

OBTAINED FROM AVAILABLE AS-BUILT RECORD DRAWINGS. THE

CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND STATUS OF ALL

SITE SUMMARY NOTES

REZONING IS REQUESTED FROM R4C TO C1A/R TO INCREASE THE DENSITY AND USE OF THE SITE. THE SOUTH AREA PLAN AS PART OF ANN ARBOR'S COMPREHENSIVE PLAN RECOMMENDS THE PARCELS ON STIMSON BE USED FOR

RESIDENTIAL AND COMMERCIAL PURPOSES. BOTH R4C AND C1A/R INTEND TO BE CLOSE TO CAMPUS AND COMMERCIAL DISTRICTS. THE C1A AND C1A/R DISTRICTS HAVE THE LEAST DIMENSIONAL STANDARDS FOR MIXED

(NATURAL GAS LIMITATIONS) AND SHORT TERM RENTAL (STR) MAXIMUMS

II. PROPOSED PHASING & PROBABLY CONSTRUCTION COSTS:

I. IMPACT OF PROPOSED DEVELOPMENT ON AREA SCHOOLS:

NORTH AND C3 COMMERCIAL FOR MUCH OF THE SOUTH AREA.

III. IMPACT OF ADJACENT USES ON THE PROPOSED DEVELOPMENT

a. THERE WILL BE NO NEGATIVE IMPACT TO AIR QUALITY.

PERFORMED AND IS PROVIDED ON SHEET C-202.

 THE TOTAL AM PEAK HOUR = 98 (VPH) THE TOTAL PM PEAK HOUR = 97 (VPH)

VII. PUBLIC SIDEWALK MAINTENANCE STATEMENT

STEEP SLOPES: NOT APPLICABLE.

D. PUBLIC PARK PLANNING

VIII. NATURAL FEATURES GENERAL DESCRIPTION AND IMPACTS

REQUIREMENTS, THE NATURAL FEATURES IMPACTS ARE AS FOLLOWS: LIMITS OF SOIL DISTURBANCE: SEE GRADING PLAN (SHEET C-300).

WETLANDS: THERE ARE NO EXISTING WETLANDS ON THIS SITE.

216 DWELLING UNITS x .0125 ACRES x \$50,000/ACRE = \$135,000

V. IMPACT OF THE PROPOSED USE ON HISTORIC SITES/STRUCTURES:

THAT RUNOFF DURING CONSTRUCTION IS CONTROLLED AND MANAGED.

OR WOODLANDS WITHIN THE PROJECT AREA. NO MITIGATION IS REQUIRED.

NO HISTORIC STRUCTURES EXIST ON-SITE. THE SITE ITSELF IS NOT HISTORIC.

USE ZONING IN THE UNIFIED DEVELOPMENT CODE. TO RESPOND TO THE CONTEXT OF THE SITE, ADDITIONAL

CONDITIONS ARE PROPOSED INCLUDING A HEIGHT LIMIT OF 100', PARKING MAXIMUMS, BUILDING ELECTRIFICATION

THE PROPOSED DEVELOPMENT WILL HAVE 216 RESIDENTIAL UNITS, REPLACING 38 EXISTING UNITS. THE UNITS WILL BE A MIX OF STUDIO, ONE, AND TWO BEDROOM. THE SITE HAS BEEN PLANNED TO UTILIZE THE ROOF OF THE

GROUND FLOOR AS AN EXTENSION OF LANDSCAPING AND ACTIVE OUTDOOR SPACE WITH EXTERIOR ACCESS THROUGH THE SOUTH, EAST, AND NORTH SIDEWALK CONNECTIONS OF THE SITE. ONE CURB CUT ON WHITE

STREET WILL PROVIDE ENTRY TO THE GROUND FLOOR COVERED PARKING. ONE CURB CUT ON HENRY WILL

PROVIDE AN AREA FOR SOLID WASTE PICKUP. ALL PARKING IS COVERED AND WITHIN THE INTERIOR OF THE

THE SITE IS TO BE DEVELOPED IN ONE PHASE, SCHEDULED TO BEGIN ONCE APPROVALS ARE SECURED.

THE PROPOSED SOUTHTOWN DEVELOPMENT WILL NOT IMPACT PUBLIC ELEMENTARY OR HIGH SCHOOLS.

PL PUBLIC LAND FOR THE UNIVERSITY OF MICHIGAN GOLF COURSE. THE MAJORITY OF THE SURROUNDING

THE PROPERTY TO THE NORTH OF THE SITE IS PUD FOR AFFORDABLE MULTI-FAMILY HOUSING. THE PROPERTY TO THE EAST OF THE SITE IS R4C AND R3 FOR MARKET RATE AND AFFORDABLE MULTI-FAMILY HOUSING. THE PROPERTY

TO THE SOUTH OF THE SITE IS C3 SINGLE STORY COMMERCIAL RETAIL. THE PROPERTY TO THE WEST OF THE SITE IS

PROPERTY IS RESIDENTIAL NEIGHBORHOOD AND LOW DENSITY COMMERCIAL INCLUDING O OFFICE ZONING TO THE

THE PROJECT WILL BE MARKETED PRIMARILY TO YOUNG PROFESSIONALS INTERESTED IN A CONVENIENT LOCATION

OPTIONS. THE PROPOSED DEVELOPMENT WILL NOT IMPACT PUBLIC SCHOOLS, AIR, OR WATER QUALITY; AND THERE ARE NO NATURAL FEATURES ON THE SITE. THERE ARE NO HISTORIC DISTRICTS, SITES, OR STRUCTURES NEAR OR

TO DOWNTOWN ANN ARBOR AND THE UNIVERSITY OF MICHIGAN CAMPUS WITH MULTI-MODAL TRANSPORTATION

THE EXISTING BUILDINGS ARE PROPOSED TO BE REMOVED. THE PROPOSED DEVELOPMENT OF RESIDENTIAL AND

IMPACTS ARE LIMITED AS PROPOSED USES (OFFICE, RETAIL, DAYCARE AND RESIDENTIAL) ARE LIKE USES FOUND IN

b. THE AREA THAT MAKES UP THIS PROJECT IS CURRENTLY DEVELOPED AND HAVE NO STORM WATER DETENTION FACILITIES. THE PROPOSED STORM WATER DETENTION SYSTEM IS DESIGNED TO PRE-TREAT, DETAIN, AND RELEASE THE RUNOFF AT A CONTROLLED RATE. WATER QUALITY CONTROLS WILL BE IMPLEMENTED TO ENSURE

c. THE PROPOSED DEVELOPMENT REQUIRES THE REMOVAL OF LANDMARK TREES. ALTERNATIVE ANALYSIS WAS

d. THERE ARE NO ENDANGERED SPECIES HABITATS, FLOODPLAINS, WATER COURSES, WETLANDS, STEEP SLOPES,

THE PROPOSED SOUTHTOWN DEVELOPMENT (MULTI-FAMILY HOUSING [MID-RISE] PER ITE CODE 221) WILL INCLUDE

THE PROPOSED PUBLIC SIDEWALK ALONG S. STATE STREET, HENRY STREET, WHITE STREET AND STIMSON STREET SHALL BE KEPT & MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO & ABUTTING THE SAME

LANDMARK TREES: SEE EXISTING CONDITIONS PLAN. THERE ARE PROPOSED IMPACTS TO LANDMARK TREES.

• THE ESTIMATED TRIP GENERATION (PER ITE MANUAL) IS 1,137 TRIPS (WEEKDAY AVERAGE DAILY TRIPS)

IN ACCORDANCE WITH THE CITY OF ANN ARBOR LAND DEVELOPMENT REGULATIONS REGARDING SITE PLAN

THE DEVELOPMENT TEAM HAS AGREED TO CONTRIBUTE FUNDS TOWARD THE CITY OF ANN ARBOR'S PUBLIC PARKLANDS TO IMPROVE THE SURROUNDING NEIGHBORHOOD PARKS. FUNDS WILL BE PROVIDED AT THE

BOUNDARY AND DESCRIPTION OF ENDANGERED SPECIES HABITAT: NOT APPLICABLE. BOUNDARY AND ELEVATION OF ANY 100-YEAR FLOODPLAIN: NOT APPLICABLE.

SEE ALTERNATIVE ANALYSIS AND LANDSCAPE PLAN FOR MITIGATION (SHEET C-200 & C-204).

WATERCOURSES: THERE ARE NO EXISTING OR PROPOSED WATERCOURSES ON THIS SITE.

WOODLAND BASAL AREA: THERE ARE NO EXISTING WOODLAND AREAS ON THIS SITE.

IV. IMPACT OF PROPOSED DEVELOPMENT ON AIR AND WATER QUALITY, AND ON THE EXISTING NATURAL FEATURES OF

COMMERCIAL WITH RETAIL AND OFFICE IS CONSISTENT WITH THE CURRENT USES IN THE NEIGHBORHOOD AND

CONSTRUCTION COSTS ARE CURRENTLY ESTIMATED TO BE BETWEEN \$60-70 MILLION.

A. PETITION FOR SITE PLAN

B. DEVELOPMENT PROGRAM

GROUND FLOOR.

ON THE SITE.

SURROUNDING AREA.

THE EXISTING NEIGHBORHOOD.

HE SITE AND NEIGHBORING SITES:

I. DESCRIPTION:

JTILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.

# SOUTHTOWN BY 4M

# CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

# SITE PLAN



#### **DEVELOPMENT SUMMARY & COMPARISON CHART**

Zoning	Existing (R4C)	Required / Permitted (R4C)	Proposed (C1A/R)	Required / Permitted (C1 A/R)
Gross Lot Area (min)	72,148 sf	8,500 sf	72,148 sq. ft.	none
Min Lot Width (ft)	40.3'	60	none	none
Min Open Space (% of Lot Area)	82%	40%	none	none
Max Short Term Rental (STR) Use	-		up to 30%	30% proposed max.
Building Area (sq. ft.)	13,065	-	221,633 (1)(2)	216,444 (224,444 with premium)
FAR (% of Lot Area)	18.11%	-	307.2% (1)(2)	300% Max + premium (311%)
FAR (units / acre)	22.9	20 units / acre	130.9	-
Premiums (sq. ft.)	none	none	5,189 (2)	8,000 max.
Front Setbacks				
State Street	24.2'	25'	5.1' min. 6.3' max.	10' min. (5' with 50% rule)
Stimson Street	N/A	25'	10.4' min. 48.5' max.	10' min. (5' with 50% rule)
White Street	18.4'	25'	9.5' min. 15.5' max.	10' min. (5' with 50% rule)
Henry Street	19.7'	25'	6.4' min. 53.9' max.	10' min. (5' with 50% rule)
Total Setback Area (square feet)	N/A	N/A	13,249 sq. ft.	10,135 sq. ft. min.
Building Height	30'	30'	85'	none (100' proposed max.)
/ehicle Parking				
/ehicle Parking (per dwelling unit)	-	none (was 1.5)	0.25	0.25 proposed max.
/ehicle Parking (per sq. ft. nonresidential)	-	none	1 per 600 sq. ft.	none
EV Parking	0	RESIDENTIAL: EV-C: 90% EV-I: 10%	RESIDENTIAL: EV-C: 45 EV-I: 8	RESIDENTIAL: EV-C: 90% EV-I: 10%
otal	28	none	54 total (Including 8 EV & 3 Accessible Spaces)	none
Required Bicycle Parking				
Space	1 per 5 dwelling units Class A: 50% Class B: 0% Class C: 50%	1 per 5 dwelling units Class A: 50% Class B: 0% Class C: 50%	1 per 1.1 dwelling units: 216 Class A: 40% : 124 Class B: 22% : 48 Class C: 38% : 44	1 per 5 dwelling units: 50 Class A: 50%: 25 Class B: 0% Class C: 50%: 25
Office (O)	N/A	N/A	1 per 2,100 sq. ft.: 8	1 per 3,000 sq. ft.: 7
otal	0	8	224 total	57

(1) VARIANCE REQUIRED. A VARIANCE WAS GRANTED FROM THE PARKING FAR REQUIREMENTS BY THE ZBA AT THE

(2) FLOOR AREA PREMIUM OPTION = PEDESTRIAN AMENITY PREMIUM OPTION - PLAZA



#### SITE PERSPECTIVE

	Existing	Required / Permitted	Proposed	Required / Permitted
Zoning	(R4C)	(R4C)	(C1A/R)	(C1 A/R)
Gross Lot Area (min)	72,148 sf	8,500 sf	72,148 sq. ft.	none
/lin Lot Width (ft)	40.3'	60	none	none
lin Open Space (% of Lot Area)	82%	40%	none	none
Max Short Term Rental (STR) Use			up to 30%	30% proposed max.
Building Area (sq. ft.)	13,065	-	221,633 (1)(2)	216,444 (224,444 with premium)
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otal Setback Area (square feet)	N/A	N/A	13,249 sq. ft.	10,135 sq. ft. min.
uilding Height	30'	30'	85'	none (100' proposed max.)
ehicle Parking				
ehicle Parking (per dwelling unit)	-	none (was 1.5)	0.25	0.25 proposed max.
ehicle Parking (per sq. ft. nonresidential)	-	none	1 per 600 sq. ft.	none
V Parking	0	RESIDENTIAL: EV-C: 90% EV-I: 10%	RESIDENTIAL: EV-C: 45 EV-I: 8	RESIDENTIAL: EV-C: 90% EV-I: 10%
otal	28	none	54 total (Including 8 EV & 3 Accessible Spaces)	none
equired Bicycle Parking				
pace	1 per 5 dwelling units Class A: 50% Class B: 0% Class C: 50%	1 per 5 dwelling units Class A: 50% Class B: 0% Class C: 50%	1 per 1.1 dwelling units: 216 Class A: 40% : 124 Class B: 22% : 48 Class C: 38% : 44	1 per 5 dwelling units: 50 Class A: 50%: 25 Class B: 0% Class C: 50%: 25
Office (O)	N/A	N/A	1 per 2,100 sq. ft.: 8	1 per 3,000 sq. ft.: 7
otal	0	8	224 total	57

**LOCATION MAP** 

**DESIGN TEAM CONTACTS** 

APPLICANT / OWNER SOUTHTOWN BY 4M, LLC 2082 S. STATE STREET ANN ARBOR, MI 48104 P: 415.810.8124 ATTN: MARGE POSCHER

CIVIL / LANDSCAPE ARCHITECT NEDERVELD, INC. 3037 MILLER RD. ANN ARBOR, MI 48103

ATTN: BRANDON CHANEY SYNECDOCHE DESIGN STUDIO 1342 N. MAIN STREET #11 ANN ARBOR, MI 48104 P: 734.926.5593 ATTN: ADAM SMITH

P: 734.929.6963

STRUCTURAL ASPECT STRUCTURAL ENGINEERS 101-190 W. 3RD AVE VANCOVER, BRITISH COLUMBIA V5Y1E9 P: 604.762.7844

MECHANICAL / PLUMBING GREENPATH DESIGN 139 W. LIBERTY STREET PLYMOUTH, MI 48170 P: 248.310.7286 ATTN: KELLY SUGG

ATTN: SHAWN KENNEDY

**ELECTRICAL** ETS ENGINEERING 418-1/2 S. WASHINGTON BOULEVARD ROYAL OAK, MI 48067 P: 248.744.0360 ATTN: SCOTT LEO

C-100

C-200 C-201

C-202

C-203

C-204

C-205

SHEET INDEX

COVER SHEET

SOIL REPORTS

DEMOLITION PLAN

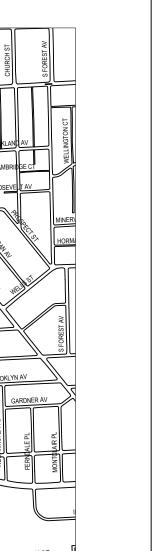
NATURAL FEATURES PLAN

ALTERNATIVE ANALYSIS

EXISTING CONDITIONS PLAN - ALTA SURVEY

**EXISTING CONDITIONS PLAN - ALTA SURVEY** 

SITE LAYOUT PLAN - LEVEL 1 SITE LAYOUT PLAN - LEVEL 2 FIRE PROTECTION PLAN LANDSCAPE PLAN S.E.S.C. & GRADING PLAN UTILITY PLAN STORM WATER MANAGEMENT CALCULATIONS DETAILS & SPECIFICATIONS	C-206 C-207 C-208 L-100 C-300 C-400 C-401 C-500
ARCHITECTURAL PLANS COVER SHEET FAR CALCULATIONS FAR CALCULATIONS LEVEL 1 PLAN LEVEL 2 PLAN LEVEL 3 PLAN LEVEL 4 PLAN LEVEL 5 PLAN LEVEL 6 PLAN LEVEL 7 PLAN LEVEL 8 PLAN ROOF AREA DIAGRAM LEVEL 1 - EXTERIOR LIGHTING LEVEL 2 - EXTERIOR LIGHTING EXTERIOR ELEVATIONS EXTERIOR ELEVATIONS BUILDING SECTIONS BUILDING SECTIONS DETAIL SECTION AXONOMETRIC - SUSTAINABILITY ENLARGED PLANS - BIKE ROOM STREET SECTIONS FIRE PROTECTION DETAILS	G000 A007 A008 A101 A102 A103 A104 A105 A106 A107 A108 A109 A201 A202 A300 A301 A400 A401 A405 A701 A702 FP500



PREPARED FOR:

Southtown by 4M, LLC Marge Poscher

800.222.1868

**ANN ARBOR** 

3037 Miller Rd.

Ann Arbor, MI 48103 Phone: 734.929.6963 CHICAGO

COLUMBUS **GRAND RAPIDS** 

HOLLAND

**INDIANAPOLIS** 

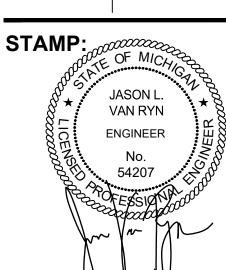
2082 S. State Street Ann Arbor, MI 48104

#### **REVISIONS:**

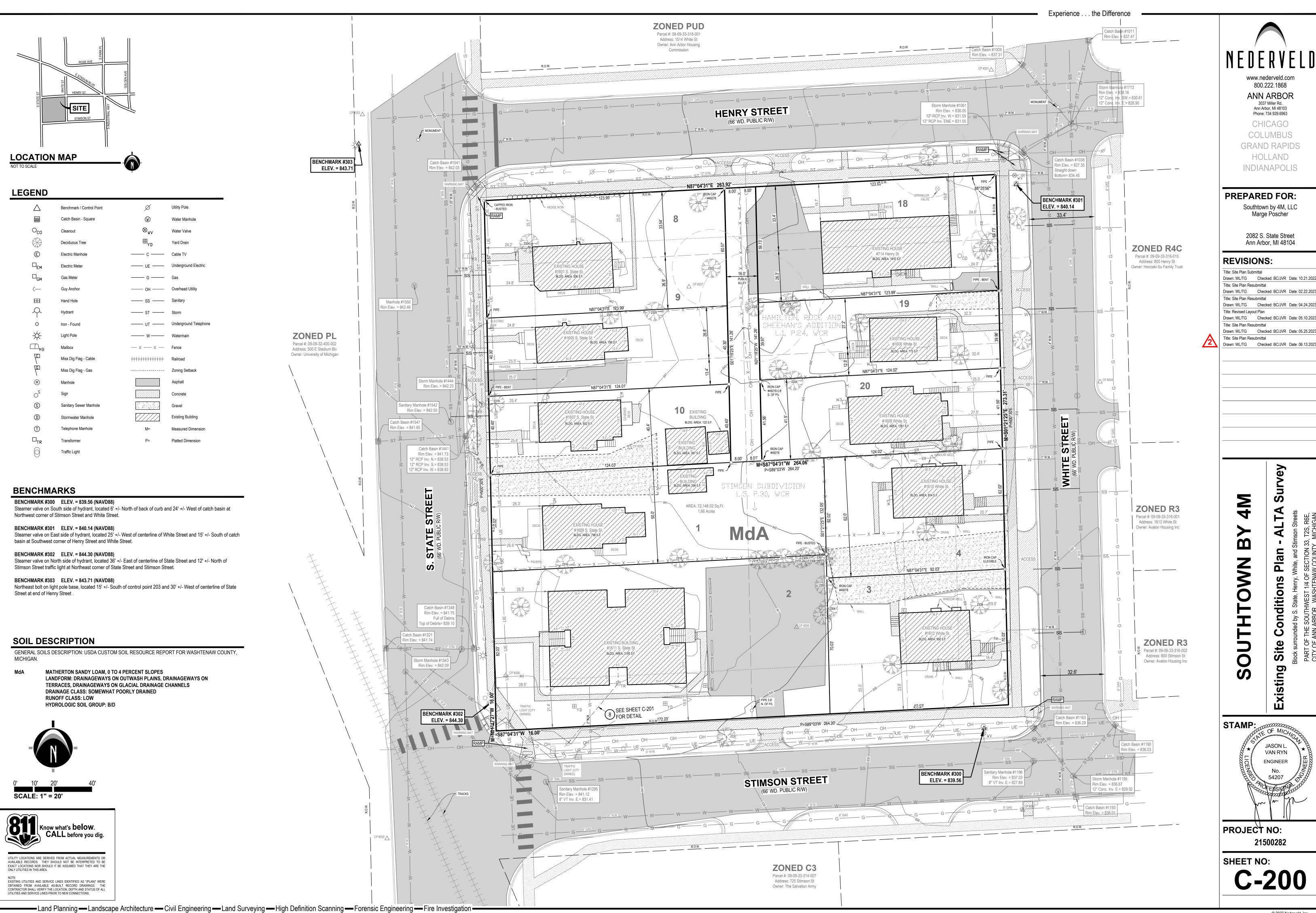
Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022 Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023

Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023 Title: Revised Layout Plan Drawn: WL/TG Checked: BC/JVR Date: 05.10.2023 Title: Site Plan Resubmittal

Drawn: WL/TG Checked: BC/JVR Date: 05.25.2023 Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 06.13.2023



PROJECT NO: 21500282



3037 Miller Rd.

Ann Arbor, MI 48103

ey

Plan

Conditions

Site

sting

JASON L. VAN RYN **ENGINEER** 

21500282

#### TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3540

The land is described as follows: City of Ann Arbor, County of Washtenaw

The North 40.02 feet, excepting the North 20.15 feet thereof, of Lot(s) 18, Block 3, also the South 13.5 feet of Lot 18 and the North 26.7 feet of Lot 19, all in Block 3 of HAMILTON, ROSE AND SHEEHAN'S ADDITION TO THE CITY OF ANN ARBOR, according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

#### SCHEDULE B - SECTION II NOTES

(11) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. Nothing to show.

Commonly known as: 714 Henry St. Ann Arbor, MI 48104-4366

#### TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU File No.: MIFA22-3535, dated May 31, 2022.

#### TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3535

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The North 26.9 feet of Lot(s) 9 and the South 33.54 feet of Lot 8, Block 3 of HAMILTON, ROSE & SHEEHAN'S ADDITION TO THE CITY OF ANN ARBOR according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

#### **SCHEDULE B - SECTION II NOTES**

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.** 

Commonly known as: 1601 S. State St. Ann Arbor, MI 48104-4366

#### TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU File No.: MIFA22-3536, dated June 03, 2022.

#### TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3536

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The South 26.8 feet of Lot 9 and the North 13.4 feet of Lot 10, Block 3 of HAMILTON, ROSE & SHEEHAN'S ADDITION according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

#### **SCHEDULE B - SECTION II NOTES**

The Easement (s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.** 

Commonly known as: 1605 S. State St. Ann Arbor, MI 48104-4366

#### TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU File No.: MIFA22-3537, dated June 06, 2022.

#### TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3537

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The South 40.3 feet of Lot(s) 10, Block 3 of HAMILTON ROSE & SHEEHAN'S ADDITION TO THE CITY OF ANN ARBOR according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

#### SCHEDULE B - SECTION II NOTES

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.** 

Commonly known as: 1607 S. State St. Ann Arbor, MI 48104-4366

#### TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, Commitment Number: 9966-6074453, Revision A, dated

#### TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3541

The land is described as follows: City of Ann Arbor, Washtenaw County, State of Michigan:

The South 27 feet of Lot(s) 19, and the North 13.2 feet of Lot 20, Block 3, according to the recorded plat of HAMILTON, ROSE & SHEEHAN'S ADDITION to the City of Ann Arbor, Washtenaw County, Michigan, according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

#### SCHEDULE B - SECTION II NOTES

(9) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. Nothing to show.

Commonly known as: 1606 White St. Ann Arbor, MI 48104-4366

#### TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU#: MIFA22-3542, dated May 31, 2022.

#### TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3542

The land is described as follows: City of Ann Arbor, County of Washtenaws

The South 41.18 feet of Lot(s) 20, Block 3 of HAMILTON, ROSE & SHEEHAN'S ADDITION according to the plat thereof recorded in Liber 1 of Plats, Page 24 of Washtenaw County Records.

#### **SCHEDULE B - SECTION II NOTES**

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.** 

Commonly known as: 1608 White St. Ann Arbor, MI 48104-4366

#### TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, File No: MIFA22-3538, dated May 31, 2022.

#### TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3538

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The North 50 feet of Lot(s) 1 and 2 of STIMSON SUBDIVISION according to the plat thereof recorded in Liber 5 of Plats, Page 30 of Washtenaw County

#### **SCHEDULE B - SECTION II NOTES**

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. Nothing to show.

Commonly known as: 1609 S. State St. Ann Arbor, MI 48104-4366

#### TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU File No.: MIFA22-3543, dated June 3, 2022.

#### TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3543

The land is described as follows: City of Ann Arbor, County of Washtenaws

The North 62 feet of Lot(s) 3 and 4 of STIMSON SUBDIVISION according to the plat thereof recorded in Liber 5 of Plats, Page 30 of Washtenaw County

#### SCHEDULE B - SECTION II NOTES

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. Nothing to show.

Commonly known as: 1610 White St. Ann Arbor, MI 48104-4366

#### SURVEYOR'S CERTIFICATION

To First American Title Insurance Company; Southtown by 4M LLC; Land Services USA LLC; Northeast Bank; ROSS-Ann Arbor: This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 6, 7(a), 7(b)(1), 8, 10, 11, 13, 16, 17, & 20 of Table A thereof. The fieldwork was completed on April 19, 2022.

July 21, 2022



Brandon G. Parrent Professional Surveyor No. 4001063096 Nederveld, Inc. bparrent@nederveld.com

#### TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, File No: MIFA22-3539, dated June 3, 2022.

Experience . . . the Difference

#### TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3539

The land is described as follows: City of Ann Arbor, County of Washtenaw:

The South 82 feet of Lot(s) 1 and 2 of STIMSON SUBDIVISION according to the plat thereof recorded in Liber 5 of Plats, Page 30 of Washtenaw County

#### **SCHEDULE B - SECTION II NOTES**

- (7) Easement in favor of The Detroit Edison Company and the Michigan Bell Telephone Company and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 1075, page 439. The easement described in this document is a blanket easement.
- (8) Agreement in favor of The Detroit Edison Company and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 1076, page 518. The easement route described in this document is shown on this survey. No width has been provided.
- (9) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.**

Commonly known as: 1611 S. State St. Ann Arbor, MI 48104-4366

#### TITLE INFORMATION

The Title Description and Schedule B items hereon are from First American Title Insurance Company, LSU#: MIFA22-3544, dated May 31, 2022.

#### TITLE DESCRIPTION

Issuing Office File Number: MIFA22-3544

The land is described as follows: City of Ann Arbor, County of Washtenaws

The South 70 feet of Lot(s) 3 and 4 of STIMSON SUBDIVISION according to the plat thereof recorded in Liber 5 of Plats, Page 30 of Washtenaw County

#### SCHEDULE B - SECTION II NOTES

(7) Easement(s), Restrictions and/or Setback Lines, if any, as disclosed by the recorded plat. **Nothing to show.** 

Commonly known as: 1612 White St. Ann Arbor, MI 48104-4366

#### SURVEYOR'S NOTES

- 1) ALTA TABLE "A" ITEM NO. 1 Existing and placed monuments at all major corners of the boundary of the property have been shown.
- 2) ALTA TABLE "A" ITEM NO. 2 Address of the surveyed property is 714 Henry Street; 1601, 1605, 1607, 1609, 1611 S. State Street; 1606, 1608, 1610, and 1612, Ann Arbor, MI 48104.
- 3) ALTA TABLE "A" ITEM NO. 3 Flood Zone Classification: An examination of the National Flood Insurance Program's Flood Insurance Rate Map for Community Number 260213, Map Number 26161C0263E, with an Effective Date of April 3, 2012, shows this parcel to be located in Zone X (subject to map scale uncertainty).
- 4) ALTA TABLE "A" ITEM NO. 4 Gross Land Area: 72,148.02 Square Feet / 1.66 Acres
- 5) ALTA TABLE "A" ITEM NO. 5 Vertical relief shown per ground survey at 1' contour interval, NAVD88 Datum.
- 6) ALTA TABLE "A" ITEM NO. 6(a) A zoning letter or report has not been provided to the surveyor at this time. Zoning is shown per research performed by Nederveld and Henry Street Feasibility Study November 2021. See "Zoning Information".
- 7) ALTA TABLE "A" ITEM NO. 6(b) A zoning letter or report has not been provided to the surveyor at this time. Building setbacks are shown per research and interpretation performed by Nederveld and Henry Street Feasibility Study November 2021..
- 8) ALTA TABLE "A" ITEM NO. 7(a) Exterior dimensions of all permanent buildings at ground level have been shown.
- 9) ALTA TABLE "A" ITEM NO. 7(b)(1) Building Area: 13,062 Square Feet (Total)
- 10) ALTA TABLE "A" ITEM NO. 8 Substantial features observed in the process of conducting fieldwork have been shown.
- 11) ALTA TABLE "A" ITEM NO. 10 No division or party walls with respect to adjoining properties were observed in the process of conducting fieldwork.
- 12) ALTA TABLE "A" ITEM NO. 11 See Note 17 below.
- 13) ALTA TABLE "A" ITEM NO. 13 Names of adjoining owners have been shown according to current tax records.
- 14) ALTA TABLE "A" ITEM NO. 16 Evidence of recent earth moving work, building construction or building additions observed in the process of conducting 15) ALTA TABLE "A" ITEM NO. 17 - Proposed changes in street right of way lines, if such information is made available to the surveyor by the controlling

jurisdiction. Evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork. **None observed.** 

- 16) Note to the client, insurer, and lender With regard to Table A, item 11, information from the sources checked above will be combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response. Where additional or more detailed information is required, the client is advised that excavation may be necessary.
- 17) Basis of Bearing: NAD83 Michigan State Planes, South Zone, International Foot
- 18) NOTE TO CONTRACTORS: 3 (THREE) WORKING DAYS BEFORE YOU DIG, CALL MISS DIG AT TOLL FREE 1-800-482-7171 FOR UTILITY LOCATIONS ON THE GROUND.
- 19) Access to property is from S. State Street, Henry Street, White Street, and Stimson Street.
- 20) The surveyed boundary shown hereon is contiguous with adjoining properties and/or rights of way without any gaps, gores, or overlaps.
- 21) Survey includes a survey of the real property located at 1606 White Street, Ann Arbor, however this property is not part of the collateral in connection with that certain mortgage loan from ROSS-ANN ARBOR, LLC, a Delaware limited liability company, as lender, to South Town By 4M LLC, a Michigan limited liability company, as borrower, dated as of [ ].



800.222.1868 **ANN ARBOR** 3037 Miller Rd. Ann Arbor, MI 48103

Phone: 734.929.6963

CHICAGO COLUMBUS **GRAND RAPIDS** HOLLAND **INDIANAPOLIS** 

#### PREPARED FOR:

Southtown by 4M, LLC Marge Poscher

2082 S. State Street Ann Arbor, MI 48104

#### **REVISIONS:**

Title: Site Plan Resubmittal

Title: Site Plan Resubmittal

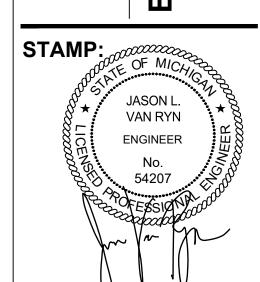
Title: Site Plan Submittal Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022 Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023

Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023 Title: Revised Layout Plan

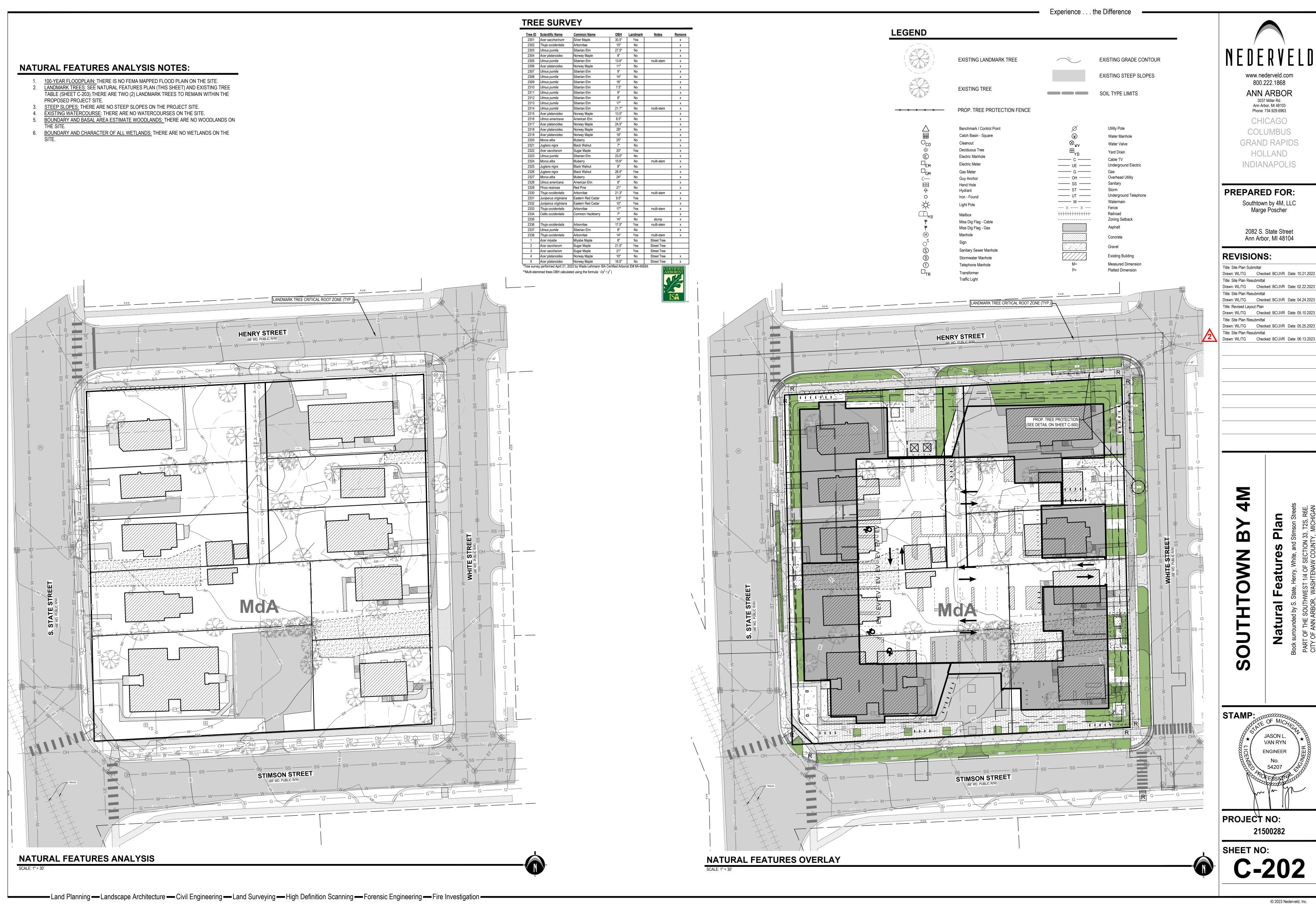
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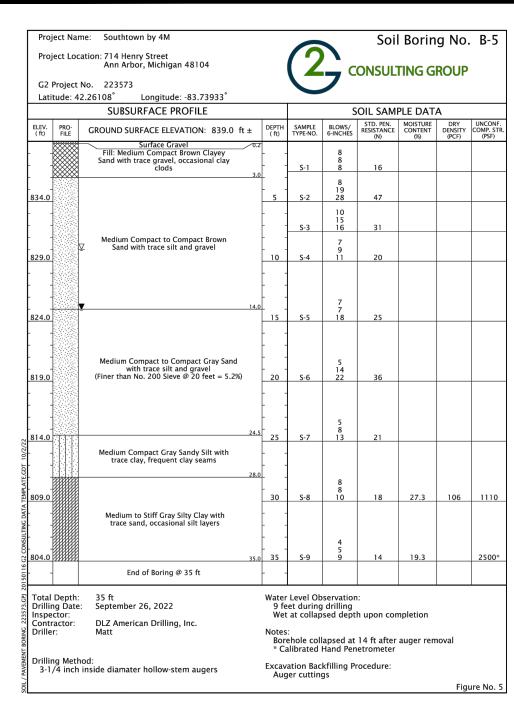
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PROJECT NO: 21500282

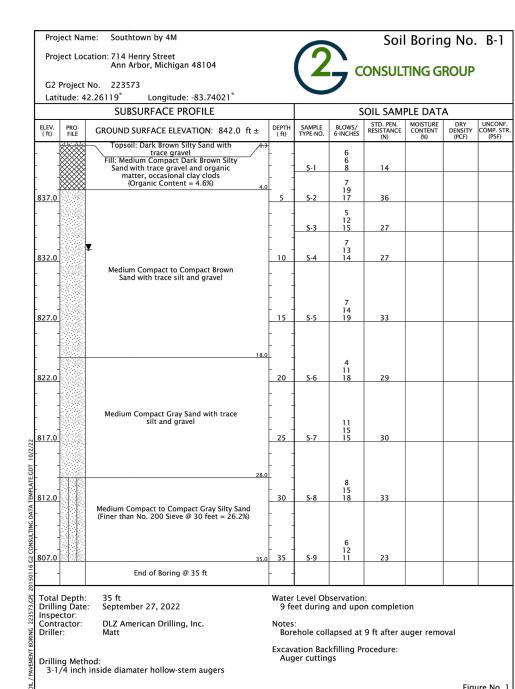




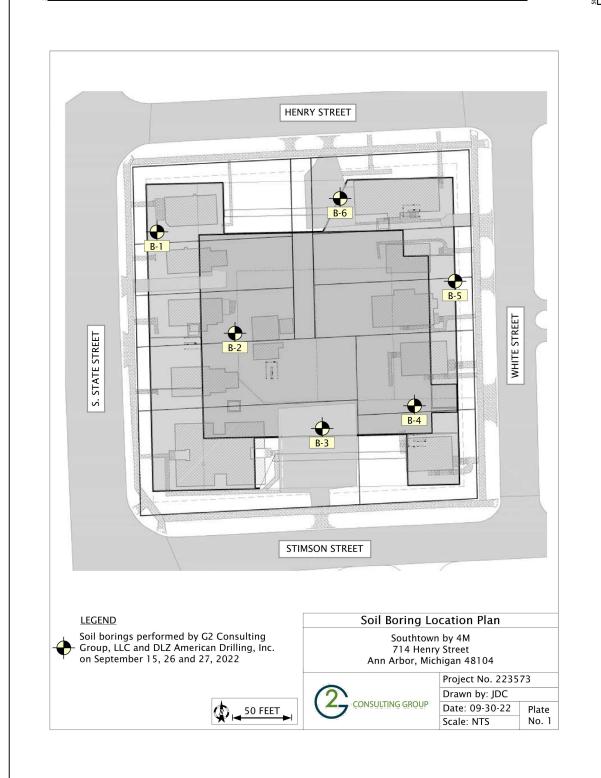
	ect Nan	ne: Southtown by 4M ation: 714 Henry Street Ann Arbor, Michigan 48104		<b>(</b> 2		Soi CNSUL	l Borin		
1	Project I tude: 42	No. 223573 2.26096° Longitude: -83.74004°			フ	ONSOL		11001	
		SUBSURFACE PROFILE			S	OIL SAM	PLE DAT	Α	
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 842.0 ft ±	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCO COMP. (PSF
 		Surface Gravel Fill: Medium Compact Brown and Dark Brown Silty Sand with trace gravel and organic matter, occasional clay clods (Organic Content = 3.0%)		S-1	9 9 9	18			
837.0	****	4.0	5	S-2	13 20 24	44			
		Compact to Very Compact Brown Sand with		S-3	15 28 34	62			
832.0	Ž	trace silt and gravel  (Finer than No. 200 Sieve @ 5 feet = 8.8%)	10	S-4	12 16 23	39			
	•	<u>.</u>							
  827.0		13.6	15	S-5	8 15 19	34			
   822.0		Compact Gray Sand with trace silt and gravel	20	S-6	8 10 22	32			
817.0		<b>3</b>	- - - 25	S-7	10 15 20	35			
812.0  		28.6 Medium Compact Gray Silty Sand	30	S-8	5 12 16	28	22.0		
		33.0  Medium Gray Silty Clay with trace sand frequent silt layers			9				
807.0	2444444	End of Boring @ 35 ft	35	S-9	12	21	23.3		150
Drillir Inspe	actor:	35 ft September 27, 2022 DLZ American Drilling, Inc. Matt	9 fe We Notes Bor	: ehole col	drilling osed dept	l h upon cor 10 ft after jetrometer		noval	<u> </u>
	ng Meth /4 inch	od: inside diamater hollow-stem augers		ation Bac ger cuttin		rocedure:		Fice	ure No

