

**PLANNING AND DEVELOPMENT SERVICES REVISED STAFF REPORT**

**For the Planning Commission Meeting of November 19, 2019**

**SUBJECT: MMG Plymouth Road Mixed Use Development  
(3611-3621 Plymouth Road)  
Rezoning – Project no. Z19-007  
Site Plan for City Council Approval with Planned Project  
Modifications – Project No. SP19-003  
Special Exception Use – Project No. SEU19-002**

**PROPOSED CITY PLANNING COMMISSION MOTION**

The Ann Arbor City Planning Commission hereby recommends that the Mayor and City Council approve the MMG Plymouth Road Mixed Use Development rezoning from PUD to C3 (Fringe Commercial).

**PROPOSED CITY PLANNING COMMISSION MOTION**

The Ann Arbor City Planning Commission hereby recommends that the Mayor and City Council approve the MMG Plymouth Road Mixed Use Development Site Plan and Planned Project Modifications to increase the maximum height to 65 feet 10 inches and eliminate the maximum front setback requirement for new buildings, subject to providing solar orientation and energy conserving design by using a solar panel array on the roof of the new building and maintaining a minimum of 30% open space.

**PROPOSED CITY PLANNING COMMISSION MOTION**

The Ann Arbor City Planning Commission hereby recommends that the Mayor and City Council approve the special exception use request for a drive-through facility at 3611 Plymouth Road.

## **SUMMARY:**

This staff report and recommendations have been revised to reflect outstanding review comments which were mistakenly not taken into consideration. Revisions and new paragraphs are highlighted in light gray.

Three related applications have been submitted for approval. First, a petition to rezone this 4.5-acre site from PUD to C3 (Fringe Commercial). Second, a proposed site plan to demolish two of the existing buildings and construct a six-story, 76,200-square foot, 127-room hotel and remodel the existing restaurant into a new restaurant. Planned project modifications are requested as part of the site plan to allow increased height and increased front setback. Third and finally, a special exception petition to allow a drive-through facility to be added to the remodeled restaurant.

## **LOCATION:**

The site is located on the north side of Plymouth Road between US 23 and Green Road (Ward 2).

## **REVISED STAFF RECOMMENDATIONS:**

Staff recommends that the **rezoning** petition be **postponed** until the outstanding site plan items are resolved.

Staff recommends that the **site plan**, including **planned project modifications** to increase the maximum height and maximum front setback standard, be **postponed** to allow additional time for the applicant to address outstanding items noted by the Engineering and Urban Forestry & Natural Resources staff.

Staff recommends that the **special exception use** be **postponed** until the outstanding site plan items are resolved.

## **REZONING PETITION:**

**Description** – The site is currently zoned Bolgos PUD (Planned Unit Development), originally approved on December 18, 1973 and revised on May 3, 1982 and July 6, 1986. On February 2, 2015, 3 acres of the PUD district was **rezoned** to C3 (Fringe Commercial). The **Bolgos PUD district** allows two 2-story 17,244-square foot motels, a one-story restaurant, and retail sales except restaurants and single-tenant office use in a 20,300-square foot building. No other uses or building configurations are allowed. The applicant requests that the remaining 4.5-acres of the PUD district be rezoned to C3.

**Master Plan Recommendation** – The [City Master Plan](#) includes 8 elements, adopted individually between 2009 and 2017, and together by resolution in 2015. Together, the City Master Plan elements seek to guide the City towards sustainability, conservation, and increasing livability, affordability, transportation choices, and dense, mixed uses on vibrant, active, friendly streets. The Land Use Element recommends “mixed uses” for this site.

**Standards for Approval** – Changes to the text or map of the Unified Development Code (Chapter 55 of the Ann Arbor City Code) may be made pursuant to Section 5.29.9. To assist the Planning Commission and City Council with their decision, applicant [submitted a petition](#) with justifications in support of the request. The petition, available [here](#) and attached, addresses:

1. The extent to which the rezoning is necessary.
2. How the rezoning will affect the public welfare and property rights of persons located in the vicinity.
3. How the rezoning will be advantageous to the City.
4. How this particular location will meet the convenience and service requirements of potential users and occupants.
5. Any changed or changing conditions in any particular area, or in the City generally, which may have bearing on the request.
6. Other circumstances and factors which further justify the request.

**Staff Comments** – In the past 50 years, the Plymouth Road corridor has evolved from a rural road into a commercial and transit corridor. A PUD that only allows retail uses, to encourage development, is no longer necessary. The C3 district is the most appropriate current zoning designation as it allows all types of commercial uses including hotels and restaurants. It is also found adjacent to this site.

In staff’s opinion, it does not make sense for the existing PUD district to be amended and to adopt modern supplemental regulations when the C3 district suits the needs of the applicant, land owner, and community, and provides more flexibility for future uses.

#### **SITE PLAN APPLICATION:**

**Description** – The site currently contains two pairs of two-story Red Roof Inn motel buildings, each pair having a total of 17,244-square feet, and a 5,000-square foot closed Big Boy restaurant. The proposed site plan calls for demolishing the eastern pair of motels, constructing a new six-story, 76,200-square foot, 127 room Hampton Inn hotel, and remodeling the restaurant into a Panera Bread, including adding a drive-through facility. Planned project modifications are requested to increase the maximum height allowed and increase the maximum front setback standard.



adjacent to U.S. 23 are no longer considered front lot lines. By definition they are now side lot lines.

- Height – The C3 district requires a maximum height of 4 stories and 55 feet. The proposed hotel is 6 stories and 76 feet in height. A planned project modification to increase the maximum height is requested to allow the new building as proposed.
- Landmark Trees – There are nine landmark trees on the site. Four are proposed to be removed, including a 21” red oak and three 15-inch hawthorns. The saved trees include a 32” and 30” red oak, a 16” crabapple, a 26” Austrian pine, and a 20” littleleaf linden. Replacement trees will be planted throughout the site to provide a total of 63 inches of mitigation for the removed landmark trees.

**Development Standards Review** – Staff has reviewed the site plan for compliance with all applicable development standards of the C3 district provided in Chapter 55 [Unified Development Code](#). A summary of staff findings is provided in the chart below.

		EXISTING	PROPOSED	REQUIRED/ PERMITTED
Zoning		PUD	C3	C3
Lot Area		4.5 ac. (193,895 sq. ft.)	4.5 acres (193,895 sq. ft.)	6,000 sq. ft. MIN
FAR%		12% (23,326 sq. ft.)	47% (90,533 sq. ft.)	200% MAX (393,294 sq. ft. MAX)
Setbacks	Front	212 ft.	212 ft. [A]	10 ft. MIN – 25 ft. MAX
	Side (E)	96 ft.	60 ft.	None
	Side (W)	55 ft.	55 ft.	
	Rear	87 ft.	58 ft.	None
Height		Motels 2 stories, approximately 24 ft. Restaurant 1 story, approximately 12 ft.	Hotel 6 stories, 76 ft. [B]	4 stories, 55 ft. MAX
Vehicle Parking		195 spaces	229 spaces	227 spaces MIN

	EXISTING	PROPOSED	REQUIRED/ PERMITTED
Bicycle Parking	None	6 spaces Class A 3 spaces Class B 3 spaces Class C	6 spaces Class A MIN 3 spaces Class B MIN 3 spaces Class C MIN

*[A] Planned Project Modifications requested to allow increased maximum front setback.*

*[B] Planned Project Modifications requested to allow increased maximum building height.*

**Planned Project Modification Standards and Analysis** -- The Planning Commission may recommend, and City Council may approve, modifications to the area, height and placement regulations of the Unified Development Code in the form of a planned project site plan, as set forth in Section 5.30.1 of the UDC.

As set forth in Section 5.30.1.C Standards for Approval, planned projects must:

- a) Meet the lot size requirement of their zoning district, and
- b) Provide one or more of certain features, and
- c) Not create hazardous traffic to adjacent properties, and
- d) Be consistent with proper development, and
- e) Provide required off-street parking and landscaping and screening, and
- f) Met the density or floor area ratio and open space requirements of their zoning district, and
- g) Have only permitted uses of their zoning district.

The applicant requests a modification to allow an increase in the maximum height permitted in the C3 district, from 4 stories and 55 feet, to 6 stories and 76 feet. The applicant also requests a modification eliminate the 25-foot maximum front setback standard for new buildings in the C3 district.

As stated by the applicant in [their petition](#), the request modifications “will allow a project with greater density, being able to maximize the development footprint [will] allow for the installation of a solar panel array on the top of the proposed hotel.”

Planning Staff Comments -- Staff finds the requested planned project modifications meet the standards for approval provided in Section 5.30.1.C, and in particular, the proposed modifications will provide open space where none is required (Section 5.30.1.C.1.b.i) and solar orientation or energy conserving design (Section 5.30.1.C.1.b.v). Any one of these three features is sufficient per Section 5:70(1)(b). It appears the development has 30% open space. The applicant must confirm the percentage of open space in the development, and that percentage should be a specific condition of planned project modification approval.

The complete planned project modification petition is available [here](#) and is attached.

**Review Staff Comments** – Reviews staff have noted the following outstanding items that must be addressed to meet applicable development standards and regulations.

- *Engineering* – Several revisions and corrections are needed to the dimensional & paving plan sheet and utility sheet of the site plan. Among the necessary corrections, location and size of water and sanitary sewer leads must be shown, proposed easements must be shown and legal descriptions must be prepared, and the sanitary sewer mitigation calculations must be redone.
- *Urban Forestry and Natural Resources* – The proposed landmark tree mitigation species must be changed to straight species native to Michigan. Additional comments may result after the necessary changes are done, as well.

### **SPECIAL EXCEPTION USE PETITION:**

The Planning Commission may approve, with or without conditions, a special exception for certain uses in certain zoning district, as set forth in Section 5.29.5 of the UDC. The Planning Commission must find that the following criteria has been substantially met in arriving at its decision, as provided in Section 5.29.5.D:

1. Consistency with the general objectives of the Master Plan.
2. Compatible with the general vicinity.
3. Consistent with the neighborhood and not detrimental.
4. Not detrimental to the natural environment.
5. Adequate off-street parking.
6. Safe pedestrian circulation.
7. Adequate vehicle movement and traffic.
8. Compliance with other development standards.

