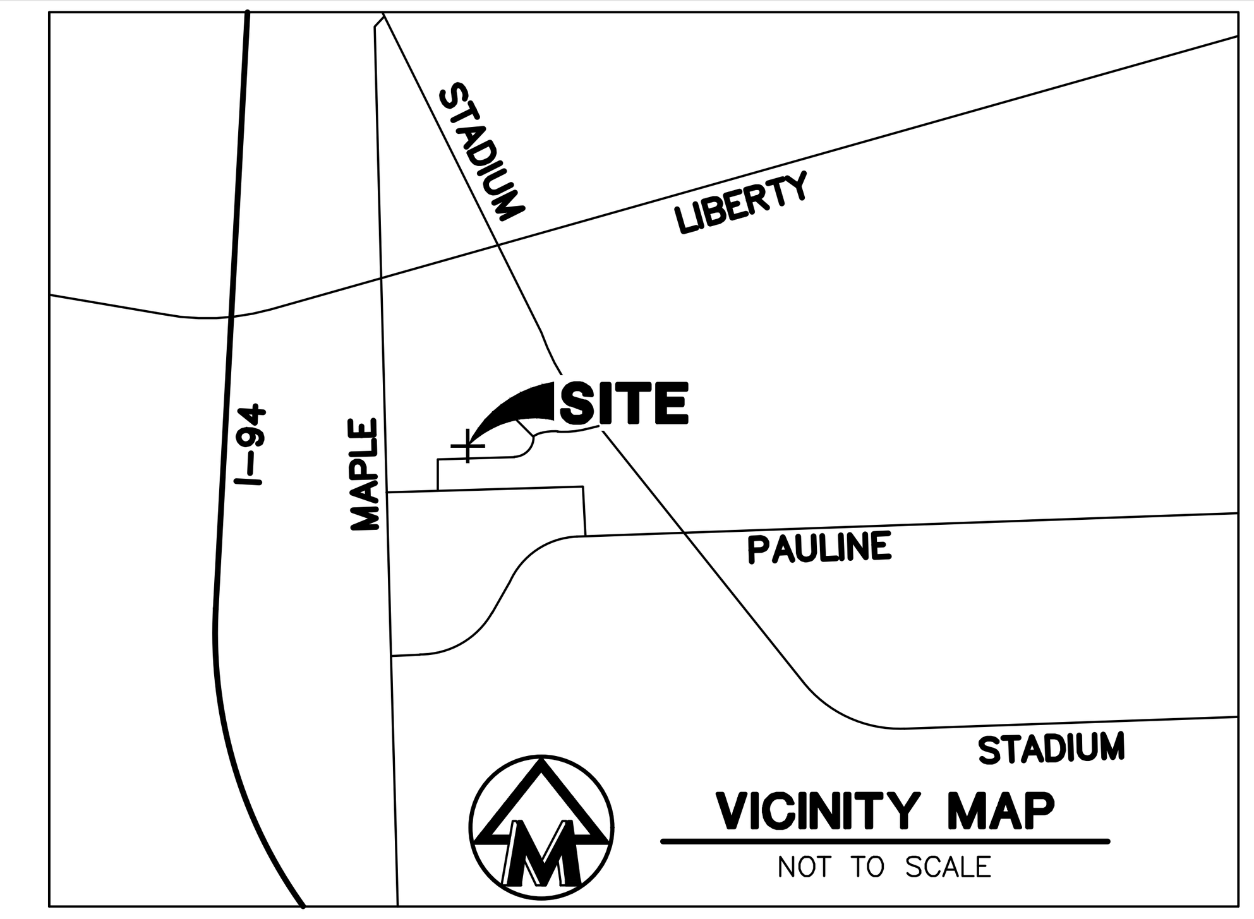
5) THERE IS NO EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.

6) THERE IS NO OBSERVED EVIDENCE OF THIS BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.

7) THERE IS NO OBSERVED EVIDENCE INDICATING ANY CEMETERIES ARE LOCATED ON THE PARCEL HEREIN DESCRIBED.

8) PARKING STRIPES ARE INCONSISTANTLY IDENTIFIABLE ON SAID PROPERTY. DUE TO THE MULTIPLE ITERATIONS OF PARKING STRIPES IN SOME AREAS, AND THE WEATHERING/FADING OF OTHERS, PARKING STRIPES AND COUNTS ARE APPROXIMATED IN SOME CASES.

9) THERE IS NO EVIDENCE OF PLOTTABLE OFFSITE EASEMENTS OR SERVITUDES, AS SHOWN ON THIS SURVEY.



VICINITY MAP
NOT TO SCALE

LEGAL DESCRIPTION

(from Absolute Title, Inc., File No.: 87316, Rev. 1, dated February 26, 2020)

Parcel 1
Part of the Southwest 1/4 of Section 30, Town 2 South, Range 6 East, City of Ann Arbor, Washtenaw County, Michigan, described as: Commencing at the South 1/4 corner of said Section 30; thence along the South line of said Section 30 North 89°51'00" West 901.23 feet to the Point of Beginning; thence North 89°51'00" West 318.71 feet to a point on the Easterly Right-of-Way line of Stadium Boulevard (80 feet wide); thence along said Easterly Right-of-Way line the following 2 courses: 1) 219.59 (recorded as 219.53) feet along an arc of a curve to the right, radius 2239.67 feet, central angle 05°37'03", chord bears North 27°38'30" West 219.50 feet and 2) North 24°49'58" West 30.87 feet (recorded as South 24°50'00" East 29.56 feet); thence South 89°51'00" East 334.58 (recorded as 333.89) feet; thence North 00°16'30" East 120.00 feet; thence South 89°53'00" East (recorded as North 89°51'00" West) 100.00 feet to a point on the Westerly line of Dover-Parkside Subdivision, as recorded in Liber 15, Pages 16 and 17, Washtenaw County Records; thence South 00°16'30" West 342.22 feet to the Point of Beginning.

Parcel 2
Part of the Northwest 1/4 of Section 31, Town 2 South, Range 6 East, City of Ann Arbor, Washtenaw County, Michigan, described as: Commencing at the North 1/4 corner of said Section 31; thence along the North line of said Section 31 North 89°51'00" West 1087.08 (recorded as 1087.39) feet to the Point of Beginning; thence South 52°39'00" West 113.70 feet to a point on the Easterly Right-of-Way line of Stadium Boulevard (80 feet wide); thence along said Easterly Right-of-Way line 81.31 feet along an arc of a curve to the right, radius 2239.67 feet, central angle 02°04'48", chord bears North 31°29'26" West 81.30 feet; thence South 89°51'00" East 132.86 feet to the Point of Beginning.

EXCEPTIONS

9. Release of right of way in favor of the Board of County Road Commissioners for Washtenaw County, as recorded in Liber 266, Page 549, Washtenaw County Records. (PLOTTED)
10. Release of Right of Way for highway purposes, as recorded in Liber 273, Page 419, Washtenaw County Records. (PLOTTED)
11. Building and use restrictions contained in instruments recorded in Liber 1820, Page 171, Washtenaw County Records, but omitting any such covenant or restriction based on race, color, religion, sex, handicap, familial status or national origin. (NOT PLOTTED)
12. Easement in favor of the City of Ann Arbor for roadway purposes, as recorded in Liber 2675, Page 595, Washtenaw County Records. (PLOTTED)
13. Asphalt paving, driveway, fences, and parking stalls encroachments, and storm sewer, gas lines, overhead utility lines, and electric manhole, as shown on Midwestern Consulting ALTA/NSPS Survey dated February 17, 2020, Job No. 20034. (PLOTTED)

TREE LIST

TAG#	DBH	COMMON NAME	GENUS/SPECIES	STEMS	SCORE	LM	INV
1901	7"	Black Locust	Robinia pseudoacaci				X
1902	16"	Black Locust	Robinia pseudoacaci				X
1903	11"	Common Apple	Malus pumila				
1904	10"	Norway Spruce	Picea abies				
1905	8"	Norway Spruce	Picea abies				
1906	7"	Norway Spruce	Picea abies				
1907	14"	Norway Spruce	Picea abies				
1908	8"	Norway Spruce	Picea abies				
1909	7"	Norway Spruce	Picea abies				
1910	7"	Norway Spruce	Picea abies				
1911	14"	Black Locust	Robinia pseudoacaci				X
1912	10"	American Elm	Ulmus americana				
1913	7"	Norway Spruce	Picea abies				
1914	6"	American Elm	Ulmus americana				
1915	7"	American Elm	Ulmus americana				
1916	7"	Tree-of-heaven	Ailanthus altissima	twin			X
1917	6"	Black Locust	Robinia pseudoacaci				X
1918	6"	Black Locust	Robinia pseudoacaci				X
1919	11"	Blue Spruce	Picea pungens				
1920	7"	Siberian Elm	Ulmus pumila				X
1921	10"	Black Locust	Robinia pseudoacaci				X
1922	7"	American Elm	Ulmus americana	twin			
1923	9"	American Elm	Ulmus americana	twin			
1924	16"	Norway Spruce	Picea abies				
1925	11"	Norway Spruce	Picea abies				
1926	19"	Norway Spruce	Picea abies		21	X	
1927	13"	Norway Spruce	Picea abies				
1928	12"	Norway Spruce	Picea abies				
1929	13"	Norway Spruce	Picea abies				
1930	15"	Norway Spruce	Picea abies				
1931	6"	Siberian Elm	Ulmus pumila	twin			X
1932	8"	American Elm	Ulmus americana	twin			
1933	6"	Bradford Pear	Pyrus calleryana				
1934	6"	Bradford Pear	Pyrus calleryana				
1935	7"	Bradford Pear	Pyrus calleryana				
1936	10"	Honey Locust	Gleditsia triacanthos				
1937	6"	Honey Locust	Gleditsia triacanthos				
1938	10"	Bradford Pear	Pyrus calleryana				
1939	11"	Honey Locust	Gleditsia triacanthos				
1940	6"	Sycamore	SorbusY				
1941	6"	Sycamore	SorbusY				
1942	8"	Sycamore	SorbusY				
1943	4"	Sycamore	SorbusY				
1944	4"	Sycamore	SorbusY				
1945	17"	Norway Maple	Acer platanoides				X
1946	19"	Norway Maple	Acer platanoides				X

SURVEYORS CERTIFICATE

To: Northstar Bank, a Michigan corporation, Absolute Title, Inc., and Stewart Title Guaranty Company:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 2, 3, 4, 5, 6b, 7a, 7b1, 8, 9, 11, 13, and 19 of Table A thereof. The fieldwork was completed on February 13, 2020.

MIDWESTERN CONSULTING, LLC

By: Mark Vander Veen
Mark Vander Veen, P.S. No. 56788

Date: June 5, 2020

STATE OF MICHIGAN
MARK VANDER VEEN
PROFESSIONAL SURVEYOR
No. 56788
LICENSED PROFESSIONAL SURVEYOR

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Wireless Communications • Transportation • Landfill Services

CLIENT
NORTHSTADIUM, LLC
30100 TELEGRAPH ROAD, SUITE 220
BINGHAM FARMS, MI 48025
SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT

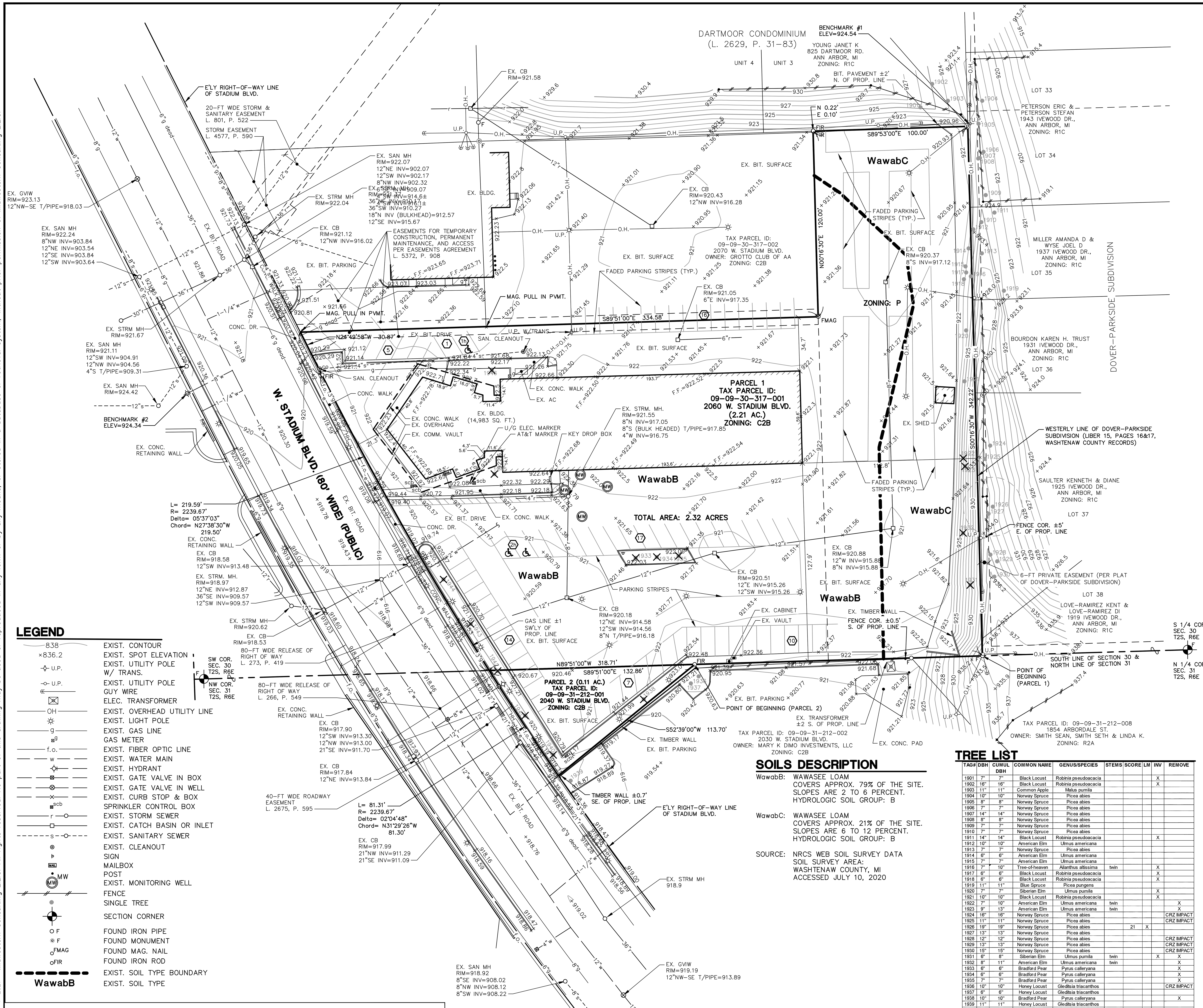
ALTA/NSPS LAND TITLE SURVEY OF PARCELS OF LAND LOCATED IN THE SW 1/4 OF SECTION 30 & NW 1/4 OF SECTION 31, T2S, R6E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

03

DATE: 02-17-20
SHEET 03 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
20034ALTA
FB#:1026

JOB No. **20034**

REVISIONS:	REV. DATE
PER CLIENT REVIEW – ADD'L SURVEY	02-25-20
PER REVISED TITLE WORK	03-05-20
ADDED SHEET TO PLAN SET	05/06/21



LEGEND

838	EXIST. CONTOUR
×836.2	EXIST. SPOT ELEVATION
U.P.	EXIST. UTILITY POLE W/ TRANS.
U.P.	EXIST. UTILITY POLE
	GUY WIRE
	ELEC. TRANSFORMER
OH	EXIST. OVERHEAD UTILITY LINE
	EXIST. LIGHT POLE
g	EXIST. GAS LINE
g	GAS METER
f.o.	EXIST. FIBER OPTIC LINE
w	EXIST. WATER MAIN
	EXIST. HYDRANT
	EXIST. GATE VALVE IN BOX
	EXIST. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
scb	SPRINKLER CONTROL BOX
r	EXIST. STORM SEWER
	EXIST. CATCH BASIN OR INLET
s	EXIST. SANITARY SEWER
	EXIST. CLEANOUT
	SIGN
MAIL	MAILBOX
	POST
MW	EXIST. MONITORING WELL
	FENCE
	SINGLE TREE
	SECTION CORNER
F	FOUND IRON PIPE
F	FOUND MONUMENT
FMAG	FOUND MAG. NAIL
FIR	FOUND IRON ROD
	EXIST. SOIL TYPE BOUNDARY
WawabB	EXIST. SOIL TYPE

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

SOILS DESCRIPTION

WawabB: WAWASEE LOAM
COVERS APPROX. 79% OF THE SITE.
SLOPES ARE 2 TO 6 PERCENT.
HYDROLOGIC SOIL GROUP: B

WawabC: WAWASEE LOAM
COVERS APPROX. 21% OF THE SITE.
SLOPES ARE 6 TO 12 PERCENT.
HYDROLOGIC SOIL GROUP: B

SOURCE: NRCS WEB SOIL SURVEY DATA
SOIL SURVEY AREA:
WASHTENAW COUNTY, MI
ACCESSED JULY 10, 2020

TREE LIST

TAG#	DBH	CUMUL DBH	COMMON NAME	GENUS/SPECIES	STEMS	SCORE	LM	INV	REMOVE
1901	7"	7"	Black Locust	Robinia pseudoacacia				X	
1902	16"	16"	Black Locust	Robinia pseudoacacia				X	
1903	11"	11"	Common Apple	Malus pumila					
1904	10"	10"	Norway Spruce	Picea abies					
1905	8"	8"	Norway Spruce	Picea abies					
1906	7"	7"	Norway Spruce	Picea abies					
1907	14"	14"	Norway Spruce	Picea abies					
1908	8"	8"	Norway Spruce	Picea abies					
1909	7"	7"	Norway Spruce	Picea abies					
1910	7"	7"	Norway Spruce	Picea abies					
1911	14"	14"	Black Locust	Robinia pseudoacacia				X	
1912	10"	10"	American Elm	Ulmus americana					
1913	7"	7"	Norway Spruce	Picea abies					
1914	6"	6"	American Elm	Ulmus americana					
1915	7"	7"	American Elm	Ulmus americana					
1916	7"	10"	Tree-of-heaven	Ailanthus altissima	twin			X	
1917	6"	6"	Black Locust	Robinia pseudoacacia				X	
1918	6"	6"	Black Locust	Robinia pseudoacacia				X	
1919	11"	11"	Blue Spruce	Picea pungens					
1920	7"	7"	Siberian Elm	Ulmus pumila				X	
1921	10"	10"	Black Locust	Robinia pseudoacacia				X	
1922	7"	10"	American Elm	Ulmus americana	twin				X
1923	9"	13"	American Elm	Ulmus americana	twin				X
1924	16"	16"	Norway Spruce	Picea abies					CRZ IMPACT
1925	11"	11"	Norway Spruce	Picea abies					CRZ IMPACT
1926	19"	19"	Norway Spruce	Picea abies		21	X		
1927	13"	13"	Norway Spruce	Picea abies					
1928	12"	12"	Norway Spruce	Picea abies					CRZ IMPACT
1929	13"	13"	Norway Spruce	Picea abies					CRZ IMPACT
1930	15"	15"	Norway Spruce	Picea abies					CRZ IMPACT
1931	6"	8"	Siberian Elm	Ulmus pumila	twin			X	X
1932	8"	11"	American Elm	Ulmus americana	twin				X
1933	6"	6"	Bradford Pear	Pyrus calleryana					X
1934	6"	6"	Bradford Pear	Pyrus calleryana					X
1935	7"	7"	Bradford Pear	Pyrus calleryana					X
1936	10"	10"	Honey Locust	Gleditsia triacanthos					CRZ IMPACT
1937	6"	6"	Honey Locust	Gleditsia triacanthos					
1938	10"	10"	Bradford Pear	Pyrus calleryana					X
1939	11"	11"	Honey Locust	Gleditsia triacanthos					
1940	6"	6"	Sycamore	Platanus occidentalis					X
1941	6"	6"	Sycamore	Platanus occidentalis					X
1942	8"	8"	Sycamore	Platanus occidentalis					X
1943	4"	4"	Sycamore	Platanus occidentalis					X
1944	4"	4"	Sycamore	Platanus occidentalis					X
1945	17"	17"	Norway Maple	Acer platanoides				X	X
1946	19"	19"	Norway Maple	Acer platanoides				X	X

Know what's below. Call before you dig.

NOTES

1. THE BASE SURVEY WAS PREPARED BY MIDWESTERN CONSULTING IN JUNE 2020. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.
2. THIS SURVEY WAS PREPARED USING ABSOLUTE TITLE, INC., FILE NO.: 87316, REV. 1, DATED FEBRUARY 26, 2020.
3. THE LEGAL DESCRIPTION DESCRIBES THE SAME PROPERTY AS INSURED IN THE TITLE COMMITMENT AND ANY EXCEPTIONS HAVE BEEN NOTED HEREIN.
4. BEARINGS ARE BASED ON ABSOLUTE TITLE, INC., FILE NO.: 87316, REV. 1, DATED FEBRUARY 26, 2020.
5. SAID DESCRIBED PROPERTY IS NOT LOCATED WITHIN A 100–YEAR FLOOD PLAIN ZONE PER FLOOD INSURANCE RATE MAP NO. 26161C0244E WITH AN EFFECTIVE DATE OF APRIL 3, 2012, FOR COMMUNITY NUMBER 260213, IN WASHTENAW COUNTY, STATE OF MICHIGAN, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.
6. THERE IS NO EVIDENCE OF CURRENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.
7. THERE IS NO OBSERVED EVIDENCE OF THIS BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
8. THERE IS NO OBSERVED EVIDENCE INDICATING ANY CEMETERIES ARE LOCATED ON THE PARCEL HEREIN DESCRIBED.
9. PARKING STRIPES ARE INCONSISTENTLY IDENTIFIABLE ON SAID PROPERTY. DUE TO THE MULTIPLE ITERATIONS OF PARKING STRIPES IN SOME AREAS, AND THE WEATHERING/FADING OF OTHERS, PARKING STRIPES AND COUNTS ARE APPROXIMATED IN SOME CASES.
10. THERE IS NO EVIDENCE OF PLOTTABLE OFFSITE EASEMENTS OR SERVITUDES, AS SHOWN ON THIS SURVEY.
11. EXISTING BUILDING ON SITE DO NOT HAVE BASEMENT. BUILDINGS WITHOUT BASEMENTS ARE ASSUMED TO NOT HAVE FOOTING DRAINS.

BENCHMARKS

BENCHMARK #1: SPIKE IN SW SIDE OF UTILITY POLE STANDING AT THE NE CORNER OF PROPERTY, NE OF BIT. PARKING LOT.
ELEVATION=924.54 (NAVD88)

BENCHMARK #2: TOP NUT OF HYDRANT ON THE WEST SIDE OF STADIUM BLVD. DIRECTLY WEST OF EXISTING BUILDING OF 2060 W. STADIUM BLVD.
ELEVATION=924.34 (NAVD88)

LEGAL DESCRIPTION

(from Absolute Title, Inc., File No.: 87316, Rev. 1, dated February 26, 2020)

Parcel 1
Part of the Southwest 1/4 of Section 30, Town 2 South, Range 6 East, City of Ann Arbor, Washtenaw County, Michigan, described as: Commencing at the South 1/4 corner of said Section 30; thence along the South line of said Section 30 North 89°51'00" West 901.23 feet to the Point of Beginning; thence North 89°51'00" West 318.71 feet to a point on the Easterly Right-of-Way line of Stadium Boulevard (80 feet wide); thence along said Easterly Right-of-Way line the following 2 courses: 1) 219.59 (recorded as 219.53) feet along an arc of a curve to the right, radius 2239.67 feet, central angle 05°37'03", chord bears North 27°38'30" West 219.50 feet and 2) North 24°49'58" West 30.87 feet (recorded as South 24°50'00" East 29.56 feet); thence South 89°51'00" East 334.58 (recorded as 333.89) feet; thence North 00°16'30" East 120.00 feet; thence South 89°53'00" East (recorded as North 89°51'00" West) 100.00 feet to a point on the Westerly line of Dover-Parkside Subdivision, as recorded in Liber 15, Pages 16 and 17, Washtenaw County Records; thence South 00°16'30" West 342.22 feet to the Point of Beginning.

Parcel 2
Part of the Northwest 1/4 of Section 31, Town 2 South, Range 6 East, City of Ann Arbor, Washtenaw County, Michigan, described as: Commencing at the North 1/4 corner of said Section 31; thence along the North line of said Section 31 North 89°51'00" West 1087.08 (recorded as 1087.39) feet to the Point of Beginning; thence South 52°39'00" West 113.70 feet to a point on the Easterly Right-of-Way line of Stadium Boulevard (80 feet wide); thence along said Easterly Right-of-Way line 81.31 feet along an arc of a curve to the right, radius 2239.67 feet, central angle 02°04'48", chord bears North 31°29'26" West 81.30 feet; thence South 89°51'00" East 132.86 feet to the Point of Beginning.

EXCEPTIONS

9. Release of right of way in favor of the Board of County Road Commissioners for Washtenaw County, as recorded in Liber 266, Page 549, Washtenaw County Records. (PLOTTED)

10. Release of Right of Way for highway purposes, as recorded in Liber 273, Page 419, Washtenaw County Records. (PLOTTED)

11. Building and use restrictions contained in instruments recorded in Liber 1820, Page 171, Washtenaw County Records, but omitting any such covenant or restriction based on race, color, religion, sex, handicap, familial status or national origin. (NOT PLOTTED)

12. Easement in favor of the City of Ann Arbor for roadway purposes, as recorded in Liber 2675, Page 595, Washtenaw County Records. (PLOTTED)

13. Asphalt paving, driveway, fences, and parking stalls encroachments, and storm sewer, gas lines, overhead utility lines, and electric manhole, as shown on Midwestern Consulting ALTA/NSPS Survey dated February 17, 2020, Job No. 20034. (PLOTTED)

SURVEYORS CERTIFICATE

To: Northstar Bank, a Michigan corporation, Absolute Title, Inc., and Stewart Title Guaranty Company:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 2, 3, 4, 5, 6b, 7a, 7b1, 8, 9, 11, 13, and 19 of Table A thereof. The fieldwork was completed on February 13, 2020.

MIDWESTERN CONSULTING, LLC

By: Mark Vander Veen
Mark Vander Veen, P.S. No. 56788

Date: June 5, 2020

STATE OF MICHIGAN · MARK VANDER VEEN · PROFESSIONAL SURVEYOR · No. 56788 · LICENSED PROFESSIONAL SURVEYOR

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C O N S U L T I N G
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Wireless Communications • Transportation • Landfill Services

CLIENT
NORTHSTADIUM, LLC
30100 TELEGRAPH ROAD, SUITE 220
BINGHAM FARMS, MI 48025
SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT

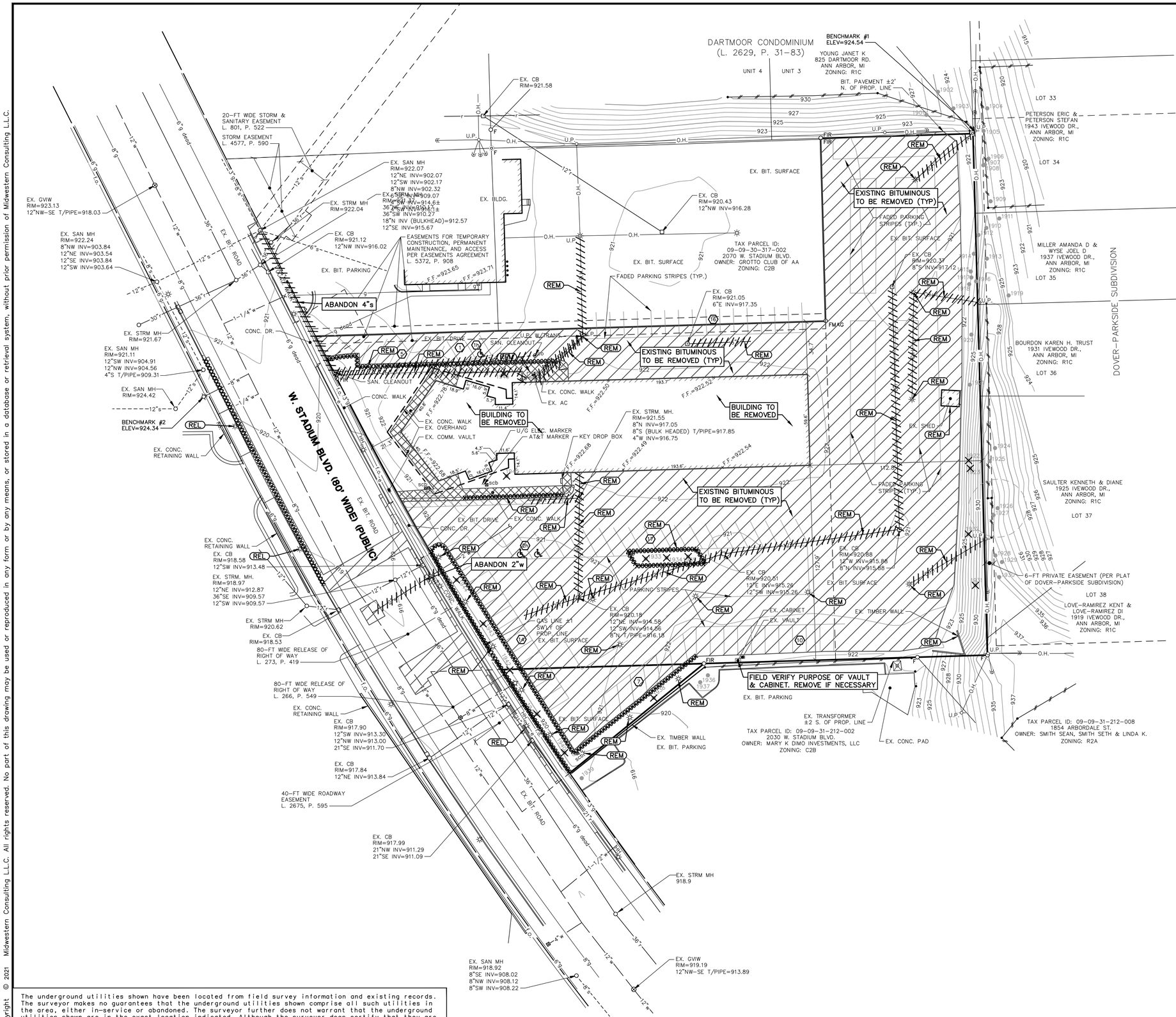
SITE PLAN
EXISTING CONDITIONS

04

DATE: 07/23/20
SHEET 04 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
/20034EX1

JOB No. **20034**

REVISIONS:	REV. DATE
PER REVIEW COMMENTS	09/11/20
NO CHANGES THIS SHEET	10/07/20
REVISED SITE PLAN	05/06/21
PER CITY REVIEW	06/11/21
PER CITY REVIEW	06/24/21



SCALE: 1" = 30'

0 30 60 90

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

NOTES

1. ALL ON-SITE FEATURES AND UTILITIES ARE TO BE REMOVED UNLESS OTHERWISE NOTED.
2. ALL EXISTING FRANCHISE UTILITIES ARE TO BE REMOVED BY OR PER THE PARTY HAVING JURISDICTION.
3. UTILITY SERVICE LEADS SERVING THE EXISTING STRUCTURE TO BE DEMOLISHED MUST BE PERMANENTLY KILLED AT THEIR RESPECTIVE UTILITY MAIN.

LEGEND

- CONCRETE TO BE REMOVED
- BITUMINOUS TO BE REMOVED
- UTILITY TO BE REMOVED OR ABANDONED
- CURB TO BE REMOVED
- TREE TO BE REMOVED
- (REL) ITEM TO BE RELOCATED
- (REM) ITEM TO BE REMOVED

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

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BINGHAM FARMS, MI 48025
SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT

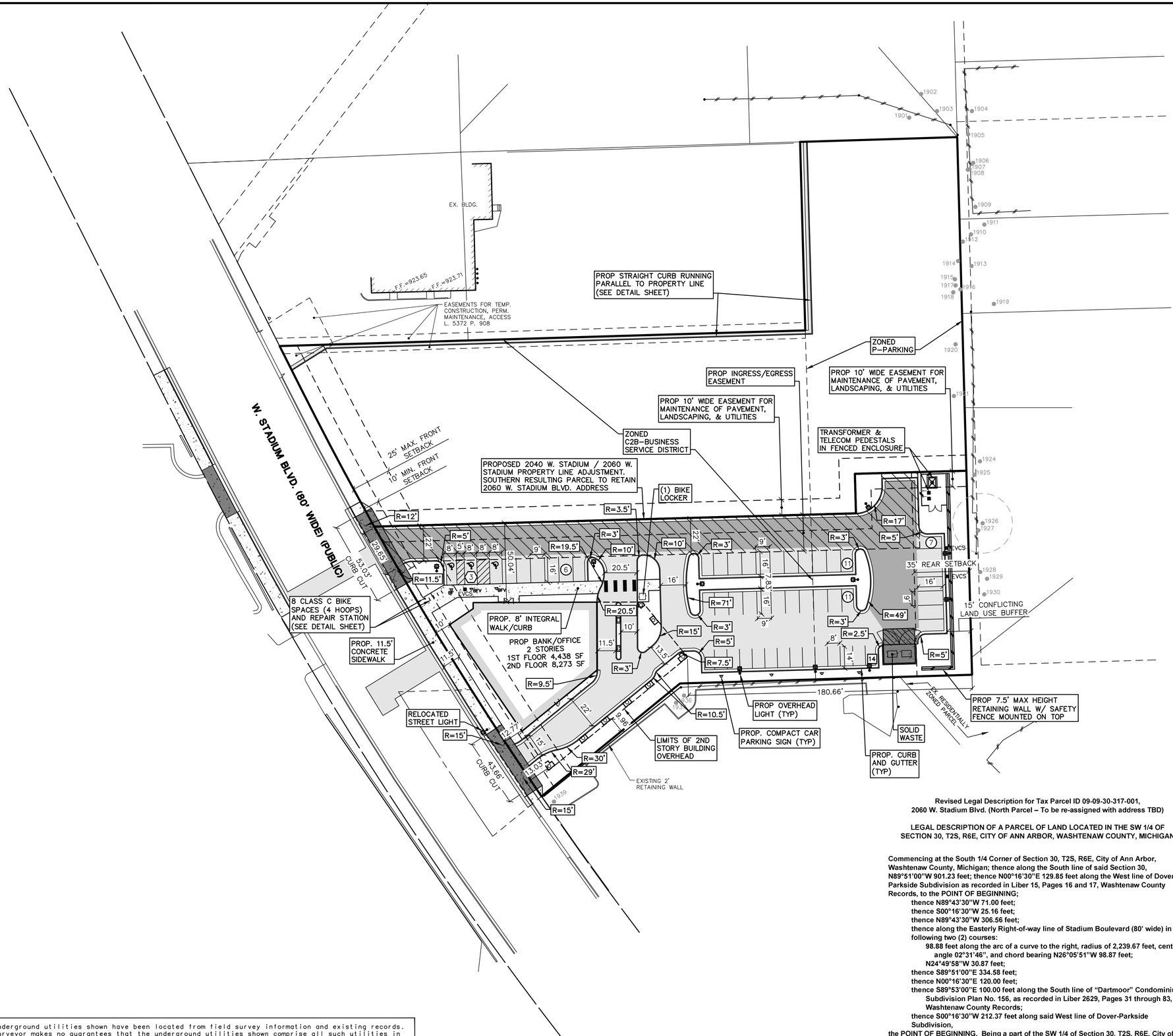
SITE PLAN
DEMOLITION AND REMOVALS PLAN

05

JOB No. 20034

DATE: 07/23/20
SHEET 05 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
I:\20034EX1

REVISIONS:	REV. DATE
PER CITY COMMENTS	08/17/20
MDOT REVIEW THIS SHEET	10/07/20
REVISED SITE PLAN	05/06/21
PER CITY REVIEW	06/11/21
PER CITY REVIEW	06/24/21



SCALE: 1" = 30'

0 30 60 90

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

NOTES

1. ALL RADII SHOWN ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. SEE EASEMENT PLAN FOR ALL PROPOSED EASEMENTS.

LEGEND

- (0) NUMBER OF STANDARD PARKING SPACES IN ROW
- [0] NUMBER OF COMPACT CAR PARKING SPACES IN ROW
- ⟨0⟩ NUMBER OF BARRIER FREE PARKING SPACES IN ROW
- BF BARRIER FREE PARKING SIGN
- BFV VAN ACCESSIBLE BARRIER FREE PARKING SIGN
- R BARRIER FREE SIDEWALK RAMP
- PROP. CURB & GUTTER
- PROP. BITUMINOUS PAVEMENT
- PROP. HEAVY DUTY BITUMINOUS PAVEMENT
- PROP. CONCRETE PAVEMENT
- PROP. HEAVY DUTY CONCRETE
- SIGN
- PROP. SINGLE LIGHT
- PROP. DOUBLE LIGHT

Revised Legal Description for Tax Parcel ID 09-09-30-317-001, 2060 W. Stadium Blvd. (North Parcel – To be re-assigned with address TBD)

LEGAL DESCRIPTION OF A PARCEL OF LAND LOCATED IN THE SW 1/4 OF SECTION 30, T2S, R6E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

Commencing at the South 1/4 Corner of Section 30, T2S, R6E, City of Ann Arbor, Washtenaw County, Michigan; thence along the South line of said Section 30, N89°51'00"W 901.23 feet; thence N00°16'30"E 129.85 feet along the West line of Dover-Parkside Subdivision as recorded in Liber 15, Pages 16 and 17, Washtenaw County Records, to the POINT OF BEGINNING;
thence N89°43'30"W 71.00 feet;
thence S00°16'30"W 25.16 feet;
thence N89°43'30"W 306.56 feet;
thence along the Easterly Right-of-way line of Stadium Boulevard (80' wide) in the following two (2) courses:
98.88 feet along the arc of a curve to the right, radius of 2,239.67 feet, central angle 02°31'46", and chord bearing N26°05'51"W 98.87 feet;
N24°49'58"W 30.87 feet;
thence S89°51'00"E 334.58 feet;
thence N00°16'30"E 120.00 feet;
thence S89°53'00"E 100.00 feet along the South line of "Dartmoor" Condominium Subdivision Plan No. 156, as recorded in Liber 2629, Pages 31 through 83, Washtenaw County Records;
thence S00°16'30"W 212.37 feet along said West line of Dover-Parkside Subdivision,
the POINT OF BEGINNING. Being a part of the SW 1/4 of Section 30, T2S, R6E, City of Ann Arbor, Washtenaw County, Michigan and containing 1.33 acres of land, more or less. Being subject to any easements or restrictions, if any.

