611 E. UNIVERSITY

T2S, R6E

CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

SITE PLAN

OWNER/DEVELOPER
COLLEGIATE DEVELOPMENT GROUP
7711 BONHOMME AVE.
SUITE 625
ST. LOUIS, MO 63105
PH: (314) 721-5559
ATTN: BRANDT STILES

ENGINEER/SURVEYOR/
LANDSCAPE ARCHITECT
MIDWESTERN CONSULTING, LLC
3815 PLAZA DR.
ANN ARBOR, MI 48108
PH. (734) 995-0200
ATTN: SCOTT BETZOLDT
E-MAIL: SWB@MIDWESTERNCONSULTING.COM

ARCHITECT
J BRADLEY MOORE & ASSOCIATES ARCHITECTS
4844 JACKSON ROAD
SUITE 150
ANN ARBOR, MI 48103
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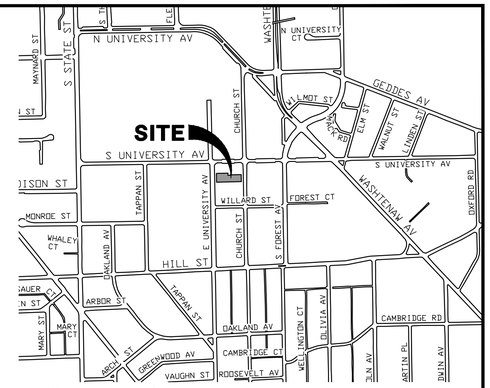
ATTN: BRAD MOORE

WDG ARCHITECTURE
1025 CONNECTICUT AVE. NW
WASHINGTON, DC 20036-5424
PH: (202) 857-8300
ATTN: BOB KEANE

CONTRACTOR
O'NEAL CONSTRUCTION INC
525 W. WILLIAM
ANN ARBOR, MI 48103
ATTN: TIM STOUT



VICINITY MAP
NOT TO SCALE

PROJECT INFORMATION AND ANALYSIS:

1. **DEVELOPMENT PROGRAM:**
   (a) *Description*: the proposed development is located in the D1 - Downtown Core District, South University Character overlay. The site has frontage on E. University Street and on Church Street, both of which are secondary frontages. The project includes removal of five existing buildings and construction of a mixed use building and a parklet. The site will be excavated to construct the foundation, a partial basement and a storm water detention chamber. The ground floor includes the lobby, leasing office, bike rooms, retail, maintenance room, trash area, fire command center and employee parking. Additional vehicular parking is provided on levels 2 and 3. A total of 56 spaces of interior parking are providing including 53 regular spaces, 2 barrier free spaces and 1 barrier free van space. Bike parking is provided in lockable spaces within the ground floor area of the building. Additional bike parking is provided on each street frontage.
   Apartments are proposed on levels 4 through 13 with a total of 90 units with 343 beds. Apartments include studio, 3, 4 and 5 bedroom units.
   Level 14 is the mechanical penthouse.
   Storm water from the building, the parklet area and a small portion of 1112 S. University will be captured and directed to a detention chamber under the ground level parking area. The chamber will discharge to the existing storm sewer in E. University Street.
   Sanitary sewer and water leads will leads connect to existing mains in E. University Street.
   (b) *Proposed Phasing and Probable Construction Cost*: the development will be constructed in one phase, beginning on or before 4/1/2017, with completion on or before 9/1/2018. The estimated construction cost is $29,000,000.
2. **COMMUNITY ANALYSIS:**
   (a) *Impact on Public Schools*: the units range from studio apartments to units with 2 to 5 bedrooms. The units are designed primarily for young professionals, faculty, visiting professors, and college students. The number of children living in the building is expected to be minimal so there will be virtually no impact on public elementary and high schools.
   (b) *Relationship to Neighboring Uses*: The residential units will provide additional housing and interior parking very close to the University of Michigan Central Campus. The residents are likely to patronize existing restaurants, proposed retail, other businesses in the nearby buildings, and may attend local churches. The limited amount of proposed commercial use will provide services for the residents and for the neighborhood. Adjacent buildings include a mix of commercial and residential uses. E. University Street is a City of Ann Arbor public street that provides access to resident parking on levels 2 and 3. The primary pedestrian entry is on E. University. Church Street is a City of Ann Arbor public street that provides access to the proposed employee parking and to trash and recycling areas. A secondary pedestrian entry is also provided on the Church Street frontage at the southeast corner of the site. Retail spaces are located on each of the street frontages with direct access to the adjacent public sidewalks.
   (c) *Impact of Adjacent Uses on Proposed Development*: Residents will likely patronize the businesses and institutions in the surrounding area.
   (d) *Impact on Air and Water Quality and Existing Natural Features*: No significant impact on air and water quality is expected. There are no landmark trees on the site. There is a landmark, 16-inch caliper honeylocust tree within the Church Street right-of-way that is to remain.
   (e) *Impact on Historic Sites/Structures*:
   The site is not located in or adjacent to a Historic District. The existing buildings are not historic structures.
3. **SITE ANALYSIS:**
   (a) *Existing Land Use and Site Activity*:
   Mixed use including: 611 E. University – one story, 995 sf restaurant.
   615-617 E. University – two story/13,000sf; ground floor has 2 fast food restaurants and a spinning club; second floor office.
   612 Church – 2 ½ story, 2,500 sf; leasing office and two 2-bedroom apartments.
   616 Church – five 2-bedroom apartments.
   (b) *Inventory of Site Conditions*:
   Soil Types: Fox Sandy Loam (FoA), at zero to 2 percent slopes.
   Vegetation: no significant vegetation.
   Topography: the site slopes down from the east about 3 feet to the west at approximately 1.5 percent.
   (c) *Description of On-Site Natural Features*:
   Endangered Species Habitat: none.
   100-Year Floodplain: none.
   Landmark Trees: none.
   Steep Slopes: none.
   Existing Watercourses: none.
   Wetlands: none.
   Woodlands: none.
   (d) *Existing Structures On-Site*:
   Mixed use including: 611 E. University – one story, 995 sf restaurant.
   615-617 E. University – two story/13,000sf; ground floor has 2 fast food restaurants and a spinning club; second floor office.
   612 Church – 2 ½ story, 2,500 sf; leasing office and two 2-bedroom apartments.
   616 Church – five 2-bedroom apartments.
   (e) *Existing and Proposed Pathways / Access Points*: Existing site access is via public streets and sidewalks that are located on the east and west edges of the site. The primary proposed pedestrian access for residents is the entry and lobby is on E. University, at the northwest corner of the building. Secondary/emergency pedestrian entry for residents is from Church Street at the southeast corner of the site. Retail uses on each of the street frontages have direct access to the adjacent public sidewalks. Ingress/egress to the resident parking on levels 2 and 3 will be from E. University Street at the southwest corner of the site. Ingress/egress to employee parking and trash/recycling area will be from Church Street at the northeast corner of the proposed building and via the shared use drive that straddles the north property line.
   (f) *Utility Availability, Existing Rights-of-Way and Easements*: see Existing Conditions Plan.
   Water main - 12" water mains are located in the east half of E. University and on the centerline of Church Street.
   Sanitary sewer – a 10" sewer is located approximately in the center of E. University and a 10" sewer is located in the east half of Church Street.
   Storm sewer – a 24" sewer is located in the east half of E. University and a 15" sewer is located in the east half of Church Street.
   (g) *General Drainage Pattern*: the site slopes from the east to the west at approximately 1.5 percent.
4. **SCHEMATIC DESIGN:**
   (a) *Comparison Chart of Proposed Development and City Requirements*: see the chart on the Cover Sheet.
   (b) *Existing / Proposed Topography and Limits of Soil Disturbance*: see existing topography on the Existing Conditions Plan. Proposed grading and limits of disturbance are shown on the Grading Plan.
   (c) *Orientation and General Location of Proposed Improvements*: see Dimensional Site Plan.
   (d) *Vertical Sections Resulting in Significant Change of Steep Slope*: not applicable.
   (e) *Proposed Circulation Patterns On-Site*: see Dimensional Site Plan and Architectural Plans. Primary pedestrian access for residents is at the northwest corner of the building. Secondary pedestrian access is provided at the southeast corner of the building.
   Vehicular access to the resident parking on levels 2 and 3 is via the proposed curb cut and ramp located on E. University, at the southwest corner of the building. Vehicular access to ground level employee parking and the trash and recycling area is via a joint use driveway on Church Street, at the northeast corner of the site.
   Trash and recycle storage will be located inside the ground floor level of the building. Trash and recycling room for 611 E. University is on the ground floor and west of the employee parking. Pizza House trash will use the compactor in the 611 E. University trash room. Recycling for Pizza House will be in a space within the employee parking area. Trash and recycling carts will be wheeled out into the joint use drive north of the site for public pickup. Frequency of pickup will be adjusted as necessary.
   (f) *Proposed Lot and Setback Lines*: see Dimensional Site Plan.
   (g) *Disturbance of Natural Features and Proposed Mitigation Measures*: No regulated natural features exist on site. There are no landmark trees on the site or in the adjacent street rights-of-way.
5. **GENERAL INFORMATION:**
   (a) *Project Name*: 611 E. University.
   (b) *Petitioner's Name and Address*: Collegiate Development Group, 7711 Bonhomme, Suite 625, St. Louis, MO 63105.
   (c) *North Arrow and Drawing Scale*: see each sheet.
   (d) *Existing and Proposed Zoning*: D1.
   (e) *Total Floor Area (no. of dwelling units)*: 133,805 sf gross including 130,204 sf residential/90 units, leasing and amenity area; and 3,601 sf retail.
   (f) *Proposed Building Height*: 150 feet maximum.
   (g) *Statement of Interest*: the properties are under sales contract. A letter of authorization to submit the site plan has been provided.
   (h) *Map of Applicant's Contiguous Land Holdings in Proposed Development Area*: the applicant has no additional land holdings in the proposed development area.
   (i) *Vicinity Map of Property Within 250 feet of Development*: see the Cover Sheet.
   (j) *Project Time Schedule*: start on or before 4/1/2017, and complete on or before 9/1/2018.
   (k) *Location / Identification of Public Areas/Municipal Corporation Lines in Proposed Development Area*: See Existing Conditions plan. The site is located in downtown Ann Arbor.
   (l) *Legal Description of Parcel*: See Existing Conditions plan.
   (m) *Copy of Proposed Plan in 8-1/2 x 11 format*: to be provided as pdf's.

SITE PLAN REQUIREMENTS:

(1) The Existing Conditions Plan shows the survey as prepared by a professional land surveyor.
(2) The Development Summary and Comparison Chart is shown on the Cover Sheet.
(3) The number and type of dwelling units, including the number of bedrooms is shown in the Development Summary and Comparison Chart. The development program includes 56 interior parking spaces (9 spaces on the ground floor and the rest on levels 2 and 3); ground floor lobby, retail, leasing, trash, maintenance, and bike parking; 10 levels of apartments above. Apartments include studio, 3, 4 and 5 bedroom units. There are a total of 90 units with 343 bedrooms.
A parklet is proposed at the northwest corner of the site.
(4) The site slopes down from east to west about 3 feet. The project is 13 levels with a partial basement. The maximum height is 150 feet to the top of the highest roof appurtenance. Scaled massing elevations of the proposed building are shown on the architectural plans.
Building context: see architectural plans.
Northeast – formerly residence, currently a real estate leasing office, and Underground Printing
Northwest – private surface parking lot, Innovatrium, PNC Bank, Oasis, South U. Pizza, and Rendezvous Hookah Lounge
Southeast – Pizza House restaurant and Arbor Blu apartments
Southwest – Zaragon Place apartments, Revive and Replenish retail stores
Parking: The development has a base FAR of 400%, premium residential FAR of 285.5% for a total of 685.5% / 133,805 square feet.
The total number of parking spaces is shown in the Development Summary and Comparison Chart. 56 spaces are required for the premium residential FAR. 56 on-site interior parking spaces are provided including 9 spaces on the ground floor and 47 additional spaces on the second and third levels.
Residential use is 130,204 sf. Retail use is 3,601 sf.
53 bike parking spaces are required. 63 spaces are provided including 53 Class A bike parking spaces are provided in the bike room on the ground floor level of the building, 6 Class C spaces on the E. University Street frontage and 4 Class C spaces on the Church Street frontage.
Storm water runoff from the building and site areas will be collected in a detention chamber in the basement level of the building. The chamber will discharge to the existing storm line in Church Street.
(5) Proposed setbacks are shown on the Dimensional Site Plan and in the Development Summary and Comparison Chart on the Cover Sheet.
(6) No fencing is proposed. A screen wall is provided around the transformer in the northwest portion of the site. This enclosure is sized to accommodate a second transformer for the parcels to the north if/when they are redeveloped.
(7) Trash management systems:
Per discussion with City staff, the best concept for this particular location is for service vehicles to drive straight in from Church Street and pick up the dumpsters without making any turns and then back straight out. Bollards will be provided adjacent to the proposed building. Mirrors will be provided at the northeast corner of the building. No parking signs will be posted on the joint use drive. A minimum of 25 foot overhead clearance will be provided.
There are two solid waste management systems on site, one for 611 E. University trash and recycling, and one for Pizza House recycling.
The 611 E. University trash will be collected via a vertical chute that leads to a mini compactor in the ground floor trash room. The trash dumpsters will be 2 cy units on wheels. Staff will push them out into the shared driveway for pick up.
The trash room will also have two 4-cy dumpsters on wheels for recycling.
Pizza House will also use the trash compactor in the 611 E. University trash room and will have one 2-cy trash dumpster on wheels. Pizza House will have two 4-cy recycling dumpsters on wheels in the ground level parking area and a grease container.
See the chart for preliminary trash and recycle pick up schedule.
Frequency of pickup will be adjusted as necessary.
(8) Existing structures and driveway curb cuts adjacent to the property are shown on the Existing Conditions Plan.
(9) Existing and proposed topographic contours are shown on the grading plan.
(10) Proposed landscaping in compliance with Chapter 62 is shown on the Landscape Plan.
(11) Soil Erosion Control is shown on the Soil Erosion Control Plan.
(12) A Drainage Area is the entire site.
(13) Existing and proposed driveways and curb cuts are shown with dimensions on the Dimensional Site Plan.
(14) Existing water mains, sanitary sewer mains, and storm sewer lines are shown on the Existing Conditions Plan. Proposed water, sanitary and storm leads are shown on the Utility Plan.
(15) A street tree escrow is to be provided as shown on the Landscape Plan, Landscape Requirements. The E. University streetscape incudes proposed street trees and perennials in curbed planting beds, concrete sidewalks, bike racks and existing pedestrian lighting. The Church Street streetscape is designed to be similar to the recently completed adjacent Pizza House/Arbor Blu streetscape and includes existing street trees and proposed perennial plantings in curbed landscape beds, concrete and brick paver sidewalks, bike racks, and existing pedestrian lighting.
(16) The Traffic Impact Analysis submitted separately indicates that no street improvements are necessary. The proposed mixed use project provides more parking spaces than are currently on the site.
(17) An archaeological survey is to follow if required.
(18) Natural Features:
Soils: The site is a previously disturbed, previously developed area. The general soils in this area are Fox Sandy Loam (FoA), gravelly sand, at 0 to 2 percent slope. Permeability is moderate. Runoff is slow. The depth to water table is more than 5 feet. Per discussion with the City, the Soil Boring Logs from the adjacent Pizza House/Arbor Blu and Zaragon Place projects are sufficient to determine the soils for the 611 E. University project. Those borings and logs are shown on sheet 2.
(a) The limits of soil disturbance are shown on the Overall Grading Plan. The entire site is to be disturbed. E. University Street is to be disturbed for disconnection of existing services and for construction of proposed water and sanitary sewer leads. Church Street is to be disturbed for disconnection of existing services and construction of the proposed storm sewer outlet.
(b) There is no endangered species habitat on the site.
(c) There is no 100-year flood plain on the site.
(d) There are no Landmark trees on the site or within the adjacent street frontages.
(e) There are no steep slopes on the site. The high point is near the northeast corner of the site. The site slopes approximately 4 feet down to the east and north. The low point is at the northeast corner of the site.
(f) The adjacent properties and streets do not drain onto the project site.
(g) There are no wetlands on the site.
(19) Natural Features Open Space: not applicable.
(20) Natural Features Statement of Impact: not applicable.

SITE SUMMARY NOTES:

The proposed development will comply with the following off-street parking regulations for buildings that exceed the normal maximum permitted usable floor area:

No off-street motor vehicle parking is required in the special parking district for structures which do not exceed the normal maximum permitted usable floor area or for structures zoned PUD with usable floor area which does not exceed 400 percent of the lot area. Structures which exceed the normal maximum usable floor area by providing floor area premiums, or PUD-zoned structures that exceed 400 percent of lot area, shall provide parking spaces for the usable floor area in excess of the normal maximum permitted. This parking shall be provided at a rate of 1 off-street parking space for each 1,000 square feet of usable floor area.

The amount of Useable Floor Space above the normal maximum permitted floor area is 55,729.8 SF / 1,000 = 55.73 spaces required. 0.36 parking spaces are required for the proposed retail area. 56 total parking spaces are provided. 9 spaces are on the ground level, and 47 additional spaces are provided on the second and third levels.

The proposed development will comply with the following bicycle parking regulations for buildings in the D1 Zoning District:

Off-street bicycle parking is required for residential uses in the special parking district at a rate of 1 off-street bicycle space for each 2,500 square feet of usable floor area and shall be provided in compliance with the requirements of Section 5:168.1 for Class A spaces. Off-street bicycle parking is required for non-residential uses in the special parking district at a rate of 1 off-street bicycle parking space for each 10,000 square feet of usable floor area and shall be provided in compliance with the requirements of Section 5:168.1 for Class C spaces.

The Useable Floor Area of the building is 133,805 SF residential / 2,500 = 52.08 Class A bike spaces required and 3,601 SF non-residential / 10,000 SF = 0.36 Class C bike space required. A total of 52.44 spaces are required. 63 bike spaces are proposed, including 53 Class A resident spaces in the bike room on the ground floor of the building, 6 Class C spaces on the E. University frontage, and 4 Class C spaces on the Church Street frontage.

The proposed development will comply with the following Residential Use Premium Requirement:

Residential Use Premium. In D1 and D2 districts, 0.75 square foot of floor area in excess of the normal maximum usable floor area in percentage of lot area shall be allowed for each square foot of floor area, regardless of location within the building, that is used for multiple-family dwellings housing and that meets the standards of Chapter 105 (Housing Code).

The allowable Residential Use Premium is calculated to be the proposed floor area (by right) of 78,075.2 SF x 0.75 = 58,556.4 SF maximum.
Residential Use Premium proposed is 55,729.8 SF.
Maximum permitted FAR is 136,631.6 SF / 700%.
The total proposed floor area (by right) is 133,805 SF / 685.5%.
This includes 130,204 SF of allowable residential Useable Floor Area using premiums.

The proposed development will comply with the following Residential Use Premium Requirement:

Every sleeping room in the building shall have at least 1 window, sliding glass door, skylight, or other acceptable light transmitting media facing directly to the outdoors. The minimum total glazed area for every sleeping room shall be not less than 8% of the habitable floor area of such room. If dwelling units constitute a portion of a mixed use building, dwelling units must be completed and receive a certificate of occupancy in advance or at the same time as the certificate of occupancy for nonresidential use, or the property owner shall provide a performance bond for the residential use at the time the certificate of occupancy is requested, subject to the requirements of Chapter 57.

The proposed development will comply with the following:

As a condition of receiving the additional floor area through a premium option, the building must comply with the following energy efficiency standards for the construction of all new floor area:

1. A minimum of two points must be achieved under the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Energy & Atmosphere Credit No. 1. The most recent version in effect at the time of site plan approval shall be applied.

2. Compliance with this requirement shall be verified and documented by the property owner using an industry standard software energy modeling tool (EQUEST or equivalent) prior to the issuance of building permits.

Industry standard software energy modeling data will be utilized by our Mechanical Engineer to document our compliance and submitted for approval as part of our building permit application.

DEVELOPMENT SUMMARY AND COMPARISON CHART

	Required / Permitted	Proposed
Site Area:	None	0.44 ac/19,518.8 sf
Lot Width	None	E University St.: 88.10 ft
		Church St.: 70.96 ft
Zoning:	D1	D1
Character District	South University	South University
Street Frontage Type	Secondary (both)	Secondary (both)
Land Use:	Apartments/Parking/Retail	Apartments/Parking/Retail
		3,601 sf retail
		90 Units, 207 dua
		343 bedrooms total / 780 bra
		1 bldg; partial basement;
		underground storm detention
		ground level: lobby, leasing, retail, trash,
		bike parking and employee parking;
		resident parking on levels 2 and 3;
		11 levels apartments above;
		fully fire suppressed
Proposed Building		
Floor Area:	136,631.6 sf max. / 700%	133,805 gsf/685.5%
Floor Area Ratio:	78,075.2 sf / 400%	(130,204 sf resid., 3,601 sf retail)
Residential Premiums	58,556.4 sf max /300%	55,729.8 sf / 285.5%
Streetwall Height	2 stories min., 3 stories max.	3 stories
Offset at Top of Streetwall	5 ft average	west: 5 ft
		east: 12.25 ft min.
Unit Types/No.s:		See chart on architectural plans
Vehicular Parking:		
55,729.8 sf residential	55.73 spaces	9 on ground floor
floor area premium		47 spaces on levels 2 and 3
		(includes 2 bf and 1 bfv)
		0.62 per unit, 0.16 per bedroom
3,601 sf Retail	0.36 spaces	
Total Vehicular Parking	56.09 / 56 spaces	56 total spaces
Bicycle Parking*:		
Residential @ 1:2,500 sf	52.08 Class A	53 Class A (interior)
Retail@ 1:10,000 sf	0.36 Class C	10 Class C (exterior)
Total Required	52 Class A, 1 Class C	63 spaces; 0.69 per unit
Setbacks:	Front (west): 0 ft min, 10 ft max.	Front (west): 0 ft min.
	Front (east): 0 ft min, 10 ft max.	Front (east): 5 ft
	Side (north): 0 ft	Side (north): 9.96 ft min.
	Side (south): 0 ft	Side (south): 0 ft min.
	Side (east @ bike room)	Side (east): 0 ft
Building Height:	30+ ft existing	
	150 ft max. permitted	150 ft maximum
Impervious Surface	19,348 sf existing / 99%	19,518.8 sf proposed/100%
Pervious Surface	171 sf / 1%	0 sf / 0%

* Bicycle parking includes- 53 Class A inside the bike rooms on the ground floor of the building; 6 Class C spaces on the E. University frontage and 4 Class C spaces on the Church St. frontage.

611 E. UNIVERSITY
Zoned D1, Downtown Core District
S. University Character District
E. University and Church Street are Secondary Frontages

DOWNTOWN STREET DESIGN MANUAL REQUIREMENTS AND RESPONSE

E. UNIVERSITY STREET:
Frontage Context – Commercial
Functional Emphasis – Balanced
Required – sidewalks and pedestrian areas, curb ramps, and corner bumpouts. On-street parking is encouraged for commercial support.
Provided – sidewalks and pedestrian areas including concrete walk, street trees, curbed landscape area and bike racks. There is on-street parking on both sides of E. University Street.
The loading zone in the location of the proposed resident parking entry that will be shifted north.

CHURCH STREET:
Frontage Context – Commercial
Functional Emphasis – Balanced
Required – sidewalks and pedestrian areas, curb ramps, and corner bumpouts. On-street parking is encouraged for commercial support.
Provided – sidewalks and pedestrian areas including concrete and brick sidewalk, existing street trees in enlarged, curbed landscape beds, bike racks, and existing street lighting. There is on-street parking only on the east side of Church Street.

GENERAL NOTES:

1. Per Chapter 49, Section 4:58 of the City of Ann Arbor code, "all sidewalks are to be kept and maintained in good repair by the owner of the land adjacent to and abutting the same." Prior to issuance of the final certificate of occupancy for this site, all existing sidewalks must be repaired in accordance with City of Ann Arbor standards.
2. "The construction covered by these plans shall conform to the City of Ann Arbor public services department standard specifications which are included by reference."
3. "The omission of any standard details does not relieve the contractors of their obligation to construct items in complete accordance with Public Services Department standard specifications."
4. The parcels will be combined prior to submitting any permit request.
5. Trash and recycle pickup is to be public.