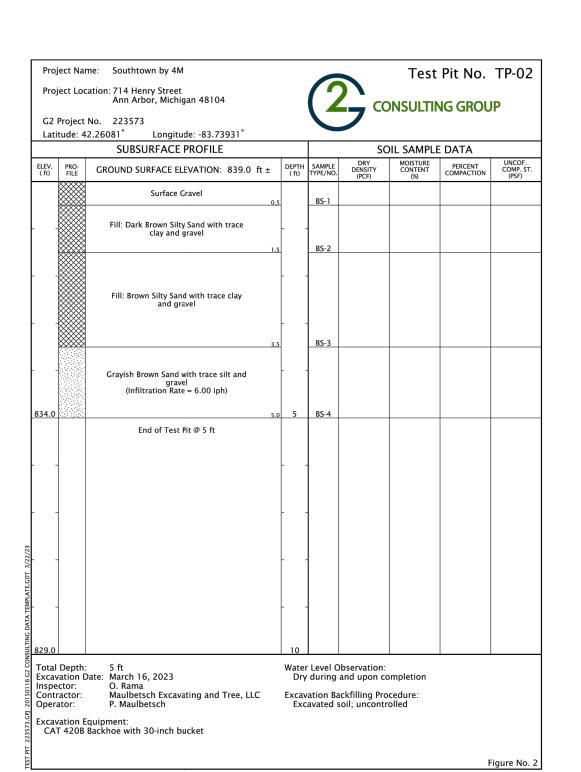
G2 Projec Latitude:	42.26076° Longitude: -83.73974°							
	SUBSURFACE PROFILE			_	OIL SAM	PLE DAT	A DRY	UNCONF.
ELEV. PRO- (ft) FILE	GROUND SURFACE ELEVATION: 839.0 ft ±	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	CONTENT (%)	DENSITY (PCF)	COMP. STI (PSF)
-	Bituminous Concrete (Asphalt)  Fill: Medium Compact Brown and Dark  Brown Silty Sand with trace gravel, occasional clay clods and asphalt fragments  3.3		S-1	5 9 9	18			
834.0		5	S-2	8 15 8	23			
-			S-3	12 18 17	35			
829.0	☐ Medium Compact to Compact Brown Sand with trace silt and gravel (Finer than No. 200 Sieve @ 15 feet = 11.3%)	10	S-4	9 14 16	30			
824.0	▼	15	S-5	10 17 21	38			
819.0	18. Medium Compact Gray Sand with trace silt and gravel	20	S-6	8 12 17	29			
814.0	24.	25	S-7	3 6 6	12			
809.0	Medium Compact to Compact Gray Silty Sand	30	S-8	7 16 17	33			
804.0	Medium Gray Silty Clay with trace sand, frequent silt layers		S-9	8 10 13	23	24.2	114	1030
	End of Boring @ 35 ft	-	-					
Total Depti Drilling Da Inspector: Contractor Driller:	te: September 26, 2022 M. Majed	9 fe Wei Notes Bor	et during at collar :: ehole col	sed dept	h upon cor		noval	

Proj	ect Nan	ne: Southtown by 4M				Soi	Borin	a No	. B-4
Proj	ect Loca	ation: 714 Henry Street Ann Arbor, Michigan 48104		(2)		ONSUL			
G2 I	Project I	No. 223573			フ	ONSOL			
Lati	tude: 42	2.26081° Longitude: -83.73947°							
		SUBSURFACE PROFILE	1		1	OIL SAM	MOISTURE	A DRY	UNCONF
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 839.0 ft ±  Surface Gravel	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	RESISTANCE (N)	CONTENT (%)	DENSITY (PCF)	COMP. STI (PSF)
-		Fill: Medium Compact Dark Brown Silty Sand with trace gravel and organic matter, occasional clay clods (Organic Content = 1.6%)		S-1	5 5 7	12			
- 834.0	****	4.	5	S-2	8 15 16	31			
-				S-3	12 14 14	28			
829.0	Medium Compact to Compact Brown Sand	10	S-4	6 9 11	20				
- - - 824.0 - -		with trace silt and gravel (Finer than No. 200 Sieve @ 10 feet = 6.9%)	15	S-5	3 5 8	13			
819.0 -		Medium Compact Gray Sand with trace silt and gravel	20	S-6	10 7 10	17			
- - 814.0		24.	5 25	S-7	4 4 8	12			
- - - 809.0 - -		Medium Compact Gray Sandy Silt	30	S-8	4 8 10	18			
804.0		Stiff Gray Silty Clay with trace sand, frequent sand seams		S-9	4 6 7	13	22.7	116	2860
-		End of Boring @ 35 ft	-						
Drillir Inspe	actor:	35 ft September 15, 2022 C. Nicol G2 Consulting Group, LLC E. Talabo	8 fe Notes Bor	et during : ehole col	lapsed at	n: n completi 8 ft after a etrometer		oval	
Drillir 2-1	ng Meth	od: inside diameter hollow-stem augers		ation Bac Jer cuttin		rocedure:			



_	ect Nar ect Loc	ne: Southtown by 4M ation: 714 Henry Street Ann Arbor, Michigan 48104		0	1		Borin		
G2 F	roject	No. 223573			フ	ONSUL	I ING G	KOUP	
Latit	ude: 4	2.26126° Longitude: -83.73967°							
		SUBSURFACE PROFILE				OIL SAM			
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 840.0 ft ±	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF COMP. ST (PSF)
-		Bituminous Concrete (Asphalt)  Fill: Medium Compact Brown and Dark  Brown Clayey Sand with trace gravel  and organic matter, occasional  asphalt fragments		S-1	2 5 8	13			
835.0	****		4.0 . 5	S-2	9 10 13	23			
-				S-3	7 11 10	21			
830.0		Medium Compact to Compact Brown Sand with trace silt and gravel (Finer than No. 200 Sieve @ 7.5 feet = 8.9%)	10	S-4	8 16 15	31			
				-	8				
825.0			15	S-5	10 20	30			
820.0		Medium Compact Gray Sand with trace silt and gravel	20	S-6	7 13 16	29			
815.0		2:		S-7	2 6 7	13			
		Medium Compact Gray Sandy Silt with trace clay, frequent clay seams	3.0						
810.0		Medium Compact Gray Silty Sand with trace clay	30	S-8	9 12 16	28			
805.0		Stiff Gray Silty Clay with trace sand	3.0 	S-9	7 8 12	20	20.9		3000°
		End of Boring @ 35 ft		-					
Total Drillin Inspec Contra Driller	actor:	35 ft : September 26, 2022 DLZ American Drilling, Inc. Matt	9 fe Wet Notes Bor	s: ehole col	drilling osed dept lapsed at	n: h upon cor 16 ft after netrometer		noval	•
	g Meth ⁄4 inch	nod: inside diamater hollow-stem augers	Excav Aug	ation Bac ger cuttin	kfilling P gs	rocedure: c cold patch	1	Fia	ure No.





Pro	ject Nan	ne: Southtown by 4M				Test	Pit No.	TP-03		
Pro	ject Loca	ation: 714 Henry Street Ann Arbor, Michigan 48104				MICHILTII	NG GROU	D		
G2	Project I	No. 223573			7	MOULIII	NG GROO	Г		
Lat	itude: 42	2.26065° Longitude: -83.73961°								
SUBSURFACE PROFILE					SOIL SAMPLE DATA					
EV. ft)	PRO- FILE	GROUND SURFACE ELEVATION: 840.0 ft =	± DEP	TH SAMPLE TYPE/NO.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	PERCENT COMPACTION	UNCOF. COMP. ST. (PSF)		
	11 21 11 1	Topsoil : Dark Brown Silty Sand (12 inches)								
	E 77. 7	(12 menes)	1.0	BS-1						
		Fill: Brown Clayey Sand with trace								
		gravel		1						
	****		3.0	BS-2						
		Conside Donous Count with the consideration								
		Grayish Brown Sand with trace silt and gravel (Infiltration Rate = 5.25 iph)	-	-						
		(Finer than No. 200 Sieve = 10.8%)								
5.0			5.0 5	BS-3						
		End of Test Pit @ 5 ft								
				1						
	-		-	-						
	-		-	-						
			Ī							
0.0 otal	Depth:	5 ft	10		bservation:	l				
ca spe	vation D ector:	ate: March 16, 2023 O. Rama	D	ry during	and upon co	•				
ont	ractor: ator:	Maulbetsch Excavating and Tree, LLC P. Maulbetsch	Exc	avation Ba xcavated s	ckfilling Pro oil; uncontr	cedure: olled				



Legend

Test Pit Location Plan

Proposed Southtown by 4M
714 Henry Street
City of Ann Arbor, Washtenaw County, Michigan

Project No. 223573

Drawn by: OR

Date: 3-16-23
Scale: NTS
No. 1

Pro	ject Nan	ne: Southtown by 4M				Test	Pit No.	TP-01
Pro	ject Loca	ation: 714 Henry Street Ann Arbor, Michigan 48104		(2	) CC	NSULTII	NG GROU	IP
G2	Project	No. 223573						
Lat	itude: 42	2.26126° Longitude: -83.73990°						
		SUBSURFACE PROFILE				OIL SAMPL	E DATA	
ELEV. (ft)	PRO- FILE	GROUND SURFACE ELEVATION: 842.0 ft		PTH SAMPLE ft) TYPE/NO.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	PERCENT COMPACTION	UNCOF. COMP. ST. (PSF)
	7. 7.7. 7. 7.7. 7.7. 7. 7.7. 7.	Topsoil: Dark Brown Silty Sand with trace clay and gravel (12 inches)	1.0	BS-1				
		Fill: Dark Brown Clayey Sand with trace gravel	1.5	BS-2				
		Fill: Very Stiff Brown Sandy Clay with trace gravel	- 2.5	BS-3		19.1		4000*
837.0	-	Grayish Brown Sand with trace silt and gravel (Infiltration Rate = 6.00 iph)	5.0	- - 5 BS-4				
037.0		End of Test Pit @ 5 ft	5.0	3 13 4				
	-		-	-				
				-				
			-					
	-		-	-				
832.0			1	0				
Exca	Depth: vation D	5 ft late: March 16, 2023 O. Rama		ater Level O Dry during a		ompletion		
	ractor:	Maulbetsch Excavating and Tree, LLC P. Maulbetsch		otes: * Calibrated	l Hand Pene	trometer		

Excavation Backfilling Procedure: Excavated soil; uncontrolled

Excavation Equipment: CAT 420B Backhoe with 30-inch bucket NEDERVELD

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www.nederveld.com 800.222.1868 ANN ARBOR 3037 Miller Rd. Ann Arbor, MI 48103 Phone: 734.929.6963

CHICAGO
COLUMBUS
GRAND RAPIDS
HOLLAND
INDIANAPOLIS

PREPARED FOR:

Southtown by 4M, LLC Marge Poscher

2082 S. State Street Ann Arbor, MI 48104

#### **REVISIONS:**

Title: Site Plan Submittal
Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023
Title: Site Plan Resubmittal
Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023
Title: Revised Layout Plan
Drawn: WL/TG Checked: BC/JVR Date: 05.10.2023

Title: Site Plan Resubmittal

Drawn: WL/TG Checked: BC/JVR Date: 05.25.2023

Title: Site Plan Resubmittal

Drawn: WL/TG Checked: BC/JVR Date: 06.13.2023

Drawn: WL/TG Checked: BC/JVR Date: 06.13.2023

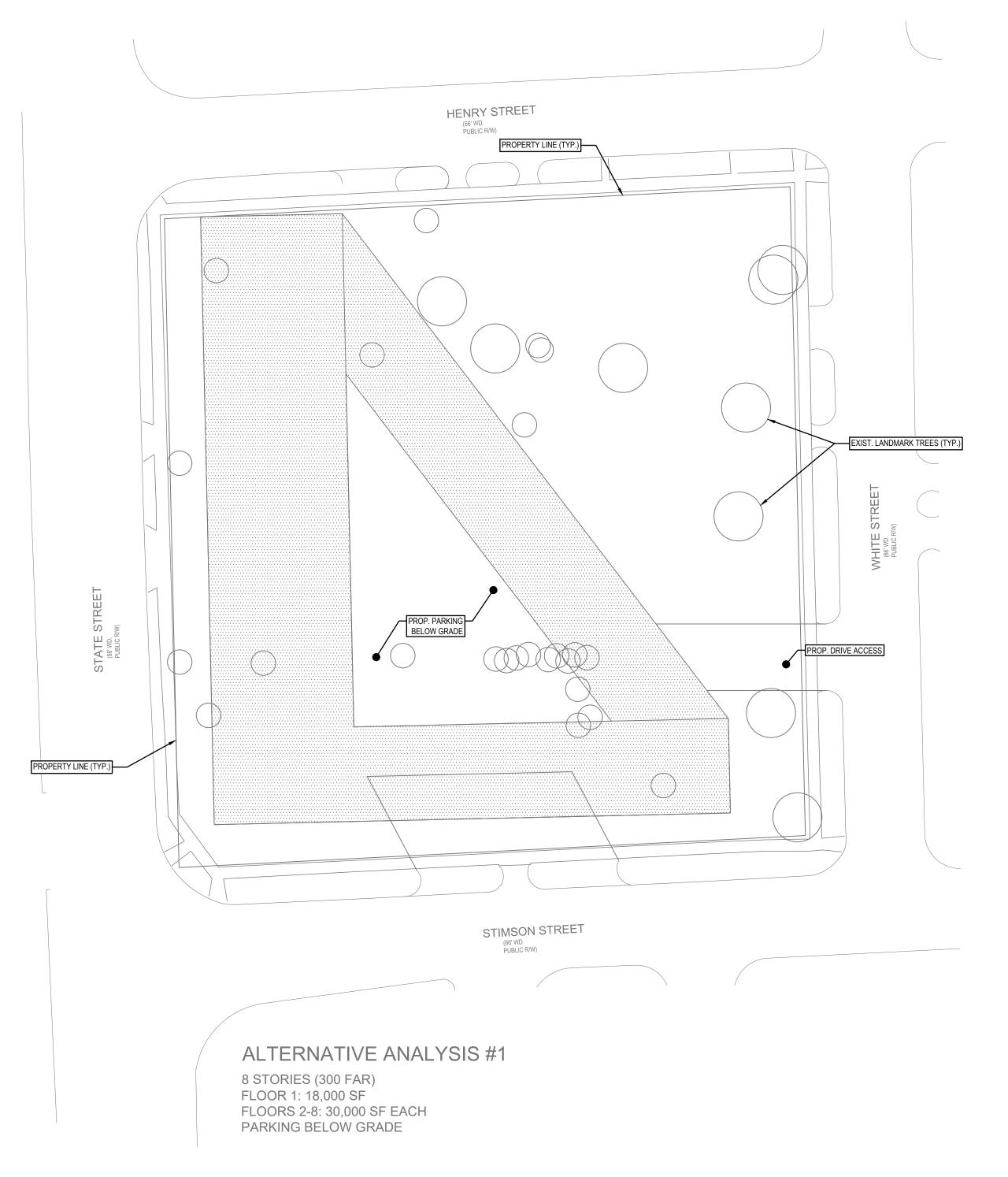
THTOWN BY 4M
& Infiltration Report

Soil & Infiltratio
Block surrounded by S. State, Henry, Wr
PART OF THE SOUTHWEST 1/4 OF S

STAMP: DE MICHIGAN JASON L. VAN RYN
ENGINEER
No.
54207
VAN RYN
ENGINEER
No.
54207

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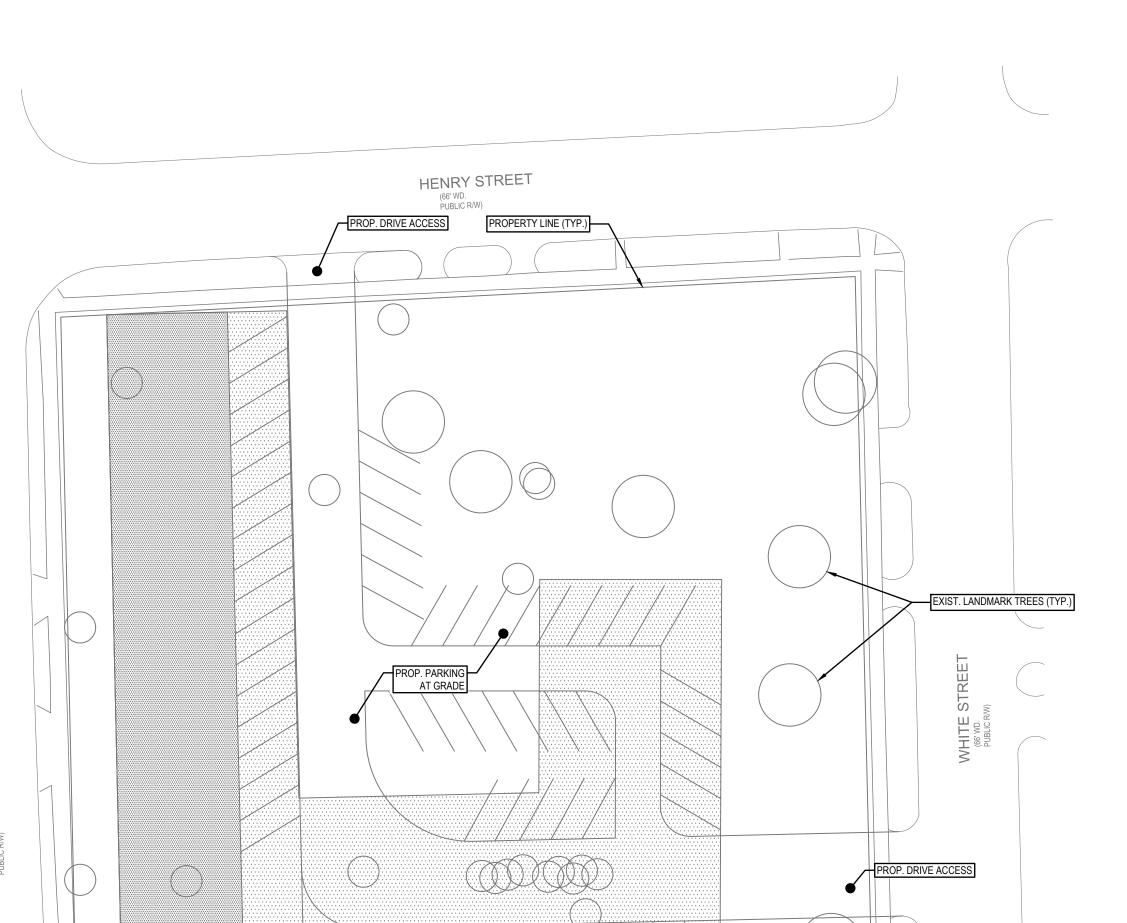
PROJECT NO: 21500282



### LANDMARK TREE TABLE

LANDWARK TRLL TABLE							
Alternative Analysis 1							
<u>ID</u>	<u>Species</u>	<u>DBH</u>	<u>Landmark</u>				
2330	Thuja occidentalis	21.3	yes				
2331	Juniperus virginana	9.5	yes				
2332	Juniperus virginana	10	yes				
2333	Thuja occidentalis	17	yes				
2336	Thuja occidentalis	17.5	yes				
		75.3	total DBH sav				

EARLY PROPOSED CONCEPT (#2) - SITE PLAN



PARKING AT GRADE

CONCEPT # 2 UTILIZED PARKING AT GRADE WHICH WOULD ALSO BE UNDER PORTIONS OF THE BUILDING. PARKING AT GRADE REDUCES THE ABILITY FOR RESIDENTS TO USE OUTDOOR AREAS SINCE MOST OF IT WOULD BE SUBJECT TO VEHICULAR AREAS. THE BUILDING SHAPE BEING A SMALLER FOOTPRINT WOULD NEED TO BE 9 STORIES TALL IN ORDER TO MEET THE FAR. THIS GENERATES A STRUCTURE THAT IS OUT OF CHARACTER IN THE NEIGHBORHOOD AND CREATES LONG SHADOWS ONTO THE NEIGHBORS TO THE NORTH AND TO THE EAST.

## LANDMARK TREE TABLE

Alternat	tive Analysis 2		
<u>ID</u>	<u>Species</u>	<u>DBH</u>	<u>Landmark</u>
2301	Acer saccharinum	30.5	yes
2322	Acer saccharum	20	yes
2326	Juglans nigra	28.5	yes
2330	Thuja occidentalis	21.3	yes
2331	Juniperus virginana	9.5	yes
2332	Juniperus virginana	10	yes
2333	Thuja occidentalis	17	yes
2336	Thuja occidentalis	17.5	yes
2338	Thuja occidentalis	14	yes
		168.3	total DBH sav

PROJECT NO:

SHEET NO:

—Land Planning — Landscape Architecture — Civil Engineering — Land Surveying — High Definition Scanning — Forensic Engineering — Fire Investigation —

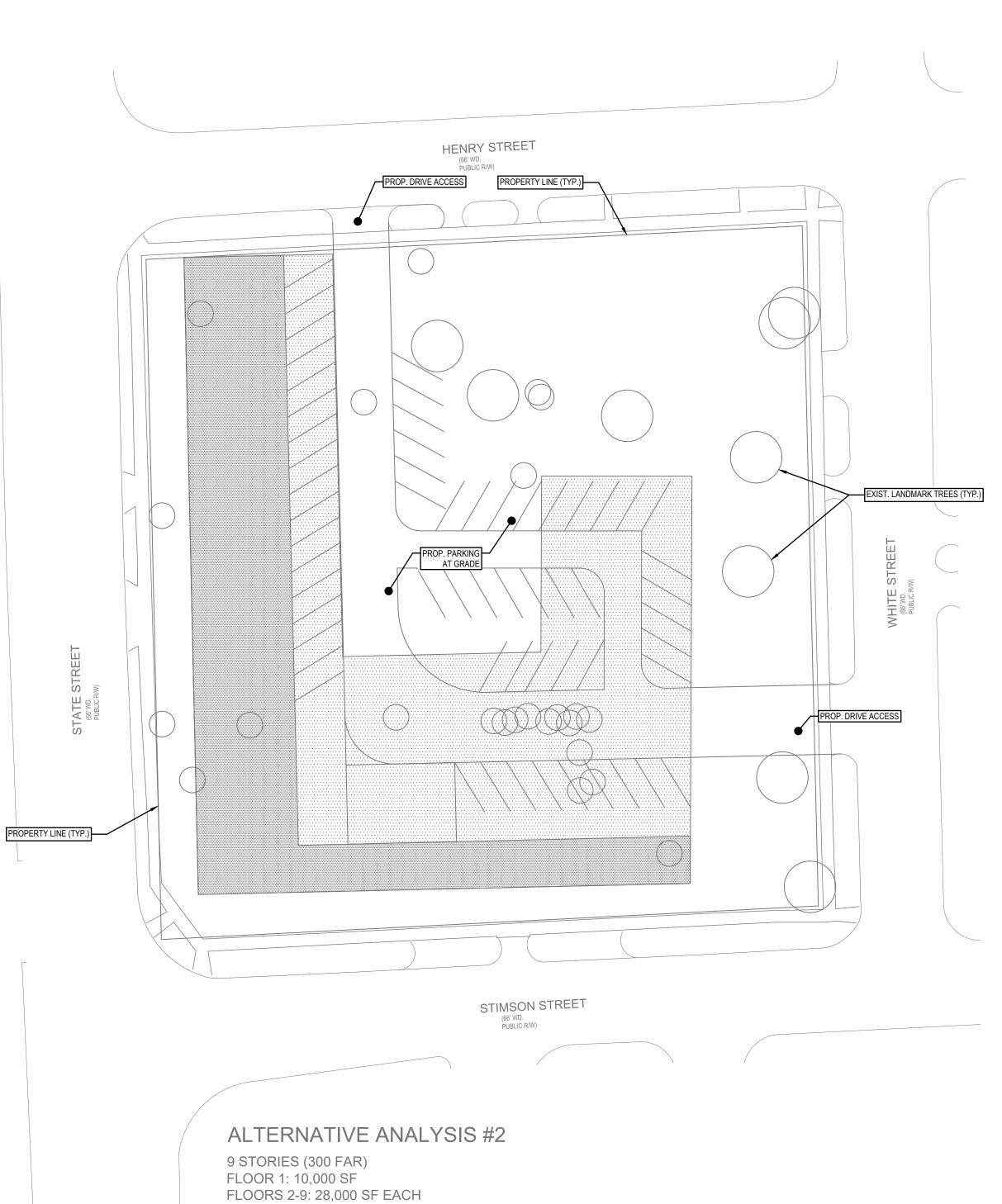
THIS PROPOSED CONCEPT WOULD GENERATE AN 8 STORY BUILDING FOR THE

ENTIRE MASS WHICH WOULD CREATE LONG SHADOWS ACROSS THE
NEIGHBORHOOD. MAXING OUT THE FAR CREATES A BUILDING THAT DOES NOT FIT
IN THE CONTEXT OF THE NEIGHBORHOOD. THE PROPOSED BELOW GRADE PARKING
WOULD BE HIGHLY COSTLY TO THE PROJECT SINCE THE GROUND WATER IN THIS
AREA IS RELATIVELY HIGH. THE UNDERGROUND PARKING WOULD BE BELOW THE

GROUND WATER LEVEL.

**EARLY PROPOSED CONCEPT - SITE PLAN** 

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Drawn: WL/TG Checked: BC/JVR Date: 05.10.2023

Drawn: WL/TG Checked: BC/JVR Date: 05.25.2023

Drawn: WL/TG Checked: BC/JVR Date: 06.13.2023

PREPARED FOR:

**REVISIONS:** 

Title: Site Plan Submittal

Title: Site Plan Resubmittal

Title: Site Plan Resubmittal

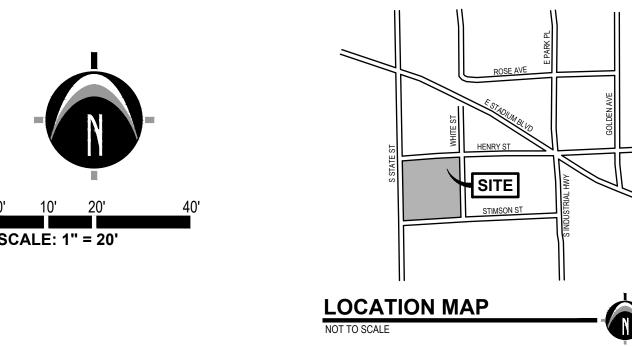
Title: Revised Layout Plan

Title: Site Plan Resubmittal

Title: Site Plan Resubmittal

**ENGINEER** 

21500282



#### **LEGEND**

EXISTING GRADE CONTOUR

**EXISTING BITUMINOUS REMOVAL** 

**EXISTING CONCRETE REMOVAL** 

-X -X -X -X - EXISTING UTILITY REMOVAL

**EXISTING TREE REMOVAL** SAWCUT EXISTING PAVEMENT

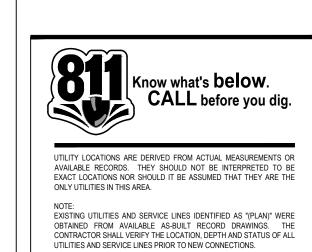
## **REMOVAL / DEMOLITION NOTES**

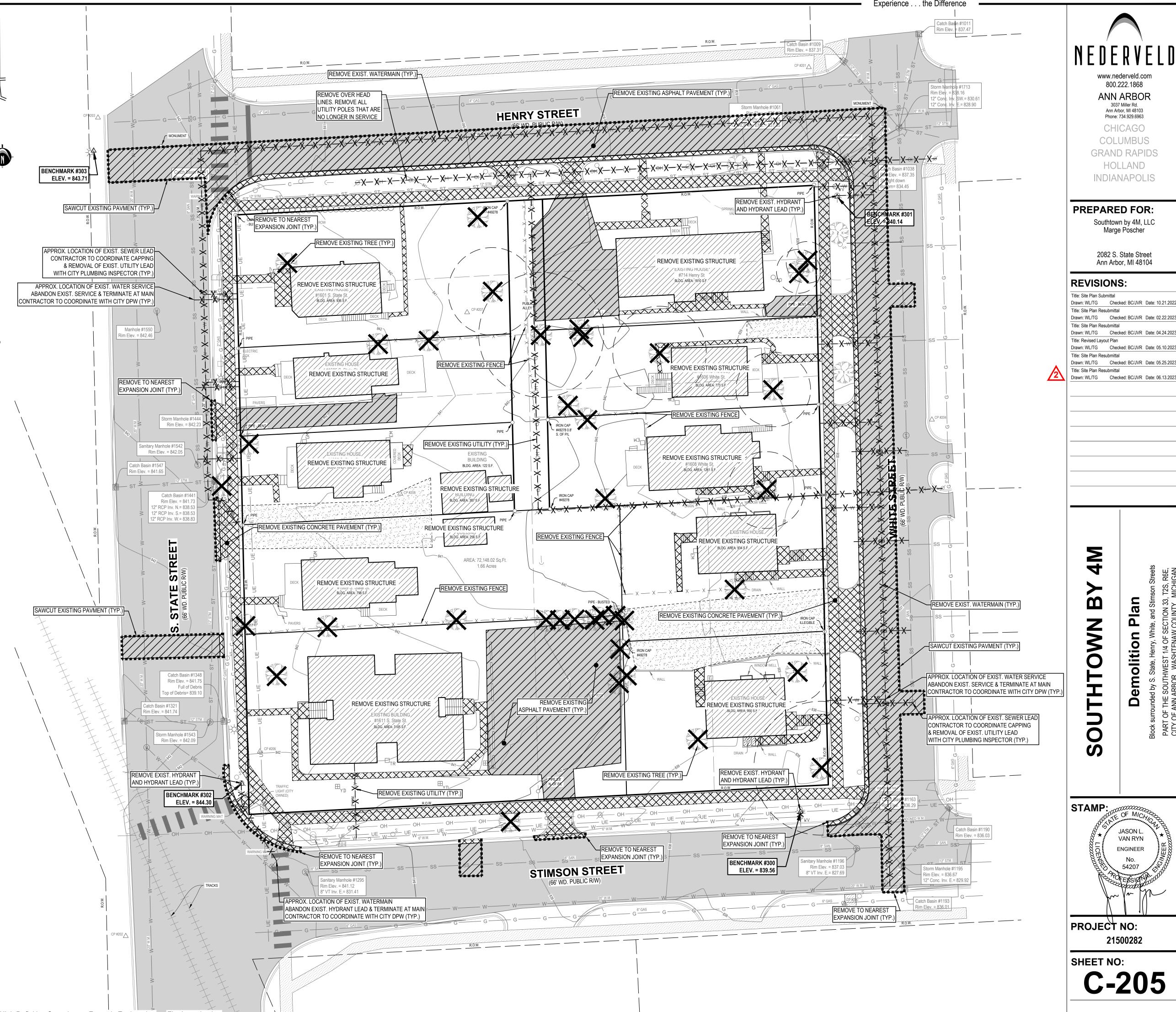
- OPERATIONS. THERE ARE EXISTING UNDERGROUND UTILITIES WHICH CROSS THE PROPOSED REPLACEMENT WORK AREAS. ALTHOUGH THEIR EXACT LOCATION CANNOT BE DETERMINED, IT IS KNOWN THESE UTILITIES ARE LOCATED WHERE DIGGING IS REQUIRED. THE CONTRACTOR SHALL CONDUCT THE REQUIRED EXCAVATION IN THESE AREAS WITH EXTREME CAUTION.
- 2) ALL EXISTING UTILITY INFORMATION SHOWN IS TAKEN FROM EXISTING RECORDS, AND FIELD VERIFIED WHERE ACCESSIBLE ONLY. INFORMATION OBTAINED FROM EXISTING RECORDS MAY NOT BE COMPLETE OR ACCURATE. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. THE CONTRACTOR SHALL FIELD VERIFY FOR
- REPRESENTATIVES OF THE CITY, THE OWNER AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE EXISTING SEWERS WITHIN THE AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS AND EXISTING VIDEO TAPES. RECORDS OF THE INSPECTIONS SHALL BE KEPT IN WRITING BY THE CONTRACTOR.
- 4) THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION WORK.
- 5) ALL EXISTING UTILITIES, SEWERS AND WATER LINES ARE TO REMAIN UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH ALL APPLICABLE UTILITY COMPANIES, MUNICIPALITIES AND AGENCIES BEFORE
- 6) THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES REGARDING REMOVAL OF EXISTING POLES, OVERHEAD WIRES. UNDERGROUND UTILITIES, GUY WIRES, GAS LINES, ETC. ALL ADJUSTMENT OR RECONSTRUCTION WORK, EXCEPT FOR THOSE STRUCTURES OTHERWISE NOTED ON THE PLANS, SHALL BE PERFORMED BY THE CONTRACTOR. EXISTING APPURTENANCES SUCH AS UTILITY POLES AND VALVES BOX SHALL NOT BE DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION.
- 7) THE CONTRACTOR SHALL MAINTAIN EXISTING UTILITY SERVICE TO ALL ADJOINING PROPERTIES 8) ALL DEBRIS SHALL BE REMOVED FROM THE SITE, AND NO STOCKPILING ON SITE SHALL BE ALLOWED UNLESS APPROVED BY THE OWNER OR
- 9) THE CONTRACTOR SHALL LIMIT SAWCUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE REQUIRED OR AS SHOWN. ALL PAVEMENTS TO BE REMOVED SHALL BE SAWCUT AND REMOVED TO FULL DEPTH AT ALL PAVEMENT LIMITS OR EXISTING JOINTS. IF ANY DAMAGE IS INCURRED TO ANY OF THE SURROUNDING PAVEMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND
- 10) ASPHALT AREAS SHOWN TO BE SAWCUT AND REMOVED FULL DEPTH ARE ACTUAL FACE OF PROPOSED CURBS. IT WILL BE NECESSARY TO MAKE OFF-SET SAWCUTS TO PROVIDE CLEARANCE FOR PROPOSED CURBS: THE CONTRACTOR SHALL DETERMINE THE AMOUNT OF OFF-SET NECESSARY TO CONSTRUCT THE PROPOSED CURBS AND SHALL BE APPROVED BY THE CITY OF ANN ARBOR ENGINEERING. ADDITIONAL CUTS MAY BE DESIRED TO FACILITATE THE REMOVAL OF THE EXISTING PAVEMENT, BUT THERE WILL BE NO EXTRA PAYMENT FOR ADDITIONAL CUTS. PAVEMENT SHALL BE REMOVED WITHOUT DAMAGING OR UNDERMINING THE REMAINING PAVEMENT. IF ADJACENT PAVEMENT IS DAMAGED, THE CONTRACTOR SHALL MAKE ADDITIONAL FULL DEPTH SAWCUTS AND REMOVE THE DAMAGE AREAS AS
- 11) ALL PAVEMENT REMOVAL AREAS SHALL BE FULL PAVEMENT CROSS-SECTION REMOVAL DOWN TO NATIVE SOIL LAYER IN ACCORDANCE WITH THE GEOTECHNICAL REPORT DATED OCTOBER 4, 2022. ALL TREES WITHIN THE GRADING LIMITS SHALL BE REMOVED UNLESS OTHERWISE NOTED.
- 12) IF FOOTING DRAINS FOR THE EXISTING BUILDING ARE CONNECTED TO THE SANITARY SEWER SYSTEM, DISCONNECTION IS REQUIRED IN ACCORDANCE WITH CURRENT CITY SPECIFICATIONS . FOOTING DRAINS REMOVED FROM ANY EXISTING BUILDINGS MAY OFFSET ANY REQUIRED MITIGATION. VERIFICATION OF EXISTING FOOTING DRAINS SHALL BE PERFORMED BY ENGINEERING FOR ANY BUILDING CONSTRUCTED BETWEEN 1930 AND 1982. TO SCHEDULE INSPECTION, CONTACT AMY PONSOCK AT APONSOCK@A2GOV.ORG. 13) ANY SERVICE LEADS THAT WILL NOT BE REUSED SHALL BE DISCONNECTED AT THEIR RESPECTIVE MAINS.

## **LEGEND**

THEIR REPRESENTATIVES.

EGEND			
$\triangle$	Benchmark / Control Point Catch Basin - Square	(W) ⊗ <sub>1417</sub>	Water Manhole Water Valve
	Catch Basin - Square Cleanout Deciduous Tree Electric Manhole Electric Meter Gas Meter Guy Anchor Hand Hole Hydrant Iron - Found Light Pole Mailbox Miss Dig Flag - Cable Miss Dig Flag - Gas Manhole Sign		Water Valve Yard Drain Cable TV Underground Electric Gas Overhead Utility Sanitary Storm Underground Telephone Watermain Fence Railroad Zoning Setback Asphalt Concrete Gravel
© S	Sign Sanitary Sewer Manhole		Existing Building
(i) (ii) (iii) (ii	Stormwater Manhole Telephone Manhole Transformer	M= P=	Measured Dimension Platted Dimension
9	Traffic Light		





JASON L.