Revised Legal Description for Tax Parcel ID 09-09-31-212-001, 2040 W. Stadium Blvd. (South Parcel – To be re-assigned with 2060 address)

LEGAL DESCRIPTION OF A PARCEL OF LAND LOCATED IN THE SW 1/4 OF SECTION 30 AND THE NW 1/4 OF SECTION 31, T2S, R6E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

Commencing at the South 1/4 Corner of Section 30, T2S, R6E, City of Ann Arbor, Washtenaw County, Michigan; thence N89°51'00"W 901.23 feet along the South line of said Section 30, also being the North line of Section 31, T2S, R6E, to the POINT OF BEGINNING;
thence continuing along said South line of Section 30, N89°51'00"W 185.85 feet;
thence S52°39'00"W 113.71 feet;
thence along the Easterly Right-of-Way line of Stadium Boulevard (80' wide), 202.02 feet along the arc of a curve to the right, radius of 2,239.67 feet, central angle 05°10'06", and chord bearing N29°56'47"W 201.96 feet;
thence S89°43'30"E 306.56 feet;
thence N00°16'30"E 25.16 feet;
thence S89°43'30"E 71.00 feet;
thence S00°16'30"W 129.85 feet along the West line of Dover-Parkside Subdivision, as recorded in Liber 15, Pages 16 and 17, Washtenaw County Records, to the POINT OF BEGINNING. Being a part of the SW 1/4 of Section 30 and the NW 1/4 of Section 31, T2S, R6E, City of Ann Arbor, Washtenaw County, Michigan, and containing 0.99 acres of land, more or less. Being subject to any easements or restrictions, if any.

NOTE –
SOUTH PARCEL TO BE RE–ASSIGNED WITH 2060 W. STADIUM BLVD. ADDRESS. NEW ADDRESS FOR NORTH PARCEL TBD.
RESULTING TAX PARCEL ID #S TO BE DETERMINED BY ASSESSOR'S OFFICE

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BINGHAM FARMS, MI 48025
SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT

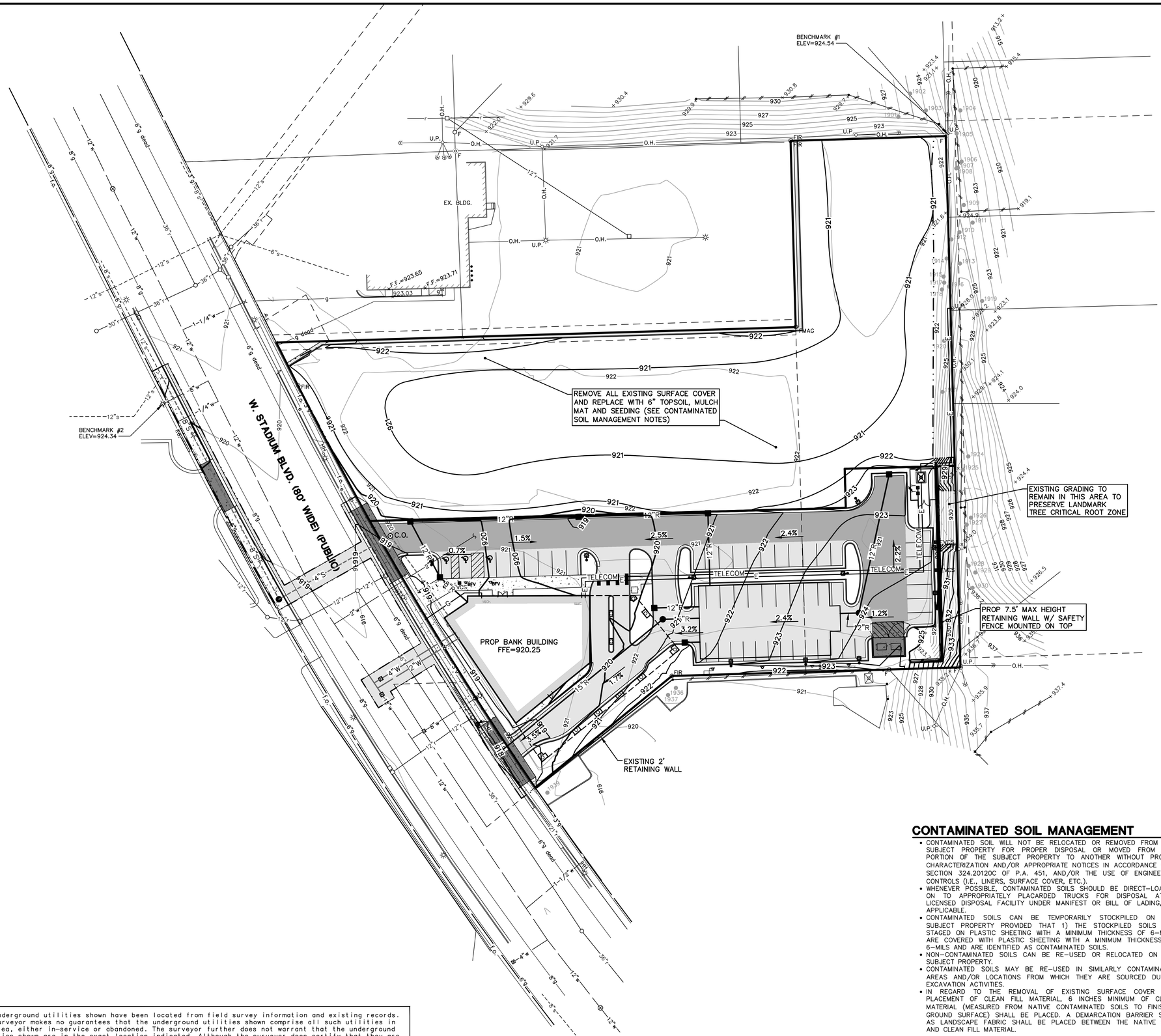
SITE PLAN
DIMENSIONAL SITE PLAN

06

JOB No. 20034

DATE: 07/23/20
SHEET 06 OF 21
CADD:
ENG: TPH
PM: MC
TECH:
/20034SP1

REVISIONS:	REV. DATE
PER CITY COMMENTS	10/07/20
NO CHANGES THIS SHEET	03/08/21
REVISED SITE PLAN	05/06/21
PER CITY REVIEW	06/11/21
PER CITY REVIEW	06/24/21



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

SCALE: 1" = 30'

0 30 60 90

Know what's below. Call before you dig.

NOTES

1. PROPOSED CURB & GUTTER, PAVEMENT AND SIDEWALK TO MATCH EXISTING PAVEMENT/SIDEWALK GRADE AT REMOVAL LIMITS.
2. SIDEWALKS CONSTRUCTED IN THE PUBLIC RIGHT-OF-WAY SHALL MEET ALL REQUIREMENTS AND GUIDELINES AS SET FORTH IN THE ADA STANDARDS FOR ACCESSIBLE DESIGN.

LEGEND

838	EXIST. CONTOUR
838	PROP. CONTOUR
×836.2	EXIST. SPOT ELEVATION
36.60×	PROP. SPOT ELEVATION
-o- U.P.	EXIST. UTILITY POLE
-☼- U.P.	EXIST. UTILITY POLE W/ TRANS.
	GUY WIRE
	ELEC. TRANSFORMER
	EXIST. AC UNIT
	EXIST. GENERATOR
OH	EXIST. OVERHEAD UTILITY LINE
	EXIST. LIGHT POLE
	PROP. LIGHT POLE
t	EXIST. TELEPHONE LINE
e	EXIST. ELECTRIC LINE
g	EXIST. GAS LINE
g	EXIST. GAS VALVE
f.o.	EXIST. FIBER OPTIC LINE
w	EXIST. WATER MAIN
W	PROP. WATER MAIN
	EXIST. HYDRANT
	PROP. HYDRANT
	EXIST. GATE VALVE IN BOX
	PROP. GATE VALVE IN BOX
	EXIST. GATE VALVE IN WELL
	PROP. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
	PROP. CURB STOP & BOX
	REDUCER
	EXIST. BLOW-OFF
	PROP. BLOW-OFF
P.I.V.	POST INDICATOR VALVE
P.I.V.	POST INDICATOR VALVE
	THRUST BLOCK
KB	PROP. KNOXBOX
fdc	EXIST. FIRE DEPARTMENT CONNECTION
FDC	PROP. FIRE DEPARTMENT CONNECTION
r	EXIST. STORM SEWER
R	PROP. STORM SEWER
	EXIST. CATCH BASIN OR INLET
	PROP. CATCH BASIN OR INLET
	EXIST. BEEHIVE INLET
	PROP. BEEHIVE INLET
RD	PROP. ROOF DRAIN
	END SECTION
	HEAD WALL
	CULVERT
ds	EXIST. DOWNSPOUT
DS	PROP. DOWNSPOUT
s	EXIST. SANITARY SEWER
S	PROP. SANITARY SEWER
	EXIST. CLEANOUT
	PROP. CLEANOUT
	C/L OF DITCH
	DRAINAGE DIRECTION
	SIGN
	SINGLE TREE
	TREE OR BRUSH LIMIT
	FENCE
	SILTFENCE
	LIMITS OF DISTURBANCE
	CONSTRUCTION FENCE
FF	FINISH FLOOR ELEVATION
GF	GARAGE FLOOR ELEVATION
BFF	BASEMENT FINISH FLOOR ELEVATION

CONTAMINATED SOIL MANAGEMENT

- CONTAMINATED SOIL WILL NOT BE RELOCATED OR REMOVED FROM THE SUBJECT PROPERTY FOR PROPER DISPOSAL OR MOVED FROM ONE PORTION OF THE SUBJECT PROPERTY TO ANOTHER WITHOUT PROPER CHARACTERIZATION AND/OR APPROPRIATE NOTICES IN ACCORDANCE WITH SECTION 324.20120C OF P.A. 451, AND/OR THE USE OF ENGINEERING CONTROLS (I.E., LINERS, SURFACE COVER, ETC.).
- WHENEVER POSSIBLE, CONTAMINATED SOILS SHOULD BE DIRECT-LOADED ON TO APPROPRIATELY PLACARDED TRUCKS FOR DISPOSAL AT A LICENSED DISPOSAL FACILITY UNDER MANIFEST OR BILL OF LADING, AS APPLICABLE.
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- CONTAMINATED SOILS MAY BE RE-USED IN SIMILARLY CONTAMINATED AREAS AND/OR LOCATIONS FROM WHICH THEY ARE SOURCED DURING EXCAVATION ACTIVITIES.
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BINGHAM FARMS, MI 48025
SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT

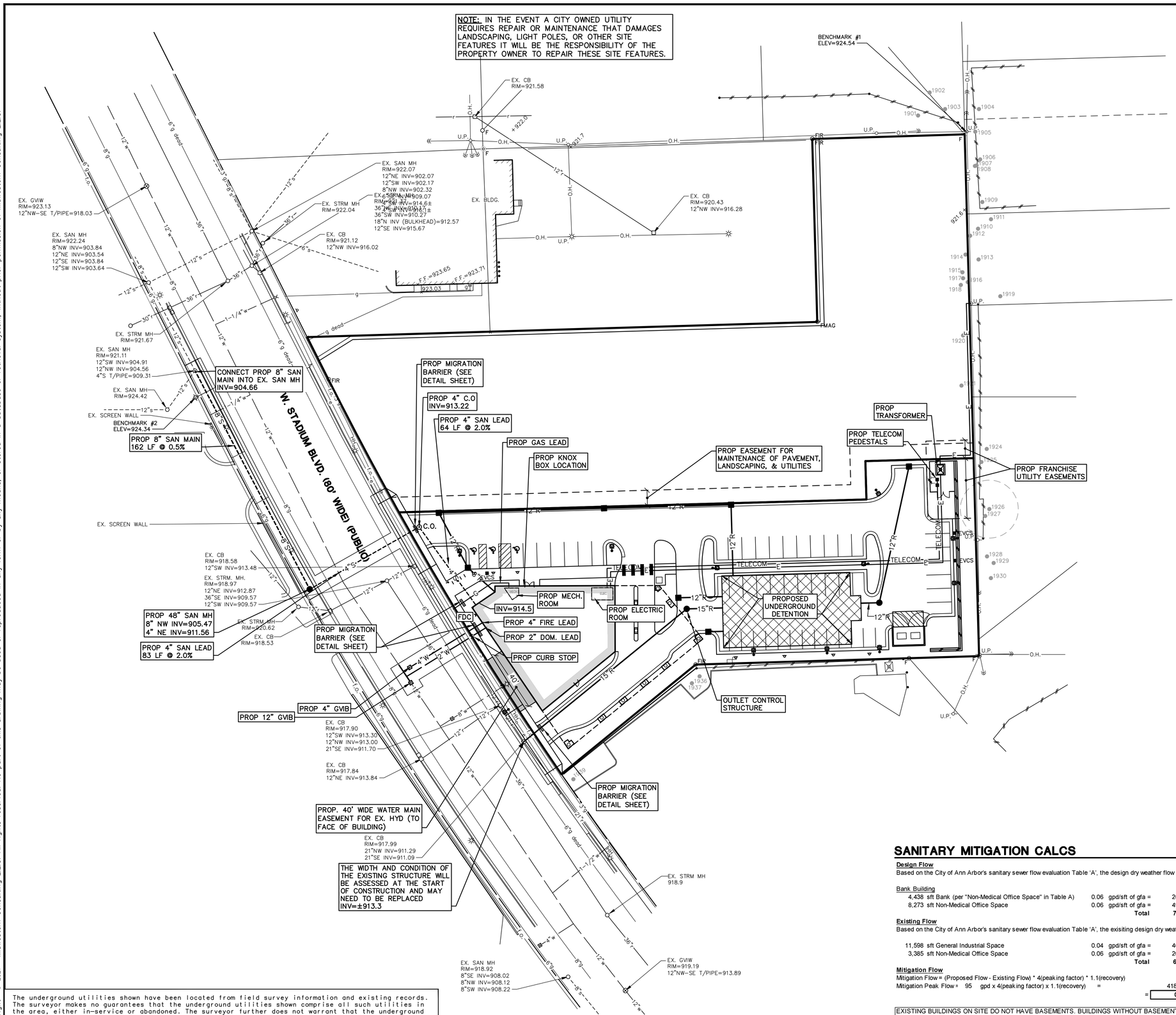
SITE PLAN
GRADING PLAN

07

JOB No. 20034

DATE: 07/23/20
SHEET 07 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
/20034GP1

REVISIONS:	REV. DATE
PER CITY COMMENTS	10/07/20
NO CHANGES THIS SHEET	11/17/20
REVISED SITE PLAN	05/06/21
PER CITY REVIEW	06/11/21
PER CITY REVIEW	06/24/21



NOTES

1. ALL UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ANN ARBOR STANDARD DETAILS AND SPECIFICATIONS UNLESS NOTED OTHERWISE.
2. ALL BUILDING ROOF DRAINS TO TIE INTO PROPOSED STORM SEWER SYSTEM.
3. NO FIREWALLS ARE PROPOSED WITHIN THE BUILDING.
4. EXISTING BUILDING ON SITE DOES NOT HAVE BASEMENT. BUILDINGS WITHOUT BASEMENTS ARE ASSUMED TO NOT HAVE FOOTING DRAINS.
5. IN THE EVENT A CITY OWNED UTILITY REQUIRES REPAIR OR MAINTENANCE THAT DAMAGES LANDSCAPING, LIGHT POLES, OR OTHER SITE FEATURES IT WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER TO REPAIR THESE SITE FEATURES.
6. BOOSTER PUMPS ARE ANTICIPATED TO BE USED FOR THE BUILDING'S WATER SERVICE LEADS. THIS IS SUBJECT TO CHANGE BASED UPON FINAL BUILDING ENGINEERING.
7. ALL STORM SEWER TO BE C-76 CL. IV RCP WITH NITRILE GASKETS UNLESS OTHERWISE NOTED
8. ALL SANITARY SEWER TO BE SDR 35 PVC WITH NITRILE GASKETS UNLESS OTHERWISE NOTED.
9. ALL WATER MAIN 4" AND LARGER TO BE CL 50 D.I.P. WITH POLYWRAP AND NITRILE GASKETS.

LEGEND

-o- U.P.	EXIST. UTILITY POLE
-☼- U.P.	EXIST. UTILITY POLE W/ TRANS.
-o- GP	EXIST. GUY POLE
⟪	GUY WIRE
⊠	ELEC. TRANSFORMER
⊡	EXIST. AC UNIT
⊠	EXIST. GENERATOR
OH	EXIST. OVERHEAD UTILITY LINE
☼	EXIST. LIGHT POLE
✱	PROP. LIGHT POLE
●	PROP. BUILDING LIGHT
t	EXIST. TELEPHONE LINE
T	PROP. TELEPHONE LINE
e	EXIST. ELECTRIC LINE
E	PROP. ELECTRIC LINE
g	EXIST. GAS LINE
G	PROP. GAS LINE
g	EXIST. GAS VALVE
f.o.	EXIST. FIBER OPTIC LINE
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w	EXIST. WATER MAIN
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	PROP. BEEHIVE INLET
RD	PROP. ROOF DRAIN
	END SECTION
	HEAD WALL
	CULVERT
ds	EXIST. DOWNSPOUT
DS	PROP. DOWNSPOUT
s	EXIST. SANITARY SEWER
S	PROP. SANITARY SEWER
	EXIST. CLEANOUT
	PROP. CLEANOUT
t	TELEPHONE RISER
catv	CABLE TELEVISION RISER
e	ELECTRIC METER
w	WATER METER
scb	SPRINKLER CONTROL BOX
g	GAS METER
glm	GAS LINE MARKER
fiber	FIBER OPTIC MARKER
ped	PEDESTRIAN CROSSING SIGNAL
tscb	TRAFFIC SIGNAL CONTROL BOX
W	WELL
	EXIST. SPRINKLER HEAD
gfc	EXIST. GAS FILLER CAP
vcs	EXIST. VEHICLE CHARGING STATION
VCS	PROP. VEHICLE CHARGING STATION

SANITARY MITIGATION CALCS

Design Flow
Based on the City of Ann Arbor's sanitary sewer flow evaluation Table 'A', the design dry weather flow rate will be:

Bank Building

4,438 sft Bank (per "Non-Medical Office Space" in Table A)	0.06	gpd/sft of gfa =	266 gpd
8,273 sft Non-Medical Office Space	0.06	gpd/sft of gfa =	496 gpd
		Total	**762 gpd**

Existing Flow
Based on the City of Ann Arbor's sanitary sewer flow evaluation Table 'A', the exisiting design dry weather flow

11,598 sft General Industrial Space	0.04	gpd/sft of gfa =	464 gpd
3,385 sft Non-Medical Office Space	0.06	gpd/sft of gfa =	203 gpd
		Total	**667 gpd**

Mitigation Flow
Mitigation Flow = (Proposed Flow - Existing Flow) * 4(peaking factor) * 1.1(recovery)
Mitigation Peak Flow = 95 gpd x 4(peaking factor) x 1.1(recovery) = 418.0 gpd
= **0.3 gpm**

EXISTING BUILDINGS ON SITE DO NOT HAVE BASEMENTS. BUILDINGS WITHOUT BASEMENTS ARE ASSUMED TO NOT HAVE FOOTING DRAINS.

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

Know what's below. Call before you dig.

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SITE PLAN
UTILITY PLAN

08

DATE: 07/23/20
SHEET 08 OF 21
CADD:
ENG.: TPH
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\20034\P1

JOB No. 20034

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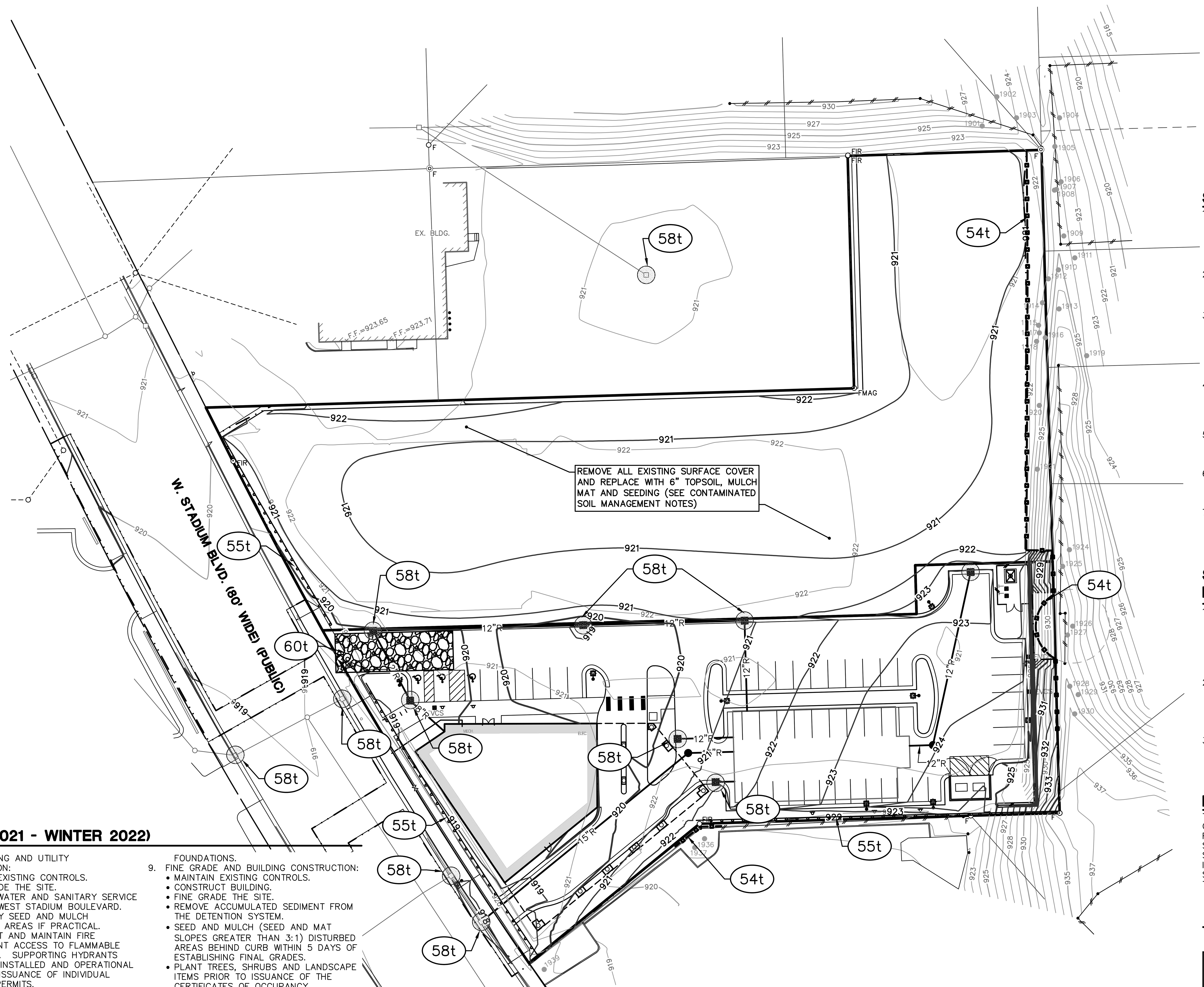


CONSTRUCTION SEQUENCE (WINTER 2021 - WINTER 2022)

1. SESC PRE-GRADING MEETING
2. INVENTORY SITE:
   - IDENTIFY CONSTRUCTION LIMITS.
   - BRUSH THE SITE.
   - INSTALL CONSTRUCTION FENCING.
   - DEFINE THE SITE ACCESS AND INSTALL MUD TRACKING MATS AS NEEDED.
   - DEFINE THE CONSTRUCTION STORAGE AREAS WITHIN THE GRADING LIMITS AS DEFINED ON THE PLANS.
3. CLEAR AND GRUB SITE, DEMOLITION AND REMOVALS:
   - MAINTAIN EXISTING CONTROLS.
   - INSTALL SILT FENCE.
   - INSTALL STONE FILTERS.
   - TREE AND STUMP REMOVAL.
   - STRUCTURE AND UTILITY REMOVALS.
4. CONSTRUCT DETENTION SYSTEM:
   - MAINTAIN EXISTING CONTROLS.
   - CONSTRUCT THE STORM SEWER.
   - CONSTRUCT THE DETENTION CHAMBERS AND OUTLET (SEE MANUFACTURER'S INSTALLATION NOTES FOR SPECIFIC INSTRUCTIONS). THE DETENTION SYSTEM SHALL BE AS-BUILT VERIFIED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. REMOVAL OF ACCUMULATED SEDIMENT WILL BE REQUIRED PRIOR TO THE ISSUANCE OF CERTIFICATES OF OCCUPANCY.
   - INSTALL INLET FILTERS ON INLETS INTO THE DETENTION BASIN AFTER THEY HAVE BEEN BACKFILLED. INSTALL SEDIMENT FILTERS ON COMPLETED CATCH BASINS AND INLETS.
5. MASS GRADING AND UTILITY CONSTRUCTION:
   - MAINTAIN EXISTING CONTROLS.
   - MASS GRADE THE SITE.
   - CONNECT WATER AND SANITARY SERVICE LEADS IN WEST STADIUM BOULEVARD.
   - TEMPORARY SEED AND MULCH DISTURBED AREAS IF PRACTICAL.
   - CONSTRUCT AND MAINTAIN FIRE DEPARTMENT ACCESS TO FLAMMABLE MATERIALS. SUPPORTING HYDRANTS SHALL BE INSTALLED AND OPERATIONAL PRIOR TO ISSUANCE OF INDIVIDUAL BUILDING PERMITS.
6. BASE COURSE CONSTRUCTION:
   - THE SAND SUBBASE AND AGGREGATE BASE COURSE FOR THE PARKING LOT SHALL BE INSTALLED PRIOR TO THE ISSUANCE OF FOUNDATION PERMITS FOR THE BUILDINGS.
   - CONSTRUCT MUD TRACKING MATS PER PLANS.
   - MAINTAIN EXISTING CONTROLS.
7. BUILDING FOUNDATION CONSTRUCTION:
   - MAINTAIN EXISTING CONTROLS.
   - INSTALL EARTH RETENTION SYSTEMS (IF NECESSARY).
   - EXCAVATE FOR BUILDING FOUNDATIONS.
   - CONSTRUCT BUILDING FOUNDATIONS.
8. PAVE DRIVEWAYS AND PARKING LOT:
   - MAINTAIN EXISTING CONTROLS.
   - PAVE THE PARKING LOTS AND MAIN DRIVE AREAS.
   - SEED AND MULCH (SEED AND MAT SLOPES GREATER THAN 3:1) DISTURBED AREAS BEHIND CURB WITHIN 5 DAYS OF ESTABLISHING FINAL GRADES.
   - PARKING LOT PAVING (FIRST COURSE) MUST OCCUR PRIOR TO ISSUANCE OF BUILDING PERMITS BEYOND FOUNDATIONS.
9. FINE GRADE AND BUILDING CONSTRUCTION:
   - MAINTAIN EXISTING CONTROLS.
   - CONSTRUCT BUILDING.
   - FINE GRADE THE SITE.
   - REMOVE ACCUMULATED SEDIMENT FROM THE DETENTION SYSTEM.
   - SEED AND MULCH (SEED AND MAT SLOPES GREATER THAN 3:1) DISTURBED AREAS BEHIND CURB WITHIN 5 DAYS OF ESTABLISHING FINAL GRADES.
   - PLANT TREES, SHRUBS AND LANDSCAPE ITEMS PRIOR TO ISSUANCE OF THE CERTIFICATES OF OCCUPANCY.
   - INSTALL PERMANENT FENCING.
10. CLEAN-UP SITE:
    - SEED AND MULCH OR SOD AREAS THAT HAVE NOT TAKEN.
    - MAINTAIN EXISTING CONTROLS.
11. FOLLOW-UP AFTER THE SITE IS STABILIZED:
    - REMOVE SILT FENCE AND STONE FILTERS.
    - REMOVE CATCH BASIN FILTERS OR SILT SACKS.
    - REMOVE SILT FROM THE STORM SEWER SYSTEM.
    - FINAL REMOVAL OF SEDIMENT FROM THE DETENTION SYSTEMS, IF NEEDED.
12. FINALIZE BUILDING CONSTRUCTION:
    - MAINTAIN PERMANENT SOIL EROSION CONTROL MEASURES
    - REMOVE CONSTRUCTION FENCING

NOTE: THE CONSTRUCTION SEQUENCE AND SCHEDULE IS PRELIMINARY AND SUBJECT TO ADJUSTMENT IN RESPONSE TO FORCES BEYOND OUR CONTROL. THESE MAY INCLUDE WEATHER, MATERIAL AVAILABILITY, LABOR UNREST, POLITICAL AND REGULATORY DELAYS, OR OTHER UNFORESEEN CIRCUMSTANCES.

MAINTENANCE TASK AND SCHEDULE DURING CONSTRUCTION (by Contractor)

TASKS:	Storm Sewer System	Catch Basin Sumps	Catch Basin Inlet Silt Sacks	Outlet Control Structures	Detention System Forebay Units	SCHEDULE:	ESTIMATED COST:
Inspect for sediment accumulation	X	X	X	X	X	Weekly and after every 1" storm event	$ 1,000
Removal of sediment accumulation	X	X	X	X	X	As needed and prior to turnover	$ 4,000
Inspect for floatable and debris	X	X	X	X	X	Quarterly and after every 1" storm event	$ 500
Cleaning of floatable and debris	X	X	X	X	X	Quarterly, as needed, and at turnover	$ 1,500
Make adjustments or replacements as determined by pre-turnover inspection	X	X	X	X	X	As needed	$ 5,000
Total Construction Phase Cost Estimate							**$ 12,000**

(COMPONENTS: Storm Sewer System, Catch Basin Sumps, Catch Basin Inlet Silt Sacks, Outlet Control Structures, Detention System Forebay Units)

* And as required for NPDES
* "As Needed" means when sediment has accumulated to one foot depth.

MAINTENANCE TASK AND SCHEDULE AFTER CONSTRUCTION (by Owner)

TASKS:	Catch Basin Sumps	Outlet Control Structures	Detention System Forebay Units	SCHEDULE:	ESTIMATED COST:
Inspect for sediment accumulation	X	X	X	Yearly and after every 1" storm event	$ 200
Removal of sediment accumulation	X	X	X	As needed	$ 1,200
Inspect for floatable and debris	X	X	X	Yearly and after every 1" storm event	$ 100
Cleaning of floatable and debris	X	X	X	As needed	$ 200
Total Annual Cost Estimate					**$ 1,700**

* "As Needed" means when sediment has accumulated to one foot depth.

SOIL EROSION CONSTRUCTION NOTES

1. ALL SOIL EROSION CONTROL MEASURES SHALL COMPLY WITH THE CURRENT CITY OF ANN ARBOR ORDINANCES, WASHTENAW COUNTY STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND STATE OF MICHIGAN "SOIL EROSION AND SEDIMENTATION CONTROL ACT" (ACT #347).
2. PRIOR TO COMMENCING EARTHMOVING OPERATIONS, THE GRADING CONTRACTOR SHALL INSTALL THE MUD TRACKING MAT, THE SILT FENCE AND TEMPORARY GRAVEL FILTER(S) SHOWN ON THE PLANS.
3. ANY LAWN AREA WHICH WILL HAVE A SLOPE STEEPER THAN 6:1 (6 FT. MEASURED HORIZONTALLY AND 1 FT. MEASURED VERTICALLY) SHALL BE SODDED AND PEGGED OR SEEDED AND MULCHED USING A SOIL EROSION CONTROL FABRIC OR BLANKET. HYDROSEEDING MAY BE USED IN LIEU OF SEED AND MULCH OR SOD WHERE SLOPES ARE FLATTER THAN 6:1.
4. THE ACTUAL LOCATION OF THE MUD TRACKING MATS AND THE GRAVEL FILTERS MAY BE ADJUSTED BY THE CONTRACTOR TO MATCH CONTRACTOR'S OPERATIONS AND FIELD CONDITIONS BUT ONLY IF APPROVED BY THE ENGINEER.
5. ALL DISTURBED AREAS, EVEN WHERE FUTURE PAVEMENT AND BUILDINGS ARE PROPOSED, ARE TO BE REVEGETATED PER COUNTY STANDARDS FOR TEMPORARY SEEDING.
6. ESTIMATED EARTHWORK FOR THIS PROJECT IS 1,500 CY CUT AND 1,000 CY FILL. THIS IS AN ESTIMATE ONLY AND IS NOT TO BE USED FOR CONSTRUCTION OR ESTIMATING PURPOSES.
7. THE ESTIMATED COST OF PROTECTING ALL EXPOSED SURFACES FROM EROSION SHOULD CONSTRUCTION CEASE IS $10,000. (RESPREAD 3" TOPSOIL AND SEEDING)

SOIL EROSION MAINTENANCE REQUIREMENTS

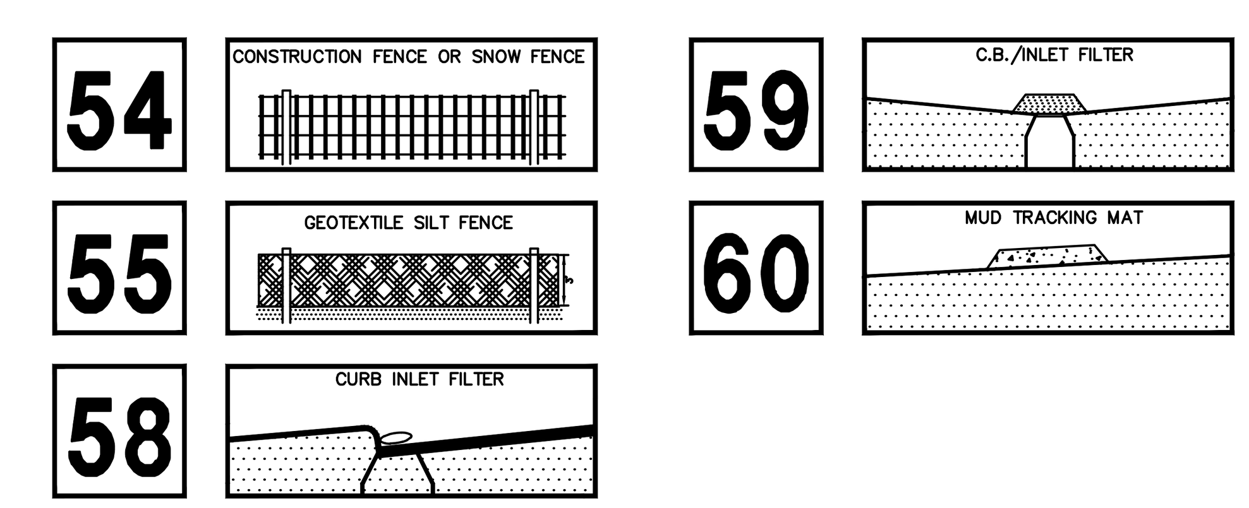
1. ALL STRAW BALE AND/OR SILT FENCE SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. IF AT ANY TIME THE DEPTH OF SILT AND SEDIMENT COMES TO WITHIN 6" OF THE TOP OF ANY STRAW BALE OR WITHIN 12" OF THE TOP OF ANY SILT FENCE, ALL SILT AND SEDIMENT SHALL BE REMOVED TO ORIGINAL GRADE.
2. ALL TEMPORARY GRAVEL FILTERS SHOULD BE ADJUSTED AS TO LOCATION PER ACTUAL FIELD CONDITIONS. THE REMOVAL OF TRAPPED SEDIMENT AND THE CLEANOUT OR REPLACEMENT OF CLOGGED STONE MAY BE NECESSARY AFTER EACH STORM EVENT DURING THE PROJECT.
3. ONLY UPON STABILIZATION OF ALL DISTURBED AREAS MAY THE SILT FENCE, AND TEMPORARY GRAVEL FILTERS BE REMOVED. ALSO, ALL STORM SEWERS MUST BE CLEANED OF ALL SEDIMENT.