SHEET INDEX

611 E. UNIVERSITY

JOB No. 16028
REVISIONS: REV. DATE

DATE: 3/28/16
SHEET 1 OF 15
CADD: DAG
ENG: JCA
PM: SWB
TECH:
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FB#454,455

C1

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

RELEASED FOR:	DATE

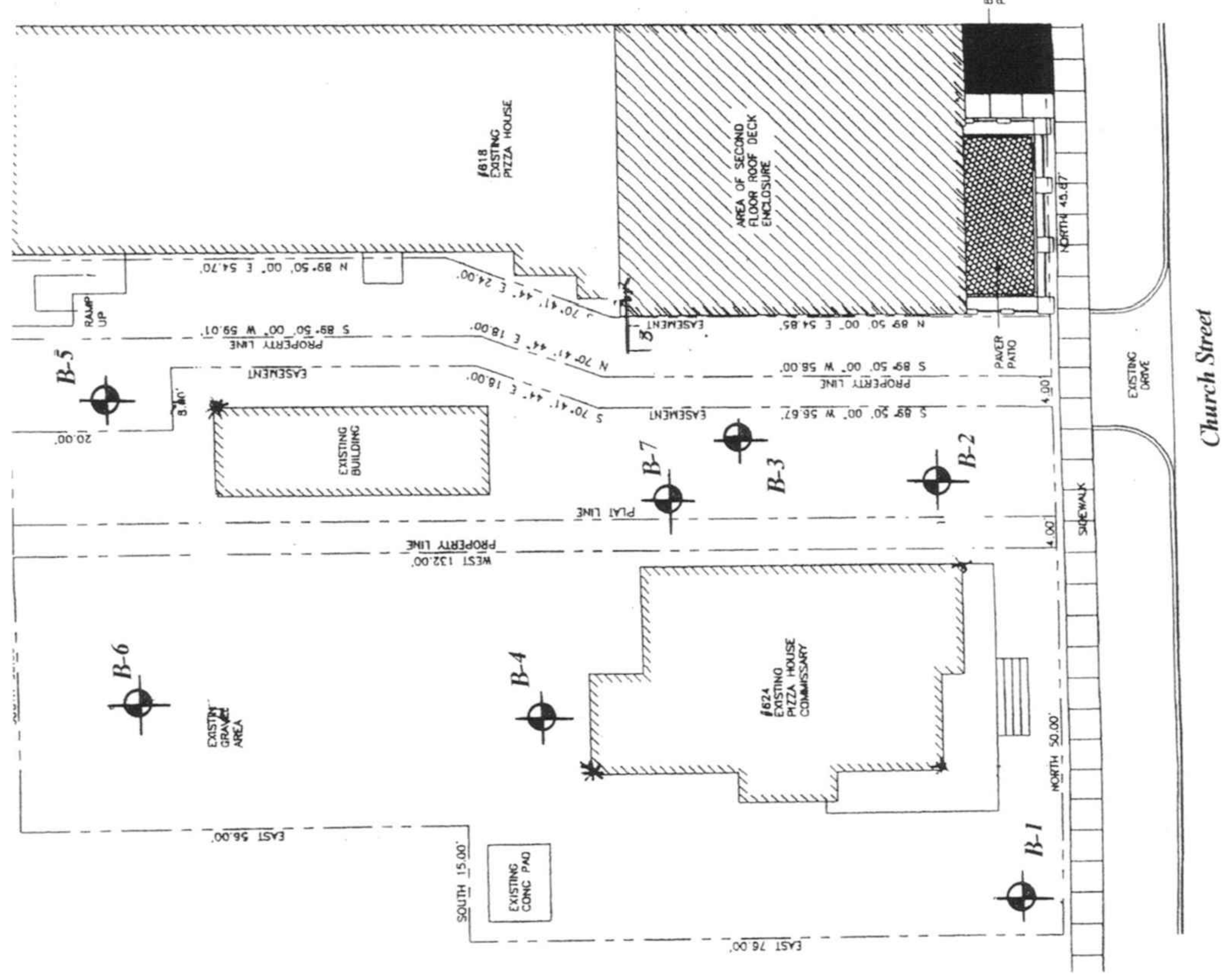
SCOTT BETZOLDT
P.E. #

SCHEMATIC SOIL BORING LOCATION PLAN

Proposed Pizza House Addition
Ann Arbor, Michigan

FIGURE 1

Project Number 04-1116 | Scale 1' = 20' +/-



TES CONSULTANTS, P.C.

PROJECT: The Pizza House Addition
CLIENT: The Pizza House
LOCATION: Ann Arbor, Michigan
TES PROJECT #: 04-1116 **BORING LOG #:** B-1

TES CONSULTANTS, P.C.
23943 Industrial Park Drive
Farmington Hills, MI 48335

Sample No./Type	Depth (feet)	Description of Material
	0	G.S. Elev=
	0–1	Driller reported sand and gravel fill
SS-1	1–3	SILTY FINE TO MEDIUM SAND FILL trace clay and gravel - very loose - moist - dark brown (SM-fill)
SS-2, SS-3, SS-4	3–14	SILTY FINE TO MEDIUM SAND trace gravel - loose to very loose - moist - brown (SM)
SS-5, SS-6, SS-7	14–25	FINE TO MEDIUM SAND trace silt and gravel - medium dense - moist - brown (SP-SM)
	25	End of Borehole

Moisture Content Percent (10 20 30 40 50); Standard Penetration Test Blows per Foot (10 20 30 40 50); Unconfined Compressive Strength, Tons per Square Foot (0.5 1 1.5 2 2.5 3 3.5 4 4.5)

Water Level Observation while drilling Dry; at completion Dry
File #: 04-1116 **Boring Started:** 6-1-04 **Boring Completed:** 6-1-04 **Rig/Driller:** Diedrich D-50/Dalton Drilling
Approved: JTA **Office:** Farmington Hills, MI **Drawn By:** NH

PROJECT: The Pizza House Addition
CLIENT: The Pizza House
LOCATION: Ann Arbor, Michigan
TES PROJECT #: 04-1116 **BORING LOG #:** B-4

TES CONSULTANTS, P.C.
23943 Industrial Park Drive
Farmington Hills, MI 48335

Sample No./Type	Depth (feet)	Description of Material
	0	G.S. Elev=
	0–1	Driller reported approximately 3" of bituminous concrete pavement
SS-1	1–3	SILTY FINE TO MEDIUM SAND FILL trace gravel - very loose - moist - discolored brown and black (SM-fill)
SS-2	3–6	SILTY FINE TO MEDIUM SAND trace clay and gravel - very loose - moist - dark brown (SM)
SS-3, SS-4, SS-5, SS-6, SS-7	6–25	SILTY FINE TO MEDIUM SAND trace gravel - occasional fine to coarse sand layers - medium dense - moist - brown (SM w/ SP-SM layers)
	25	End of Borehole

Water Level Observation while drilling Dry; at completion Dry
File #: 04-1116 **Boring Started:** 6-1-04 **Boring Completed:** 6-1-04 **Rig/Driller:** Diedrich D-50/Dalton Drilling
Approved: JTA **Office:** Farmington Hills, MI **Drawn By:** NH

PROJECT: The Pizza House Addition
CLIENT: The Pizza House
LOCATION: Ann Arbor, Michigan
TES PROJECT #: 04-1116 **BORING LOG #:** B-6

TES CONSULTANTS, P.C.
23943 Industrial Park Drive
Farmington Hills, MI 48335

Sample No./Type	Depth (feet)	Description of Material
	0	G.S. Elev=
	0–1	Driller reported approximately 3" of bituminous concrete pavement
SS-1	1–3	SILTY FINE TO MEDIUM SAND FILL trace clay and gravel - very loose - moist - discolored brown and black (SM-fill)
SS-2	3–6	SILTY FINE TO MEDIUM SAND trace clay and gravel - very loose - moist - brown (SM)
SS-3, SS-4, SS-5, SS-6, SS-7	6–25	SILTY FINE TO MEDIUM SAND trace gravel - occasional fine to coarse sand layers - loose to medium dense - moist - brown (SM w/ SP-SM layers)
	25	End of Borehole

Water Level Observation while drilling Dry; at completion Dry
File #: 04-1116 **Boring Started:** 6-1-04 **Boring Completed:** 6-1-04 **Rig/Driller:** Diedrich D-50/Dalton Drilling
Approved: JTA **Office:** Farmington Hills, MI **Drawn By:** NH

08/09/2006 14:36 FAX 312 867 3850 ZARAGON 017
Aug 08 2006 8:18AM CTI and Associates, Inc. 2484865050 p.1

CTI and Associates, Inc.
12482 Emerson Drive
Brighton, MI 48116
(248) 486-5100 phone
(248) 486-5050 fax

LOG OF TEST BORING

NO.: TB-1 | PROJECT NO.: 64010058 | DATE: 7/24/2006 | SURFACE ELEV.:
PROJECT NAME: Anberay Apartments Redevelopment - Ann Arbor, Michigan | PAGE: 1 OF: 3

Depth	Soil Description	Sample Type	Depth Feet	Penetration Blows for 6"	PID	Moisture %	Natural Wt. P.C.F.	Unconfined Comp. Str. P.S.F.
	Moist sandy TOPSOIL - (FILL)		1					
3'0"		SS-1	2	4, 4, 5				
6'6"	Brown moist loose silty fine to medium SAND with trace of gravel - (Possible FILL)	SS-2	5	4, 3, 3				
9'0"	Brown moist loose fine to coarse SAND with traces of silt and gravel - (Possible FILL)	SS-3	8	3, 3, 5				
	Brown moist loose fine to medium SAND with traces of silt and gravel - (SP-SM)	SS-4	10	4, 4, 4		5.0		
19'0"		SS-5	15	3, 4, 4				
24'0"	Brown moist medium compact fine to coarse SAND with traces of silt and gravel - (SP-SM)	SS-6	20	5, 8, 11		6.4		
	Brown moist medium compact fine SAND - (SP)	SS-7	25	5, 6, 7				

TYPE OF SAMPLE: SS-Split Spoon; SL-Split Spoon w/liner; ST-Shelby Tube
DRILLING METHOD: 3 3/4" ID Hollow Stem Auger
DRILLING FOREMAN: M. Near
BACKFILL MATERIAL: Grout/Natural soils
GROUNDWATER: ENCOUNTERED AT: None; AFTER COMPLETION: None

08/09/2006 14:36 FAX 312 867 3850 ZARAGON 018
Aug 08 2006 8:19AM CTI and Associates, Inc. 2484865050 p.1

LOG OF TEST BORING

NO.: TB-1 | PROJECT NO.: 64010058 | DATE: 7/24/2006 | SURFACE ELEV.:
PROJECT NAME: Anberay Apartments Redevelopment - Ann Arbor, Michigan | PAGE: 2 OF: 3

Depth	Soil Description	Sample Type	Depth Feet	Penetration Blows for 6"	PID	Moisture %	Natural Wt. P.C.F.	Unconfined Comp. Str. P.S.F.
34'0"	Brown moist medium compact fine SAND - (SP)	SS-8	30	6, 8, 9				
	Brown moist medium compact fine to coarse SAND with traces of silt and gravel - (SP-SM)	SS-9	35	8, 12, 14				
42'0"		SS-10	40	9, 12, 14		6.9		
49'0"	Brown moist medium compact fine to coarse SAND with some gravel, trace of silt and occasional cobbles/boulders - (SP-SM)	SS-11	45	8, 10, 12				
	Brown moist compact fine to coarse SAND with some gravel, trace of silt and occasional cobbles/boulders - (SP-SM)	SS-12	50	17, 18, 21				

DRILLING METHOD: 3 3/4" ID Hollow Stem Auger; DRILLING FOREMAN: M. Near; BACKFILL MATERIAL: Grout/Natural soils
GROUNDWATER: ENCOUNTERED AT: None; AFTER COMPLETION: None

08/09/2006 14:36 FAX 312 867 3850 ZARAGON 019
Aug 08 2006 8:19AM CTI and Associates, Inc. 2484865050 p.1

LOG OF TEST BORING

NO.: TB-1 | PROJECT NO.: 64010058 | DATE: 7/24/2006 | SURFACE ELEV.:
PROJECT NAME: Anberay Apartments Redevelopment - Ann Arbor, Michigan | PAGE: 3 OF: 3

Depth	Soil Description	Sample Type	Depth Feet	Penetration Blows for 6"	PID	Moisture %	Natural Wt. P.C.F.	Unconfined Comp. Str. P.S.F.
54'0"	Brown moist compact fine to coarse SAND with some gravel, trace of silt and occasional cobbles/boulders - (SP-SM)		53					
59'6"	Gray moist hard CLAY with traces of silt, sand and gravel - (CL)	SS-13	55	39, 50 for 4"		8.6		9000*+
		SS-14	60	106 for 6"		5.0		9000*+
	End of boring							

DRILLING METHOD: 3 3/4" ID Hollow Stem Auger; DRILLING FOREMAN: M. Near; BACKFILL MATERIAL: Grout/Natural soils
GROUNDWATER: ENCOUNTERED AT: None; AFTER COMPLETION: None

08/09/2006 14:36 FAX 312 867 3850 ZARAGON 020
Aug 08 2006 8:19AM CTI and Associates, Inc. 2484865050 p.1

LOG OF TEST BORING

NO.: TB-2 | PROJECT NO.: 64010058 | DATE: 7/25/2006 | SURFACE ELEV.:
PROJECT NAME: Anberay Apartments Redevelopment - Ann Arbor, Michigan | PAGE: 1 OF: 4

Depth	Soil Description	Sample Type	Depth Feet	Penetration Blows for 6"	PID	Moisture %	Natural Wt. P.C.F.	Unconfined Comp. Str. P.S.F.
1'0"	Moist sandy TOPSOIL		1					
4'0"	Brown moist medium compact clayey SAND with traces of silt and gravel - (FILL)	SS-1	2	4, 6, 6				
	Brown moist medium compact fine to medium SAND with traces of silt and gravel - (SP-SM)	SS-2	5	8, 10, 10				
9'0"		SS-3	8	9, 11, 12		5.3		
14'0"	Brown moist medium compact fine SAND - (SP)	SS-4	10	7, 8, 11				
19'0"	Brown moist medium compact fine to medium SAND - (SP)	SS-5	15	7, 10, 11		4.3		
24'0"	Brown moist medium compact fine to coarse SAND with traces of silt and gravel - (SP-SM)	SS-6	20	7, 9, 10				
	Brown moist medium compact fine to medium SAND with traces of silt and gravel - (SP-SM)	SS-7	25	6, 9, 9				

DRILLING METHOD: 3 3/4" ID Hollow Stem Auger; DRILLING FOREMAN: M. Near; BACKFILL MATERIAL: Grout/Natural soils
GROUNDWATER: ENCOUNTERED AT: 53'6"; AFTER COMPLETION: 76'0" (In auger)

08/09/2006 14:36 FAX 312 867 3850 ZARAGON 021
Aug 08 2006 8:19AM CTI and Associates, Inc. 2484865050 p.1

LOG OF TEST BORING

NO.: TB-2 | PROJECT NO.: 64010058 | DATE: 7/25/2006 | SURFACE ELEV.:
PROJECT NAME: Anberay Apartments Redevelopment - Ann Arbor, Michigan | PAGE: 2 OF: 4

Depth	Soil Description	Sample Type	Depth Feet	Penetration Blows for 6"	PID	Moisture %	Natural Wt. P.C.F.	Unconfined Comp. Str. P.S.F.
29'0"	Brown moist medium compact fine to medium SAND with traces of silt and gravel - (SP-SM)		27					
34'0"	Brown moist medium compact fine to medium SAND - (SP)	SS-8	30	4, 5, 6		5.5		
39'0"	Brown moist compact fine to coarse SAND with some gravel, trace of silt - (SP-SM)	SS-9	35	12, 18, 22				
42'0"	Brown moist very compact fine to coarse SAND with traces of silt and gravel - (SP-SM)	SS-10	40	14, 24, 29				
49'0"	Brown moist compact fine to coarse SAND with some gravel, trace of silt and occasional cobbles/boulders - (SP-SM)	SS-11	45	13, 20, 24				
	Brown moist very compact fine to coarse SAND with some gravel, trace of silt and occasional cobbles/boulders - (SP-SM)	SS-12	50	16, 26, 29				

DRILLING METHOD: 3 3/4" ID Hollow Stem Auger; DRILLING FOREMAN: M. Near; BACKFILL MATERIAL: Grout/Natural soils
GROUNDWATER: ENCOUNTERED AT: 53'6"; AFTER COMPLETION: 76'0" (In auger)

08/09/2006 14:37 FAX 312 867 3850 ZARAGON 022
Aug 08 2006 8:19AM CTI and Associates, Inc. 2484865050 p.1

LOG OF TEST BORING

NO.: TB-2 | PROJECT NO.: 64010058 | DATE: 7/25/2006 | SURFACE ELEV.:
PROJECT NAME: Anberay Apartments Redevelopment - Ann Arbor, Michigan | PAGE: 3 OF: 4

Depth	Soil Description	Sample Type	Depth Feet	Penetration Blows for 6"	PID	Moisture %	Natural Wt. P.C.F.	Unconfined Comp. Str. P.S.F.
54'0"	Brown moist very compact fine to coarse SAND with some gravel, trace of silt and occasional cobbles/boulders - (SP-SM)		53					
59'0"	Brown and gray variegated moist hard CLAY with traces of silt, sand and gravel - (CL)	SS-13	55	102		11.8		9000*
	Gray moist hard CLAY with some silt and traces of sand and gravel - (CL-ML)	SS-14	60	38, 50 for 4"		12.9	140.5	9000*
		SS-15	65	44, 50 for 4"				
		SS-16	70	38, 50 for 5"		10.6	146.6	22990
		SS-17	75	19, 28, 40		12.1	143.5	15440

DRILLING METHOD: 3 3/4" ID Hollow Stem Auger; DRILLING FOREMAN: M. Near; BACKFILL MATERIAL: Grout/Natural soils
GROUNDWATER: ENCOUNTERED AT: 53'6"; AFTER COMPLETION: 76'0" (In auger)

08/09/2006 14:37 FAX 312 867 3850 ZARAGON 023
Aug 08 2006 8:20AM CTI and Associates, Inc. 2484865050 p.1

LOG OF TEST BORING

NO.: TB-2 | PROJECT NO.: 64010058 | DATE: 7/25/2006 | SURFACE ELEV.:
PROJECT NAME: Anberay Apartments Redevelopment - Ann Arbor, Michigan | PAGE: 4 OF: 4

Depth	Soil Description	Sample Type	Depth Feet	Penetration Blows for 6"	PID	Moisture %	Natural Wt. P.C.F.	Unconfined Comp. Str. P.S.F.
80'6"	Gray moist hard CLAY with some silt and traces of sand and gravel - (CL-ML)	SS-18	80	33, 50 for 6"		13.5		9000*
	End of boring							

DRILLING METHOD: 3 3/4" ID Hollow Stem Auger; DRILLING FOREMAN: M. Near; BACKFILL MATERIAL: Grout/Natural soils
GROUNDWATER: ENCOUNTERED AT: 53'6"; AFTER COMPLETION: 76'0" (In auger)

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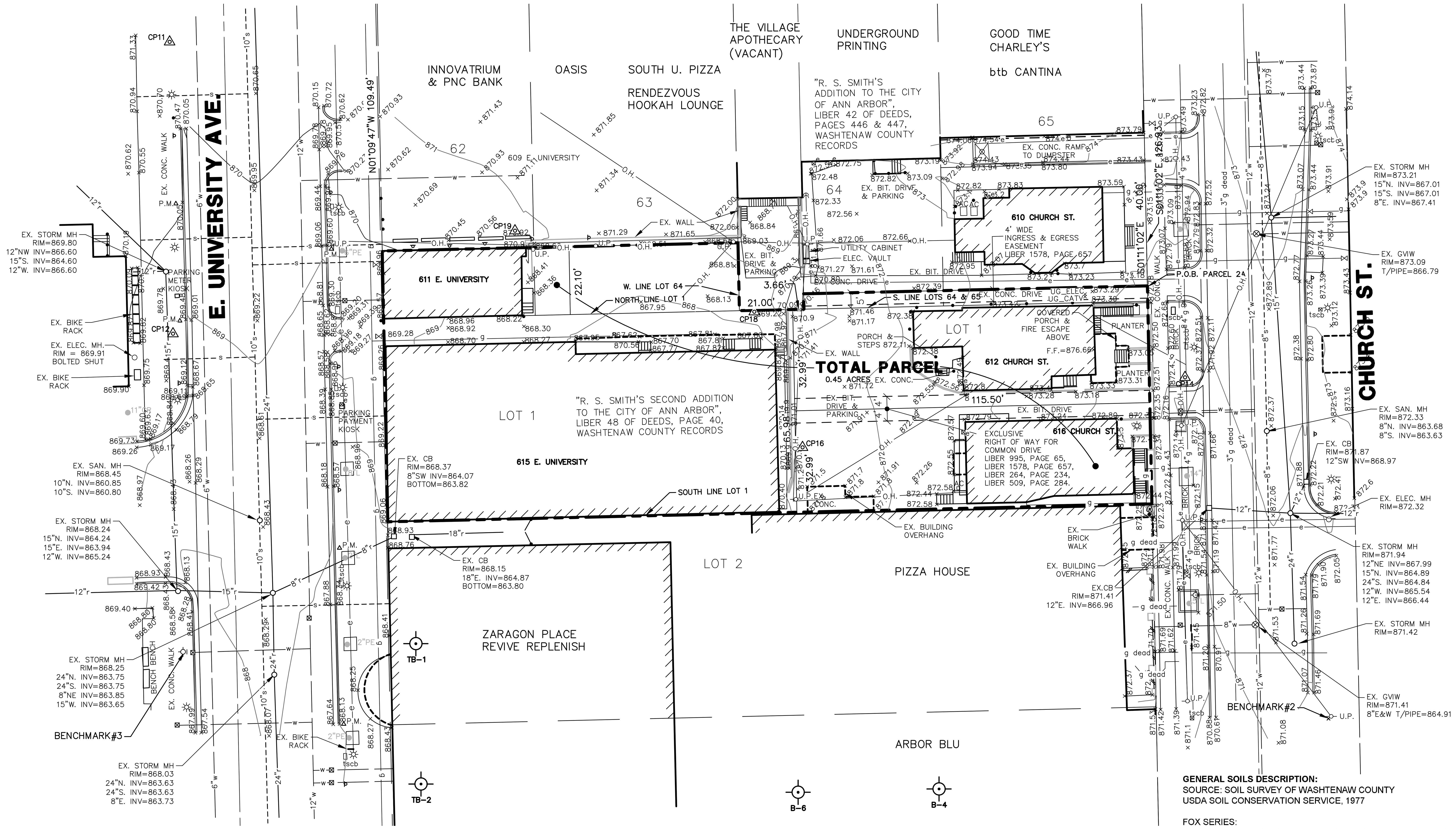
COLLEGIATE DEVELOPMENT GROUP
7711 BONHOMME AVE., SUITE 625
ST. LOUIS, MO 63105
ATTN: BRANDT STILES
PH: (314) 721-5559

611 E. UNIVERSITY
SITE PLAN
REFERENCE SOIL BORING LOGS

C2

JOB No. 16028
DATE: 3/28/16
SHEET 2 OF 15
CADD: DAG
ENG: JCA
PM: SWB
TECH:
16028CV1.dwg
FB#454,455
REVISIONS: REV. DATE



SCALE: 1" = 20'

0 20 40 60

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

LEGEND

838	EXIST. CONTOUR
×836.2	EXIST. SPOT ELEVATION
U.P.	EXIST. UTILITY POLE
O.H.	EXIST. OVERHEAD UTILITY LINE
	EXIST. LIGHT POLE
e	EXIST. ELECTRIC LINE
g	EXIST. GAS LINE
c	EXIST. COMMUNICATION LINE
w	EXIST. WATER MAIN
	EXIST. HYDRANT
	EXIST. GATE VALVE IN BOX
	EXIST. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
r	EXIST. STORM SEWER
	EXIST. CATCH BASIN OR INLET
s	EXIST. SANITARY SEWER
	SIGN
P.M.	PARKING METER
	ELECTRIC METER
	POST
	FENCE
	SINGLE TREE
F	FOUND MONUMENT
	CONTROL PT.
tscb	TRAFFIC SIGNAL CONTROL BOX
	EXIST. GAS SHUT OFF

LEGAL DESCRIPTION

FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NO. NCS–769473–STLO, DATED DECEMBER 18, 2015
611 E. University:

The Southerly 22.1 feet of the South 1/2 of Lots 62 and 63, except the Easterly 55 feet of Lot 63, Ransom S. Smith's Addition to the City of Ann Arbor, according to the plat thereof as recorded in Liber 42 of Deeds, Page 446, Washtenaw County Records.

FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NO. NCS–774639–STLO, DATED JANUARY 21, 2016
615 E. University:

Lot 1, Block 1, Excepting and reserving therefrom the East 7 rods of said Lot 1, R.S. Smith's Second Addition to the City of Ann Arbor, according to the recorded plat thereof as recorded in Liber 48 of Deeds, Page 40, Washtenaw County Records.

The East 55 feet of the South 22 feet and 1 inch of the South half of Lot 63, Ransom S. Smith's Addition to the City of Ann Arbor, according to the recorded plat thereof as recorded in Liber 42 of Deeds, Page 446, Washtenaw County Records.

FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NO. NCS–769474–STLO, DATED DECEMBER 15, 2015
612 Church

The North 1/2 of the East 7 rods of Lot 1, in Block 1, of R. S. Smith's Second Addition to the City of Ann Arbor, according to the plat thereof, as recorded in Liber 48 of Deeds, Page 40, Washtenaw County Records. Reserving a right of way over the South 4 feet of the land herein described and granting a right of way over a strip 4 feet wide, along the South side and next adjoining land herein described. Also the South 5 feet of the East 111 feet of Lots 64 and 65, according to the Plat of Smith's Addition to the City of Ann Arbor, as recorded in Liber 42 of Deeds, Page 446, Washtenaw County Records.

FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NO. NCS–769477–STLO, DATED DECEMBER 16, 2015
616 Church

The South 1/2 of the East 7 rods of Lot 1, Block 1 of R. S. Smith's Second Addition to the City of Ann Arbor, according to the plat thereof as recorded in Liber 48 of Deeds, Page 40, Washtenaw County Records.

TOTAL PARCEL BOUNDARY BEING DESCRIBED AS:

Commencing at the NE Corner of Lot 65 of "R.S. Smith's Addition to the City of Ann Arbor", as recorded in Liber 42 of Deeds, Pages 446 & 447, Washtenaw County Records, thence S 01°11'02" E 126.93 feet along the East line of said Lot 65 and along the West line of Church Street (66.00 feet wide) to the Point of Beginning:

thence continuing S 01°11'02" E 70.96 feet along the East line of said Lot 65 and the East line of Lot 1 of "R. S. Smith's Second Addition to the City of Ann Arbor" as recorded in Liber 48 of Deeds, Page 40, Washtenaw County Records and along said West line of Church Street;

thence S 88°40'01" W 248.60 feet along the South line of said Lot 1;

thence N 01°09'47" W 88.10 feet along the West line of said Lot 1 and along the West line of Lot 62 of said "R.S. Smith's Addition to the City of Ann Arbor" and along the East line of East University Avenue (variable width);

thence N 88°40'32" E 115.73 feet;

thence S 01°10'20" E 22.10 feet along the West line of Lot 64 of said "R.S. Smith's Addition to the City of Ann Arbor";

thence N 88°40'32" E 21.00 feet along the South line of said Lot 64;

thence N 01°10'41" W 5.00 feet;

thence N 88°40'32" E 111.84 feet to the Point of Beginning. Being a part of the E 1/2 of the SW 1/4 of Section 28, T2S, R6E, City of Ann Arbor, Washtenaw County, Michigan and containing 0.45 acres of land, more or less. Being subject to easements and restrictions of record, if any.

EXCEPTIONS:

THIS SURVEY WAS PREPARED USING THE FOLLOWING FIRST AMERICAN TITLE INSURANCE COMPANY, TITLE COMMITMENTS:

611 E. UNIVERSITY COMMITMENT NCS–769473–STLO, WITH AN EFFECTIVE DATE OF DECEMBER 18, 2015.

SCHEDULE B(2):
EXCEPTIONS 6 THROUGH 15: NOT A SURVEY MATTER

615 E. UNIVERSITY COMMITMENT NCS–774639–STLO, WITH AN EFFECTIVE DATE OF JANUARY 21, 2016.

SCHEDULE B(2):
EXCEPTIONS 6 THROUGH 9: NOT A SURVEY MATTER

612 S. CHURCH COMMITMENT NCS–769474–STLO, WITH AN EFFECTIVE DATE OF DECEMBER 15, 2015.

SCHEDULE B(2):
EXCEPTION 6: INTEREST OF ANN ARBOR TRUST COMPANY, TRUSTEE UNDER AGREEMENT DATED DECEMBER 6, 1976, PURSUANT TO QUIT CLAIM DEED RECORDED FEBRUARY 17, 1977 IN LIBER 1582, PAGE 514 (AS TO LOTS 64 AND 65) – PLOTTED

EXCEPTION 7: THE TERMS, PROVISIONS AND EASEMENT(S) CONTAINED IN THE DOCUMENT ENTITLED "WARRANTY DEED" RECORDED JULY 16, 1962 AS LIBER 995, PAGE 65 OF OFFICIAL RECORDS – PLOTTED

EXCEPTION 8: THE TERMS, PROVISIONS AND EASEMENT(S) CONTAINED IN THE DOCUMENT ENTITLED "AFFIDAVIT OF LAND CONTRACT" RECORDED JANUARY 11, 1977 AS LIBER 1578, PAGE 657 OF OFFICIAL RECORDS. – PLOTTED

EXCEPTION 9: NOT A SURVEY MATTER

616 S. CHURCH COMMITMENT NCS–769477–STLO, WITH AN EFFECTIVE DATE OF DECEMBER 16, 2015.

SCHEDULE B(2):
EXCEPTIONS 6 THROUGH 13 – NOT A SURVEY MATTER

EXCEPTION 14: THE TERMS, PROVISIONS AND EASEMENT(S) CONTAINED IN THE DOCUMENT ENTITLED "WARRANTY DEED" RECORDED JULY 26, 1926 AS LIBER 264, PAGE 234 OF OFFICIAL RECORDS – PLOTTED

EXCEPTION 15: THE TERMS, PROVISIONS AND EASEMENT(S) CONTAINED IN THE DOCUMENT ENTITLED "DEED" RECORDED APRIL 15, 1949 AS LIBER 509, PAGE 284 OF OFFICIAL RECORDS – PLOTTED

EXCEPTION 16: NOT A SURVEY MATTER

GENERAL SOILS DESCRIPTION:
SOURCE: SOIL SURVEY OF WASHTENAW COUNTY
USDA SOIL CONSERVATION SERVICE, 1977

FOX SERIES:
Well drained, nearly level to steep soils formed in loamy textured and sandy textured gravelly sand. These soils are on outwash plains, kames, valley trains, terraces, and moraines. Available water capacity and permeability is moderate.

FoA- FOX SANDY LOAM, 0 TO 2 PERCENT SLOPES; CLASS B
This soil is slightly droughty and runoff is slow. Depth to seasonal high water table is >5 feet.

Per discussion with the City's stormwater review, the soil boring reports for the adjacent Zaragon Place & Pizza House/Arbor Blu development at 618-624 Church Street are sufficient for this project. Those borings show all sand to a depth of approximately 54 feet..

USGS HYDROLOGICAL SOILS CATEGORIZATION shows FoA as Class B soil with an average ½ inch per hour infiltration. The proposed project includes excavation and disposal of approximately 10 feet of soil for construction of the foundation, partial basement and storm water detention chamber.

BENCHMARK:

1.) SET BM–TOP/NORTH CORNER ON PLAQUE IN SIDEWALK AT ENTRANCE TO "GOOD TIME CHARLEY'S". ELEVATION=874.33 NAVD 88.

2.) SET BM–W. SIDE OF UTILITY POLE ON E. SIDE OF CHURCH ST. IN FRONT OF HOUSE #621. ELEVATION=876.39 NAVD 88.

3.) SET BM–TOP/NUT OF HYDRANT ON W. SIDE OF E. UNIVERSITY ST. IN FRONT OF UNIVERSITY HIGH SCHOOL AND ACROSS FROM ZARAGON PLACE. ELEVATION=870.66 NAVD 88.

NOTES:

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

2). SAID PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION "X" BY THE SECRETARY OF HOUSING AND URBAN DEVELOPMENT, ON FLOOD INSURANCE RATE MAP No. 26161C0263E, WITH AN EFFECTIVE DATE OF APRIL 3, 2012.

3). LOCATION OF EXIST. UNDERGROUND WATER MAIN, GAS MAIN, ELECTRIC AND TELEPHONE LINES WERE OBTAINED FROM MUNICIPAL RECORDS AND RECORDS OF UTILITY COMPANIES, AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, OR EXACTNESS OF LOCATION.
BEFORE YOU DIG CALL MISS DIG @ 811

To: ________________________________ and
First American Title Insurance Company:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2011 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 2, 3, 4, 7a, 7b, 7c, 8, 9, 10, 11a, 13, 16, 18 and 19 of Table A thereof. The field work was completed on December 9, 2014.

MIDWESTERN CONSULTING, LLC

STATE OF MICHIGAN PATRICK L. HASTINGS PROFESSIONAL SURVEYOR No. 37277

By: ________________________________
Patrick L. Hastings, P.S. No. 37277

Date: 3/28/16

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

M:\Civil3d_Proj\16028\Site Plan\16028EX1.dwg, 3/28/2016 10:20 AM, David A. Giegler, MCLLC PDF.pc3

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ST. LOUIS, MO 63105
ATTN: BRANDT STILES
PH: (314) 721–5559

611 E. UNIVERSITY

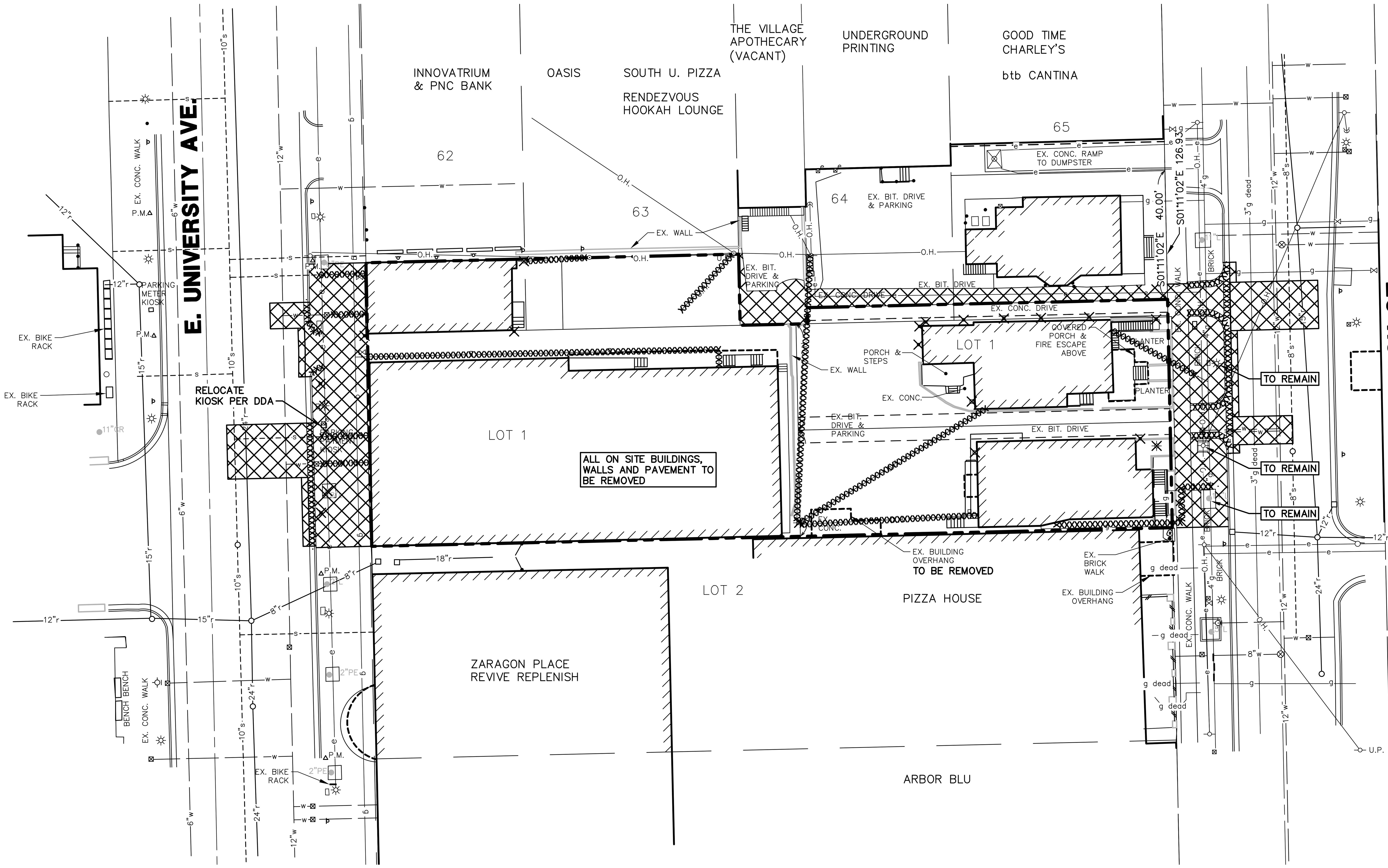
SITE PLAN
EXISTING CONDITIONS

C3

DATE: 3/28/16

CADD: DAG
ENG: JCA
PM: SWB
TECH:
16028EX1.dwg
FB#454,455

JOB No. 16028
REVISIONS: REV. DATE



SCALE: 1" = 20'

0 20 40 60

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

LEGEND

- EXIST. UTILITY POLE (U.P.)
- EXIST. OVERHEAD UTILITY LINE (O.H.)
- EXIST. LIGHT POLE
- EXIST. ELECTRIC LINE (e)
- EXIST. GAS LINE (g)
- EXIST. COMMUNICATION LINE (c)
- EXIST. WATER MAIN (w)
- EXIST. HYDRANT
- EXIST. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- EXIST. STORM SEWER (r)
- EXIST. CATCH BASIN OR INLET
- EXIST. SANITARY SEWER (s)
- SIGN
- P.M. PARKING METER
- ELECTRIC METER
- POST
- FENCE
- SINGLE TREE
- F FOUND MONUMENT
- CONTROL PT.
- tscb TRAFFIC SIGNAL CONTROL BOX
- EXIST. GAS SHUT OFF
- PAVEMENT REMOVALS
- XXXXXXXX REMOVALS

Natural Features Statement of Impact (Chapter 57, Section 5:126):

(1) A Site Inventory Identifying the Location of Existing Natural Features and a Written Description of Their Quality, Character, and Health:
  (a) Natural Features and Alternative Plans: There are no steep slopes, woodlands, wetlands, or floodplains on the site. There are no Landmark Trees on-site.
  (b) Natural Features Protection Plan Identifying Natural Features to be Preserved: Not Applicable.
  (c) Landmark Tree Inventory and Analysis:There are no landmark size trees on or within the adjacent street frontages.

(2) A Natural Features Protection Plan Identifying Natural Features to be Preserved: Not Applicable.

(3) Alternatives Analysis Report for Natural Features that are Proposed to be Disturbed: Not Applicable.

Removal Plan Notes:

1. ASCE 38-02 quality level survey involves surveying visible above ground utility facilities such as manholes, valve boxes, posts, etc., and correlating this information with existing utility records. When using this information, it is not unusual to find that many underground utilities have been either omitted or erroneously plotted.
2. Existing easements are to be relocated or vacated as required.
3. E. University Street and Church Street are under the jurisdiction of the City of Ann Arbor. All work within the rights-of-way is subject to a permit from the City.
4. All existing on-site easements are to be vacated or relocated as necessary per the proposed development plans.
5. The active existing sanitary service leads in E. University Street and Church Street are to be capped by the City from inside the main and per City of Ann Arbor standards.
   The existing water service leads in E. University Street and Church Street are to be cut and capped at the main by the contractor per City of Ann Arbor standards. The Contractor and City are to verify which water service leads have already been cut and capped at the main.
6. All franchise utilities are to be removed by or per the party having jurisdiction.
7. One street tree is to be removed on E. University Street. No street trees are to be removed on Church Street.
8. All site work is to comply with the City of Ann Arbor Standard Specifications available on line. www.a2gov.org/departments/engineering/Documents/Table of Contents.pdf
9. All existing on-site improvements are to be removed.
10. During demolition of the existing structures, the contractor will be responsible for identifying any existing footing drains that are connected to the sanitary sewer. These are to be verified on site by the City prior to removal. If footing drains for the existing buildings are connected to the sanitary sewer system, disconnection will be required in accordance with current City specifications. To schedule inspection, call the City of Ann Arbor Project Management Services Unit at (734) 794-6410.Disconnection of existing footing drains may be taken as a credit against required sanitary sewer flow mitigation.

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

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ATTN: BRANDT STILES
PH: (314) 721-5559

611 E. UNIVERSITY

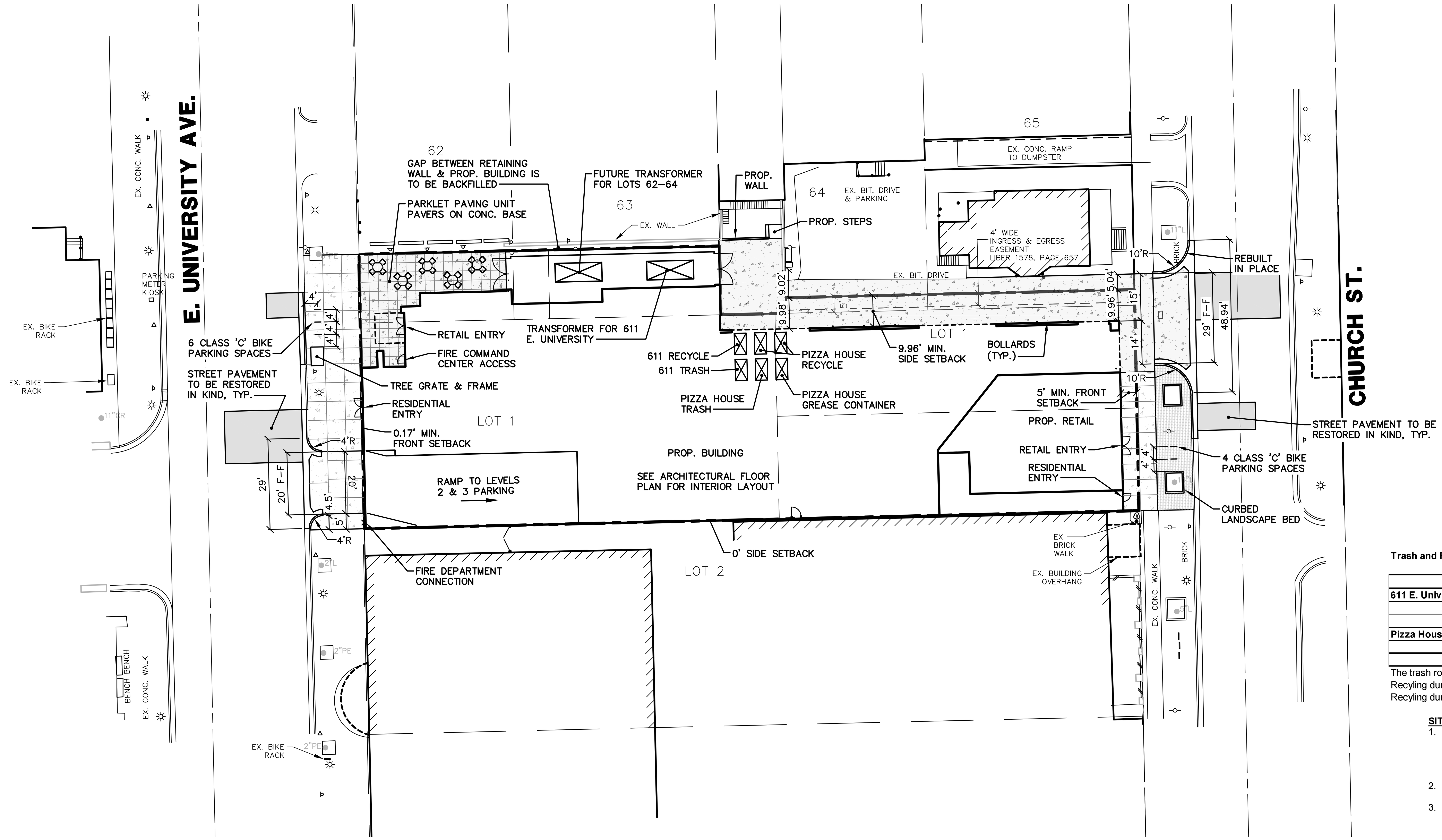
SITE PLAN REMOVALS

C4

DATE: 3/28/16
SHEET 4 OF 15
CADD: DAG
ENG: JCA
PM: SWB
TECH:
16028EX1.dwg
FB#454,455

JOB No. 16028

REVISIONS:
REV. DATE



SCALE: 1" = 20'

0 20 40 60

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

LEGEND

- PROP. CURB & GUTTER
- PROP. BITUMINOUS PAVEMENT
- PROP. CONCRETE PAVEMENT
- PROP. HEAVY DUTY CONCRETE
- PROP. PAVERS
- SIGN
- EXIST. UTILITY POLE
- EXIST. LIGHT POLE
- F-F FACE OF CURB TO FACE OF CURB

Trash and Recycling Pickup Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
611 E. Univ.	2 cy trash		2 cy trash		2 cy trash	
	2 cy recycle		2 cy recycle		2 cy recycle	
Pizza House	2 cy trash			2 cy trash		2 cy trash
	4 cy recycle	4 cy recycle	4 cy recycle	4 cy recycle	4 cy recycle	
	4 cy recycle	4 cy recycle	4 cy recycle	4 cy recycle	4 cy recycle	

The trash room has a mini compactor that accommodates a 2 cy dumpster on wheels.
Recyling dumpsters in the trash room are 2 cy dumpsters on wheels.
Recyling dumpsters within the ground level parking area are 4 cy dumpsters on wheels.

SITE PLAN NOTES:

1. Standard Sidewalk Repair and Maintenance Note per Chapter 49, Section 4:58 of City of Ann Arbor Code: All sidewalks are to be kept and maintained in good repair by the owner of the land adjacent to and abutting the same. Prior to the issuance of the final Certificate of Occupancy for this site, all existing sidewalks in need of repair must be repaired in accordance with City standards.
2. All sidewalks constructed in the public right-of-way shall meet requirements and guidelines as set forth in the ADA Standards for Accessible Design.
3. If footing drains for the existing buildings are connected to the sanitary sewer system, disconnection will be required in accordance with current City specifications. To schedule inspection, call the City of Ann Arbor Project Management Services Unit at (734) 794-6410.
4. Proposed E. University streetscape includes a concrete sidewalk, bike racks, existing street tree and existing lighting. Proposed Church Street streetscape includes concrete and brick sidewalk, bike racks, curbed landscape bed, existing street tree and existing lighting.
5. Runoff from the building, the parklet and the transformer area will be captured in the storm water management system. All roof drains will run down through the building and will connect to the storm detention system.
   100-year storm water detention is provided in a chamber in the basement level of the building. The chamber will discharge to the existing 12-inch storm sewer in Church Street.
6. The sanitary sewer lead will tap into the existing 10-inch sanitary main in E. University Street. Sanitary sewer modeling is to be done to determine any required off-site sanitary sewer improvements. Sanitary sewer flow mitigation will be provided at the rate of 110% of the proposed flow.
7. Domestic water and fire suppression water services are to tap into the existing 12-inch water main in E. University Street. Booster pumps will be provided for domestic and fire water services.
8. Dewatering operations during construction, if necessary, are to meet City requirements for sediment control and disposal. Dewatering is not anticipated because the on-site soils are sandy and the water table is below the depth of the proposed excavation.
9. There are no proposed firewalls in the building.
10. If temporary tie-backs are required in the right-of-way for construction purposes, a temporary licensing agreement will be provided. If the building's footings will be located in the right-of-way, the horizontal and vertical locations shall be clearly identified on the plans and a permanent licensing agreement will be provided.
11. Trash management systems:
    Per discussion with City staff, the best concept for this particular location is for service vehicles to drive straight in from Church Street and pick up the dumpsters without making any turns and then back straight out. Bollards will be provided adjacent to the proposed building. Mirrors will be provided at the northeast corner of the building. No parking signs will be posted on the joint use drive. A minimum of 25 foot overhead clearance will be provided.
    There are two solid waste management systems on site, one for 611 E. University trash and recycling, and one for Pizza House recycling.
    The 611 E. University trash will be collected via a vertical chute that leads to a mini compactor in the ground floor trash room. The trash dumpsters will be 2 cy units on wheels. Staff will push them out into the shared driveway for pick up. The trash room will also have two 4-cy dumpsters on wheels for recycling.
    Pizza House will also use the trash compactor in the 611 E. University trash room and will have one 2-cy trash dumpster on wheels. Pizza House will have two 4-cy recycling dumpsters on wheels in the ground level parking area and a grease container.
    See the chart for preliminary trash and recycle pick up schedule.
    Frequency of pickup will be adjusted as necessary.
12. The City of Ann Arbor has a single hauler for all commercial refuse collection in the City that began on July 1, 2009. It extends through June 30, 2017, with one option to extend until June 10, 2019. Waste Management of Michigan, Inc. (WMM) will provide collection and container rental services for all commercial refuse collection services requested by the City.