VAN RYN

**ENGINEER** 

21500282

800.222.1868

**ANN ARBOR** 

3037 Miller Rd.

Ann Arbor, MI 48103

Phone: 734.929.6963 CHICAGO

COLUMBUS

**GRAND RAPIDS** 

HOLLAND

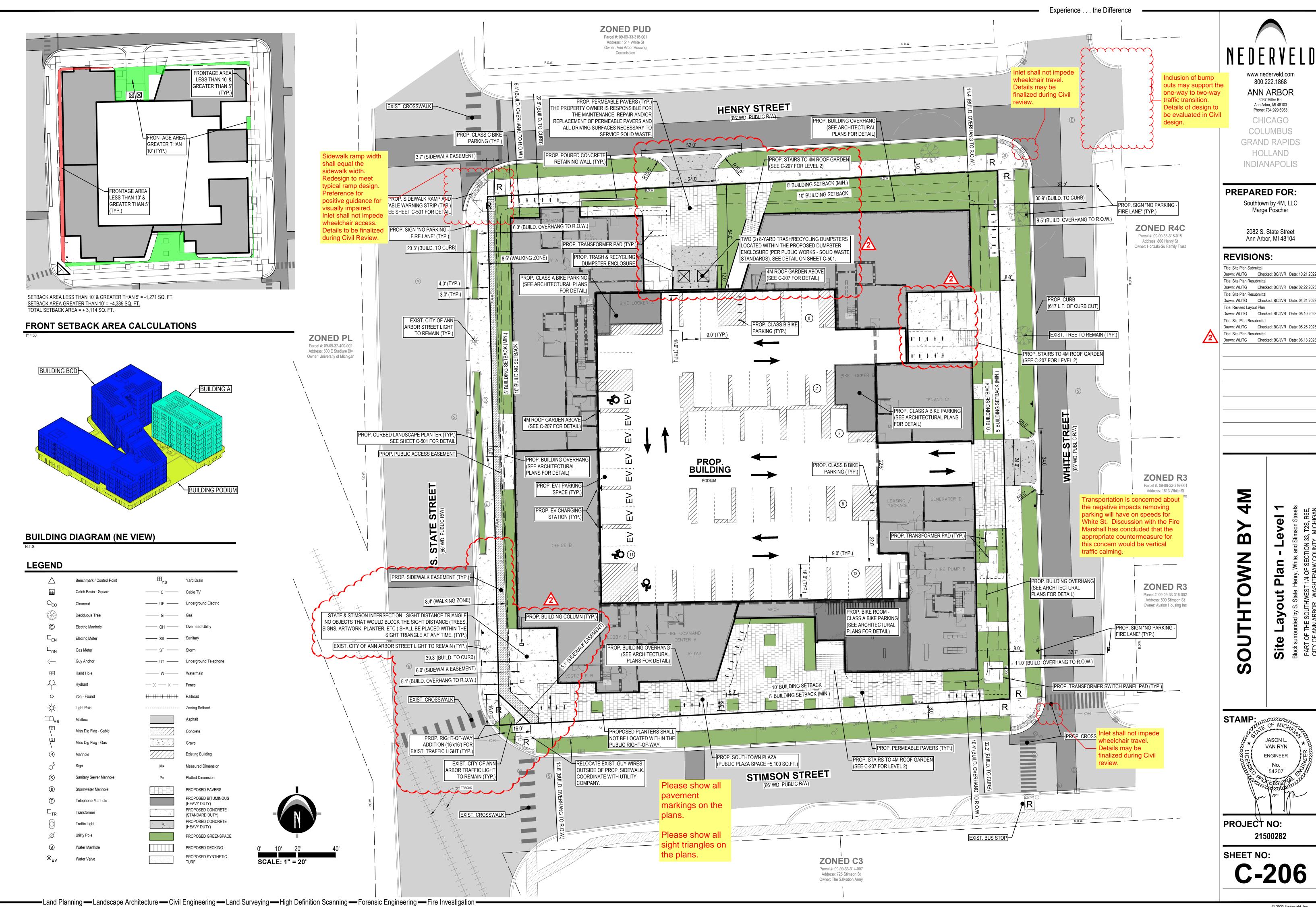
**INDIANAPOLIS** 

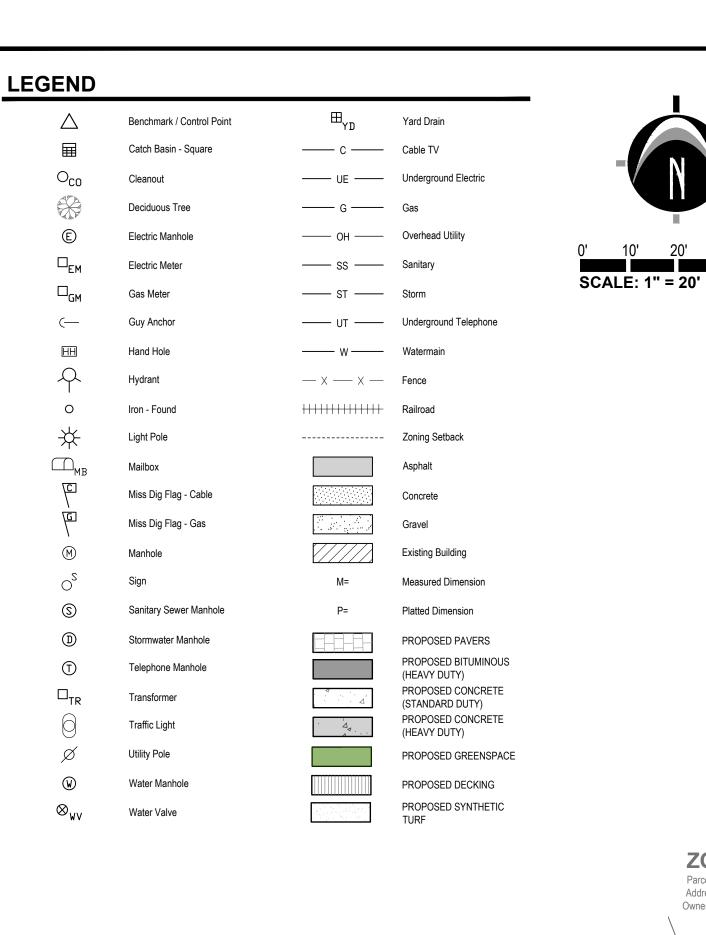
Southtown by 4M, LLC

Marge Poscher

2082 S. State Street

Ann Arbor, MI 48104





**ZONED PL** Parcel #: 09-09-32-400-002 Address: 500 E Stadium Blv

Owner: University of Michigan

#### SITE NOTES

- STORAGE AREAS FOR CONSTRUCTION SHALL NOT INTERFERE WITH FIRE / EMERGENCY SITE ACCESS. 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
- 3. NO CHEMICALS ARE ALLOWED IN STORMWATER FEATURES OR BUFFER ZONES WITH THE FOLLOWING EXCEPTION: INVASIVE SPECIES MAY BE TREATED WITH CHEMICALS BY A CERTIFIED APPLICATOR.
- THE MAINTENANCE OF THE DROP OFF LANE, LOCATED ALONG WHITE STREET, WILL BE THE RESPONSIBILITY OF THE OWNER, INCLUDING SNOW AND ICE REMOVAL.
- 5. FIRE DEPARTMENT REQUIREMENT: THE BUILDING SHALL BE COMPLIANT WITH 2015 IFC 510 EMERGENCY RESPONDER RADIO COVERAGE.
- 6. ANY DAMAGE TO PUBLIC STREETS AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AS DIRECTED BY CITY ENGINEERING.
- 7. IF A CRANE WILL BE USED IN THE RIGHT OF WAY, THE CONTRACTOR SHALL OBTAIN A TEMPORARY LICENSE AGREEMENT FROM THE CITY AS NEEDED.
- 8. A LOGISTICS PLAN MUST BE SUBMITTED TO THE CITY FOR REVIEW IF ANY LONG TERM LANE CLOSURE OR SIDEWALK CLOSURE IS ANTICIPATED.
- 9. NO PART OF STAIRS SHALL BE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY.
- 10. ELECTRIC TRANSFORMER SHALL NOT BE LOCATED IN THE PUBLIC RIGHT-OF-WAY.
- 11. PAVERS SHALL NOT BE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY.

## **ADA ACCESSIBILITY NOTES**

- 1. ALL HANDICAPPED PARKING SPACES AND ACCESS AISLES ADJACENT TO THE HANDICAP PARKING SPACES SHALL HAVE A MAXIMUM OF 2% SLOPE IN ALL DIRECTIONS (THIS INCLUDES RUNNING SLOPE AND CROSS SLOPE).
- 2. AN ACCESSIBLE ROUTE FROM THE PUBLIC STREET OR SIDEWALK TO THE BUILDING ENTRANCE MUST BE PROVIDED. THIS ACCESSIBLE ROUTE SHALL BE A MINIMUM OF 60" WIDE. THE RUNNING SLOPE OF AN ACCESSIBLE ROUTE SHALL NOT EXCEED 5% AND THE CROSS SLOPE SHALL NOT EXCEED 2%.
- 3. SLOPES EXCEEDING 5% BUT LESS THAN 8% WILL REQUIRE A RAMP AND MUST CONFORM TO THE REQUIREMENTS FOR RAMP DESIGN (HANDRAILS, CURBS, LANDINGS). NO RAMP SHALL EXCEED AN 8% RUNNING SLOPE OR 2% CROSS SLOPE. IF THE SIDEWALK IS ADJACENT TO THE STREET, THE SIDEWALK GRADE MAY BE EQUAL TO THE GRADE OF THE STREET AND NOT BE CONSIDERED A RAMP.
- 4. IN THE CASE THAT A NEW SIDEWALK WILL BE CONSTRUCTED IN THE RIGHT OF WAY THE RUNNING SLOPE OF THE SIDEWALK SHALL NOT EXCEED 5% AND THE CROSS SLOPE SHALL NOT EXCEED 2%. THIS STANDARD APPLIES TO CROSS WALKS IN THE DRIVEWAY AS WELL AND WILL REQUIRE SPECIAL ATTENTION DURING STAKING TO MAKE SURE THE 2% CROSS SLOPE IS MET IN THE CROSS WALK. IF THE SIDEWALK IS ADJACENT TO THE STREET, THE SIDEWALK GRADE MAY BE EQUAL TO THE GRADE OF THE STREET AND NOT BE CONSIDERED A RAMP.
- 5. IT WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENSURE THAT THE HANDICAP PARKING SPACES, ACCESSIBLE ROUTES, AND SIDEWALKS/CROSSWALKS ARE CONSTRUCTED TO MEET ADA REQUIREMENTS.
- 6. ANY REQUIREMENTS LISTED ABOVE THAT CAN NOT BE MET SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ANYTHING NOT BUILT TO THE ABOVE STANDARDS WILL REQUIRE REMOVAL AND REPLACEMENT OF THE NON COMPLIANT AREAS AT THE GENERAL CONTRACTORS COST.
- 7. LEAD RAMPS SHALL CONNECT PERPENDICULAR TO THE SIDEWALK AND SHALL BE ADA COMPLIANT.

#### **SOLID WASTE NARRATIVE**

A TOTAL OF TWO (2) DUMPSTERS (1 FOR TRASH [8-YARD] AND 1 FOR RECYCLING [8-YARD]) WILL BE USED TO SERVICE THE SOUTHTOWN DEVELOPMENT. THE DUMPSTERS WILL BE LOCATED WITHIN A DOUBLE BIN ENCLOSURE AT THE NORTH END OF THE BUILDING. ACCESS TO THE ENCLOSURE WILL BE MADE FROM HENRY STREET AND ALL ACCESS CLEARANCES OUTLINED IN THE CITY OF ANN ARBOR SOLID WASTE STANDARDS ARE MET. IT IS ANTICIPATED THAT ONE (1) TRASH PICKUP BY THE CITY AND SIX (6) ADDITIONAL TRASH PICKUPS BY WASTE MANAGEMENT (AT THE PROPERTY OWNER'S EXPENSE) WILL BE REQUIRED PER WEEK. THE PROPERTY OWNER IS RESPONSIBLE FOR MANAGING SOLID WASTE ON-SITE. IT IS ALSO ANTICIPATED THAT TWO (2) RECYCLING PICKUPS BY THE CITY WILL BE REQUIRED (SEE SOLID WASTE CALCULATIONS BELOW).

#### SOLID WASTE CALCULATIONS:

PER ANN ARBOR'S SOLID WASTE RESOURCES MANAGEMENT PLAN FROM AUGUST 2019, WE USED A FACTOR OF 3.3 LBS OF SOLID WASTE PER PERSON PER DAY. OF THAT, APPROXIMATELY 80% IS TRASH AND 20% IS RECYCLED SOLID WASTE ACCORDING TO THE RESIDENTIAL SECTOR. WITH A TOTAL OF 216 UNITS (53 STUDIOS, 89 TWO BEDS, 74 TWO BEDS) FOR APPROXIMATELY 580 OCCUPANTS. THIS WOULD ACCOUNT FOR APPROXIMATELY 1500 POUNDS OF TRASH AND APPROXIMATELY 380 POUNDS OF RECYCLING PER DAY. THE 8-YARD DUMPSTERS CAN EACH HANDLE 1600 POUNDS AND WOULD ADEQUATELY SERVICE THE BUILDING LOAD.



800.222.1868 **ANN ARBOR** 3037 Miller Rd. Ann Arbor, MI 48103

Experience . . . the Difference

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Phone: 734.929.6963

PREPARED FOR:

Southtown by 4M, LLC Marge Poscher

> 2082 S. State Street Ann Arbor, MI 48104

**REVISIONS:** 

Title: Site Plan Submittal Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022 Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023

Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023 Title: Revised Layout Plan Drawn: WL/TG Checked: BC/JVR Date: 05.10.2023

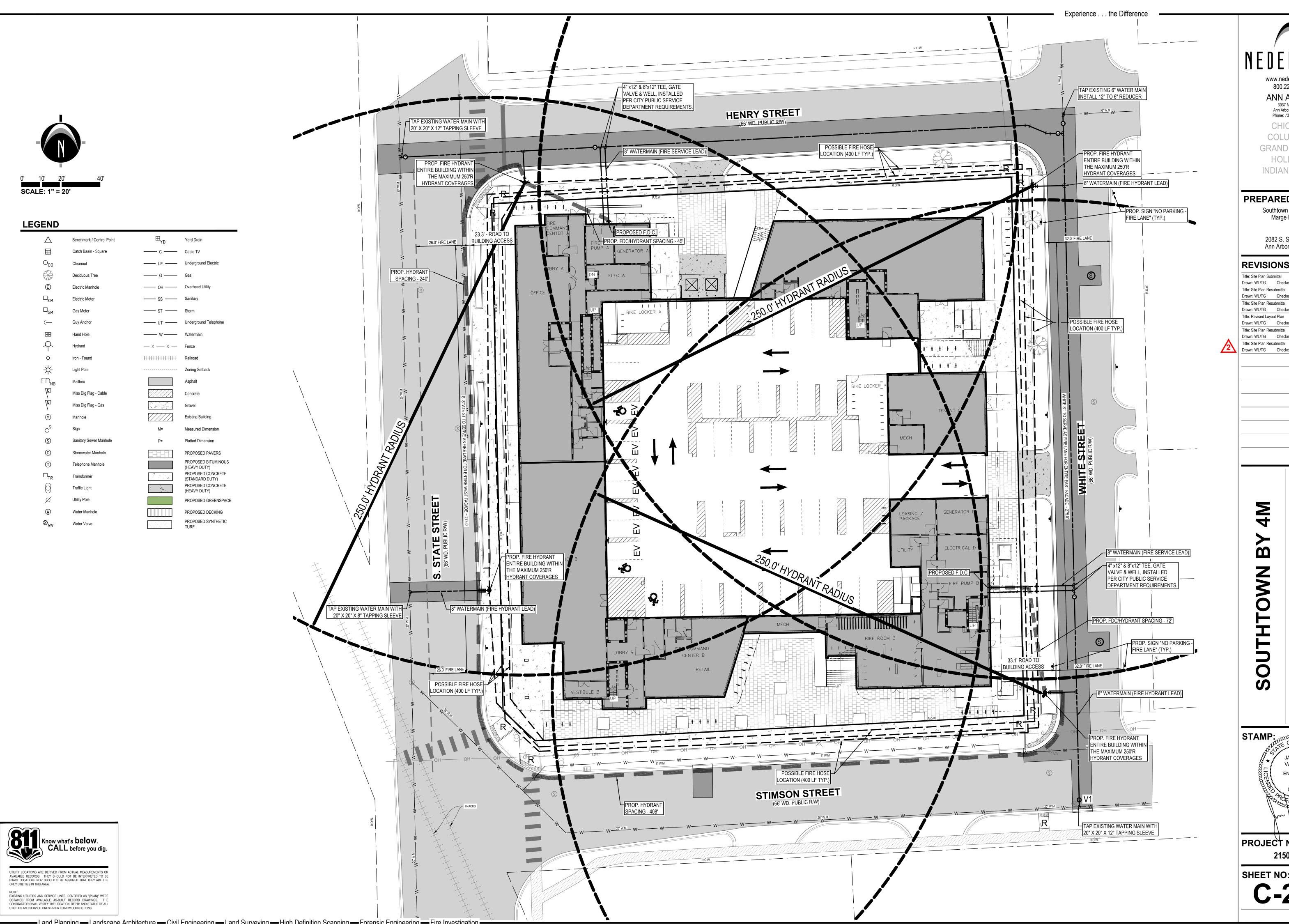
Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 05.25.2023

Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 06.13.2023

JASON L. VAN RYN **ENGINEER** 

Site Block surr

PROJECT NO: 21500282



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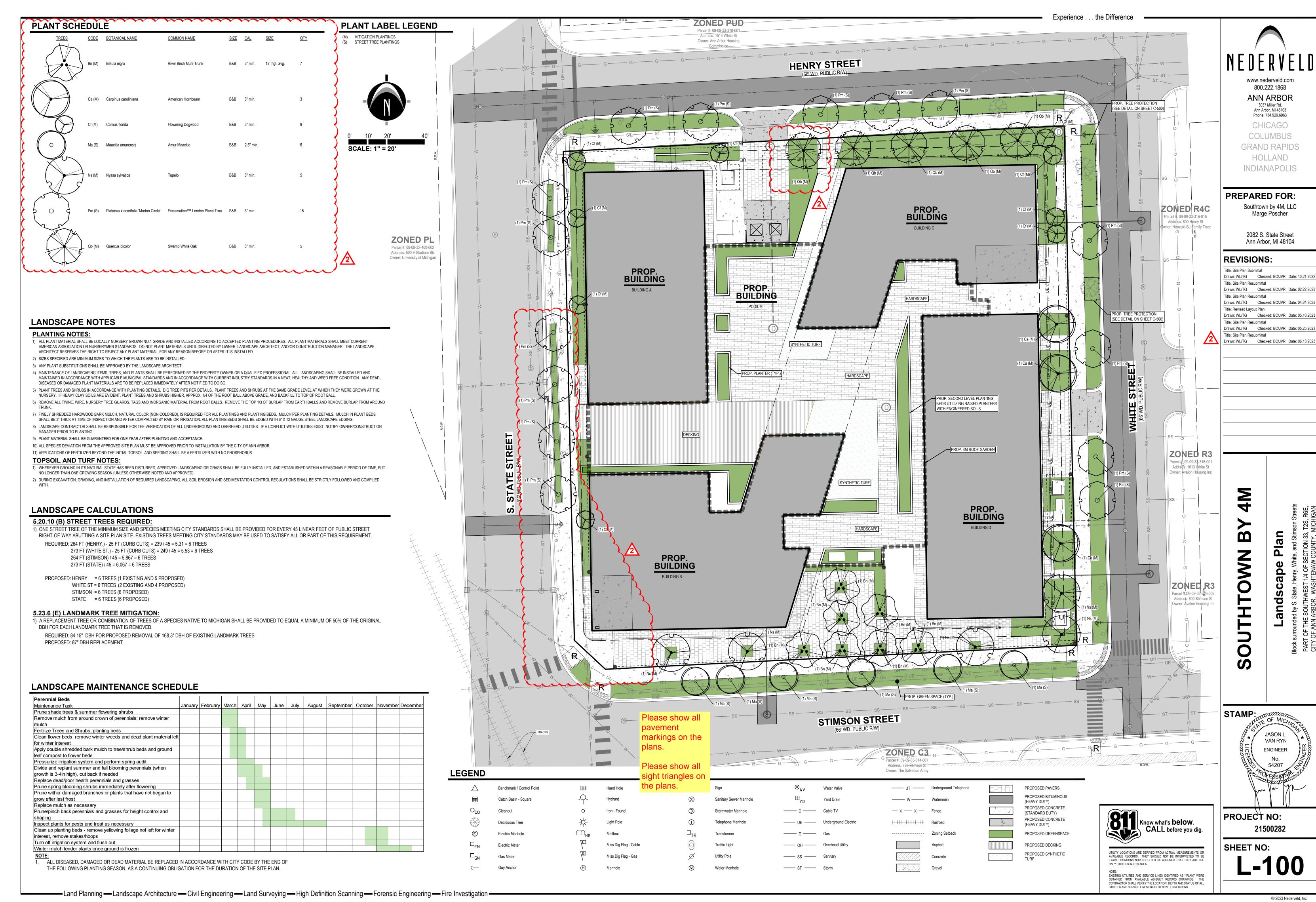
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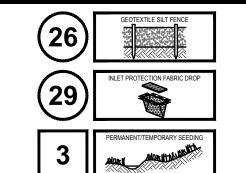
JASON L. VAN RYN **ENGINEER** 

PROJECT NO: 21500282



#### SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- 1) CONTRACTOR SHALL POSSESS THE SOIL EROSION AND SEDIMENTATION CONTROL PERMIT PRIOR TO START OF ANY EARTH WORK.
- 2) CONTRACTOR SHALL MODIFY THIS SOIL EROSION AND SEDIMENTATION CONTROL PLAN TO SHOW THE ADDITIONAL CONTROL MEASURES INTENDED TO BE USED DURING CONSTRUCTION. SUBMIT MODIFICATIONS TO THE
- CONTROLLING AGENCY, THE OWNER, AND THE ENGINEER. 3) EROSION PROTECTION SHALL BE PROVIDED AT ALL STORM SEWER INLETS
- AND OUTLETS. ALL BARE EARTH SHALL BE STABILIZED WITH SEEDING. 4) REFER TO THE M.D.O.T. "SOIL EROSION AND SEDIMENTATION CONTROL
- MANUAL" (APRIL 2006) FOR ADDITIONAL INFORMATION 5) THE ENTIRE STORM SEWER SYSTEM SHALL BE CLEANED AND FLUSHED FOLLOWING CONSTRUCTION AND PAID RECEIPT THEREOF PROVIDED TO THE ENGINEER AND COUNTY SESC AGENT PRIOR TO FINAL PAYMENT TO THE CONTRACTOR OR FINAL ACCEPTANCE OF THE CONSTRUCTION BY THE
- 6) THE CONTRACTOR SHALL BE RESPONSIBLE TO INSPECT, TAKE CORRECTIVE ACTION AND MAINTAIN ALL TEMPORARY SESC MEASURES DAILY AND AFTER EACH RAIN EVENT UNIT FINAL COMPLETION AND ACCEPTANCE OF THE

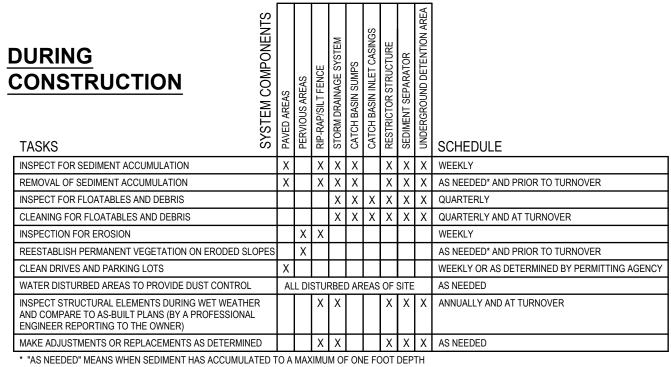


### **GRADING NOTES:**

- ALL PROPOSED PAVING AND GRADING IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF 8. BEST MANAGEMENT PRACTICES WILL BE UTILIZED ANN ARBOR ENGINEERING DESIGN STANDARDS.
- 2. CONTRACTOR SHALL REFERENCE AND ABIDE BY THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL EVALUATION PREPARED BY G2 CONSULTING, PROJECT NO. 223573, DATED OCTOBER
- 3. ESTABLISH PERMANENT BENCH MARK ON-SITE PRIOR 9. UTILITIES SHOWN ARE APPROXIMATE LOCATIONS TO GRADING.
- 4. PROPOSED SPOT GRADES ARE TO BOTTOM OF CURB UNLESS OTHERWISE NOTED. 5. EXISTING AND PROPOSED GRADE CONTOURS SHOWN
- AT 1 FOOT INTERVALS. 6. THE EARTHWORK FOR ALL BUILDING FOUNDATIONS GEOTECHNICAL REPORT AND ARCHITECTURAL
- BUILDING PLANS AND SPECIFICATIONS. 7. CONTRACTOR IS RESPONSIBLE FOR UNDERCUTTING EXISTING POOR SOIL AND REPLACING WITH APPROVED FILL. IF POOR SOIL IS ENCOUNTERED THE
- PRIOR TO MAKING ANY SOIL CORRECTIONS & SHALL PROVIDE UNIT COSTS IN THEIR BID FOR SUCH WORK. DURING AND AFTER CONSTRUCTION OF THE PROJECT. MEASURES WILL INCLUDE THE USE OF SEEDING AND MULCHING, SEDIMENT INLET FILTERS, COMPACTION AND PAVING. THE OWNER OF THE SUBJECT PARCEL SHALL HAVE THE RESPONSIBILITY TO MAINTAIN THE PERMANENT SOIL EROSION PROTECTION MEASURES.
- DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.
- 10. CONTRACTOR TO FIELD VERIFY ALL INVERTS PRIOR TO START OF CONSTRUCTION.
- AND SLABS SHALL BE IN ACCORDANCE WITH THE

  11. CURBING AND FIRST COARSE OF ASPHALT NEEDS TO BE COMPLETED PRIOR TO VERTICAL CONSTRUCTION. 12. VERTICAL CONSTRUCTION CANNOT BEGIN UNTIL UNTIL
- GENERAL CONTRACTOR SHALL NOTIFY THE OWNER

#### MAINTENANCE TASKS & SCHEDULE



PERMANENT LONG-TERM MAINTENANCE	SYSIEM COMPONENIS	S	REAS	/EYANCE SYSTEM	N SUMPS	CATCH BASIN INLET CASINGS	HYDRODYNAMIC SEPARATOR	UNDERGROUND DETENTION AREA	CONTROL STRUCTURE	RESPONSIBL FOR MAINTE SOUTHTOW (OWNE	ENANCE: /N BY 4M
MAINTENANCE ACTIVITIES	SYSIEM	PAVED AREAS	PERVIOUS AREAS	STORM CONVEYANCE	CATCH BASIN SUMPS	CATCH BASIN	HYDRODYNA	UNDERGROU	OUTLET CON	SCHEDULE	BUDGET
INSPECT FOR SEDIMENT ACCUMULATION		Χ		Χ	Χ		Χ	Χ	Х	SEMI-ANNUALLY/AS NEEDED*	\$250.00
REMOVAL OF SEDIMENT ACCUMULATION		Χ		Χ	Χ		Χ	Χ	Χ	ANNUALLY/AS NEEDED*	\$750.00
INSPECT FOR FLOATABLES AND DEBRIS				Χ	Х	Χ	Χ	Χ	Х	ANNUALLY	\$150.00
CLEANING FOR FLOATABLES AND DEBRIS				Χ	Χ	Χ	Χ	Χ	Χ	ANNUALLY	\$300.00
INSPECTION FOR EROSION			Χ							SEMI-ANNUALLY	\$100.00
CLEAN DRIVES AND PARKING LOTS		Χ								ANNUALLY	\$250.00
INSPECT STRUCTURAL ELEMENTS DURING WET WEATHER AND COMPARE TO AS-BUILT PLANS (BY A PROFESSIONAL ENGINEER REPORTING TO THE OWNER)				Χ			Х	Χ	Х	ANNUALLY	\$500.00
INSPECT INFILTRATION AREA FOLLOWING RAIN EVENTS OF 1 INCH OR MORE								Χ		AS NEEDED	\$500.00
MAKE ADJUSTMENTS OR REPLACEMENTS AS DETERMINED BY ANNUAL WET WEATHER INSPECTION				Χ			Χ	Χ	Х	AS NEEDED	\$500.00
KEEP RECORDS OF ALL INSPECTIONS AND MAINTENANCE ${\it A}$ PROPERTY OWNER	\CTĪ\	/ITĪE	ES Ā	ND	REP	ORT	TO			ANNUALLY	
KEEP RECORDS OF ALL COSTS FOR INSPECTIONS, MAINTEI PROPERTY OWNER	NAN	CE A	AND	REP	AIRS	6. R	EPO	RT T	0	ANNUALLY	
PROPERTY OWNER REVIEWS COST EFFECTIVENESS OF TH PROGRAM AND MAKES NECESSARY ADJUSTMENTS	E PR	EVE	NTA	ATIV	E MA	AINT	ENAI	NCE		ANNUALLY	
OWNER TO HAVE A PROFESSIONAL ENGINEER CARRY OUT	EME	RGI	ENC	Y IN	SPE	CTIC	NS (	JPO	N	AS NEEDED	\$500.00

\* "AS NEEDED" MEANS INSPECTION AFTER EVERY STORM THAT TOTALS 1-INCH OF RAINFALL OR MORE. AND REMOVAL OF SEDIMENT WHEN

SEDIMENT HAS ACCUMULATED TO A MAXIMUM OF ONE FOOT DEPTH.

THE STORM WATER MANAGEMENT SYSTEM IS

**LEGEND** 

Benchmark / Control Point

Catch Basin - Square

Electric Manhole

1 MATCHEX.

Gas Meter

Guy Anchor

Light Pole

Mailbox

Miss Dig Flag - Cable

Sanitary Sewer Manhole

Stormwater Manhole

Telephone Manhole

Water Manhole

HENRY STREET

842.50 MATCH EX. 842.28(8)	842.33(TC) 842.54(C) 842.71(C) 842.71(C) 842.71(C)	%0.5°	840.51(C) 841.12(C) 841.09(C)	39.82(C) 44.	837.83(c) 837.71(c) 837.71(c) 837.83(c) 837.71(c) 837.83(c) 837.83	337.72(B) 337.57(TC)	SCALE: 1" = 2
842.10(B) 842.0 842.0	8(TC) R 19(C) 842.68(C) 842.68(C) 842.84(C) 842.84(C)	84\83(C)	0		DEWALK CROSS SLOPE SHALL NOT EXCEED 1.5%	32 <sup>5</sup> 837.86(B)	 
842.69(TC MATCH EX. ) 42.19(C) 842.35 MATCH EX. 4842.35 MATCH EX. 1.5%	842-78(C) 842-78(C) 842-78(C) 841-78(C) 841-78	00(C) 64(93(C)) 50(C) 4 841.26(C)	% 841.50(C) 841.50(C)		838.63(C)	83823(TC)	
		841.09(Ç)	1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		1.5%	28	
	B	PROP BUILDING	841 24(C)	PROP. BUILDING	338.61(C) 1.1%	4.4% 837.84(B) 837.65 MATCH EX.	
		PODIUM FFE = 841.50 841.50(C)		PODIUM FFE = 841.50	170/	3	
SECTION B-B SEE DETAIL ON SHEET C-501 842.64(TC MATCH EX.)	M 842.85(C)	,841.50(C)	(C) 841.36(C)		838.77(¢) 838.50(C)	*838.38(cm) PROPOSED LIM	ITS OF DISTURBANCE (± 2
	PROP. BUILDING					837.62 MATCH EX.	
26	PODIUM FFE = 843.00				841.50(C),	838.06(TC)	
842.41(TC MATCH EX	842.58(C)				841.50(C) 838.32 4 4	×838.21(C) 26	
PROPOSED LIMITS OF DISTURBANCE (± 2.33 ACRES)					1.8% 39.00(C) 838.68(C)	837.47 MATCH EX.	
842.34(TC MATCH EX.)		€ 2			PROP. BUILDING	8.2% 837.56(B) 837.92(TC)	
29	842.54(C)				PODIUM FFE = 839.00	837.43(B)	
842.25(TC MATCH EX.)	842.45(C)]				838.50(C) 838.02(C) 338.02(C) 348.02(C) 348.02	837.43(B) 837.93(TC) A B B B B B B B B B B B B B B B B B B B	<u> </u>
	1.4%	> □ PR€	P. PARKING	0	2.4% 1.5%	7.9% HHM .99)	
wow line with the state of the	4 842.58(C)		GARAGE  PODIUM FFE = 841.50		838.56(Ç) 838.12(C)		
842.38(TC MATCH EX.)					2.0%	837.26(B) 837.71(TC) 837.13 MATCH EX.	
WE WE WATCH EX.		<b>&gt;</b> ⊞			338.50(¢) –838,17(¢)	838.06(C	
STATE  STATE  1.5  1.5	%	<u>Ш</u>			1.5%	A	
842.41(TC MATCH EX.)  842.06 MATCH EX.					338-50(c) 4 1 1 838 17(C) 838 17(C)	837.48(7C) 836.94 MATCH EX.	<del> </del>
842.04 MATCH EX. 841.97 MATCH EX. 842.40(TC MATCH EX.)	842.62(C)	Q.			338.55(C) 838.17(C)	838.05(C)	
					338.50(0)		
842.33(TC MATCH EX.)	4 842.39(C) 842.07(C)	PROP. BUILDING	840.79(C)	* I	PROP. 838.17(C) 2.0% 1.5	9.1% 836.92(B) 837.33(TC)	
842.37(TC MATCH EX.) 4		PODIUM FFE = 841.50	840.79(C)		PODIUM FFE = 838.50	A OS	R.O.W.
	1.5% 842.09(C)		839,26(C)	- 843	838 50(C)	3 836.61 MATCH EX.	
842.25(TC MATCH EX.)	841.50(C) 841 841.50(C) 841	50(C) 841.50(C) 841.50(C)	39(C) / 8.40.79(C) / 8.	838.99(C)	838.63(C) 636.50(C) 837.39(C) 837.39(C) 838.336(C) 636.50(C)	77.28(C) 837.07(TC)	
842.13(TC MATCH EX.) 841.70 MATCH EX. 841.69 MATCH EX.	841.81(C)	S POW	2839.61(C)	838.83(C)	837.39(C) 838.37(C) 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	836-77(C) 836-77(C) 1.6% 37 836.54(B)	<b>(29</b> )
841.59 MATCH EX.	841.57(C) 4 841.57(C) 4 841.58(C)	841.22(C) 4 4 56 4	840.66(C)  840.65(C)  840.55(C)  840.55(C)	838.71(C)	S 838.26(C) 830 836.92(TC) 836.92(TC) 836.92(TC)	836.68(B) <b>29</b>	
	841.11 MATCH EX. 840.98(TC MATCH EX.)	841.41( <del>0)</del> 3 840.00(TC MATCH EX.) 839.56 MATCH EX.	839.37(TC MATCH EX.) 839.37(TC MATCH EX.) 839.37 MATCH EX.	94(TC MATCHEX.)1	836	6.99 MATCH EX. 836.59 MATCH EX. 836.78 MATCH EX.	Λ
	840.88 MATCH EX SIDEWALK CROSS SLOPE	SHALL NOT EXCEED 1.5%	839.40 MATCHEX STIMSON ST		PROPOSED LIMITS OF DISTURBANCE (± 2.33 ACRES)		
TRACKS		839.58 MATCH EX.	STIMSON ST (66' WD. PUBLIC R	/W)		836.48 MATCH EX.	
SOIL EROSION CONTROL ESTIMATED COST			SECTION A-A SEE DETAIL ON SHEET C-501			R	
ITEM         QUANTITY         UNIT COST         TOTAL COST           Silt fence         1,000         LF         \$2.50         \$2,500	LEGEND	EXISTING CONTOUR	PROP. SANITARY LEAD/CLEAN	IOUT B	ENCHMARK #300 ELEV. = 839.56 (NAVD88) teamer valve on South side of hydrant, located 6' +/- North of back	BENCHMARK #302 ELEV. = 844.30 (NAV) Steamer valve on North side of hydrant, locate	
Mud Mat         60         TN         \$15.00         \$900           Excavation & Fill         3,200         CY         \$4.00         \$12,800		PROP. CONTOUR PROP. SILT FENCE	PROP. STORM SEWER/CATCH PROP. WATER SERVICE W/ STO	BASIN of	f curb and 24' +/- West of catch basin at Northwest corner of Stimsor treet and White Street.	centerline of State Street and 12' +/- North of Slight at Northeast corner of State Street and Si	Stimson Street traffic
Inlet/CB filter         15         EA         \$100.00         \$1,500           Dust Control         1         LS         \$2,000.00         \$2,000           Permanent seed & mulch         10,000         SF         \$0.70         \$7,000		PROP. LIMITS OF DISTURBANCE PROP. PITCH OUT CURB	PROP. DOWNSPOUT  788.00(RIM) × PROP. GRADE ELEV. (RIM)	<b>B</b> Si	ENCHMARK #301 ELEV. = 840.14 (NAVD88) teamer valve on East side of hydrant, located 25' +/- West of enterline of White Street and 15' +/- South of catch basin at	BENCHMARK #303 ELEV. = 843.71 (NAV) Northeast bolt on light pole base, located 15' + 203 and 30' +/- West of centerline of State Stre	/- South of control point
TOTAL COST = \$26,700.00	788.00(B) × 788.00(C) ×	PROP. GRADE ELEV. (BLACKTOP) PROP. GRADE ELEV. (CONCRETE)	788.00(MATCH EX.) × MATCH EXISTING GRADE		outhwest corner of Henry Street and White Street.	Street .	•

Experience . . . the Difference PROPOSED PAVERS PROPOSED BITUMINOUS

PROPOSED CONCRETE

PROPOSED CONCRETE

SCALE: 1" = 20'

PROPOSED LIMITS OF DISTURBANCE (± 2.33 ACRES)

(STANDARD DUTY)

(HEAVY DUTY)

—— SS —— Sanitary

— UT — Underground Telephone

—— ST —— Storm

— X — X — Fence

+++++++++++++ Railroad

Water Valve

Yard Drain

— OH — Overhead Utility

Zoning Setback

Asphalt

Gravel

Existing Building

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CHICAGO COLUMBUS **GRAND RAPIDS** HOLLAND **INDIANAPOLIS** 

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## PREPARED FOR:

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Title: Site Plan Resubmittal

Title: Site Plan Submittal Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022 Title: Site Plan Resubmittal

Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023

Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023 Title: Revised Layout Plan Drawn: WL/TG Checked: BC/JVR Date: 05.10.2023

Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 05.25.2023

Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 06.13.2023

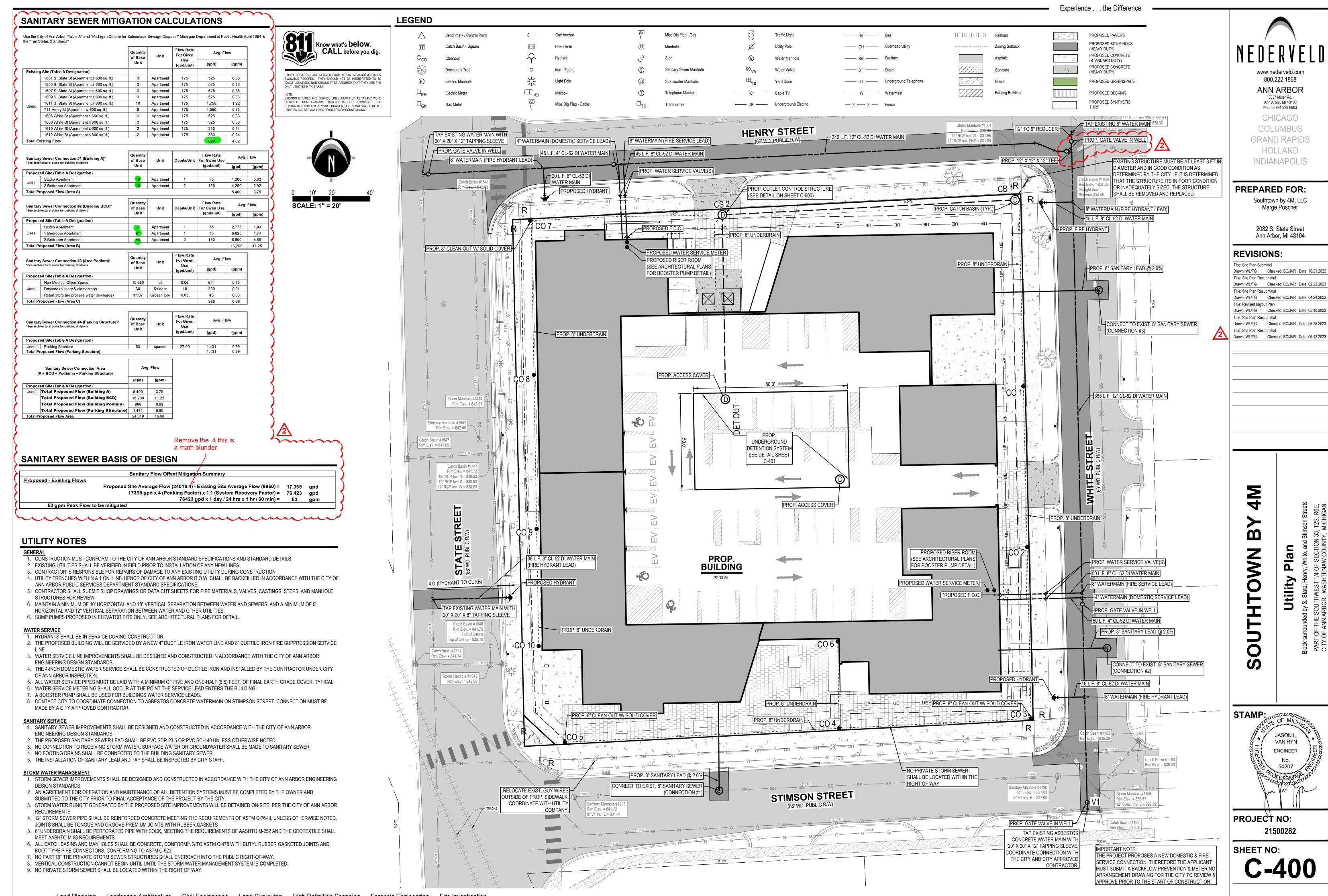
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Plan

JASON L. **ENGINEER** 

PROJECT NO: 21500282



53,006 sf

Total = ∑(C)(Area) = 44,317 Area Total = ∑sf = 53,00€

Total =  $\Sigma(C)(Area) = 691,900$ Area Total =  $\Sigma sf = 9,350$ 

Total =  $\Sigma(C)(Area) = 4,278,288$ 

Weighted C =  $\sum (C)(Area)/\sum sf = 0.84$ 

Weighted C = ∑ (C)(Area)/∑sf = \_\_\_\_\_

 Area (sq. ft)
 Curve Number
 (C) x (Area)

 43,656
 98
 4,278,288

 0
 98
 0

Area Total =  $\sum sf = \frac{43,656}{98}$ Weighted C =  $\sum (C)(Area)/\sum sf = \frac{98}{98}$ 

= 3,693 ft<sup>3</sup>

3.51 in

0.526 in

53,006 ft<sup>2</sup>

2,323 ft<sup>3</sup>

0.526 in

9,350 ft<sup>2</sup>

2.122 in

43,656 ft<sup>2</sup>

3.51 in

= 3.51 in

410

= 0.20 in

7,719

Soil Group Area (sq. ft) Curve Number (C) x (Area)

Total Drainage Area Excluding "Self-Crediting" BMPs

Rational Method Variables

Pavement: Top of Podium

NRCS Variables (Pervious)

Cover Type Roof & Pavement

Water Surface

Cover Type Open Space: lawns & planting beds

Open Space: lawns & planting beds

Open Space: lawns & planting beds

Volume of 1 inch rain over total site area

B. Curve Number (CN) (Cover Description: Meadow, Good, Hydrologic Soil Group C)

Pervious Cover Post-Development Bankfull Runoff Calculations (Vbf-per-p

Impervious Cover Post-Development Bankfull Runoff Calculations (V<sub>bf-imp-post</sub>)

Pervious Cover Post-Development 100-year Storm Runoff Calculations (V<sub>100-</sub>

 $V_{\rm ff} = (1'') \left( \frac{1'}{12''} \right) \left( \frac{43560 \text{ ft}^2}{1 \text{ ac}} \right) \times A \times C$ 

A. 2-year / 24 hour storm event = F

C. S = 1000/CN - 10

E. Total Site Area

B. Curve Number (CN)

**D.** Q =  $(P-0.2S)^2/(P+0.8S)^2$ 

B. Curve Number (CN)

**D.** Q =  $(P-0.2S)^2/(P+0.8S)^2$ 

B, Curve Number (CN)

/6 C. S = 1000/CN - 10

E. Impervious Cover Area

N5 C.S=1000/CN-10

E. Pervious Cover Area

F. V<sub>bf-per-post</sub> = Q(1/12)(site area)

A. 2-year / 24 hour storm event = F

A. 100-year / 24 hour storm event = P

F. V<sub>bf-imp-post</sub> = Q(1/12)(proposed impervious area)

B. Determine Onsite Infiltration Requirement

H.G. ELEVATION | F.G. ELEVATION | INVERT ELEV.