PROGRAM PROPOSAL

THE PROPOSED DEVELOPMENT IS INTENDED FOR COMMERCIAL USE. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPLACEMENT, IF NECESSARY, OF ANY AND ALL OF THE PERMANENT SOIL EROSION CONTROL FEATURES ASSOCIATED WITH SEDIMENT AND SOIL EROSION CONTROL WITHIN THE DEVELOPMENT. THE FINANCIAL IMPLICATIONS OF SAID MAINTENANCE WILL BE ADMINISTERED IN THE SAME MANNER AS OTHER MAINTENANCE NEEDS AS DETERMINED BY THE CITY OF ANN ARBOR.

SOIL EROSION CONTROL MEASURES

t = temporary p = permanent



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2060 W. STADIUM REDEVELOPMENT PROJECT

SITE PLAN
SOIL EROSION CONTROL PLAN

09

DATE: 07/23/20
SHEET 09 OF 21

REVISIONS:	REV. DATE	CADD:
PER REVIEW COMMENTS	09/11/20	ENG: TPH
NO CHANGES THIS SHEET	10/07/20	PM: TJC
REVISED SITE PLAN	05/06/21	TECH:
PER CITY REVIEW	06/11/21	20034SE1
PER CITY REVIEW	06/24/21	

JOB No. **20034**

DETENTION CALCULATIONS

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

Total Site Area (Property Limits)	**0.99 ac**	
Tributary Area (Area draining to the underground chambers)	**0.95 ac**	(the area draining to this basin)
Area Excluding "Self-Crediting" BMPs*	**0.95 ac**	
*** Used for remainder of calculations below**		

Rational Method Variables
(for first flush)

Cover Type	Soil Type	Area (sft)	Area (ac)	Runoff Coeff. (C)	(C) Area)
Roof/Bldg.		9,454	0.22	0.95	0.21
Walk./Pvmt		22,479	0.52	0.95	0.49
Landscape, >8%	B	2,646	0.06	0.35	0.02
Landscape, <4%	B	6,828	0.16	0.25	0.04
Total		41,407	0.95	0.80	0.76

0.35 for pervious surfaces, Soil Type B, slope >8%
0.25 for pervious surfaces, Soil Type B, slope <4%
0.95 for house roofs, driveways, and roadways

Total - Sum(C)Area) 0.76 ac
Area Total 0.95 ac
NRCS Variables Weighted C - (Sum(C)(Area))/(Area Total) 0.80
(for bankfull and 100-year calculations)

Pervious

Cover Type	Soil Type	Area (sft)	Area (ac)	Curve Number	(CN) (Area)
Landscape	B	9,474	0.22	61	0.13
Total		9,474	0.22	61	0.13

61 for Landscaping, Good Condition, Soil Type B

Total - Sum(C)Area) 0.13 ac
Area Total 0.22 ac
NRCS Variables Weighted C - (Sum(C)(Area))/(Area Total) 61.0
(for bankfull and 100-year calculations)

Impervious

Cover Type	Soil Type	Area (sft)	Area (ac)	Curve Number	(CN) (Area)
Roof/Bldg.		9,454	0.22	98	0.21
Walk./Pvmt		22,479	0.52	98	0.51
Total		31,933	0.73	98	0.72

98 for Building Roofs
98 for Pavement

Total - Sum(C)Area) 0.72 ac
Area Total 0.73 ac
Weighted C - (Sum(C)(Area))/(Area Total) 98.0

W2 - First Flush Runoff Calculations (Vff)

A. Vff = 1" x 1'/12" x 43560 sft/ac x A x C 2,747 cft
0.06 ac-ft

W3 - Pre-Development Bankfull Runoff Calculations (Vbf-pre)

A. 2 year / 24 hour storm event: P=	2.35	in
B. Pre-Development CN (Meadow, Type B Soils)	58	
C. S = (1000 / CN) - 10	7.241	in
D. Q = [(P-0.2S)^2] / [P+0.8S]	0.100	in
E. Total Site Area excluding "Self-Crediting" BMPs	41,407	sft
F. Vbf-pre = Q x (1/12) x Area	345	cft
	0.01	*ac-ft*

W4 - Pervious Cover Post-Development Bankfull Runoff Calculations (Vbf-per-post)

A. 2 year / 24 hour storm event: P=	2.35	in
B. Pervious Cover CN From Worksheet 1	61	
C. S = (1000 / CN) - 10	6.393	in
D. Q = [(P-0.2S)^2] / [P+0.8S]	0.154	in
E. Pervious Cover Area from Worksheet 1	9,474	sft
F. Vbf-per-post = Q x (1/12) x Area	121	cft
	0.003	*ac-ft*

W5 - Impervious Cover Post-Development Bankfull Runoff Calculations (Vbf-imp-post)

A. 2 year / 24 hour storm event: P=	2.35	in
B. Impervious Cover CN From Worksheet 1	98	
C. S = (1000 / CN) - 10	0.204	in
D. Q = [(P-0.2S)^2] / [P+0.8S]	2.122	in
E. Impervious Cover Area from Worksheet 1	31,933	sft
F. Vbf-imp-post = Q x (1/12) x Area	5,646	cft
	0.1296	*ac-ft*

W6 - Pervious Cover Post-Development 100-Year Runoff Calculations (V100-per-post)

A. 100 year / 24 hour storm event: P=	5.11	in
B. Pervious Cover CN From Worksheet 1	61	
C. S = (1000 / CN) - 10	6.393	in
D. Q = [(P-0.2S)^2] / [P+0.8S]	1.436	in
E. Pervious Cover Area from Worksheet 1	9,474	sft
F. V100-per-post = Q x (1/12) x Area	1,133	cft
	0.03	*ac-ft*

W7 - Impervious Cover Post-Development 100-Year Runoff Calculations (V100-imp-post)

A. 100 year / 24 hour storm event: P=	5.11	in
B. Impervious Cover CN From Worksheet 1	98	
C. S = (1000 / CN) - 10	0.204	in
D. Q = [(P-0.2S)^2] / [P+0.8S]	4.873	in
E. Impervious Cover Area from Worksheet 1	31,933	sft
F. Vbf-imp-post = Q x (1/12) x Area	12,967	cft
	0.30	*ac-ft*

W8 - Time of Concentration (Tc-hrs)

A. Assume 15-minute minimum time of concentration 0.25 hr

W9 - Runoff Summary & On-Site Infiltration Requirement

A. Summary from Previous Worksheets		
First Flush Volume (Vff)	**2,747 cft**	**0.06 ac-ft**
Pre-Development Bankfull Runoff Volume (Vbf-pre)	**345 cft**	**0.01 ac-ft**
Pervious Cover Post-Development Bankfull Volume (Vbf-per-post)	*121 cft*	*0.00 ac-ft*
Impervious Cover Post-Development Bankfull Volume (Vbf-imp-post)	*5,646 cft*	*0.13 ac-ft*
Total BF Volume (Vbf-post)	**5,767 cft**	**0.13 ac-ft**
Pervious Cover Post-Development 100-Year Volume (V100-per-post)	*1,133 cft*	*0.03 ac-ft*
Impervious Cover Post-Development 100-Year Volume (V100-imp-post)	*12,967 cft*	*0.30 ac-ft*
Total 100-Year Volume (V100)	**14,101 cft**	**0.32 ac-ft**
B. Determine Onsite Infiltration Requirement		
Subtract the Pre-Development Bankfull from the Post-Development Bankfull Volume		
Total Post-Development Bankfull Volume (Vbf-post)	5,767 cft	0.13 ac-ft
Pre-Development Bankfull Runoff Volume (Vbf-pre)	345 cft	0.01 ac-ft
Bankfull Volume Difference	**5,422 cft**	**0.12 ac-ft**
Compare to First Flush Volume (Vff)	2,747 cft	0.06 ac-ft
Greater of Bankfull Volume or First Flush Volume To be Infiltrated	**5,422 cft**	**0.12 ac-ft**

W10 - Detention/Retention Requirement

Detention

A. Qp = 238.6 Tc^-0.82	743.63 cfs/(in x sq. mi)	
B. Total Site Area excluding "Self-Crediting" BMPs	0.95 ac	
C. Q100 = Q100-per + Q100-imp (from W6 and W7, respectively)	6.309 in	
D. Peak Flow (PF) = Qp x Q100 x Area / 640	6.97 cfs	
E. Delta = PF - 0.15 x Area (ac)	6.83 cfs	
[0.15 x Area (ac)]	*0.14 cfs*	
F. Vdet = Delta / PF x V100	13,812 cft	0.32 ac-ft
Required Detention not including infiltration credit.		
Sediment Forebay Volume Required (5% of V100)	705 cft	

SCALE: 1" = 40'
0 40 80 120

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

STORMWATER MANAGEMENT NARRATIVE

THE PROPOSED STORMWATER MANAGEMENT SYSTEM CONSISTS OF UNDERGROUND DETENTION CHAMBERS LOCATED IN THE SOUTHEAST CORNER OF THE SITE.

RUNOFF WILL BE COLLECTED INTO THE PROPOSED STORM SEWER SYSTEM VIA CATCH BASINS AND WILL BE ROUTED TO THE UNDERGROUND CHAMBERS. AN OUTLET PIPE WILL DISCHARGE WATER FROM THE CHAMBERS INTO AN OUTLET CONTROL STRUCTURE, WHICH WILL THEN SLOWLY RELEASE INTO THE EXISTING CITY STORM SEWER IN W. STADIUM BLVD.

EMERGENCY DISCHARGE WILL FLOW OVER A WEIR WALL IN THE OUTLET CONTROL STRUCTURE AND BYPASS THE CONTROLLED RELEASE ORIFICES.

QUALITY CONTROL WILL BE PROVIDED BY UTILIZING SEQUESTERED FOREBAY UNITS WITHIN THE DETENTION CHAMBERS. INFILTRATION WILL NOT BE INCORPORATED INTO THE DESIGN BECAUSE OF THE CONTAMINATION EXISTING IN THE NATIVE SOILS DUE TO THE PREVIOUS USE OF THE SITE.

LEGEND

r —○—	EXIST. STORM SEWER
R —●—	PROP. STORM SEWER
—□—	EXIST. CATCH BASIN OR INLET
—■—	PROP. CATCH BASIN OR INLET
- - - RD - - -	PROP. ROOF DRAIN
⊛	EXIST. CLEANOUT
⊙	PROP. CLEANOUT
-·-·-	PROP. DRAINAGE AREA BOUNDARY
1.17 AC	PROP. DRAINAGE AREA LABEL

DETENTION CALCULATIONS (CONT.)

W11 - Determine Applicable BMPs and Associated Volume Credits
As contamination has been discovered in the existing sub-surface soils, infiltration will not be accommodated into the underground detention design

		Storage Volume (cft)		Design Infilt.	Infilt. Volume in	*Max. Allowable*	Total Volume
Proposed BMP	Area (sft)	Surface	Stone Voids	Rate (in/hr)	6-hour storm (cft)	*48-hour Drawdown*	Reduction (cft)
None Provided	-	-	-	0.00	-		-

Total Volume Reduction Credit by Proposed Structural BMPs (cft) cft
Runoff Volume Infiltration Requirement (Vinf) from Worksheet 9 (cft) 5,422 cft
Runoff Volume Credit (cft) (5,422) cft

W12 - Natural Features Inventory
*SEE COVER SHEET

W13 - Site Summary of Infiltration & Detention

A. Stormwater Management Summary		
Minimum Onsite Infiltration Requirement (Vinf)	5,422	cft
Designed/Provided Infiltration Volume	-	cft
% Minimum Required Infiltration Provided	0%	
Total Calculated Detention Volume, Vdet	13,812	cft
Net Required Detention Volume (Vdet - Designed/Provided Infiltration Volume)	13,812	cft
B. Detention Volume Increase for sites where the required infiltration volume cannot be achieved.		
% Required Infiltration NOT Provided (100% - % Minimum Required Infiltration Provided)	100.0%	
Net % Penalty (20% x % Required Infiltration NOT Provided)	20.0%	
Total Required Detention Volume, including penalty [(100% + Net % Penalty) x Net Required Detention Volume)]	**16,574**	**cft**

W14 - Storage-Elevation Data

Underground Detention Chambers

Footprint Area (sft)	Vol. % per footprint area	Design Area (sft)	Depth (ft)	Volume Provided (cft)
4,076	90%	3,681	5.00	18,404

Underground Detention Chambers

Elevation (ft)	Design Area (sft)	Volume (cft)	Cum. Volume (cft)
914.00	3,681	-	-
915.00	3,681	3,681	3,681
916.00	3,681	3,681	7,362
917.00	3,681	3,681	11,043
918.00	3,681	3,681	14,724
919.00	3,681	3,681	18,405

First Flush 914.75
Bankfull Elevation 915.57
100 Year Elevation 918.50

Total Provided Detention + Infiltration Volume = 18,405 cft

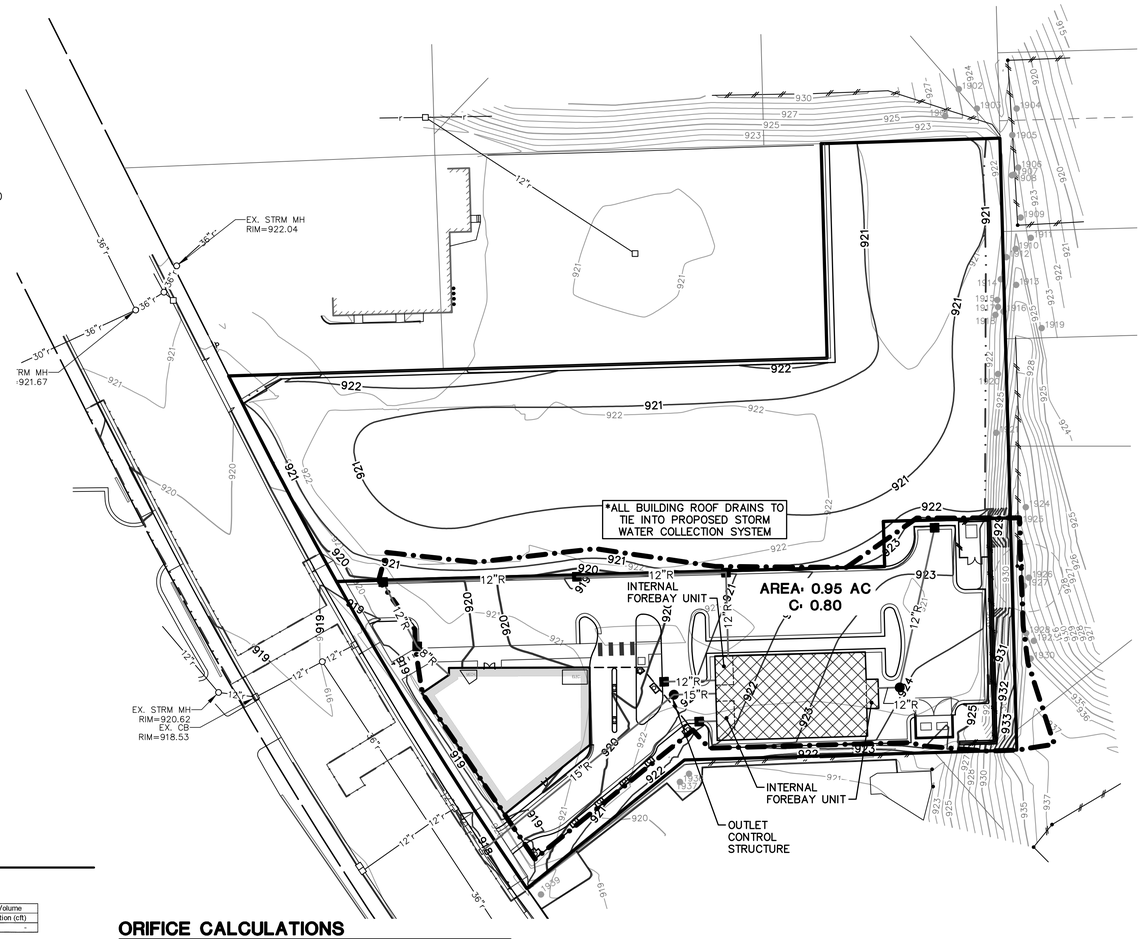
Surplus storage volume provided 1,831 cft (Total Provided Detention + Infiltration volume - Total Detention Required)

Total Chamber Storage Volumes

1" Event	2,747	cft
2-year Event	5,767	cft
100-year + 20% Event	16,574	cft

Storage Elevations

Lowest Orifice	914.00	Elevation	
Elevation for 1" event	914.75	Elevation	0.75 ft. depth
Elevation for 2-year event	915.57	Elevation	1.57 ft. depth
Elevation for 100-year event	918.50	Elevation	4.50 ft. depth



ORIFICE CALCULATIONS

C. Two-Stage Outlet Design

First Flush Discharge (24-36 hours for the detention of first flush storm event)

Average Head (Have) = 2/3 (Xff - Xbot) = 2/3 (914.75 - 914) =	0.50	ft
First Flush Max. Flowrate (Qff-max) = Vff / 24 hrs = 2760cfs / (24 hrs*3600) =	0.03	cfs
Req Area (Aff) = Qff-max / 0.62 / sqrt(2*g*Have) = 0.03/0.62/(2*32.2*0.5)*0.5=	0.009	sft
Orifice Diameter, Proposed	1.250	in
Orifice Area =	0.0085	sft
Number Required for 24 hr drainage = Aff / Orifice Area= 0.009 sft / 0.0085 sft =	1.00	holes
Number of Holes to Use	1	holes
Area of (1) - 1.25 inch Orific Aff	0.0085	sft
Actual Flow (Qff) = 0.62 * Aff * sqrt(2*g*Have) =0.62 * 0.0085 *sqrt(2*32.2*0.5) =	0.030	cfs
Actual Time (Tff) = Vff / Qff = 2760 cf / 0.03 cfs / 3600 =	25.64	hr

Bankfull Discharge (36-48 hours)

Average Head (Have) = 2/3 (Xbf - Xbot) = 2/3 (915.57 - 914) =	1.05	ft
Actual Flow (Qbf) = 0.62 * Abf * sqrt(2*g*Have) =0.62 * 0.0085 * sqrt(2 * 32.2 * 1.05)=	0.043	cfs
Actual Time (Tbf) = Vbf / Qbf = 5767 cf / 0.043 cfs / 3600 =	36.97	hr

Drawdown Time for Bankfull Volume is between 36 and 48 hours
Therefore use (1) 1.25 inch Diameter Holes at Elev 914

100-year Discharge (0.15 cfs/acre max. allowed)

Max Head to Lowest Holes (H100-ff) = X100 - Xbot = 918.5 - 914 =	4.50	ft
Max Flow at Lowest Holes (Qmax-ff) = 0.62 * Aff * sqrt(2 * g * Hmax) = = 0.62 * 0.0085 * sqrt(2 * 32.2 * 4.5) =	0.090	cfs
Max Head to 100yr Holes (Hmax-100) = X100 - Xff = 918.5 - 915.57 =	2.93	ft
QA (Allowable 100-year release rate)= 0.15 cfs/acre = 0.15 cfs * 0.95 ac =	0.143	cfs
Max flow through 100-year holes = Qmax-100 = QA - Qmax-ff=0.14 cfs - 0.09 cfs =	0.05	cfs
Max. Area for Orifices (A100) = Qmax / 0.62 / sqrt (2*g*h-100max)	0.01	sft
Orifice Diameter	0.875	in
Orifice Area	0.004	sft
Number Required for 0.15 cfs/acre drainage	1.49	
Number of holes used	1	ea
Area of (1) - 0.875 inch Orif (A100)	0.004	sft
100-year orifices - Actual Flow (Qmax-100) = 0.62 * A100 * sqrt (2 * g * Hmax100) = 0.62 * 0.004 * sqrt (2 * 32.2 * 2.93) =	0.030	cfs
Actual Max Release Rate (Qmax) = Qmax-100 + Qmax-ff = 0.03 cfs + 0.09 cfs =	0.12	cfs

100-year Drawdown Time (72-hour max. to the lowest orifice)

Average head to first flush holes with all orfice in use (Hff-ave) = 2/3 (X100 - Xbf) + (Xbf - Xbot) Hff-ave = 2/3 (918.5 - 915.57) + (915.57 -914) =	3.52	ft
Average flow through lowest holes to bankfull elevation = 0.62 * Aff * sqrt (2 * g * Hff-ave) Qff-ave = 0.62 * 0.0085 * SQRT(2 * 32.2 * 3.52)	0.079	cfs
Average head to 100-year holes with all orifices in use = 2/3 (X100-Xbf) H100-ave = 2/3 * (918.5 - 915.57) =	1.95	ft
Average flow through 100-yr holes with all holes in use = 0.62 * A100 * sqrt (2 * g * H100-ave) Q100-ave = 0.62 * 0.004 * sqrt(2 * 32.2 * 1.95) =	0.028	cfs
Combined drawdown flow (Q100-bf) = Qff-ave + Q100-ave = 0.079 cfs + 0.028 cfs =	0.107	cfs
Volume of Storage above Bankfull Elev (Vrem) = V100 - Vbf = 16575 - 5767 =	10,808	cft
Time to drain Volume between 100yr and bankfull elevations = Vrem/Q100-bf/3600 = 10808 cf / 0.107 cfs / 3600 =	28.02	hr
Total 100-year drawdown time = T100 = T100-bf + Tbf = 36.97 hrs + 28.02 hrs =	64.99	hr

Therefore use (1) 0.875 inch Diameter Holes at Elev 915.57

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BINGHAM FARMS, MI 48025
SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT

SITE PLAN
STORMWATER MANAGEMENT PLAN

10

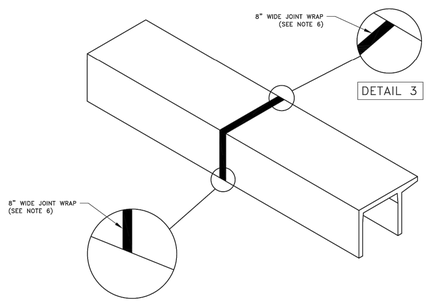
DATE: 07/23/20
SHEET 10 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
20034DA1

JOB No. 20034

REVISIONS:	REV. DATE
PER REVIEW COMMENTS	11/17/20
NO CHANGES THIS SHEET	03/07/20
REVISED SITE PLAN	05/06/21
PER CITY REVIEW	06/11/21
PER CITY REVIEW	06/24/21

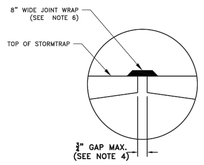
STORMTRAP INSTALLATION SPECIFICATIONS

1. STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891, STANDARD FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES, THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS SHALL APPLY:
2. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT PROPER/ADEQUATE EQUIPMENT IS USED TO SET/INSTALL THE MODULES.
3. STORMTRAP MODULES SHALL BE PLACED ON A LEVEL CONCRETE FOUNDATION (SEE SHEET 2.1) WITH A 1"-0" OVERHANG ON ALL SIDES THAT SHALL BE POURED IN PLACE BY INSTALLING CONTRACTOR, A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, TO PROVIDE ASSISTANCE IN EVALUATING THE EXISTING SOIL CONDITIONS TO ENSURE THAT THE SOIL BEARING PRESSURE MEETS OR EXCEEDS THE STRUCTURAL DESIGN LOADING CRITERIA AS SPECIFIED ON SHEET 1.0.
4. THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED 3" (SEE DETAIL 2). IF THE SPACE EXCEEDS 3", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
5. THE PERIMETER HORIZONTAL JOINT BETWEEN THE STORMTRAP MODULES AND THE CONCRETE FOUNDATION SHALL BE SEALED TO THE FOUNDATION WITH PRE-FORMED MASTIC JOINT SEALER ACCORDING TO ASTM C891, 8.8 AND 8.12 (SEE DETAIL 1). THE MASTIC JOINT TAPE DOES NOT PROVIDE A WATERTIGHT SEAL.
6. ALL EXTERIOR JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH 8" WIDE PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN, BONDED TO A WOVEN , HIGHLY PUNCTURE RESISTANT POLYMER WRAP, CONFORMING TO ASTM C891 AND SHALL BE INTEGRATED WITH PRIMER SEALANT AS APPROVED BY STORMTRAP (SEE DETAILS 3 & 4). THE JOINT WRAP DOES NOT PROVIDE A WATERTIGHT SEAL. THE SOLE PURPOSE OF THE JOINT WRAP IS TO PROVIDE A SILT AND SOIL TIGHT SYSTEM. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
   - 6.1. USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE JOINT WRAP IS TO BE APPLIED.
   - 6.2. A RELEASE PAPER PROTECTS THE ADHESIVE SIDE OF THE JOINT WRAP. PLACE THE ADHESIVE TAPE (ADHESIVE SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.
7. IF THE CONTRACTOR NEEDS TO CANCEL ANY SHIPMENTS, THEY MUST DO SO 48 HOURS PRIOR TO THEIR SCHEDULED ARRIVAL AT THE JOB SITE. IF CANCELED AFTER THAT TIME, PLEASE CONTACT THE PROJECT MANAGER.
8. IF THE STORMTRAP MODULE(S) IS DAMAGED IN ANY WAY PRIOR, DURING, OR AFTER INSTALL, STORMTRAP MUST BE CONTACTED IMMEDIATELY TO ASSESS THE DAMAGE AND DETERMINE WHETHER OR NOT THE MODULE(S) WILL NEED TO BE REPLACED. IF ANY MODULE ARRIVES AT THE JOBSITE DAMAGED DO NOT UNLOAD IT; CONTACT STORMTRAP IMMEDIATELY. ANY DAMAGE NOT REPORTED BEFORE THE TRUCK IS UNLOADED WILL BE THE CONTRACTOR'S RESPONSIBILITY.
9. STORMTRAP MODULES CANNOT BE ALTERED IN ANY WAY AFTER MANUFACTURING WITHOUT WRITTEN CONSENT FROM STORMTRAP.

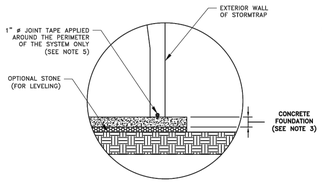


DETAIL 3

DETAIL 4



DETAIL 2



DETAIL 1

StormTrap®
PATENTS LISTED AT: [HTTP://STORMTRAP.COM/PATENT]
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ROMEOVILLE, IL 60446
P:815-941-4549 / F:331-318-5347

ENGINEER INFORMATION:
MIDWESTERN CONSULTING
3815 PLAZA DR
ANN AROBOR, MI
734-995-0200

PROJECT INFORMATION:
2060 WEST STADIUM
ANN ARBOR, MI

CURRENT ISSUE DATE:
5/4/2021

ISSUED FOR:
PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
2	5/4/2021	PRELIMINARY	JPH
1	10/1/2020	PRELIMINARY	NP

SCALE: NTS

SHEET TITLE: SINGLETRAP INSTALLATION SPECIFICATIONS

SHEET NUMBER: 3.0

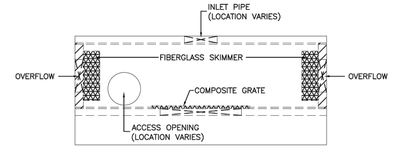
DETENTION JOINT SPECIFICATIONS

NO SCALE

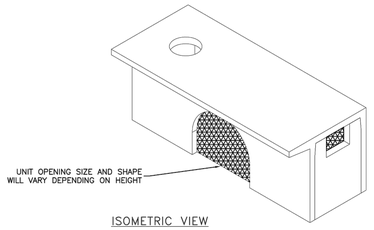
SEDIMENT SEQUESTERER

1. SPECIFICATIONS ON THE ENGINEERS DRAWINGS SHALL TAKE PRECEDENCE.
2. THE COMPOSITE GRATES & FIBERGLASS SKIMMERS (PROVIDED BY STORMTRAP) WILL BE SHIPPED WITH THE STORMTRAP UNITS. THE CONTRACTOR IS TO INSTALL IN THE FIELD, AFTER THE PIECES HAVE BEEN INSTALLED.
3. STORMTRAP RECOMMENDS THAT ALL SEDIMENT SEQUESTERERS BE INSPECTED ANNUALLY. REFER TO THE CIVIL ENGINEER'S PLANS FOR MAINTENANCE SCHEDULE.

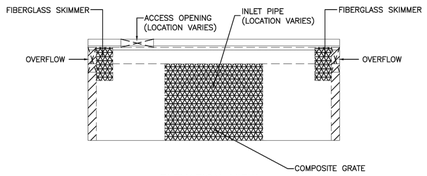
NOTE:
OPENINGS ON UNIT CAN VARY. REFER TO SHEET 6.0 FOR PROJECT SPECIFIC DETAILS.



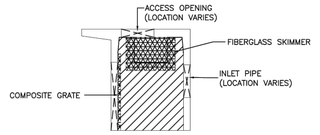
PLAN VIEW



ISOMETRIC VIEW



ELEVATION VIEW



SIDE VIEW

StormTrap®
PATENTS LISTED AT: [HTTP://STORMTRAP.COM/PATENT]
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734-995-0200

PROJECT INFORMATION:
2060 WEST STADIUM
ANN ARBOR, MI

CURRENT ISSUE DATE:
5/4/2021

ISSUED FOR:
PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
2	5/4/2021	PRELIMINARY	JPH
1	10/1/2020	PRELIMINARY	NP

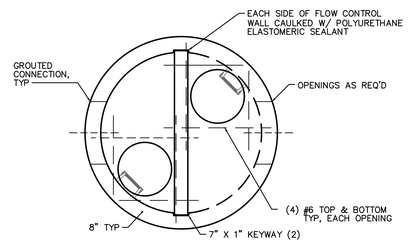
SCALE: NTS

SHEET TITLE: SEDIMENT SEQUESTERER DETAIL

SHEET NUMBER: 6.1

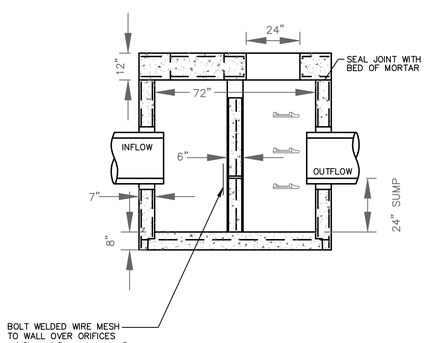
DETENTION FOREBAY UNIT DETAIL

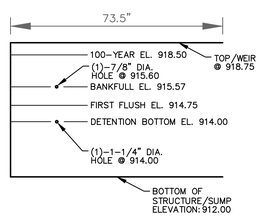
NO SCALE



NOTES:

1. MANHOLE SECTIONS TO BE MANUFACTURED TO ASTM C-478 SPECIFICATIONS AND IN ACCORDANCE WITH NORTHERN CONCRETE PIPE, INC. (800 222 9918).
2. REINFORCING SHOWN FOR SCHEMATIC ONLY.
3. CONTRACTOR TO SEAL BETWEEN PRECAST WALL & BASE W/BUTYL ROPE.
4. INLET & OUTLET PIPES SIZE VARIES.
5. NUMBER, SIZE AND ELEVATION OF HOLES IN THE FLOW RESTRICTOR WALL SHALL BE IN ACCORDANCE WITH THE GOVERNING AGENCY.





OUTLET CONTROL STRUCTURE DETAIL

NO SCALE

STRUCTURAL DESIGN LOADING CRITERIA

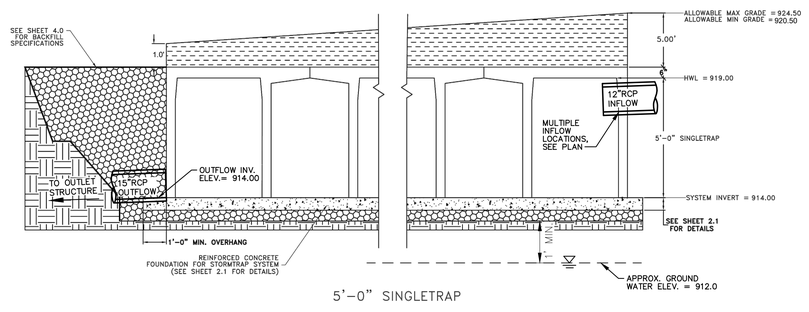
LIVE LOADING: AASHTO HS-20 HIGHWAY LOADING
GROUND WATER TABLE: BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE: 3000PSF
SOIL DENSITY: 120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE: 35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE: 80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES: ASTM C857 ACI-318
BACKFILL TYPE: SEE SHEET 4.0 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION

WATER STORAGE PROV: 18403.91 CUBIC FEET
UNIT HEADROOM: 5'-0" SINGLETRAP
UNIT QUANTITY: 34 TOTAL PIECES

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 3.40' MAX. 5.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.
5. SYSTEM DESIGN MAY ALLOW FOR INCIDENTAL LEAKAGE AND WILL NOT BE SUBJECT TO LEAKAGE TESTING.