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

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7711 BONHOMME AVE., SUITE 625
ST. LOUIS, MO 63105
ATTN: BRANDT STILES
PH: (314) 721-5559

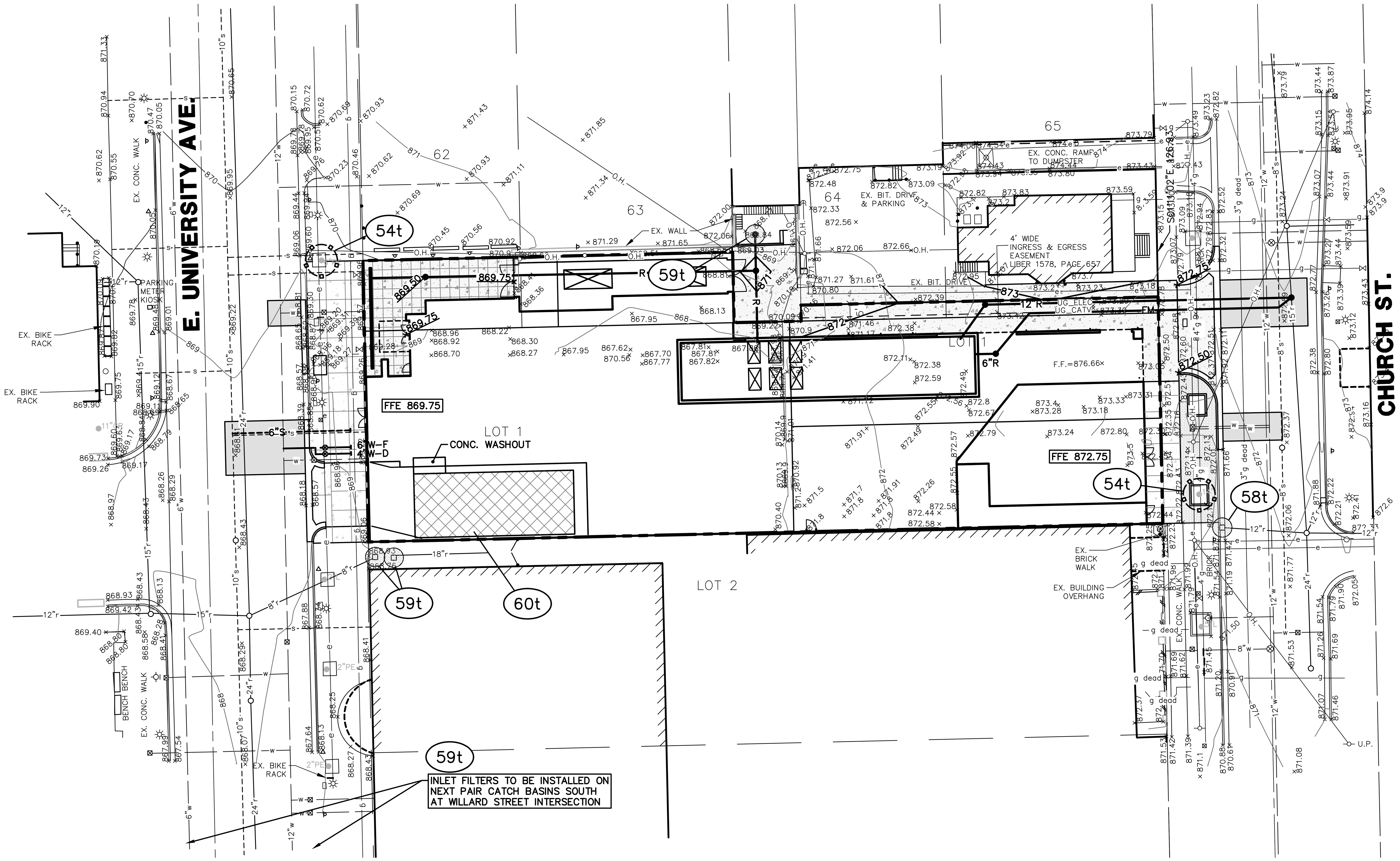
611 E. UNIVERSITY

SITE PLAN
DIMENSIONAL SITE PLAN

C5

DATE: 3/28/16
SHEET 5 OF 15
CADD: DAG
ENG: JCA
PM: SWB
TECH:
16028SP1.dwg
FB#454,455

JOB No. 16028
REVISIONS:
REV. DATE



SCALE: 1" = 20'

0 20 40 60

Know what's below. Call before you dig.

LEGEND

- EXIST. CONTOUR
- PROP. CONTOUR
- EXIST. SPOT ELEVATION
- PROP. SPOT ELEVATION
- EXIST. UTILITY POLE
- GUY WIRE
- ELEC. TRANSFORMER
- EXIST. OVERHEAD UTILITY LINE
- EXIST. LIGHT POLE
- PROP. LIGHT POLE
- EXIST. TELEPHONE LINE
- EXIST. ELECTRIC LINE
- EXIST. GAS LINE
- EXIST. GAS VALVE
- EXIST. FIBER OPTIC LINE
- EXIST. WATER MAIN
- PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- REDUCER
- EXIST. BLOW-OFF
- PROP. BLOW-OFF
- POST INDICATOR VALVE
- THRUST BLOCK
- PROP. KNOXBOX
- EXIST. STORM SEWER
- PROP. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- EXIST. BEEHIVE INLET
- PROP. BEEHIVE INLET
- PROP. ROOF DRAIN
- END SECTION
- HEAD WALL
- CULVERT
- EXIST. DOWNSPOUT
- PROP. DOWNSPOUT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- C/L OF DITCH
- DRAINAGE DIRECTION
- SIGN
- SINGLE TREE
- TREE OR BRUSH LIMIT
- FENCE
- SILTFENCE
- LIMITS OF DISTURBANCE
- CONSTRUCTION FENCE
- FF — FINISH FLOOR ELEVATION

SOIL EROSION CONTROL NOTES:

1. All soil erosion control measures shall comply with the current City of Ann Arbor ordinances, Washtenaw County standards and specifications for soil erosion and sedimentation control, and State of Michigan "Soil Erosion and Sedimentation Control Act – P.A. 347".
2. Prior to commencing earthmoving operations, the grading contractor shall install the temporary catch basin filter(s) shown on the plans.
3. The removal of trapped sediment and the cleanout or replacement of clogged storm may be necessary after each storm event during the project.
4. Only upon stabilization of all disturbed areas may the temporary gravel filters be removed. All storm sewers must be also cleaned of all sediment.
8. All inlets and catch basins will have sediment filters installed after their construction. These filters will be maintained until all areas around the structure have been stabilized.
9. The Contractor will maintain all necessary soil erosion control devices until soil stabilization has occurred.
10. Appropriate emergency access will be provided during construction.
11. The estimated cost of soil erosion control measures is $5000.
12. The estimated cost to protect all soil surfaces from erosion should construction discontinue is $3000.
13. External streets will be immediately cleaned of any tracked mud following each mud-tracking occurrence.
14. Estimated project earthwork is 1,500 CYD excavation and 200 CYD fill.
15. Dewatering operations during construction, if necessary, must be done per City requirements including sediment control and disposal.
16. Final locations and dimensions of the mud tracking mat and concrete washout area are to be determined by the contractor subject to City approval.

MAINTENANCE PROGRAM FOR SOIL EROSION CONTROLS

1. The Owner shall be responsible for maintaining the permanent soil erosion control measures. Maintenance responsibilities shall become part of any sales or exchange agreement for the land on which the permanent SESC measures are located.

STORMWATER NARRATIVE:

The onsite drainage will be routed to the detention chamber located in the basement level of the building. Runoff from the parklet in the northwest corner of the site and roof drainage will be routed interior to the building and connected to the detention. The detention system has been sized to provide first flush, bankfull, and 100-year storm detention.

The chamber will have an open bottom to permit infiltration into the sandy soil.

The detention chamber will have an emergency overflow pipe out to Church Street. The storm storage volume will be detained and discharged at a controlled rate through a pumped discharge to the gravity flow emergency overflow line.

Construction Sequence:

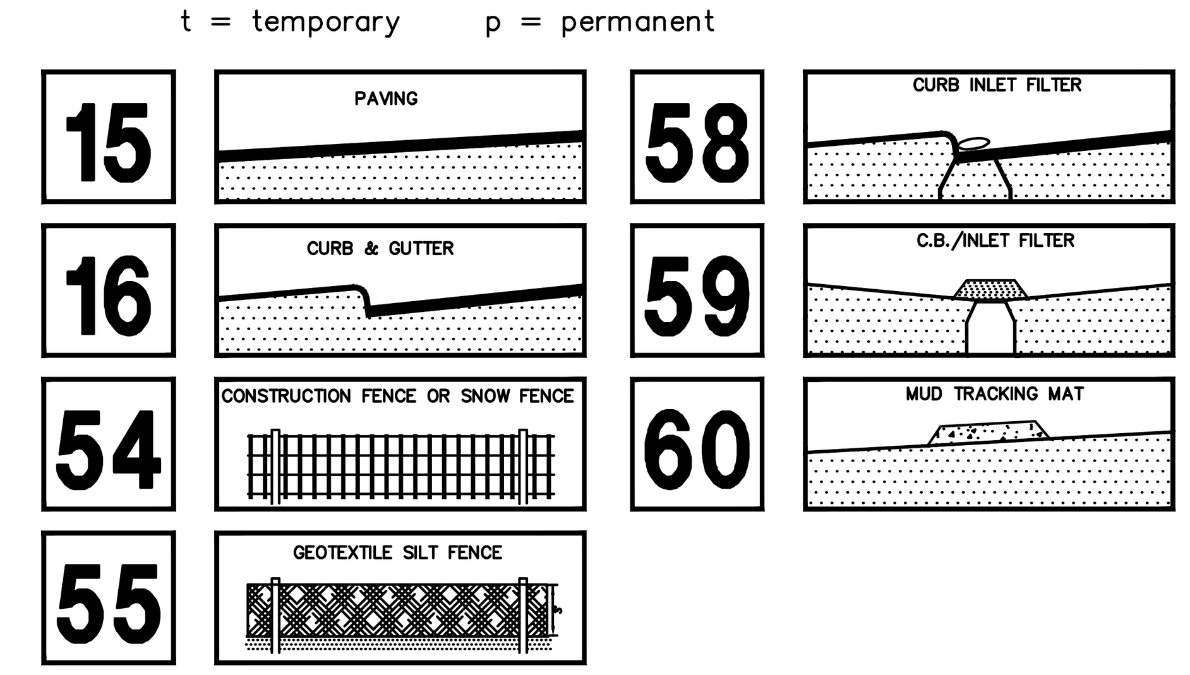
4/1/2017 thru 9/1/2018

1. Inventory Site: (1 week)
   - SESC pre-grading meeting
   - Identify construction limits and define site access
   - Install construction fencing as required to secure site
2. Building Demolition: (2 weeks)
   - Install silt fence and mud tracking mat
   - Demolish buildings and associated utilities
3. Utility Installation and Site Demolition: (10 weeks)
   - Install all soil erosion control measures
   - Demolish site amenities; including curb and gutter and pavement as required
   - Install sanitary sewer extension and lead
   - Install water main and water main leads
   - Install storm sewer extension and lead
   - Install silt sack on completed inlets
   - A wet or dry standpipe shall be installed per 3311.1 of the Michigan Building Code. The standpipe can be permanent or temporary with a permanent or temporary FDC provided. Connections for hose operations shall be 2 ½" NST.
4. Earth Retention System Installation and Mass Excavation: (10 weeks)
   - Maintain existing controls
   - Install earth retention system
   - Excavate for foundation/basement/storm detention chamber
5. Foundation and Building Construction: (41 weeks)
   - Maintain existing controls; install permanent controls within five (5) days after final grading or final grade change
   - Construct detention chamber within the building foundation
6. Fine Grade the Site, install Sidewalk, Curb and Gutter, Final Street Paving and continue Building Construction: (2 weeks)
   - Maintain existing controls
   - Install Sidewalk, Curb and Gutter and Final Street Paving
   - Plant landscape items
7. Follow-Up After the Site is Stabilized: (1 week)
   - Remove construction fence and install new fencing
   - Remove catch basin silt sacks
   - Remove sediment from detention chambers and storm sewer system
   - Clean up debris
8. Finalize Building Construction: (1 week)
   - Maintain permanent soil erosion control measures
   - Remove construction fencing
   - Prior to the first Certificate of Occupancy, all Life Safety Systems shall be completed, tested and approved.
   - A "Knox Box" emergency responder access system shall be installed prior to the first Certificate of Occupancy. Forms for the Knox Box are available thru Fire Prevention.
   - Provide as-built certification of the storm water detention system.

Note: Construction sequence & schedule is preliminary and subject to adjustment in response to forces beyond our control. These may include weather, material availability, labor unrest or other unforeseen circumstances.

SOIL EROSION CONTROL MEASURES

t = temporary p = permanent



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611 E. UNIVERSITY

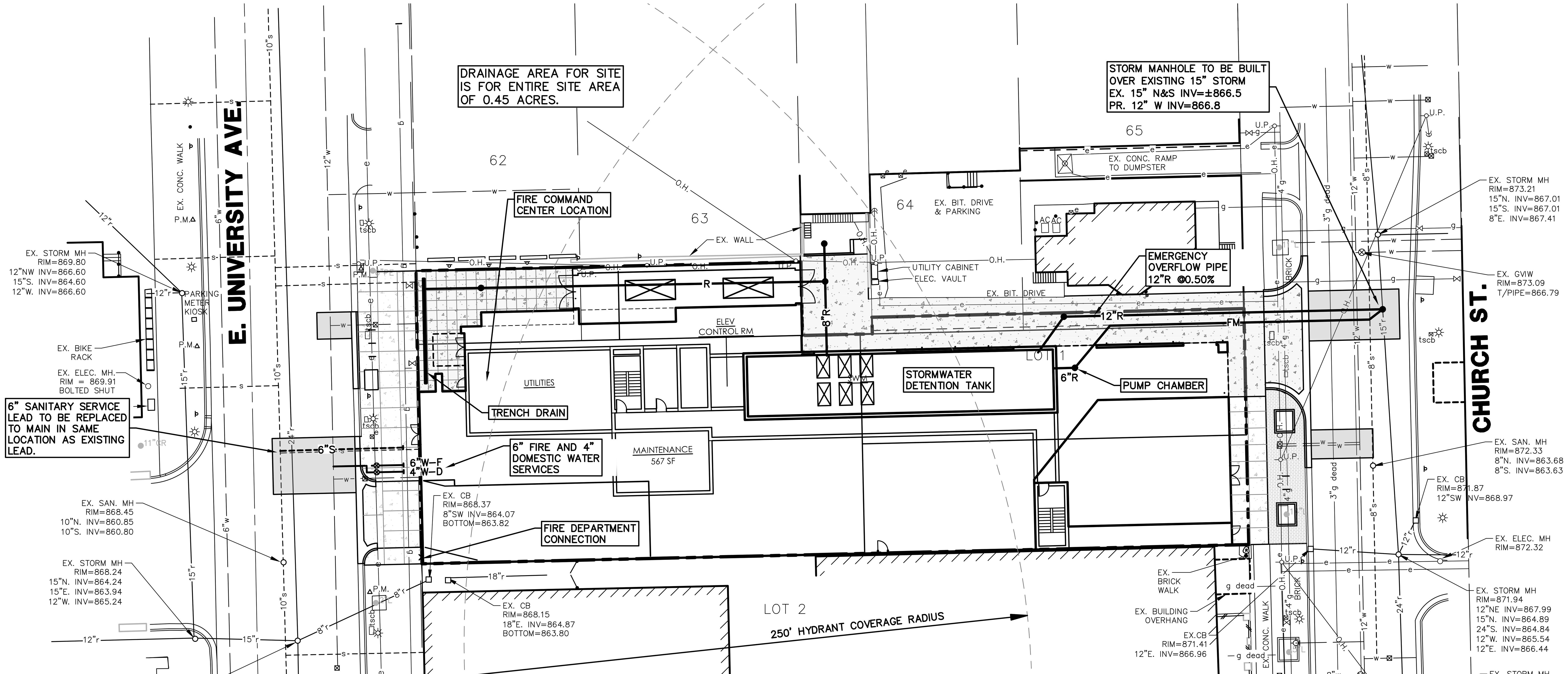
SITE PLAN

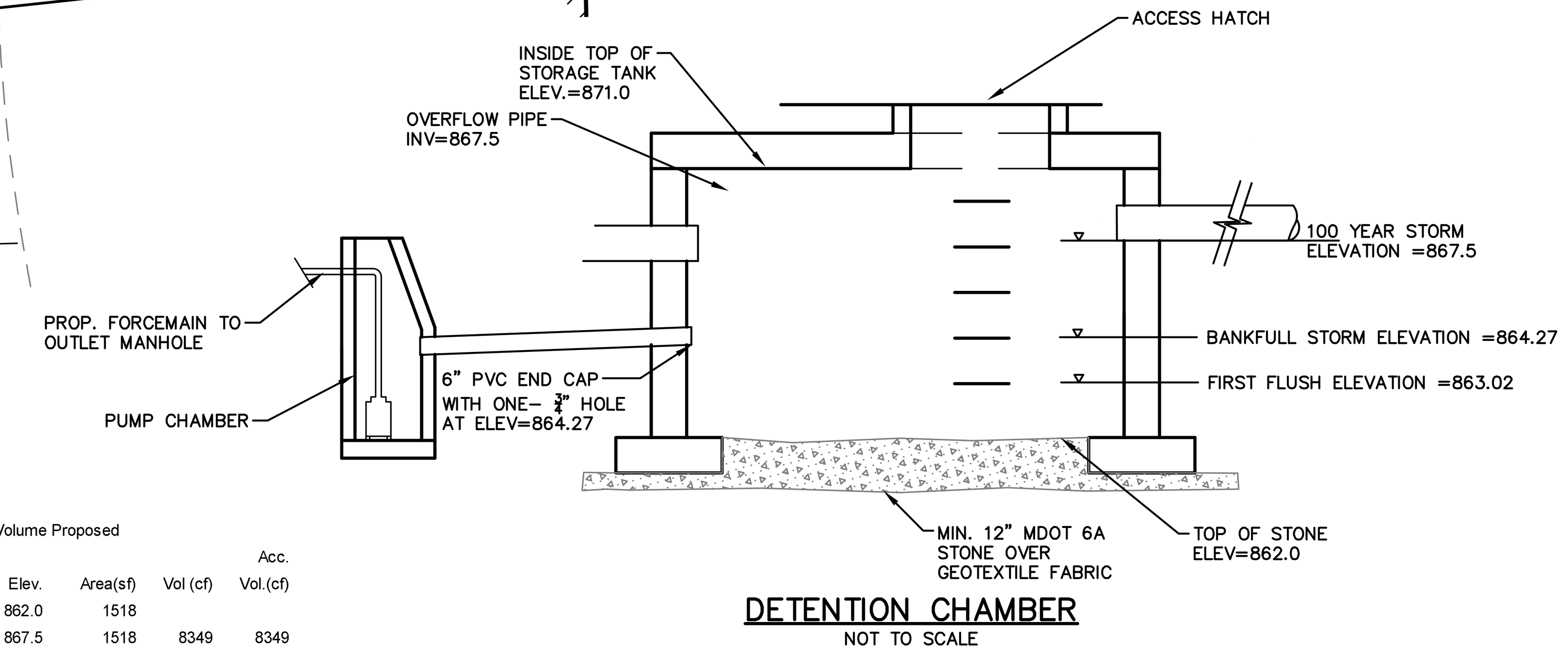
GRADING & SOIL EROSION CONTROL PLAN

C6

DATE: 3/28/16
SHEET 6 OF 15
CADD: DAG
ENG: JCA
PM: SWB
TECH:
16028GP1.dwg
FB#454,455

JOB No. 16028
REVISIONS: REV. DATE





DETENTION CHAMBER
NOT TO SCALE

Storm Water Calculations
Detention

1. **Post Development Cover Types, Areas, Curve Numbers, and Runoff Coefficients**

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coeff.	C x A (ac)
Pond			0.00		0.00
Paved Surface		2633	0.06	0.95	0.06
Buildings		16886	0.39	0.95	0.37
Grass	A		0.00		0.00
Grass	B		0.00		0.00
Grass	C		0.00		0.00
				Total of C x A	0.43
				Area Total	0.45
				Weighted C	0.95

NCRS Variables (Pervious)

Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	CN x A (ac)
Grass	A	0	0.00	39	0.00
Grass	B	0	0.00	61	0.00
Grass	C	0	0.00	74	0.00
	Total Area =	0.00001		Total of C x A	0.00
				Area Total	0.00
				Weighted CN	74.00

NCRS Variables (Impervious)

Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	CN x A
Building		16886	0.39	98	37.99
Pavement		2633	0.06	98	5.92
Pond		0	0.00	98	0.00
	Total Area =	19519		Total of C x A	43.91
				Area Total	0.45
				Weighted CN	98.00

2. **First Flush Calculations**
   - A. V_{ff} = (1"/12) x (43560 cf / 1 ac) x A x C
   - V_{ff} = (1"/12) x (43560 cf / 1 ac) x 0.448095 x 0.95 = 1,545 cf

3. **Standard Runoff Volume Calculations**
   Pre-development Bankfull Runoff Calculations (V_{bf-pre})
   - A. 2 year/ 24 hour event — P = 2.35 in
   - B. Pre-developed land; Meadow , type B soils — CN = 58
   - C. S = (1000/CN) - 10 — S = 7.241
   - D. Q = (P - 0.2S)^2 /(P + 0.8S) — Q = 0.100 in
   - E. Total Site Area (sf) excluding Self-Crediting BMP's — 19,519 sf
   - F. V_{bf-pre} = Q (1/12) Area — 162 cf

4. **Standard Runoff Volume Calculations**
   Pervious Cover Post-development Bankfull Runoff Calculations ($V_{bf-per-post}$)
   - A. 2 year/ 24 hour event — P = 2.35 in
   - B. Developed land; Pervious Cover, Weighted CN. — CN = 74.00
   - C. S = (1000/CN) - 10 — S = 3.514
   - D. Q = (P - 0.2S)^2 /(P + 0.8S) — Q = 0.526 in
   - E. Pervious Cover Area — 0 sf
   - F. $V_{bf-per-post}$ = Q (1/12) Area — 0 cf

5. **Standard Runoff Volume Calculations**
   Impervious Cover Post-development Bankfull Runoff Calculations ($V_{bf-imp-post}$)
   - A. 2 year/ 24 hour event — P = 2.35 in
   - B. Developed land: Buildings CN = 98.00; Pavement CN = 98.00; Pond CN = 98.00; Weighted CN = 98.00
   - C. S = (1000/CN) - 10 — S = 0.204
   - D. Q = (P - 0.2S)^2 /(P + 0.8S) — Q = 2.122 in
   - E. Pervious Cover Area — 19,519 sf
   - F. $V_{bf-imp-post}$ = Q (1/12) Area — 3,451 cf

6. **Standard Runoff Volume Calculations**
   Pervious Cover Post-development 100 Year Runoff Calculations ($V_{100-per-post}$)
   - A. 100 year/ 24 hour event — P = 5.11 in
   - B. Developed land; Grass, Lawn , type B soils — CN = 74.00
   - C. S = (1000/CN) - 10 — S = 3.514
   - D. Q = (P - 0.2S)^2 /(P + 0.8S) — Q = 2.452 in
   - E. Pervious Cover Area — 0 sf
   - F. $V_{100-per-post}$ = Q (1/12) Area — 0 cf

7. **Standard Runoff Volume Calculations**
   Impervious Cover Post-development 100 Year Runoff Calculations ($V_{100-imp-post}$)
   - A. 100 year/ 24 hour event — P = 5.11 in
   - B. Developed land: Buildings CN = 98; Pavement CN = 98; Pond CN = 98; Weighted CN = 98.00
   - C. S = (1000/CN) - 10 — S = 0.204
   - D. Q = (P - 0.2S)^2 /(P + 0.8S) — Q = 4.873 in
   - E. Pervious Cover Area — 19,519 sf
   - F. $V_{100-imp-post}$ = Q (1/12) Area — 7,926 cf

8. **Time of Concentration**
   Due to small site size, Tc of 15 minutes will be used. — 0.25 hours

9. **Runoff Summary and Onsite Infiltration Requirement**
   - A. **Runoff Summary from Previous Worksheets**
     - First Flush Volume — V_{ff} = 1,545 cf
     - Pre-Development Bankfull Volume — V_{bf-pre} = 162 cf
     - Pervious Cover Post-Development Bankfull Volume — $V_{bf-per-post}$ = 0 cf
     - Impervious Cover Post-Development Bankfull Volume — $V_{bf-imp-post}$ = 3,451 cf
     - Pervious Cover Post-Development 100-yr Volume — $V_{100-per-post}$ = 0 cf
     - Impervious Cover Post-Development 100-yr Volume — $V_{100-imp-post}$ = 7,926 cf
   - B. **Determine Onsite Infiltration Requirement**
     - Total Post-Development Bankfull Volume — $V_{bf-per-post}$ = 3,451 cf
     - Pre-Development Bankfull Volume — V_{bf-pre} = 162 cf
     - Bankfull Volume Difference — 3,289 cf

10. **Detention Requirement**
    - A. Q_p = 238.6 * $T_c^{-0.82}$ — 743.6 cfs/in-mi²
    - B. Total Site Area Excluding "Self-Crediting" BMP's — 0.45 ac
    - C. Q_{100} = $Q_{100-per}$ + $Q_{100-imp}$ — 7.325 in
    - D. Peak Flow (PF) = (Q_p x Q_{100} x Area (ac)) / 640 — PF = 3.8 cfs
    - E. Δ = PF - 0.15 * Area (ac) = — Δ = 3.7 cfs
    - F. V_{det} = Δ / PF x V_{100} - V_{inf} = — V_{det} = 7,787 cf
      Outflow is below flo[illegible]ation so we will use volume with zero outflow — V_{det} = 7,926 cf
    - G. Forebay Volume Req'd = 5% x V_{det} — V_{fb} = 396 cf
    - I. — V_{total} = 8,323 cf

11. **Determine Applicable BMPs and Associated Volume Credits**
    The soil borings available from the adjacenet Pizza House project indicate the soils are very good for infiltration. An infiltration rate of 20 in/hr or more is expected. For calculations we will use 10 in/hr using a factor of safety of 2

Infiltration Area (sf)	Stor. Vol. (cf)	Ave Inf. Rate (in/hr)	Inf. Storm (cf)
1,518	8,349	10.00	7,590

Runoff Volume Infiltration Requirement (Vinf) from Worksheet 9 — 3,451 cf

Runoff Volumes
First Flush 1,545 cf
Bankfull Storm 3,451 cf
100-year Event 8,323 cf

12. Detention Staged Storage Volume Proposed

	Elev.	Area(sf)	Vol (cf)	Acc. Vol.(cf)
$Elev_b$ =	862.0	1518		
	867.5	1518	8349	8349
	Total:		8349 CF	

The following interpolations determine the pond water elevations for the three different storm events:

First Flush: (867.5 - 862.0) / (8349 - 0) = (x - 862.0) / (1545 - 0); x = $Elev_{ff}$ = 863.02

Bankfull Flood: (867.5 - 862.0) / (8349 - 0) = (x - 862.0) / (3451 - 0); x = $Elev_{bf}$ = 864.27

100 Yr. Flood: (867.5 - 862.0) / (8349 - 0) = (x - 862.0) / (8323 - 0); x = 867.48

These yield pond water elevations of 863.02 for the First Flush, 864.27 for the Bankfull Flood, and 867.48 for the 100 Yr. Storm Event

C. Outflow Structure
The volume required to infiltrate will be retained. The volume in excess of the bankfull elevation will discharge by the allowable discharge to a pump out to the storm sewer in East University. The pumped volume will be discharged over a 48 hour period.