END

END

838.49 842.50

836.56 842.70

 1.8
 0.9
 835.24
 835.05
 838.40
 838.30
 834.89
 834.70

LOWER UPPER LOWER UPPER LOWER

832.83 840.85 838.30 833.35 831.83

UPPER

END

839.35

838.94

838.65

838.45

837.63

836.98

835.53

835.38

834.92

834.35

832.83

4.5 0.6

Bankfull Volume Difference (V<sub>bf-post</sub> - V<sub>bf-pre</sub>)

C. S = 1000/CN - 10

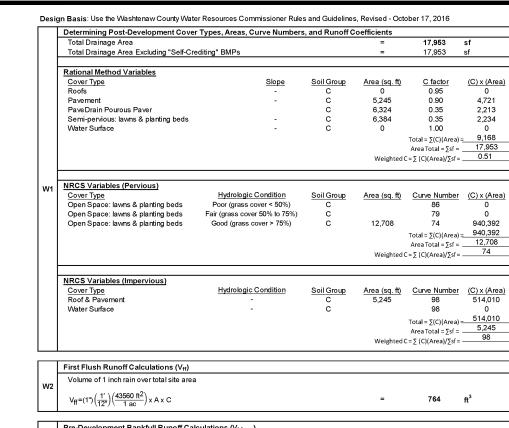
**D.**  $Q = (P-0.2S)^2/(P+0.8S)$ 

F. V<sub>bf-pre</sub> = Q(1/12)(site area)

A. 2-year / 24 hour storm event = F

Poor (grass cover < 50%)
Fair (grass cover 50% to 75%)

## **STORM WATER MANAGEMENT CALCULATIONS (SITE)**



W2	volume of 1 inch rain over total site area		
•••	$V_{\text{ff}} = (1") \left(\frac{1'}{12"}\right) \left(\frac{43560 \text{ ft}^2}{1 \text{ ac}}\right) \times A \times C$	=	764
	Pre-Development Bankfull Runoff Calculations (V <sub>bf-pre</sub> )		
	A. 2-year / 24 hour storm event = P	=	2.35
	B. Curve Number (CN) (Cover Description: Meadow, Good, Hydrologic Soil Group C)	=	74
W3	C. S = 1000/CN - 10	=	3.51
	<b>D.</b> Q = $(P-0.2S)^2/(P+0.8S)$	=	0.526
	E. Total Site Area	=	17,953
	F. $V_{bf-pre} = Q(1/12)$ (site area)	=	787
	Pervious Cover Post-Development Bankfull Runoff Calculations (V <sub>bf-per-post</sub> )		
	A. 2-year / 24 hour storm event = P	=	2.35
	B. Curve Number (CN)	=	74
W4	C. S = 1000/CN - 10	=	3.51

	D. Q = $(P-0.2S)^2/(P+0.8S)$	=	0.526	in
	E. Pervious Cover Area	=	12,708	ft <sup>2</sup>
	F. V <sub>bf-per-post</sub> = Q(1/12)(site area)	=	557	ft <sup>3</sup>
	Impervious Cover Post-Development Bankfull Runoff Calculations (V <sub>bf-imp-post</sub> )			
	A. 2-year / 24 hour storm event = P	=	2.35	in
	B. Curve Number (CN)	=	98	
W5	C. S = 1000/CN - 10	=	0.20	in
	D. Q = $(P-0.2S)^2/(P+0.8S)$	=	2.122	in
	E. Impervious Cover Area	=	5,245	ft²
	F. V <sub>bf-imp-post</sub> = Q(1/12)(proposed impervious area)	=	927	ft <sup>3</sup>
		, and the second		
	Pervious Cover Post-Development 100-year Storm Runoff Calculations (V <sub>100-per-post</sub> )			
	A. 100-year / 24 hour storm event = P	=	5.11	in
1	B. Curve Number (CN)	_	74	

	B. Curve Number (CN)	=	74	
W6	C. S = 1000/CN - 10	=	3.51	in
	<b>D.</b> $Q_{100\text{-per}} = (P-0.2S)^2/(P+0.8S)$	=	2.452	in
	E. Pervious Cover Area	=	12,708	ft <sup>2</sup>
	F. V <sub>100-per-post</sub> = Q(1/12)(proposed impervious area)	=	2,597	ft <sup>3</sup>
	Impervious Cover Post-Development 100-year Storm Runoff Calculations (V <sub>100-imp-pe</sub>	st)		
	A. 100-year / 24 hour storm event = P	=	5.11	in
	B. Curve Number (CN)	=	98	
W7	C. S = 1000/CN - 10	=	0.20	in
	<b>D.</b> $Q_{100\text{-post}} = (P-0.2S)^2/(P+0.8S)$	=	4.873	in
	E. Impervious Cover Area	=	5,245	ft <sup>2</sup>
	F. V <sub>100-imp-post</sub> = Q(1/12)(proposed impervious area)	=	2,130	ft <sup>3</sup>
	Determine Time of Concentration for Applicable Flow Types (T <sub>c-hrs</sub> )			
	Change In			

	Flow Type	ĸ	Elevation	Length (L)	Slope % (S)	S <sup>0.5</sup>	$V = K*S^{0.5}$	L/(V*3
[	Sheet Flow	0.48	0	0	0.00	0.00	0.00	0.0
W8	Sheet Flow	0.48	0	0	0.00	0.00	0.00	0.0
	Waterway	1.2	0	0	0.00	0.00	0.00	0.0
	Small Tributary	2.1	-	-	-	-	-	0.0
Ī	Total Time of Concentr	ation (T <sub>c-hrs</sub> )				-	0.25	hı
	Runoff Summary and	Onsite Infiltration	n Requirement					
	Runoff Summary and	Onsite Infiltration	n Requirement					
•	A. Runoff Summary fro	m Previous Work	sheets					-
	A. Runoff Summary fro Total Post-Developr	m Previous Work nent Bankfull Vol	sheets			=	1,484	ft <sup>3</sup>
W9	A. Runoff Summary fro	m Previous Work nent Bankfull Vol	sheets			= =	1,484 4,727	ft <sup>3</sup>
w9	A. Runoff Summary fro Total Post-Developr	m Previous Work ment Bankfull Vol me (V <sub>100</sub> )	sheets ume (V <sub>bf-post</sub> )			= =	•	
W9	A. Runoff Summary fro Total Post-Developr Total 100-year Volu	m Previous Work ment Bankfull Vol me (V <sub>100</sub> ) filtration Require	sheets ume (V <sub>bf-post</sub> ) ment			= =	•	

	Runo	ff Ave. Design	Infiltration	Т
	Determine Applicable BMPs and Associated Volume Credits			
	$F. V_{det} = \left(\frac{\Delta}{PF} \times V_{100}\right)$	=	4,644	ft <sup>3</sup>
	E. Δ = PF - 0.15*(area)	=	3.45	ft <sup>3</sup> /s
	D. Peak Flow (PF) = $\left(\frac{Q_p \times Q_{100} \times Area (ac)}{640}\right)$	=	3.51	ft <sup>3</sup> /s
W10	<b>C.</b> $Q_{100} = Q_{100\text{-per}} + Q_{100\text{-imp}}$	=	7.33	in
	B. Total Site Area (ac) excluding "Self-Crediting" BMPs	=	0.41	acres
	<b>A</b> . Peak of Unit Hydrograph = $Q_p = 238.6T_c^{-0.82}$	=	743.63	cfs/in
	Detention/Retention Requirement			
	Onsite Infiltration Requirement = Greater of Bankfull Volume Difference and First Flush	Volume = (V <sub>inf</sub> ) =	764	ft <sup>3</sup>
	Bankfull Volume Difference (V <sub>bf-post</sub> - V <sub>bf-pre</sub> )	=	698	ft <sup>3</sup>

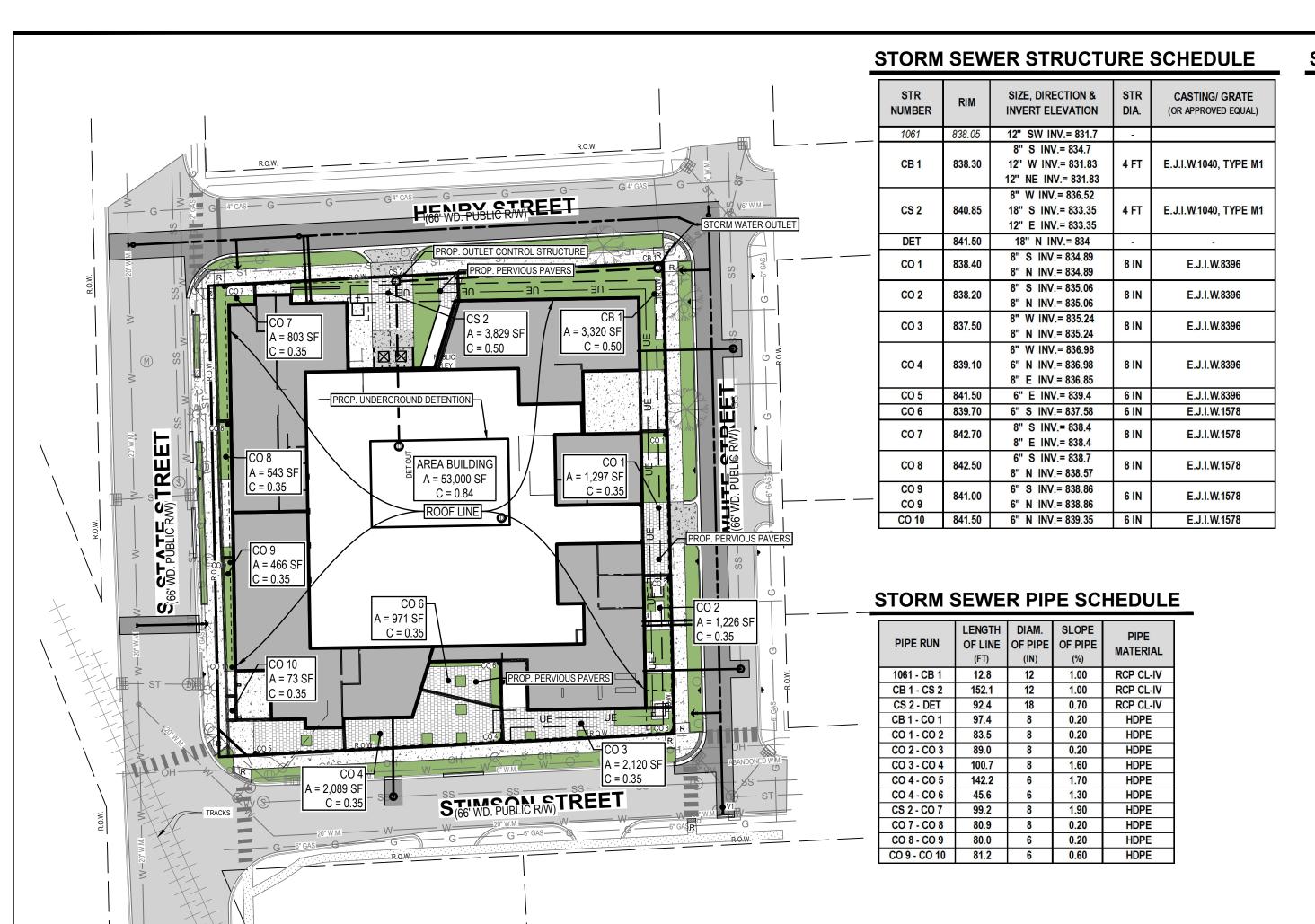
٦	Determine Applicable BMPs and Assoc	iated Volume	Credits				
	Proposed BMP	Area (ft²)	Runoff Storage Volume (ft <sup>3</sup> )		Ave. Design Infiltration Rate	Infiltration Volume During Storm	Total Volume Reduction
1			Surface	Soil	(in/hr)	(ft <sup>3</sup> )	(ft <sup>3</sup> )
1	Porous Pavement w/infiltration Bed Infiltration Basin Subsuface Infiltration Bed Infiltration Trench Rain Garden Dry Well Bioswale Vegetated Filter Strip Green Roof	6,324	527	3,162	5	15,810	19,499
ı		Tot	al Volume Reduc	tion Credit by Pr	oposed Structura	al BMPs (ft <sup>3</sup> ) =	19,499
ı			Runoff Volume In	filtration Require	ment (V <sub>inf</sub> ) from \	Vorksheet 9 =	764
	Tot	al Designed/F	Provided Infiltrat	ion Volume fro	m Building and	Site BMPs =	21,652
	Natural Features Inventory						
	Existing Natural Reasources		Mapped (yes, no, n/a)	Total A	rea (ac)	Protected/Ui Area	

- 1	Natural Features Inventory								
	Existing Natural Reasources	Mapped	Total Area (ac)	Protected/U					
		(yes, no, n/a)	,	Area	(ac)				
- 1	Waterbodies	no							
	Floodplains	no							
	Riparian Areas	no							
V12	Wetlands	no							
	Woodlands	no							
	Natural Drainage Area	no							
	Steep Slopes, 15%-25%	no							
	Steep Slopes, over 25%	no							
	Special Habitat Areas	no							
	TOTAL EXISTING (ac)								

	Steep Slopes, 15%-25%	no	1			
	Steep Slopes, over 25%	no				
	Special Habitat Areas	no				
	TOTAL EXISTING (ac)					
	Site Summary of Infiltration & Detention					
	A. Stormwater Management Summary					
	Minimum Onsite Infiltration Requirement (Vinf)		=	764	ft <sup>3</sup>	
	Total Designed/Provided Infiltration Volume from Bui	=	15,810	ft <sup>3</sup>		
	% Minimum Required Infiltration Provided	=	2,069.3	%		
V13	Total Calculated Detention Volume, V <sub>det</sub>	=	4,644	ft <sup>3</sup>		
* 10	Net Required Detention Volume (V <sub>det</sub> - Designed/Pro	=	(17,009)	ft <sup>3</sup>		
	B. Detention Volume Increase for site if required infiltrat	tion volume not ac	hieved			
	% Required Infiltration NOT provided (100% - % Minimun	ion Provided)	=	0.0	%	
	Net % Penalty (20% × % Required Infiltration Not Pro		=	0.0	%	
	Total Required Detention Volume, including penal	lty		=	(17,009)	ft <sup>3</sup>
	[(100% + Net % Penalty) × Net Required Detention V	/olume)]			No Detention	Required
	· · · · · · · · · · · · · · · · · · ·					

6,858 ft<sup>3</sup>

THE PROPOSED PROJECT CONSISTS OF 2 SEPARATE DRAINAGE DESIGNS REQUIRING 2 SEPARATE STORM WATER MANAGEMENT CALCULATIONS, 1 FOR THE PROPOSED BUILDING ROOF



**D.**  $Q_{100-per} = (P-0.2S)^2/(P+0.8S)$ 2.452 in E. Pervious Cover Area 9,350 ft<sup>2</sup> F. V<sub>100-per-post</sub> = Q(1/12)(proposed impervious area) 1,911 ft<sup>3</sup> Impervious Cover Post-Development 100-year Storm Runoff Calculations ( A. 100-year / 24 hour storm event = F B. Curve Number (CN) C. S = 1000/CN - 10 = 0.20 in **D.**  $Q_{100\text{-post}} = (P-0.2S)^2/(P+0.8S)$ = 4.873 in E. Impervious Cover Area 43,656 ft<sup>2</sup> F. V<sub>100-imp-post</sub> = Q(1/12)(proposed impervious are 17.728 ft<sup>3</sup>

eet Flow	0.48	0	•				L/(V*3600)
		U	0	0.00	0.00	0.00	0.00
neet Flow	0.48	0	0	0.00	0.00	0.00	0.00
aterway	1.2	0	0	0.00	0.00	0.00	0.00
nall Tributary	2.1	-	-	-	-	-	0.00
tal Time of Concentra	ation (T <sub>c-hrs</sub> )				=	0.25	hrs
	aterway nall Tributary	aterway 1.2	aterway 1.2 0 nall Tributary 2.1 -	aterway 1.2 0 0 nall Tributary 2.1	aterway 1.2 0 0 0.00 nall Tributary 2.1	aterway 1.2 0 0 0.00 0.00 all Tributary 2.1	aterway 1.2 0 0 0.00 0.00 0.00 all Tributary 2.1

 $X_0 = 833.35$ 19,639 ft<sup>3</sup>  $X_{bf} = 836.00$ 5,806 ft<sup>3</sup> 5,806 ft<sup>3</sup>

Detention/Retention Requirement

C. Q<sub>100</sub> = Q<sub>100-per</sub> + Q<sub>100-imp</sub>

E. Δ = PF - 0.15\*(area)

F.  $V_{det} = \left(\frac{\Delta}{PF} \times V_{100}\right)$ 

Proposed BMP

Rain Garden

Dry Well Bioswale

A. Peak of Unit Hydrograph = Q<sub>0</sub> = 238.6T

D. Peak Flow (PF) =  $\left(\frac{Q_p \times Q_{100} \times Area}{C_{100}}\right)$ 

Porous Pavement w/Infiltration Bed

Subsuface Infiltration Bed

Vegetated Filter Strip

Green Roof (Level 6)

Green Roof (Level 8)

Natural Features Inventory

Natural Drainage Area

Steep Slopes, 15%-25% Steep Slopes, over 25%

Special Habitat Areas
TOTAL EXISTING (ac)

Site Summary of Infiltration & Detention

Minimum Onsite Infiltration Requirement (Vint)

% Minimum Required Infiltration Provided

Total Calculated Detention Volume, V<sub>det</sub>

Detention Area (ft<sup>2</sup>) = 4,000

Bottom of Storage = 834.00

Total Designed/Provided Infiltration Volume from Building and Site BMPs

Net Required Detention Volume (V<sub>det</sub> - Designed/Provided Infiltration Volume)

% Required Infiltration NOT provided (100% - % Minimum Required Infiltration Provided)

Elevation Total Storage Volume

B. Detention Volume Increase for site if required infiltration volume not achieved

Net % Penalty (20% × % Required Infiltration Not Provided)

[(100% + Net % Penalty) × Net Required Detention Volume)]

Floodplains

Existing Natural Reasources

B. Total Site Area (ac) excluding "Self-Crediting" BMPs

Determine Applicable BMPs and Associated Volume Credits

1,850 6,000 800

1.22 acres

7.33 in

10.36 ft<sup>3</sup>/s

10.17 ft<sup>3</sup>/s

19,293 ft<sup>3</sup>

5,806 ft<sup>3</sup>

21,652 ft<sup>3</sup> 372.9 %

17,139 ft<sup>3</sup>

Area (ft²)

Storage Volume (ft³)

Infiltration
Rate
During Storm
Reduction

Total Volume Reduction Credit by Proposed Structural BMPs (ft<sup>3</sup>) =

Total Area (ac)

Total Designed/Provided Infiltration Volume from Building and Site BMPs =

utiet Control Structure			
rifice hole(s) sizing - "first flush" discharge			
Q <sub>ff</sub> = V <sub>ff</sub> / 24 hrs / 3600 sec	Q <sub>ff</sub> =	0.043	ft <sup>3</sup> /s
$n_{ave} = \frac{2}{3} \times (X_{ff} - X_o)$	h <sub>ave</sub> =	1.033	ft
$A = Q_{ff} / .62 \times sqrt(2 \times 32.2 \times h_{ave})$	A =	0.0085	$\mathrm{ft}^2$
Area of an orifice with diameter (in) = 1 1/8		0.0069	$ft^2$
Number of orifice holes	=	1	holes at elev = 833.35
Q <sub>ff</sub> design	=	0.035	ft <sup>3</sup> /s
Time to Discharge (greater than 24 hours)	=	29.4	hrs > 24 hrs
rifice hole(s) sizing - "Bankfull flood" discharg	<u>e</u>		
Bankfull should discharge within 36 to 48 hours		4 707	•
$n_{\text{ave}} = \frac{2}{3} \times (X_{\text{bf}} - X_{\text{o}})$	h <sub>ave</sub> =	1.767	π
Release from first flush holes only Q=a x .62 x sqrt(2 x 32.2 x <sup>2</sup> / <sub>3</sub> h <sub>ave</sub> ) =	Q =	0.046	a3.
	Q-		
T <sub>bf</sub> with first flush holes only =	=		hrs < 44 hrs
The first flush volume will discharge in The volume between the Bankfull elevation and the l		29.4	hrs > 24 hrs
$V_{\text{rem}} = V_{\text{hf}} - V_{\text{ff}} =$	Hott Mon Elovaton	4.435	ft <sup>3</sup>
$T_{\text{rem}} = 42 \text{ hr} - T_{\text{ff}}$		,	hrs
$n_{\text{ave}}^{\text{ff}} = \frac{2}{3} \times (X_{\text{bf}} - X_{\text{ff}}) + (X_{\text{ff}} - X_{\text{o}})$		2.28	
$Q_1 = a \times .62 \times \text{sqrt}(2 \times 32.2 \times ^2/_3 \text{ h}^{\text{ff}}_{\text{ave}}) =$	Q <sub>1</sub> =	0.052	
$V_1 = T_{rem} \times Q_1 =$	V <sub>1</sub> =	2.357	
$V_2 = V_{rem} - V_1 =$	V <sub>2</sub> =	2,078	••
Q <sub>2</sub> = V <sub>2</sub> / T <sub>rem</sub>	Q <sub>2</sub> =	0.046	**
$a_2 = a_2 \cdot r_{\text{rem}}$ $a_{\text{ave}} = a_1 \cdot r_{\text{ff}}$	h <sup>bf</sup> ave =	0.73	****
$A_{bf} = Q_2 / .62 \times \text{sqrt}(2 \times 32.2 \times \text{h}^{bf}_{ave})$	A <sub>2</sub> =	0.0107	
$A_{bf} = Q_2 / .62 \times \text{sqrt}(2 \times 32.2 \times \text{n}_{ave})$ Area of an orifice with diameter (in) = 1 3/8	A <sub>2</sub> =	0.0107	••
Number of orifice holes	=		holes at elev = 834.9
Bankfull storage time check (between 36 and 48)	=		hrs
rifice hole(s) sizing - "100-yr flood" discharge			
Peak Flow, Q <sub>a</sub> = 0.15 cfs/acre x drainage area (A)	$Q_a =$	0.183	ft <sup>3</sup> /s
$n_{\text{tot}} = (X_{100} - X_{\text{o}})$	h <sub>tot</sub> =	4.95	ft
$n_{\text{tot}}^{\text{bf}} = (X_{100} - X_{\text{ff}})$	h <sup>bf</sup> tot =	3.40	ft

 $X_{ff} = 834.90$ 

 $X_{100} = 838.30$ 

a x .62 x Sqrt(2 x 32.2 x /3 n <sub>ave</sub> ) =	Q-	0.046	π/S
with first flush holes only =		49	hrs < 44 hrs
e first flush volume will discharge in	=	29.4	hrs > 24 hrs
e volume between the Bankfull elevation and the First Flus	h Elevation		_
$_{\rm m}$ = $V_{\rm bf}$ - $V_{\rm ff}$ =		4,435	ft <sup>3</sup>
<sub>m</sub> = 42 hr - T <sub>ff</sub>		13	hrs
$_{\text{Ve}} = {}^{2}/_{3} \times (X_{\text{bf}} - X_{\text{ff}}) + (X_{\text{ff}} - X_{\text{o}})$		2.28	ft
=a x .62 x sqrt(2 x 32.2 x $^2$ / <sub>3</sub> h <sup>ff</sup> <sub>ave</sub> ) =	Q <sub>1</sub> =	0.052	ft <sup>3</sup> /s
$= T_{rem} \times Q_1 =$	V <sub>1</sub> =	2,357	ft <sup>3</sup>
$=$ $V_{rem}$ - $V_1$ $=$	V <sub>2</sub> =	2,078	ft <sup>3</sup>
=V <sub>2</sub> / T <sub>rem</sub>	Q <sub>2</sub> =	0.046	ft <sup>3</sup> /s
$_{ave} = \frac{2}{3} (X_{bf} - X_{ff})$	h <sup>bf</sup> ave =	0.73	ft
$= Q_2 / .62 \times \text{sqrt}(2 \times 32.2 \times \text{h}^{bf}_{ave})$	A <sub>2</sub> =	0.0107	ft <sup>2</sup>
ea of an orifice with diameter (in) = 1 3/8		0.0096	ft <sup>2</sup>
mber of orifice holes	=		holes at elev = 834.9
nkfull storage time check (between 36 and 48)	=	43	hrs
ce hole(s) sizing - "100-yr flood" discharge			
ak Flow, Q <sub>a</sub> = 0.15 cfs/acre x drainage area (A)	Q <sub>a</sub> =	0.183	ft <sup>3</sup> /s
$= (X_{100} - X_0)$	h <sub>tot</sub> =	4.95	ft
$_{ot} = (X_{100} - X_{ff})$	h <sup>bf</sup> tot =	3.40	ft
+ Q <sub>bf</sub> =			
0.62 x sqrt(2 x 32.2 x h <sub>tot</sub> )+a x .62 x sqrt(2 x 32.2 x h <sup>bf</sup> <sub>tot</sub> ) =	$Q_{ff} + Q_{bf} =$	0.164	ft <sup>3</sup> /s
$Q_{00} = Q_{a} - (Q_{ff} - Q_{bf}) =$	Q <sub>100</sub> =	0.018	ft <sup>3</sup> /s
$_{10} = Q_{100} / (.62 \times \text{sqrt}(2 \times 32.2 \times \text{h}_{100}))$	A <sub>100</sub> =	0.0024	$\mathrm{ft}^2$
ea of an orifice with diameter (in) = 5/8		0.0021	ft <sup>2</sup>
mber of orifice holes	=	1	holes at elev = 836
nfirm allowable flow rate is not exceeded			
$+ Q_{bf} + 0.62 \times \#_{orif} \times A_{100} \times sqrt(2 \times g \times h^{100}_{tot}) < Q_{allow}$	=	0.180	cfs < 0.183 cfs
0-year storm volume discharge < 72 hours			
$_{\text{ave}} = \frac{^2}{_3}(X_{100} - X_{\text{bf}}) + (X_{\text{bf}} - X_{\text{o}})$	=	4.18	ft
$= 0.62 \times \#_{\text{orif}}^{\text{f}} \times A_{\text{orif}}^{\text{f}} \times \text{sqrt}(2 \times g \times h_{\text{ave}}^{\text{all}})$	=	0.070	ft <sup>3</sup> /s
lculate Q <sub>bf+100</sub>			
$_{\text{ave}} = ^{2}/_{3}(X_{100} - X_{\text{bf}}) + (X_{\text{bf}} - X_{\text{ff}})$	=	2.63	ft
$t_{+100} = 0.62 \times \#^{bf}_{orif} \times A^{bf}_{orif} \times sqrt(2 \times g \times h^{bf}_{ave})$	=	0.077	ft <sup>3</sup> /s
erage Discharge through 100-year Orifice(s) when other (	Orifice (s) are cor		
D = 2/ (V V .)	_	1 5 2	4

The first flush volume will discharge in The volume between the Bankfull elevation and the First Flus	= th Elevation	29.4	hrs > 24 hrs
$V_{rem} = V_{bf} - V_{ff} =$	sii Lievation	4.435	#3
T <sub>rem</sub> = 42 hr - T <sub>ff</sub>			hrs
$h_{\text{ave}}^{\text{ff}} = \frac{2}{3} \times (X_{\text{bf}} - X_{\text{ff}}) + (X_{\text{ff}} - X_{\text{o}})$		2.28	
$Q_1 = a \times .62 \times sgrt(2 \times 32.2 \times \frac{2}{3} h_{ave}^{ff}) =$	Q <sub>1</sub> =	0.052	ft <sup>3</sup> /s
$V_1 = T_{rem} \times Q_1 =$	V <sub>1</sub> =	2,357	ft <sup>3</sup>
$V_2 = V_{rem} - V_1 =$	V <sub>2</sub> =	2,078	ft <sup>3</sup>
$Q_2 = V_2 / T_{rem}$	Q <sub>2</sub> =	0.046	ft <sup>3</sup> /s
$h_{\text{ave}}^{\text{bf}} = {}^{2}/_{3} (X_{\text{bf}} - X_{\text{ff}})$	h <sup>bf</sup> ave =	0.73	ft
$A_{bf} = Q_2 / .62 \times \text{sqrt}(2 \times 32.2 \times \text{h}^{bf}_{ave})$	A <sub>2</sub> =	0.0107	ft <sup>2</sup>
Area of an orifice with diameter (in) = 1 3/8		0.0096	ft <sup>2</sup>
Number of orifice holes	=		holes at elev = 834.9
Bankfull storage time check (between 36 and 48)	=	43	hrs
Orifice hole(s) sizing - "100-yr flood" discharge			
Peak Flow, Q <sub>a</sub> = 0.15 cfs/acre x drainage area (A)	$Q_a =$	0.183	ft <sup>3</sup> /s
$h_{\text{tot}} = (X_{100} - X_{\text{o}})$	h <sub>tot</sub> =	4.95	ft
$h_{\text{tot}}^{\text{bf}} = (X_{100} - X_{\text{ff}})$	h <sup>bf</sup> tot =	3.40	ft
$Q_{ff} + Q_{bf} =$			
a x 0.62 x sqrt(2 x 32.2 x h <sub>tot</sub> )+a x .62 x sqrt(2 x 32.2 x h <sup>bf</sup> <sub>tot</sub> ) =	$Q_{ff} + Q_{bf} =$	0.164	ft <sup>3</sup> /s
$Q_{100} = Q_a - (Q_{ff} - Q_{bf}) =$	Q <sub>100</sub> =	0.018	ft <sup>3</sup> /s
$A_{100} = Q_{100} / (.62 \times \text{sqrt}(2 \times 32.2 \times h_{100}))$	A <sub>100</sub> =	0.0024	${\rm ft}^2$
Area of an orifice with diameter (in) = 5/8		0.0021	${\rm ft}^2$
Number of orifice holes	=	1	holes at elev = 836
Confirm allowable flow rate is not exceeded $Q_{ff} + Q_{bf} + 0.62 \times \#_{orif} \times A_{100} \times \operatorname{sqrt}(2 \times g \times h^{100}_{tot}) < Q_{allow}$		0.400	-f- +0.400 -f-
Q <sub>ff</sub> + Q <sub>bf</sub> + 0.62 x# <sub>orif</sub> x A <sub>100</sub> x sqrt(2 x g x h ** <sub>tot</sub> ) < Q <sub>allow</sub> 100-vear storm volume discharge < 72 hours	=	0.180	cfs < 0.183 cfs
$h_{\text{ave}}^{\text{all}} = \frac{2}{3}(X_{100} - X_{\text{bf}}) + (X_{\text{bf}} - X_{\text{o}})$	=	4.18	ft
$Q_{all} = 0.62 \times \#_{orif}^{ff} \times A_{orif}^{ff} \times \text{sgrt}(2 \times \text{g x h}_{ave}^{all})$	=	0.070	
Calculate Q <sub>hf+100</sub>			11.75
$h_{\text{ave}}^{\text{bf}} = \frac{2}{3}(X_{100} - X_{\text{bf}}) + (X_{\text{bf}} - X_{\text{ff}})$	=	2.63	ft
$Q_{bf+100} = 0.62 \times \#^{bf}_{orif} \times A^{bf}_{orif} \times \operatorname{sgrt}(2 \times a \times h^{bf}_{ave})$	=	0.077	ft <sup>3</sup> /s
Average Discharge through 100-year Orifice(s) when other (	Orifice (s) are con		
$h_{\text{ave}}^{100} = \frac{2}{3}(X_{100} - X_{\text{bf}})$	=	1.53	ft
$Q_{ave}^{100} = 0.62 \times \#_{orif}^{100} \times A_{orif}^{100} \times sqrt(2 \times g \times h_{ave}^{100})$	=	0.013	ft <sup>3</sup> /s

$V_{rem} = V_{bf} - V_{ff} =$		4,435	ft°
$T_{rem} = 42 \text{ hr} - T_{ff}$		13	hrs
$h_{\text{ave}}^{\text{ff}} = {}^{2}/_{3} \times (X_{\text{bf}} - X_{\text{ff}}) + (X_{\text{ff}} - X_{\text{o}})$		2.28	ft
$Q_1 = a \times .62 \times sqrt(2 \times 32.2 \times ^2/_3 h_{ave}^{ff}) =$	Q <sub>1</sub> =	0.052	ft <sup>3</sup> /s
$V_1 = T_{rem} \times Q_1 =$	V <sub>1</sub> =	2,357	ft <sup>3</sup>
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$A_{bf} = Q_2 / .62 \times \text{sqrt}(2 \times 32.2 \times h^{bf}_{ave})$	A <sub>2</sub> =	0.0107	ft <sup>2</sup>
Area of an orifice with diameter (in) = 1 3/8		0.0096	ft <sup>2</sup>
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Peak Flow, Q <sub>a</sub> = 0.15 cfs/acre x drainage area (A)	Q <sub>a</sub> =	0.183	ft <sup>3</sup> /s
$h_{\text{tot}} = (X_{100} - X_0)$	h <sub>tot</sub> =	4.95	ft
$h_{tot}^{bf} = (X_{100} - X_{ff})$	h <sup>bf</sup> tot =	3.40	ft
Q <sub>ff</sub> + Q <sub>bf</sub> =			
a x 0.62 x sqrt(2 x 32.2 x h <sub>tot</sub> )+a x .62 x sqrt(2 x 32.2 x h <sup>bf</sup> <sub>tot</sub> ) =	$Q_{ff} + Q_{bf} =$	0.164	ft <sup>3</sup> /s
$Q_{100} = Q_{a} - (Q_{ff} - Q_{bf}) =$	Q <sub>100</sub> =	0.018	ft <sup>3</sup> /s
$A_{100} = Q_{100} / (.62 \times \text{sgrt}(2 \times 32.2 \times h_{100}))$	A <sub>100</sub> =	0.0024	$\mathrm{ft}^2$
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Confirm allowable flow rate is not exceeded			
$Q_{ff} + Q_{bf} + 0.62 \times \#_{orif} \times A_{100} \times sqrt(2 \times g \times h^{100}_{tot}) < Q_{allow}$	=	0.180	cfs < 0.183 cfs
100-year storm volume discharge < 72 hours		4.40	
$h_{\text{ave}}^{\text{all}} = \frac{2}{3}(X_{100} - X_{\text{bf}}) + (X_{\text{bf}} - X_{\text{o}})$	=	4.18	
$Q_{all} = 0.62 \times \#_{orif}^{ff} \times A_{orif}^{ff} \times sqrt(2 \times g \times h_{ave}^{all})$	=	0.070	ft³/s
Calculate Q <sub>bf+100</sub>			
$h_{\text{ave}}^{\text{bf}} = {}^{2}/_{3}(X_{100} - X_{\text{bf}}) + (X_{\text{bf}} - X_{\text{ff}})$	=	2.63	ft
$Q_{bf+100} = 0.62 \times \#^{bf}_{orif} \times A^{bf}_{orif} \times sqrt(2 \times g \times h^{bf}_{ave})$	=	0.077	ft <sup>3</sup> /s
Average Discharge through 100-year Orifice(s) when other	er Orifice (s) are contr		
$h_{\text{ave}}^{100} = \frac{2}{3}(X_{100} - X_{\text{bf}})$	=	1.53	ft
$\Omega^{100} = 0.62 \text{ y } \pm^{100} \text{ y } \text{ A}^{100} \text{ y } \text{ sart} (2 \text{ y a y } \text{h}^{100})$	=	0.013	ft <sup>3</sup> /c

## $T_{100} = T_{bf} + V_{rem} / (Q_{all} + Q_{bf+100} + Q_{ave}^{100}) <= 72 \text{ hrs}$ 55 hrs <= 72 hrs STORM WATER MANAGEMENT PLAN NARRATIVE

Check to confirm 100-year storm volume discharge in less than 72 hours V<sub>100</sub> = Total Required Detention - BMP Volume Reduction (W11) =

 $V_{rem} = V_{100} - V_{bf}$ 

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

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE

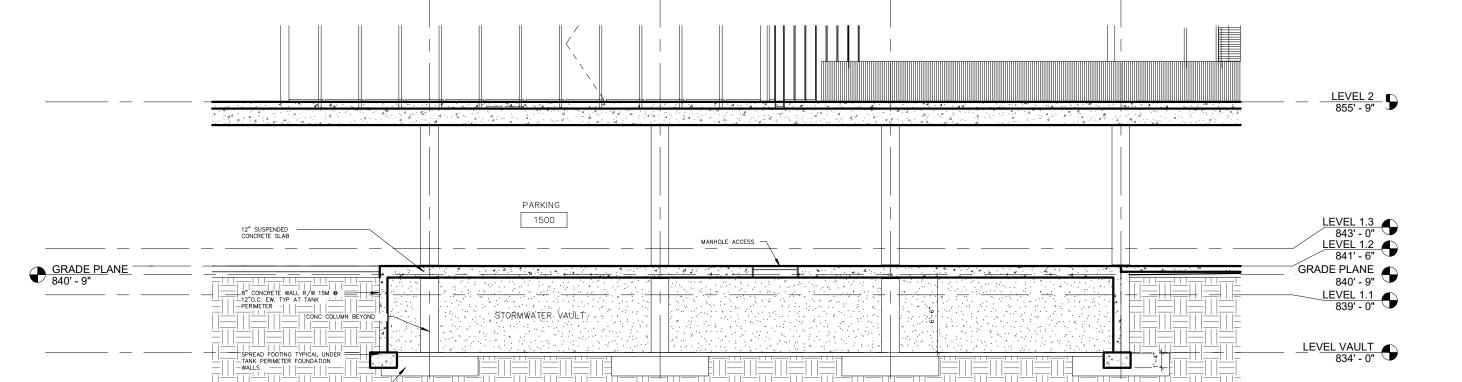
EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

OBTAINED FROM AVAILABLE AS-BUILT RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND STATUS OF ALL

ITILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.