In addition, drive-through facilities in the C3 district must meet the use specific criteria of Section 5.16.6.C.3.

The complete special exception use petition is available [here](#) and attached.

**Staff Comments** – The proposed drive-through facility substantially meets the criteria for approval. The drive-through facility has been placed to minimize inconvenience for pedestrians while providing adequate vehicle movement through the site.

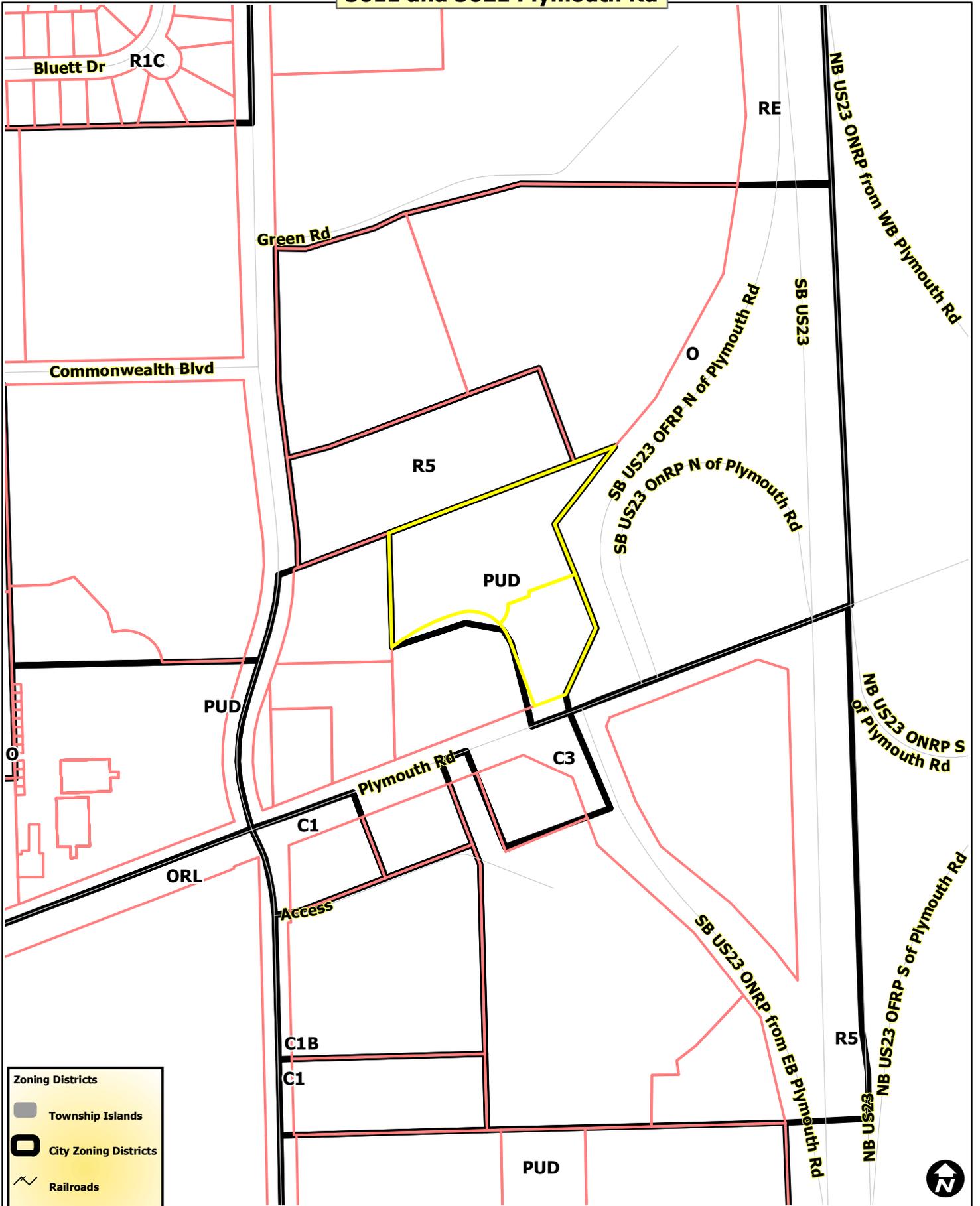
Prepared by Alexis DiLeo  
Reviewed by Brett Lenart  
11/15/19; Revised 11/18/19

Attachments: Zoning Map  
Aerial Photo  
Planned Project Petition  
Special Exception Use Petition

Links: [Site Plan #4](#)  
[October 29, 2019 Engineering Review](#)  
[October 28, 2019 Natural Resources Review](#)

c: Owner and Applicant – Markus Management Group, 251 E. Merrill St, Birmingham,  
MI 48009 (Doriad Markus, [dsmarkus@yahoo.com](mailto:dsmarkus@yahoo.com))  
Applicant's Engineer – PEA ([jsmith@peainc.com](mailto:jsmith@peainc.com))  
Systems Planning  
Project Nos. Z19-007, SP19-003, SEU19-002

**3611 and 3621 Plymouth Rd**



**Zoning Districts**

-  Township Islands
-  City Zoning Districts
-  Railroads
-  Huron River
-  Tax Parcels



Map date: 2/5/2019  
 Any aerial imagery is circa 2018 unless otherwise noted  
 Terms of use: [www.a2gov.org/terms](http://www.a2gov.org/terms)



# 3611 and 3621 Plymouth Rd



- Railroads
- Huron River
- Tax Parcels



Map date: 2/5/2019  
Any aerial imagery is circa 2018 unless otherwise noted  
Terms of use: [www.a2gov.org/terms](http://www.a2gov.org/terms)

# 3611 and 3621 Plymouth Rd





**City of Ann Arbor**  
**PLANNING & DEVELOPMENT SERVICES — PLANNING SERVICES**  
 301 East Huron Street | P.O. Box 8647 | Ann Arbor, Michigan 48107-8647  
 p. 734.794.6265 | f. 734.994.8312 | [planning@a2gov.org](mailto:planning@a2gov.org)

**APPLICATION FOR PLANNED PROJECTS**

TO: Ann Arbor City Planning Commission

We, the undersigned, respectfully petition the City Planning Commission to approve this planned project request as it relates to the property hereinafter described.

**A. Legal Description**

*(Give or attach legal description and include address of property)*

3611 and 3621 Plymouth Road, Ann Arbor, Michigan 48105

Legal Attached

**B. Petitioner Information**

The petitioner(s) requesting the planned project are:

*(List petitioners' name, address, telephone number, and interest in the land, i.e., owner, land contract, option to purchase, etc.)*

Doraid Markus (Markus Management Group, LLC)

251 East Merrill Street, Suite: 205, Birmingham, Michigan 48009; (248) 892-2222

Land Owner

Also interested in the petition are:

*(List others with legal or equitable interest)*

None

**C. Modification(s) Request**

The applicant requests the following area, height and placement modifications of the following section(s) of the Zoning Ordinance:

For this project the applicant is requesting a modification of the building height to be 65'-10".

For this project the applicant is requesting a modification to Section 5.17-.4 Table 5:17-4 to allow for the building to placed beyond the maximum 25' setback requirement.

Please explain how these modifications will help achieve the objectives of the development program and the standards listed in Section D below (add attachment if necessary):

The increase in building height will allow a project with greater density. Being able to maximize the developable footprint allow for the installation of a solar panel array on the topo of the proposed hotel.

**D. Standards for Approval**

Based upon compliance with the following standards, the Planning Commission may recommend approval, and City Council may approve modifications of the area, height and placement regulations of the Zoning Chapter in the form of a planned project site plan. Please explain how and to what extent these standards are met by the proposal:

1. The lot or lots included in the planned project must meet the minimum gross lot size requirement of the zoning district in which they are located. In residential zoning districts, the minimum gross lot size shall be the combined total of the minimum gross lot sizes for each dwelling on a parcel. However, the following exceptions may apply:
  - a. For purposes of this section, zero lot line duplex or townhouse development shall mean a development containing attached single-family units on individual lots. If a planned project for a zero lot line duplex or townhouse development provides affordable housing for lower income households, the minimum gross lot size and width requirements may be reduced. The number of dwelling units permitted shall not exceed the maximum permitted density in the zoning district in which the proposed development is located.
  - b. In any residential zoning district allowing 3 or fewer dwelling units per acre, when 20 percent or more of the total area of a development is set aside for permanent open space preservation, the gross lot size may be reduced below the minimum lot area per dwelling unit and width requirements for the zoning district in which it is located, as provided in this section.

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2. The proposed modifications of zoning requirements must provide one or more of the following:
- a. Usable open space in excess of the minimum requirement for the zoning district. Where no minimum usable open space standard is required by the zoning district, a minimum usable open space standard shall be established by the approval of the planned project.
  - b. Building or parking setback(s) in excess of the minimum requirement for the zoning district. Where no minimum building or parking setback is required by the zoning district, a minimum setback standard shall be established by the approval of the planned project.
  - c. Preservation of natural features that exceeds ordinance requirements, especially for those existing features prioritized in the land development regulations as being of highest and mid-level concern.
  - d. Preservation of historical or architectural features.
  - e. Solar orientation or energy conserving design.
  - f. An arrangement of buildings which provides a public benefit, such as transit access, pedestrian orientation, or a reduced need for infrastructure or impervious surface.
  - g. Affordable housing for lower income households.
  - h. A recorded conservation easement or similar binding instrument providing for permanent open space of 20 percent or more of the planned project, in any residential zoning district allowing 3 or fewer dwelling units per acre.

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The project is proposing the installation of a solar panel array on the top of the building.

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3. The planned project shall be designed in such a manner that traffic to and from the site will not be hazardous to adjacent properties.  
Access to the development will be provided via an existing ingress-egress easement

4. The proposed modifications shall be consistent with the proper development and use of adjacent land and buildings.

The proposed uses will serve and support the surrounding businesses and properties by providing a hospitality and restaurant use for the Ann Arbor travelers. The proposed uses will be harmonous with adjacent land uses.