1. 100 Year Discharge
The remaining volume to discharge will be:
8323 cf - 3451 cf = 4872 CF

Q_{100} = (1/48 hrs) x (1 hr./3600 sec) x 4872 CF = 0.031 CFS
Orifice area at Elev. 864.27 to produce this average discharge:
H = 3.21 FT
H_A = (2/3 H) = 2.14 FT
Area of Orifice = Q_{100} / (0.62 x (2xgxH_A)^0.5) = 0.0042 SF
Where, H = Head; H_A = Average Head; g = Gravitational Const (32.2 fps)
Area of 0.88 " hole = 0.0042 SF
No. of 0.88 " hole(s) = 0.0042 / 0.0042 = 1.01 hole(s)
Therefore, use
ONE(1) 0.88 " hole(s) at Elev. = 864.27

SANITARY SEWER FLOW MITIGATION CALCULATIONS

Design Population:
611 E. University will be an apartment building with a small amount of retail space. It will be a multi-story building with ground level lobby, leasing, fire command center, retail, bike room, trash room, maintenance room, and employee parking. Resident parking will be on the second and third levels, with apartments on the levels above.

Existing Flow:
The sanitary sewer flow produced by the existing, occupied, commercial/non-residential and residential use buildings to be removed will be based on the City of Ann Arbor's sanitary sewer flow evaluation Table 'A'. The computed dry weather flow rate for the existing uses will be as follows:

611 E. University Street:
995 sf restaurant @ 0.06 gpd/sf = 59.70 gpd

615-617 E. University Street:
3,000 sf restaurant @ 0.06 gpd/sf = 180.00 gpd
3,500 sf spinning club 0.30 gpd/sf = 1,050.00 gpd
6,500 sf office 0.06 gpd/sf = 390.00 gpd
Subtotal = 1,620.00 gpd
612 Church Street:
1,250 sf leasing office 0.06 gpd/sf = 75.00 gpd
2 apartments / 625 sf ea@ 275 gpd = 550.00 gpd
Subtotal = 625.00 gpd

Total credit for existing flows: = 3,924.70gpd

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

a. 56 interior parking spaces proposed @ 27 gpd/space = 1,512.00 gpd
b. 14 apartments of 0-600 sf @ 200 gpd/units = 2,800.00 gpd
c. 24 apartments from 601 sf to 1,200 sf @ 275 gpd/unit = 6,600.00 gpd
d. 52 apartments over 1200 sf @ 350 gpd/unit = 18,200.00 gpd
e. 3,601 sf @0.03 gpd/sf = 108.03 gpd
Total Design average flow = 29,220.03 gpd

Mitigation Flow:
Mitigation flow = Design average flow – Existing average flow
Mitigation flow = 29,220.03 gpd – 3,924.70 gpd = 25,295.33 gpd
Mitigation peak flow = 25,295.33 gpd x 4(peaking) x 1.1 (recovery)
= 111,299.45 gpd or 77.29 gpm

Footing Drain Disconnect (or equivalent) Summary:
Footing Drain Disconnect Factor from the City of Ann Arbor = 4 gpm/home
Number of Footing Drain Disconnects or Equivalent Required
= 77.29 gpm / 4 gpm / home = 19.32 homes or equivalent
Mitigation will be required with a total of 19 homes having their Footing Drains Disconnected (or equivalent alternate mitigation) to equate to the additional peak flow produced.

FIRE PROTECTION PLAN NOTES:
1. Water services are to be separate domestic and fire lines.
2. Addressing: numerics shall be a minimum of 4 inches in height and clearly visible when approaching the building.
3. Flow requirements: flow shall comply with NFPA 13 standards and shall meet 2009 International Fire Code (IFC) standards found in Appendix B. Table B 105.1 of the code. (IBC). Type of construction is based on the International Building Code (IBC). Pursuant to 2009 IFC, a reduction in required fire-flow of up to 75% is allowed with an approved automatic sprinkler system, but shall not be less than 1,500 GPM for the prescribed duration as specified in Table B105.1
   Should a fire pump be installed due to insufficient water flow and pressure to support the fire protection system, the following shall be met:
   IFC 2009, Section 914.3.1.2 – Required fire pump shall be supplied by connections to a minimum of two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.
   Exception: Two connections to the same main shall be permitted provided the main is valued such that an interruption can be isolated so that the water supply will continue without interruption through at least one of the connections.
4. Fire department connections (FDC's) shall be within 100 feet of a hydrant.
5. Fire department connection (FDC) location: hook-up location is subject to Fire Marshal's approval.
6. FDC's shall be 4 inch Storz connections or (2) 2 ½ inch NST connections.
7. FDC access shall comply with IFC 912.3.
8. FDC signage shall be provided and shall comply with IFC 912.4.
9. Fire protection alarm and detection system shall be in compliance with all applicable codes adopted by the City of Ann Arbor, including NFPA 72, 2007 edition and all other referenced standards.
   a. A horn strobe device shall be installed above the FDC and shall activate upon sprinkler water flow.
   b. Emergency responder radio coverage shall comply with 2009 IFC Section 510.
   c. Emergency voice/alarm communications system shall comply with 2009 IFC Section 907.6.2.2.
   d. Occupant notification appliances shall activate throughout the notification zones upon sprinkler water flow.
   e. Place signage on Fire Suppression System Control Room door (IFC 2009 Section 509.1) if applicable.
10. Fire Command Center: Building meets high-rise classification and shall be equipped with a ground floor Fire Command Center that complies with 2009 IFC Section 508 and 2012 MBC Section 911.
11. Knox Box emergency access system with keys to access the building, the Fire Suppression System Control Room (if applicable), an elevator key, and any other keys to areas that may be relevant during emergencies will be required. Knox Box with proper keys shall be in place prior to issuance of Certificates of Occupancy for the buildings.
12. The Knox Box shall be mounted no higher than 6 feet from grade in an approved location on the exterior for emergency access to the building as well as access to the Fire Suppression System Control Rooms if applicable.
13. Construction sequencing
    A. Hydrants must be in service and approved during construction.
    B. Hydrants providing protection coverage for the building must be in service and approved by both Planning and Fire departments before the fire department will support permit issuance for new construction phase and before combustible materials are placed on the job site.
    C. Storage areas for construction materials must be approved so as not to interfere with fire/emergency site access.
    D. If site access is to be restricted during construction, Knox Box locks for gates are to be provided.
14. No firewalls will be constructed within the building.
15. Booster pumps are to be provided on the domestic water service and the fire suppression water service leads. The pumps shall meet 2009 IFC standards, Section 914.3.1.2.
16. No separate Fire Suppression System Control Room is required.

UTILITY PLAN NOTES:
1. Proposed E. University streetscape includes a concrete sidewalk, curbed landscape bed at existing street tree, tree grate and proposed street tree, bike racks and existing pedestrian lights. Proposed Church Street streetscape is to match that of the adjacent Pizza House/Arbor Blu development, including concrete and brick sidewalks, curbed landscape areas, bike racks, existing street trees, and existing pedestrian lighting. Existing utility poles and overhead services are to remain on the west side of Church Street.
2. During demolition of the existing structures, the contractor will be responsible for identifying any existing footing drains that are connected to the sanitary sewer. These are to be verified on site by the City prior to removal. If footing drains for the existing buildings are connected to the sanitary sewer system, disconnection will be required in accordance with current City specifications. To schedule inspection, call the City of Ann Arbor Project Management Services Unit at (734) 794-6410.Disconnection of existing footing drains may be taken as a credit against required sanitary sewer flow mitigation.
3. 100-year storm water detention is provided in a chamber in the basement level of the building. All roof drains are to run down through the building and are to connect to the storm detention chamber inside the building. Runoff from the parklet in the northwest corner of the site is also directed to this chamber. The chamber will outlet to the existing storm sewer in Church Street.
4. The sanitary sewer lead will tap into the existing sanitary main in E. University Street. Sanitary sewer modeling is to be done to determine any required off-site sanitary sewer improvements. Sanitary sewer flow mitigation is to be provided as required.
5. Domestic water and fire suppression water services are to tap into the existing 12" water main in E. University. Booster pumps will be provided for domestic and fire water services.
6. Dewatering operations during construction are not anticipated to be required. On-site soils are sand and the water table is below the depth of the proposed excavation.
7. There are no proposed firewalls in the building.
8. The foundation system will be fully designed during preparation of the construction plans. If temporary tie-backs are required in the right-of-way for construction purposes, a temporary licensing agreement will be provided. If the building's footings will be located in the right-of-way, the locations shall be clearly identified on the plans and a permanent licensing agreement will be provided.
9. All sidewalks constructed in the public right-of-way shall meet requirements and guidelines as set forth in the ADA Standards for Accessible Design.

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

SCALE: 1" = 20'
0 20 40 60

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

LEGEND
EXIST. UTILITY POLE
GUY WIRE
ELEC. TRANSFORMER
EXIST. OVERHEAD UTILITY LINE
EXIST. LIGHT POLE
PROP. LIGHT POLE
EXIST. TELEPHONE LINE
EXIST. ELECTRIC LINE
EXIST. GAS LINE
EXIST. GAS VALVE
EXIST. FIBER OPTIC LINE
EXIST. WATER MAIN
PROP. WATER MAIN
EXIST. HYDRANT
PROP. HYDRANT
EXIST. GATE VALVE IN BOX
PROP. GATE VALVE IN BOX
EXIST. GATE VALVE IN WELL
PROP. GATE VALVE IN WELL
EXIST. CURB STOP & BOX
PROP. CURB STOP & BOX
REDUCER
EXIST. BLOW-OFF
PROP. BLOW-OFF
POST INDICATOR VALVE
THRUST BLOCK
PROP. KNOXBOX
EXIST. STORM SEWER
PROP. STORM SEWER
EXIST. CATCH BASIN OR INLET
PROP. CATCH BASIN OR INLET
EXIST. BEEHIVE INLET
PROP. BEEHIVE INLET
PROP. ROOF DRAIN
END SECTION
HEAD WALL
CULVERT
EXIST. DOWNSPOUT
PROP. DOWNSPOUT
EXIST. SANITARY SEWER
PROP. SANITARY SEWER
EXIST. CLEANOUT
PROP. CLEANOUT
C/L OF DITCH
DRAINAGE DIRECTION
SIGN
SINGLE TREE
TREE OR BRUSH LIMIT
FENCE

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611 E. UNIVERSITY
SITE PLAN
UTILITY, STORM WATER MANAGEMENT & FIRE PROTECTION PLAN

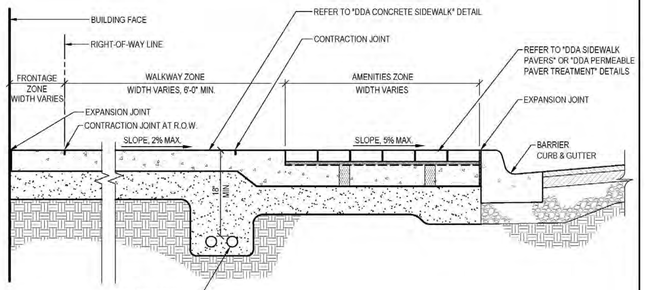
C7

DATE: 3/28/16
SHEET 7 OF 15
CADD: DAG
ENG: JCA
PM: SWB
TECH:
16028UP1.dwg
FB#454,455

JOB No. 16028
REVISIONS:
REV. DATE

NOTES:

1. REFER TO SITE PLAN FOR PROJECT SPECIFIC TYPES & LIMITS OF SURFACE MATERIALS.
2. CROSS SLOPES IN AMENITIES ZONE SHALL NOT EXCEED 5% WITHOUT APPROVAL OF ENGINEER.



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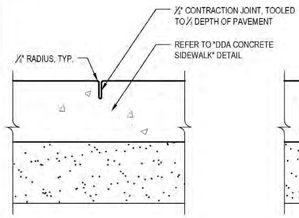
REV. NO.	DATE	DRAWN BY	CHECKED BY

DDA SIDEWALK CROSS SECTION

DR. SGJR	CH. CEC	DRAWING NO.
SCALE N.T.S.	DATE 10/28/15	SD-DDA-1A

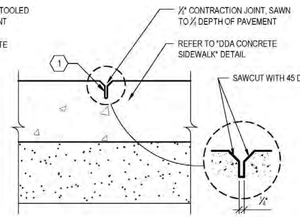
GENERAL NOTES:

1. DESIGN MAY UTILIZE TOOLED OR SAW-CUT CONTRACTION JOINT. PLANS MUST INDICATE SELECTION OF JOINT TYPE. PROJECT MUST HAVE EITHER JOINT TYPE, BUT NOT BOTH.
2. CONTRACTOR TO PROVIDE MOCK-UP OF PAVING FINISH, COLOR AND JOINTING FOR CITY APPROVAL, PRIOR TO INSTALLING SIDEWALKS



NOTE:
1. TOOLED CONTRACTION TO HAVE 1/4" RADIUS AT SURFACE OF JOINT

TOOLED CONTRACTION JOINT



NOTE:
1. CHAMFERED CONTRACTION JOINT MAY BE SAWCUT AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT RAVELING OF THE CONCRETE AT THE EDGES.
2. A FORM OR GUIDE IS REQUIRED TO BE USED ON ALL CHAMFERED CONTRACTION JOINTS THAT ARE ARCS. ARC JOINTS ARE TO BE SAWCUT TO A TRUE EVEN CONTINUOUS RADIUS WITHOUT IRREGULARITIES.

SAW-CUT CONTRACTION JOINT

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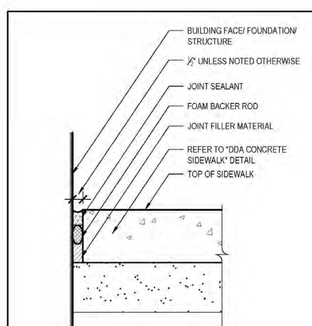
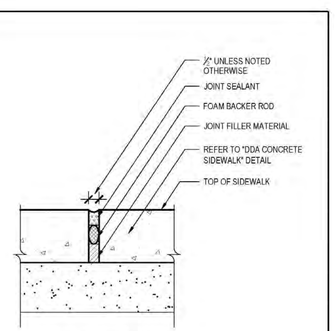
DDA SIDEWALK - CONTRACTION JOINT

DR. SGJR	CH. CEC	DRAWING NO.
SCALE N.T.S.	DATE 10/28/15	SD-DDA-6



CONCRETE TO BUILDING FACE, FOUNDATION, OR STRUCTURE



CONCRETE TO CONCRETE SIDEWALK

NOTE:
1. ALL EXPANSION JOINTS TO BE SEALED IN DDA DISTRICT
2. DOWELED SEALED EXPANSION JOINTS INCLUDING BARS AND SLEEVES ARE INCIDENTAL TO PAVEMENT PAY ITEMS.

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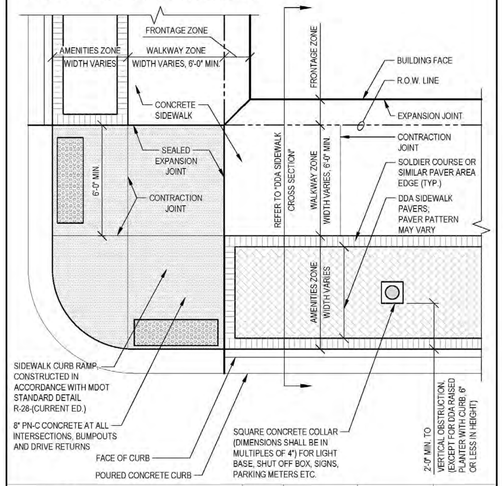
DDA SIDEWALK - SEALED EXPANSION JOINT

DR. SGJR	CH. CEC	DRAWING NO.
SCALE N.T.S.	DATE 10/28/15	SD-DDA-7

NOTES:

1. DRY LAID PAVERS MUST BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS
2. A MOCK-UP OF PAVERS SHALL BE BUILT TO ESTABLISH THE ACTUAL WIDTH OF PAVER BAND TO AVOID SLIVERS OF PAVERS; APPROVAL BY ENGINEER OR DDA, AS APPROPRIATE.
3. ALL PAVERS SHALL BE RATED FOR HEAVY VEHICULAR TRAFFIC



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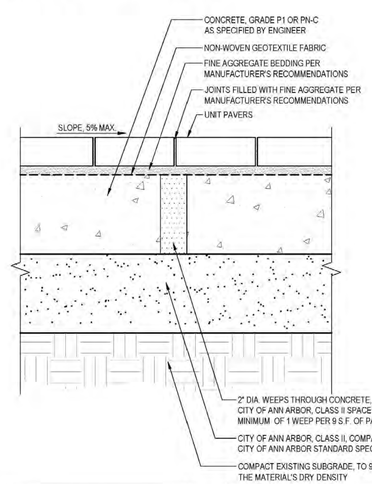
DDA SIDEWALK WITH UNIT PAVER IN AMENITY ZONE

DR. SGJR	CH. CEC	DRAWING NO.
SCALE N.T.S.	DATE 10/28/15	SD-DDA-1B

NOTES:

1. DRY LAID PAVERS MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS
2. A MOCK-UP OF PAVERS SHALL BE BUILT TO ESTABLISH THE ACTUAL WIDTH OF PAVER BAND TO AVOID SLIVERS OF PAVERS; APPROVAL BY DDA
3. ALL PAVERS SHALL BE RATED FOR HEAVY VEHICULAR TRAFFIC



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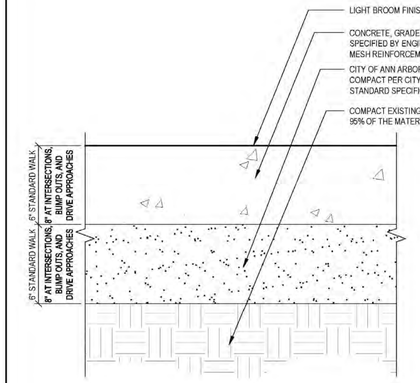
REV. NO.	DATE	DRAWN BY	CHECKED BY

DDA SIDEWALK PAVERS

DR. SGJR	CH. CEC	DRAWING NO.
SCALE N.T.S.	DATE 10/28/15	SD-DDA-3



NOTES:

1. CONTRACTOR TO CONSTRUCT ALL SIDEWALKS, SIDEWALK RAMPS, CURBS, AND ALL OTHER CONCRETE ITEMS WITHIN A.D.A.A.G. COMPLIANCE.
2. ALL SIDEWALK CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MDOT STANDARD DETAIL R-28-I.

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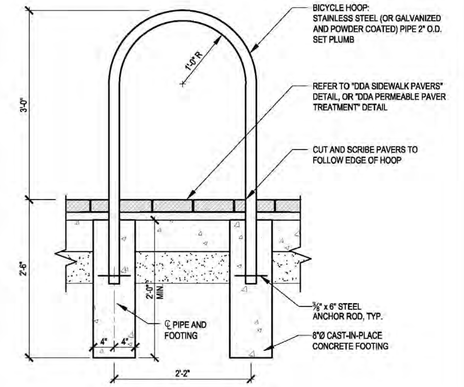
DDA CONCRETE SIDEWALK

DR. SGJR	CH. CEC	DRAWING NO.
SCALE N.T.S.	DATE 10/28/15	SD-DDA-2

BICYCLE HOOP NOTES:

1. TO BE USED ONLY FOR DDA SIDEWALK PAVERS OR DDA PERMEABLE PAVER TREATMENTS
2. LOCATE AND GROUP BICYCLE HOOPS IN THE AMENITY ZONE.
3. BIKE HOOPS TO BE A MINIMUM OF 2'-10" FROM BACK OF CURB WHEN PERPENDICULAR TO CURB, AND 2'-0" WHEN PARALLEL.
4. REFER TO ANN ARBOR DOWNTOWN STREET DESIGN MANUAL FOR ADDITIONAL LAYOUT GUIDELINES.



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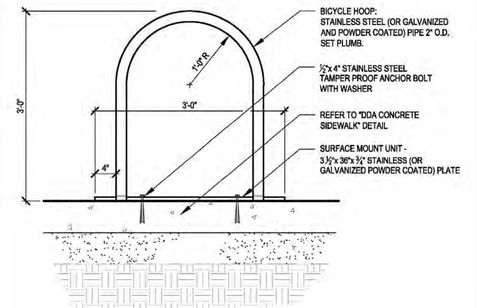
REV. NO.	DATE	DRAWN BY	CHECKED BY

DDA BIKE HOOP - EMBEDDED

DR. SGJR	CH. CEC	DRAWING NO.
SCALE N.T.S.	DATE 10/28/15	SD-DDA-8

BICYCLE HOOP NOTES:

1. TO BE USED ONLY FOR DDA CONCRETE SIDEWALK SURFACES
2. LOCATE AND GROUP BICYCLE HOOPS IN THE AMENITY ZONE.
3. BIKE HOOPS TO BE MINIMUM OF 2'-10" FROM BACK OF CURB WHEN PERPENDICULAR TO CURB, AND 2'-0" WHEN PARALLEL.
4. REFER TO ANN ARBOR DOWNTOWN STREET DESIGN MANUAL FOR ADDITIONAL LAYOUT GUIDELINES.