THE EXISTING CATCH BASIN WILL BE USED AS AN OUTLET TO THE PROPOSED UNDERGROUND DETENTION SYSTEM FOR THE PROPOSED PROJECT

OF THE SITE TO PROVIDE OVERFLOW PROTECTION IN THE CASE OF MAJOR RAIN EVENTS AND WILL DISCHARGE TO THE PROPOSED STORM STRUCTURE IN THE NORTHEAST CORNER OF THE SITE. ACCESS TO THE PROPOSED UNDERDRAIN WILL BE PROVIDED THROUGH A SERIES OF CLEANOUTS SPACED EVENLY THROUGHOUT THE SYSTEM. PER THE CALCULATIONS ABOVE, NO STORM WATER DETENTION IS REQUIRED FOR THE SITE RUNOFF



CAPACITY OF LENGTH OF LINE OF PIPE (%)

80.00

80.88

99.19

45.64

142.18

100.70

89.00

83.46

97.41

92.42

152.05

12.84

**HDPE** 

**HDPE** 

**HDPE** 

**HDPE** 

HDPE

HDPE

**HDPE** 

**HDPE** 

**HDPE** 

RCP CL-IV

RCP CL-IV

RCP CL-IV

**HYDRAULICS** 

VELOCITY

1.16

1.57

8.37

3.82

1.85

5.03

8.23

8.78

ACTUAL

BASED 3 FPS ACTUAL FULL OF ON "Q" GIVEN HG (FT./ FLOW

0.200%

0.200%

1.900%

1.300%

0.589%

1.000%

1.000%

0.54 0.199%

0.79

0.54

0.54

0.25

0.44

0.44

0.001

3.294

SEC.)

SLOPE ENERGY OF PIPE GRADE (%) SLOPE

0.20 0.658%

1.90 50.157%

0.20 0.158%

0.20 0.152%

0.20 0.199%

0.439%

7.951%

12.490%

0.098%

0.589%

3.297%

3.746%

0.20

### **UNDERGROUND DETENTION CROSS SECTION**

DRAINAGE AREA MAP

PIPE RUN

CO9 CO8

CO8 CO7

CO7 CS2

CO 5 CO 4

CO4 CO3

FROM TO MENT

STR STR AREA

STORM SEWER PIPE SCHEDULE

MENT AREA ACRES

0.011

0.012

0.018

0.022

0.049

0.028

0.030

0.088

COEFF.

(C)

0.35

0.35

0.35

0.35

0.35

0.85

0.50

**HYDROLOGY** 

AREA 100% (CA)

0.00

0.00

0.01

0.01

0.02

0.02

0.01

0.04

100% ACRES SUM (CA)

0.00

0.01

0.02

0.01

0.03

0.05

0.06

0.07

1.25

1.30

FLOW (C.F.S.) Q=CIA

0.00 0.02

0.04

0.07

0.04

0.05

0.17

0.25

0.30

0.34

6.23

6.47

6.89

0.3

0.6

2.0

8.0

1.8

0.6

8.8

3.6

SITY (I)

INCHES

4.93

4.81

4.72

5.00

5.00

4.74

5.00

4.96

4.87

**PER HOUR** 

-Land Planning - Landscape Architecture - Civil Engineering - Land Surveying - High Definition Scanning - Forensic Engineering - Fire Investigation -



0 JASON L. VAN RYN **ENGINEER** 

www.nederveld.com

800.222.1868

**ANN ARBOR** 

3037 Miller Rd.

Ann Arbor, MI 48103

Phone: 734.929.6963

CHICAGO

COLUMBUS

**GRAND RAPIDS** 

HOLLAND

**INDIANAPOLIS** 

Southtown by 4M, LLC

Marge Poscher

2082 S. State Street

Ann Arbor, MI 48104

Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022

Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023

Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023

Drawn: WL/TG Checked: BC/JVR Date: 05.10.2023

Drawn: WL/TG Checked: BC/JVR Date: 05.25.2023

Drawn: WL/TG Checked: BC/JVR Date: 06.13.2023

15

Calculatio

 $\mathbf{\Omega}$ 

PREPARED FOR:

**REVISIONS:** 

Title: Site Plan Submittal

Title: Site Plan Resubmittal

Title: Site Plan Resubmittal

Title: Revised Layout Plan

Title: Site Plan Resubmittal

Title: Site Plan Resubmittal

PROJECT NO: 21500282

SHEET NO:

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VVVVVV

— UNDERDRAIN —

- GRADE OVER

MDOT CLASS II

MIN. = PIPE O.D. PLUS 12"

STORM SEWER TRENCH

AND BACKFILL DETAIL

HARDWOOD STAKE

-HEAVY DUTY STAPLES

LATH STAPLED TO STAKES

... SAND BED & BACKFILL

STORM SEWER



EXISTING UTILITIES AND SERVICE LINES IDENTIFIED AS "(PLAN)" WERE OBTAINED FROM AVAILABLE AS-BUILT RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND STATUS OF ALL UTILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.

Ann Arbor, MI 48103 Phone: 734.929.6963 CHICAGO COLUMBUS **GRAND RAPIDS** HOLLAND **INDIANAPOLIS** 

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**ANN ARBOR** 

## PREPARED FOR:

Title: Site Plan Submittal Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022 Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023 Title: Site Plan Resubmittal

Title: Site Plan Resubmittal

Drawn: WL/TG Checked: BC/JVR Date: 06.13.2023

GRADE OVER WATERMAIN

**SPECIFICATIONS** MDOT CLASS II SAND BED & BACKFILL MIN. = PIPE O.D. PLUS 12" MAX. = PIPE O.D. PLUS 24"

1. TRENCH TO BE BEDDED AND BACKFILLED WITH SAND AS NOTED ON DETAIL UNDER ALL 2. WHEN WATER MAIN PIPE IS OUTSIDE OF PAVED AREAS THE MINIMUM AMOUNT OF SAND BACKFILL SHALL BE, AS NOTED, FROM THE BOTTOM OF TRENCH TO 12" ABOVE CROWN OF WATERMAIN PIPE AND THE REMAINDER OF TRENCH BACKFILL WITH EXCAVATED

UNDISTURBED AREA CORROSION RESISTANT RIGID STEEL FRAME UNDISTURBED AREA 2"x2" HARDWOOD STAKES DRIVEN 12" INTO GROUND FABRIC ANCHORED BY WOOD

MEETS ASTM D8057 STANDARDS PRODUCT FEATURES

Rigid frame and removable geosynthetic bag Sized to meet treatment flow rate.

-Filter bag achieves +80% gross removal efficiency per ASTM D7351.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

3037 Miller Rd.

Southtown by 4M, LLC Marge Poscher

2082 S. State Street Ann Arbor, MI 48104

#### **REVISIONS:**

Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023 Title: Revised Layout Plan Drawn: WL/TG Checked: BC/JVR Date: 05.10.2023

Drawn: WL/TG Checked: BC/JVR Date: 05.25.2023 Title: Site Plan Resubmittal

cations

BED & BACKFILL SIDE VIEW

SEE PAVEMENT -

SUBGRADE

MAX. = PIPE O.D. PLUS 30" 1. TRENCH TO BE BEDDED AND BACKFILLED WITH SAND AS NOTED ON DETAIL UNDER ALL 2. WHEN STORM SEWER PIPE IS OUTSIDE OF PAVED AREAS THE MINIMUM AMOUNT OF SAND BACKFILL SHALL BE, AS NOTED, FROM THE BOTTOM OF TRENCH TO 12" ABOVE CROWN OF STORM PIPE AND THE REMAINDER OF TRENCH BACKFILL WITH EXCAVATED

UNDERCUT

**WATER MAIN TRENCH** AND BACKFILL DETAIL

INSTALLATION INSTRUCTIONS:

1. Remove grate from the drainage 2. Clean stone and dirt from ledge (lip) of drainage structure . Drop the FLEXSTORM inlet filter through the clear opening such that the hangers rest firmly on the lip of the . Replace the grate and confirm it is not elevated more than 1/8", the thickness

- WOVEN GEOTEXTILE FILTER BAG: 200 GPM/SQFT FLOW

EFFICIENCY PER ASTM D 7351 -Bag maintains shape to be extracted when completely filled with sediement -Rigid frame capable of supporting full load of sediment without deforming. -Does not interfere or elevate grate by more than 1/8" -Bypass flow exceeds design flow of drainage location

FLEXSTORM INLET FILTER LITE DETAIL

# **CONCRETE PAVEMENT DETAIL**

2. LOCATE CONTROL JOINTS AND EXPANSION JOINTS PER ACI STANDARDS

4. PANELS SHALL BE KEPT AS SQUARE AS POSSIBLE WITH THE LENGTH

PREMODELED EXPANSION/ISOLATION — STRIP WITH REMOVABLE TOP CAP.

**CONTROL JOINT** 

1. LIGHT BROOM FINISH

7. SLUMP 4"±1"

- INSTALL TREE PROTECTION FENCE AT EDGE OF

DISTURBED AREAS FOR THE PRESERVATION OF

TREE MASSINGS (DENOTED BY A TREE LINE ON

INSTALL TREE PROTECTION FENCE AT TREE

DRIP LINE FOR PRESERVATION OF INDIVIDUAL

-UV RESISTANT, HIGH TENSILE STRENGTH

SPACED EVERY 300'

ALL PLANTS DESIGNATED TO BE SAVED SHALL BE PROTECTED BY FENCING AS ILLUSTRATED.

TREE PROTECTION FENCING DETAIL

COMMENCEMENT OF DEMOLITION AND NEW CONSTRUCTION

5" X 1" KEYWAY (2)

GROUTED CONNECTION (TYP.) -

CASTING/GRATE SHALL BE —

E.J.I.W. 1040, TYPE M1

OR APPROVED EQUAL

STEEL REINFORCED —

18" INLET

2' SUMP

48"Ø PRECAST OUTLET CONTROL STRUCTURE (CS 2)

POLYPROPYLENE MANHOLE STEPS

TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.

ALL TREE PROTECTION SHALL BE INSTALLED BY THE CONTRACTOR AND APPROVED BY THE OWNER PRIOR TO

THERE SHALL BE NO STORAGE OF MATERIAL OR EQUIPMENT WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.

INLET

**TYPICAL PLAN VIEW** 

-1.33 LBS/LF STEEL POST

OUTLET

OUTLET

2' SUMP

- EACH SIDE OF FLOW CONTROL

**ELASTOMERIC SEALANT** 

RIM. ELEV. = 840.85

WALL CAULKED W/ POLYURETHANE

TOP OF WALL ELEV. = 838.30 -

SPECIFICATIONS W/HS-25 LOADING

MANHOLE SECTIONS TO BE MANUFACTURED TO ASTM C-478

100 YR ORIFICE = 5/8" @ INV. ELEV. = 836.0

FIRST FLUSH ORIFICE = -1 1/8" @ INV. ELEV. = 833.35

**WEIR WALL SECTION** 

BANKFULL ORIFICE = 1 3/8" @ INV. ELEV. = 834.9

POLYETHLYENE LAMINAR BARRICADE FABRIC

FENCING TO BE SECURELY FASTENED TO POSTS

SIGN TO BE FASTENED TO POST - SIGNS TO BE

3. PANEL SIZE SHALL NOT EXCEED 8 FEET

NEVER EXCEEDING 1.25X THE WIDTH 5. 3.0#/CU.YD. FIBER REINFORCEMENT

6. AIR ENTRAINMENT - 6% ± 1%

-4" CONCRETE PAVEMENT

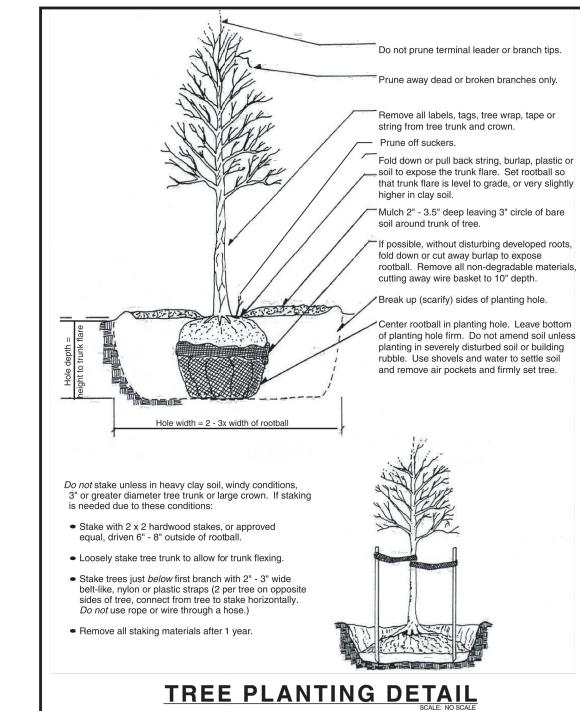
DUTY, 4,000 psi)

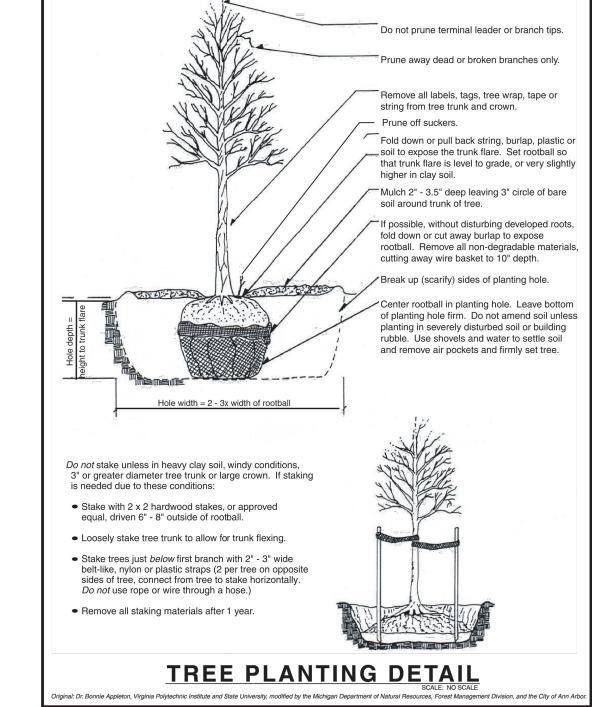
COMPACTED SAND BASE

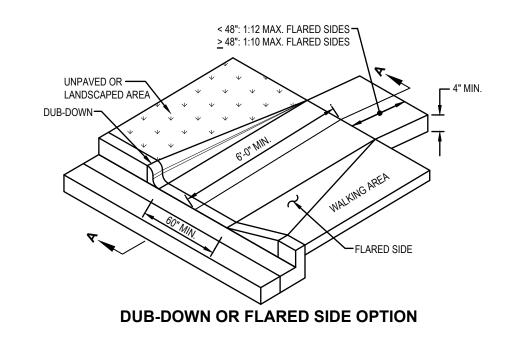
— COMPACTED SUBGRADE

(STANDARD DUTY, 4,000 psi)

6" CONCRETE PAVEMENT (HEAVY







5" MDOT BIT. PAVING (TWO COURSES)

10" MDOT CLASS 21AA GRAVEL BASE

12" MDOT CLASS II SAND SUBBASE

SEE GENERAL -

CONSTRUCTION NOTE

MDOT TYPE F-4 MODIFIED

SPILL CURB

#32 ON SHEET C-500

**TOP VIEW** 

**UNDER DRAIN AT CURB DETAIL** 

- GRADE OVER

SAN. SEWER

MDOT CLASS II

SAND BED & BACKFILL

MIN. = PIPE O.D. PLUS 12"

MAX. = PIPE O.D. PLUS 18"

2. WHEN SANITARY SEWER PIPE IS OUTSIDE OF PAVED AREAS THE MINIMUM AMOUNT OF

SAND BACKFILL SHALL BE, AS NOTED, FROM THE BOTTOM OF TRENCH TO 12" ABOVE

**SANITARY SEWER TRENCH** 

30" WOOD LATH, ----

¾" THICK

FILTER FABRIC ANCHORED -BETWEEN LATH AND STAKE

COMPACTED SOIL IN -ANCHOR TRENCH

**SECTION VIEW** 

SHEET FLOW

EXTRA STRENGTH —

**PLAN VIEW** 

SILT FENCE DETAIL

SYNTHETIC FILTER

**FABRIC** 

AND BACKFILL DETAIL

CROWN OF STORM PIPE AND THE REMAINDER OF TRENCH BACKFILL WITH EXCAVATED

1. TRENCH TO BE BEDDED AND BACKFILLED WITH SAND AS NOTED ON DETAIL UNDER ALL

— CASTING AS SPECIFIED

SEE PAVEMENT -

SPECIFICATIONS

STORM

PIPE

STRUCTURE

1. REFER TO GEOTECHNICAL REPORT FOR FINAL PAVEMENT DESIGN SPECIFICATION

PROPOSED SPOT GRADES ARE TO EDGE OF METAL/TOP OF PAVEMENT UNLESS OTHERWISE NOTED. THE VERTICAL DIFFERENCE BETWEEN PAVEMENT GRADES AND TOP OF CURB GRADES VARY FOR FLOW AND SPILL CURB (SEE DETAIL-THIS SHEET).

PROPOSED ADA ROUTE SHALL MEET THE STANDARDS SET FORTH IN THE MOST RECENT EDITION OF <u>ADA STANDARDS FOR ACCESSIBLE DESIGN</u> - APPENDIX A TO PART 1191, AS AMENDED
 SEE PLANS FOR LOCATIONS OF SPILL VS FLOW CURB.

24" CONCRETE CURB AND GUTTER DETAIL

**PAVEMENT CROSS SECTION DETAIL** 

2. HMA MIXTURE TO BE TIER I OR TIER II

**GRADING NOTES:** 

3. BINDER GRADE TO BE A MINIMUM OF PG 58-28

**HEAVY DUTY BITUMINOUS** 

I. ESTABLISH PERMANENT BENCH MARK ON-SITE PRIOR TO GRADING.

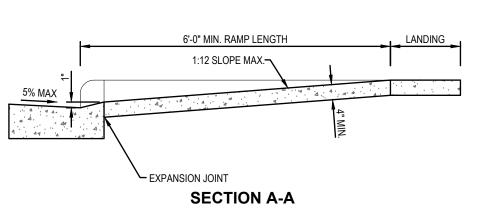
SEE GENERAL -

CONSTRUCTION NOTE

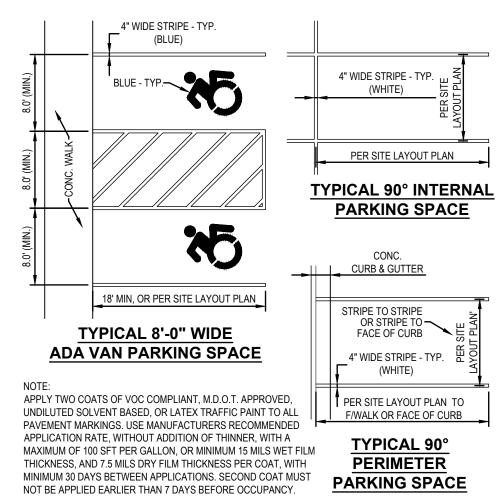
MDOT TYPE F-4 MODIFIED

**FLOW CURB** 

#32 ON SHEET C-500 .



# SIDEWALK CURB RAMP DETAIL



PARKING SPACE MARKING DETAILS

—Land Planning — Landscape Architecture — Civil Engineering — Land Surveying — High Definition Scanning — Forensic Engineering — Fire Investigation =

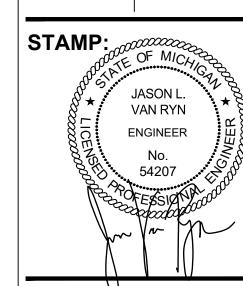
- ALL JOINTS MADE WATERTIGHT WITH

POINT UP ON INSIDE

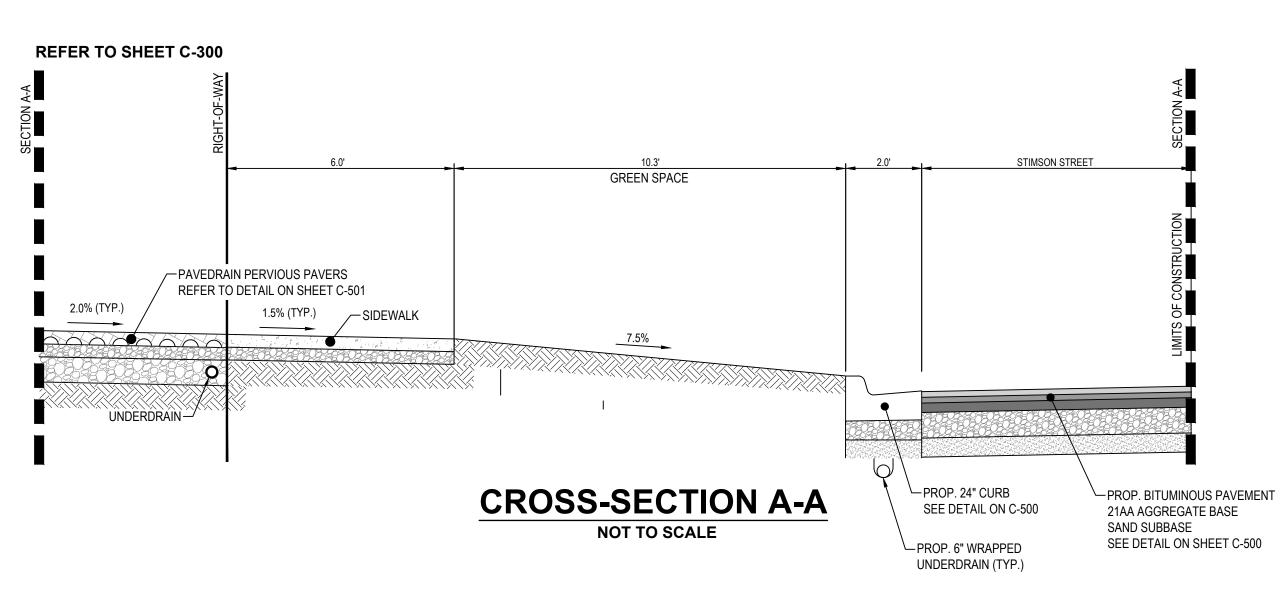
- PRECAST BOTTOM SHALL BE 3,000 PSI CONCRETE WITH #4 BAR w/0.200 in<sup>2</sup>/ft wwf

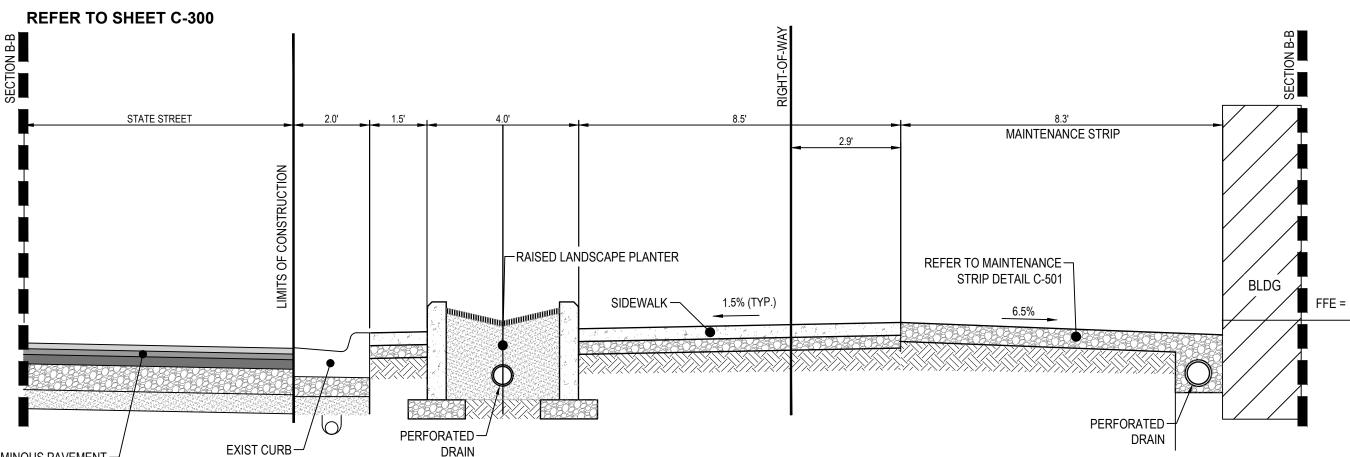
APPROVED MASTIC MATERIAL & POINTED

© 2023 Nederveld, Inc.



PROJECT NO: 21500282





**CROSS SECTION B-B** 

NOT TO SCALE

**EXPANSION** 

PERFORATED PIPE: DIAMETER, TYPE, AND ELEVATION TO BE DETERMINED BY

STANDARD DETAIL

CROSS-SECTION
SCALE: N.T.S.

\_ ENGINEER OF RECORD.

— PAVEDRAIN

- SOLID HALF UNIT

PERMEABLE - ARTICULATING CONCRETE BLOCK/MAT

TYPICAL SECTION

GEOGRID —

(RECOMMENDED)

8-12" SUB BASE -(THICKNESS VARIES)
(ASTM NO. 2)

TYP. AASHTO/ASTM #57 STONE (CLEAN,-

ANGULAR ON ALL SIDES, NO FINES)

4"-6" BEDDING LAYER COMPACTED TO
NO MOVEMENT. THICKER CROSS

SECTIONS WITH LARGER, COMPACTED

ENGINEER.

ANGULAR STONE ON ALL SIDES TBD BY

CURB EDGE \_(OPTIONAL) WITH CUTS

FOR OVERFLOW

DRAIN

PH: (888) 575-5339 WWW.PAVEDRAIN.COM Email: info@pavedrain.com

EXIST. BITUMINOUS PAVEMENT —

NON-WOVEN GEOTEXTILE 12" DIA. UNDERDRAIN PERFORATED PIPE **BUILDING MAINTENANCE STRIP / ROOF RUNOFF INFILTRATION BED** FFE = 843.00

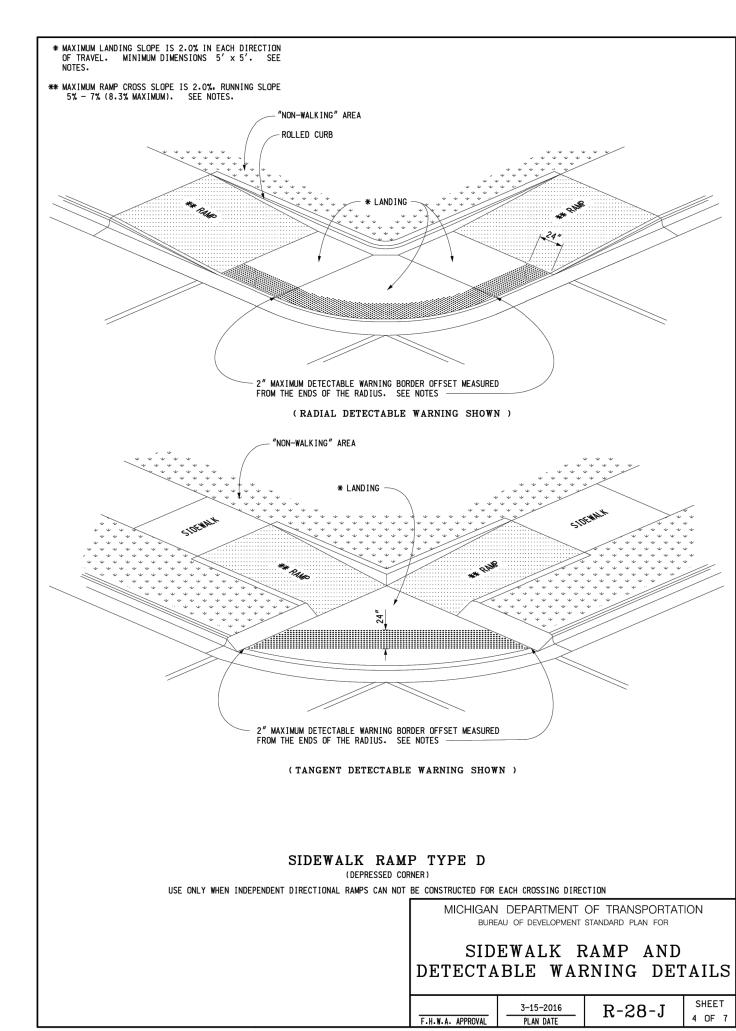
1.5" - 2.5" DIA. CLEAN STONE

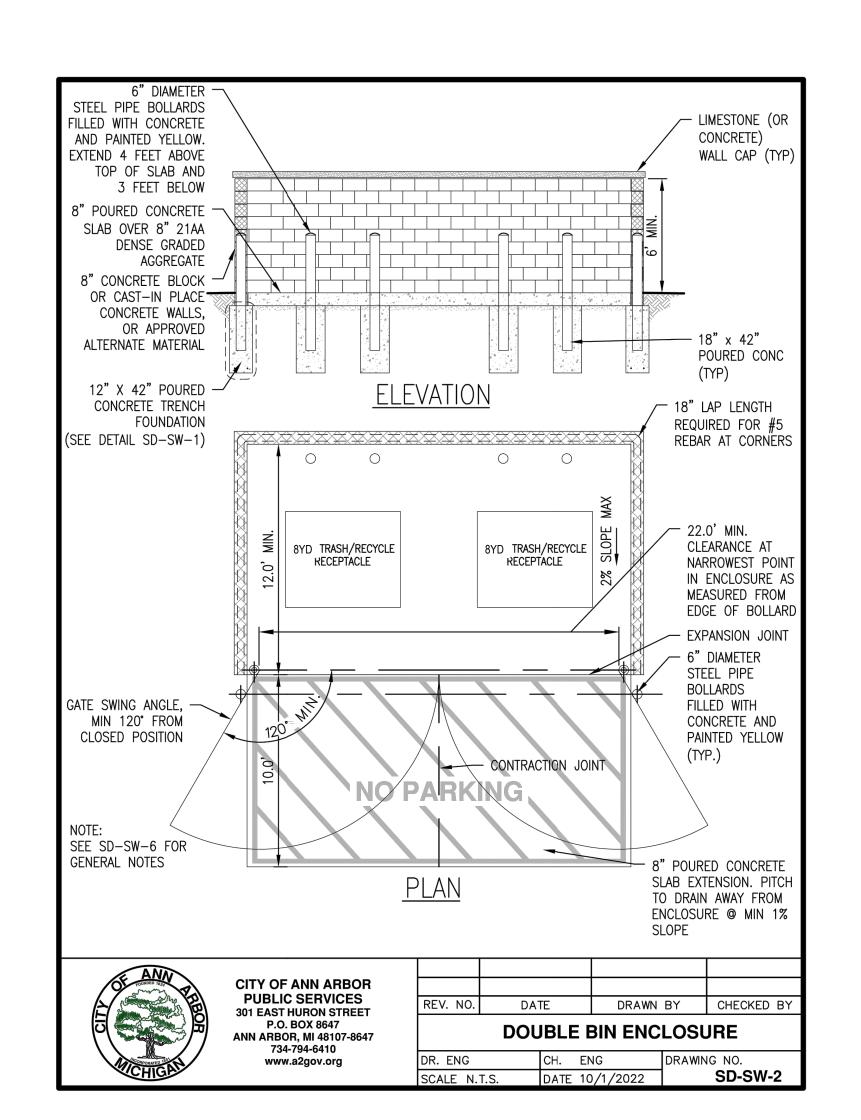
WRAPPED WITH FILTER FABRIC

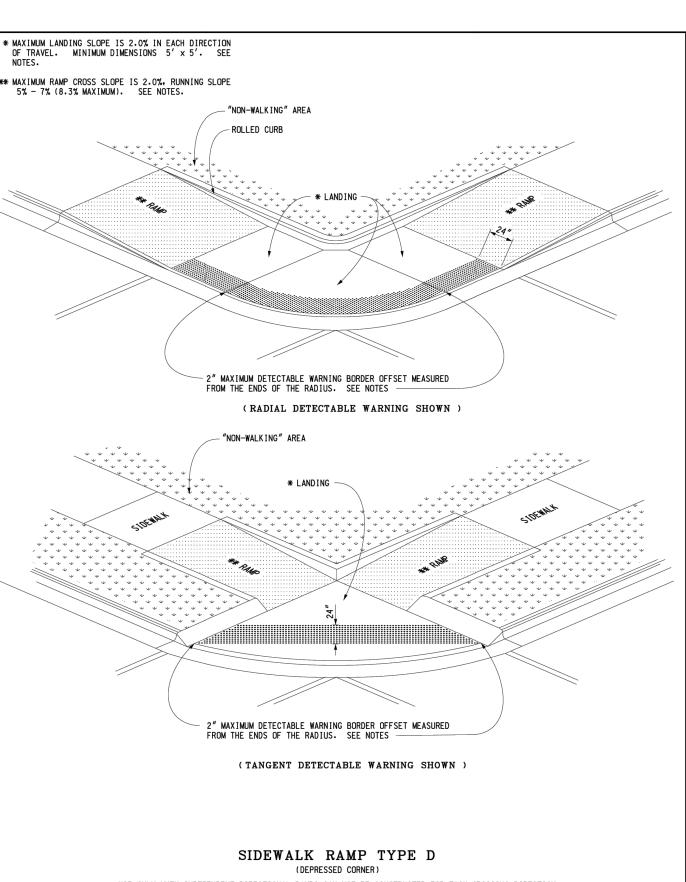
(CONNECT UNDERDRAIN TO STORM

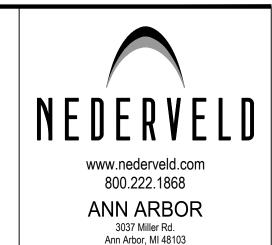
BEDDED IN MDOT 6A STONE

SEWER)









COLUMBUS **GRAND RAPIDS** HOLLAND INDIANAPOLIS

Phone: 734.929.6963

CHICAGO

PREPARED FOR:

Southtown by 4M, LLC Marge Poscher

> 2082 S. State Street Ann Arbor, MI 48104

**REVISIONS:** 

Title: Site Plan Submittal Drawn: WL/TG Checked: BC/JVR Date: 10.21.2022 Title: Site Plan Resubmittal

Drawn: WL/TG Checked: BC/JVR Date: 02.22.2023 Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 04.24.2023

Title: Revised Layout Plan Drawn: WL/TG Checked: BC/JVR Date: 05.10.2023

Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 05.25.2023

Title: Site Plan Resubmittal Drawn: WL/TG Checked: BC/JVR Date: 06.13.2023

**4**  $\Box$ **THTOWN** 

Specifications ⊗ Details PART OF THE (CITY OF ANN A

JASON L. VAN RYN **ENGINEER** 

PROJECT NO: 21500282

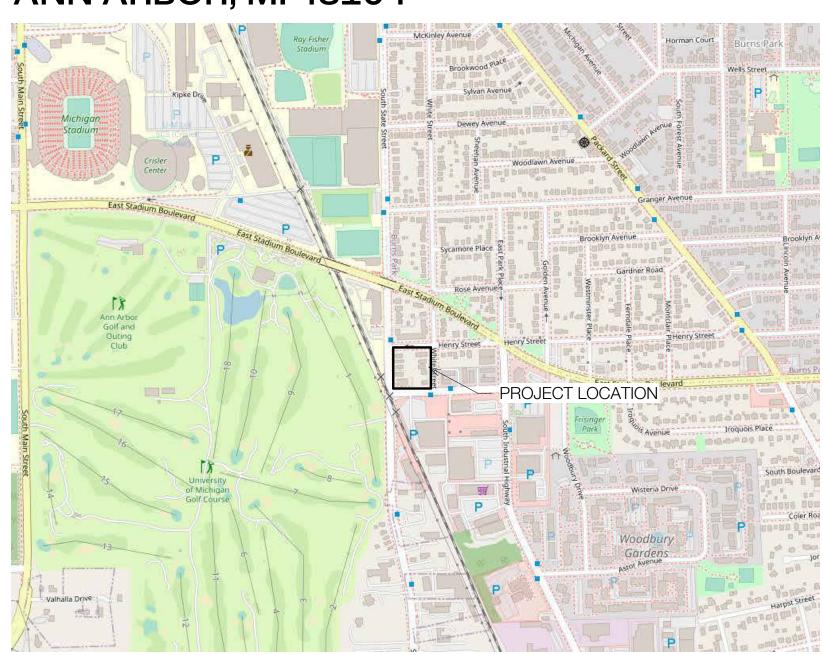
SHEET NO:

—Land Planning — Landscape Architecture — Civil Engineering — Land Surveying — High Definition Scanning — Forensic Engineering — Fire Investigation —

# SOUTHTOWN BY 4M

## PROJECT LOCATION

# ANN ARBOR, MI 48104



#### SYNECDOCHE ADAM SMITH, AIA 1342 N. MAIN ST #11 ANN ARBOR, MI 48104 P: 734.926.5593 E: ADAM@SYNECDOCHE.DESIGN

SYNECDOCHE

#### Owner

SOUTHTOWN BY 4M, LLC MARGARET POSCHER 2082 S STATE STREET ANN ARBOR, MI 48104

## **APPLICABLE CODES**

THE PROPOSED CONSTRUCTION IS IN COMPLIANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL ORDINANCES.