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5. Required off-street parking and landscaping must be provided in accordance with the provisions of Chapters 59 (Off-Street Parking) and Chapter 62 (Landscape and Screening).

The standards for off-street parking for cars and bicycles are provided for on-site.

Parking and landscape requirements are both met.

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6. The standards of density, allowable floor area and required usable open space for the zoning district(s) in which the project is located must be met.

The standards have all been met or exceeded.

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7. There shall be no uses within the proposed project which are not permitted uses in the zoning district(s) in which the proposed project is to be located.

The proposed uses are consistent with the C-3 Zoning District. (Note: Applicant is requesting a rezoning to a C-3 Zoning District).

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8. In any residential zoning district allowing 3 or fewer dwelling units per acre and where 20 percent or more of the total area is proposed for permanent open space, projects shall meet the following standards:

- a. The minimum gross lot size of the parcel proposed for the planned project shall be 2 acres. The size and shape of the portions of the planned project designated for open space preservation shall be reviewed and approved in conjunction with a planned project site plan, a planned unit development site plan, or a plat, in relation to natural features or characteristics specific to that site.
- b. The area of each residential building lot or limited common area of a condominium development shall be 10,000 square feet or greater, exclusive of the permanent open space. Minimum lot width and setback requirements shall meet or exceed standards of the R1B residential zoning district.
- c. Permanent open space area shall be in, and shall continue to be in, an undeveloped, natural state preserving and conserving natural resources, natural features, scenic or wooded condition, or naturally occurring water surfaces. It may also provide an undeveloped greenway of contiguous or linear open space that includes habitats or corridors for wildlife, or links parks, nature reserves, cultural features or historic sites with each other for passive recreation or for conservation purposes.
- d. Land in permanent open space may be, but is not required to be, dedicated to the use of the public.
- e. Prior to the issuance of any permit, the permanent open space shall be protected by a recorded conservation easement or similar binding instrument containing provisions for ownership and ongoing maintenance of the permanent open space by a responsible party such as, but not limited to, a homeowner's association, an independent agency or trust established for such purposes, or a municipality for open space preservation. Such permanent open space shall constitute 20 percent or more of the total area of a development.

- f. The option of utilizing a conservation easement or plat dedication for open space preservation for not less than 20 percent of the total area may be exercised only one time on a parcel of land.

N/A

The Commission or Council may add conditions to the approval of the planned project to achieve conformity to these standards.

### E. Supporting Plans

Attach a site plan and building elevations of the property proposed for planned project approval, showing the boundaries of the property, the buildings, vehicular use areas, and all requirements set forth in Chapter 57 (Subdivision and Land Use Controls) and the Land Development Regulations.

The undersigned states he/she is interested in the property as aforesaid and that the foregoing statements are true and correct to the best of his/her knowledge and belief.

Dated: 1/31/19

Signature: [Handwritten Signature]

DORIED MARTEL  
251 Emerald #205  
Birmingham MA 08009  
(Print name and address of petitioner)

STATE OF MICHIGAN

COUNTY OF WASHTENAW

On this 31<sup>st</sup> day of JAN, 2019, before me personally appeared the above named petitioner(s), who being duly sworn, say that they have read the foregoing petition and by them signed, and know the contents thereof, and that the same is true of their knowledge, except as to the matter therein stated to be upon their information and belief, and as to those matters they believe it to be true.

Signature: [Handwritten Signature]

DENISE L. KECK  
(Print name of Notary Public)

My Commission Expires: 11/9/22

**DENISE L. KECK**  
Notary Public, Macomb County, MI  
My Commission Expires: 11/09/2022  
Acting in the County of OAKLAND

## LEGAL DESCRIPTIONS

### PARCEL 09-09-14-400-009

(Per Reputation First Title Agency (First American Title Insurance Company)  
Commitment No. 26857, Commitment Date January 22, 2018.

The land referred to in this Commitment is described as follows:

Situated in the City of Ann Arbor, County of Washtenaw, State of Michigan.

Commencing at the South 1/4 corner of Section 14, T2S, R6E, City of Ann Arbor, Michigan; thence N 00 degrees 05' 50" E 810.08 feet along the North and South 1/4 line of said Section; thence N 70 degrees 54' 30" E 759.87 feet along the centerline of Plymouth Road for a PLACE OF BEGINNING; thence N 19 degrees 05' 30" W 243.0 feet; thence 43.57 feet along the arc of a tangential curve to the left, radius 108.0 feet, chord N 30 degrees 39' W 43.29 feet; thence Northeasterly 59.62 feet along the arc of a non-tangential circular curve to the left, radius 65.0 feet, chord N 23 degrees 38' E 57.37 feet; thence N 70 degrees 53' 40" E 58.86 feet; thence N 19 degrees 06' 20" W 13.0 feet; thence N 70 degrees 53' 40" E 129.33 feet; thence S 19 degrees 06' 20" E 152.16 feet; thence S 25 degrees 53' 40" W 266.60 feet; thence S 70 degrees 54' 30" W 30.26 feet along the centerline of Plymouth Road to the Place of Beginning, being part of the Southeast 1/4 of said Section.

### PARCEL 09-09-14-400-008

(Per First American Title Insurance Company Commitment File No.  
NCS-881874-HOU1, Commitment Date November 28, 2017.

The land referred to in this Commitment, situated in the County of Washtenaw, City of Ann Arbor, State of Michigan, is described as follows:

Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence continuing North 00 degrees 05 minutes 30 seconds East, 299.23 feet; thence North 70 degrees 54 minutes 30 seconds East, 641.13 feet; thence South 41 degrees 20 minutes 20 seconds West, 258.60 feet; thence South 19 degrees 06 minutes 20 seconds East, 142.85 feet; thence South 70 degrees 53 minutes 40 seconds West, 129.33 feet; thence South 19 degrees 06 minutes 20 seconds East, 13.0 feet; thence South 70 degrees 53 minutes 40 seconds West, 58.86 feet; thence 59.62 feet along the arc of a nontangential circular curve to the right, radius 65.0 feet; chord South 23 degrees 38 minutes West, 57.37 feet, thence 116.47 feet along the arc of a nontangential circular curve to the left, radius 108.00 feet, chord North 73 degrees 06 minutes 20 seconds West, 110.91 feet; thence 200.28 feet along the arc of a circular curve to the left, radius 500.0 feet, chord South 64 degrees 30 minutes 30 seconds West, 198.94 feet to the place of beginning, being a part of the Southeast 1/4 of said Section 14.

Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14; Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence 200.28 feet along the arc of a nontangential circular curve to the right; radius 500.00 feet, chord North 64 degrees 30 minutes 30 seconds East, 198.94 feet; thence 160.05 feet along the arc of a circular curve to the right, radius 108.0 feet; chord South 61 degrees 32 minutes 45 seconds East, 145.80 feet; thence South 19 degrees 05 minutes 30 seconds East, 243.0 feet to the place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 759.87 feet along the centerline of Plymouth Road; thence North 19 degrees 05 minutes 30 seconds West, 243.00 feet; thence 43.57 feet along the arc of a circular curve to the left, radius 108.00 feet, chord North 30 degrees 39 minutes West, 43.29 feet for a place of beginning; thence Northeasterly 59.62 feet along the arc of a nontangential circular curve to the left, radius 65.0 feet, chord North 23 degrees 38 minutes East, 57.37 feet for a place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress to and egress, as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.



# City of Ann Arbor

## PLANNING & DEVELOPMENT SERVICES — PLANNING SERVICES

100 North Fifth Avenue | P.O. Box 8647 | Ann Arbor, Michigan 48107-8647

p. 734.794.6265 | f. 734.994.8312 | [planning@a2gov.org](mailto:planning@a2gov.org)

### APPLICATION FOR SPECIAL EXCEPTION USE

See [www.a2gov.org/planning/petitions](http://www.a2gov.org/planning/petitions) for submittal requirements.

TO: Ann Arbor City Planning Commission

We, the undersigned, respectfully petition the City Planning Commission to approve this special exception use request as it relates to the property hereinafter described.

#### A. Legal Description

*(Give or attach legal description and include address of property)*

See Attached

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#### B. Petitioner Information

The petitioner(s) requesting the special exception use are: *(List petitioners' name; address; telephone number; and interest in the land; i.e., owner, land contract, option to purchase, etc.)*

Doraid Markus, Markus Management Group, 251 East Merrill, Suite: 255. Birmingham, Mi 48009  
248-892-2222; Owner

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Also interested in the petition are: *(List others with legal or equitable interest)*

Owner

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#### C. Use Request

The applicant requests special exception use approval to permit the following use(s): *(state intended use)*

The special exception request is for the construction of a drive thru for the proposed Panera Restaurant

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**D. Specific Standards**

The proposed use is allowed in accordance with the Schedule of Use Regulations, Chapter 55 (Zoning Ordinance), Section 15.166, Paragraph C3. Specify how the project meets all standards cited. Add attachment if necessary.

The proposed drive thru has been designed to not impair general vehicle circulation on site.

The proposed drive thru is located between two building and does not directly impact traffic flow.

The one (1) pedestrian crossing is to be signed and will have pavement markings denoting the crossing.

**E. General Standards**

The proposed use or uses shall be of such location, size and character as to be compatible with the appropriate and orderly development of the zoning district and adjacent zoning districts in which the site is situated. Please explain how and to what extent the following standards are met by the proposal:

1. Will be consistent with the general objectives of the City Master Plan.

Yes, the project will be consistant with the general objectives of the City Master Plan

2. Will be designed, constructed, operated and maintained in a manner that is compatible with the existing and planned character of the general vicinity.

Yes, the project will be designed, constructed, operated and maintained in a manner that is compatable with the existing and planned character of the general vicinity.

3. Will be consistent with the general character of the neighborhood considering population density, design, scale and bulk; and the intensity and character of activity.

Yes, the project will be generally consistant with the character of the neighborhood related to scale and bulk.

4. Will not be detrimental to the use, peaceful enjoyment, economic value or development of neighboring property, or the neighborhood area in general.