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REV. NO.	DATE	DRAWN BY	CHECKED BY

DDA BIKE HOOP - SURFACE MOUNTED

DR. SGJR	CH. CEC	DRAWING NO.
SCALE N.T.S.	DATE 10/28/15	SD-DDA-9

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611 E. UNIVERSITY

SITE PLAN
DDA DETAILS

C8

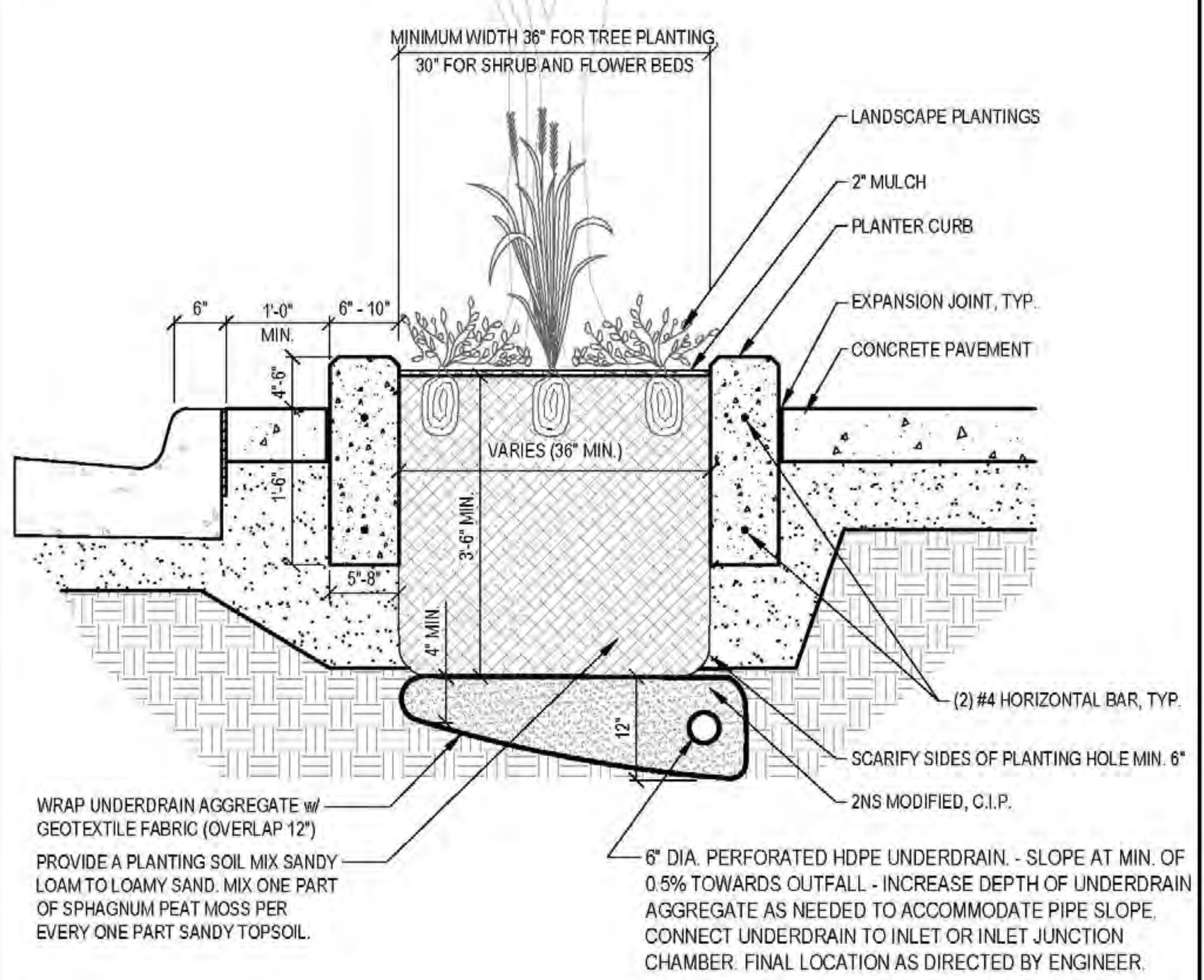
JOB No. 16028

REVISIONS: REV. DATE

DATE: 3/28/16
SHEET 8 OF 15
CADD: DAG
ENG: JCA
PM: SWB
TECH:
16028DT1.dwg
459454,455

NOTES:

1. CONTRACTOR TO EXCAVATE ENTIRE PLANTING AREA. EXISTING SOIL MATERIAL TO BE DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO OWNER
2. RAISED PLANTER MAY INTEGRATE PLANTER BOX WALL PER ANN ARBOR DOWNTOWN STREET DESIGN MANUAL, ON SIDEWALK SIDE.
3. LENGTH OF PLANTER WITH CURB MAY VARY; MUST MEET SOIL VOLUME REQUIREMENTS IN ANN ARBOR DOWNTOWN STREET DESIGN MANUAL FOR TREE PLANTING.
4. IN NO CASE SHALL UNDERDRAIN BE INSTALLED AT A SLOPE LESS THAN 0.5% OR AT A DEPTH OF LESS THAN 3.25' BELOW TOP IF PAVEMENT.



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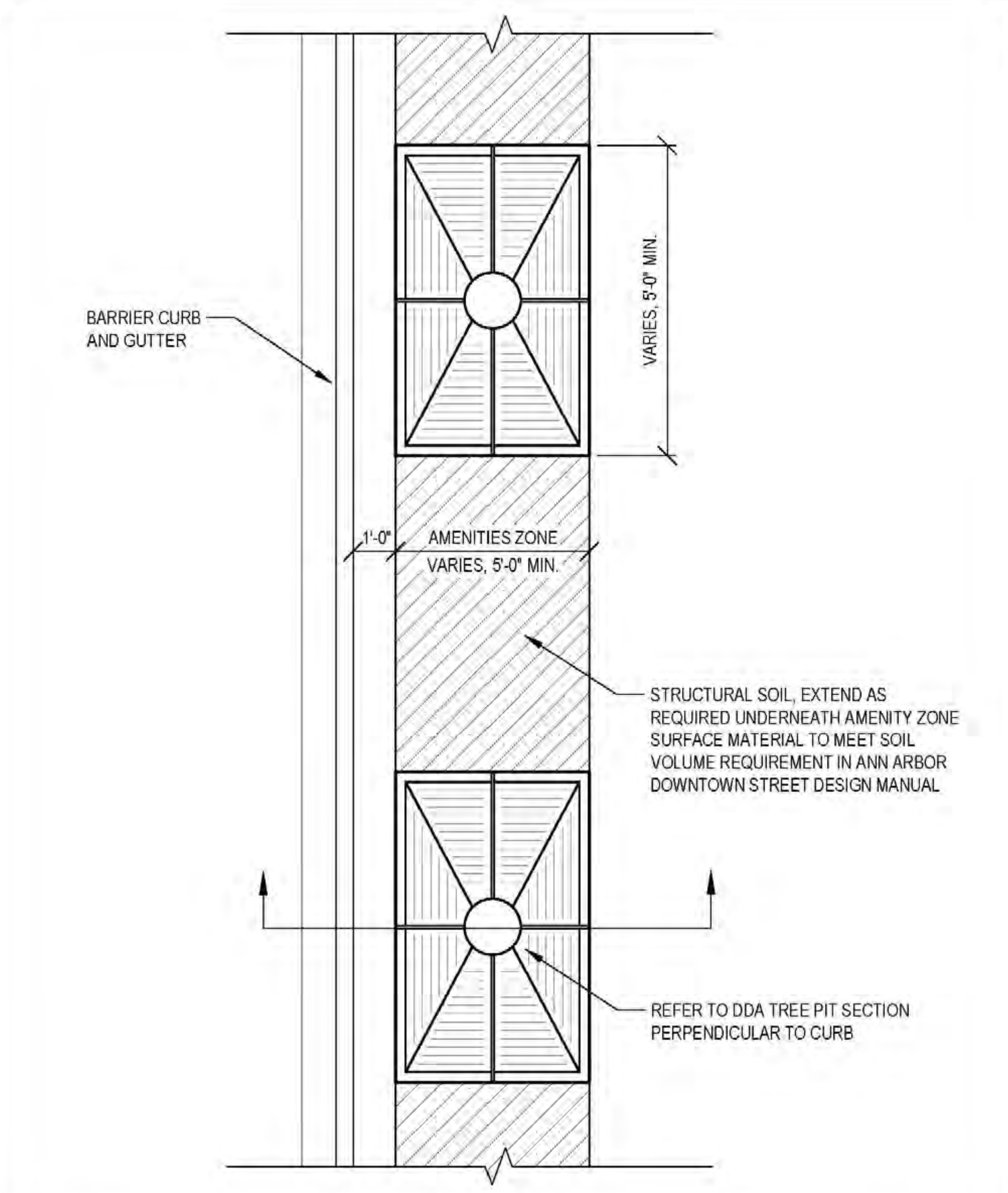
REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA RAISED PLANTER WITH CURB			
DR. SGJJR	CH. CEC	DRAWING NO.	
SCALE N.T.S.	DATE 10/28/15	SD-DDA-10	

265



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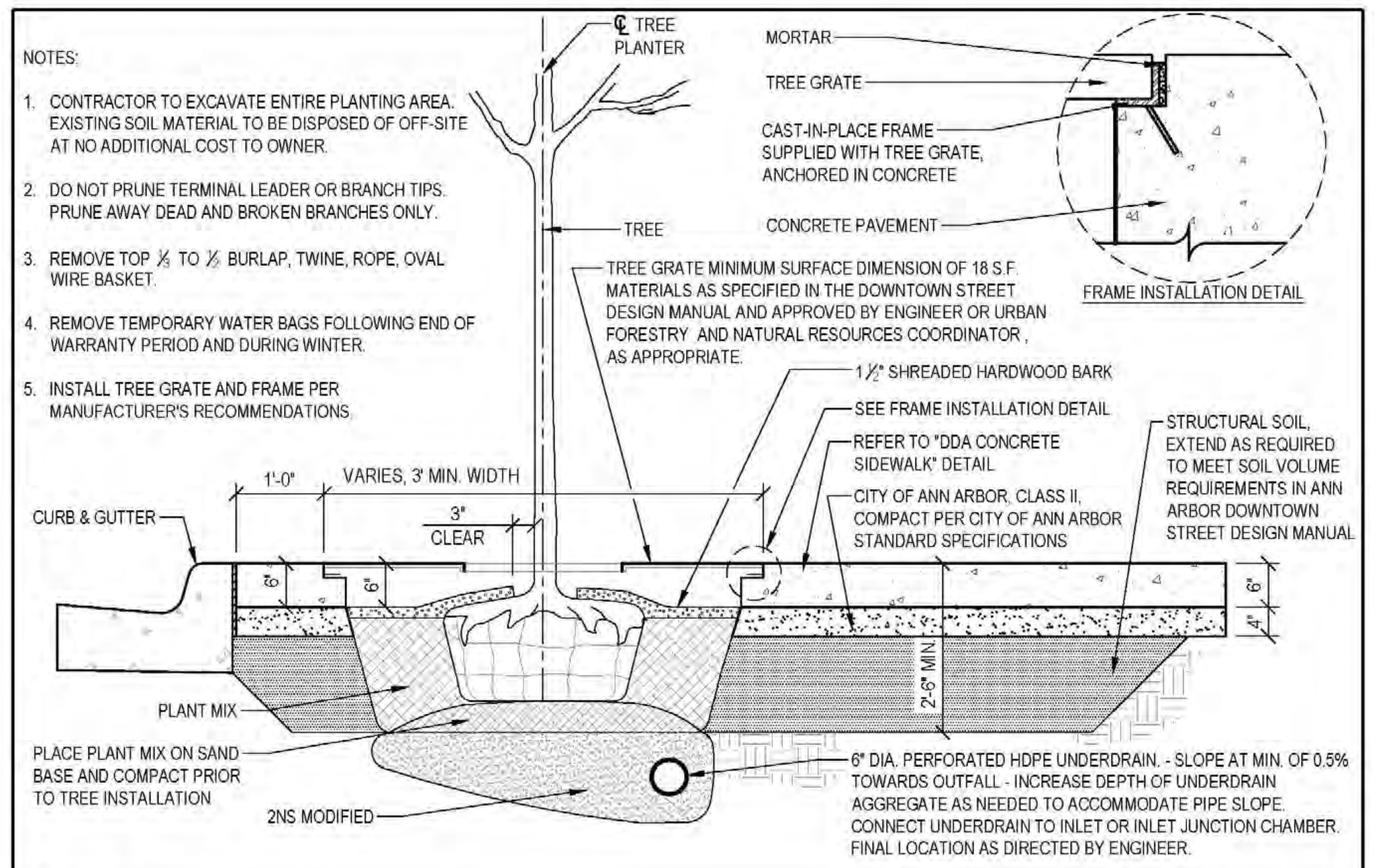
REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA TREE PIT PLAN			
DR. SGJJR	CH. CEC	DRAWING NO.	
SCALE N.T.S.	DATE 10/28/15	SD-DDA-11B	

267

NOTES:

1. CONTRACTOR TO EXCAVATE ENTIRE PLANTING AREA. EXISTING SOIL MATERIAL TO BE DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO OWNER.
2. DO NOT PRUNE TERMINAL LEADER OR BRANCH TIPS. PRUNE AWAY DEAD AND BROKEN BRANCHES ONLY.
3. REMOVE TOP ⅓ TO ½ BURLAP, TWINE, ROPE, OVAL WIRE BASKET.
4. REMOVE TEMPORARY WATER BAGS FOLLOWING END OF WARRANTY PERIOD AND DURING WINTER.
5. INSTALL TREE GRATE AND FRAME PER MANUFACTURER'S RECOMMENDATIONS.



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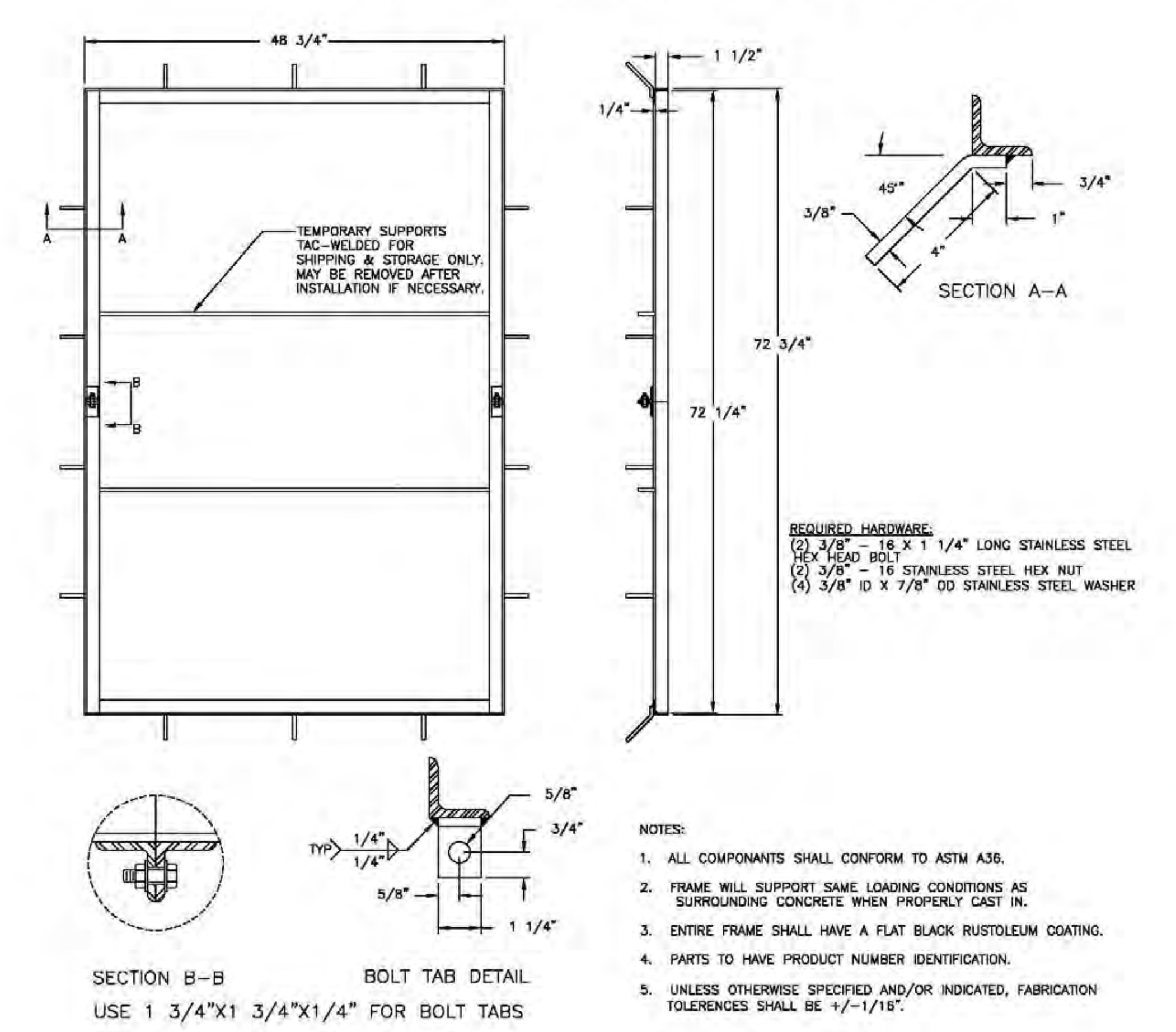
REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA TREE PIT SECTION PERPENDICULAR TO CURB			
DR. SGJJR	CH. CEC	DRAWING NO.	
SCALE N.T.S.	DATE 10/28/15	SD-DDA-11A	

266

48"X72" Rectangular Tree Grate Frame

NOTE: TREE GRATE FRAMES ARE SHIPPED IN HALVES FROM VENDOR AND MUST HAVE HARDWARE ATTACHED



NOTES:

1. ALL COMPONANTS SHALL CONFORM TO ASTM A36.
2. FRAME WILL SUPPORT SAME LOADING CONDITIONS AS SURROUNDING CONCRETE WHEN PROPERLY CAST IN.
3. ENTIRE FRAME SHALL HAVE A FLAT BLACK RUSTOLEUM COATING.
4. PARTS TO HAVE PRODUCT NUMBER IDENTIFICATION.
5. UNLESS OTHERWISE SPECIFIED AND/OR INDICATED, FABRICATION TOLERENCES SHALL BE +/-1/16".

Product Number
00869110
Design Features
-Materials
ASTM A36 Steel
-Design Load
Non-Traffic
-Open Area
N/A
-Coating
See Notes:
-√ Designates Machined Surface

Certification
-Weight: 49 Lbs.
-
-Country of Origin: USA

Drawing Revision
05/07/2003 Designer: JIJ
05/29/2014 Revised By: BDD

Disclaimer
Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.
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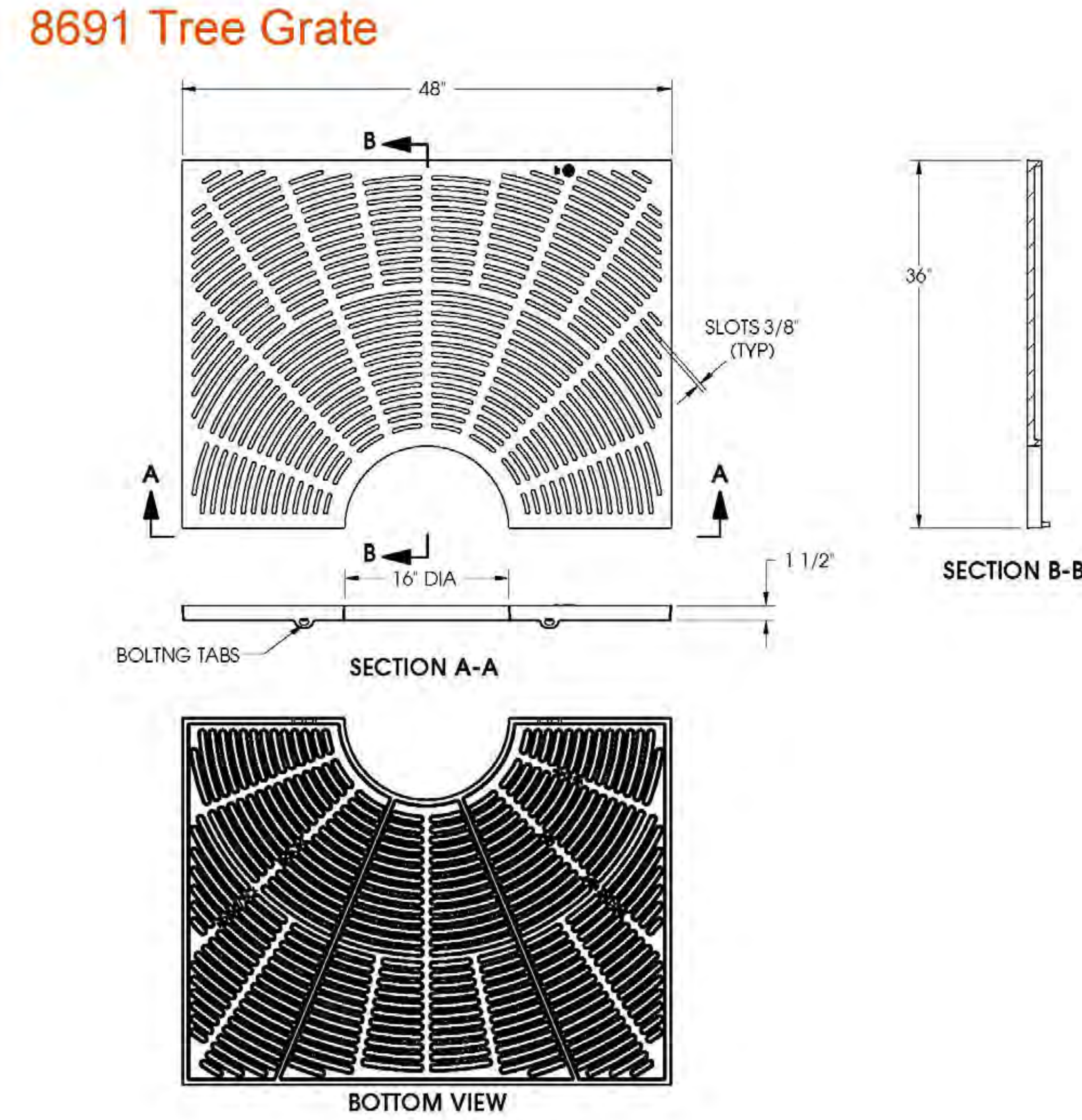
Contact
800 626 4653
ejco.com

8691 Tree Grate



Product Number
00869131
Design Features
-Materials
Gray Iron (CL35B)
-Design Load
Non-Traffic
-Open Area
432 sq. inches
-Coating
Undipped
-√ Designates Machined Surface

Certification
-ASTM A48
-ADA
-
-Country of Origin: USA

Drawing Revision
8/29/2009 Designer: DEW
4/25/2014 Revised By: DEF

Disclaimer
Weights (lbs/kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.
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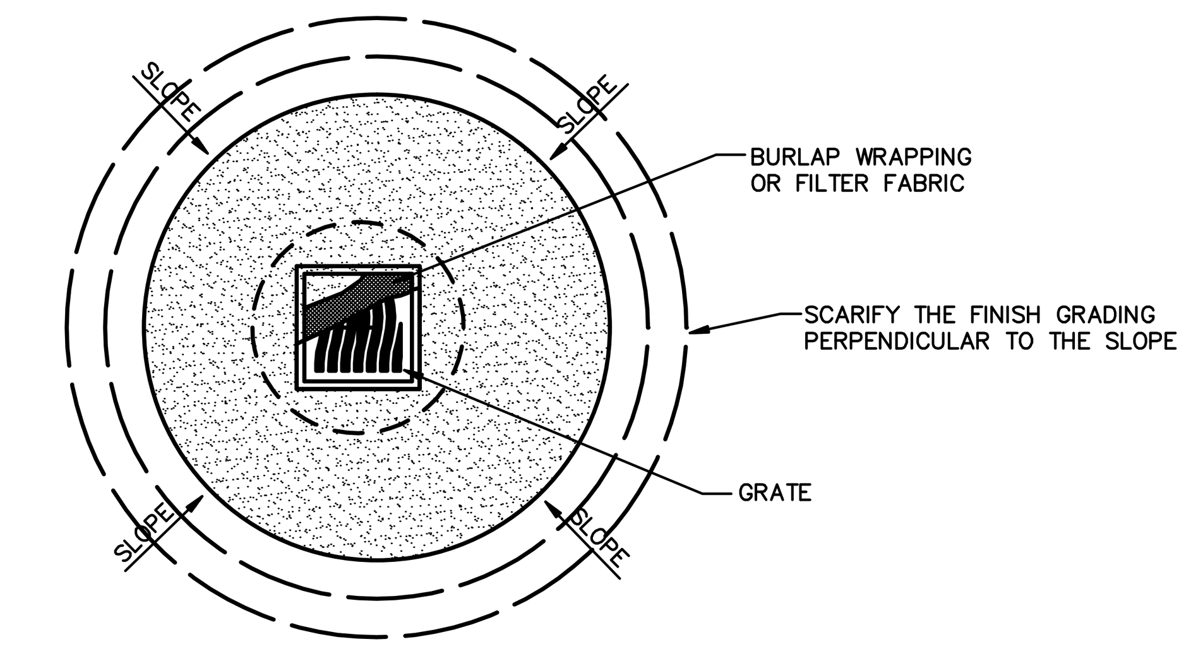
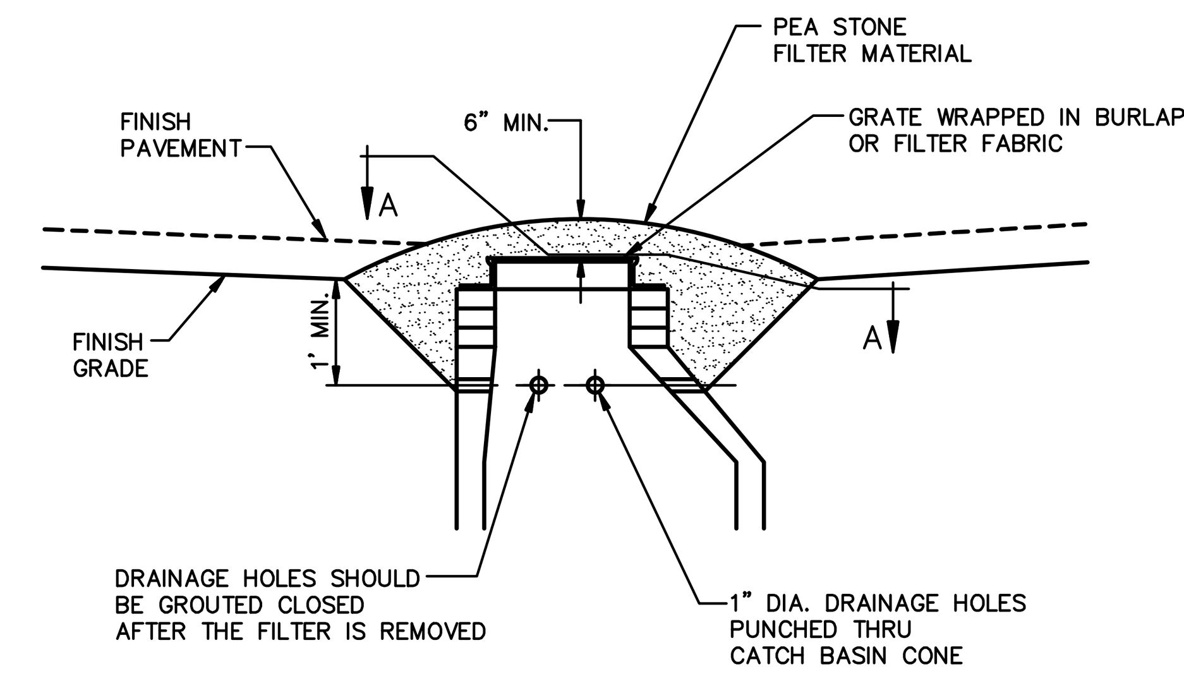
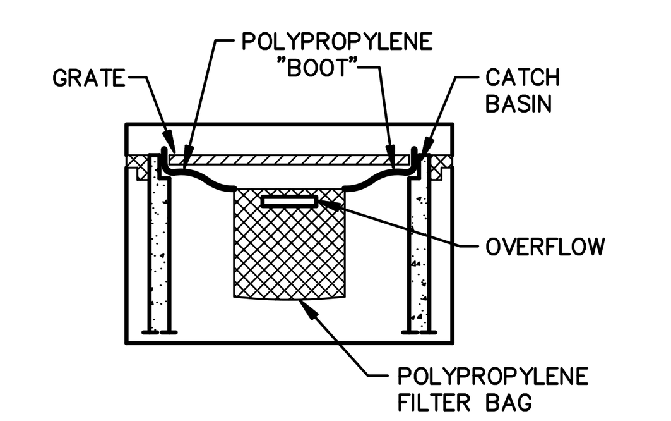