UNDERGROUND DETENTION CHAMBER DETAIL

NO SCALE

StormTrap®
PATENTS LISTED AT: [HTTP://STORMTRAP.COM/PATENT]
1287 WINDHAM PARKWAY
ROMEOVILLE, IL 60446
P:815-941-4549 / F:331-318-5347

ENGINEER INFORMATION:
MIDWESTERN CONSULTING
3815 PLAZA DR
ANN AROBOR, MI
734-995-0200

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SHEET TITLE: SINGLETRAP DESIGN CRITERIA

SHEET NUMBER: 1.0

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NORTHSTADIUM, LLC
30100 TELEGRAPH ROAD, SUITE 220
BINGHAM FARMS, MI 48025
SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT

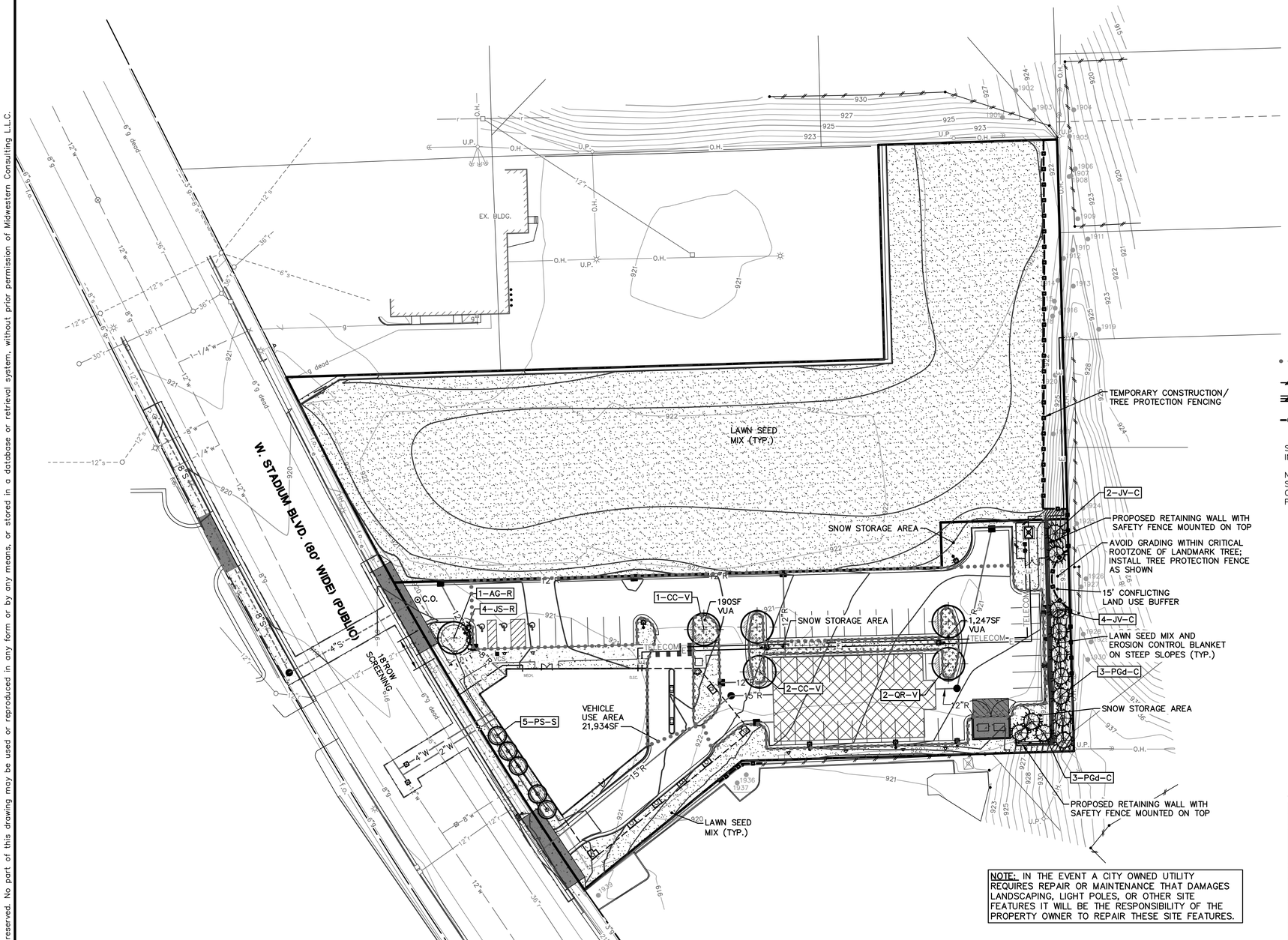
SITE PLAN
STORMWATER MANAGEMENT DETAILS

11

DATE: 07/23/20
SHEET 11 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
/20034DA1

JOB No. 20034

REVISIONS:	REV. DATE
PER REVIEW COMMENTS	10/07/20
NO CHANGES THIS SHEET	05/06/21
REVISED SITE PLAN	06/11/21
PER CITY REVIEW	06/24/21
PER CITY REVIEW	



LANDSCAPE LEGEND

- V — PROPOSED CANOPY TREE (INTERIOR VUA)
- V — PROPOSED EVERGREEN TREE (INTERIOR VUA)
- R — PROPOSED CANOPY TREE (RIGHT-OF-WAY SCREEN)
- R — PROPOSED EVERGREEN SHRUBS (RIGHT-OF-WAY SCREENING)
- S — PROPOSED CANOPY TREE (STREET TREE)
- C — PROPOSED CANOPY TREE (CONFLICTING LAND USE BUFFER)
- C — PROPOSED EVERGREEN TREE (CONFLICTING LAND USE BUFFER)
- LM — EXISTING TREE TO REMAIN
- ###SF VUA — PROPOSED VEHICLE USE AREA ISLANDS AND SQUARE FOOT AREA
- VEHICULAR USE AREA LIMITS
- PROPOSED FENCE
- PROPOSED RETAINING WALL WITH SAFETY FENCE
- TREE PROTECTION FENCE (SEE MISCELLANEOUS NOTES AND SITE DETAILS FOR DETAIL)

SEE LANDSCAPE NOTES AND DETAILS SHEET FOR FURTHER INFORMATION

NOTE: A ZONING BOARD OF APPEALS VARIANCE IS REQUESTED SINCE NO BIORETENTION ISLANDS ARE PROPOSED DUE TO SITE CONTAMINATION. ADDITIONALLY, A VARIANCE IS REQUESTED FOR PLACEMENT OF REQUIRED STREET TREES ON THE SITE.

SCALE: 1" = 30'
0 30 60 90

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

NOTE: IN THE EVENT A CITY OWNED UTILITY REQUIRES REPAIR OR MAINTENANCE THAT DAMAGES LANDSCAPING, LIGHT POLES, OR OTHER SITE FEATURES IT WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER TO REPAIR THESE SITE FEATURES.

PLANT SCHEDULE

Total	V.U.A. (V)	R.O.W. (R)	C.L.U.B (C)	Street Tree Equivalent* (S)	Symbol	Scientific Name	Common Name	Root	Size	Spacing	Notes
Deciduous Trees											
1		1			AG	*Amelanchier x grandiflora 'Autumn Brilliance'*	Autumn Brilliance Serviceberry	B&B	2.5" cal.	As Shown	single stem
3	3				CC	*Caripinus caroliniana*	American Hornbeam	B&B	2.5" cal.	As Shown	
5				5	PS	*Prunus serrulata 'Amanogawa'*	Amanogawa Japanese Flowering Cherry	B&B	2.5" cal.	8' o.c.	
2	2				QR	*Quercus rubra*	Northern Red Oak	B&B	2.5" cal.	As Shown	
11	5	1	0	5	Total						
Evergreen Trees											
6			6		JV	*Juniperus virginiana*	Eastern Red Cedar	B&B	6-7' ht	12' o.c.	Full
6			6		PGd	*Picea glauca 'densata'*	Black Hills Spruce	B&B	6-7' ht	12' o.c.	Full
12	0	0	12	0	Total						
Shrubs											
4		4			JS	*Juniperus x 'Sea Green'*	Sea Green Juniper	#5 Cont.	24-30" ht	3.5' o.c.	

Note: All species substitutions must be approved in writing by the City of Ann Arbor Natural Resources Staff prior to installation.
***Note: Street Tree equivalent trees are planted within the property and are not considered street trees. They are proposed to meet the intent of the UDC ordinance.**

LANDSCAPE REQUIREMENTS

	Required	Proposed
Right-of-way screening		
	10ft when VUA viewed from ROW 1 tree per 30lf; continuous hedge/screen 30inches in ht 18ft = 1 tree and shrubs	1 trees and 4 shrubs proposed
Vehicle Use Area		
Interior islands	1:20sf ratio for island, 21,934sf / 20 =1,096sf island	1,437sf provided
Bio-retention island	if >750sf island; 50% bioretention 1,096sf x 0.5 = 548sf bioretention island	None proposed; site is contaminated; **a variance is requested**
Interior island trees	1 tree per island; 1 tree per 250sf island; 1,096sf / 250 = 5 trees	5 trees proposed
Snow pile storage	identify locations on plan	identified on landscape plan
Street Trees		
Street trees	1 tree per 45lf frontage 202lf / 45 = 5 trees	5 trees proposed; **a variance is requested for planting outside ROW.**
Street tree escrow	$1.30 per linear foot frontage	None proposed - Not applicable
Street tree canopy loss fee	total dbh removed - caliper replacement trees x $207 per tree	No removals proposed - Not applicable
Conflicting Land Use Buffer		
when adjacent to public park and R4 adjacent to residential purposes	15ft wide; 1 tree per 15lf, 50% evergreen; continuous screening 4ft high East-130 ft = 130 / 15lf = 9 trees and screening South - 45lf / 15 = 3 trees and screening	East-outside fence - 9 evergreen trees, retaining wall and existing berm for 4 ft screening South - 3 proposed trees, trash enclosure, retaining wall and existing berm for 4ft screening
Tree Mitigation		
	50% DBH of Woodland and LM removed	Not applicable
Outdoor refuse		
		screening wall around dumpsters
Private streets and shared driveways		
	Not applicable	Not applicable

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

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2060 W. STADIUM REDEVELOPMENT PROJECT

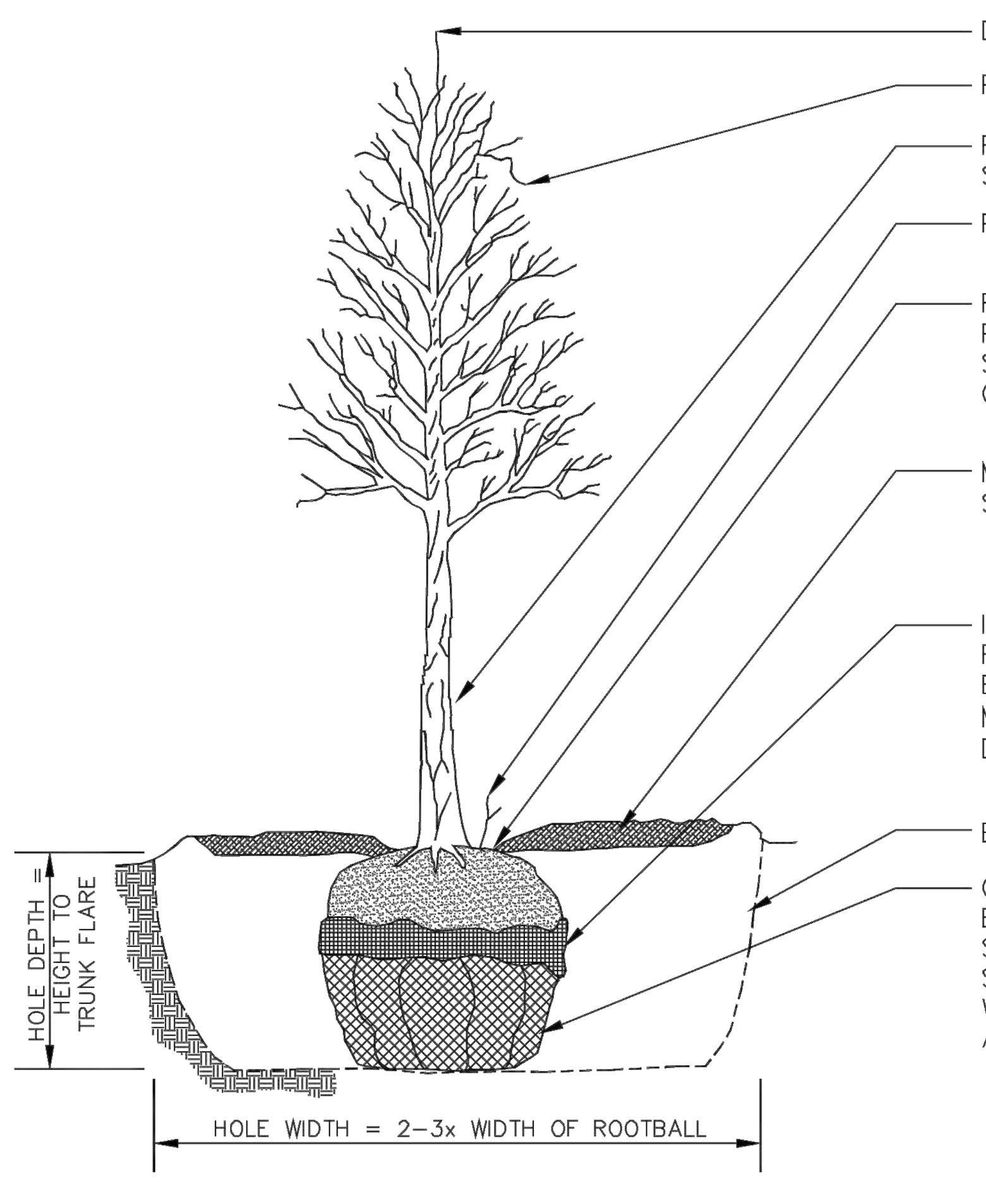
SITE PLAN
LANDSCAPE PLAN

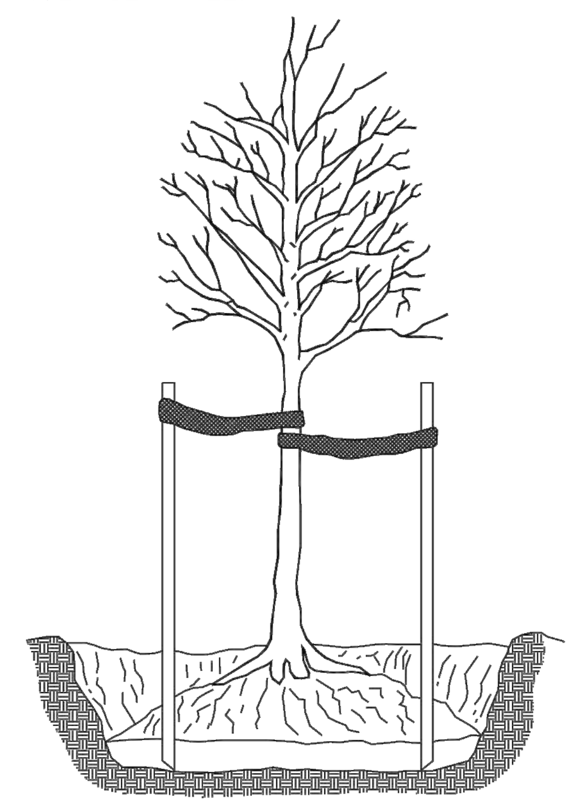
12

DATE: 07/23/20
SHEET 12 OF 21
CADD:
ENG: TPH
PM: MC
TECH:
/20034LP1

JOB No. 20034

REVISIONS:	REV. DATE
PER REVIEW COMMENTS	10/07/20
PER CITY REVIEW	10/15/20
REVISED SITE PLAN	03/08/21
PER CITY REVIEW	06/11/21
PER CITY REVIEW	06/24/21





DO NOT STAKE UNLESS IN HEAVY CLAY SOIL, WINDY CONDITIONS, 3" OR GREATER DIAMETER TREE TRUNK OR LARGE CROWN. IF STAKING IS NEEDED DUE TO THESE CONDITIONS:

- STAKE WITH 2 x 2 HARDWOOD STAKES, OR APPROVED EQUAL, DRIVEN 6"-8" OUTSIDE OF ROOTBALL.
- LOOSELY STAKE TREE TRUNK TO ALLOW FOR TRUNK FLEXING.
- STAKE TREES JUST BELOW FIRST BRANCH WITH 2"-3" WIDE BELT-LIKE, NYLON OR PLASTIC STRAPS (2 PER TREE ON OPPOSITE SIDES OF TREE, CONNECT FROM TREE TO STAKE HORIZONTALLY. DO NOT USE ROPE OR WIRE THROUGH A HOSE.)
- REMOVE ALL STAKING MATERIALS AFTER 1 YEAR.

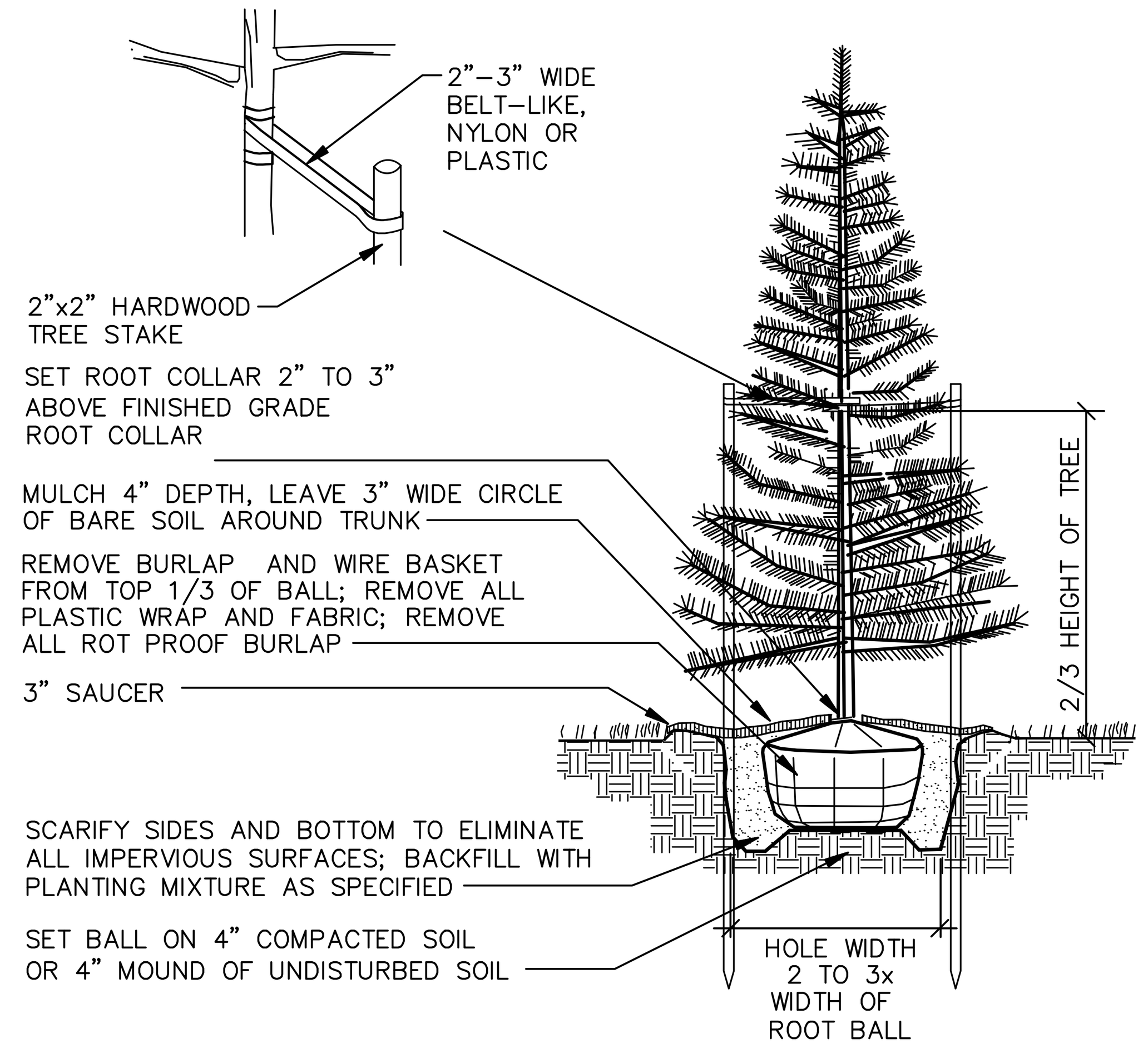
REVISIONS	REV. NO.	DR.BY	CH. BY	DATE

PUBLIC SERVICES DEPARTMENT
CITY OF ANN ARBOR

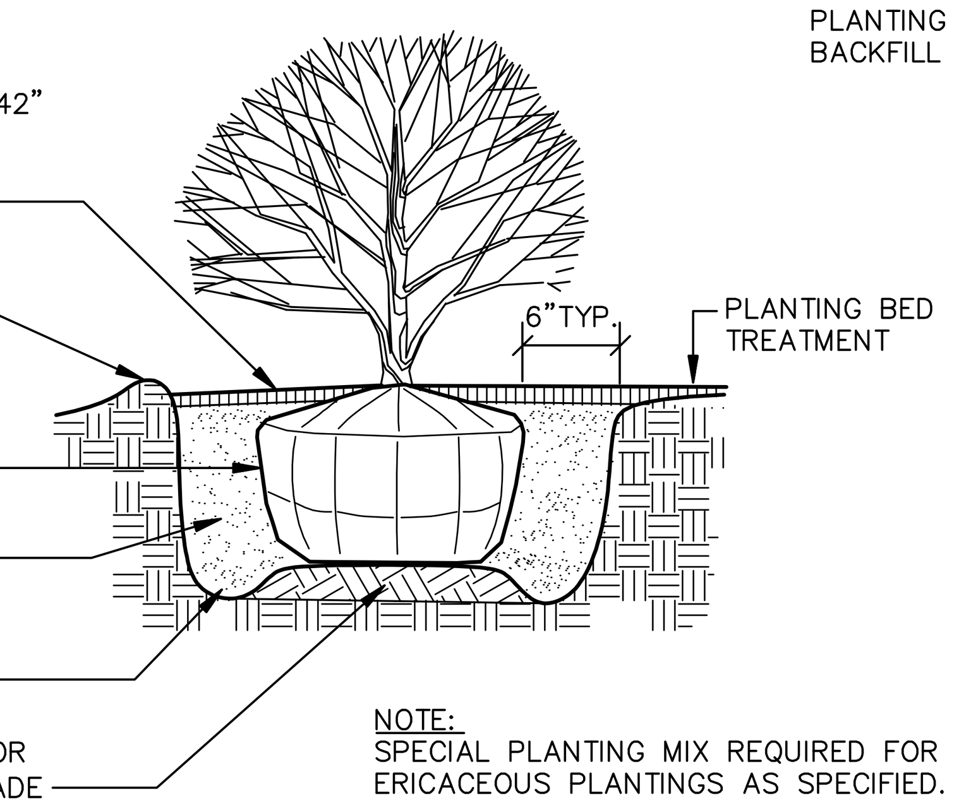
TREE PLANTING DETAIL

DR. BY	ARG	CH. BY	CSS	DRAWING NO.
SCALE	NONE	DATE	7-23-10	SD-L-3
INCH				SHEET NO. ____ OF ____

NOTE: A: STAKING IS ONLY REQUIRED IF THE SITE IS WINDY OR THE TREES ARE GREATER THAT 3" CALIPER. IF TREES MUST BE STAKED, THE STAKED SHALL BE REMOVED IN ONE YEAR.



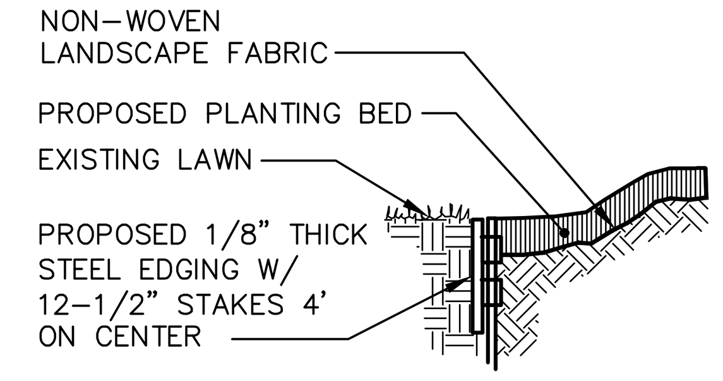
EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



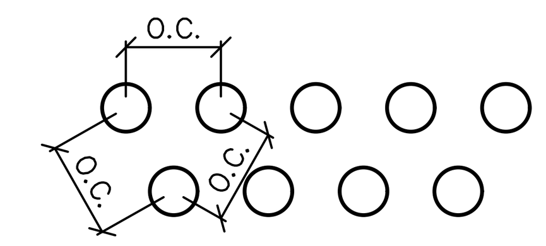
NOTE:
SPECIAL PLANTING MIX REQUIRED FOR ERICACEOUS PLANTINGS AS SPECIFIED.

SHRUB PLANTING DETAIL
NOT TO SCALE

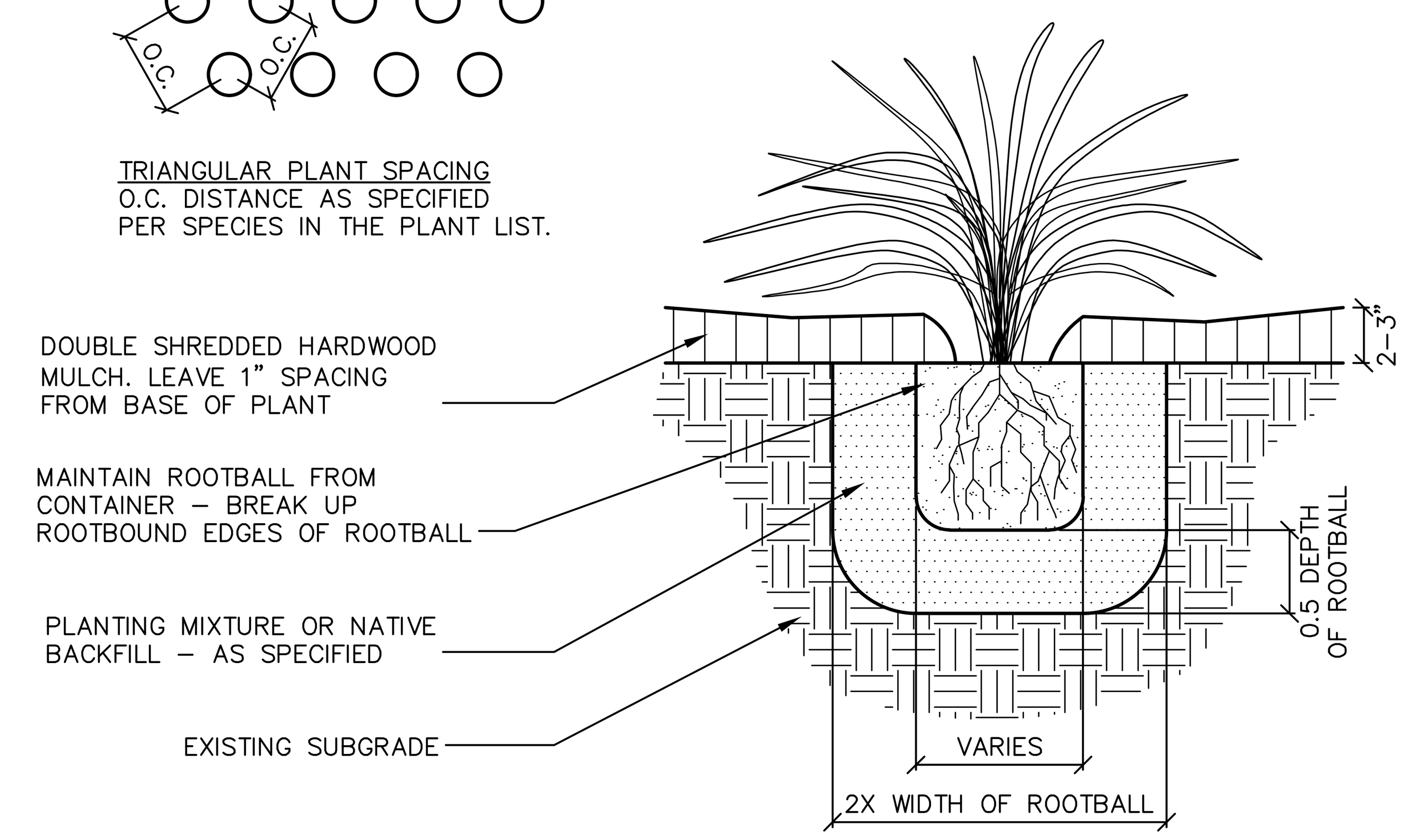
NOTE:
MATERIALS TO BE FLUSH WITH THE TOP OF EDGING



STEEL EDGING DETAIL
NOT TO SCALE

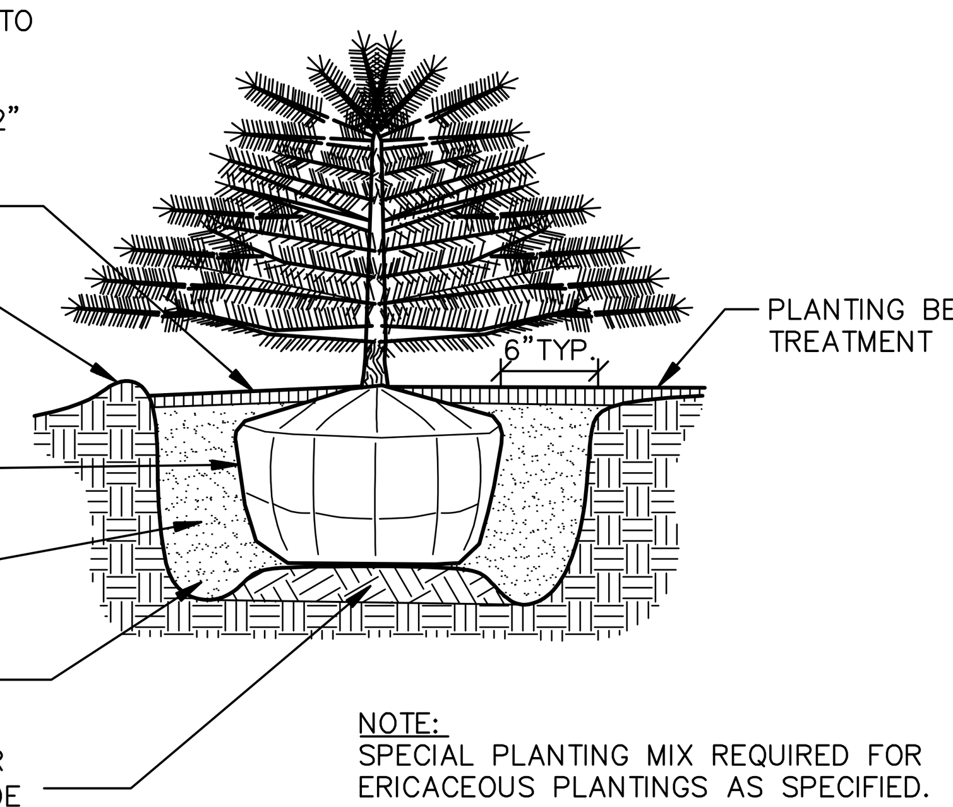


TRIANGULAR PLANT SPACING
O.C. DISTANCE AS SPECIFIED PER SPECIES IN THE PLANT LIST.



PERENNIAL/ORNAMENTAL GRASS PLANTING DETAIL
NOT TO SCALE

NOTE:
PRUNE 20% OF BRANCHES AND FOLIAGE RETAINING NORMAL PLANT



NOTE:
SPECIAL PLANTING MIX REQUIRED FOR ERICACEOUS PLANTINGS AS SPECIFIED.

EVERGREEN SHRUB PLANTING DETAIL
NOT TO SCALE

NOTES

1. For any plant quantity discrepancies between the plan view and the plant schedules, the plant schedule shall take precedence.
2. Plant materials shall be selected and installed in accordance with standards established by the City of Ann Arbor.
3. In-ground automatic irrigation shall be provided for landscaped areas noted on the Landscape Plan. Water outlets shall be provided within 150 feet of all other required planting areas.
4. All diseased, damaged or dead material shown on the site plan as proposed plantings shall be replaced by the end of the following growing season.
5. Restore disturbed areas with a minimum of four (4) inches of topsoil and then seed/ fertilize/mulch.
6. All disturbed areas not to be seeded with seed mixes identified on the Landscape Plan shall be lawn areas. Fertilizer for the initial installation of lawns shall provide not less than one (1) pound of actual nitrogen per 1,000 sq ft of lawn area and shall contain not less than two percent (2%) potassium and four percent (4%) phosphoric acid.
   Lawn (turfgrass) seed mix shall consist of:
   - 15% Rugby Kentucky Bluegrass
   - 10% Park Kentucky Bluegrass
   - 40% Ruby Creeping Red Fescue
   - 15% Pennifine Perennial Ryegrass
   - 20% Scaldis Hard Fescue

   Seed shall be applied at a rate of five pounds (5 lbs) per 1000 sq ft. Mulch within 24 hours with two (2) tons of straw per acre, or 71 bales of excelsior mulch per acre. Anchor straw mulch with spray coating of adhesive material applied at the rate of 150 gals. / acre.
7. After the first growing season, only fertilizers that contain NO phosphorus shall be used on the site.
8. Areas identified on the Landscape Plan with seed mixes shall be seeded with specified seed mixes from Cardno, or equivalent as approved by landscape architect. Temporary cover crop shall be included with all seed mixes. Seeding rates and installation techniques shall be confirmed with supplier.
9. All seeded areas with slopes less than 1:3 (one vertical foot for every 3 horizontal feet) shall be mulched with straw mulch at the rate of two (2) bales per 1,000 square feet. All seeded areas with slopes greater than 1:3 shall be seeded and biodegradable erosion control blanket North American Green SC150, or equivalent, shall be applied with biodegradable stakes.
10. Deciduous plants shall be planted between March 1 and May 15 and from October 1 until the prepared soil becomes frozen. Evergreen plants shall be planted between March 1 and June 1 and from August 15 to September 15.
11. Native seeding areas shall be seeded after May 1, (when soil is free of frost and in workable condition), but before June 15 or after October 1, but before November 30 (or prior to ground freezing) or as approved by Landscape Architect or guaranteed by the supplier. If seeding is performed outside planting window, contractor shall perform regularly scheduled watering for installed seed and as needed based on weather conditions to ensure germination and establishment of seed.
12. All planting beds are to receive four (4) inches of shredded hardwood bark mulch.
13. All trees to be located a minimum of 10 feet from public utilities.
14. All single trunk, deciduous trees shall have a straight and a symmetrical crown with a central leader. One sided trees or those with thin or open crowns shall not be accepted.
15. All evergreen trees shall be branched fully to the ground, symmetrical in shape and have not been sheared in the last three (3) growing seasons.
16. All compacted subgrade soils in proposed landscape areas shall be tilled to a minimum 12-inch depth prior to placement of topsoil, geotextile fabric, or other planting media as specified.
17. Proposed trees will be planted a minimum of 15 feet apart.
18. Planting Soil: Existing, in-place or stockpiled topsoil. Supplement with imported topsoil as needed. Verify suitability of existing surface soil to produce viable planting soil. Remove stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth. Mix surface soil with the following soil amendments to produce planting soil:
    a. Ratio of Loose Compost to Topsoil by Volume: 1:4.
    b. Weight of Lime per 1000 Sq. Ft.: Amend with lime only on recommendation of soil test to adjust soil pH.
    c. Weight of Sulfur or Aluminum Sulfate per 1,000 Sq. Ft.: Amend with sulfur or aluminum sulfate only on recommendation of soil test to adjust soil pH.
    d. Volume of Sand: Amend with sand only on recommendation of Landscape Architect to adjust soil texture.
    e. Weight of Slow-Release Fertilizer per 1,000 Sq. Ft.: Amend with fertilizer only on recommendation of soil test to adjust soil fertility.
19. Native seeding installation shall be performed by a qualified contractor with documented experience of successful established native seeding. Seed shall be installed per manufacturer's specification via hand broadcast
20. Snow cannot be pushed onto interior islands unless they are designated on the plan for snow storage. Bio-retention islands can be used for snow storage. Snow storage areas are located along the edges and corners of parking areas as shown on the plan.
21. During the establishment period for the installed deciduous mitigation trees (1-2 years as to be determined by certified arborist):
    a. The trunk of young trees shall be wrapped in late autumn and wrap shall be removed in early spring
    b. Burlap screening or wrapping shall be installed on the southwest and windward sides from late autumn to early spring.
    c. Trees shall be watered in spring and autumn and during dry conditions at a frequency determined by certified arborist.
    d. Mulching around trees shall be maintained at a depth of 2 to 3 inches

Maintenance:

22. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.
23. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
24. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.
25. Contractor shall warranty all plant material and trees to remain alive and be in healthy, vigorous and like new condition for the specified period from installation to Substantial Completion. The entire Landscaping Project, including but not limited to: plants (perennials), trees, shrubs, mulches, shrubs, etc are to be under Warranty for One Year after Substantial Completion date of the Project. At the end of the specified One Year Warranty period the Owner's Representative will inspect plant material for compliance. Contractor shall replace, in accordance with the drawings and specifications, all plants, trees, shrubs, etc or as determined by the Owner's Representative, are in an unhealthy or unsightly condition. Warranty shall not include damage or loss of plants, trees, and shrubs caused by fires, floods, freezing rains, lightning storms, or winds over 75 miles per hour, acts of vandalism or negligence on the part of the owner, or any other incident beyond landscape contractor's control.
26. Long-term maintenance of the bio-retention islands shall be performed by the Owner. Maintenance shall include seasonal trimming and removal of dead foliage, removal of weeds, and removal or mulching of leaves and stems. Spot treatment/removal of invasive weeds may be necessary if localized areas become dominated by invasive weeds. Bio-retention island and rain garden shall be inspected by owner following any storm event exceeding 1". Trash and debris shall be removed as needed. Shredded hardwood mulch must be re-spread when erosion is evident and be replenished annually. Once every 2 to 3 years, the entire bio-retention/rain garden area may require mulch replacement.