Yes, the project will not detrimental to the surrounding | neighboring properties.

The current site has a restaurant and hotel use. The proposed project is planning the same uses.

5. Will not have a detrimental effect on the natural environment.

The proposed project will not have any detrimental effects on the natural environment.

For this project we are preserving the existing landmarked trees

The location and size of the proposed use or uses, the nature and intensity of the principal use and all accessory uses, the site layout and its relation to streets giving access to it, shall be such that traffic to and from the use or uses, the assembly of persons in connection therewith, and the effect of the proposed use on public services and facilities, will not be hazardous or inconvenient to the neighborhood nor unduly conflict with the normal traffic of the neighborhood. Please explain how and to what extent the following standards are met by the proposal:

6. The location of and access to off-street parking and the safe provision for pedestrian traffic.  
The proposed drive thru is located along the side wna dbehind the proposed Panera. There is one pedrestrian crossing at the southwest coner of the building. At this location, pedrestrian crossing signs and pavement marking are proposed to protect pedrestrians making this crossing.

7. The relationship of the proposed use to main traffic thoroughfares and to streets and road intersections.  
The drive thru is located away from the private access drive which will allow for traffic circulation without the potential for drive thru backs. The amount of drive thru for a typical Panera is low volume, it is mainly for customer convenience.

8. Vehicular turning movements in relationship to traffic flow routes.  
The turning movements for vehicles are generally 90 degree turns, which allow for maximum visibility and orderly traffic flow

9. The intensity and character of traffic and parking conditions on the site and in the general area.  
The site is design to provide for sufficent parking fields in and around the proposed uses. Traffic will enter the site from a private access drive from Plymouth Road. The existing parking area around the site have a similar type design.

10. The requirements for additional public services and facilities which will be created by the proposed use will not be detrimental to the social and economic welfare of the community.  
The proposed uses will not require additional public services or facilities. The proposed uses will not be detrimental to the social and economic welfare of Ann Arbor. The new uses will provide for additional employment opportunities and increase the property values in the area since it replacing an outdated hotel and and closed restaurant.

**F. Variance Information**

In addition to the granting of the special exception use, the following variances from City regulations will be requested:

No variances are being requested.

Attached is a site plan of the property proposed for special exception use approval, showing the

boundaries of the property, the buildings, vehicular use areas, and all requirements set forth in Chapter 57 (Subdivision and Land Use Controls).

The undersigned states he/she is interested in the property as aforesaid and that the foregoing statements are true and correct to the best of his/her knowledge and belief.

Dated: \_\_\_\_\_

Signature: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*(Print name and address of petitioner)*

STATE OF MICHIGAN

COUNTY OF WASHTENAW

On this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, before me personally appeared the above named petitioner(s), who being duly sworn, say that they have read the foregoing petition and by them signed, and know the contents thereof, and that the same is true of their knowledge, except as to the matter therein stated to be upon their information and belief, and as to those matters they believe it to be true.

Signature: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

My Commission Expires: \_\_\_\_\_

boundaries of the property, the buildings, vehicular use areas, and all requirements set forth in Chapter 57 (Subdivision and Land Use Controls).

The undersigned states he/she is interested in the property as aforesaid and that the foregoing statements are true and correct to the best of his/her knowledge and belief.

Dated: 5/9/19

Signature: *Dan Walsh*

251 E MARSHALL St # 205  
BIRMINGHAM MI 48009

(Print name and address of petitioner)

STATE OF MICHIGAN  
*o Oakland*  
COUNTY OF ~~WASHTENAW~~

On this 9<sup>th</sup> day of May, 192019, before me personally appeared the above named petitioner(s), who being duly sworn, say that they have read the foregoing petition and by them signed, and know the contents thereof, and that the same is true of their knowledge, except as to the matter therein stated to be upon their information and belief, and as to those matters they believe it to be true.

Signature: *Natasha Ouro*

NATASHA OURO  
NOTARY PUBLIC, STATE OF MI  
COUNTY OF OAKLAND  
MY COMMISSION EXPIRES Apr 18, 2024  
ACTING IN COUNTY OF Oakland

My Commission Expires: 4-18-2024

## LEGAL DESCRIPTIONS

PARCEL 09-09-14-400-009

Per Reputation First Title Agency (First American Title Insurance Company)  
Commitment No. 26857, Commitment Date January 22, 2018.

The land referred to in this Commitment is described as follows:

Situated in the City of Ann Arbor, County of Washtenaw, State of Michigan.

Commencing at the South 1/4 corner of Section 14, T2S, R6E, City of Ann Arbor, Michigan; thence N 00 degrees 05' 50" E 810.08 feet along the North and South 1/4 line of said Section; thence N 70 degrees 54' 30" E 759.87 feet along the centerline of Plymouth Road for a PLACE OF BEGINNING; thence N 19 degrees 05' 30" W 243.0 feet; thence 43.57 feet along the arc of a tangential curve to the left, radius 108.0 feet, chord N 30 degrees 39' W 43.29 feet; thence Northeasterly 59.62 feet along the arc of a non-tangential circular curve to the left, radius 65.0 feet, chord N 23 degrees 38' E 57.37 feet; thence N 70 degrees 53' 40" E 58.86 feet; thence N 19 degrees 06' 20" W 13.0 feet; thence N 70 degrees 53' 40" E 129.33 feet; thence S 19 degrees 06' 20" E 152.16 feet; thence S 25 degrees 53' 40" W 266.60 feet; thence S 70 degrees 54' 30" W 30.26 feet along the centerline of Plymouth Road to the Place of Beginning, being part of the Southeast 1/4 of said Section.

PARCEL 09-09-14-400-008

(Per First American Title Insurance Company Commitment File No. NCS-881874-HOU1,  
Commitment Date November 28, 2017.

The land referred to in this Commitment, situated in the County of Washtenaw, City of Ann Arbor, State of Michigan, is described as follows:

Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence continuing North 00 degrees 05 minutes 30 seconds East, 299.23 feet; thence North 70 degrees 54 minutes 30 seconds East, 641.13 feet; thence South 41 degrees 20 minutes 20 seconds West, 258.60 feet; thence South 19 degrees 06 minutes 20 seconds East, 142.85 feet; thence South 70 degrees 53 minutes 40 seconds West, 129.33 feet; thence South 19 degrees 06 minutes 20 seconds East, 13.0 feet; thence South 70 degrees 53 minutes 40 seconds West, 58.86 feet; thence 59.62 feet along the arc of a nontangential circular curve to the right, radius 65.0 feet; chord South 23 degrees 38 minutes West, 57.37 feet, thence 116.47 feet along the arc of a nontangential circular curve to the left, radius 108.00 feet, chord North 73 degrees 06 minutes 20 seconds West, 110.91 feet; thence 200.28 feet along the arc of a circular curve to the left, radius 500.0 feet, chord South 64 degrees 30 minutes 30 seconds West, 198.94 feet to the place of beginning, being a part of the Southeast 1/4 of said Section 14.

Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14; Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence 200.28 feet along the arc of a nontangential circular curve to the right; radius 500.00 feet, chord North 64 degrees 30 minutes 30 seconds East, 198.94 feet; thence 160.05 feet along the arc of a circular curve to the right, radius 108.0 feet; chord South 61 degrees 32 minutes 45 seconds East, 145.80 feet; thence South 19 degrees 05 minutes 30 seconds East, 243.0 feet to the place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 759.87 feet along the centerline of Plymouth Road; thence North 19 degrees 05 minutes 30 seconds West, 243.00 feet; thence 43.57 feet along the arc of a circular curve to the left, radius 108.00 feet, chord North 30 degrees 39 minutes West, 43.29 feet for a place of beginning; thence Northeasterly 59.62 feet along the arc of a nontangential circular curve to the left, radius 65.0 feet, chord North 23 degrees 38 minutes East, 57.37 feet for a place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress to and egress, as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

# PRELIMINARY SITE PLANS FOR

# MMG-PLYMOUTH MIXED USE DEVELOPMENT

## 3621 PLYMOUTH ROAD

### CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

**OWNER:**

MARKUS MANAGEMENT GROUP, LLC  
 251 E. MERRILL STREET  
 BIRMINGHAM, MI 48009  
 CONTACT: DORAID MARKUS  
 PHONE: (248) 892-2222  
 EMAIL: DSMARKUS@YAHOO.COM

**ARCHITECT:**

NORR  
 150 W. JEFFERSON AVE, SUITE 1300  
 DETROIT, MI 48226  
 CONTACT: BRAD SMITH  
 PHONE: (313) 426-8888  
 FAX: (313) 324-3111  
 EMAIL: BRAD.SMITH@NORR.COM

**LEGAL DESCRIPTIONS**

PARCEL 09-09-14-400-009  
 (Per Reputation First Title Agency (First American Title Insurance Company) Commitment No. 26857, Commitment Date January 22, 2018.