SECTION A–A

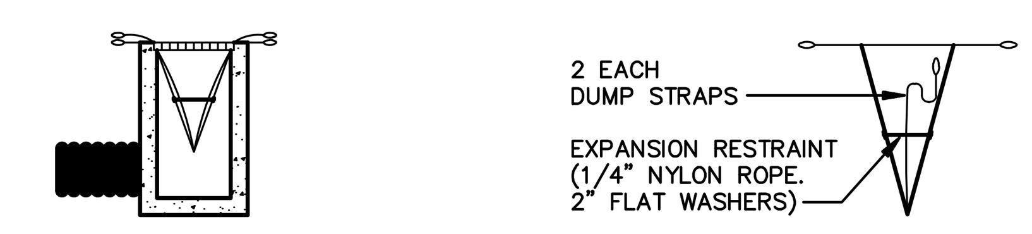


PROFILE VIEW

PARKING LOT INLET FILTER (59t)
NO SCALE

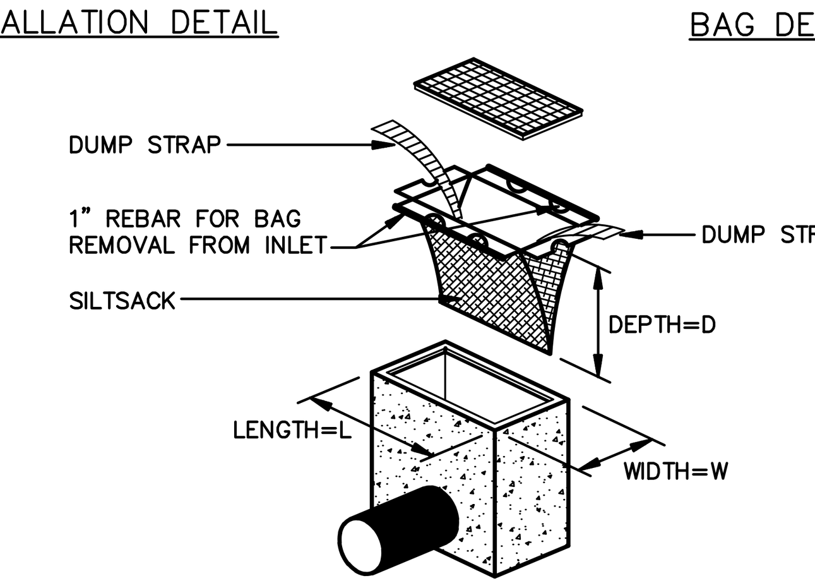


NOTE:
TEMPORARY INLET SEDIMENT FILTER TO BE INSTALLED ON ALL PAVED CATCH BASINS OR STORM INLETS. INLET FILTER TO BE SIMILAR TO "STREAMGUARD" AS MANUFACTURED BY STORMWATER SERVICES CORPORATION (206–767–0441) OR "SILTSACK" AS MANUFACTURED BY ATLANTIC CONSTRUCTION FABRICS, INC.; (800–448–3636). CLEAN FILTER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



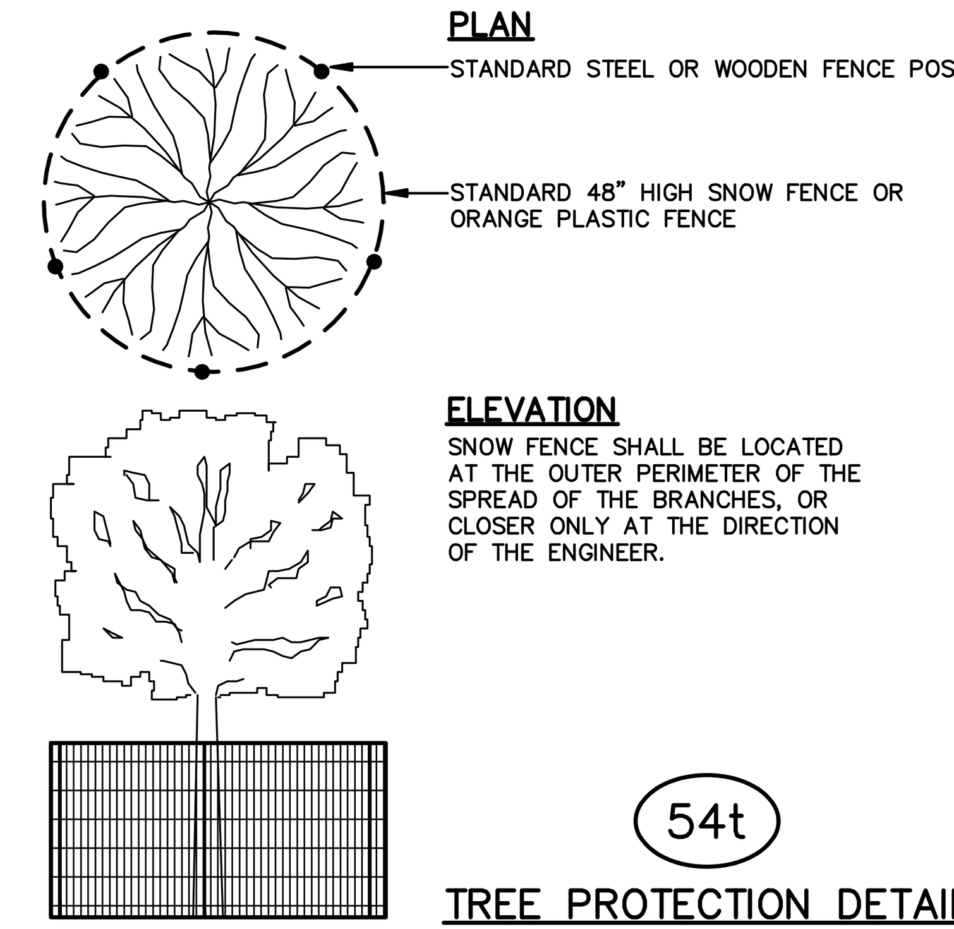
INSTALLATION DETAIL

BAG DETAIL



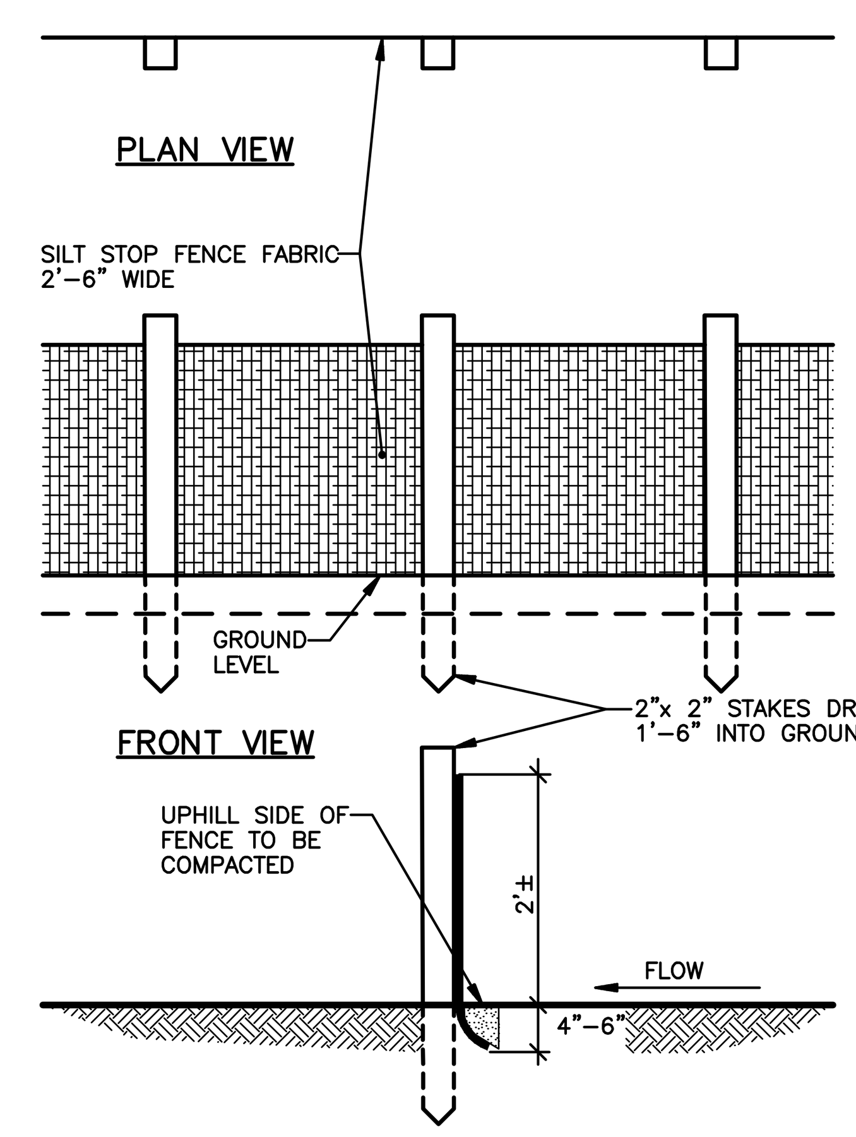
SILT SACK DETAIL (58t)
NO SCALE

PLAN

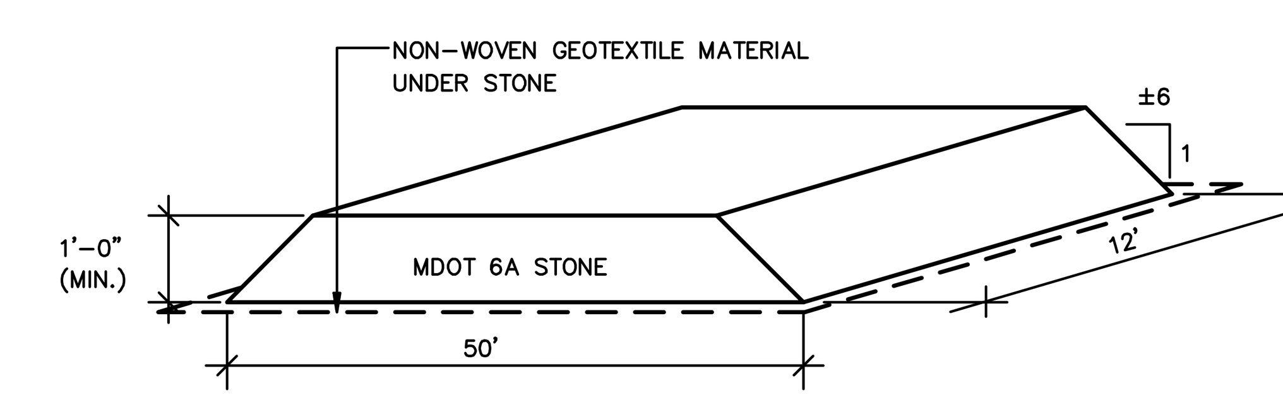


ELEVATION
SNOW FENCE SHALL BE LOCATED AT THE OUTER PERIMETER OF THE SPREAD OF THE BRANCHES, OR CLOSER ONLY AT THE DIRECTION OF THE ENGINEER.

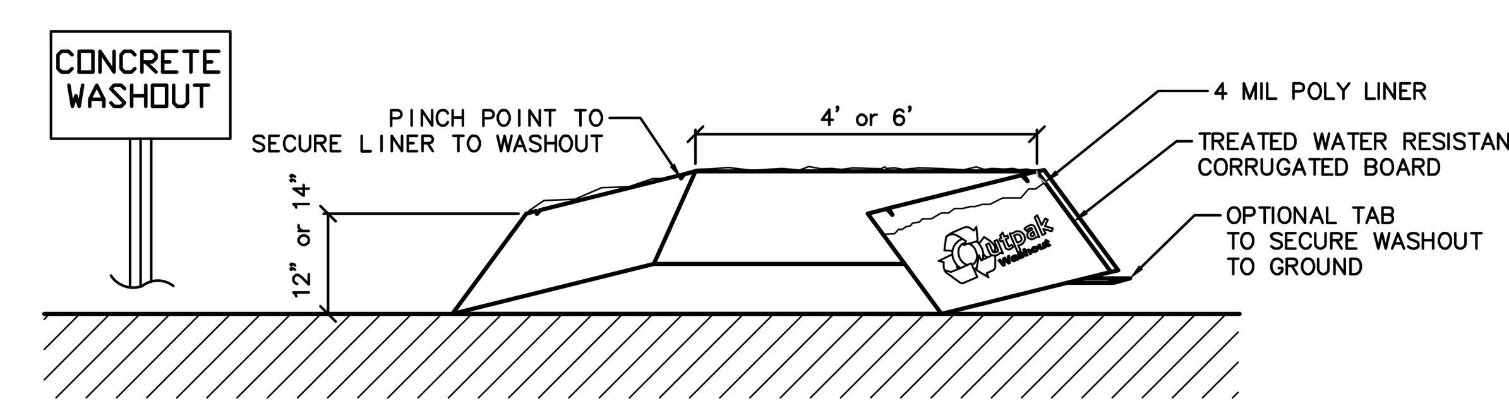
(54t)
TREE PROTECTION DETAIL
NOT TO SCALE



SILT FENCE DETAIL (55t)
NO SCALE



GRAVEL MUD TRACKING MAT (60t)
NO SCALE



NOTES:

1. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON THIS PROJECT.
2. SIGNS SHALL BE PLACED AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT.
3. THE CONCRETE WASHOUT AREA WILL BE REPLACED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTE CONCRETE AND OTHER LIQUID WASTE.
4. WASHOUT RESIDUE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
5. DO NOT MIX EXCESS AMOUNTS OF FRESH CONCRETE OR CEMENT ON-SITE.
6. DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
7. AVOID DUMPING EXCESS CONCRETE IN NON-DESIGNATED DUMPING AREAS.
8. LOCATE WASHOUT AREA AT LEAST 50' (15 METERS) FROM STORM DRAINS, OPEN DITCHES, OR WATERBODIES.
9. WASH OUT WASTES INTO THE OUTPACK WASHOUT AS SHOWN WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED OF PROPERLY.

OR APPROVED EQUAL
CONCRETE WASHOUT SYSTEM
NOT TO SCALE

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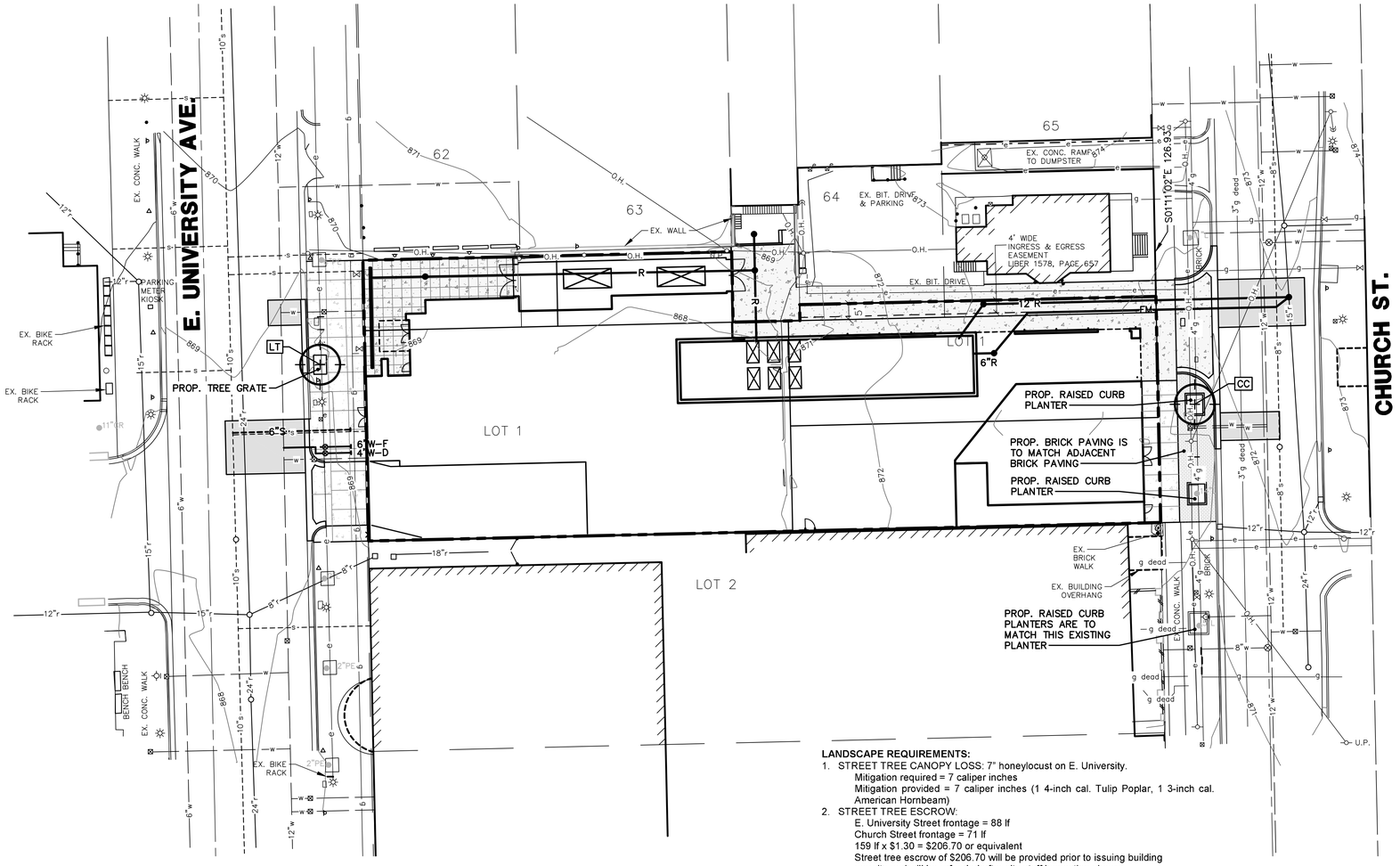
611 E. UNIVERSITY
SITE PLAN
DDA & MISCELLANEOUS SITE DETAILS

C9

DATE: 3/28/16
SHEET 9 OF 15
CADD: DAG
ENG: JCA
PM: SWB
TECH:
16028DT1.dwg
FB#454,455

JOB No. 16028
REVISIONS:
REV. DATE



LANDSCAPE REQUIREMENTS:

1. STREET TREE CANOPY LOSS: 7" honeylocust on E. University.
   Mitigation required = 7 caliper inches
   Mitigation provided = 7 caliper inches (1 4-inch cal. Tulip Poplar, 1 3-inch cal. American Hornbeam)
2. STREET TREE ESCROW:
   E. University Street frontage = 88 lf
   Church Street frontage = 71 lf
   159 lf x $1.30 = $206.70 or equivalent
   Street tree escrow of $206.70 will be provided prior to issuing building permits and will be refunded after city staff inspection shows long term survival of the proposed street trees.
3. LANDMARK TREE REPLACEMENT: none required
4. 5:602 VEHICULAR USE AREA LANDSCAPING AND SCREENING:
   RIGHT-OF-WAY SCREENING: Not applicable
   INTERIOR LANDSCAPE ISLANDS: Not applicable
5. 5:603 CONFLICTING LAND USE BUFFERS: Not applicable

LANDSCAPE NOTES

1. Water outlets will be provided within 150 feet of all required plantings.
2. Plant materials shall be selected and installed in accordance with standards established by the City Parks and Recreation Department.
3. All diseased, damaged or dead material shown on the site plan as proposed plantings shall be replaced by the end of the following growing season as a continuing obligation for the duration of the site plan.
5. Deciduous plants shall be planted between March 1 and May 15 and from October 1 until the prepared soil becomes frozen. Evergreen plants shall be planted between March 1 and June 1 and from August 15 and September 15.
6. All plants except ground cover are to receive four (4) inches of shredded bark mulch. Ground cover to receive two (2) inches of Canadian peat mulch. All mulch beds to have landscape fabric between mulch and planting soil.
7. All trees to be located a minimum of 10 feet from public utilities or as approved by the City of Ann Arbor Project Management Services Unit.
8. All single trunk, deciduous trees shall have a straight and a symmetrical crown with a central leader. One sided trees or those with thin or open crowns shall not be accepted.
9. All evergreen trees shall be branched fully to the ground, symmetrical in shape and have not been sheared in the last three (3) growing seasons.
10. Shade trees are to be a minimum of 15 feet on center. Evergreen trees are to be a minimum of 12 feet on center.
11. All compacted subgrade soils in proposed landscape areas shall be tilled to a minimum 12-inch depth prior to placement of topsoil, geotextile fabric, or other planting media as specified.
12. Planting Soil: Existing, in-place or stockpiled topsoil. Supplement with imported topsoil as needed. Verify suitability of existing surface soil to produce viable planting soil. Remove stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth. Mix surface soil with the following soil amendments to produce planting soil:
    a. Ratio of Loose Compost to Topsoil by Volume: 1:4.
    b. Weight of Lime per 1000 Sq. Ft.: Amend with lime only on recommendation of soil test to adjust soil pH.
    c. Weight of Sulfur or Aluminum Sulfate per 1000 Sq. Ft.: Amend with sulfur or aluminum sulfate only on recommendation of soil test to adjust soil pH.
    d. Volume of Sand: Amend with sand only on recommendation of Landscape Architect to adjust soil texture.
    e. Weight of Slow-Release Fertilizer per 1000 Sq. Ft.: Amend with fertilizer only on recommendation of soil test to adjust soil fertility.

PLANT MATERIALS LIST

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
1	LT	LIRIODENDRON TULIPIFERA	TULIP POPLAR	4"	BB	6' BRANCH HT.
1	CC	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	3" cal.	BB	6' BRANCH HT.

SCALE: 1" = 20'

0 20 40 60

Know what's below. Call before you dig.