NOTE: SEE MISCELLANEOUS NOTES AND DETAILS SHEET FOR TREE PROTECTION FENCE DETAIL

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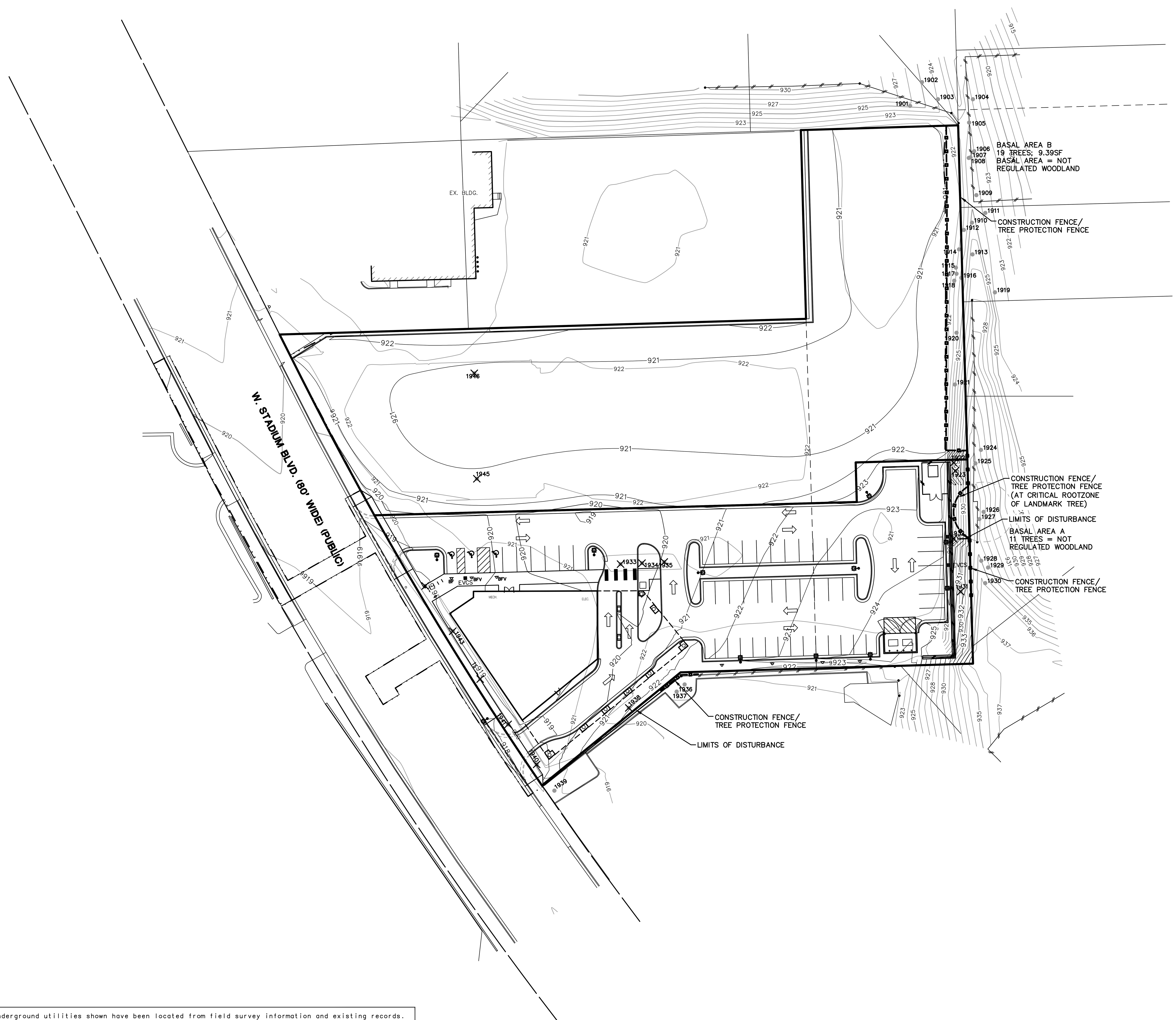
2060 W. STADIUM REDEVELOPMENT PROJECT
SITE PLAN
LANDSCAPE NOTES AND DETAILS

13

DATE: 07/23/20
SHEET 13 OF 21

REVISIONS:	REV. DATE	
PER REVIEW COMMENTS	09/11/20	CADD:
NO CHANGES THIS SHEET	10/07/20	ENG: TPH
REVISED SITE PLAN	05/06/21	PM: TJC
PER CITY REVIEW	06/11/21	TECH:
PER CITY REVIEW	06/24/21	20034DT1

JOB No. **20034**



SCALE: 1" = 30'

0 30 60 90

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

NATURAL FEATURES SUMMARY

- THERE ARE NO KNOWN NATURAL FEATURES LOCATED ON THE SITE. BASAL AREA CALCULATIONS HAVE BEEN PROVIDED INDICATING THAT TREES ALONG THE EASTERN PROPERTY LINE ARE NOT REGULATED WOODLAND.
- THERE ARE MAN-MADE STEEP SLOPES ALONG THE EASTERN PROPERTY BOUNDARY THAT ARE NOT REGULATED.
- THERE IS ONE LANDMARK TREE ON AN ADJACENT PARCEL TO THE EAST. THE PROPOSED GRADING AND RETAINING WALL ARE OUTSIDE THE CRITICAL ROOT ZONE OF THE LANDMARK TREE.
- THERE ARE CRITICAL ROOT ZONE IMPACTS TO NON-REGULATED TREES ALONG THE EASTERN PROPERTY LINE.
- CONSTRUCTION FENCE WILL BE INSTALLED ALONG THE EASTERN PROPERTY LINE NEAR OFF-SITE TREES AND AT THE CRITICAL ROOT ZONE OF THE OFF-SITE LANDMARK TREE.

LEGEND

Symbol	Description
838	EXIST. CONTOUR
838	PROP. CONTOUR
U.P.	EXIST. UTILITY POLE
	GUY WIRE
OH	EXIST. OVERHEAD UTILITY LINE
	PROP. LIGHT POLE
	FENCE
	SILTFENCE
	LIMITS OF DISTURBANCE
	CONSTRUCTION FENCE
	EXISTING TREE
	EXISTING LANDMARK TREE AND CRITICAL ROOT ZONE
	TREE TO BE REMOVED

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

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NORTHSTADIUM, LLC
30100 TELEGRAPH ROAD, SUITE 220
BINGHAM FARMS, MI 48025
SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT

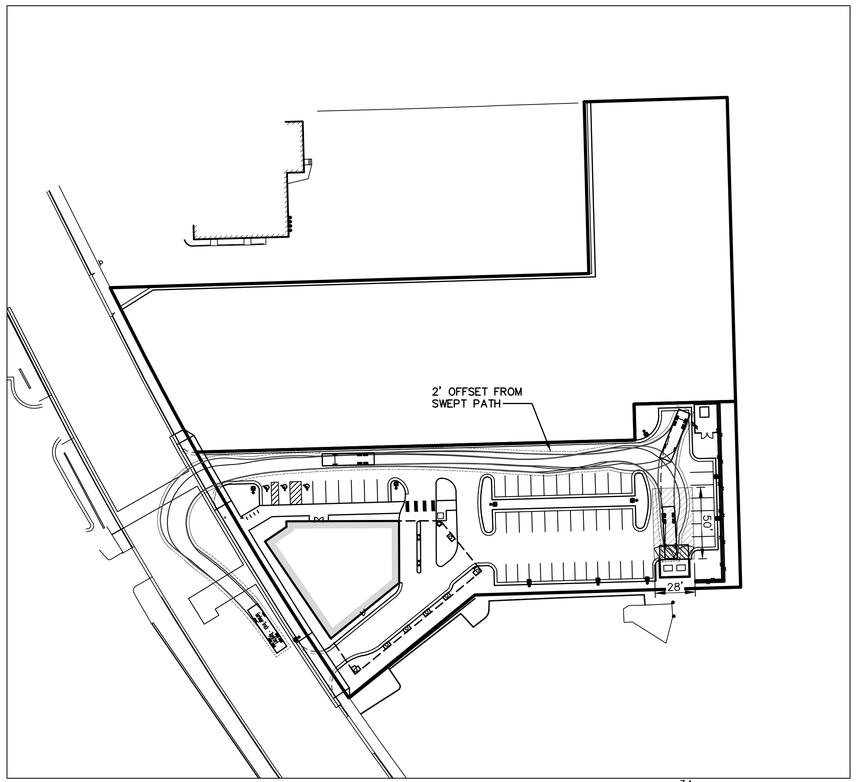
SITE PLAN
NATURAL FEATURES OVERLAY PLAN

14

DATE: 07/23/20	SHEET 14 OF 21
CADD:	
ENG: TPH	
PM: TJC	
TECH:	
/20034NF1	

JOB No. 20034

REVISIONS:	REV. DATE
PER REVIEW COMMENTS	09/11/20
NO CHANGES THIS SHEET	10/07/20
REVISED SITE PLAN	05/06/21
PER CITY REVIEW	06/11/21
PER CITY REVIEW	06/24/21

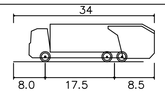


TRASH TRUCK TURNING TEMPLATE

SCALE: 1"=50'

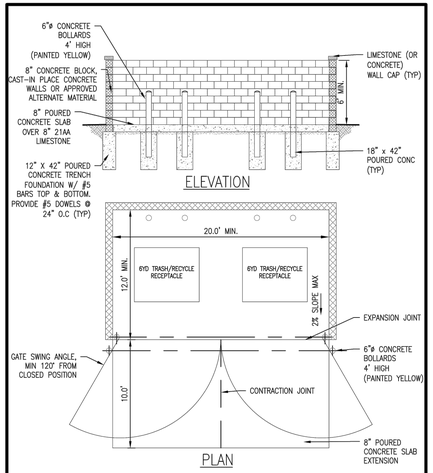
SCALE: 1" = 50'

0 50 100 150



Garbage Truck – 34'

Overall Length	34.00ft
Overall Width	8.50ft
Overall Body Height	10.25ft
Min Body Ground Clearance	0.701ft
Track Width	7.0ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	40.00°



DOUBLE BIN ENCLOSURE DETAIL

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

REV. NO.	DATE	DRAWN BY	CHECKED BY

SOLID WASTE
STANDARD DETAILS

DR. OHM	CH. CJE	DRAWING NO.
SCALE N.T.S.	DATE 12/29/15	PAGE 2

GENERAL NOTES:

1. A CLEAR SPACE MUST BE MAINTAINED DIRECTLY IN FRONT OF THE SOLID WASTE ENCLOSURE. THE CLEAR SPACE SHALL BE A MINIMUM OF FIFTY (50) FEET LONG BY THE WIDTH OF THE INSIDE DIMENSION OF THE ENCLOSURE PLUS FOUR (4) FEET ON BOTH SIDES. A MINIMUM VERTICAL CLEARANCE OF AT LEAST TWENTY-FIVE (25) FEET MUST BE PROVIDED ABOVE THIS AREA.
2. INGRESS AND EGRESS ROUTES MUST BE DEVELOPED BASED ON SOLID WASTE SWEPT PATH REQUIREMENTS. A MINIMUM HORIZONTAL CLEARANCE OF TWO (2) FEET FROM THE EDGE OF THE SWEPT PATH AND A MINIMUM VERTICAL CLEARANCE OF AT LEAST FIFTEEN (15) FEET MUST BE PROVIDED ALONG THE ENTIRE ROUTE.
3. GATES ON ENCLOSURES MUST BE DESIGNED TO OPEN A MINIMUM OF 120 DEGREES FROM THE CLOSED POSITION. THE GATES MUST NOT REDUCE THE REQUIRED ENCLOSURE OPENING WIDTH, BLOCK ADJACENT PARKING SPOTS, OR BE IMPEDED BY ADJACENT CURBS OR LANDSCAPING.
4. GATES SHALL BE DESIGNED TO BE FREE STANDING WITHOUT A CENTER POLE. IF A CENTER POLE DESIGN IS NECESSARY, 12-INCHES SHALL BE ADDED TO THE OVERALL WIDTH OF THE ENCLOSURE.
5. GATE DESIGN SHALL INCLUDE A RELIABLE MEANS TO SECURE THE DOOR IN BOTH THE OPEN AND CLOSED POSITIONS.
6. THE CONCRETE SLAB IN FRONT OF THE BIN ENCLOSURE SHALL HAVE PAVEMENT MARKINGS TO INDICATE 'NO PARKING', AS APPROVED BY CITY.
7. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF NO PARKING SIGNS ALONG THE SOLID WASTE INGRESS/EGRESS ROUTE TO ENSURE THE ROUTE REMAINS FREE OF OBSTRUCTIONS.
8. REFER TO ASSOCIATED STANDARD DETAILS FOR REQUIREMENTS ON SINGLE AND DOUBLE WIDE SOLID WASTE BIN ENCLOSURE LAYOUT AND DESIGN CRITERIA. THE CITY SHALL HAVE THE ABILITY TO MODIFY OR INTERPRET THESE DETAILS AS NECESSARY, TO ACCOMMODATE THE CITY OR CITY CONTRACTOR NEEDS IN REGARDS TO SOLID WASTE PICK-UP.
9. SOLID WASTE ACCESS ROADS AND SERVICE AREA SURFACES SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF COLLECTION TRUCKS WEIGHING UP TO 66,000 LBS GROSS VEHICLE WEIGHT (GVW) AND SHALL BE PROVIDED WITH AN APPROVED SURFACE SO AS TO PROVIDE ALL WEATHER DRIVING CAPABILITIES. PROPERTY OWNER SHALL BE RESPONSIBLE FOR ALL SNOW AND ICE REMOVAL REQUIRED FOR SAFE ACCESS OF SOLID WASTE VEHICLES.
10. THE SOLID WASTE COLLECTION LOCATION SHALL BE LOCATED A MINIMUM OF TEN (10) FEET AWAY FROM MAJOR ELECTRICAL EQUIPMENT, ABOVE GROUND UTILITY SERVICES, TREE BRANCHES, BALCONIES OR OTHER OVERHEAD OBSTRUCTIONS.

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REV. NO.	DATE	DRAWN BY	CHECKED BY
00	06/05/18	OHM	CJE

SOLID WASTE
STANDARD DETAILS

DR. OHM	CH. CJE	DRAWING NO.
SCALE N.T.S.	DATE 02/01/16	PAGE 5

GENERAL NOTES CONTINUED:

11. IF FORWARD ACCESS TO THE PUBLIC STREET IS NOT AVAILABLE FOR THE SOLID WASTE TRUCK, THE SITE DEVELOPMENT LAYOUT MUST ACCOMMODATE A TURN-AROUND LOCATION.
12. FOR SITES THAT CANNOT ACCOMMODATE A TURN-AROUND, THE FOLLOWING REQUIREMENTS MUST BE MET:
    - 12.1. SOLID WASTE TRUCKS MUST BE ABLE TO SERVICE DUMPSTERS WITHOUT IMPEDING THE PUBLIC STREET OR SIDEWALK.
    - 12.2. THE DUMPSTER COLLECTION LOCATION SHALL BE CLEARLY DELINEATED AND NOT HAVE A SLOPE GREATER THAN 2% IN ANY DIRECTION.
    - 12.3. BOLLARDS OR ADEQUATE CLEAR SPACE MUST BE PROVIDED BEHIND THE LIFT POINT SO THE DUMPSTERS ARE NOT POTENTIALLY PUSHED INTO ANY BUILDING OR ACCESS ROUTE.
    - 12.4. ALL SWEPT-PATH CLEARANCE REQUIREMENTS PREVIOUSLY IDENTIFIED SHALL BE PROVIDED.
    - 12.5. A VERTICAL CLEARANCE OF 25 FEET SHALL BE PROVIDED ABOVE THE COLLECTION LOCATION.
13. FOR SITES THAT CANNOT ACCOMMODATE A STANDARD DUMPSTER ENCLOSURE, THE DUMPSTERS MAY BE ROLLED OUT OF A BUILDING OR ALTERNATE ENCLOSURE BY THE PROPERTY OWNER TO A PROPOSED COLLECTION LOCATION. A COLLECTION SCHEDULE FOR RECYCLING AND TRASH COLLECTION SHALL BE PROVIDED ON THE SITE PLAN.
14. FOR SITES ADJACENT TO A PUBLIC ALLEY, SOLID WASTE TRUCKS ARE PERMITTED TO ACCESS THE PROPERTY THROUGH THE ALLEY IF SWEPT-PATH CLEARANCE REQUIREMENTS CAN BE PROVIDED.
15. SOLID WASTE COLLECTION LOCATIONS MUST BE LOCATED WITHIN THE BOUNDARIES OF THE PROPERTY.

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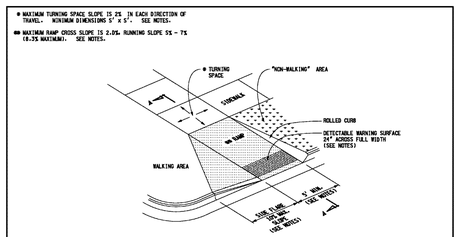
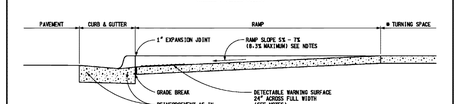
REV. NO.	DATE	DRAWN BY	CHECKED BY
00	06/05/18	OHM	CJE

SOLID WASTE
STANDARD DETAILS

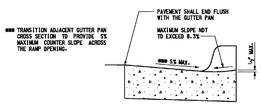
DR. OHM	CH. CJE	DRAWING NO.
SCALE N.T.S.	DATE 02/01/16	PAGE 6



SIDEWALK RAMP TYPE RF
(ROLLED / FLARED SIDES)



SECTION A-A

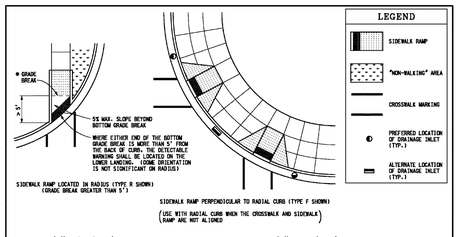


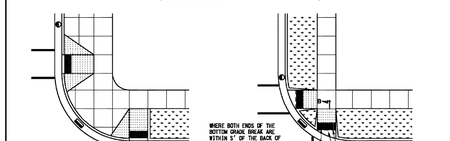
SECTION THROUGH GUTTER CUT
(TYPICAL ALL RAMP TYPES)

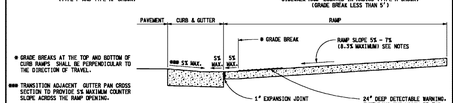
MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS

1-25-2013	10-3-2012	R-28-H	SHEET
F.H.W.A. APPROVAL	PLAN DATE		2 OF 7







* GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL.

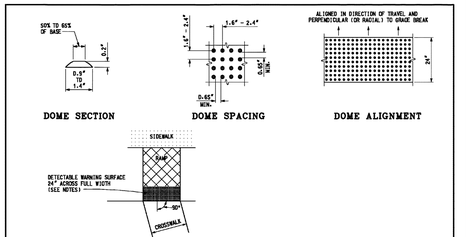
** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.

SECTION B-B
SIDEWALK RAMP ORIENTATION

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS

1-25-2013	10-3-2012	R-28-H	SHEET
F.H.W.A. APPROVAL	PLAN DATE		6 OF 7



DETECTABLE WARNING DETAILS

NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS BY ALL PUBLIC AGENCIES AND BY ALL PRIVATE ORGANIZATIONS CONSTRUCTING FACILITIES FOR PUBLIC USE.

SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT MARKED AND/OR SIGNALIZED MID-BLOCK CROSSINGS.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING TRANSVERSE TO THE RUNNING SLOPE.

SIDEWALK SHALL BE RAMPED WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, WHERE CONDITIONS PERMIT, IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

PROVIDE TURNING SPACES WHERE PEDESTRIAN TURNING MOVEMENTS ARE REQUIRED.

WHEN 5' MINIMUM WIDTHS ARE NOT FEASIBLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND TURNING SPACES TO NOT LESS THAN 4' x 4'.

DETECTABLE WARNING SURFACE COVERAGE IS 24" MINIMUM IN THE DIRECTION OF RAMP/PATH TRAVEL AND THE FULL WIDTH OF THE RAMP/PATH OPENING EXCLUDING CURBED OR FLARED CURB TRANSITION AREAS. A CURB OFFSET NOT GREATER THAN 2" MEASURED ALONG THE EDGES OF THE DETECTABLE WARNING *FOR AS OTHERWISE SHOWN ON THIS STANDARD* IS ALLOWABLE.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2%. FOR ALTERATIONS TO EXISTING ROADWAYS THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S, ADA COMPLIANT GRATE. OPENINGS SHALL NOT BE LARGER THAN 1/2". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE CONSTANT DIRECTION OF TRAVEL.

TRANSITION THE GUTTER PAN CROSS SECTION SUCH THAT THE COUNTER SLOPE IN THE DIRECTION OF RAMP TRAVEL IS NOT GREATER THAN 5% MAINTAIN THE NORMAL GUTTER PAN CROSS SECTION ACROSS DRAINAGE STRUCTURES.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE CURB FACE, SHALL BE PROVIDED WHERE AN UNOBSTRUCTED CIRCULATION PATH LATERALLY CROSSES THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE RAMP IS BORDERED BY LANDSCAPING, UNPAVED SURFACE OR PERMANENT FIXED OBJECTS WHERE THEY ARE NOT REQUIRED, FLARED SIDES CAN BE CONSIDERED IN ORDER TO AVOID SHARP CURB RETURNS AT RAMP OPENINGS.

DETECTABLE WARNING PLATES MUST BE INSTALLED USING FABRICATED OR FIELD CUT UNITS CAST AND/OR ANCHORED IN THE PAVEMENT TO RESIST SHIFTING OR HEAVING.

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS

1-25-2013	10-3-2012	R-28-H	SHEET
F.H.W.A. APPROVAL	PLAN DATE		7 OF 7

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30100 TELEGRAPH ROAD, SUITE 220
BINGHAM FARMS, MI 48025
SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT

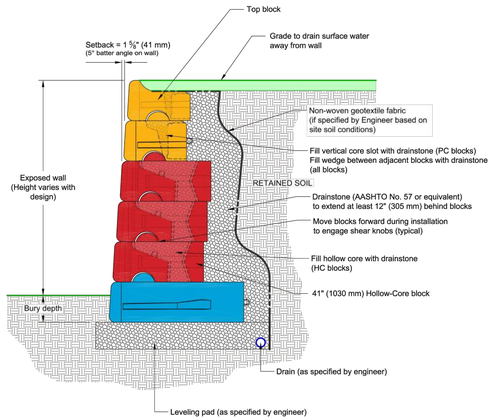
SITE PLAN
MISCELLANEOUS NOTES AND DETAILS

15

JOB No. 20034

DATE: 07/23/20
SHEET 15 OF 21
CADD:
ENG.: TPH
PM: DJC
TECH:
Z:\20034OT1

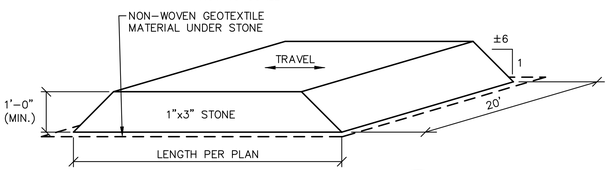
REVISIONS:	REV.	DATE
PER CITY COMMENTS	1	10/07/20
REVISED THIS SHEET	2	05/06/21
REVISED SITE PLAN	3	06/11/21
PER CITY REVIEW	4	06/24/21



Note: Wall designs typically include a combination of solid, PC, and hollow-core blocks. Redi-Rock blocks are designed to be used together. Block type, size, and configuration will vary based on site-specific conditions and wall height.

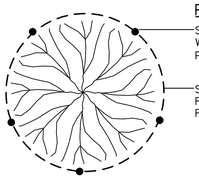
RETAINING WALL DETAIL

NOT TO SCALE



GRAVEL MUD TRACKING MAT (60t)

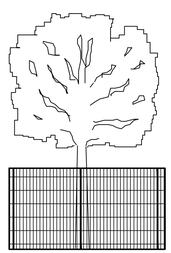
NOT TO SCALE



PLAN

STANDARD STEEL OR WOODEN FENCE POST, POST AT 10' O.C. (MAX)

STANDARD 48" HIGH SNOW FENCE OR ORANGE PLASTIC FENCE

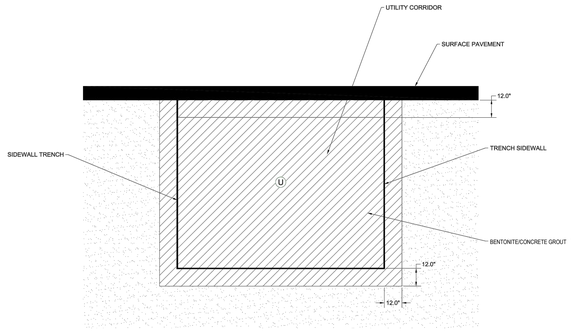


ELEVATION

SNOW FENCE SHALL BE LOCATED AT THE OUTER PERIMETER OF THE CRITICAL ROOT ZONE OR CLOSER ONLY IF INDICATED ON THE APPROVED LANDSCAPE PLAN.

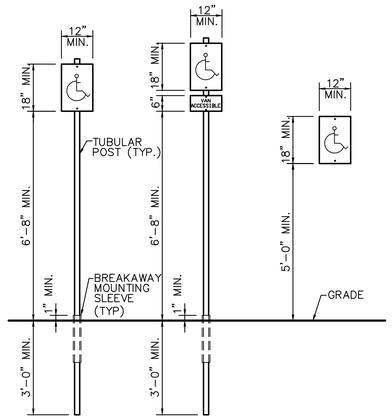
TREE PROTECTION DETAIL (54t)

NOT TO SCALE



UTILITY TRENCH MIGRATION BARRIER DETAIL

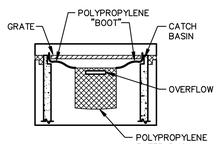
NOT TO SCALE



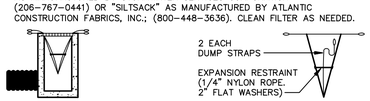
POST MOUNTED SIGNS WALL MOUNTED SIGNS

TYPICAL HANDICAP PARKING SIGNS

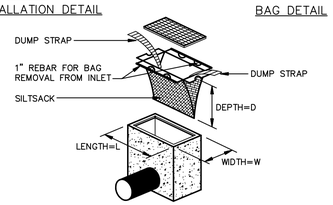
SCALE: 1/2" = 1'-0"



NOTE:
TEMPORARY INLET SEDIMENT FILTER TO BE INSTALLED ON ALL PAVED CATCH BASINS OR STORM INLETS. INLET FILTER TO BE SIMILAR TO "STREAMGUARD" AS MANUFACTURED BY STORMWATER SERVICES CORPORATION (206-767-0441) OR "SILTSACK" AS MANUFACTURED BY ATLANTIC CONSTRUCTION FABRICS, INC.; (800-448-3636). CLEAN FILTER AS NEEDED.

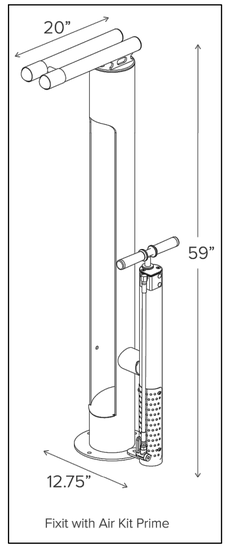


INSTALLATION DETAIL BAG DETAIL



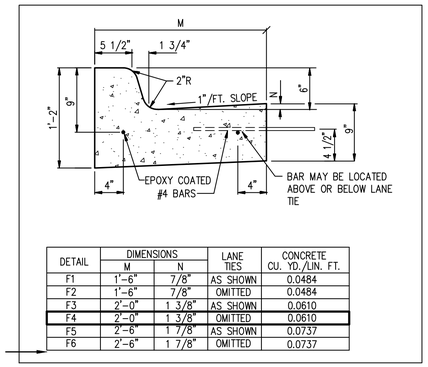
SILT SACK DETAIL (59t)

NO SCALE



BIKE REPAIR STATION

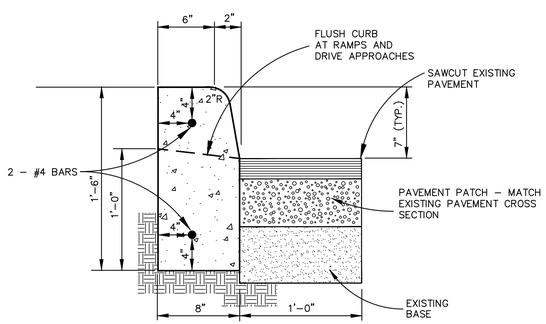
NOT TO SCALE



DETAIL	DIMENSIONS M	DIMENSIONS N	LANE TIES	CONCRETE CU. YD./LIN. FT.
F1	1'-6"	7/8"	AS SHOWN	0.0484
F2	1'-6"	7/8"	OMITTED	0.0484
F3	2'-0"	1 3/8"	AS SHOWN	0.0610
F4	2'-0"	1 3/8"	OMITTED	0.0610
F5	2'-6"	1 7/8"	AS SHOWN	0.0737
F6	2'-6"	1 7/8"	OMITTED	0.0737

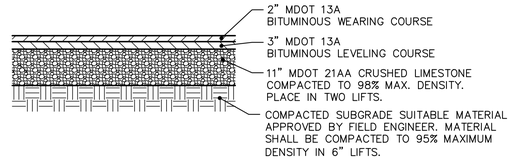
MDOT TYPE F CONCRETE CURB / GUTTER

NOT TO SCALE



STRAIGHT CURB DETAIL

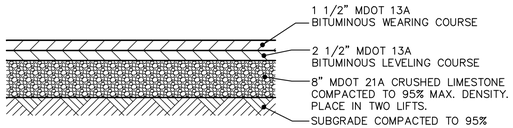
NOT TO SCALE



HEAVY DUTY BIT. PAVEMENT DETAIL

FOR USE IN TRUCK TRAFFIC AREA

NO SCALE



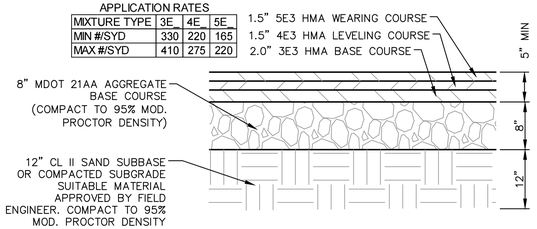
TYPICAL PARKING LOT CROSS SECTION DETAIL

NOT TO SCALE

MINIMUM REQUIREMENT

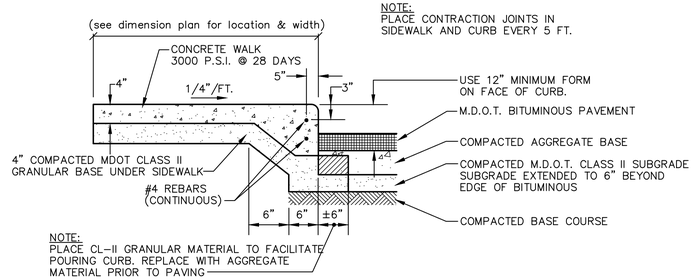
APPLICATION RATES

MIXTURE TYPE	3E	4E	5E
MIN #/SYD	330	220	165
MAX #/SYD	410	275	220



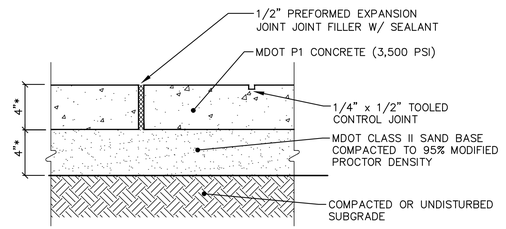
BITUMINOUS PAVEMENT - PUBLIC R.O.W.

NOT TO SCALE



TYPICAL INTEGRAL WALK / CURB

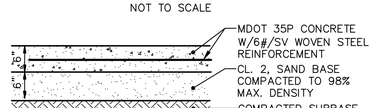
NOT TO SCALE



NOTE:
* INCREASE CONCRETE WALK TO 6" WHEN CROSSING A SINGLE-FAMILY OR DOUBLE-FAMILY DRIVEWAY, AND TO 8" FOR COMMERCIAL DRIVE CROSSINGS. USE 6" CLASS II SAND BASE AT RESIDENTIAL DRIVE CROSSINGS, AND 8" 21AA AGGREGATE BASE (98% MODIFIED PROCTOR) AT COMMERCIAL DRIVE CROSSINGS.