The land referred to in this Commitment is described as follows:

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PARCEL 09-09-14-400-008

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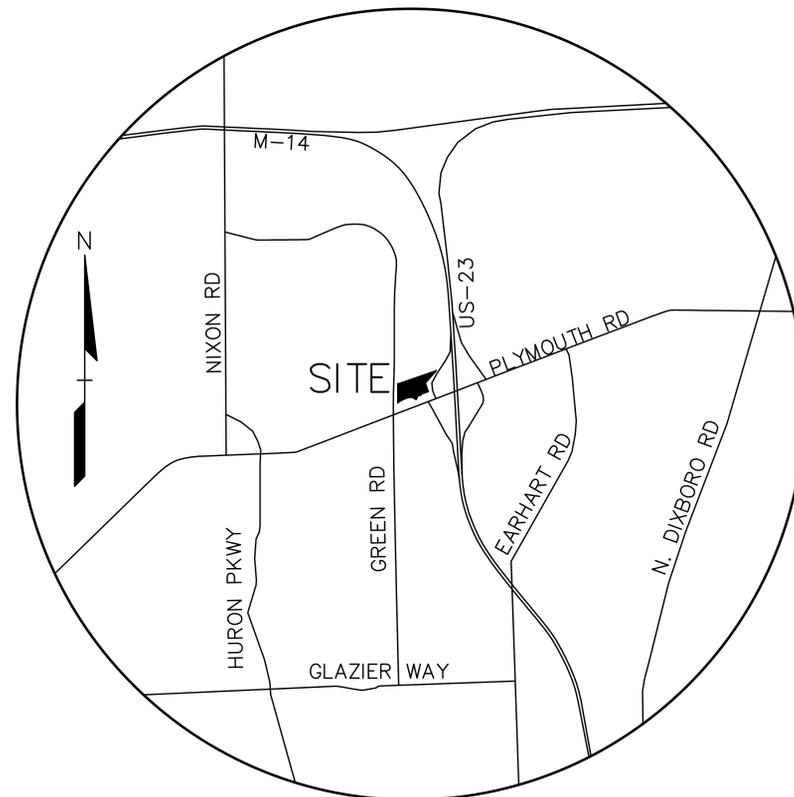
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**CIVIL ENGINEER:**

PEA, INC.  
 2430 ROCHESTER CT, SUITE 100  
 TROY, MI 48083  
 CONTACT: GREGORY BONO, PE  
 PHONE: (248) 689-9090 EXT. 1148  
 FAX: (248) 689-1044  
 EMAIL: GBONO@PEAINC.COM

**LANDSCAPE ARCHITECT:**

PEA, INC.  
 7927 NEMCO WAY, SUITE 115  
 BRIGHTON, MI 48116  
 CONTACT: JEFF SMITH, R.L.A., LEED AP  
 PHONE: (517) 546-8583  
 FAX: (517) 546-8973  
 EMAIL: JSMITH@PEAINC.COM



**LOCATION MAP**  
NO SCALE

**COMPARISON CHART:**

	EXISTING	PROPOSED	PERMITTED/REQUIRED
ZONING	PUD	C3	C3
GROSS LOT AREA (EXCLUDING R.O.W.)	193,895 SF	193,895 SF	6,000 SF MIN.
BUILDING FLOOR AREA	2-STORY HOTEL	6,465 SF	EX. BLDG TO REMAIN
	2-STORY HOTEL	3,505 SF	EX. BLDG TO REMAIN
	2-STORY HOTEL	4,665 SF	-
	2-STORY HOTEL	3,510 SF	-
	6-STORY HOTEL	-	76,208 SF
	RESTAURANT	5,181 SF	4,355 SF
MAX. USABLE FLOOR AREA IN % OF LOT AREA	23,326 SF (12%)	90,533 SF (47%)	393,294 SF MAX (200%)
SETBACKS	FRONT (SOUTH)	212.71'	212.73'*
	REAR (NORTH)	86.96'	58.02'
	SIDE (EAST)	78.28'	60.59'
	SIDE (WEST)	55.87'	67.60'
BUILDING HEIGHT	2 STORIES	76' (6 STORIES)*	55' (4 STORIES) MAX
PARKING - AUTOMOBILES	195 SPACES INC. 7 ADA SPACES	229 SPACES INC. 7 ADA SPACES	227 SPACES (MINIMUM) INC. 7 ADA SPACES
PARKING - BICYCLES	NONE	6 SPACES - CLASS A 3 SPACES - CLASS B 3 SPACES - CLASS C	6 SPACES - CLASS A 3 SPACES - CLASS B 3 SPACES - CLASS C

\* PLANNED PROJECT MODIFICATIONS REQUESTED

**DEVELOPMENT PROGRAM:**

THE SITE IS COMPRISED OF TWO PARCELS INTENDED TO BE COMBINED INTO ONE. THE PARCELS ARE CURRENTLY ZONED PUD AND HAS 4 RED ROOF INN PLUS+ BUILDINGS AND ONE BIG BOY RESTAURANT. THE PROPOSED DEVELOPMENT INCLUDES DEMOLITION AND REPLACEMENT OF THE TWO EASTERLY RED ROOF INN PLUS+ BUILDINGS WITH A HOTEL AND RENOVATION OF THE BIG BOY RESTAURANT INTO A PANERA RESTAURANT. THE HOTEL IS A 76,208 SF, 6-STORY BUILDING. THE PANERA IS A 4,355 SF BUILDING WITH A DRIVE THRU AND A PATIO. THE PROPOSED DEVELOPMENT CONTAINS 257 PARKING SPACES.

- SITE AREA IS APPROXIMATELY 4.51 ACRES (GROSS) AND 4.45 ACRES (NET)
- PROBABLE SITE CONSTRUCTION COST = T.B.D.
- THE SITE WILL BE ACCESSED VIA AN EXISTING PRIVATE DRIVE CONNECTING PLYMOUTH ROAD AND GREEN ROAD. ADA ACCESSIBLE PARKING WILL BE PROVIDED TO ALLOW ACCESS TO THE BUILDINGS.
- PUBLIC WATER AND SEWER ARE AVAILABLE AT THE SITE.
- THE PARCEL WILL BE DRAINED THROUGH UNDERGROUND DETENTION AND RETENTION FACILITIES TO THE PUBLIC STORM DRAINAGE WAY.
- THE PROPOSED HOTEL CONTAINS 127 ROOMS.

**COMMUNITY ANALYSIS:**

- DUE TO SIMILAR EXISTING USE AND SITE LOCATION, THE PROPOSED DEVELOPMENT IS NOT EXPECTED TO SIGNIFICANTLY IMPACT LOCAL SCHOOLS. THE SURROUNDING USES ARE RETAIL, BUSINESS AND HOTEL.
- THE BUILDINGS ARE SET BACK OVER 200 FEET FROM TO PLYMOUTH ROAD.
- NO SIGNIFICANT IMPACT ON THE PUBLIC THOROUGHFARES IS EXPECTED.
- NO NEGATIVE EFFECT ON AIR QUALITY IS EXPECTED. THE PROPOSED UNDERGROUND DETENTION AND INFILTRATION SYSTEM IS EXPECTED TO REDUCE POLLUTANTS AND SEDIMENT LEAVING THIS SITE THROUGH THE STORM SEWER SYSTEM.
- NO SIGNIFICANT NATURAL FEATURE IMPACTS ARE EXPECTED.
- THERE ARE NO KNOWN HISTORIC SITES OR STRUCTURES ON THE PROPERTY.
- REFER TO THE TRAFFIC IMPACT STUDY BY BERGMANN FOR TRAFFIC VOLUME ANALYSIS.

**INDEX OF DRAWINGS:**

- C-0.0 COVER SHEET
- C-1.0 TOPOGRAPHIC SURVEY
- C-1.1 ALTA NSPS LAND TITLE SURVEY
- C-1.2 ALTA NSPS LAND TITLE SURVEY
- C-2.0 DIMENSION AND PAVING PLAN
- C-3.0 PRELIMINARY GRADING PLAN
- C-3.1 SITE CROSS SECTIONS
- C-4.0 SOIL EROSION CONTROL PLAN
- C-4.1 SOIL EROSION CONTROL DETAILS
- C-5.0 UTILITY PLAN
- C-6.1 EXISTING SITE DRAINAGE PLAN
- C-6.2 PROPOSED SITE DRAINAGE PLAN
- C-6.3 DRAINAGE CALCULATIONS
- C-7.0 STORMWATER MAINTENANCE PLAN
- C-8.0 NOTES AND DETAILS
- C-8.1 NOTES AND DETAILS
- L-1.0 PRELIMINARY LANDSCAPE PLAN
- L-1.1 PRELIMINARY LANDSCAPE DETAILS
- T-1.0 NATURAL FEATURES PLAN
- SL-1.1 SITE PHOTOMETRIC PLAN
- SL-1.2 SITE PHOTOMETRIC DETAILS

**RESTAURANT ARCHITECTURAL SHEETS:**

- PP-1 PRELIMINARY FLOOR PLAN AND ELEVATIONS

**HOTEL DEVELOPMENT ARCHITECTURAL SHEETS:**

- 01 COVER SHEET
- 02 FIRST FLOOR PLAN
- 03 SECOND FLOOR PLAN
- 04 THIRD FLOOR PLAN
- 05 FOURTH FLOOR PLAN
- 06 FIFTH FLOOR PLAN
- 07 SIXTH FLOOR PLAN
- 08 ROOF PLAN
- 09 WEST & SOUTH ELEVATIONS
- 10 EAST & NORTH ELEVATIONS
- 11 MATERIAL BOARD
- 12 PERSPECTIVE RENDERING

**GENERAL DESCRIPTION OF NATURAL FEATURES:**

- SOIL TYPES ON SITE ARE MmB MIAMI LOAM PER THE WASHTENAW COUNTY SOIL SURVEY.
- SITE VEGETATION CONSISTS PRIMARILY OF GRASSES, SHRUBS AND A FEW TREES
- DISBURSED THROUGHOUT THE SITE.
- REFER TO SHEET C-1.0, TOPOGRAPHIC SURVEY FOR SITE TOPOGRAPHY.

**NATURAL FEATURES STATEMENT OF IMPACT:**

- THERE IS NO KNOWN ENDANGERED SPECIES HABITAT ON SITE.
- THE SITE IS NOT LOCATED WITHIN THE 100-YEAR FLOOD PLAIN.
- THE SITE SLOPES FROM AN ELEVATION OF APPROXIMATELY 710 AT PLYMOUTH ROAD UP TO AN ELEVATION OF APPROXIMATELY 917 AT THE NORTH END.
- THERE ARE NO WATERCOURSES ON THE PROPERTY.
- THERE ARE NO WETLANDS ON THE PROPERTY.
- THERE ARE NO WOODLANDS ON THE PROPERTY.