THE CONSTRUCTION SHOWN ON THIS DOCUMENT DOES NOT INFRINGE ON THE EXISTING LIFE SAFETY FOR THIS BUILDING. PERFORM ALL WORK IN ACCORDANCE WITH BUILDING CODES, LAWS AND ORDINANCES HAVING JURISDICTION ON THE PROJECT. ORDINANCES HAVING JURISDICTION ON THE PROJECT INCLUDE BUT ARE NOT LIMITED TO:

2015 MICHIGAN BUILDING CODE \*2021 INTERNATIONAL BUILDING CODE, REFER TO CODE SUMMARY

2015 MICHIGAN MECHANICAL CODE 2018 MICHIGAN PLUMBING CODE 2017 MICHIGAN ELECTRICAL CODE

2015 INTERNATIONAL ENERGY CODE 2009 ICC/ANSI + MICHIGAN BARRIER FREE CODE

2015 INTERNATIONAL FIRE CODE 2013 NFPA FIRE ALARM CODE

UNIFIED DEVELOPMENT CODE ANN ARBOR (JANUARY 30 2022 AMENDMENTS)

## **ZONING COMPLIANCE**

CITY ZONING: C1/AR REFERENCE SITE PLAN: SP22-2017

REQUIRED SETBACKS

10'-0"

- EXCEPTION 5.183c "MIXED USE DISTRICTS (C1AR) MINIMUM MAY BE DECREASED UP TO 50% WHEN ANOTHER SETBACK IS INCREASED " - SEE SHEET CIVIL FOR DIAGRAM

REQUIRED BUILDING HEIGHT: 100'-0" AND 8 STORIES PROPOSED BUILDING HEIGHT: 85'-0" AND 8 STORIES

FOR VEHICLE AND BICYCLE PARKING - REFER TO CIVIL FAR CALCULATIONS REFER TO TABLE BELOW + SHEETS A006 + A007

## **FAR CALCULATIONS**

72,148 SF
216,444 SF
224,444 SF

\* GROSS FAR EXCLUDES FLOOR AREA USED FOR REQUIRED PREMIUM VEHICULAR PARKING AND REQUIRED BICYCLE PARKING, STAIRWELLS (INCLUDING LANDINGS), ELEVATOR SHAFTS, RAMPS, AND VERTICAL CHASES OR CHUTES. \*\* COVERED VEHICULAR PARKING NOT INCLUDED - REFERENCE ZBA23-0012

## **FAR BUILDING AREA**

LEVEL 1	23,586 SF
LEVEL 2	32,486 SF
LEVEL 3	31,422 SF
LEVEL 4	36,314 SF
LEVEL 5	36,526 SF
LEVEL 6	26,218 SF
LEVEL 7	18,402 SF
LEVEL 8	16,680 SF
Building Area Total	221,633 SF

## **SCOPE OF WORK**

NEW CONSTRUCTION OF FULL BLOCK BOUND BY S. STATE STREET, WHITE STREET, STIMSON STREET, AND HENRY STREET. THREE FIRE-SEPARATED BUILDINGS. CONCRETE PODIUM AT LEVEL 1 HORIZONTALLY FIRE-SEPARATED (3-HOURS) FROM SEVEN LEVELS ABOVE OF MASS TIMBER TYPE IV-C CONSTRUCTION TYPE. 216 RESIDENTIAL UNITS AND 20,000 SF BUSINESS AREA. ACTIVE OPEN SPACE COVERING 54 VEHICLE PARKING SPACES. FULLY ELECTRIFIED MECHANICAL + PLUMBING SYSTEMS THROUGHOUT.

101-190 W 3RD AVE VANCOUVER, BC V5Y 1E9 HELLO@ASPECTENGINEERS.COM 604.762.78444 GREENPATH DESIGN 139 W LIBERTY STREET

> PLYMOUTH, MI 48170 INFO@GREENPATH.DESIGN

734.926.5593

3037 MILLER RD ANN ARBOR, MI 48103

734.929.6963

ASPECT STRUCTURAL ENGINEERS

SYNECDOCHE

1342 N MAIN ST. #11 ANN ARBOR, MI 48104

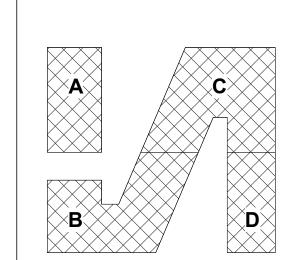
HELLO@SYNECDOCHE.DESIGN

NOT FOR CONSTRUCTION

FOR REVIEW ONLY

ETS ENGINEERING, INC. P.O. BOX 1116

ROYAL OAK, MI 48068 248.744.0360



No.	Description	Date
	SCHEMATIC DESIGN	01/03/2
	SITE PLAN RESUB.	04/24/2
	SITE PLAN RESUB.	05/25/2
	SITE PLAN RESUB.	06/13/2

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

TITLE

PROJECT NUMBER 04/24/2023 DATE

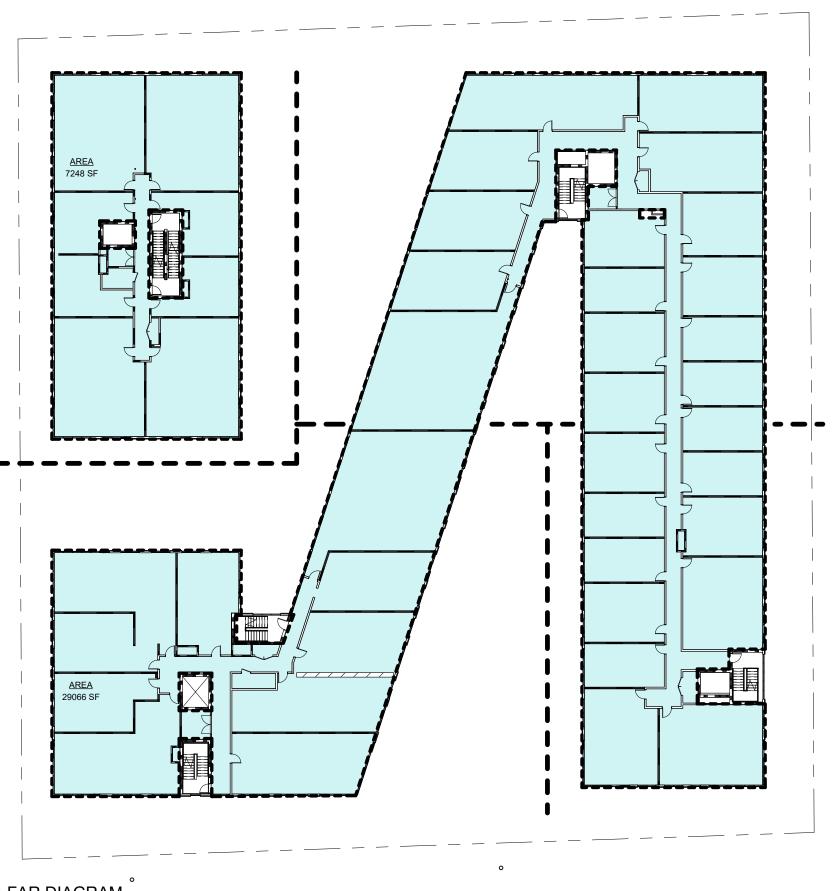
G000 SCALE



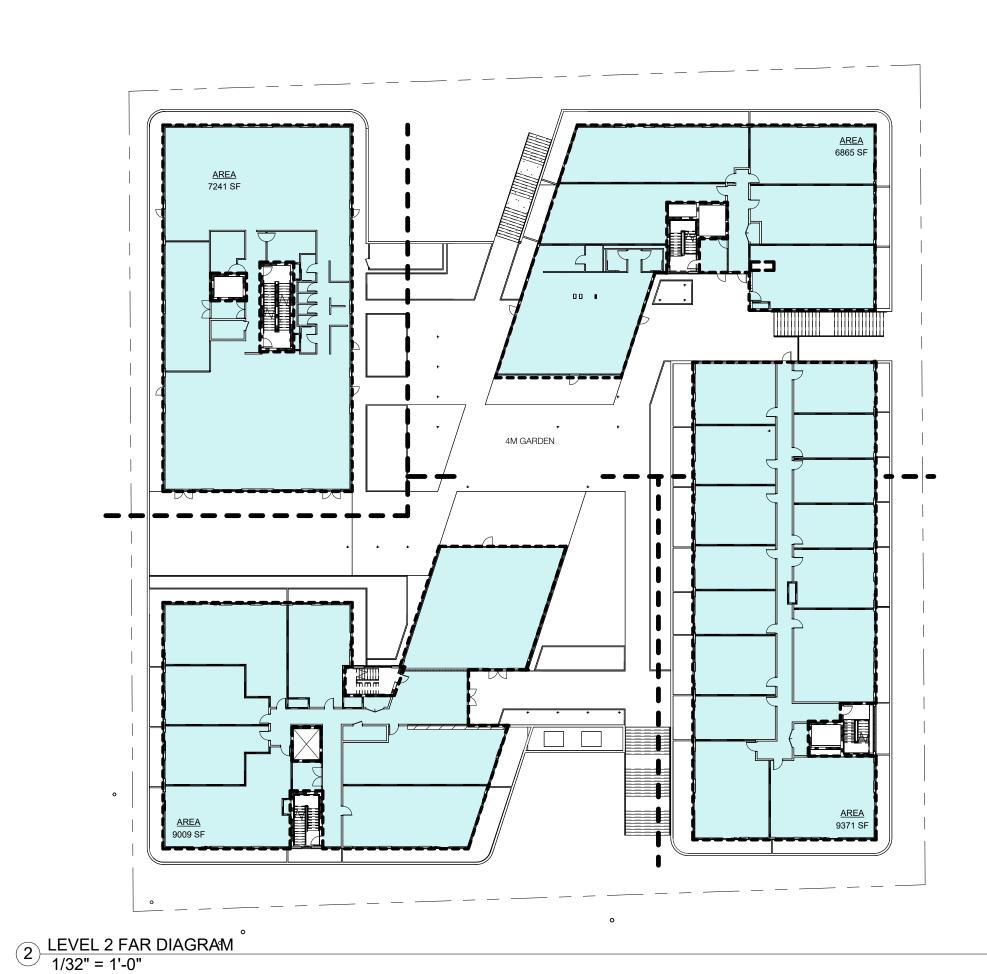
SOUTHTOWN BY 4M

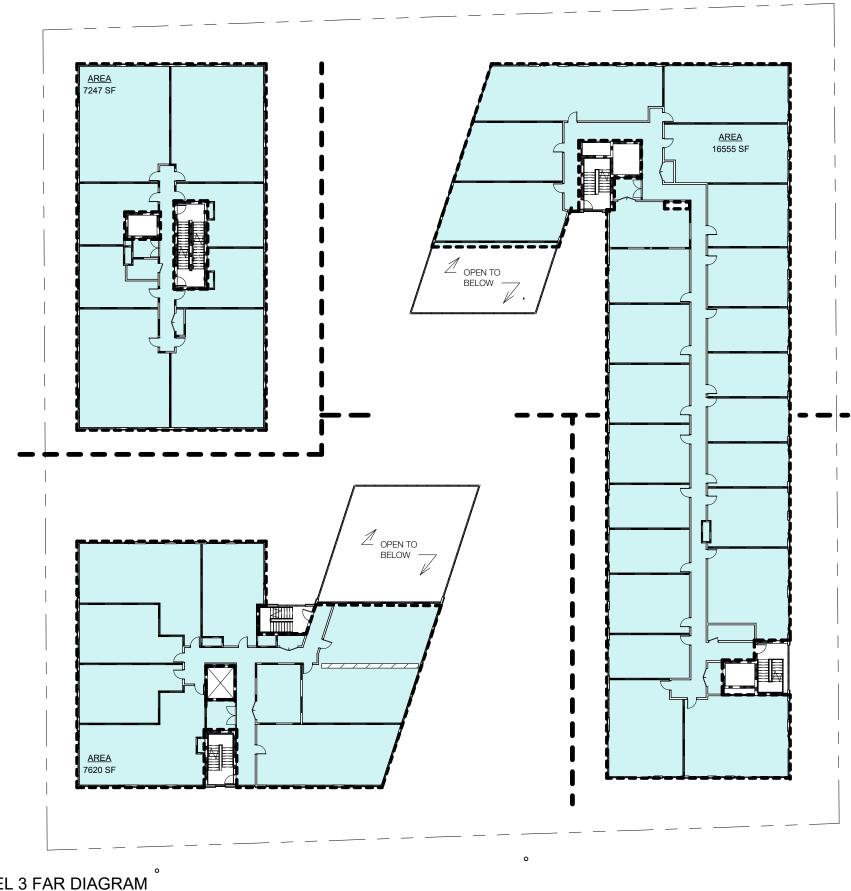
SYNECDOCHE

SOUTHTOWN BY 4M

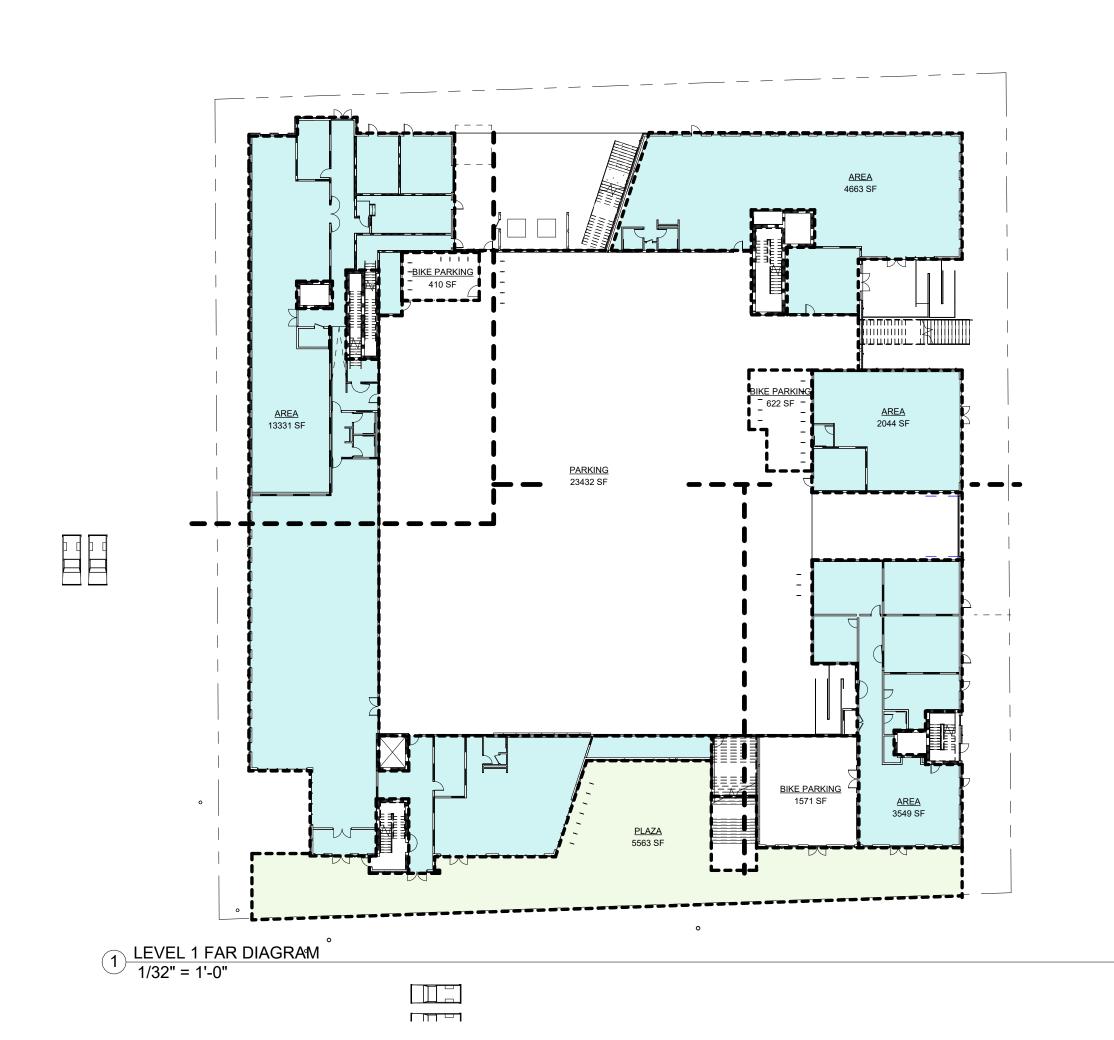


4 LEVEL 4 FAR DIAGRAM 1/32" = 1'-0"





3 <u>LEVEL 3 FAR DIAGRAM</u> 1/32" = 1'-0"



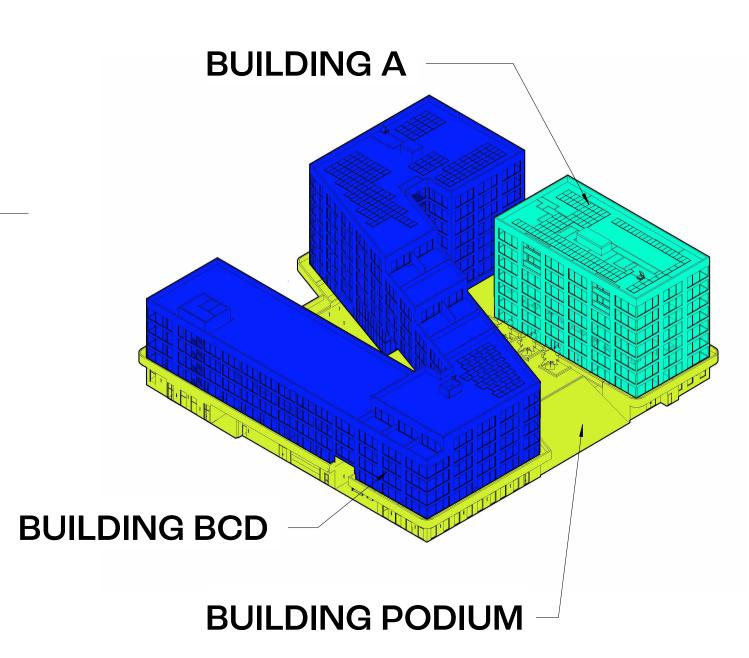
# **FAR CALCULATIONS**

SITE AREA 72,1	48 SF
MAX FAR AREA (300% PER C1/AR) 216,	444 SF
TOTAL MAX FAR AREA - W/ 8000 SF PREMIUM	444 SF

\* GROSS FAR EXCLUDES FLOOR AREA USED FOR REQUIRED PREMIUM VEHICULAR PARKING AND REQUIRED BICYCLE PARKING, STAIRWELLS (INCLUDING LANDINGS), ELEVATOR SHAFTS, RAMPS, AND VERTICAL CHASES OR CHUTES. \*\* COVERED VEHICULAR PARKING NOT INCLUDED - REFERENCE ZBA23-0012

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SYNECDOCHE

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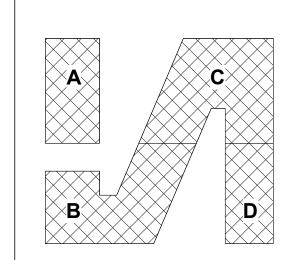
> NEDERVELD 3037 MILLER RD ANN ARBOR, MI 48103 734.929.6963

ASPECT STRUCTURAL ENGINEERS 101-190 W 3RD AVE VANCOUVER, BC V5Y 1E9 HELLO@ASPECTENGINEERS.COM

604.762.78444

GREENPATH DESIGN 139 W LIBERTY STREET PLYMOUTH, MI 48170 INFO@GREENPATH.DESIGN 734.926.5593

ETS ENGINEERING, INC. P.O. BOX 1116 ROYAL OAK, MI 48068 248.744.0360



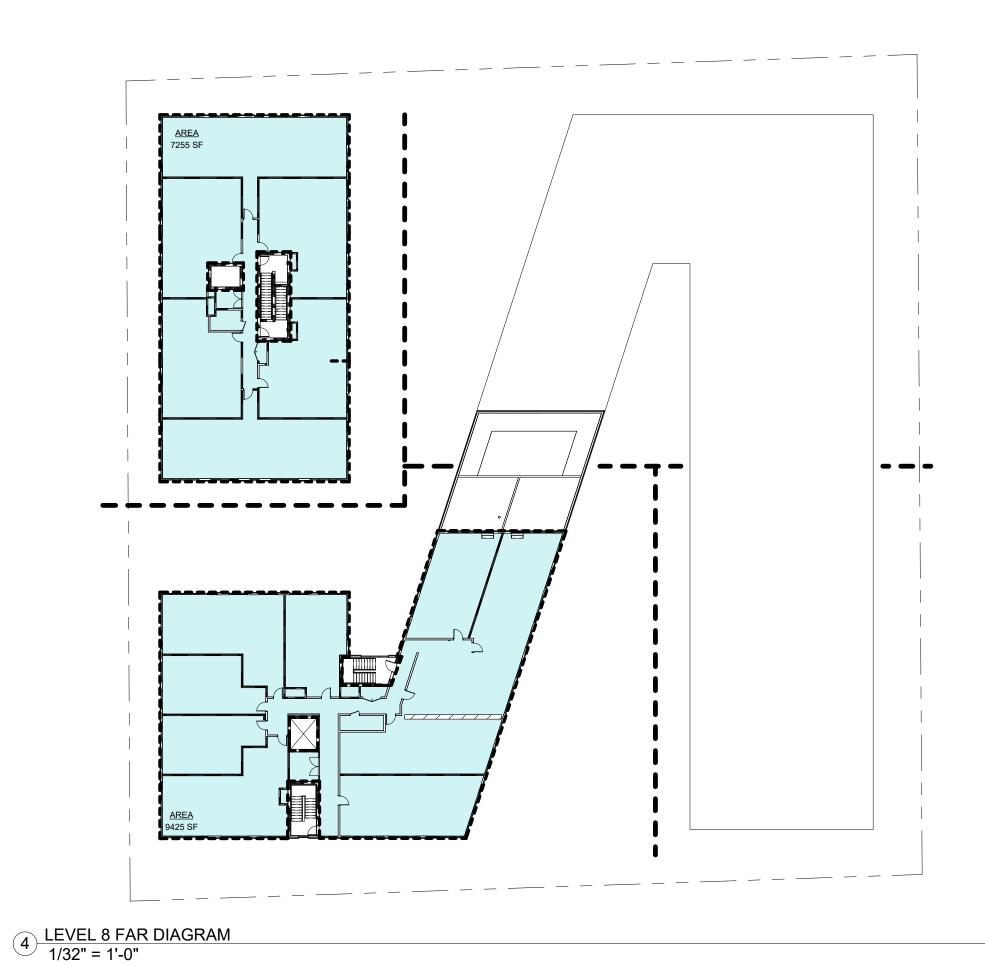
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	SITE PLAN RESUB.	05/25
	SITE PLAN RESUB.	06/13

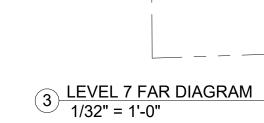
1610 WHITE STREET ANN ARBOR, MI 48104

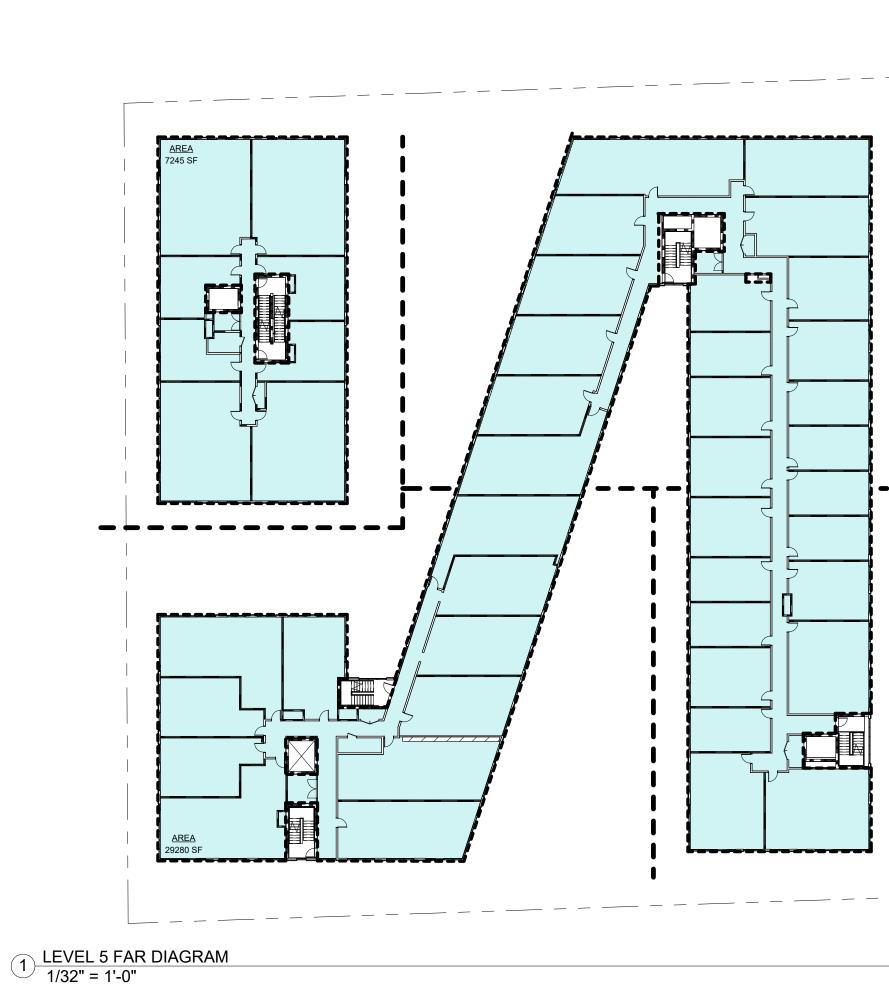
SOUTHTOWN

**FAR** CALCULATIONS

PROJECT NUMBER







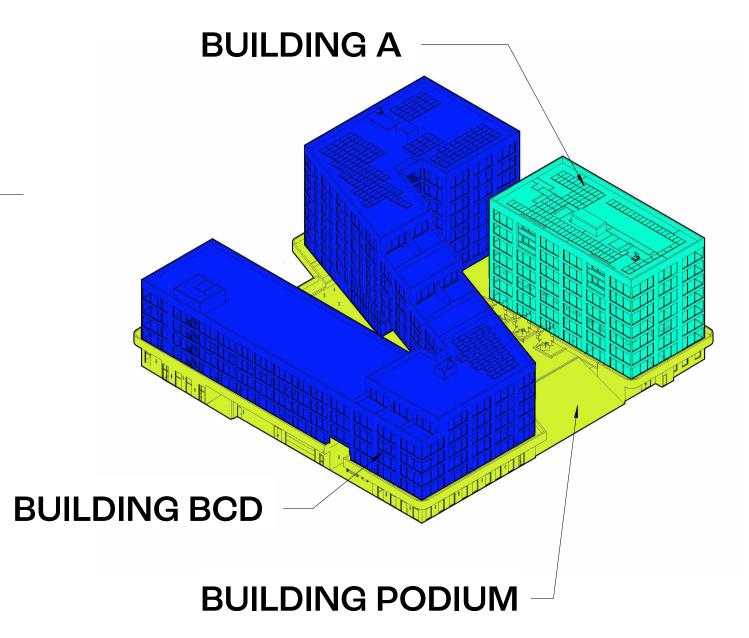


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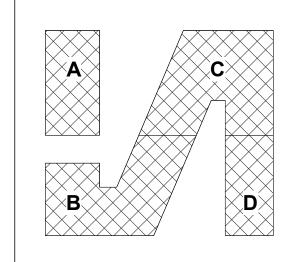
> NEDERVELD 3037 MILLER RD ANN ARBOR, MI 48103 734.929.6963

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No.	Description	Date
	SITE PLAN RESUB.	04/24/2
	SITE PLAN RESUB.	05/25/2
	SITE PLAN RESUB.	04/24/2 05/25/2 06/13/2

1610 WHITE STREET ANN ARBOR, MI 48104

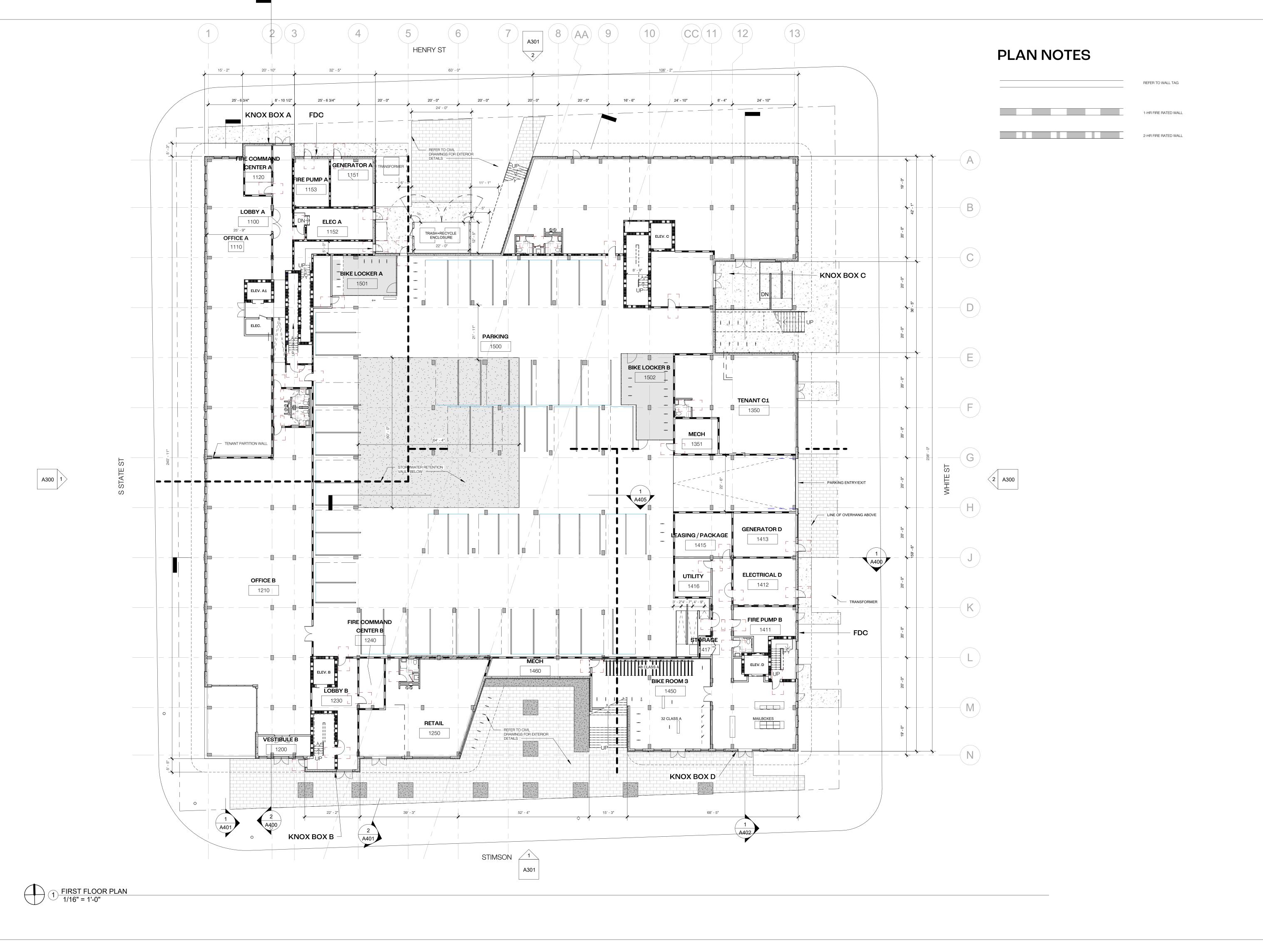
SOUTHTOWN

**FAR** CALCULATIONS

PROJECT NUMBER

800A

2 LEVEL 6 FAR DIAGRAM 1/32" = 1'-0"





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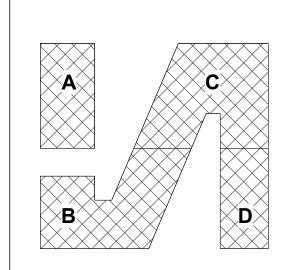
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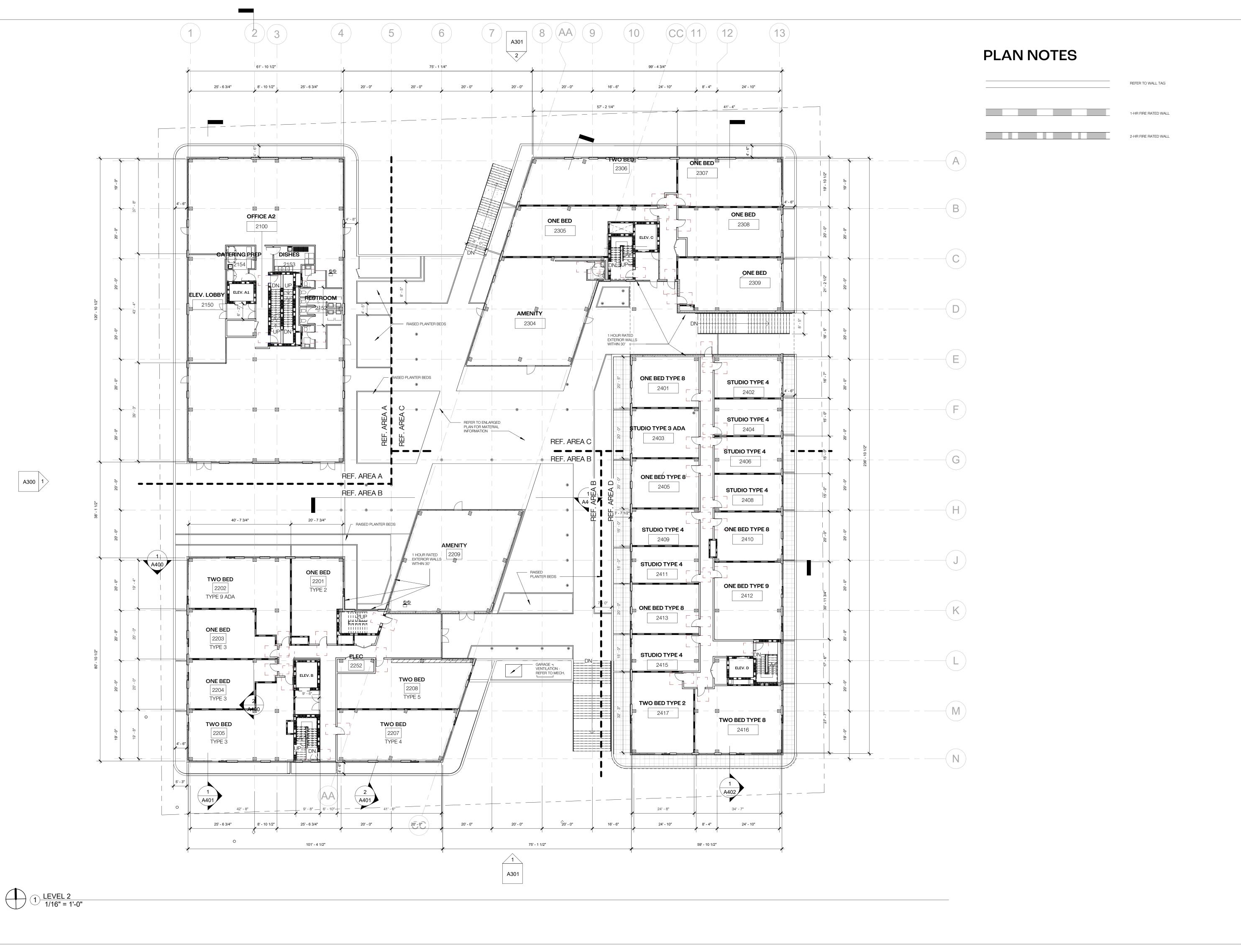
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	SCHEMATIC DESIGN	01/03/
	SITE PLAN RESUB.	04/24/
	SITE PLAN RESUB.	05/25/
	SITE PLAN RESUB.	06/13/

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 1 -**OVERALL PLAN** 

PROJECT NUMBER 04/24/2023





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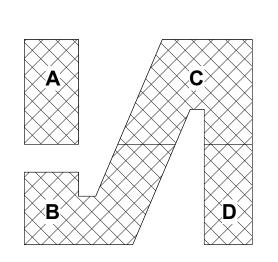
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GREENPATH DESIGN 139 W LIBERTY STREET PLYMOUTH, MI 48170 INFO@GREENPATH.DESIGN 734.926.5593

ETS ENGINEERING, INC. P.O. BOX 1116 ROYAL OAK, MI 48068 248.744.0360



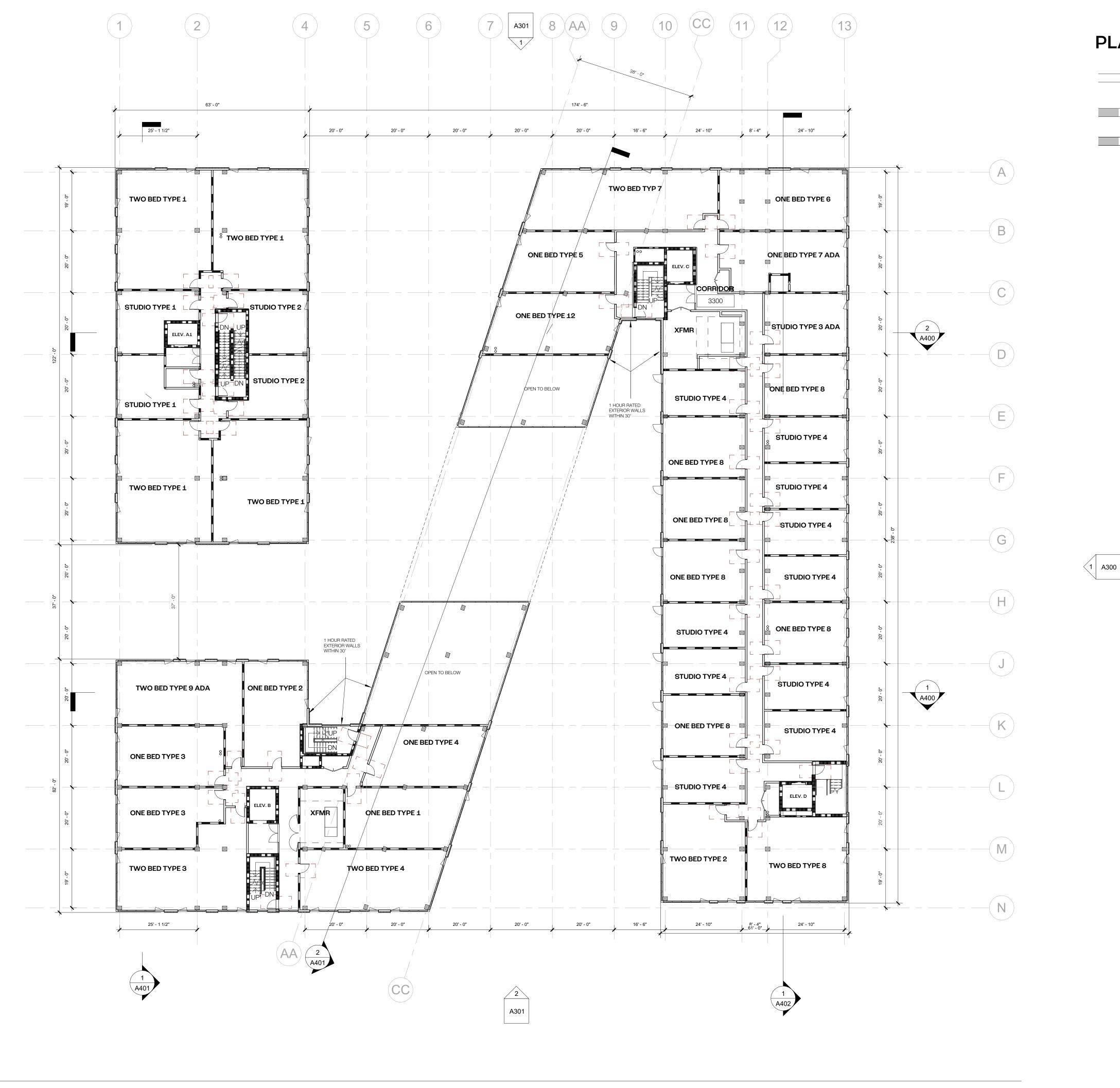
No.	Description	Date
	SCHEMATIC DESIGN	01/03/2
	SITE PLAN RESUB.	04/24/2
	SITE PLAN RESUB.	06/13/2