CONCRETE WALK DETAIL

NOT TO SCALE



HEAVY DUTY CONCRETE

NOT TO SCALE

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2060 W. STADIUM REDEVELOPMENT PROJECT

SITE PLAN

MISCELLANEOUS NOTES AND DETAILS

16

JOB No. 20034

DATE: 07/23/20

SHEET 16 OF 21

CADD:

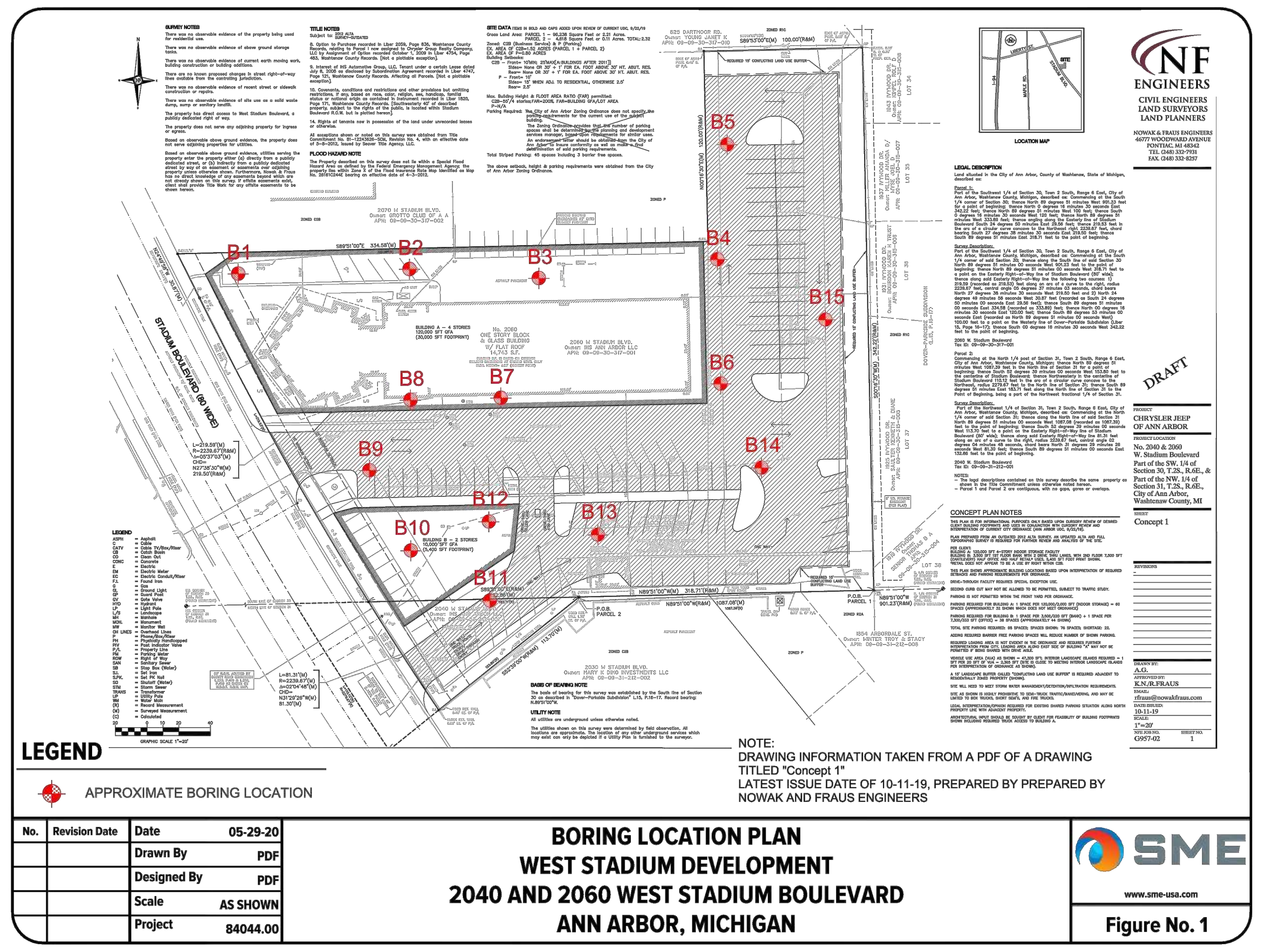
ENG: TPH

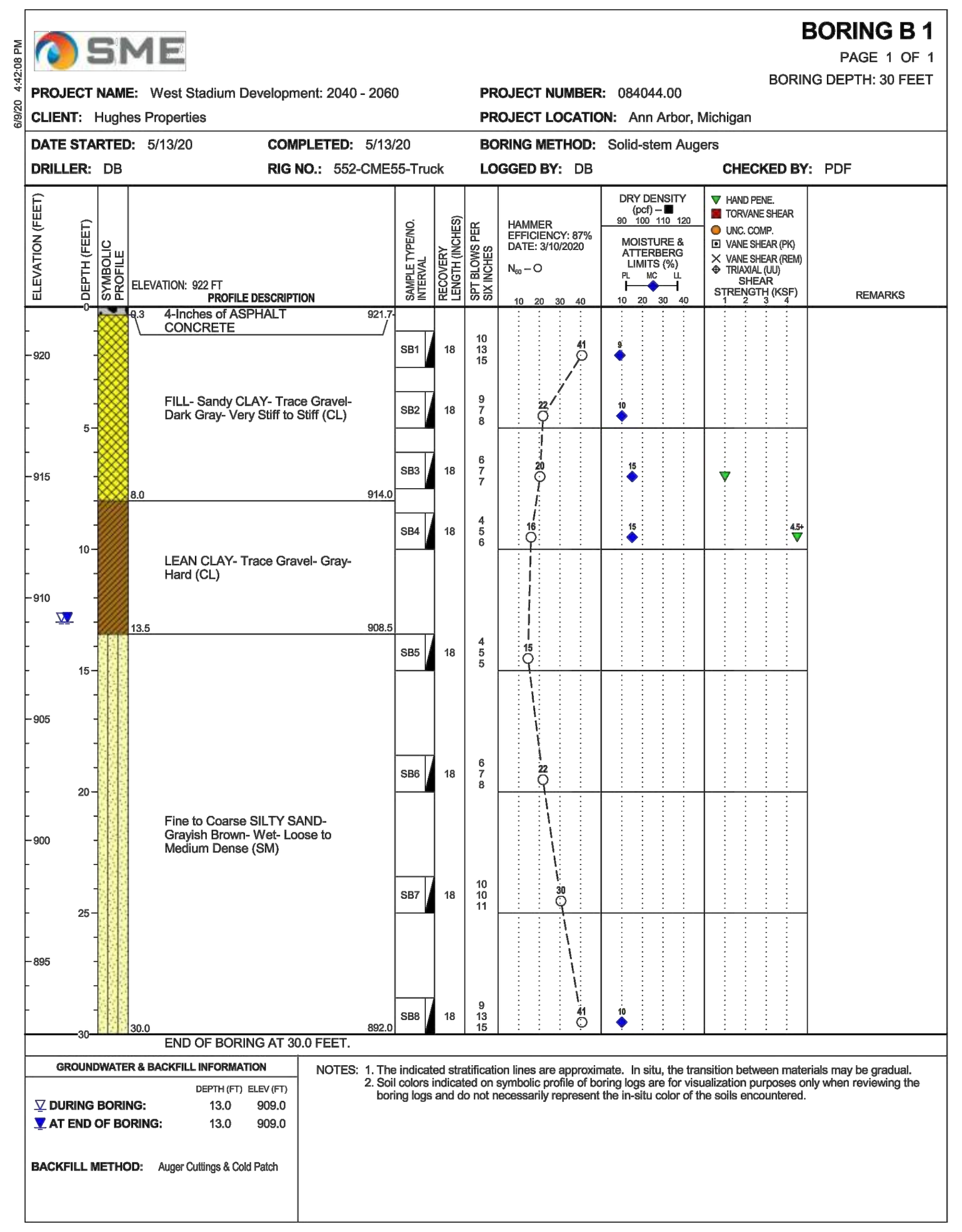
PM: TJC

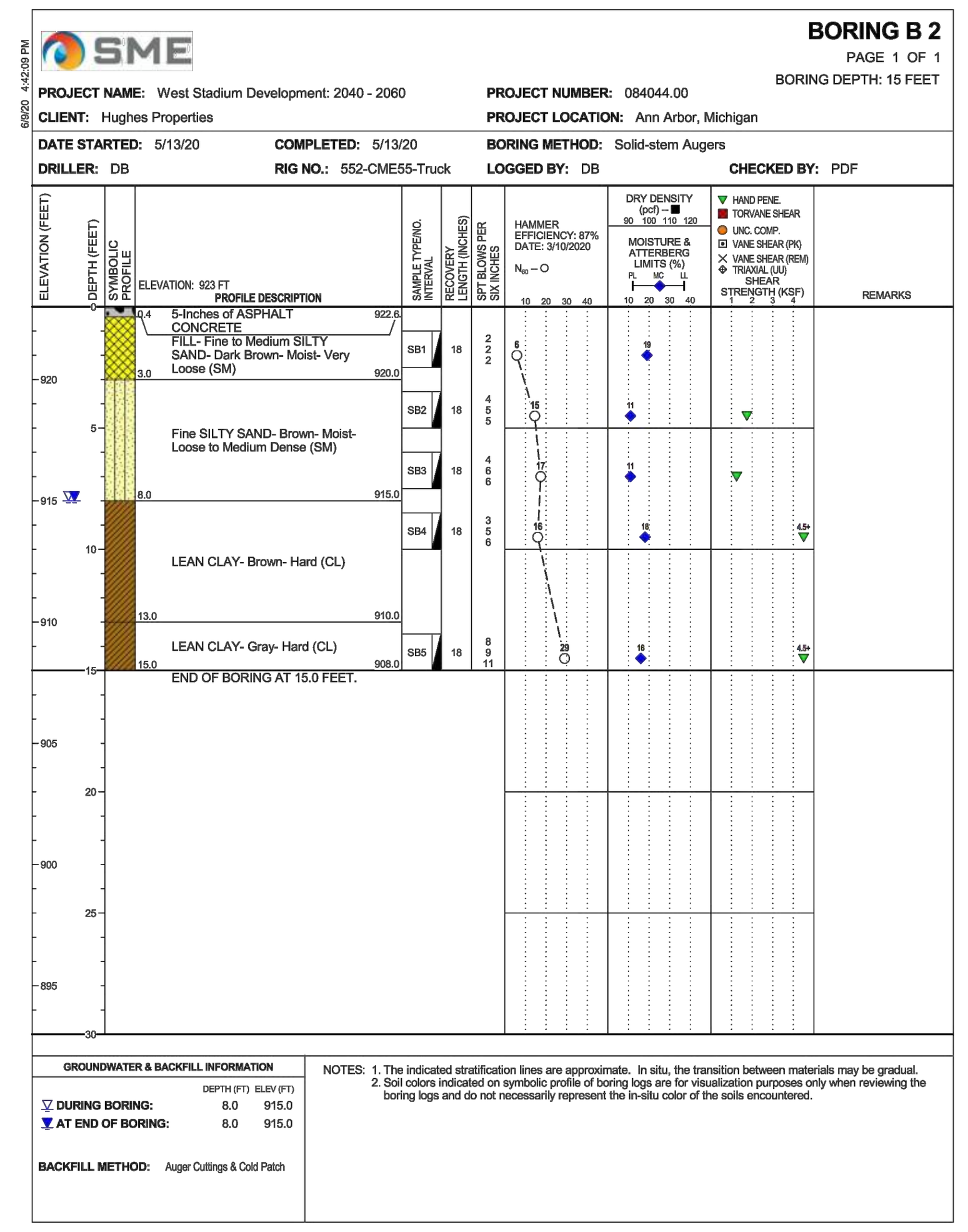
TECH:

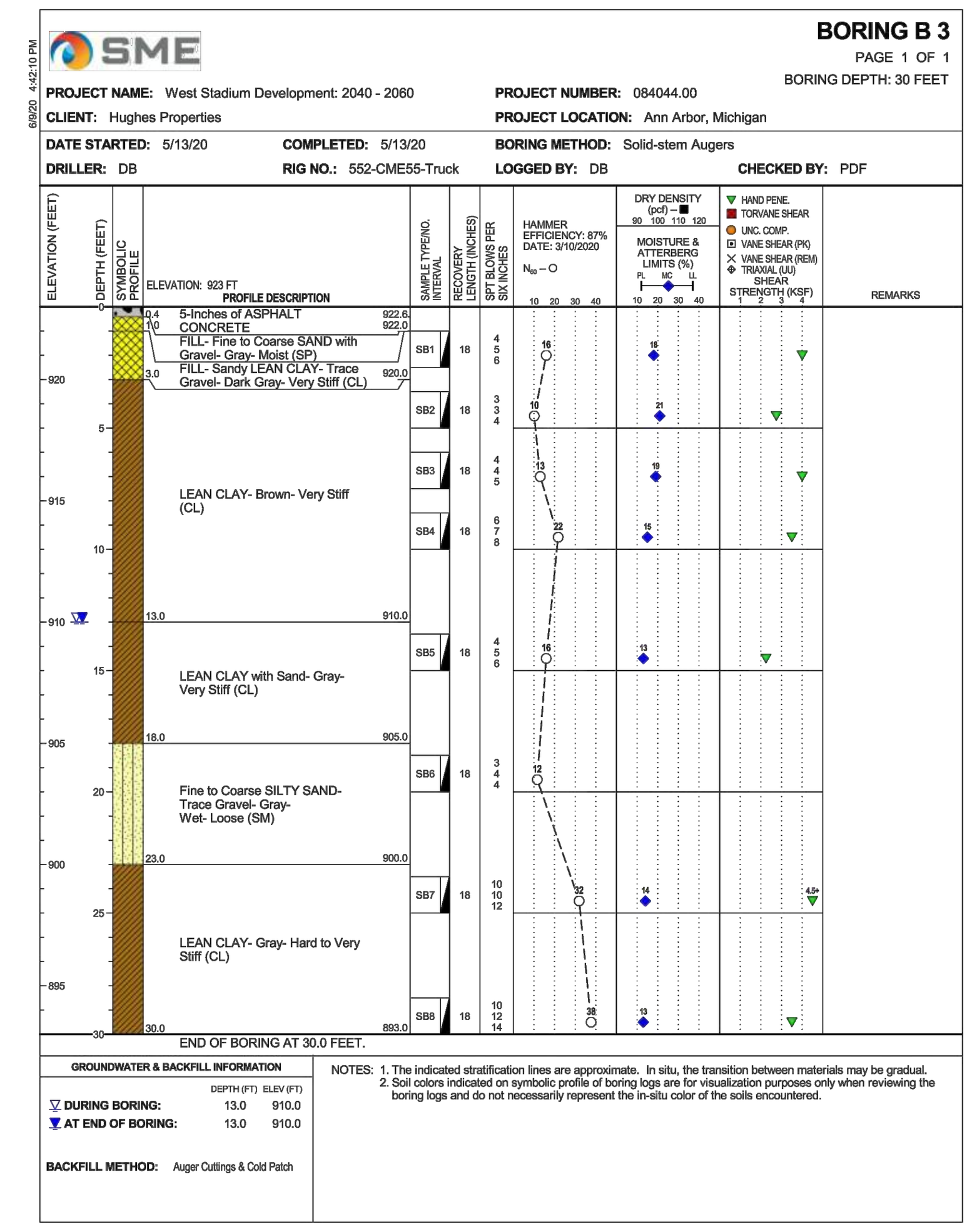
/20034D1

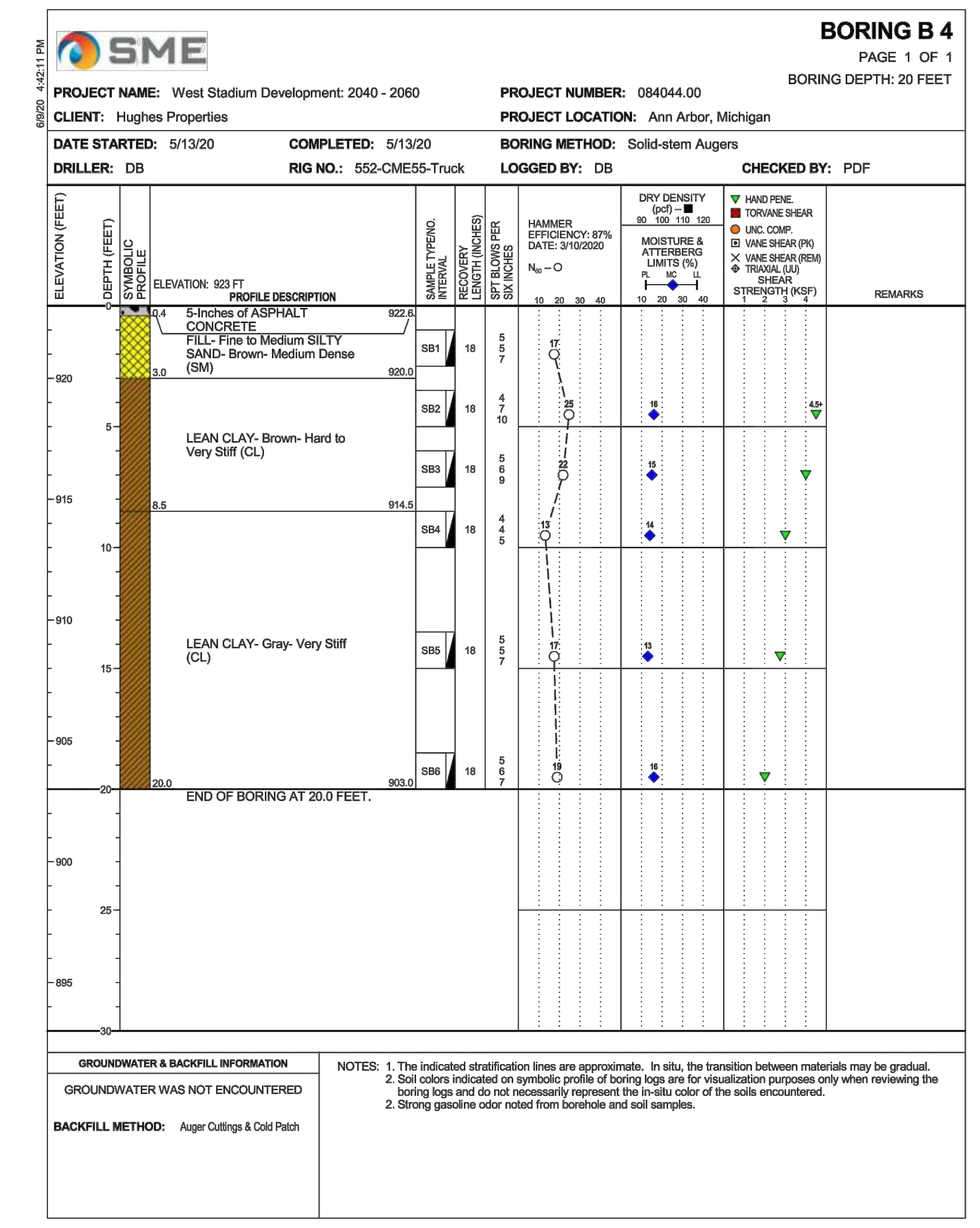
REVISIONS:	REV. DATE
PER CITY REVIEW COMMENTS	10/07/20
PER CITY REVIEW	05/06/21
REVISED SITE PLAN	05/06/21
PER CITY REVIEW	06/11/21
PER CITY REVIEW	06/24/21