NO.	DATE	DESCRIPTION
1	10/23/19	ISSUED PER CITY COMMENTS
2	10/23/19	REVISED PER CITY COMMENTS
3	10/23/19	REVISED PER CITY COMMENTS
4	10/23/19	REVISED PER CITY COMMENTS
5	10/23/19	REVISED PER CITY COMMENTS



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

THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE SUBMITTED ON THE CONDITION THAT THEY ARE NOT TO BE REPRODUCED, COPIED, IN WHOLE OR IN PART, OR USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF PEA, INC. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED. © 2017 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THE REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFINE, MAINTAIN AND RECORD DESIGN PROFESSIONAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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 t: 248.689.9090  
 f: 248.689.1044  
 www.peainc.com

**MARKUS MANAGEMENT GROUP, LLC**  
 301 E. MERRILL STREET  
 BIRMINGHAM, MI 48009

**COVER SHEET**

**MMG-PLYMOUTH MIXED USE DEVELOPMENT**  
 PART OF THE SE 1/4 SECTION 14, T2S, R6E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES: GMB DN GMB SUR GWC P/M JPB  
 DATE: 10/23/19

ORIGINAL ISSUE DATE:  
 JANUARY 31, 2019

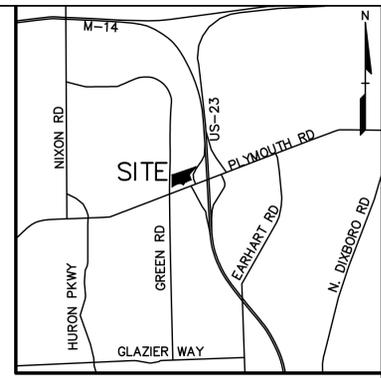
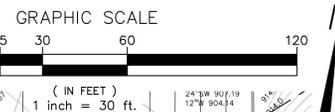
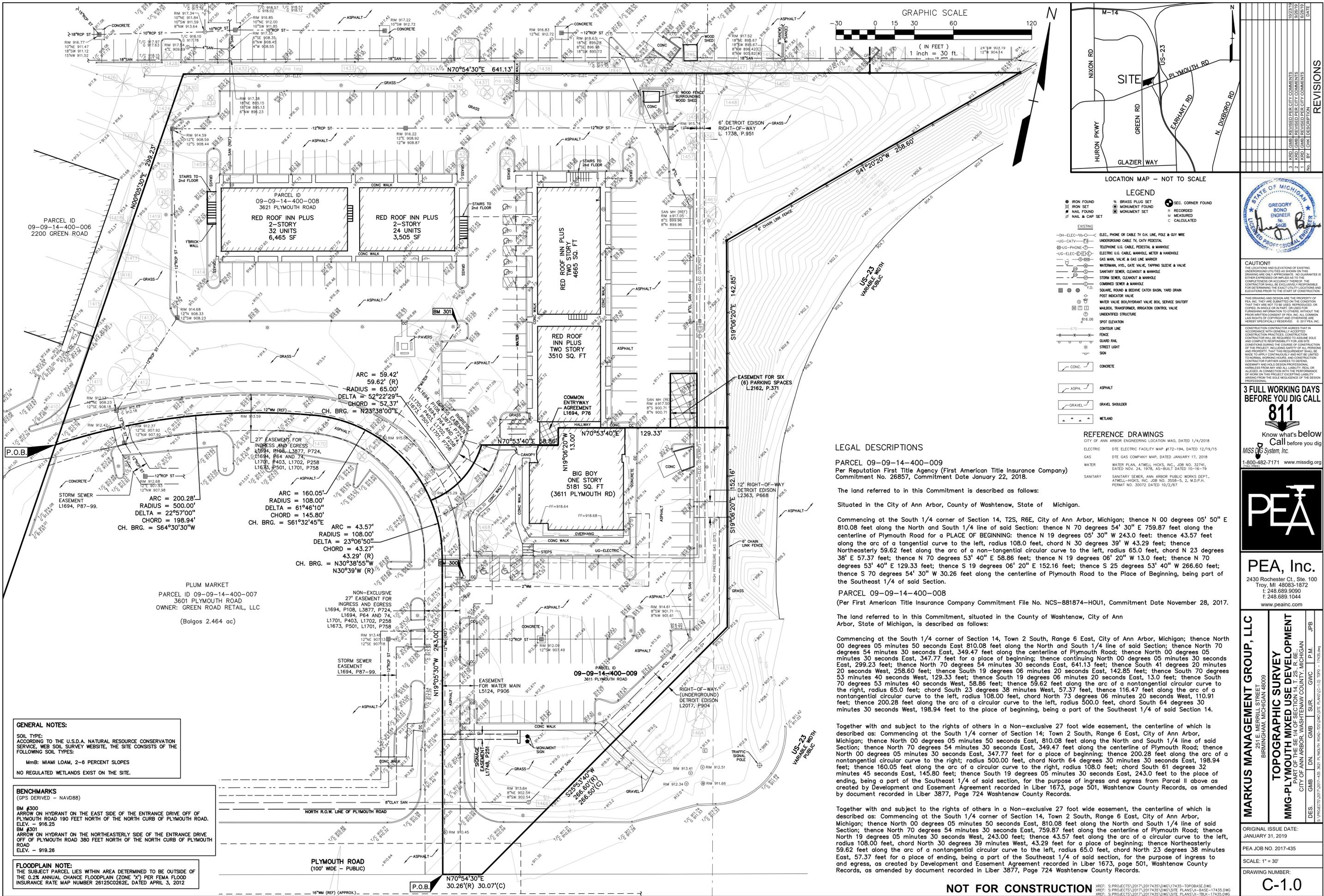
PEA JOB NO. 2017-435

SCALE: N.T.S.

DRAWING NUMBER:  
**C-0.0**

**NOT FOR CONSTRUCTION**

XREF: S:\PROJECTS\2017\2017435\DWG\17435-TOPOBASE.DWG  
 XREF: S:\PROJECTS\2017\2017435\DWG\17435-TOPOBASE.DWG  
 XREF: S:\PROJECTS\2017\2017435\DWG\17435-TOPOBASE.DWG



NO.	DATE	REVISIONS
1	10/21/16	ISSUED FOR PER CITY COMMENTS
2	10/21/16	REVISED PER CITY COMMENTS
3	10/21/16	REVISED PER CITY COMMENTS
4	10/21/16	REVISED PER CITY COMMENTS
5	10/21/16	REVISED PER CITY COMMENTS
6	10/21/16	REVISED PER CITY COMMENTS
7	10/21/16	REVISED PER CITY COMMENTS
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44	10/21/16	REVISED PER CITY COMMENTS
45	10/21/16	REVISED PER CITY COMMENTS
46	10/21/16	REVISED PER CITY COMMENTS
47	10/21/16	REVISED PER CITY COMMENTS
48	10/21/16	REVISED PER CITY COMMENTS
49	10/21/16	REVISED PER CITY COMMENTS
50	10/21/16	REVISED PER CITY COMMENTS
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93	10/21/16	REVISED PER CITY COMMENTS
94	10/21/16	REVISED PER CITY COMMENTS
95	10/21/16	REVISED PER CITY COMMENTS
96	10/21/16	REVISED PER CITY COMMENTS
97	10/21/16	REVISED PER CITY COMMENTS
98	10/21/16	REVISED PER CITY COMMENTS
99	10/21/16	REVISED PER CITY COMMENTS
100	10/21/16	REVISED PER CITY COMMENTS

**LEGEND**

● IRON FOUND	○ BRASS PLUG SET	○ SEC. CORNER FOUND
○ IRON SET	○ MONUMENT FOUND	○ RECORDED
● NAIL FOUND	○ MONUMENT SET	○ MEASURED
○ NAIL & CAP SET		○ CALCULATED

**EXISTING**

—ELEC—	ELEC. PHONE OR CABLE TV CH. LINE, POLE & GUY WIRE
—UG-CATV—	UNDERGROUND CABLE TV, CATV FEESTAL
—ELEC—	TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
—ELEC—	ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
—ELEC—	GAS MAN, VALVE & GAS LINE MARKER
—ELEC—	WATERMAN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
—ELEC—	SWIMMER SEWER, CLEANOUT & MANHOLE
—ELEC—	STORM SEWER, CLEANOUT & MANHOLE
—ELEC—	COMMON SEWER & MANHOLE
—ELEC—	SQUARE, ROUND & BEDDING CATCH BASIN, YARD DRAIN
—ELEC—	POST INDICATOR VALVE
—ELEC—	WATER VALVE, BOD/YORK/VALVE BOG, SERVICE SHUTOFF
—ELEC—	MALBOX, TRANSFORMER, PROTECTION CONTROL VALVE
—ELEC—	UNIDENTIFIED STRUCTURE
—ELEC—	SPOT ELEVATION
—ELEC—	CONTOUR LINE
—ELEC—	FENCE
—ELEC—	GUARD RAIL
—ELEC—	STREET LIGHT
—ELEC—	SIEN
—ELEC—	CONC.
—ELEC—	ASPH.
—ELEC—	GRAVEL SHOULDER
—ELEC—	METLAND



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

THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE LOANED TO THE CONTRACTOR FOR THE PROJECT ONLY. NO REPRODUCTION, COPIES, OR ALTERATIONS ARE PERMITTED WITHOUT THE WRITTEN CONSENT OF PEA, INC. ALL COMPANY LAWS, RULES OF CONDUCT AND OTHER POLICIES ARE HEREBY SPECIFICALLY REFERENCED. © 2017 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN CONNECTION WITH GENERAL ACCEPTANCE OF THE CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THE CONTRACTOR SHALL BE MADE TO APPLY CONTRACTORS AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFINE, INDICATE AND NOTIFY DESIGN PROFESSIONALS OR ALLIED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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**MARKUS MANAGEMENT GROUP, LLC**  
221 E. MERRILL STREET  
BIRMINGHAM, MICHIGAN 48009

**TOPOGRAPHIC SURVEY**  
**MMG-PLYMOUTH MIXED USE DEVELOPMENT**  
PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E.,  
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES: GMB  
SUR: GWC  
P.M: JPB

ORIGINAL ISSUE DATE:  
JANUARY 31, 2019

PEA JOB NO. 2017-435

SCALE: 1" = 30'

DRAWING NUMBER:  
**C-1.0**

**LEGAL DESCRIPTIONS**

**PARCEL 09-09-14-400-009**  
Per Reputation First Title Agency (First American Title Insurance Company)  
Commitment No. 26857, Commitment Date January 22, 2018.