**1610 WHITE STREET** ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 2 -**OVERALL PLAN** 

PROJECT NUMBER 04/24/2023 DATE



A300 2

1 LEVEL 3 1/16" = 1'-0"

## **PLAN NOTES**

2X MTL STUD @ 16" O.C. NON LOAD BEARIN PARTITION WALL W/ SAFE'N'SOUND 3"
1-HR FIRE RATED WALL - SEE DETAIL 06/A600 FOR ASSEMBLY
2-HR FIRE RATED WALL - 12" REINFORCED CONCRETE WALLS, REFER TO STRUCTURAL - HAT CHANNEL AND 5/8" GYP @ 1 SIDE



SYNECDOCHE

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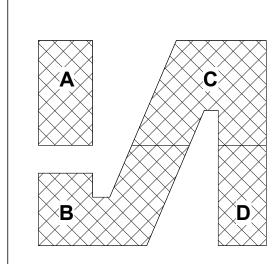
> **NEDERVELD** 3037 MILLER RD ANN ARBOR, MI 48103 734.929.6963

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604.762.78444

GREENPATH DESIGN 139 W LIBERTY STREET PLYMOUTH, MI 48170 INFO@GREENPATH.DESIGN 734.926.5593

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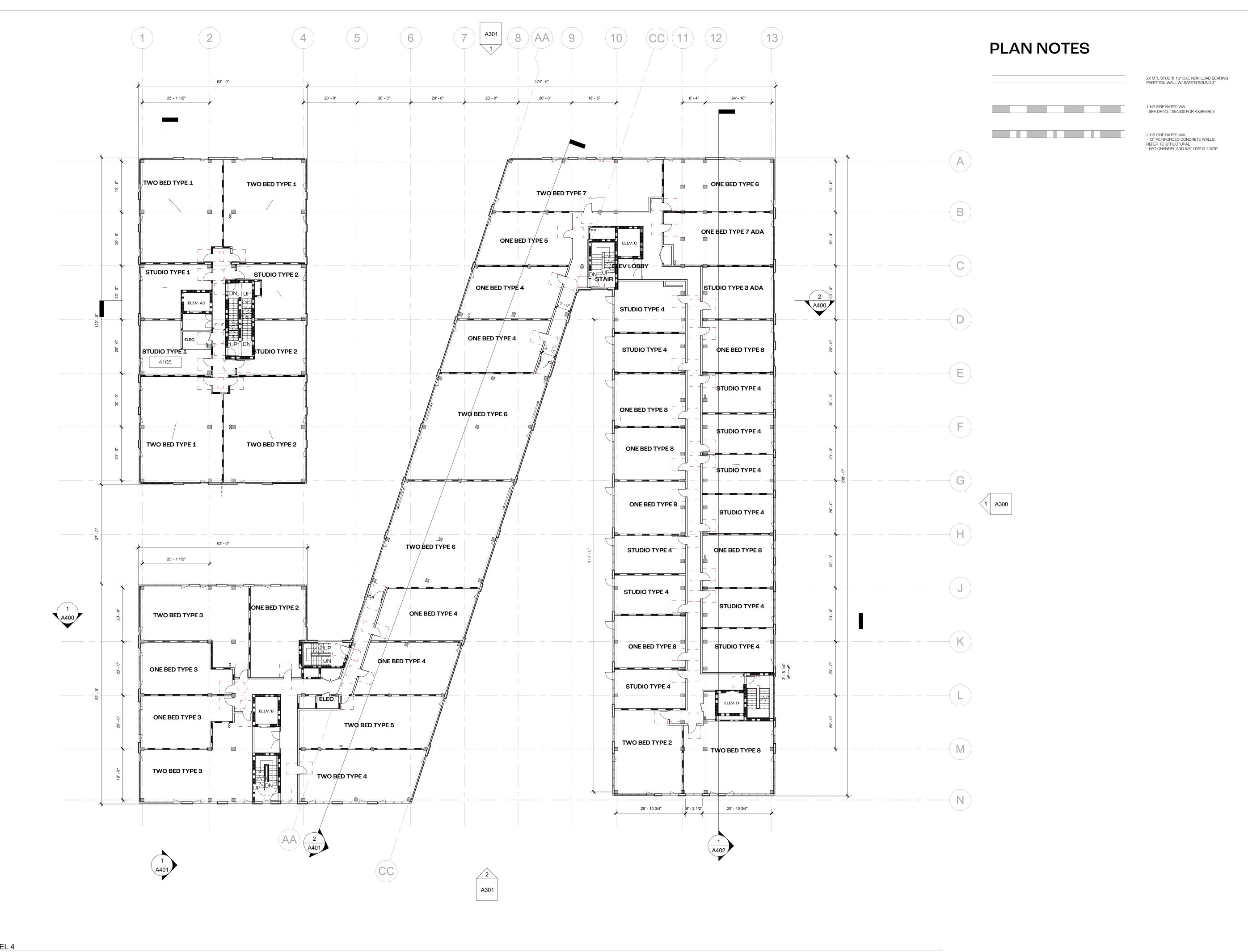
No.	Description	Da
	SCHEMATIC DESIGN	01/03
	SCHEMATIC DESIGN SITE PLAN RESUB.	04/24

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 3

202121 PROJECT NUMBER 04/24/2023 DATE





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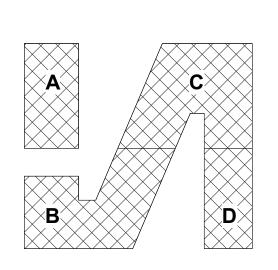
> **NEDERVELD** 3037 MILLER RD ANN ARBOR, MI 48103 734.929.6963

ASPECT STRUCTURAL ENGINEERS 101-190 W 3RD AVE VANCOUVER, BC V5Y 1E9 HELLO@ASPECTENGINEERS.COM

604.762.78444

GREENPATH DESIGN 139 W LIBERTY STREET PLYMOUTH, MI 48170 INFO@GREENPATH.DESIGN 734.926.5593

ETS ENGINEERING, INC. P.O. BOX 1116 ROYAL OAK, MI 48068 248.744.0360



No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SCHEMATIC DESIGN SITE PLAN RESUB.	04/24/23

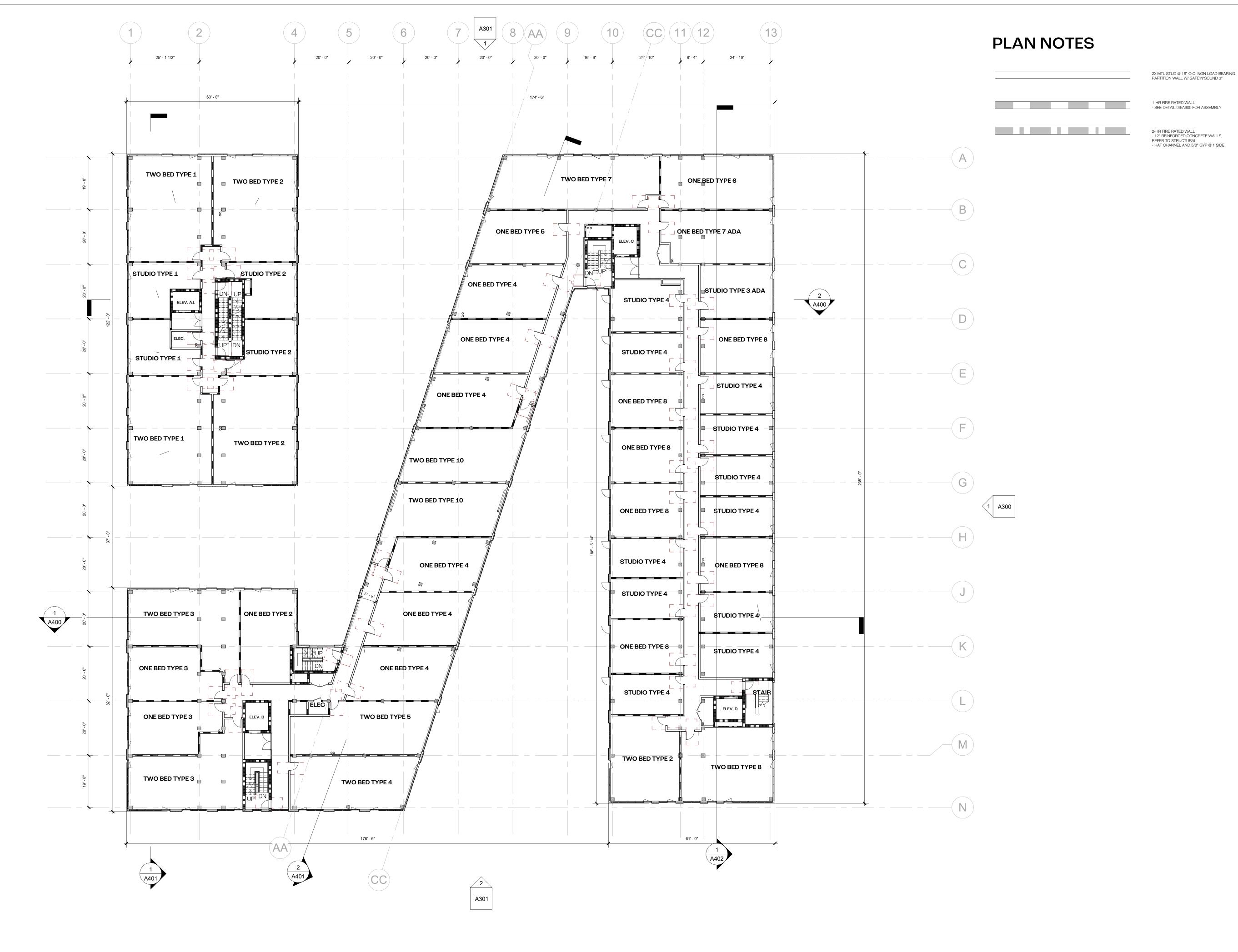
1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 4

PROJECT NUMBER 04/24/2023

A104





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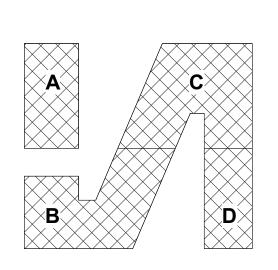
NOT FOR CONSTRUCTION FOR REVIEW ONLY

NEDERVELD 3037 MILLER RD ANN ARBOR, MI 48103 734.929.6963

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GREENPATH DESIGN 139 W LIBERTY STREET PLYMOUTH, MI 48170 INFO@GREENPATH.DESIGN 734.926.5593

ETS ENGINEERING, INC. P.O. BOX 1116 ROYAL OAK, MI 48068 248.744.0360



No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	01/03/23 04/24/23

1610 WHITE STREET ANN ARBOR, MI 48104

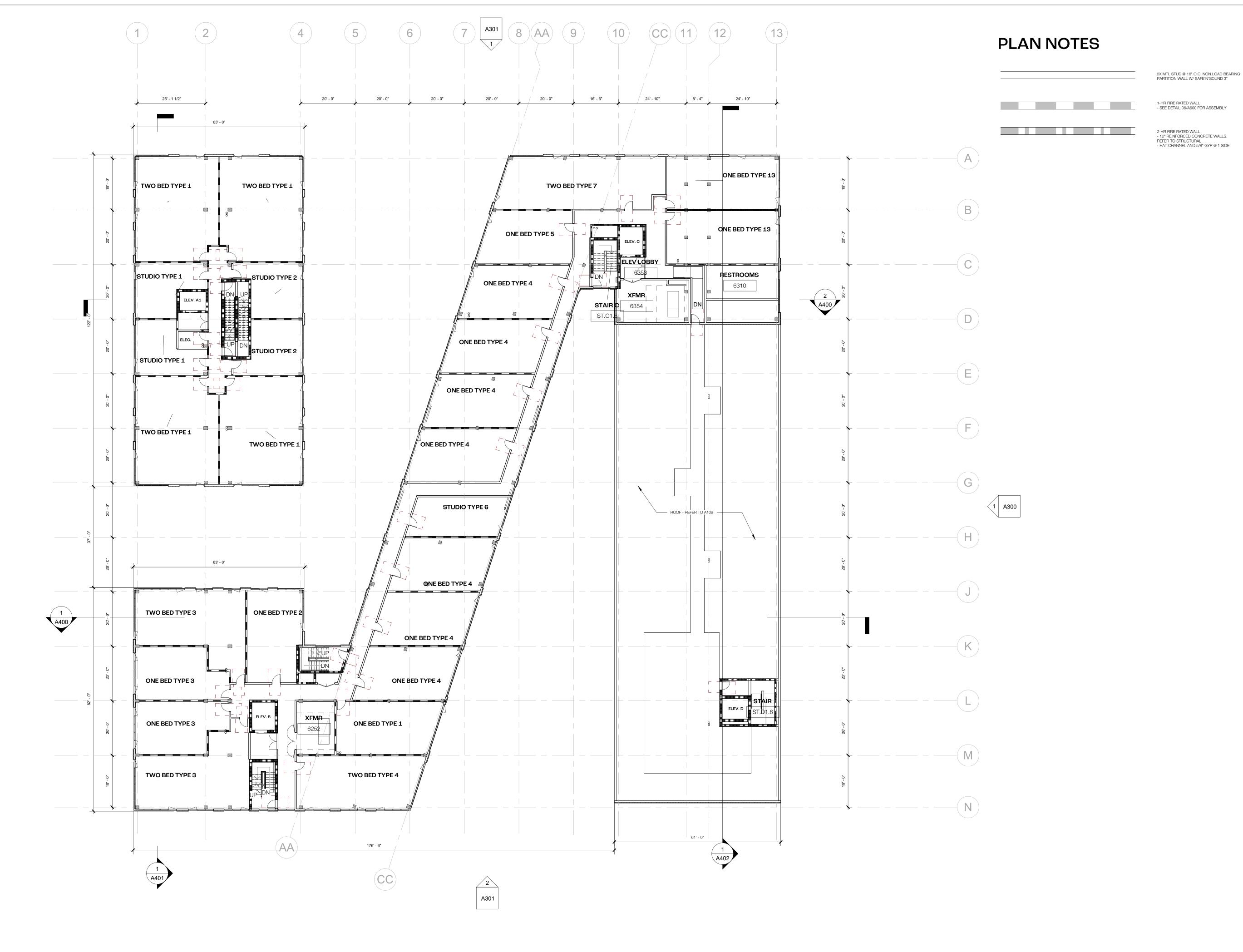
SOUTHTOWN

LEVEL 5

 PROJECT NUMBER
 202121

 DATE
 04/24/2023

A105



1342 N MAIN ST. #11 ANN ARBOR, MI 48104 HELLO@SYNECDOCHE.DESIGN

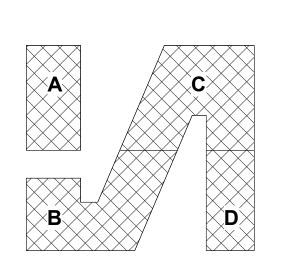
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> **NEDERVELD** 3037 MILLER RD ANN ARBOR, MI 48103 734.929.6963

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No.	Description	Date
	SCHEMATIC DESIGN	01/03/2
	SCHEMATIC DESIGN SITE PLAN RESUB.	04/24/2

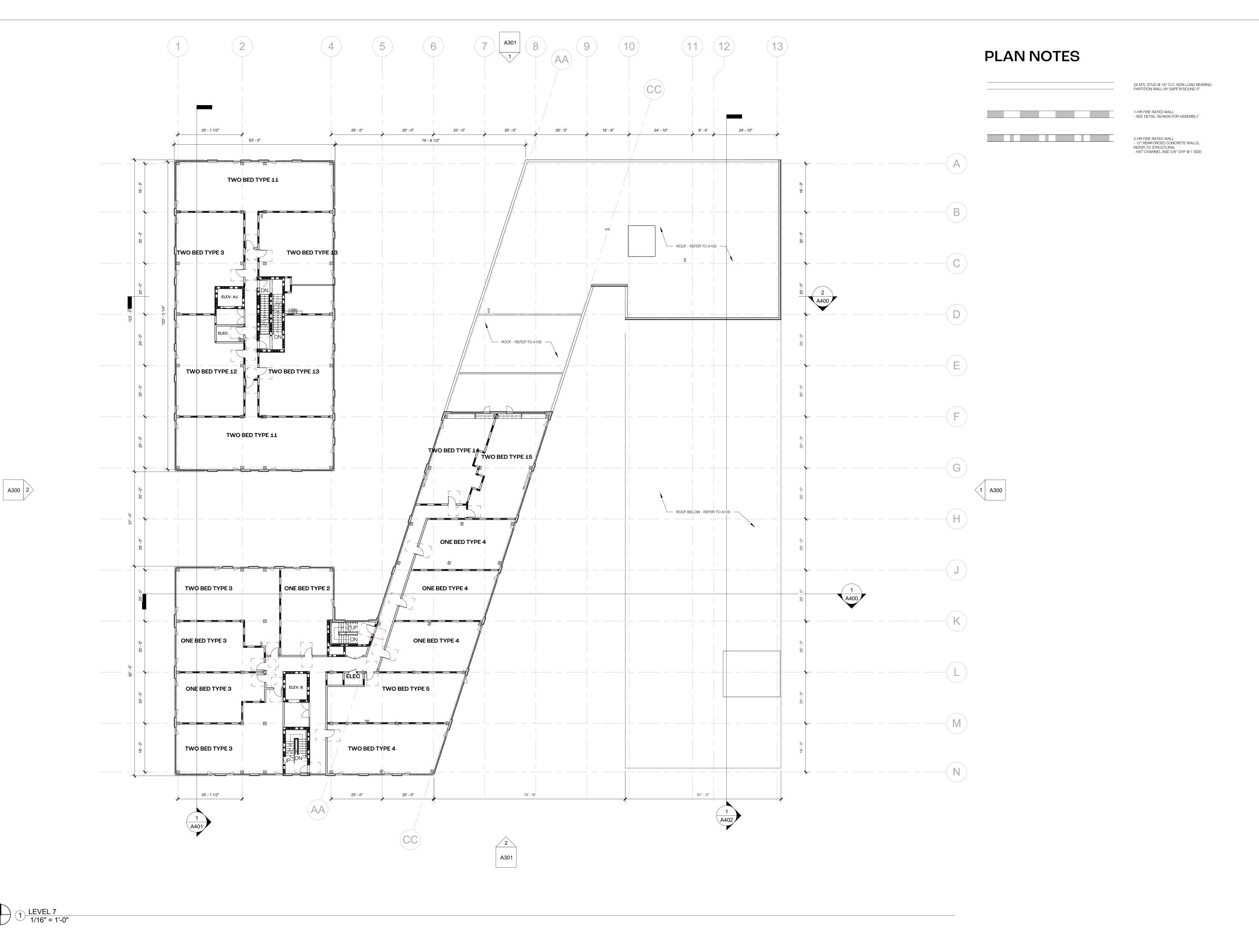
1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 6

PROJECT NUMBER 04/24/2023

A106





1342 N MAIN ST. #11 ANN ARBOR, MI 48104 HELLO@SYNECDOCHE.DESIGN

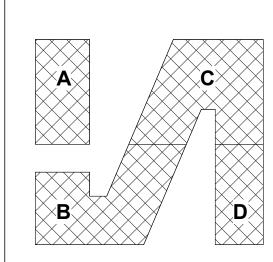
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No.	Description	Date
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	SCHEMATIC DESIGN SITE PLAN RESUB.	04/24/23

1610 WHITE STREET ANN ARBOR, MI 48104

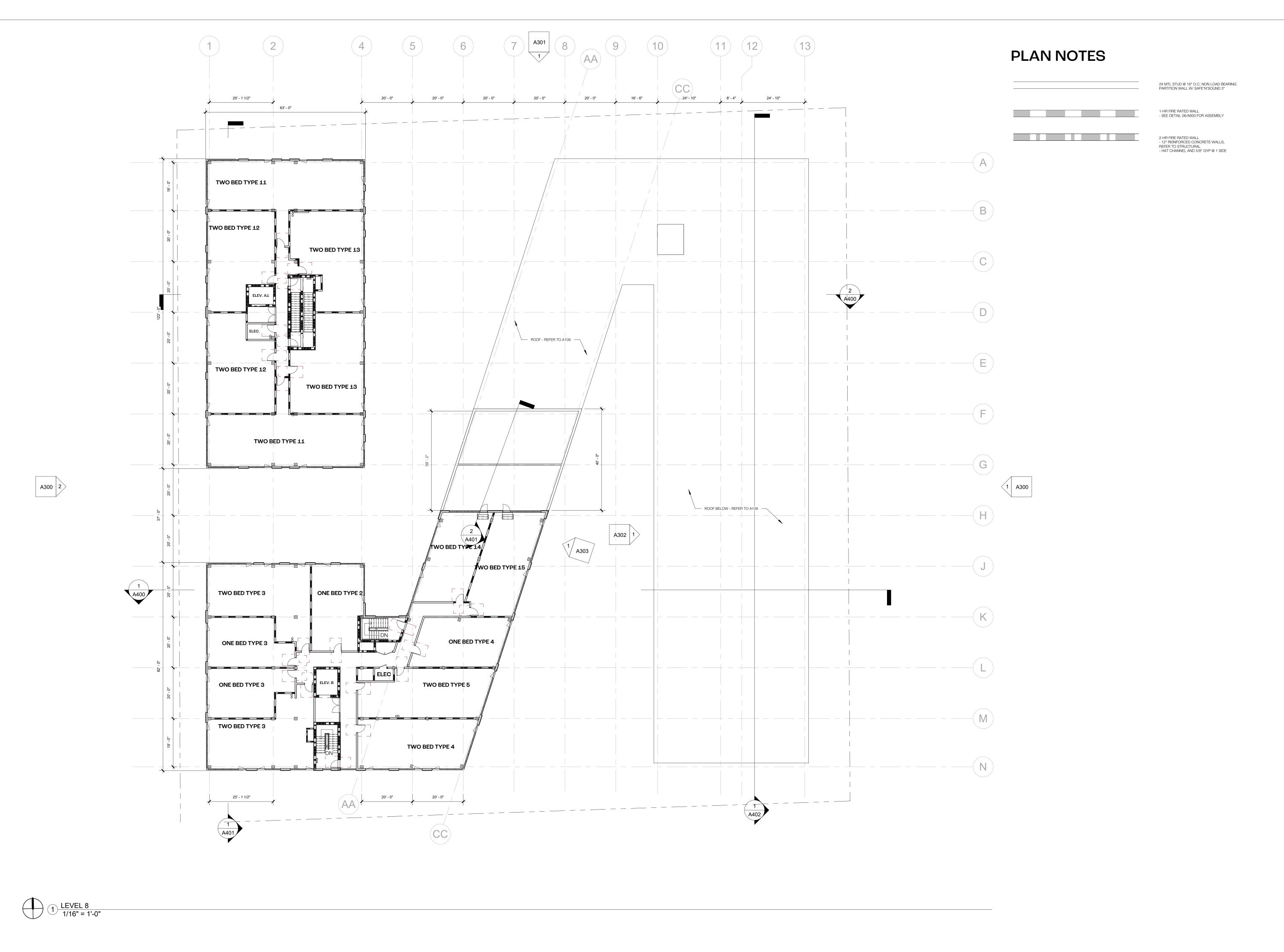
SOUTHTOWN

LEVEL 7

PROJECT NUMBER

A107

04/24/2023





1342 N MAIN ST. #11 ANN ARBOR, MI 48104 HELLO@SYNECDOCHE.DESIGN

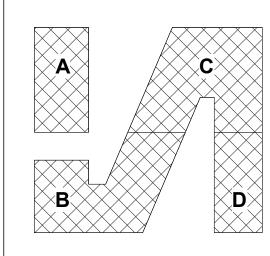
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> **NEDERVELD** 3037 MILLER RD ANN ARBOR, MI 48103 734.929.6963

ASPECT STRUCTURAL ENGINEERS 101-190 W 3RD AVE VANCOUVER, BC V5Y 1E9 HELLO@ASPECTENGINEERS.COM 604.762.78444

GREENPATH DESIGN 139 W LIBERTY STREET PLYMOUTH, MI 48170 INFO@GREENPATH.DESIGN 734.926.5593

ETS ENGINEERING, INC. P.O. BOX 1116 ROYAL OAK, MI 48068 248.744.0360



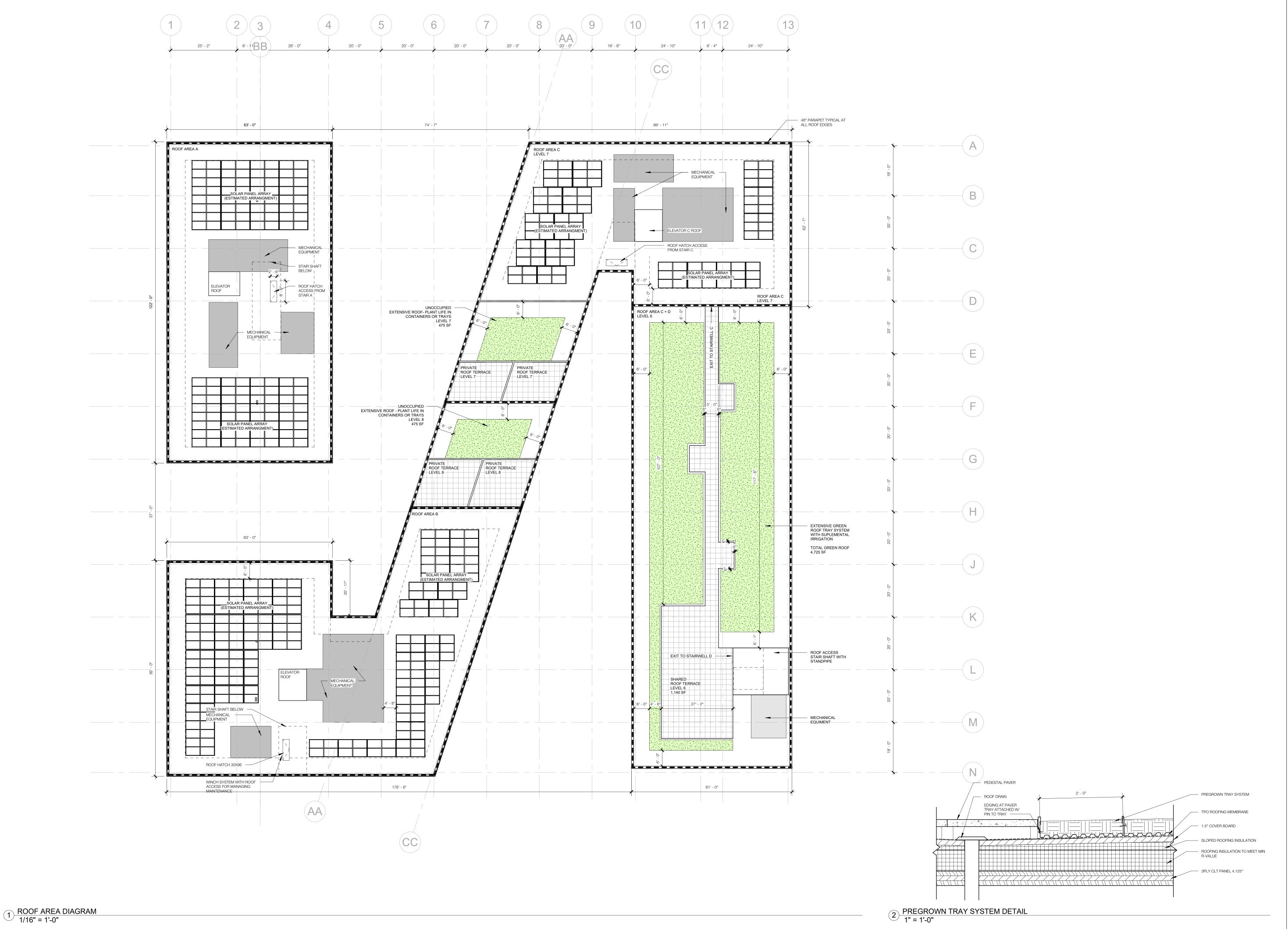
No.	Description	Date
	SCHEMATIC DESIGN	01/03/
	SCHEMATIC DESIGN SITE PLAN RESUB.	04/24/

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 8

PROJECT NUMBER 04/24/2023



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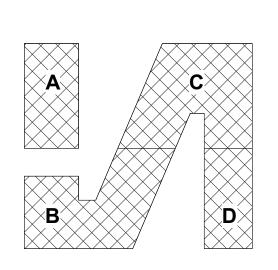
NEDERVELD 3037 MILLER RD ANN ARBOR, MI 48103 734.929.6963

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604.762.78444

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No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	01/03/23

1610 WHITE STREET ANN ARBOR, MI 48104

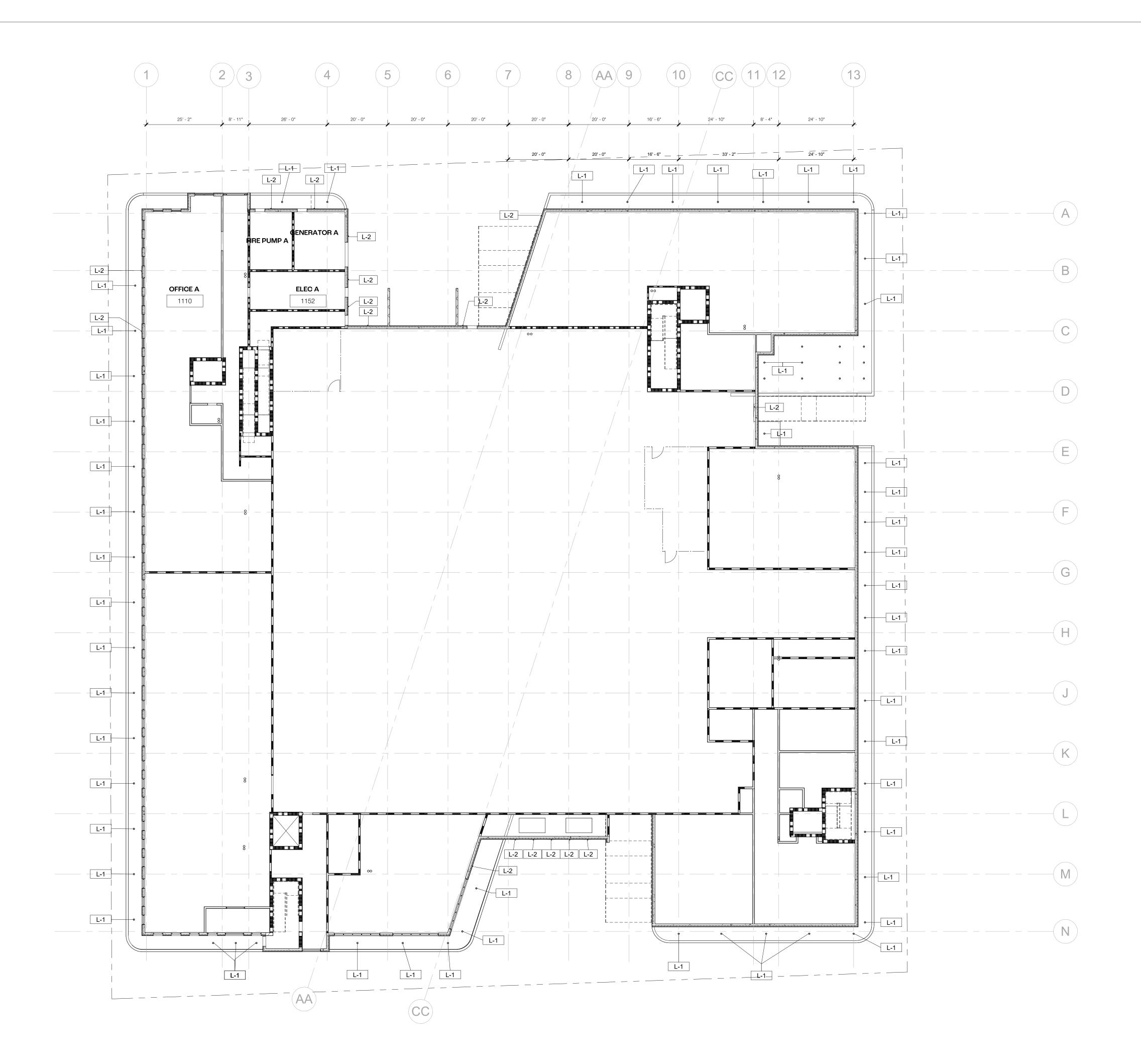
ROOF AREA
DIAGRAM

 PROJECT NUMBER
 202121

 DATE
 04/24/2023

A109

SCALE As indicated





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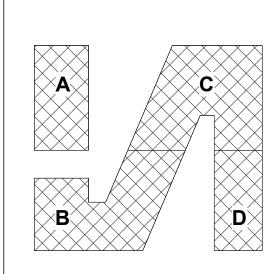
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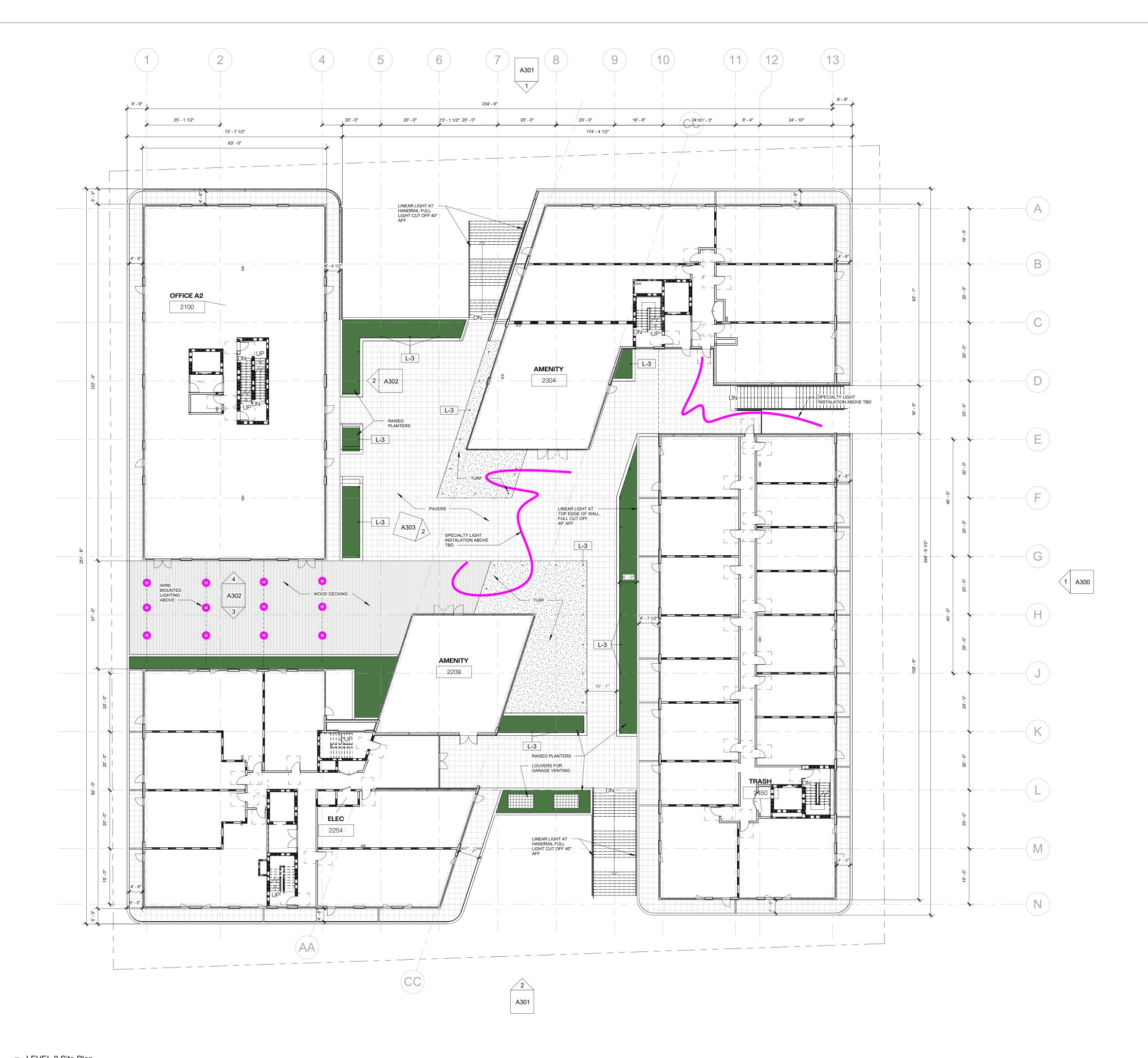
No.	Description	D
	SITE PLAN RESUB.	04/2

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 1 -**EXTERIOR** LIGHTING

PROJECT NUMBER 04/24/2023 DATE





1342 N MAIN ST. #11 ANN ARBOR, MI 48104 HELLO@SYNECDOCHE.DESIGN

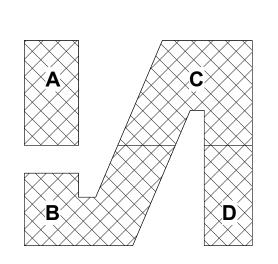
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GREENPATH DESIGN 139 W LIBERTY STREET PLYMOUTH, MI 48170 INFO@GREENPATH.DESIGN 734.926.5593

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No.	Description	Date
	SITE PLAN RESUB.	04/24/2

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

LEVEL 2 -EXTERIOR LIGHTING

 PROJECT NUMBER
 202121

 DATE
 04/24/2023

A202

SCALE 1/1

## **ELEVATION NOTES**

1. REFER TO A600 FOR WALL ASSEMBLY DETAILS



SYNECDOCHE

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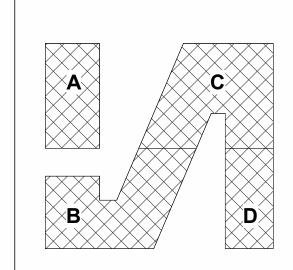
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101-190 W 3RD AVE
VANCOUVER, BC V5Y 1E9
HELLO@ASPECTENGINEERS.COM
604.762.78444

GREENPATH DESIGN 139 W LIBERTY STREET PLYMOUTH, MI 48170 INFO@GREENPATH.DESIGN 734.926.5593

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No.	Description	Da
	SCHEMATIC DESIGN	01/03
	SITE PLAN RESUB.	04/24
	SITE PLAN RESUB.	06/13