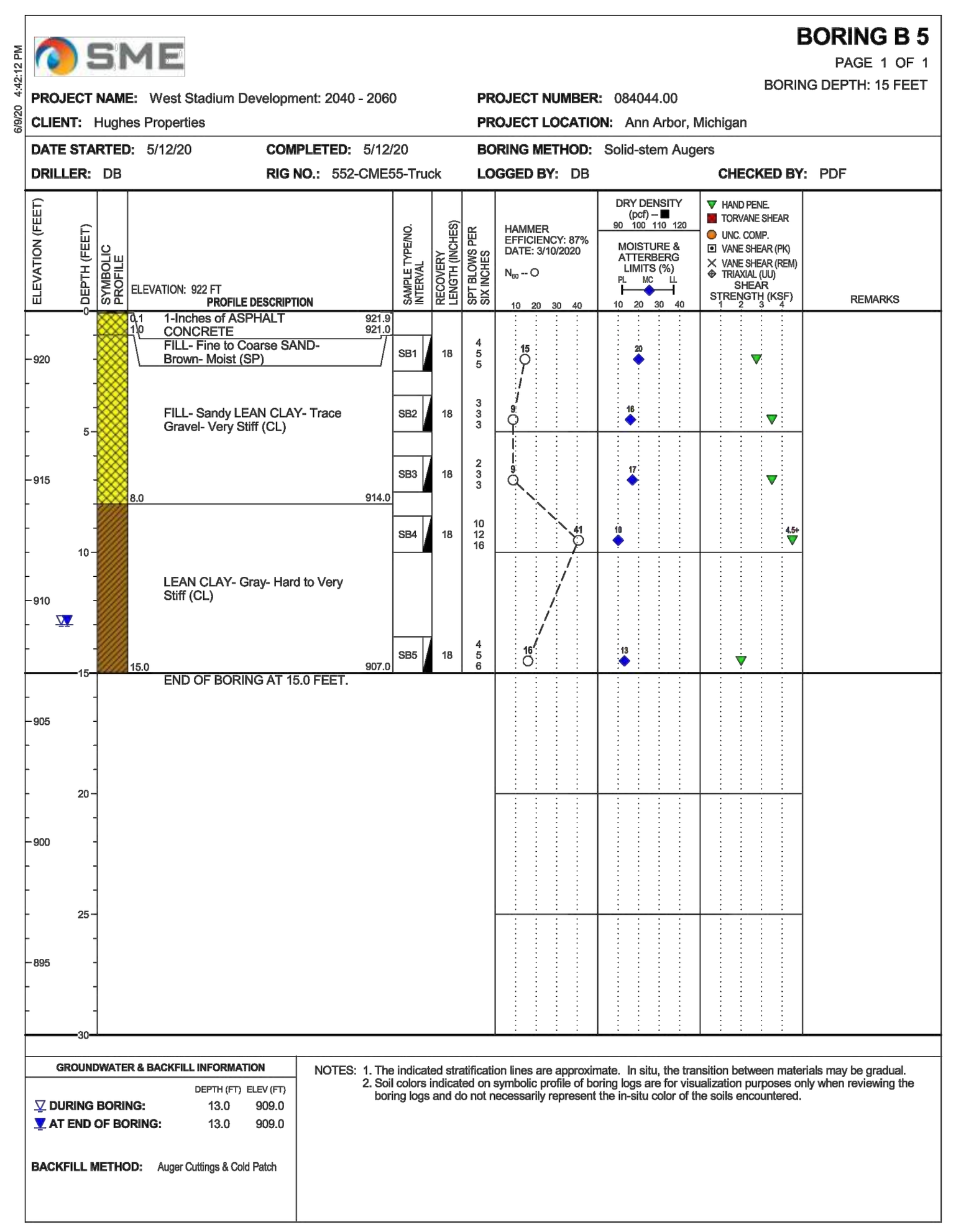


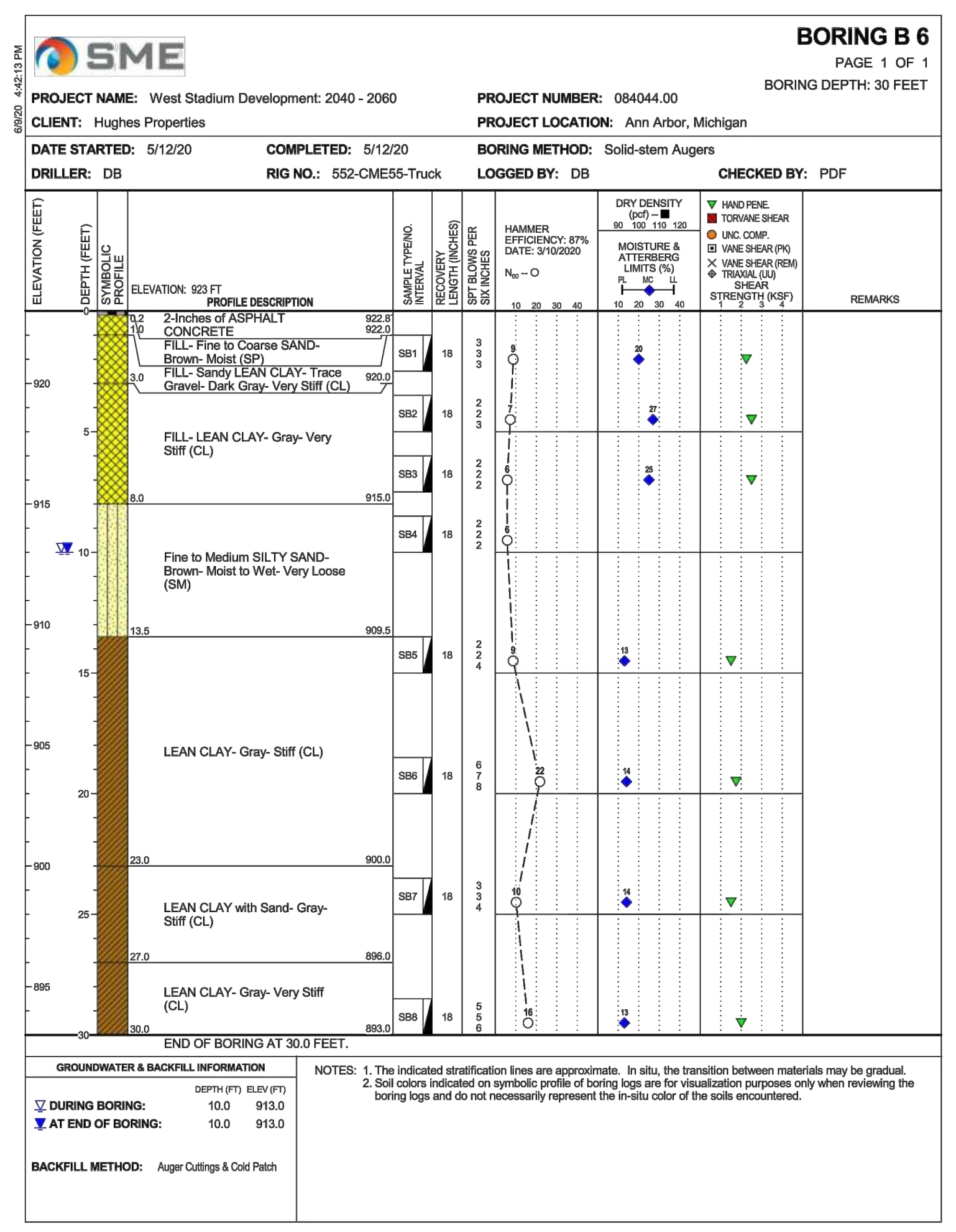


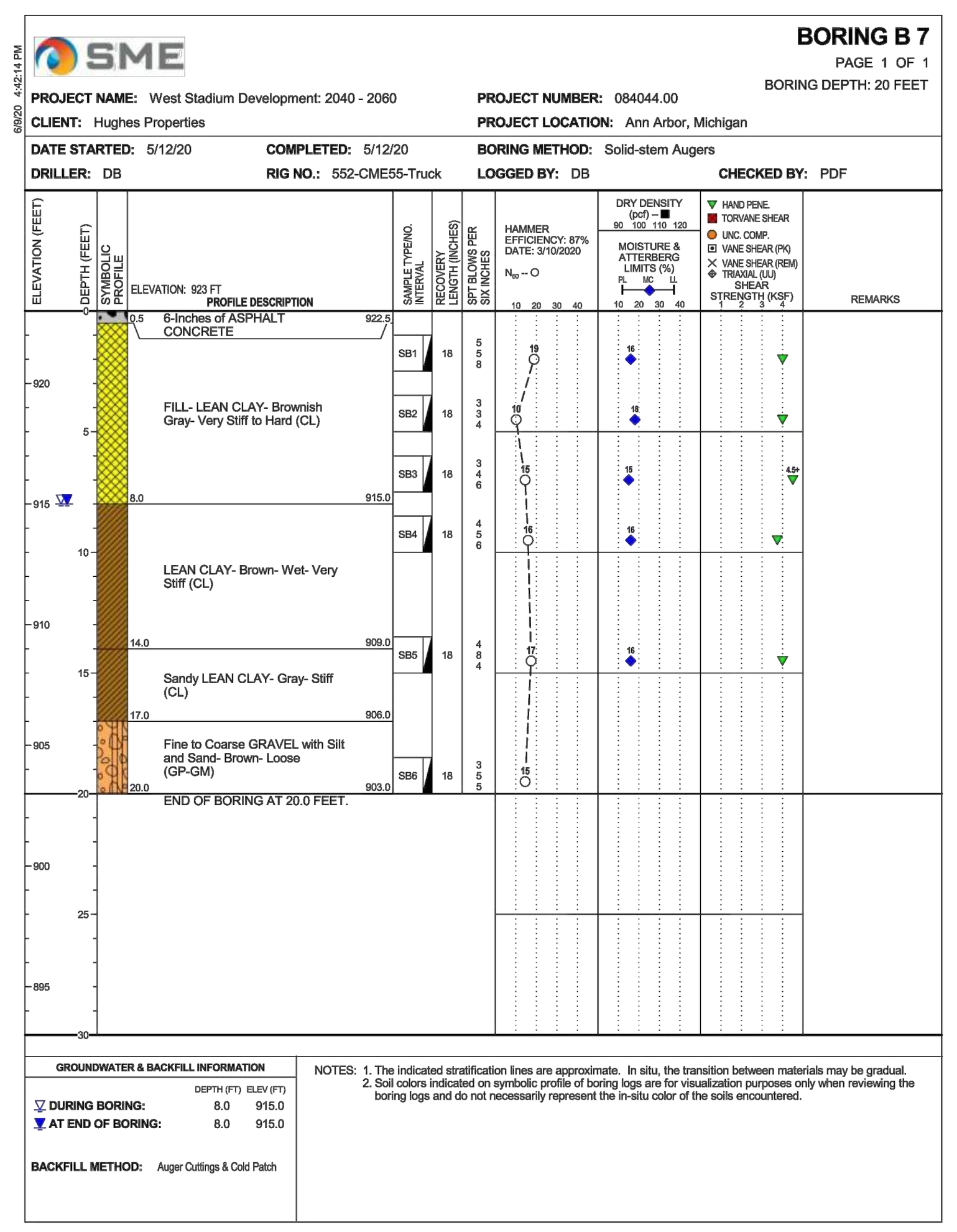


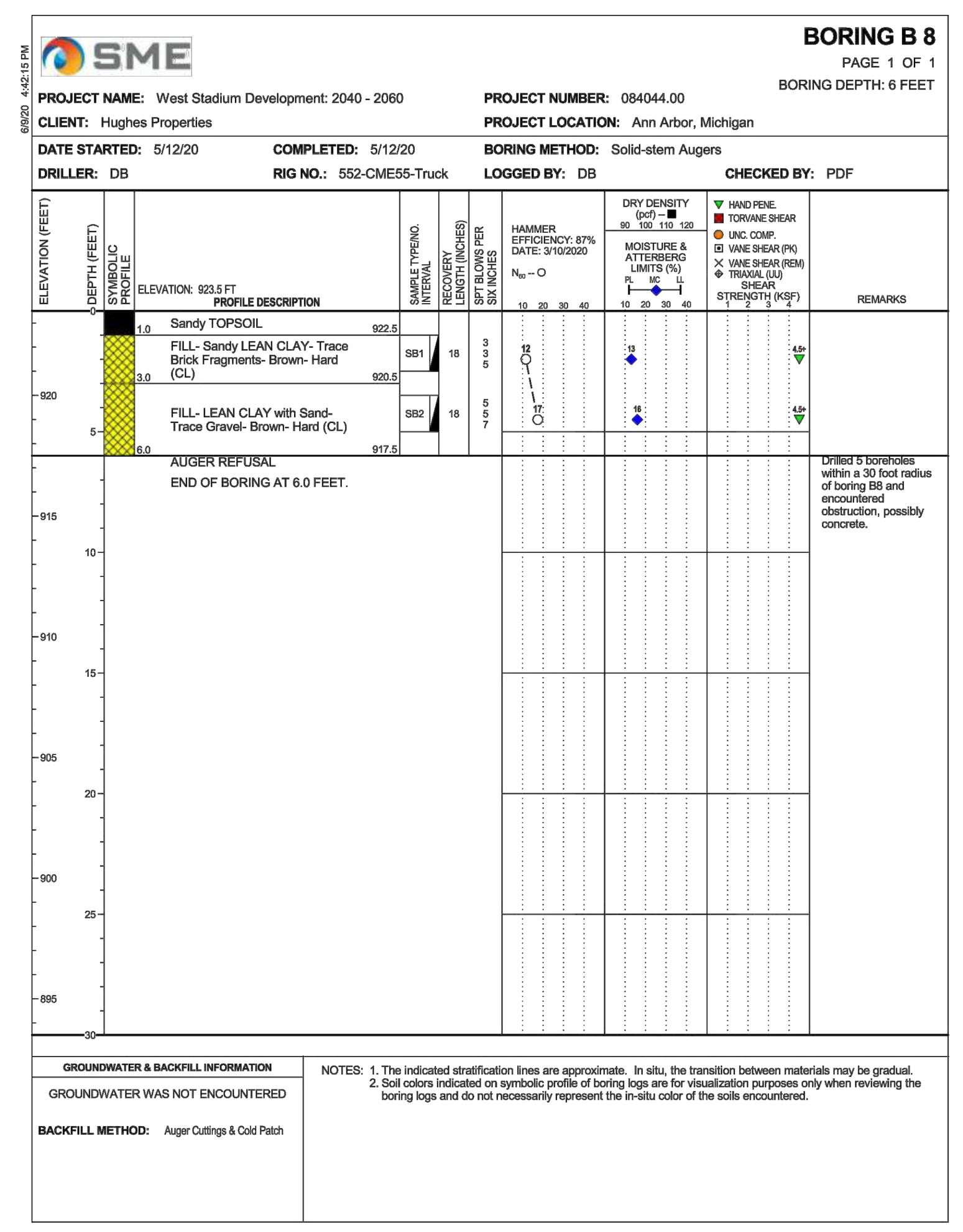


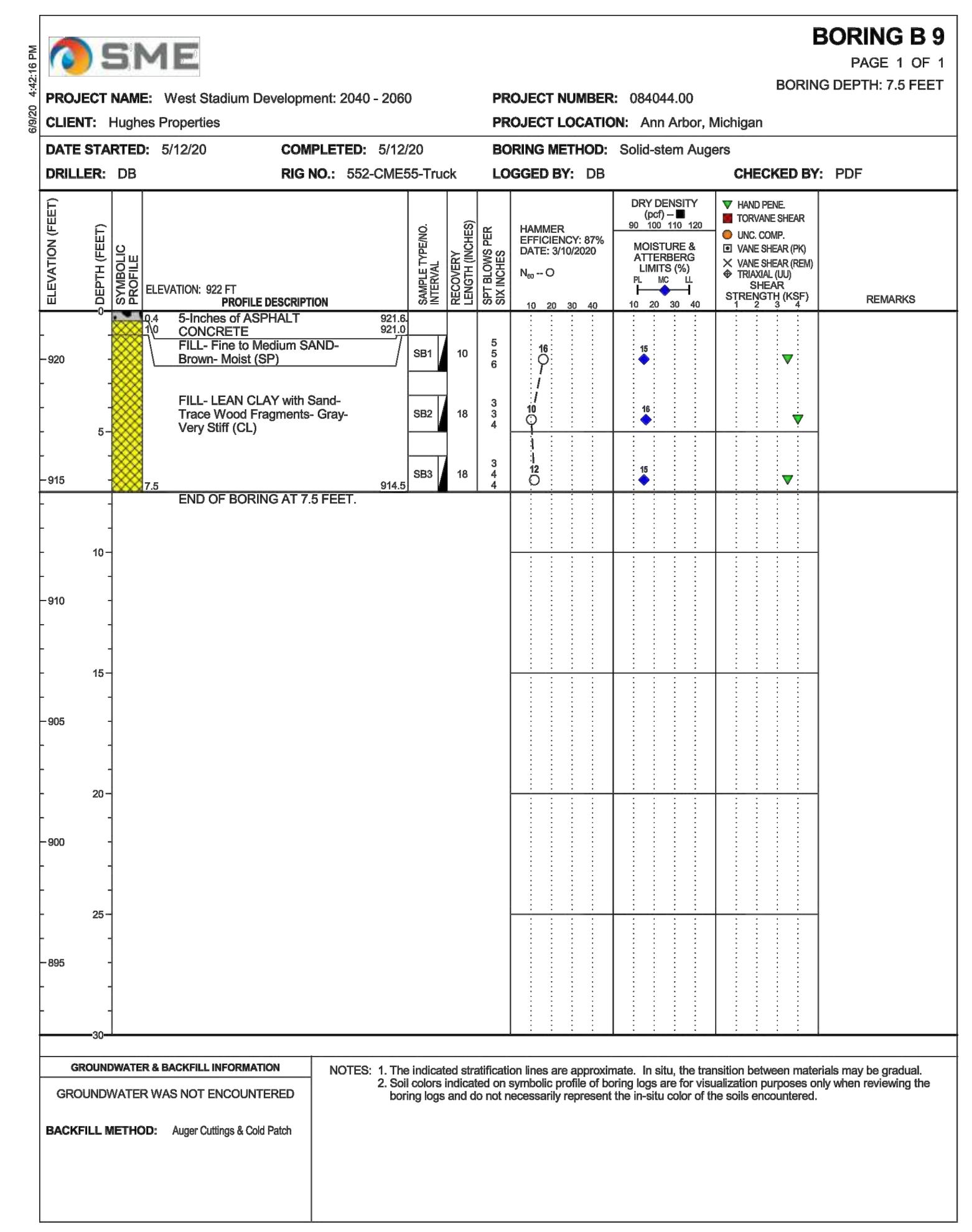


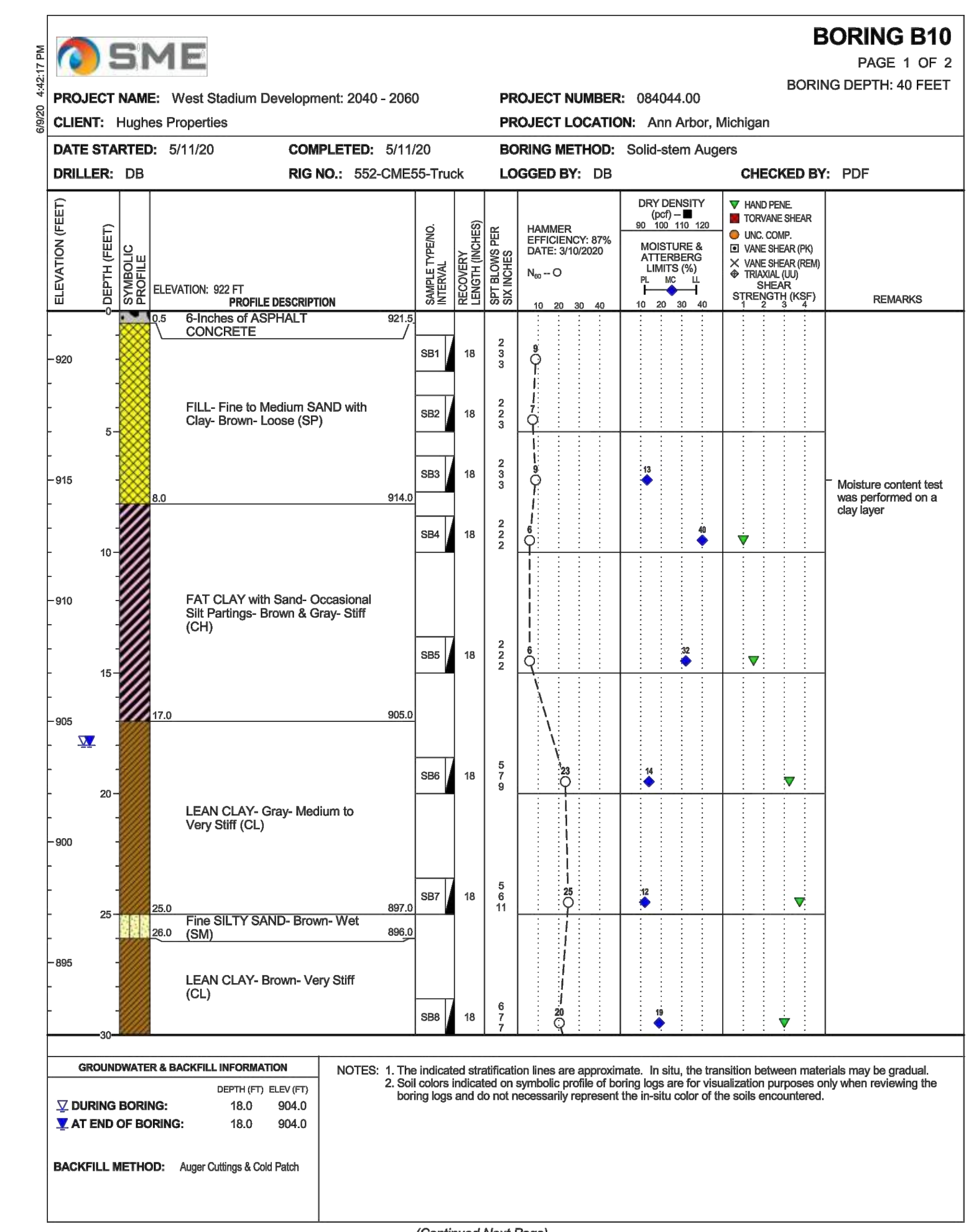


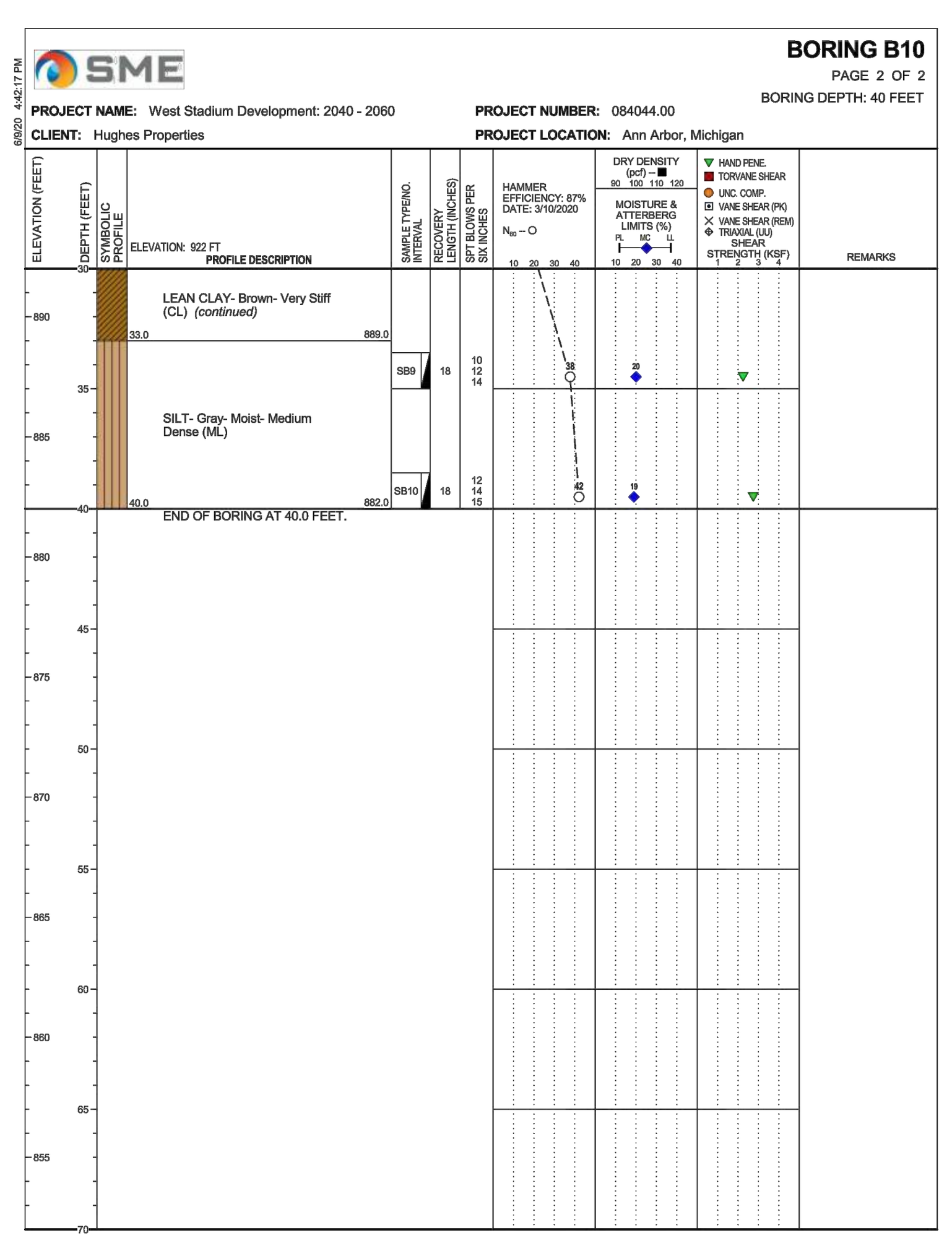


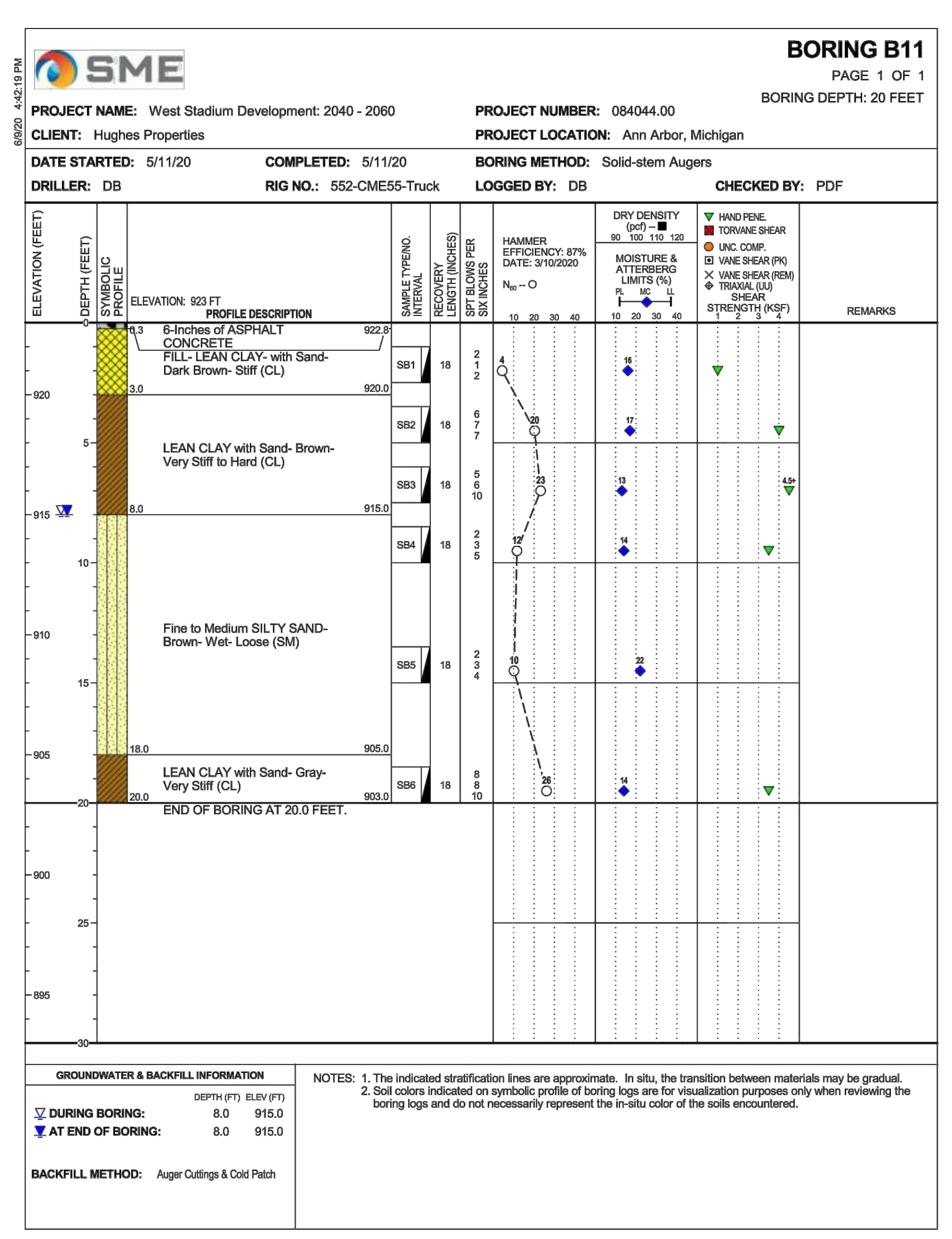


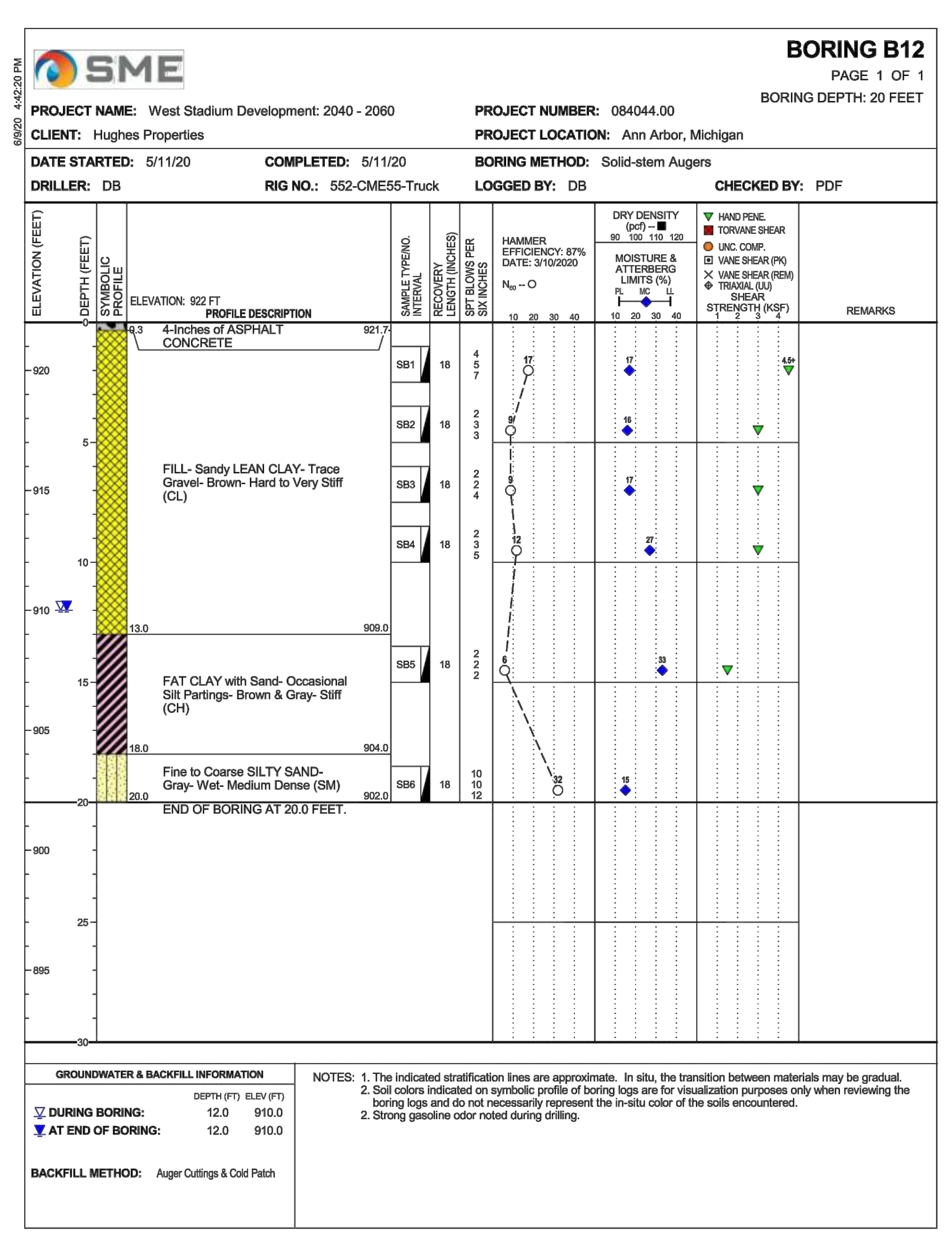


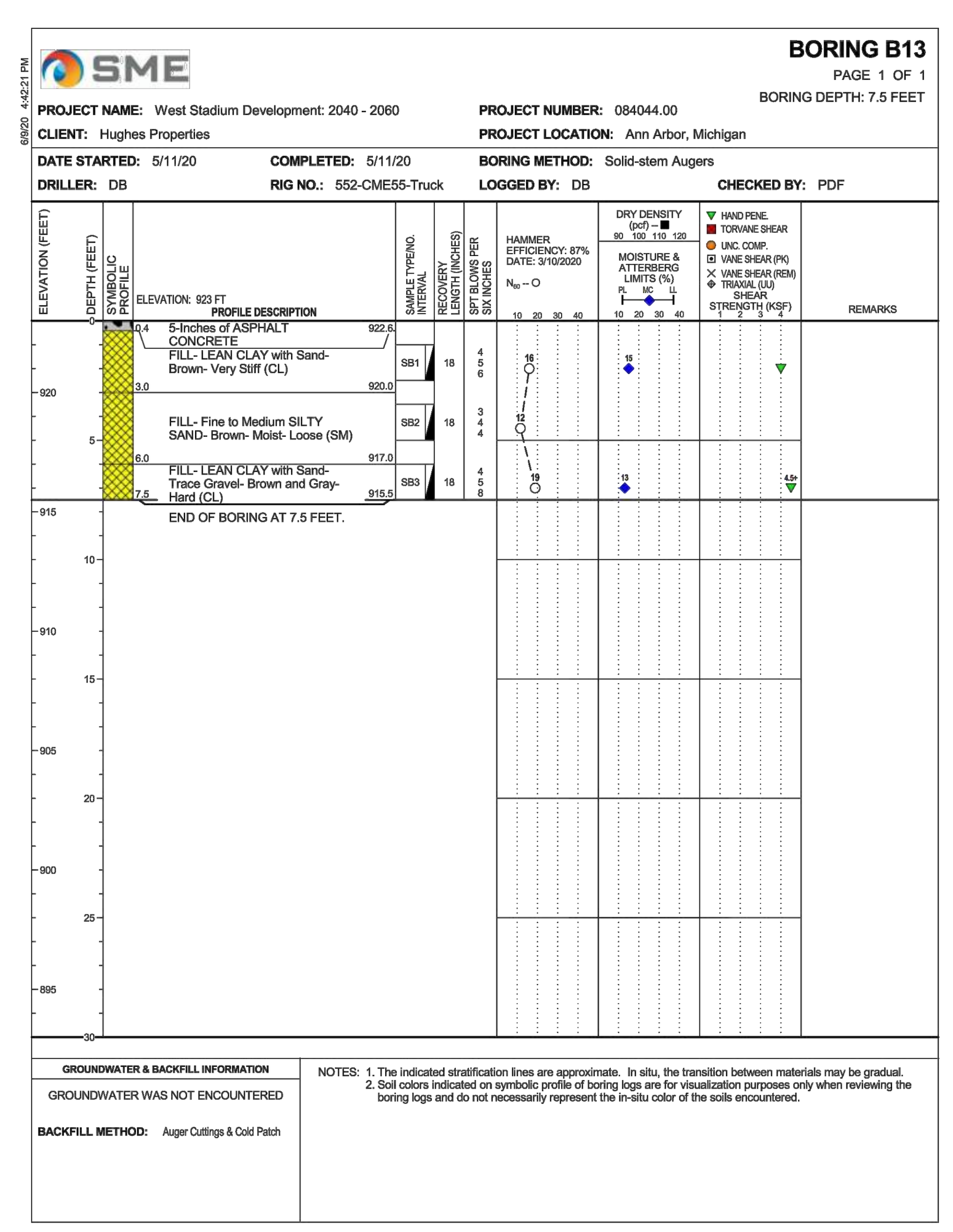


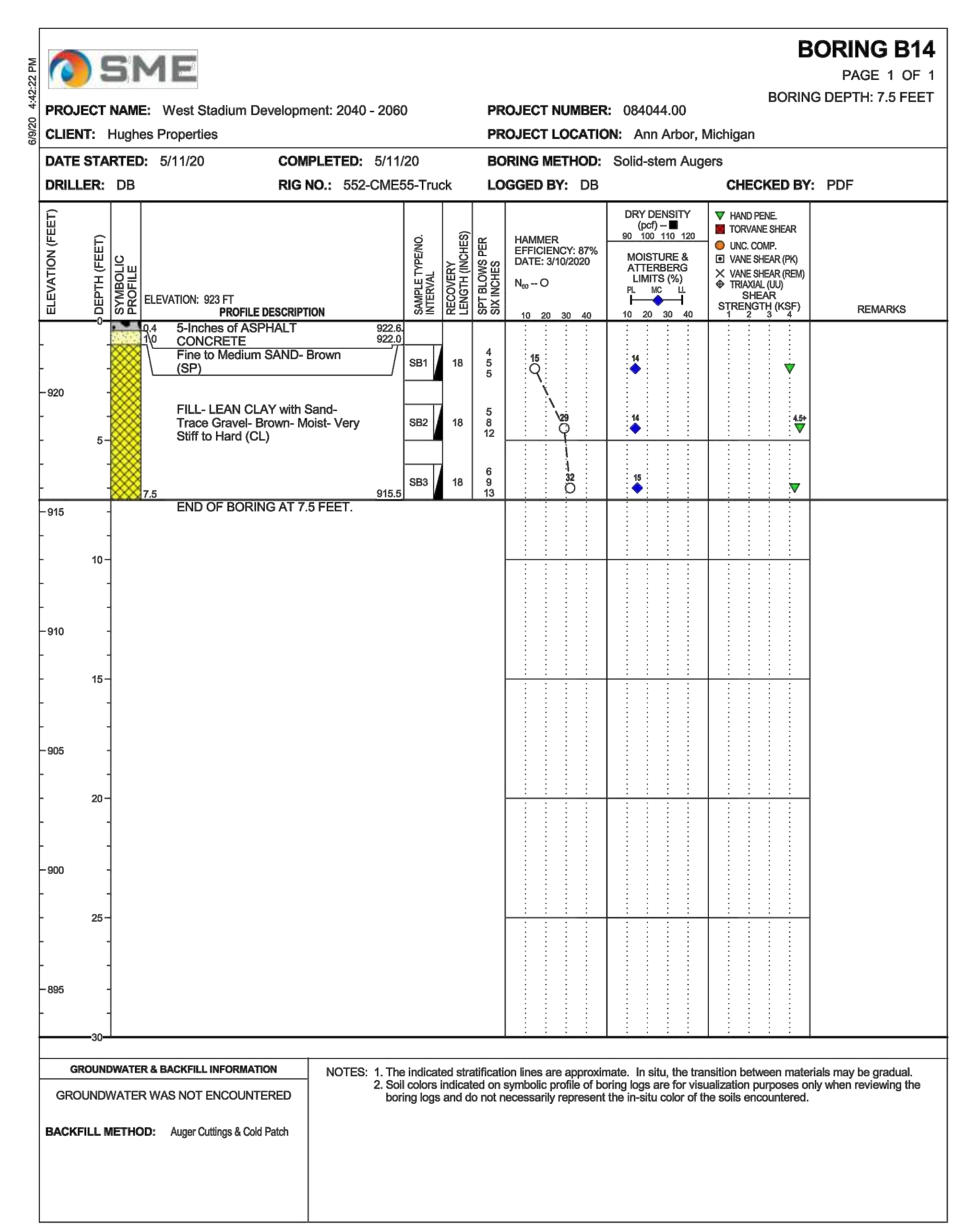


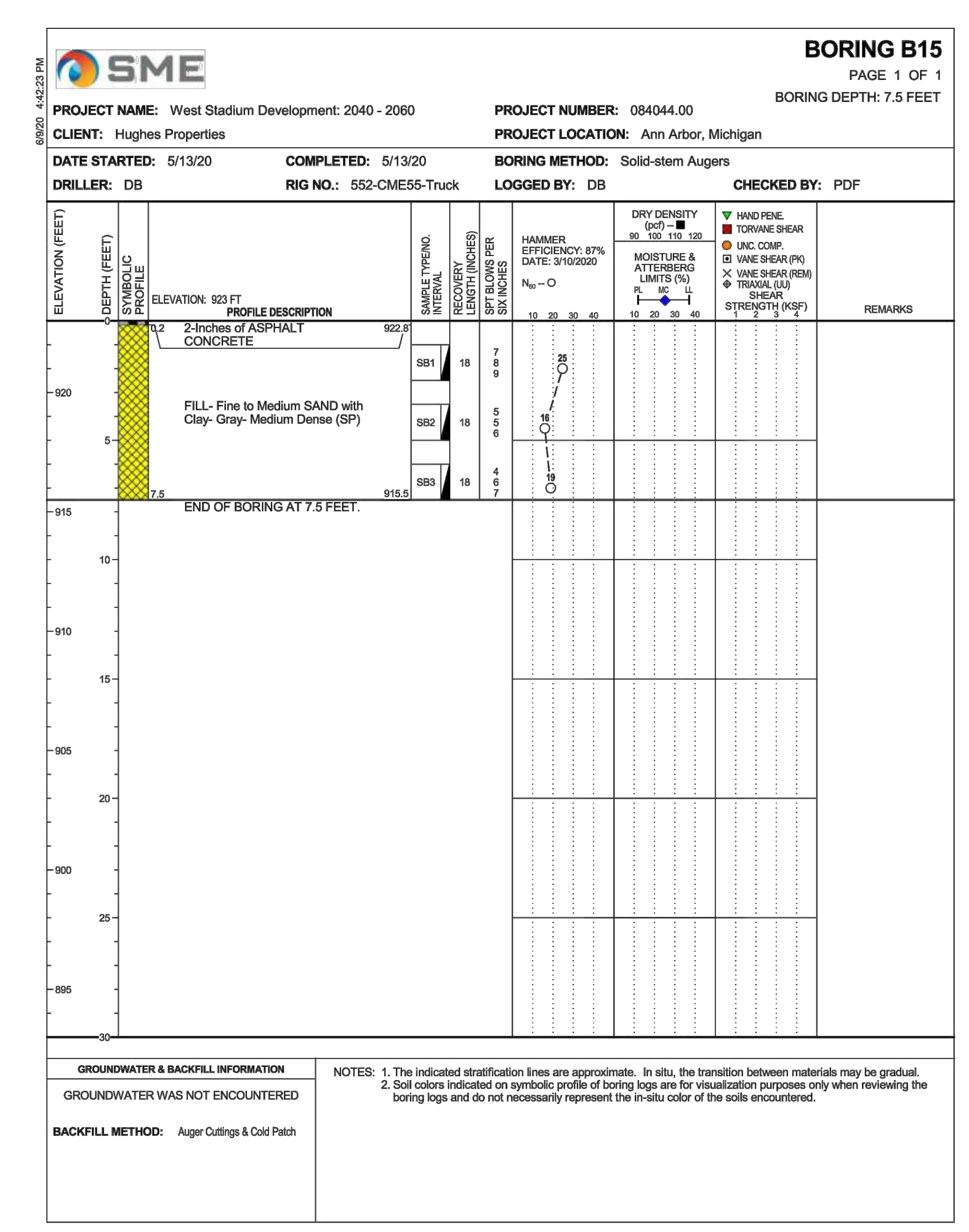












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2060 W. STADIUM REDEVELOPMENT PROJECT

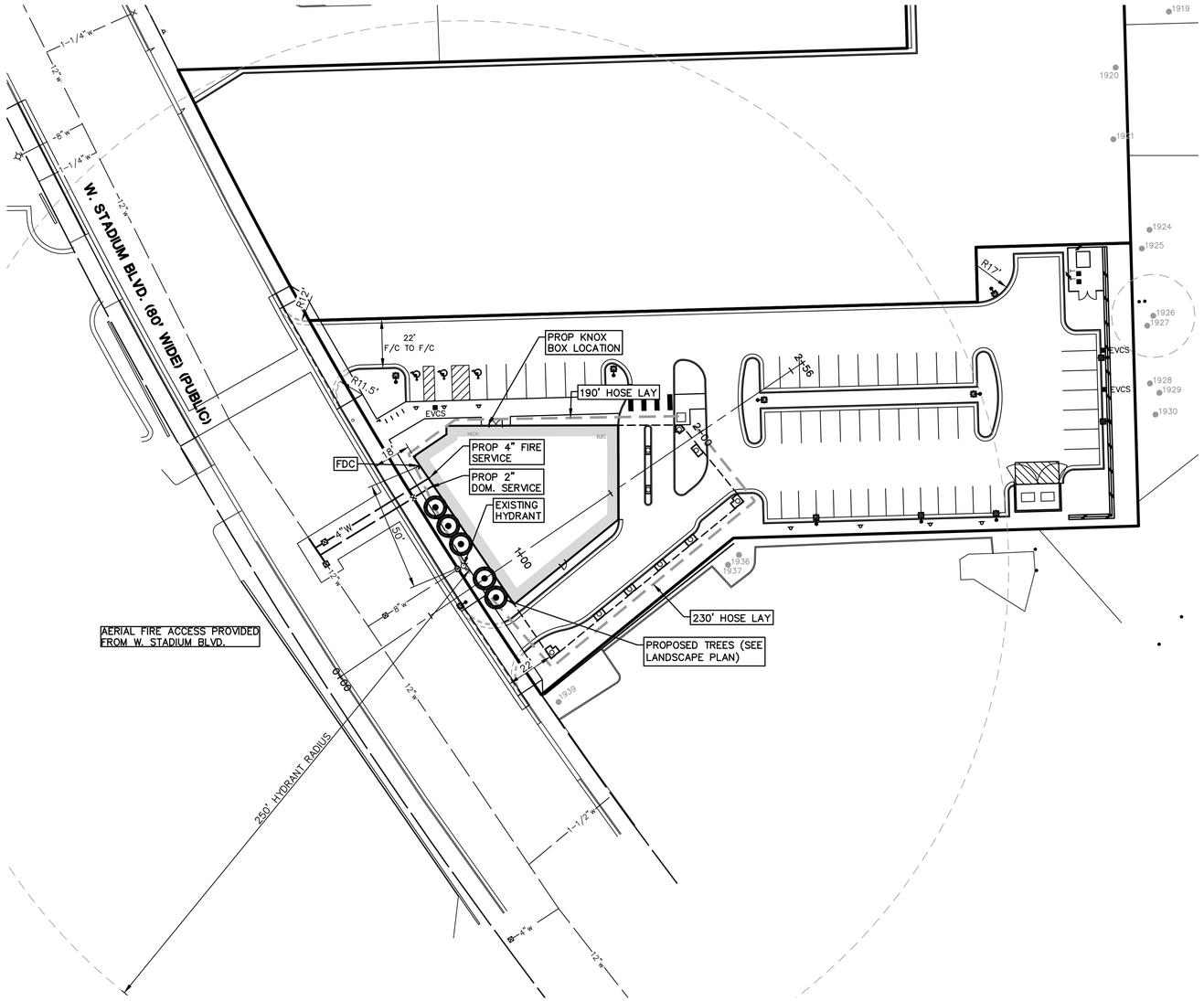
SITE PLAN
SOIL BORINGS

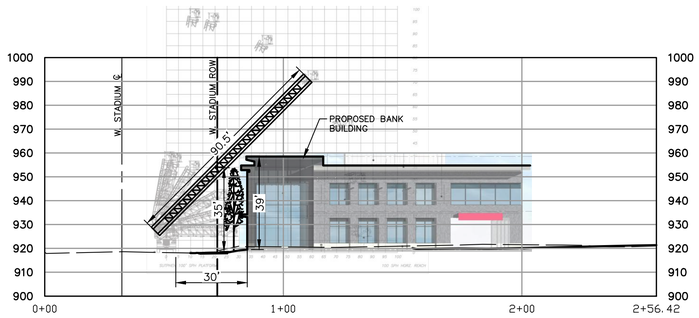
17

JOB No. **20034**

DATE: 07/23/20
SHEET 17 OF 21

REVISIONS:	REV. DATE	
PER REVIEW COMMENTS	09/11/20	CADD:
NO CHANGES THIS SHEET	10/07/20	ENG: TPH
REVISED SITE PLAN	05/06/21	PM: TJC
PER CITY REVIEW	06/11/21	TECH:
PER CITY REVIEW	06/24/21	/20034DT1





AERIAL TRUCK LADDER REACH DETAIL

SCALE: 1"=30'

SCALE: 1" = 30'

0 30 60 90

NOTES

1. WATER SERVICES ARE TO BE SEPARATE DOMESTIC AND FIRE LINES.
2. ADDRESSING: NUMERICS SHALL BE A MINIMUM OF 12 INCHES IN HEIGHT AND CLEARLY VISIBLE WHEN APPROACHING THE BUILDING. SEE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND LOCATIONS.
3. FLOW REQUIREMENTS: FLOW SHALL COMPLY WITH NFPA 13 STANDARDS AND SHALL MEET 2015 INTERNATIONAL FIRE CODE (IFC) STANDARDS FOUND IN APPENDIX B. TABLE B 105.1 OF THE CODE.
4. FIRE DEPARTMENT CONNECTIONS (FDC'S) SHALL BE WITHIN 100 FEET OF A HYDRANT.
5. FIRE DEPARTMENT CONNECTION (FDC): HOOK-UP LOCATION IS SUBJECT TO FIRE MARSHAL'S APPROVAL.
6. FDC'S SHALL BE 4 INCH STORZ CONNECTIONS OR (2) 2 ½ INCH NST CONNECTIONS.
7. FDC ACCESS SHALL COMPLY WITH IFC 912.3.
8. FDC SIGNAGE SHALL BE PROVIDED AND SHALL COMPLY WITH IFC 912.4.
9. FIRE PROTECTION ALARM AND DETECTION SYSTEM SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES ADOPTED BY THE CITY OF ANN ARBOR, INCLUDING NFPA 72, 2007 EDITION AND ALL OTHER REFERENCED STANDARDS.
   a. A HORN STROBE DEVICE SHALL BE INSTALLED ABOVE THE FDC AND SHALL ACTIVATE UPON SPRINKLER WATER FLOW.
   b. EMERGENCY RESPONDER RADIO COVERAGE SHALL COMPLY WITH 2015 IFC SECTION 510.
   c. EMERGENCY VOICE/ALARM COMMUNICATIONS SYSTEM SHALL COMPLY WITH 2015 IFC SECTION 907.6.2.2.
   d. OCCUPANT NOTIFICATION APPLIANCES SHALL ACTIVATE THROUGHOUT THE NOTIFICATION ZONES UPON SPRINKLER WATER FLOW.
   e. PLACE SIGNAGE ON FIRE SUPPRESSION SYSTEM CONTROL ROOM DOOR (IFC 2015 SECTION 509.1) IF APPLICABLE.
10. KNOX BOX EMERGENCY ACCESS SYSTEM WITH KEYS TO ACCESS THE BUILDING, THE FIRE SUPPRESSION SYSTEM CONTROL ROOM (IF APPLICABLE), AN ELEVATOR KEY, AND ANY OTHER KEYS TO AREAS THAT MAY BE RELEVANT DURING EMERGENCIES WILL BE REQUIRED. KNOX BOX WITH PROPER KEYS SHALL BE IN PLACE PRIOR TO ISSUANCE OF CERTIFICATES OF OCCUPANCY FOR THE BUILDINGS.
11. THE KNOX BOX SHALL BE MOUNTED NO HIGHER THAN 6 FEET FROM GRADE IN AN APPROVED LOCATION ON THE EXTERIOR FOR EMERGENCY ACCESS TO THE BUILDING AS WELL AS ACCESS TO THE FIRE SUPPRESSION SYSTEM CONTROL ROOMS IF APPLICABLE.
12. CONSTRUCTION SEQUENCING
    a. HYDRANTS MUST BE IN SERVICE AND APPROVED DURING CONSTRUCTION.
    b. HYDRANTS PROVIDING PROTECTION COVERAGE FOR THE BUILDING MUST BE IN SERVICE AND APPROVED BY BOTH ENGINEERING AND FIRE DEPARTMENTS BEFORE THE FIRE DEPARTMENT WILL SUPPORT PERMIT ISSUANCE FOR NEW CONSTRUCTION PHASE AND BEFORE COMBUSTIBLE MATERIALS ARE PLACED ON THE JOB SITE.
    c. STORAGE AREAS FOR CONSTRUCTION MATERIALS MUST BE APPROVED SO AS NOT TO INTERFERE WITH FIRE/EMERGENCY SITE ACCESS.
    d. IF SITE ACCESS IS TO BE RESTRICTED DURING CONSTRUCTION, KNOX BOX LOCKS FOR GATES ARE TO BE PROVIDED.
13. NO FIREWALLS WILL BE CONSTRUCTED WITHIN THE BUILDING.
14. BOOSTER PUMPS WILL BE PROVIDED ON THE DOMESTIC WATER SERVICE AND THE FIRE SUPPRESSION WATER SERVICE LEADS. THE PUMPS SHALL MEET 2015 IFC STANDARDS, SECTION 914.3.1.2.
15. NO SEPARATE FIRE SUPPRESSION SYSTEM CONTROL ROOM IS REQUIRED.
16. STORAGE AREA FOR CONSTRUCTION MATERIALS SHALL NOT INTERFERE WITH FIRE/EMERGENCY SERVICES.
17. HYDRANTS PROVIDING PROTECTION COVERAGE FOR THE BUILDING SHALL BE IN SERVICE AND APPROVED BY BOTH PLANNING AND FIRE DEPARTMENT BEFORE FIRE DEPARTMENT WILL SUPPORT PERMIT ISSUANCE FOR NEW CONSTRUCTION PHASE AND BEFORE COMBUSTIBLE MATERIAL ARE PLACED ON THE JOB SITE.
18. RADIO COVERAGE MUST BE PROVIDED TO MEET ALL REQUIREMENTS OF THE IFC 2015 EDITION, SECTION 510. (FOR THE SELF-STORAGE BUILDING.)
19. AT THE PROPOSED EMERGENCY ACCESS / SECURITY GATE, INSTALL GATE KNOX BOX PER CITY OF ANN ARBOR FIRE CODE. MANUALLY CONTROLLED SLIDING GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR / RECEIVER SYSTEM TO MEET CITY OF ANN ARBOR FIRE CODE.
20. WATER SUPPLY FOR THE BUILDING SHALL MEET THE DEMAND FOR AN AUTOMATIC SPRINKLER SYSTEM, INCLUDING HOSE STREAM ALLOWANCE, PER APPENDIX B105.3 AND SHALL MEET THE MINIMUM REQUIREMENTS IN 2015 IFC, APPENDIX B, TABLE B105.1.