The land referred to in this Commitment is described as follows:  
Situating in the City of Ann Arbor, County of Washtenaw, State of Michigan.

Commencing at the South 1/4 corner of Section 14, T2S, R6E, City of Ann Arbor, Michigan; thence N 00 degrees 05' 50" E 810.08 feet along the North and South 1/4 line of said Section; thence N 70 degrees 54' 30" E 759.87 feet along the centerline of Plymouth Road for a PLACE OF BEGINNING; thence N 19 degrees 05' 30" W 243.00 feet; thence 43.57 feet along the arc of a tangential curve to the left, radius 108.00 feet, chord N 30 degrees 39' W 43.29 feet; thence Northeastly 59.62 feet along the arc of a non-tangential circular curve to the left, radius 65.0 feet, chord N 23 degrees 38' E 57.37 feet; thence N 70 degrees 53' 40" E 58.86 feet; thence N 19 degrees 06' 20" W 13.0 feet; thence N 70 degrees 53' 40" E 129.33 feet; thence S 19 degrees 06' 20" E 152.16 feet; thence S 25 degrees 53' 40" W 266.60 feet; thence S 70 degrees 54' 30" W 30.26 feet along the centerline of Plymouth Road to the Place of Beginning, being part of the Southeast 1/4 of said Section.

**PARCEL 09-09-14-400-008**  
(Per First American Title Insurance Company Commitment File No. NCS-881874-HOU1, Commitment Date November 28, 2017.

The land referred to in this Commitment, situated in the County of Washtenaw, City of Ann Arbor, State of Michigan, is described as follows:  
Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence continuing North 00 degrees 05 minutes 30 seconds East, 299.23 feet; thence North 70 degrees 54 minutes 30 seconds East, 641.13 feet; thence South 41 degrees 20 minutes 20 seconds West, 258.60 feet; thence South 19 degrees 06 minutes 20 seconds East, 142.85 feet; thence South 70 degrees 53 minutes 40 seconds West, 129.33 feet; thence South 19 degrees 06 minutes 20 seconds East, 13.0 feet; thence South 70 degrees 53 minutes 40 seconds West, 58.86 feet; thence 59.62 feet along the arc of a non-tangential circular curve to the right, radius 65.0 feet; chord South 23 degrees 38 minutes West, 57.37 feet, thence 116.47 feet along the arc of a non-tangential circular curve to the left, radius 108.00 feet, chord North 23 degrees 38 minutes West, 43.29 feet; thence South 19 degrees 05 minutes 30 seconds East, 243.00 feet to the place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence 200.28 feet along the arc of a non-tangential circular curve to the right; radius 500.00 feet, chord North 64 degrees 30 minutes 30 seconds East, 198.94 feet; thence 160.05 feet along the arc of a circular curve to the right, radius 108.00 feet; chord South 51 degrees 32 minutes 45 seconds East, 145.80 feet; thence South 19 degrees 05 minutes 30 seconds East, 243.00 feet to the place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence 200.28 feet along the arc of a non-tangential circular curve to the right, radius 500.00 feet, chord North 64 degrees 30 minutes 30 seconds East, 198.94 feet; thence 160.05 feet along the arc of a circular curve to the right, radius 108.00 feet; chord South 51 degrees 32 minutes 45 seconds East, 145.80 feet; thence South 19 degrees 05 minutes 30 seconds East, 243.00 feet to the place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

**GENERAL NOTES:**  
SOIL TYPE:  
ACCORDING TO THE U.S.D.A. NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE, THE SITE CONSISTS OF THE FOLLOWING SOIL TYPES:  
MmB: MIAMI LOAM, 2-6 PERCENT SLOPES  
NO REGULATED WETLANDS EXIST ON THE SITE.

**BENCHMARKS**  
(GPS DERIVED - NAVD88)  
BM #300  
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.  
ELEV. - 916.25  
BM #301  
ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.  
ELEV. - 919.26

**FLOODPLAIN NOTE:**  
THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE "X") PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012

**NOT FOR CONSTRUCTION**

**LEGAL DESCRIPTION**  
 (Per First American Title Insurance Company Commitment File No. NCS-881874-HOU1, Commitment Date November 28, 2017.

The land referred to in this Commitment, situated in the County of Washtenaw, City of Ann Arbor, State of Michigan, is described as follows:

**Parcel II:**  
 Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence continuing North 00 degrees 05 minutes 30 seconds East, 299.23 feet; thence North 70 degrees 54 minutes 30 seconds East, 641.13 feet; thence South 41 degrees 20 minutes 20 seconds West, 258.60 feet; thence South 19 degrees 06 minutes 20 seconds East, 142.85 feet; thence South 70 degrees 53 minutes 40 seconds West, 129.33 feet; thence South 19 degrees 06 minutes 20 seconds East, 13.0 feet; thence South 70 degrees 53 minutes 40 seconds West, 58.86 feet; thence 59.62 feet along the arc of a nontangential circular curve to the right, radius 65.0 feet; chord South 23 degrees 38 minutes West, 57.37 feet; thence 116.47 feet along the arc of a nontangential circular curve to the left, radius 108.00 feet, chord North 73 degrees 06 minutes 20 seconds West, 110.91 feet; thence 200.28 feet along the arc of a circular curve to the left, radius 500.0 feet, chord South 64 degrees 30 minutes 30 seconds West, 198.94 feet to the place of beginning, being a part of the Southeast 1/4 of said Section 14.

**Parcel IV:**  
 Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence continuing North 00 degrees 05 minutes 30 seconds East, 299.23 feet; thence North 70 degrees 54 minutes 30 seconds East, 641.13 feet; thence South 41 degrees 20 minutes 20 seconds West, 258.60 feet; thence South 19 degrees 06 minutes 20 seconds East, 142.85 feet; thence South 70 degrees 53 minutes 40 seconds West, 129.33 feet; thence South 19 degrees 06 minutes 20 seconds East, 13.0 feet; thence South 70 degrees 53 minutes 40 seconds West, 58.86 feet; thence 59.62 feet along the arc of a nontangential circular curve to the right, radius 65.0 feet; chord South 23 degrees 38 minutes West, 57.37 feet; thence 116.47 feet along the arc of a nontangential circular curve to the left, radius 108.00 feet, chord North 73 degrees 06 minutes 20 seconds West, 110.91 feet; thence 200.28 feet along the arc of a circular curve to the left, radius 500.0 feet, chord South 64 degrees 30 minutes 30 seconds West, 198.94 feet to the place of beginning, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records.

**Parcel V:**  
 Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence continuing North 00 degrees 05 minutes 30 seconds East, 299.23 feet; thence North 70 degrees 54 minutes 30 seconds East, 641.13 feet; thence South 41 degrees 20 minutes 20 seconds West, 258.60 feet; thence South 19 degrees 06 minutes 20 seconds East, 142.85 feet; thence South 70 degrees 53 minutes 40 seconds West, 129.33 feet; thence South 19 degrees 06 minutes 20 seconds East, 13.0 feet; thence South 70 degrees 53 minutes 40 seconds West, 58.86 feet; thence 59.62 feet along the arc of a nontangential circular curve to the right, radius 65.0 feet; chord South 23 degrees 38 minutes West, 57.37 feet for a place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress to and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records.

**SURVEYOR'S CERTIFICATE:**

TO: First American Title Insurance Company  
 American Title of Washtenaw  
 Bank of Ann Arbor  
 Markus Associates, LLC  
 Doraid Markus  
 Nason Kossab

This is to certify that this map or plot and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2016, and includes Items 2, 3, 4, 7(a), 8, 11, 13, 16-18 and 19 of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA and NSPS and in effect on the date of this certification, undersigned further states that in my professional opinion, as a land surveyor registered in the State of Michigan, the Relative Positional Accuracy of this survey does not exceed that which is specified therein. The field work was completed on January 31, 2018.

02-14-18

Todd D. Shelly, PS  
 Michigan Professional Surveyor No. 41111  
 Agent for PEA, Inc.

**SCHEDULE B-II (EXCEPTIONS)**

(Per First American Title Insurance Company Commitment File No. NCS-881874-HOU1 Commitment Date November 28, 2017.

Items 1-5 and 12-15 are not plottable survey items.

6 All of the terms and provisions set forth and contained in that certain Lease between RRI I LLC, a Delaware limited liability company, Lessor, and RRI OPCO LLC, a Delaware limited liability company, Lessee, a memorandum of which is recorded in Liber 4844, Page 704. [AFFECTS ALL OF THE SUBJECT PROPERTY AS PLOTTED]

As affected by Amendment to Memorandum of Lease dated July 9, 2013, recorded August 5, 2013 in Liber 4992, Page 876, of Official Records. [AFFECTS ALL OF THE SUBJECT PROPERTY AS PLOTTED]

7 The terms, provisions and easement(s) contained in the document entitled "Utilities Development and Easement Agreement" recorded as Liber 1694, Page 87 of Official Records. [EXTENDS OVER ENTIRE PARCELS NOTED "RED ROOF", "ELIAS", AND "BOLGOS" AS NOTED]

8 The terms, provisions and easement(s) contained in the document entitled "Development and Easement Agreement" recorded as Liber 1673, Page 501, Liber 1694, Page 50, which is rerecorded in Liber 1701, Page 758, and clarified by Agreement recorded in Liber 1694, Page 108. Amendment to Development and Easement Agreement recorded in Liber 3877, Page 724 of Official Records. [AS PLOTTED]

9 Right of Way granted to Detroit Edison Company disclosed by instrument recorded in Liber 1738, Page 951, Washtenaw County Records. [AS PLOTTED]

10 Easement for parking spaces as recorded in Liber 2162, Page 371. [AS PLOTTED]

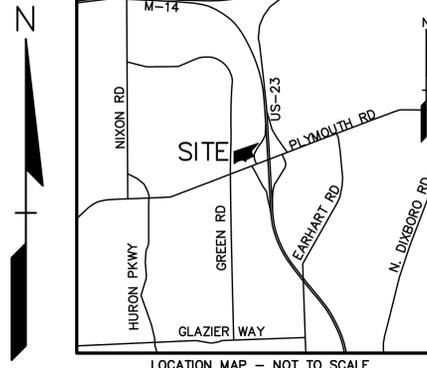
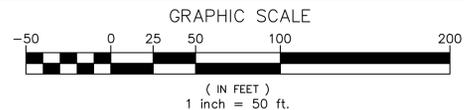
11 The terms, provisions and easement(s) contained in the document entitled "Grant of Easement" recorded July 8, 2016 as Liber 5158, Page 974 of Official Records. [AS PLOTTED]

**SURVEYORS NOTES:**

- A At the time of survey there was no evidence observed of any tanks, drainage fields, or use as a solid waste dump or sanitary landfill.
- B There is no visual evidence of earth moving or construction on the subject parcel at some point in the past.
- C There is no evidence of potential wetlands observed on the subject property at the time the survey was conducted. No wetland delineation report was provided to the surveyor.
- D Potential water main and sanitary sewer easement crossing subject property- no easement document provided.