LEGEND

- EXIST. CONTOUR
- PROP. CONTOUR
- EXIST. UTILITY POLE
- GUY WIRE
- ELEC. TRANSFORMER
- EXIST. OVERHEAD UTILITY LINE
- EXIST. LIGHT POLE
- PROP. LIGHT POLE
- EXIST. TELEPHONE LINE
- EXIST. ELECTRIC LINE
- EXIST. GAS LINE
- EXIST. GAS VALVE
- EXIST. FIBER OPTIC LINE
- EXIST. WATER MAIN
- PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- REDUCER
- EXIST. BLOW-OFF
- PROP. BLOW-OFF
- POST INDICATOR VALVE
- THRUST BLOCK
- PROP. KNOXBOX
- EXIST. STORM SEWER
- PROP. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- EXIST. BEEHIVE INLET
- PROP. BEEHIVE INLET
- PROP. ROOF DRAIN
- END SECTION
- HEAD WALL
- CULVERT
- EXIST. DOWNSPOUT
- PROP. DOWNSPOUT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- C/L OF DITCH
- SIGN
- SINGLE TREE
- TREE OR BRUSH LIMIT
- FENCE

LANDSCAPE LEGEND

PROPOSED CANOPY TREE

LM EXISTING TREE TO REMAIN

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

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611 E. UNIVERSITY

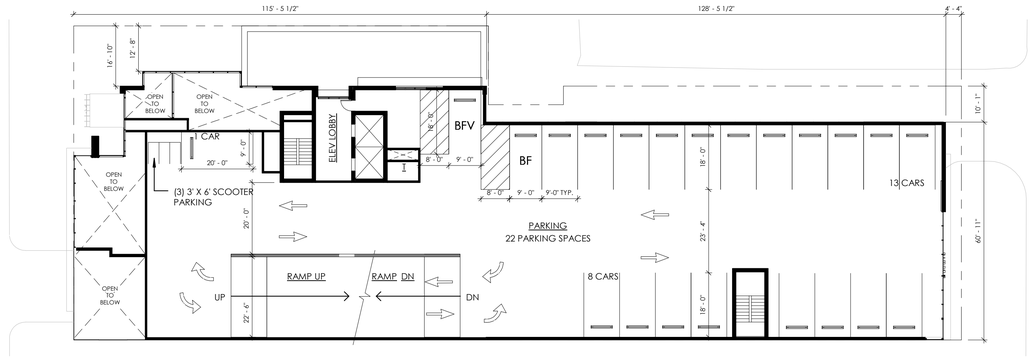
SITE PLAN
LANDSCAPE PLAN
UTILITY PLAN

JOB No. 16028

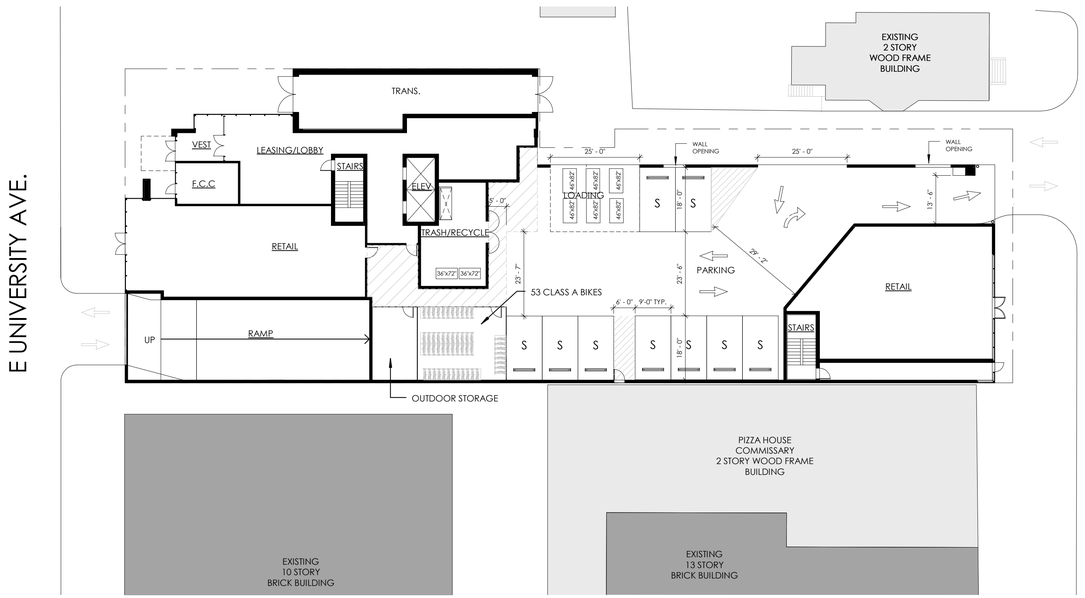
REVISIONS:	REV.	DATE

DATE: 3/28/16
SHEET 10 OF 15
CADD: DAG
ENG: JCA
PM: SWB
TECH:
16028LP1.dwg
733,454,455

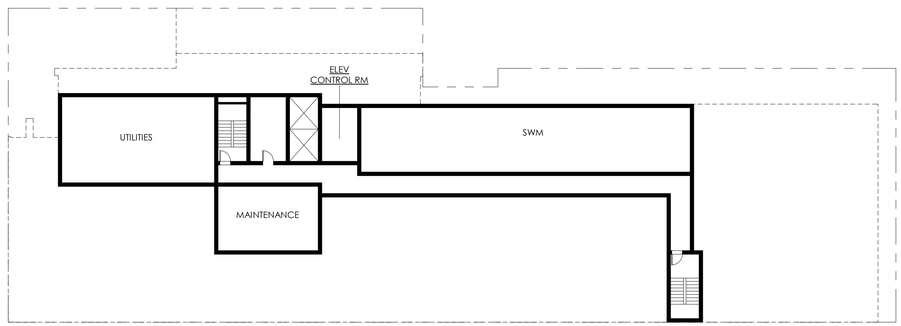
L1



3 LEVEL 2 - SITE PLAN SUBMISSION
SCALE: 1" = 20'-0"



2 LEVEL 1 - SITE PLAN SUBMISSION
SCALE: 1" = 20'-0"



1 BASEMENT - SITE PLAN SUBMISSION
SCALE: 1" = 20'-0"

WDG

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1025 CONNECTICUT AVENUE NW
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SITE PLAN SUBMISSION	03/28/16

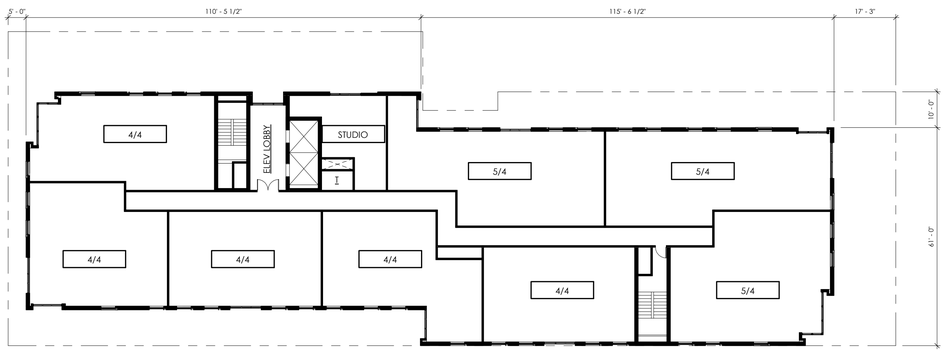
PROFESSIONAL SEAL

WDG PROJECT NO: WA15039

BASEMENT TO 2ND FLOOR PLANS

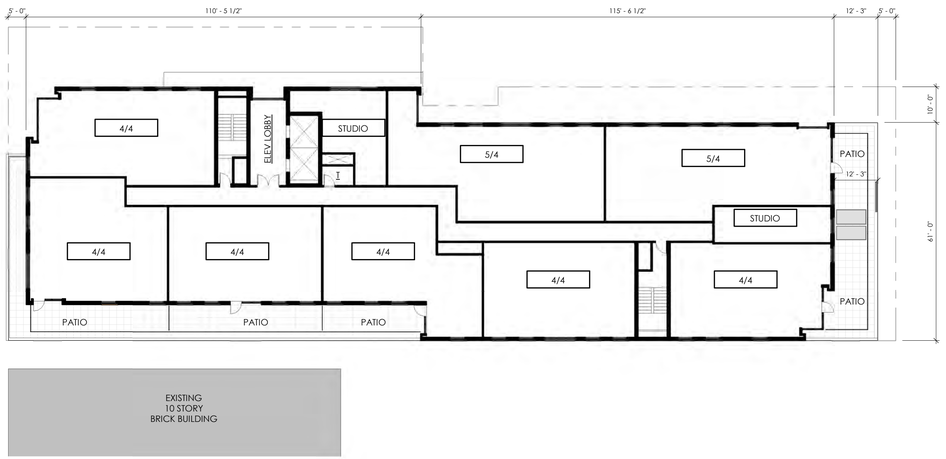
SCALE: 1" = 20'-0"

A0-01



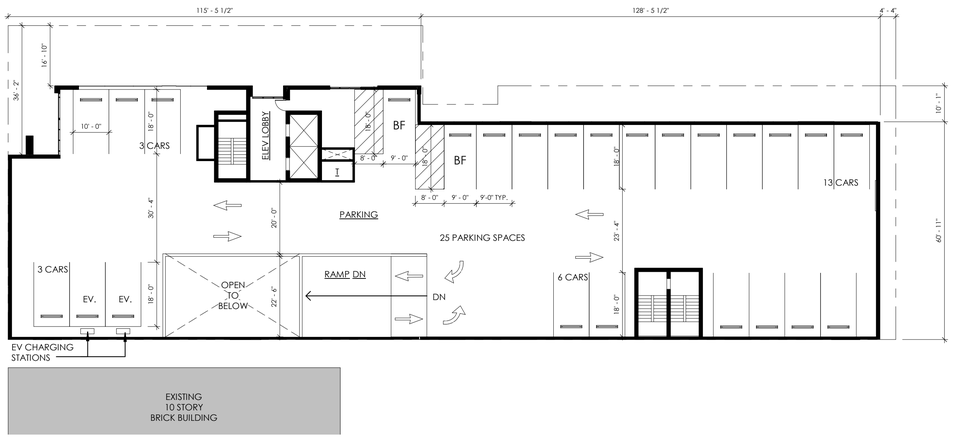
EXISTING
10 STORY
BRICK BUILDING

3 9TH TO 12TH TYPICAL FLOOR
SCALE: 1" = 20'-0"



EXISTING
10 STORY
BRICK BUILDING

2 4TH TO 8TH TYPICAL FLOOR
SCALE: 1" = 20'-0"



EXISTING
10 STORY
BRICK BUILDING

1 3RD FLOOR
SCALE: 1" = 20'-0"

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1	SITE PLAN SUBMISSION	03/28/16

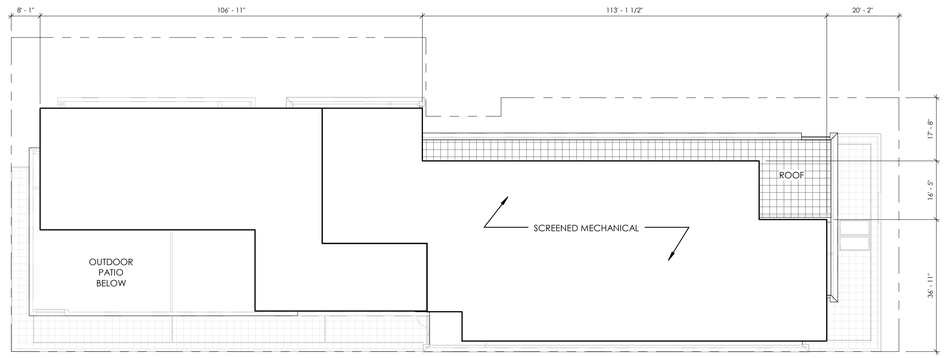
PROFESSIONAL SEAL

WDG PROJECT NO: WA15039

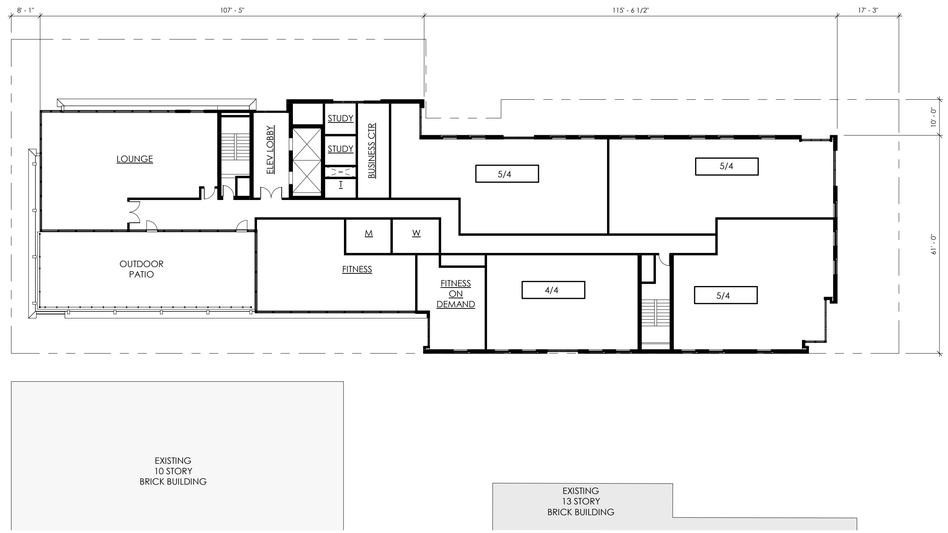
3RD TO 12TH FLOOR PLANS

SCALE: 1" = 20'-0"

A0-02



2 PENTHOUSE FLOOR
SCALE: 1" = 20'-0"



1 13TH FLOOR
SCALE: 1" = 20'-0"

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	SITE PLAN SUBMISSION	03/28/16

PROFESSIONAL SEAL

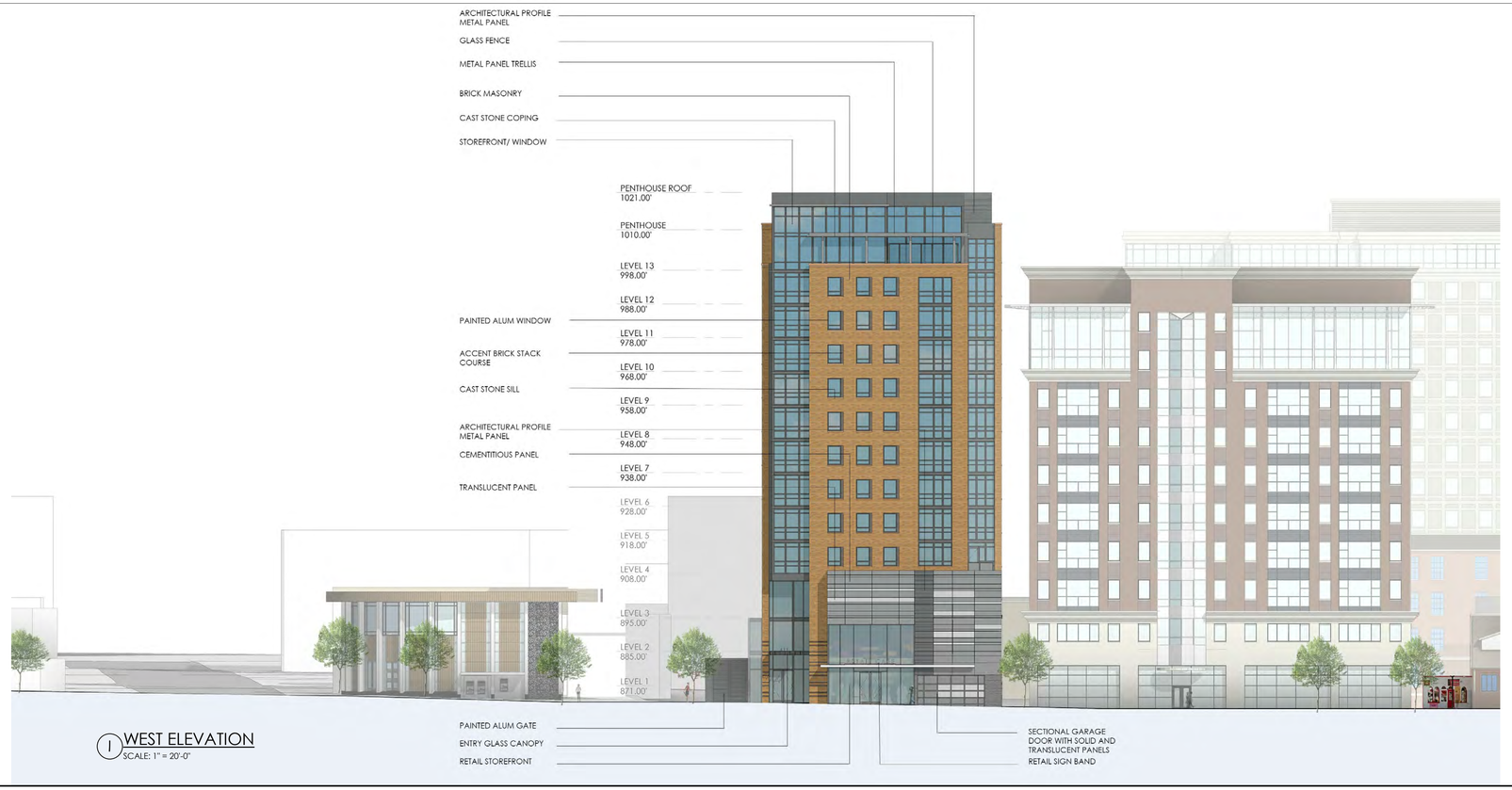
WDG PROJECT NO:
WA15039

13TH TO PENTHOUSE FLOOR PLANS

SCALE: 1" = 20'-0"

A0-03

2 NORTH ELEVATION
SCALE: 1" = 20'-0"



1 WEST ELEVATION
SCALE: 1" = 20'-0"

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	SITE PLAN SUBMISSION	03/28/16

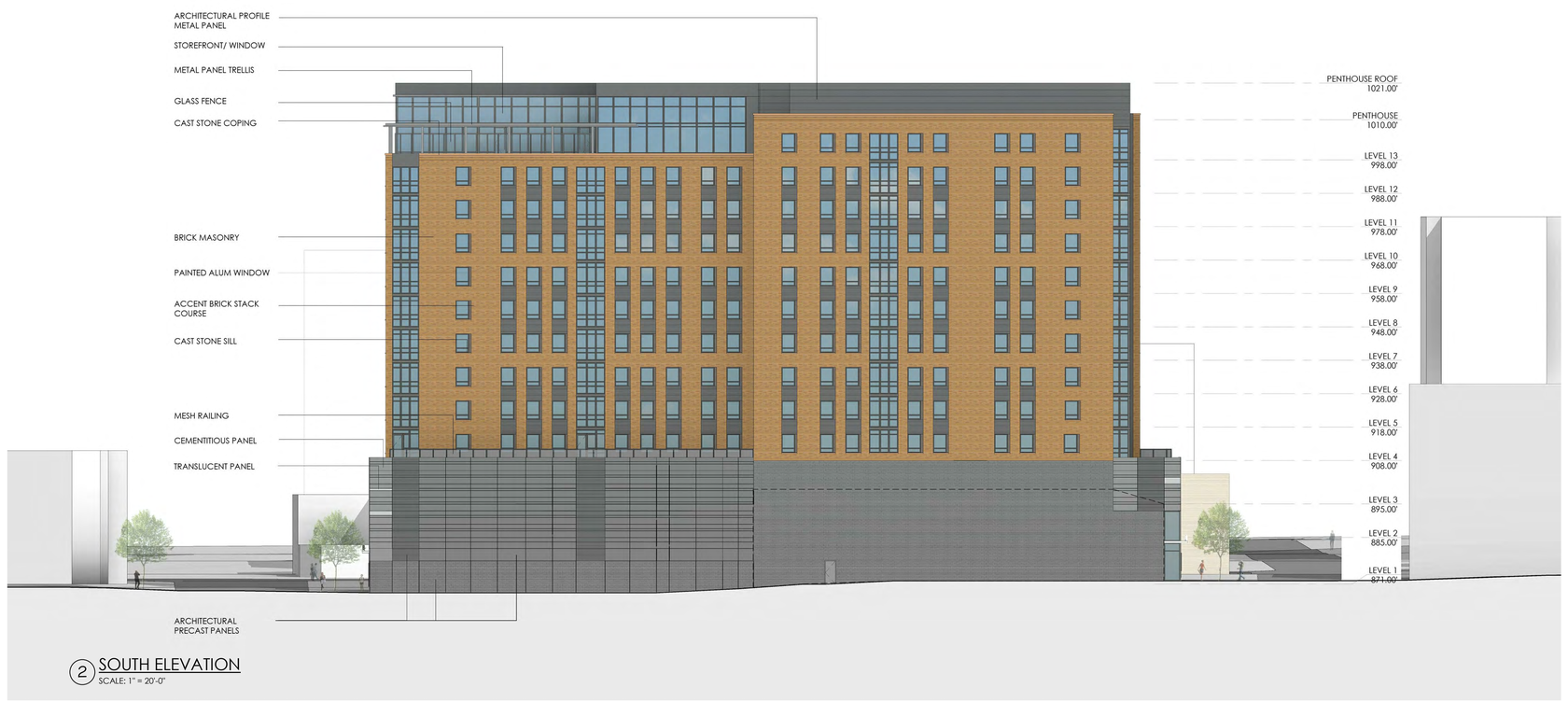
PROFESSIONAL SEAL

WDG PROJECT NO: WA15039

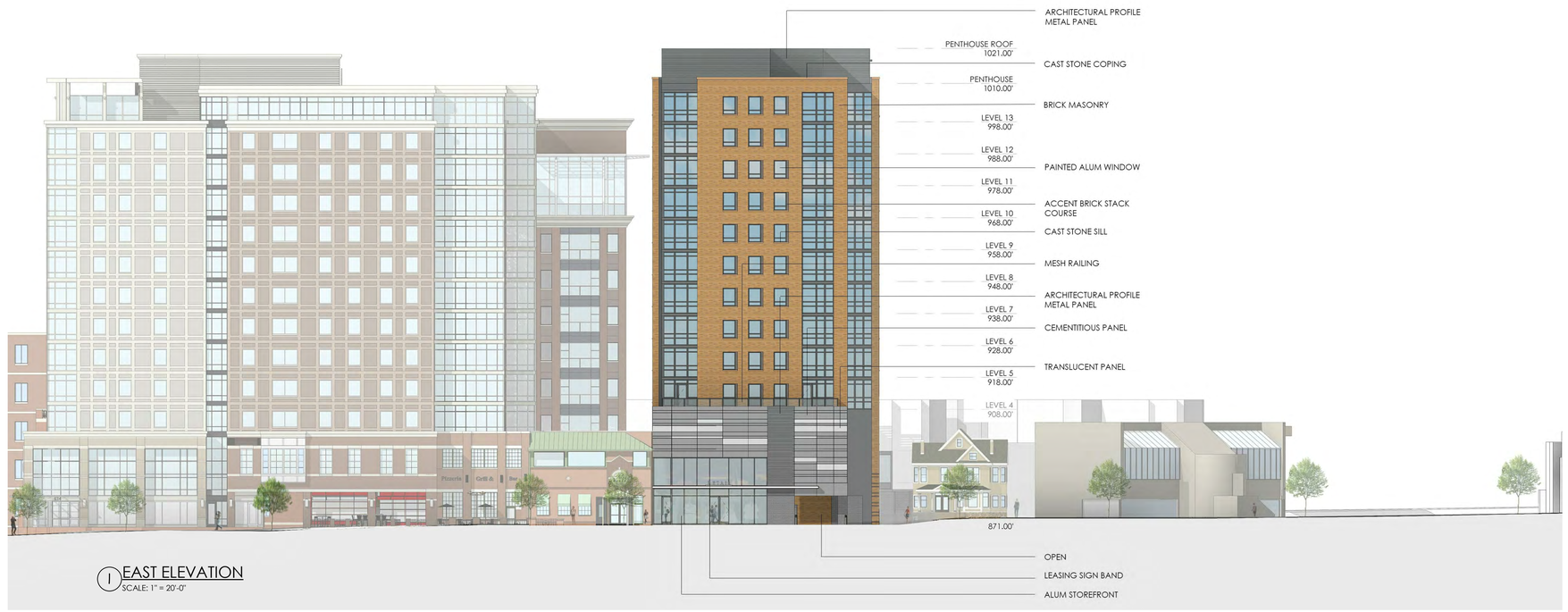
BUILDING ELEVATIONS

SCALE: 1" = 20'-0"

A0-04



2 SOUTH ELEVATION
SCALE: 1" = 20'-0"



1 EAST ELEVATION
SCALE: 1" = 20'-0"

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PROFESSIONAL SEAL

WDG PROJECT NO: WA15039

BUILDING ELEVATIONS

SCALE: 1" = 20'-0"

A0-05