LEGEND

- EXIST. WATER MAIN
- PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- REDUCER
- EXIST. BLOW-OFF
- PROP. BLOW-OFF
- POST INDICATOR VALVE (P.I.V.)
- POST INDICATOR VALVE (P.I.V.)
- THRUST BLOCK
- EXIST. FIRE DEPARTMENT CONNECTION (fdc)
- PROP. FIRE DEPARTMENT CONNECTION (FDC)
- PROP. KNOXBOX (KB)

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

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2060 W. STADIUM REDEVELOPMENT PROJECT

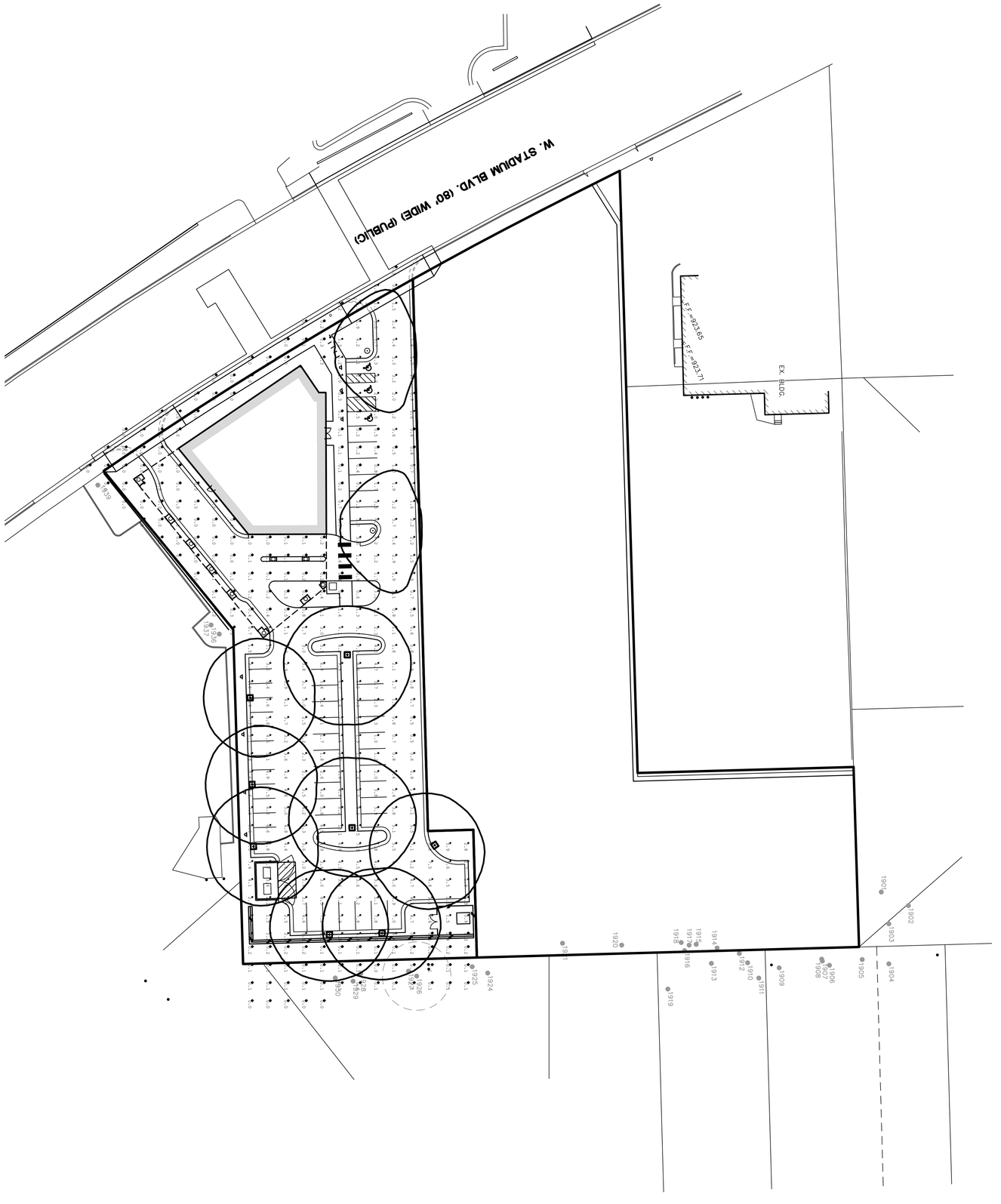
SITE PLAN
FIRE PROTECTION PLAN

18

DATE: 07/23/20
SHEET 18 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
/20034FP1

JOB No. 20034

REVISIONS:	REV. DATE
NO. CHANGE THIS SHEET	10/07/20
REVISED SITE PLAN	05/06/21
PER CITY REVIEW	06/11/21
PER CITY REVIEW	06/24/21



Luminaire Schedule

Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Fixture Height
	2	MSI-LBD150-III	SINGLE	15945.06	1.000	20'
	6	EPTS101C-LED80	SINGLE	8206.3	1.000	14'
		MSI-LBD100-III	SINGLE	12945.06	1.000	

SCALE: 1" = 30'
0 30 60 90

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

JOB No. 20034		DATE: 07/23/20
REVISIONS:	REV. DATE	SHEET 19 OF 21
PER REVIEW COMMENTS	09/11/20	CADD:
NO CHANGES THIS SHEET	10/07/20	ENG: TPH
REVISED SITE PLAN	05/06/21	PM: TJC
PER CITY REVIEW	06/11/21	TECH:
PER CITY REVIEW	06/24/21	/20034DT1

19

2060 W. STADIUM REDEVELOPMENT PROJECT

SITE PLAN
PHOTOMETRIC PLAN

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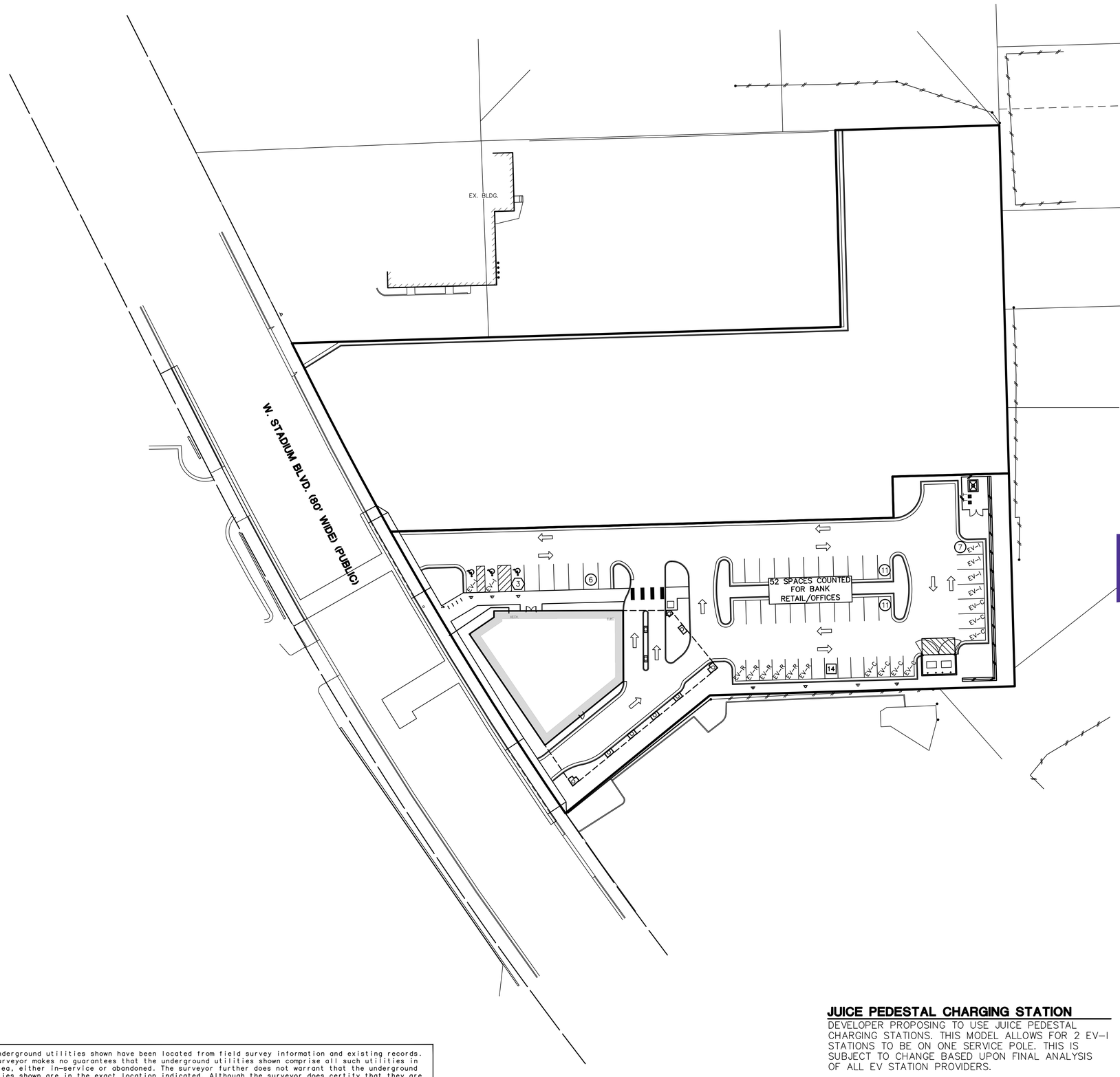

Know what's below. Call before you dig.

SCALE: 1" = 30'

0 30 60 90

2060 W. Stadium Development
Parking & EV Ordinance Requirement Summary

EV Requirements					
Use	Parking Required	Parking Provided	EV Ordinance Requirement		
			EV-I Type	Ordinance	Required
1. Bank Retail	18	18	EV-I	10%	2
			EV-R	10%	2
			EV-C	0%	-
2. Office	27	34	EV-I	10%	3
			EV-R	15%	5
			EV-C	25%	7

EV Provided					
Use	Parking Required	Parking Provided	EV Ordinance Requirement		
			EV-I Type	Ordinance Required	Provided *
Total	45	52	EV-I	5	6
			EV-R	7	6
			EV-C	7	7
			Total	**19**	**19**

* Developer providing additional EV-I station in lieu of EV-R space.
* Developer providing 2 Barrier Free EV-I stations to meet part of the EV-I requirements.

Parking Requirements			
Use Type	Total SF	Space/SF	Total Spaces Required
1. Bank Retail	3,925	1 per 220SF	18
2. Office	8,786	1 per 330SF	27

JUICE PEDESTAL CHARGING STATION

DEVELOPER PROPOSING TO USE JUICE PEDESTAL CHARGING STATIONS. THIS MODEL ALLOWS FOR 2 EV-I STATIONS TO BE ON ONE SERVICE POLE. THIS IS SUBJECT TO CHANGE BASED UPON FINAL ANALYSIS OF ALL EV STATION PROVIDERS.

enel x

Residential Charging Stations

JuicePedestal Specifications

Robust, Convenient Mounting Solution	› Easy installation: ground-mounted with 4 bolts, concrete pad recommended › Cable management: built-in coil mount or retractable pulley system (optional)
Weight & Dimensions	› Height: 73.83 in. › Width: 19.88 in. by 8.00 in. deep › Weight: 125 lbs (without charging stations - add 15 lbs per JuiceBox)
Flexible Payment Options	› Optional unattended payment terminal: collect payment from the general public (pay by credit card, Apple Pay, Google Pay) › In app payment: authorized users can access station and pay for charging via QR code and mobile app
JuiceBox Charging stations	
JuiceBox Chargers	› Choose to include single or dual JuiceBox charging stations on your pedestal › Dynamic LED lights show charging status: network connectivity, charging in progress, delaying charging, standby › Charging stations secured with four security screws › Optional RFID: Access control enabled through RFID card › Operating Temperature: -40°F to 140°F (-40°C to 60°C)
Electrical Characteristics	› Choose between four power configurations: 32A, 7.2 kW; 40A, 9.6 kW; 48A, 11.5 kW; and 80A, 19.2 kW › Single phase input: nominal voltage 208/240 VAC, voltage range 177 – 264 VAC
Input Cable & Plug	› Hardwire conduit & wiring
Output Cable & Connector	› 20 ft cables, each rated 240VAC with a J1772 Plug › Optional cable retractors for cable management
JuiceNet Smart Charging Platform	› Precision measurement of power, energy, voltage & current › Web-based portal: set payment rates and charging hours; monitor charging status and consumption data; control station access; load balancing › Driver app to monitor and pay for charging (iOS & Android) › Refer to the JuiceNet Business and JuiceNet Enterprise data sheets for more on the capabilities of each dashboard
Connectivity	› WiFi: 802.11 b/g/n 2.4 GHz › JuiceRouter: Connect up to 16 chargers with WiFi-to-LTE router (optional) › Integrated Cellular (LTE) optional via UPT1000 or JuiceBox charging stations (LTE) › Ethernet: 10/100BASE-TX with RJ-45 connector (optional)
Firmware	› End-to-end AES-256-based encrypted protocols › 90-day, 15-minute interval data storage › Over-the-air (OTA) upgradeable firmware › Persistent data storage upon power interruption
Codes & Standards	› ADA compliant, FCC Part 15 Class B, NEC 625 compliant, ENERGY STAR®† › OCPP 1.6J and Open ADR 2.0b compliant › ISO 15118 support (optional)
Safety	› UL and cUL Listed
Warranty	› 3-year limited parts warranty for commercial use
Made in USA	› From domestic & imported parts

†Varies by model, certifications pending.

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Customer Support +1-844-584-2329
Commercial Sales +1-844-885-5850
EnelXChargingNA
enelxnorthamerica
Enel X
EnelXChargingNA

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2060 W. STADIUM REDEVELOPMENT PROJECT

SITE PLAN
EV PARKING LOCATION PLAN

20

DATE: 09/11/2020
SHEET 20 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
I:\20034SP2

JOB No. 20034

REVISIONS:	REV. DATE
PER CITY COMMENTS	10/07/20
MDOT PERMIT SHEET	05/06/21
REVISED SITE PLAN	06/11/21
PER CITY REVIEW	06/24/21

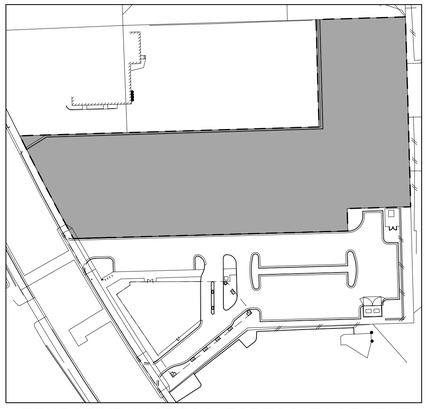
NOTES

1. PROPOSED EASEMENT LEGAL DESCRIPTIONS, SKETCHES, AND EASEMENT AGREEMENT LANGUAGE TO BE PROVIDED AND EXECUTED DURING DETAILED ENGINEERING PLAN REVIEW.

SCALE: 1" = 80'

0 80 160 240

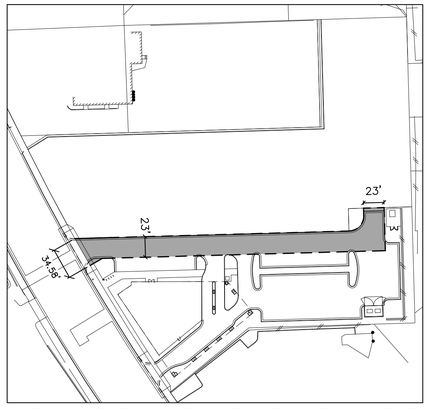
Know what's **below.** **Call** before you dig.



TENTATIVE INGRESS/EGRESS EASEMENT

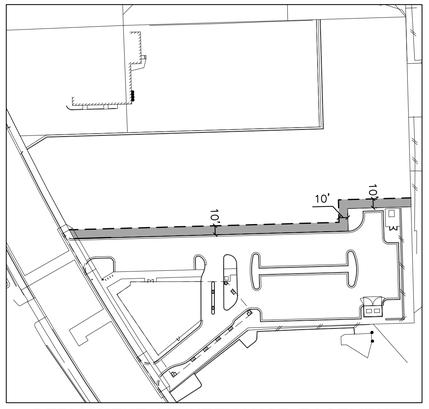
EASEMENT ON PROPOSED NORTHERN PARCEL PROVIDING INGRESS/EGRESS RIGHTS TO PROPOSED SOUTHERN PARCEL

AT SUCH TIME THE NORTHERN PARCEL IS DEVELOPED THIS EASEMENT AND AGREEMENT WILL BE REVISED AND REFINED TO PROVIDE REQUIRED ACCESS FOR EMERGENCY VEHICLES AND FOR SHARED USE OF SOUTHERN PARCEL USERS IF NECESSARY



PERMANENT INGRESS/EGRESS EASEMENT

EASEMENT ON PROPOSED SOUTHERN PARCEL PROVIDING INGRESS/EGRESS RIGHTS TO PROPOSED NORTHERN PARCEL

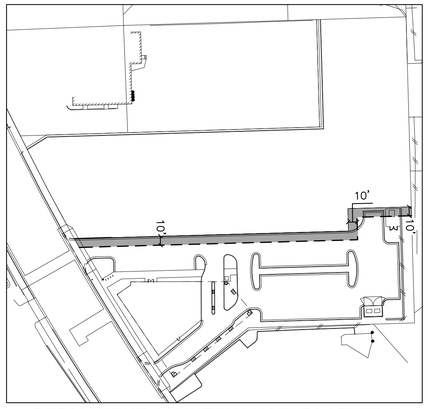


PERMANENT MAINTENANCE EASEMENT

EASEMENT ON PROPOSED NORTHERN PARCEL PROVIDING RIGHTS TO PERFORM MAINTENANCE OF LANDSCAPING, PAVEMENT, AND UTILITIES FOR PROPOSED SOUTHERN PARCEL

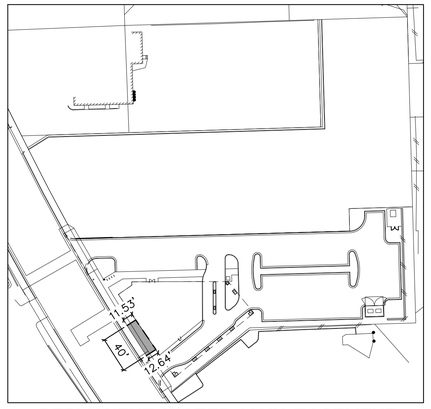
A JOINT APPLICATION SIGNED BY BOTH PARCEL OWNERS WILL BE REQUIRED TO ALLOW DRIVEWAY/OPENING/APPROACH TO EXIST CLOSER THAN 4.5 FEET FROM THE PROPOSED PROPERTY LINE

WRITTEN PERMISSION WILL BE REQUIRED FROM NORTHERN PARCEL ALLOWING CURB CUT TO EXIST BEYOND EXTENSION OF PROPERTY LINE INTO STADIUM BLVD. R.O.W.



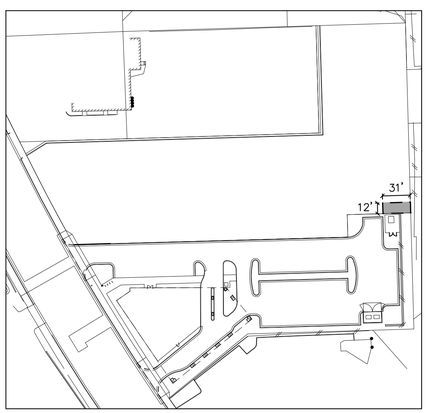
PERMANENT MAINTENANCE EASEMENT

EASEMENT ON PROPOSED SOUTHERN PARCEL PROVIDING RIGHTS TO PERFORM MAINTENANCE OF LANDSCAPING, PAVEMENT, AND UTILITIES FOR PROPOSED NORTHERN PARCEL



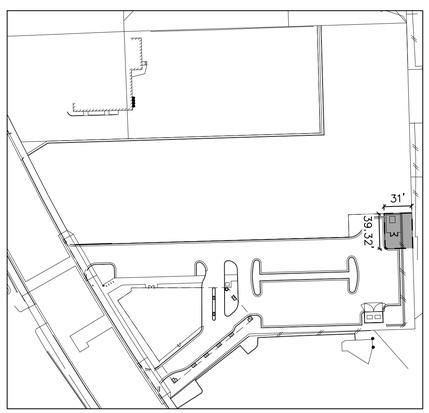
PERMANENT WATER MAIN EASEMENT

EASEMENT ON PROPOSED SOUTHERN PARCEL PROVIDING RIGHTS TO CITY OF ANN ARBOR FOR MAINTENANCE & REPAIR OF PUBLIC WATER MAIN FACILITIES



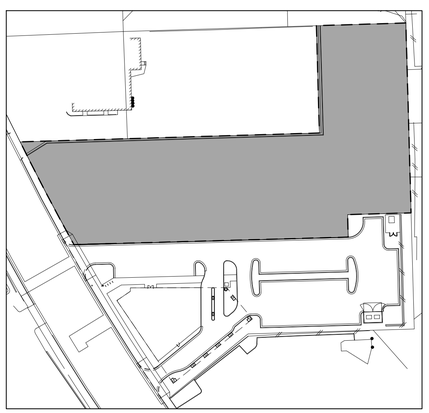
PERMANENT EASEMENT FOR ELECTRICAL/TELECOM FACILITIES

EASEMENT ON PROPOSED NORTHERN PARCEL PROVIDING RIGHTS TO FRANCHISE UTILITY PROVIDERS FOR INSTALLATION, MAINTENANCE & REPAIR OF ELECTRICAL & TELECOM FACILITIES



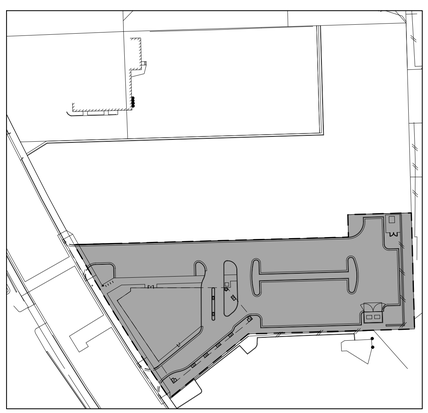
PERMANENT EASEMENT FOR ELECTRICAL/TELECOM FACILITIES

EASEMENT ON PROPOSED SOUTHERN PARCEL PROVIDING RIGHTS TO FRANCHISE UTILITY PROVIDERS FOR INSTALLATION, MAINTENANCE & REPAIR OF ELECTRICAL & TELECOM FACILITIES



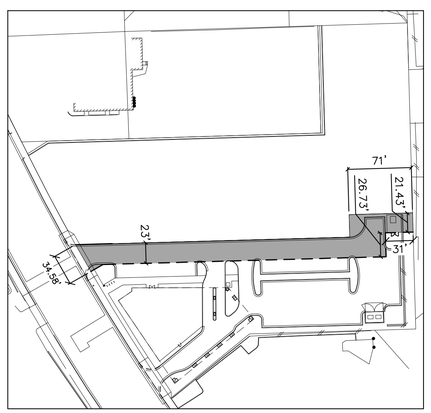
TEMPORARY CRANE SWING EASEMENT

EASEMENT ON PROPOSED NORTHERN PARCEL ALLOWING CRANE SWING ENCROACHMENT FOR CONSTRUCTION OF BUILDING ON PROPOSED SOUTHERN PARCEL



TEMPORARY CRANE SWING EASEMENT

EASEMENT ON PROPOSED SOUTHERN PARCEL ALLOWING CRANE SWING ENCROACHMENT FOR CONSTRUCTION OF BUILDING(S) ON PROPOSED NORTHERN PARCEL



TEMPORARY CONSTRUCTION EASEMENT

EASEMENT ON PROPOSED SOUTHERN PARCEL ALLOWING IMPACTS RESULTING FROM CONSTRUCTION OF PAVEMENT, UTILITIES, AND LANDSCAPING FOR DEVELOPMENT OF PROPOSED NORTHERN PARCEL

MIDWESTERN CONSULTING
3815 Plaza Drive, Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
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NORTHSTADIUM, LLC
30100 TELEGRAPH ROAD, SUITE 220
BINGHAM FARMS, MI 48025
SEAN HAVERA, RON HUGHES

2060 W. STADIUM REDEVELOPMENT PROJECT

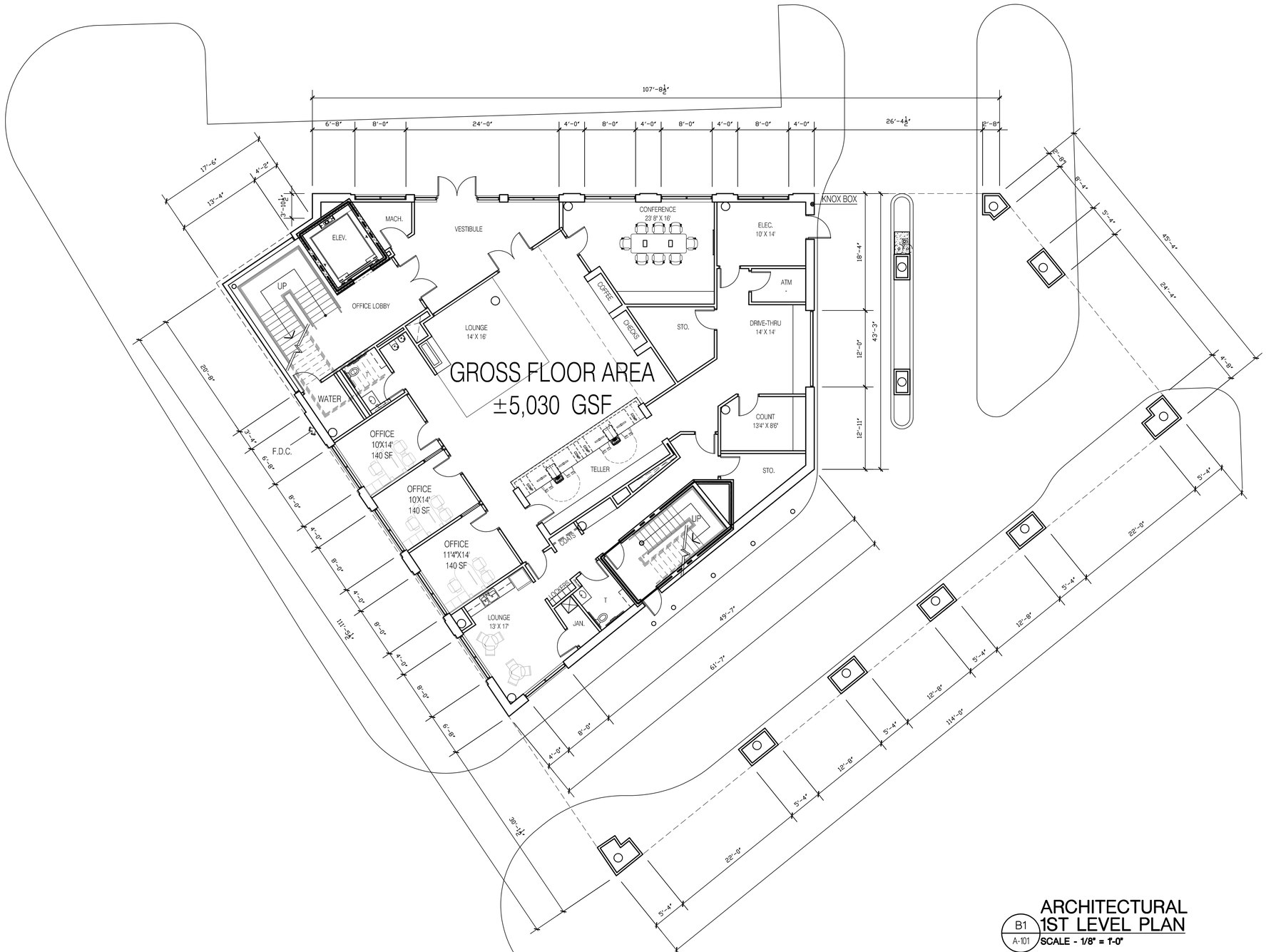
SITE PLAN
PROPOSED EASEMENT PLAN

21

DATE: 06/11/2021
SHEET 21 OF 21
CADD:
ENG: TPH
PM: TJC
TECH:
/20034ESMT1

JOB No. 20034

REVISIONS:	REV. DATE
PER CITY REVIEW	06/24/21



ARCHITECTURAL 1ST LEVEL PLAN

B1 / A-101

SCALE - 1/8" = 1'-0"

SITE PLAN RESUBMISSION	5/06/21
SITE PLAN RESUBMISSION	9/09/20
SITE PLAN APPROVAL	07/25/20

DATE ISSUED

DRAWN BY

CHECKED BY

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SEAN HAVERA, RON HUGHES

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CONSULTANT

ARCHITECTURAL 1ST LEVEL PLAN

SHEET TITLE

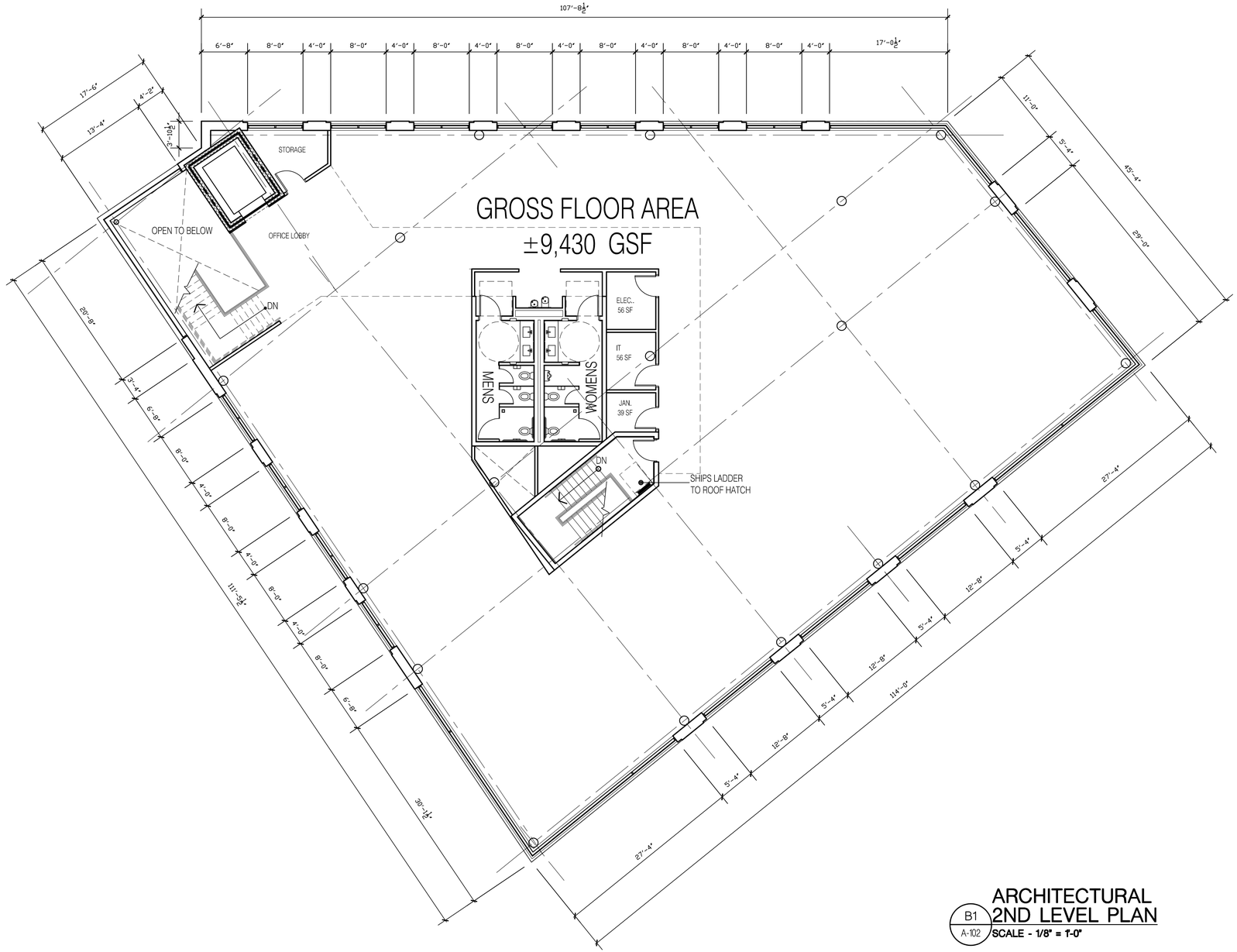
20-200

PROJECT NUMBER

A-101

SHEET NUMBER

Drawing: P:\2020\2020200\Dwgs\SD\planning\2021 0506 - site plan update - 2 stories.dwg
Date: May 06, 2021, 4:14pm Layout: 1ST LEVEL Plotted by: dlamb



ARCHITECTURAL 2ND LEVEL PLAN

B1 / A-102

SCALE - 1/8" = 1'-0"

Drawing: P:\2020\2020200\dwgs\SD\planning\2021.0506 - site plan update - 2 stories.dwg
Date: May 06, 2021 - 4:14pm Layout: 2ND LEVEL Plotted by: dlamb

Sheet Size - 24x36

SITE PLAN RESUBMISSION	5/06/21
SITE PLAN RESUBMISSION	9/09/20
SITE PLAN APPROVAL	07/23/20

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ARCHITECTURAL
2ND LEVEL PLAN

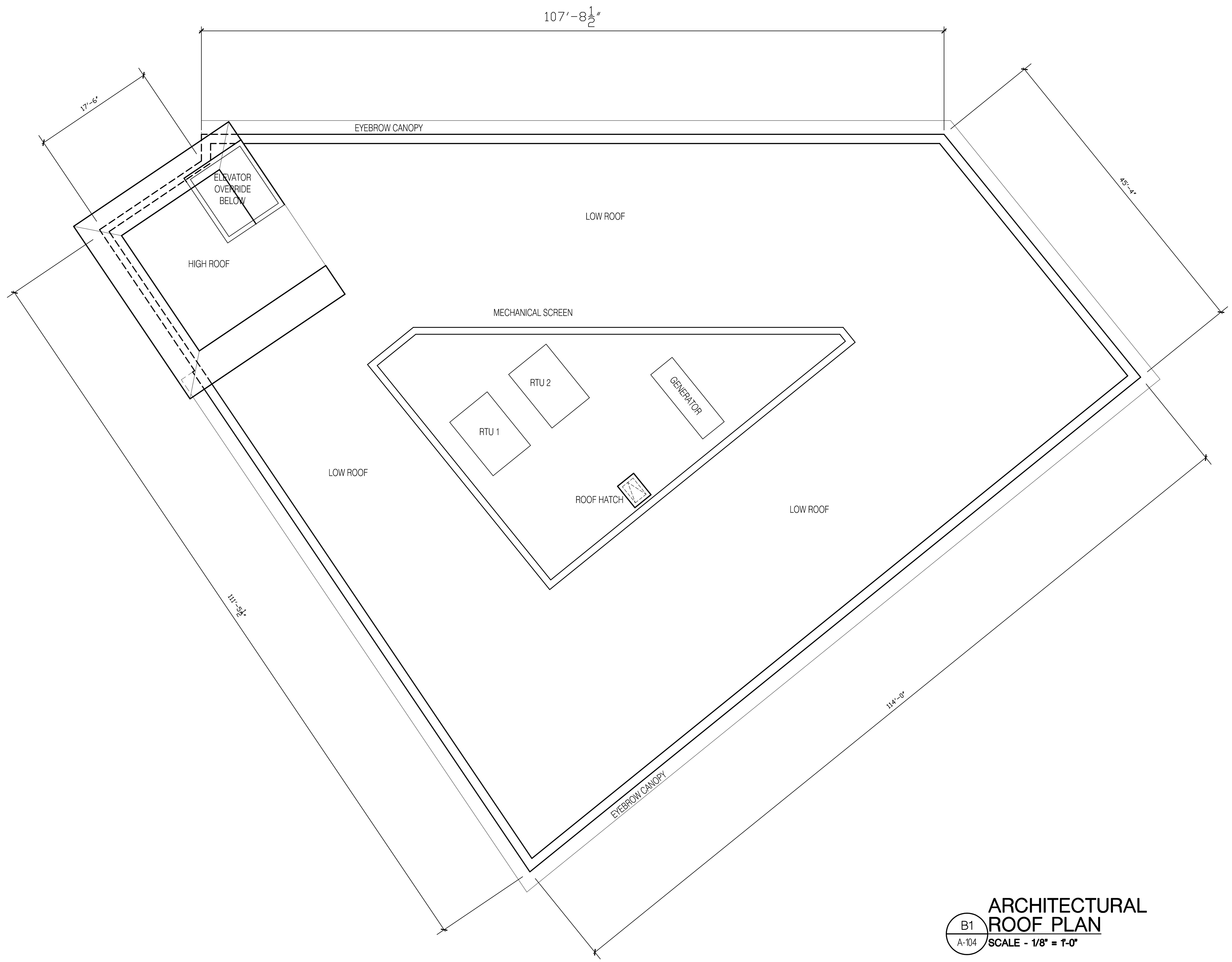
SHEET TITLE

20-200

PROJECT NUMBER

A-102

SHEET NUMBER



B1 / A-104

ARCHITECTURAL ROOF PLAN

SCALE - 1/8" = 1'-0"

Drawing: P:\2020\20200\Dwgs\SD\planning\20210506 - site plan update - 2 stories.dwg
Date: May 06, 2021, 4:16pm Layout: ROOF LEVEL Plotted by: dnims

Sheet Size - 24x36

SITE PLAN RESUBMISSION	5/06/21
SITE PLAN RESUBMISSION	9/09/20
SITE PLAN APPROVAL	07/23/20

DATE ISSUED

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ARCHITECTURAL ROOF PLAN

SHEET TITLE

20-200

PROJECT NUMBER

A-103

SHEET NUMBER

B4 / A200

NORTH ELEVATION

SCALE - 1/8" - 1'-0"

20210428 ELEVATIONS - NORTHSTAR BANK

B1 / A200

SOUTH ELEVATION

SCALE - 1/8" - 1'-0"

20210428 ELEVATIONS - NORTHSTAR BANK

Drawing: P:\2020\20200\Dwgs\CDArch\SHA200.dwg
Date: May 06, 2021, 4:43pm Layout: A-200 Plotted by: dmms

Sheet Size - 24x36

SITE PLAN RESUBMISSION	5/06/21
SITE PLAN RESUBMISSION	9/09/20
PER CITY COMMENTS	9/04/20
SITE PLAN APPROVAL	7/23/20

DATE ISSUED

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PROJECT

CONSULTANT

EXTERIOR ELEVATIONS

SHEET TITLE

20-200

PROJECT NUMBER

A-200

SHEET NUMBER

B4 / A201 EAST ELEVATION

SCALE - 1/8" - 1'-0"

20210428 ELEVATIONS - NORTHSTAR BANK

B1 / A201 WEST ELEVATION

SCALE - 1/8" - 1'-0"

20210428 ELEVATIONS - NORTHSTAR BANK

SITE PLAN RESUBMISSION	5/06/21
SITE PLAN RESUBMISSION	9/09/20
PER CITY COMMENTS	9/04/20
SITE PLAN APPROVAL	7/23/20

DATE ISSUED

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SEAN HAVERA, RON HUGHES

PROJECT

CONSULTANT

EXTERIOR ELEVATIONS

SHEET TITLE

20-200

PROJECT NUMBER

A-201

SHEET NUMBER

Drawing: P:\2020\20200\Dwg\CD\Arch\SHA201.dwg
Date: May 06, 2021, 4:25pm Layout: A-201 Plotted by: dmm