1610 WHITE STREET ANN ARBOR, MI 48104

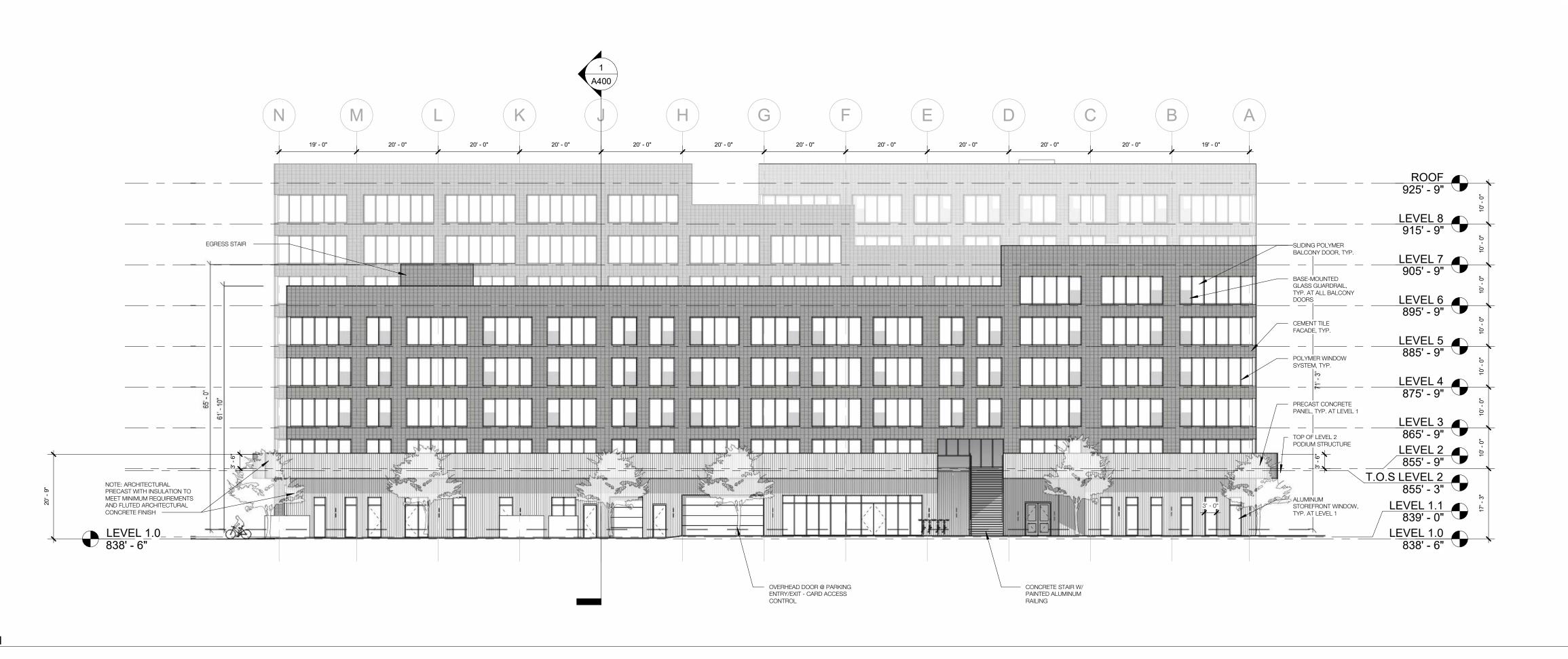
SOUTHTOWN

EXTERIOR ELEVATIONS

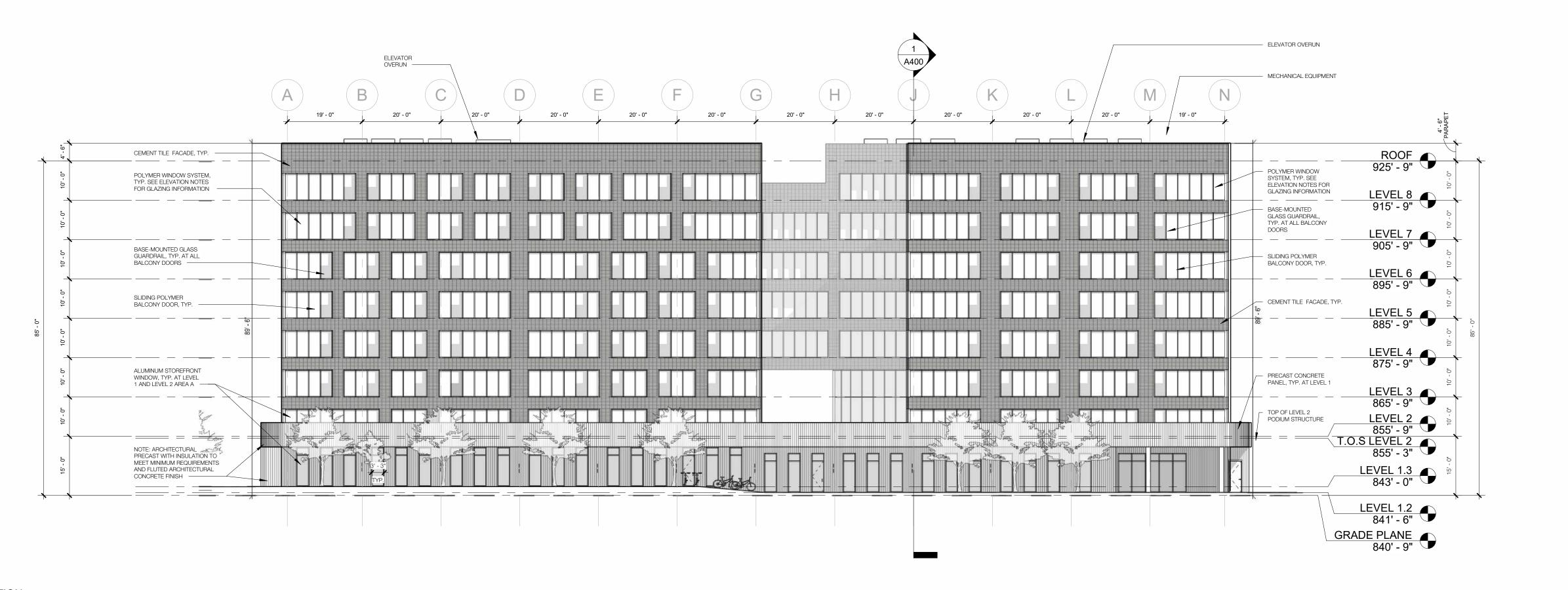
 PROJECT NUMBER
 202121

 DATE
 04/24/2023

A300
ALE As indicated



2 EAST ELEVATION 1/16" = 1'-0"



## **ELEVATION NOTES**

1. REFER TO A600 FOR WALL ASSEMBLY DETAILS



SYNECDOCHE

1342 N MAIN ST. #11 ANN ARBOR, MI 48104 HELLO@SYNECDOCHE.DESIGN

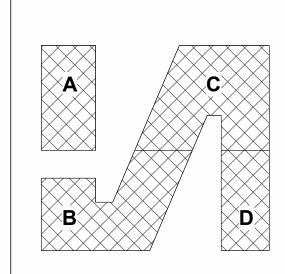
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VANCOUVER, BC V5Y 1E9
HELLO@ASPECTENGINEERS.COM
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No.	Description	Dat
	SCHEMATIC DESIGN	01/03/
	SITE PLAN RESUB.	04/24/
	SITE PLAN RESUB.	06/13/

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

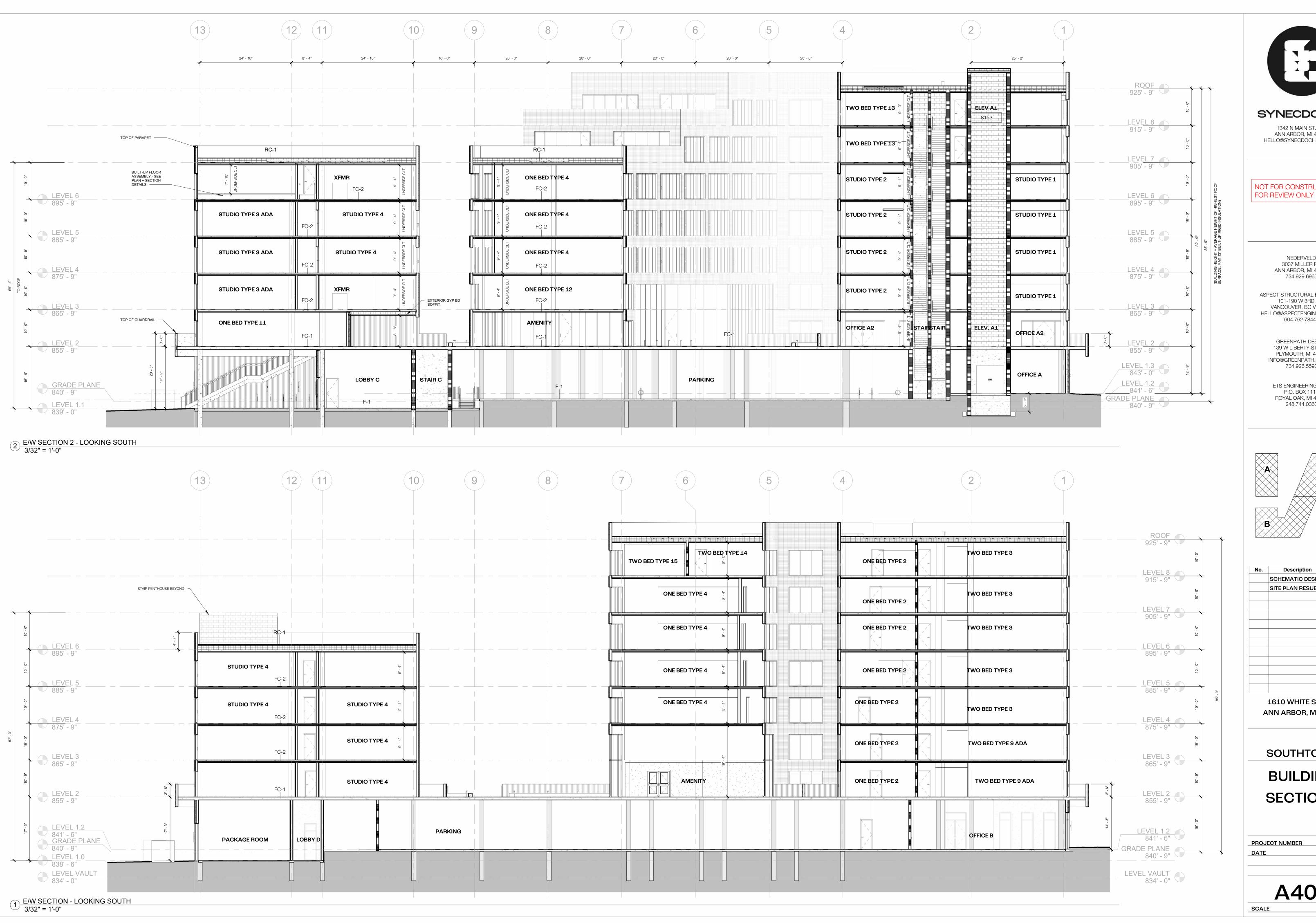
EXTERIOR ELEVATIONS

 PROJECT NUMBER
 202121

 DATE
 04/24/2023









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1342 N MAIN ST. #11 ANN ARBOR, MI 48104

NOT FOR CONSTRUCTION

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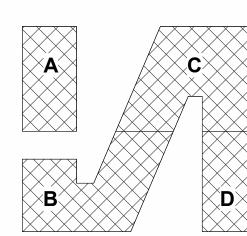
ASPECT STRUCTURAL ENGINEERS 101-190 W 3RD AVE VANCOUVER, BC V5Y 1E9 HELLO@ASPECTENGINEERS.COM

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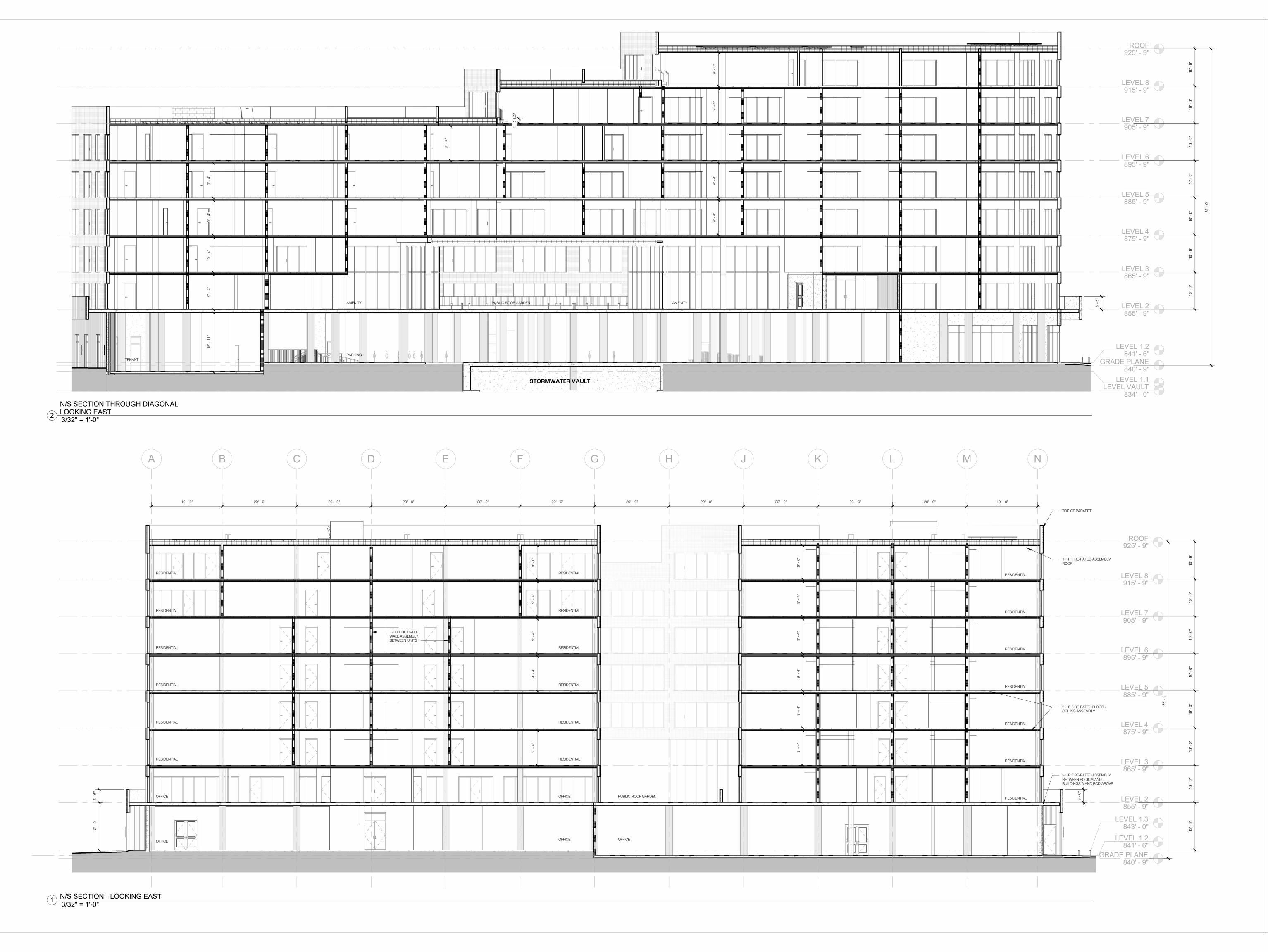


No.	Description	Date
	SCHEMATIC DESIGN	01/03/23
	SITE PLAN RESUB.	04/24/23
	1610 WHITE STR NN ARBOR, MI 48	

SOUTHTOWN

BUILDING **SECTIONS** 

202121 PROJECT NUMBER 04/24/2023





1342 N MAIN ST. #11 ANN ARBOR, MI 48104 HELLO@SYNECDOCHE.DESIGN

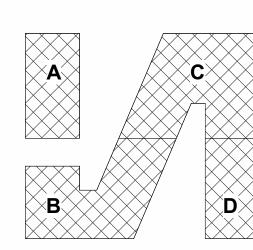
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No.	Description	Da
	SCHEMATIC DESIGN	01/03
	SCHEMATIC DESIGN SITE PLAN RESUB.	04/24

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

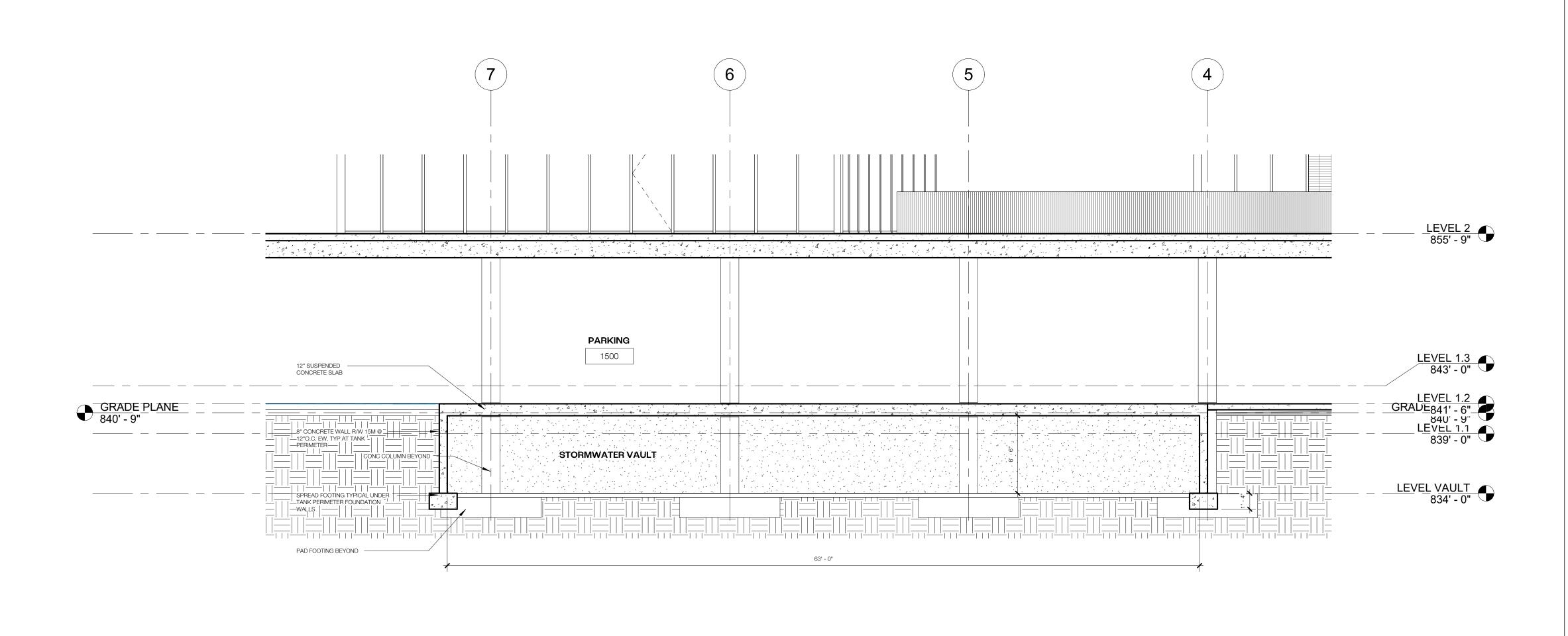
BUILDING SECTIONS

 PROJECT NUMBER
 202121

 DATE
 04/24/2023

A401

**3/32" = 1'-0"** 



1 Section 24 VAULT 3/16" = 1'-0"

#### SYNECDOCHE

1342 N MAIN ST. #11 ANN ARBOR, MI 48104 HELLO@SYNECDOCHE.DESIGN

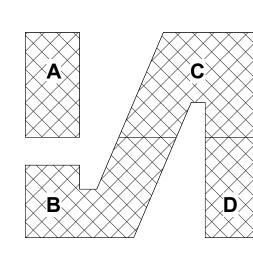
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No.	Description	Date
	SCHEMATIC DESIGN	01/03/2
	SCHEMATIC DESIGN SITE PLAN RESUB.	04/24/2

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

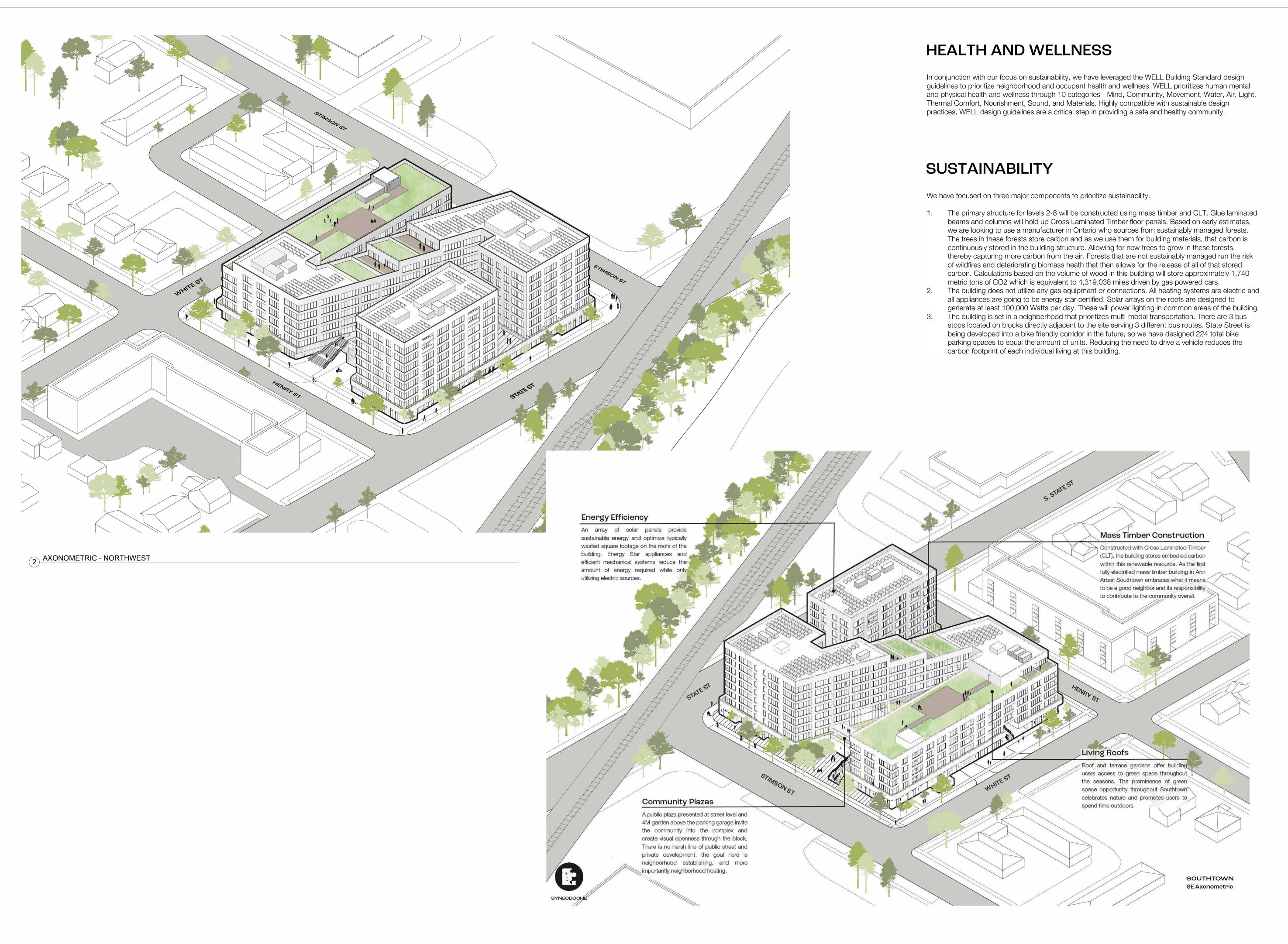
**DETAIL** SECTION

PROJECT NUMBER DATE 04/24/2023

A405

202121

SCALE





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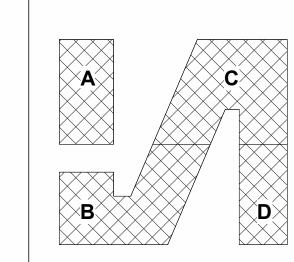
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No.	Description	Date
	SITE PLAN RESUB.	04/24/

1610 WHITE STREET ANN ARBOR, MI 48104

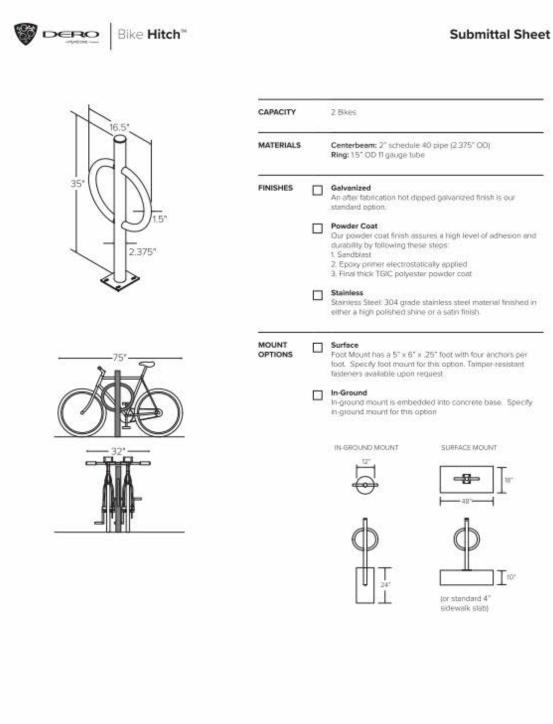
SOUTHTOWN

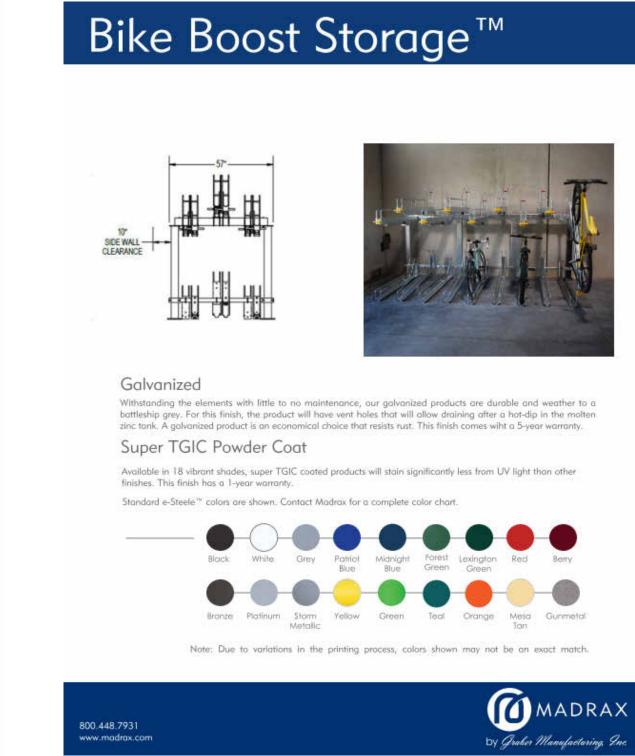
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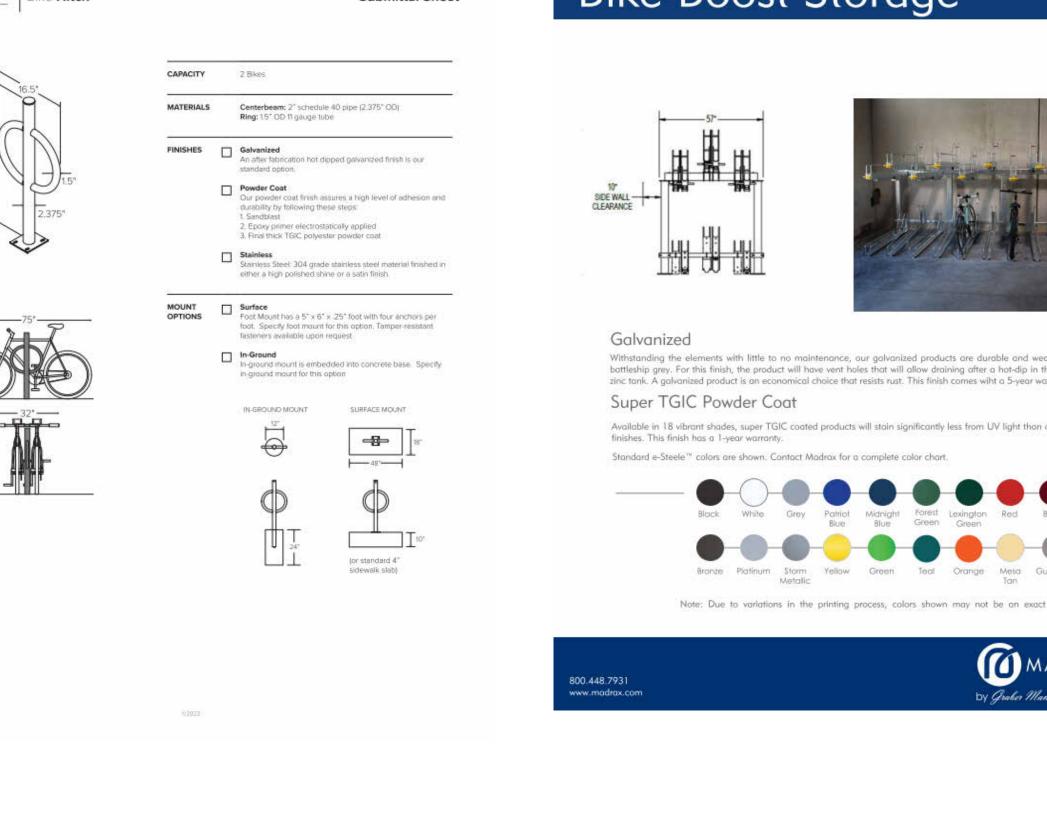
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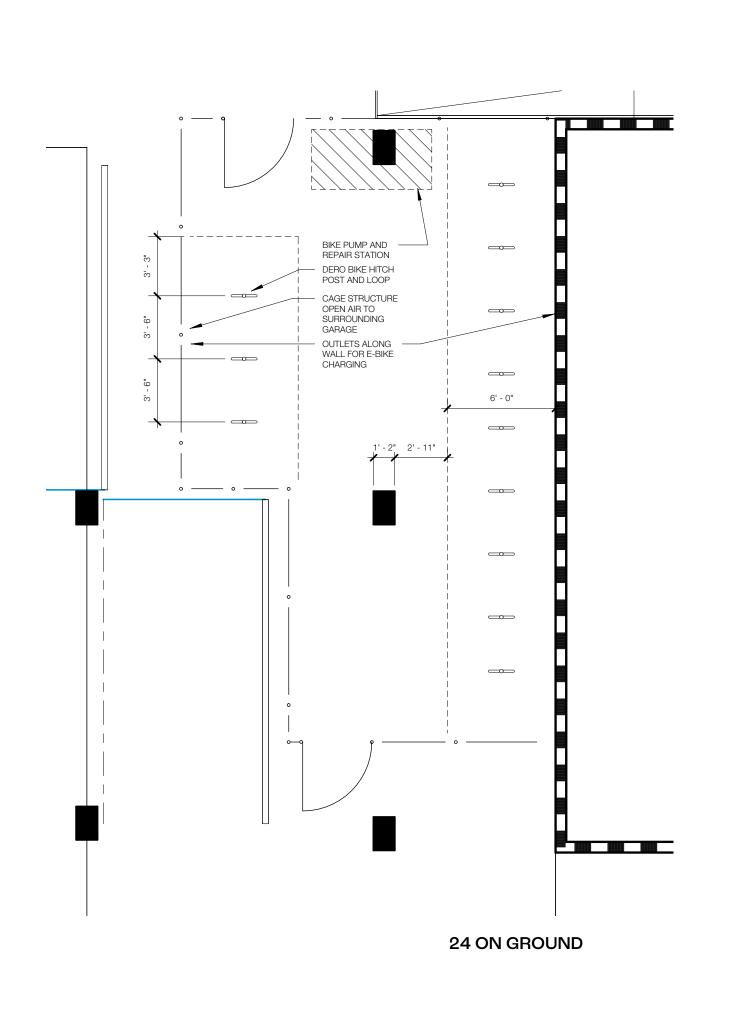
 PROJECT NUMBER
 202121

 DATE
 04/24/2023

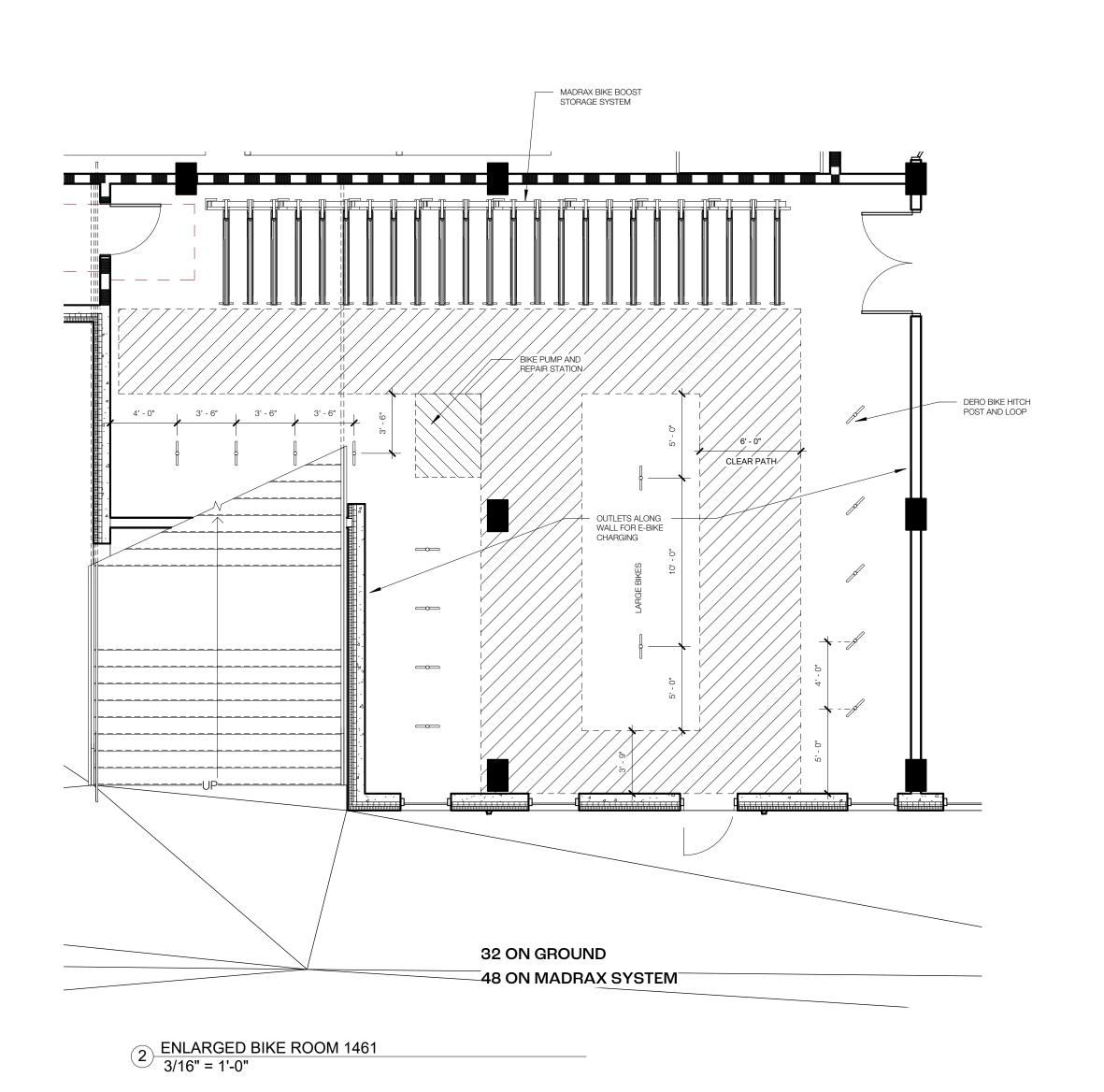


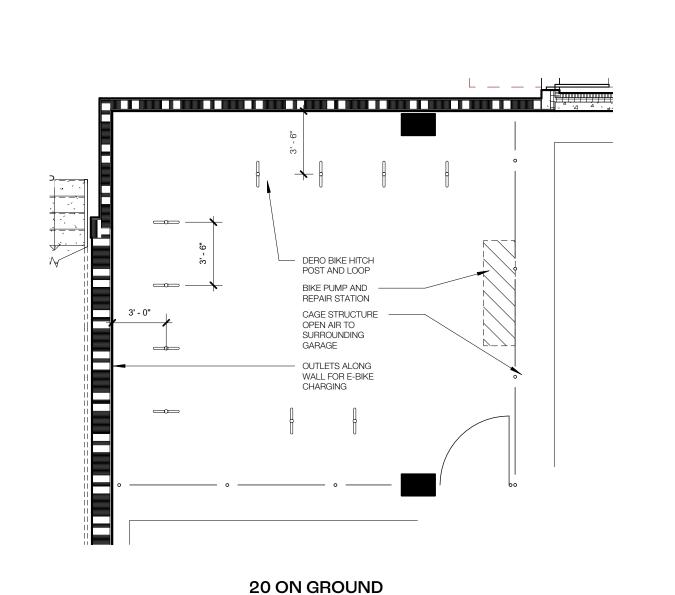






3 ENLARGED BIKE LOCKER B
3/16" = 1'-0"





1 ENLARGED BIKE AREA A 3/16" = 1'-0"



SYNECDOCHE

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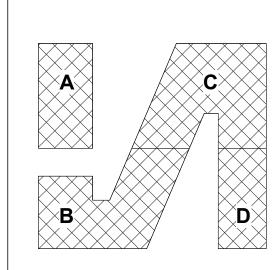
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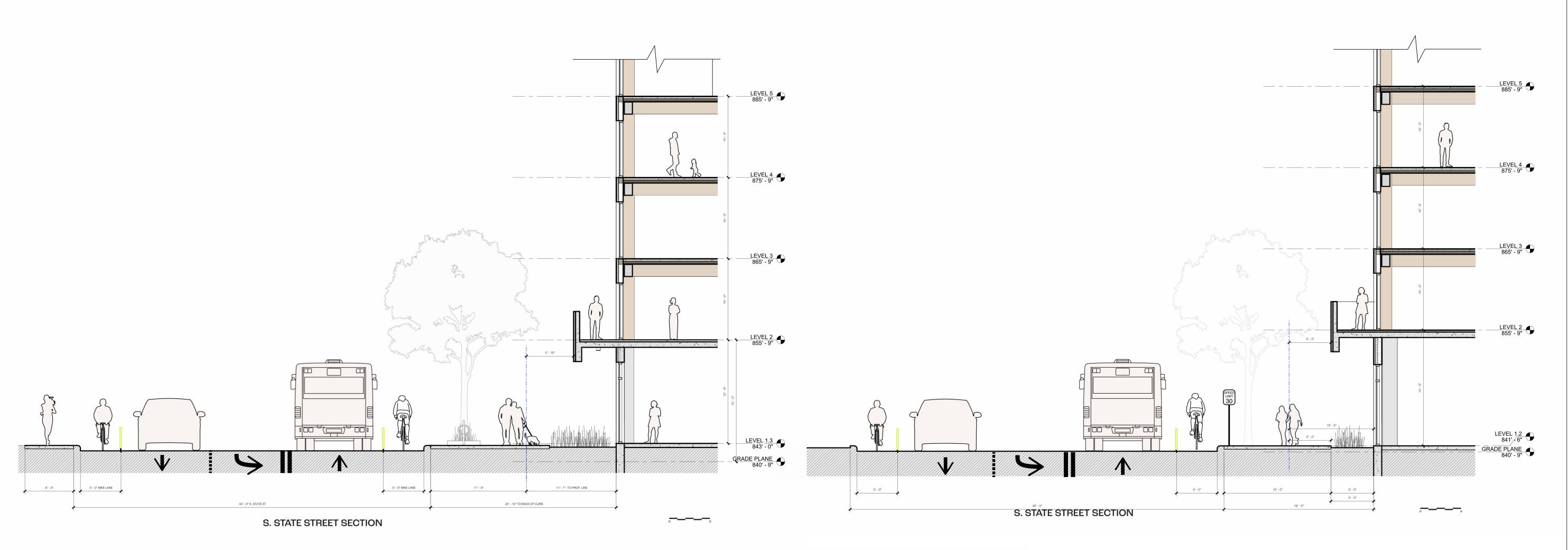
No.	Description	Date
	SITE PLAN RESUB.	04/24/23

ANN ARBOR, MI 48104

SOUTHTOWN

**ENLARGED** PLANS - BIKE

PROJECT NUMBER 04/24/2023







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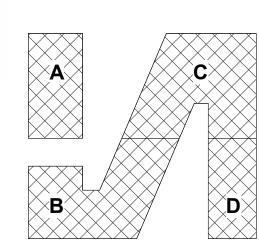
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No.	Description	Date
	SITE PLAN RESUB.	04/24/2

1610 WHITE STREET ANN ARBOR, MI 48104

SOUTHTOWN

STREET SECTIONS

 PROJECT NUMBER
 202121

 DATE
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