**FLOODPLAIN NOTE:**  
 THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE "X") PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012

**PARKING SPACES**  
 ON SITE  
 134 REGULAR  
 6 HANDICAP



NO.	BY	CHK DESCRIPTION	DATE



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

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL PRACTICES OF THE CONSTRUCTION INDUSTRY, THE CONTRACTOR SHALL BE SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THE CONTRACTOR SHALL BE MADE TO APPLY CONTRACTORS AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFINE, IDENTIFY AND MARK ALL EXISTING UTILITIES, AND ALLIED, IN CONNECTION WITH THE PERFORMANCE OF THIS PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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**MARKUS ASSOCIATES, LLC**  
 351E MERRILL SUITE 205  
 BIRMINGHAM, MICHIGAN 48009

**ALTANSPS LAND TITLE SURVEY**  
**3621 PLYMOUTH ROAD**  
 PART OF THE SE 1/4 OF SECTION 14, T.02S., R.06E.  
 CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

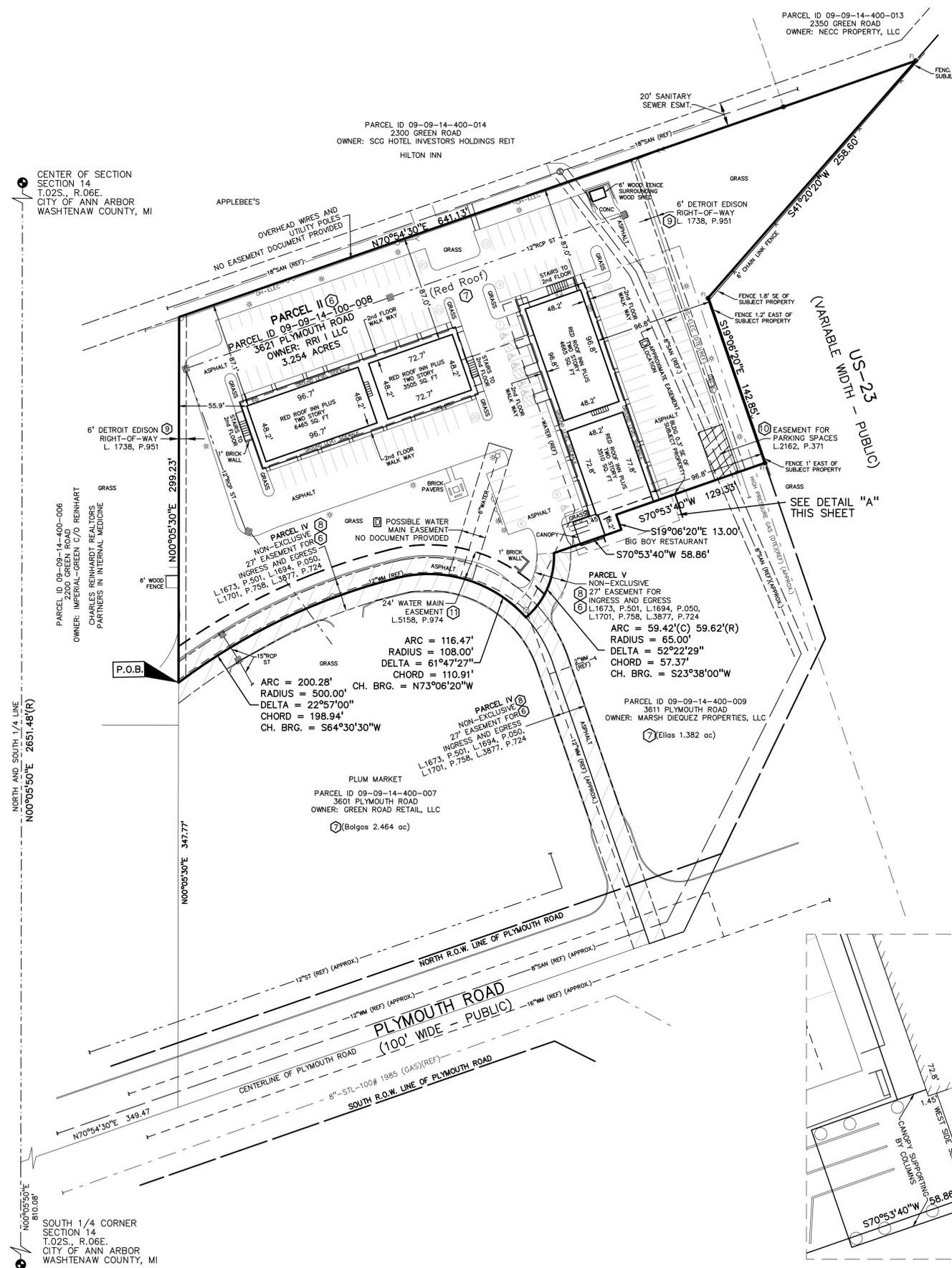
DES: DN: GWC SUR: ROISE P: JM JPB

ORIGINAL ISSUE DATE:  
 JANUARY 30, 2018

PEA JOB NO. 2017-435

SCALE: 1" = 50'

DRAWING NUMBER:  
**C-1.1**



**LEGEND**

- IRON FOUND
- IRON SET
- NAIL FOUND
- ⊗ NAIL & CAP SET
- ⊗ BRASS PLUG SET
- ⊗ MONUMENT FOUND
- ⊗ MONUMENT SET
- SEC. CORNER FOUND
- R RECORDED
- M MEASURED
- C CALCULATED

**EXISTING**

- OH-ELEC-W— ELEC. PHONE OR CABLE TV OH. LINE, POLE & GUY WIRE
- UG-CATV— UNDERGROUND CABLE TV, CATV PEDESTAL
- UG-PHONE— TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- UG-ELEC— ELEC. U.G. CABLE, MANHOLE, METER & MANHOLE
- GAS— GAS MAIN, VALVE & GAS LINE MARKER
- WATER— WATERMAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
- SANITARY— SANITARY SEWER, CLEAOUT & MANHOLE
- STORM— STORM SEWER, CLEAOUT & MANHOLE
- COMBINED— COMBINED SEWER & MANHOLE
- SQUARE— SQUARE, ROUND & RESERVE CATCH BASIN, YARD DRAIN
- POST— POST INDICATOR VALVE
- WATER— WATER VALVE BOV/HYDRANT VALVE BOX, SERVICE SHUTOFF
- MAILBOX— MAILBOX, TRANSFORMER, IRRIGATION CONTROL VALVE
- UNIDENTIFIED— UNIDENTIFIED STRUCTURE

**SPOT ELEVATION**

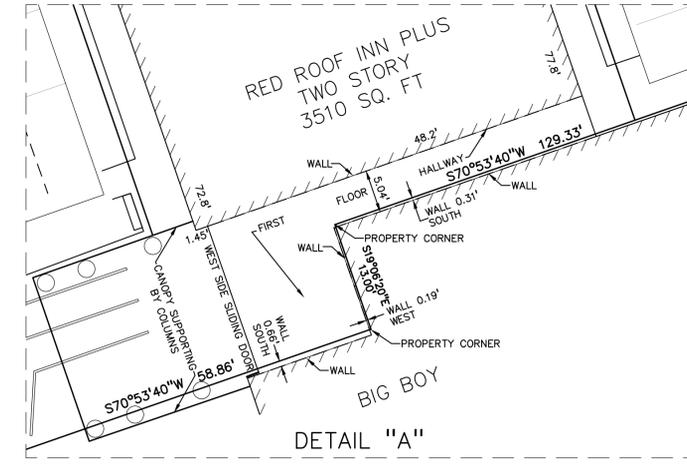
- 670
- 670

**CONTOUR LINE**

- FENCE
- GUARD RAIL
- STREET LIGHT
- SIGN
- SCHEDULE B EXCEPTIONS ITEM NUMBER

**CONC.** CONCRETE  
**ASPH.** ASPHALT

**REFERENCE DRAWINGS**  
 CITY OF ANN ARBOR ENGINEERING LOCATION MAP, DATED 1/4/2018  
 ELECTRIC DTE ELECTRIC FACILITY MAP #172-194, DATED 12/19/15  
 GAS DTE GAS COMPANY MAP, DATED JANUARY 17, 2018  
 WATER WATER PLAN, ATWELL HICKS, INC., JOB NO. 32741, DATED NOV. 24, 1978, AS-BUILT DATE 10-16-79  
 SANITARY SANITARY SEWER, ANN ARBOR PUBLIC WORKS DEPT., ATWELL-HICKS, INC. JOB NO. 3558-5, 2, W.D.P.H. PERMIT NO. 30072 DATED 10/2/67



**LEGAL DESCRIPTION**  
 (Per Reputation First Title Agency (First American Title Insurance Company) Commitment No. 26857, Commitment Date January 22, 2018.)

The land referred to in this Commitment is described as follows:

Situated in the City of Ann Arbor, County of Washtenaw, State of Michigan.

Commencing at the South 1/4 corner of Section 14, T2S, R6E, City of Ann Arbor, Michigan; thence N 00 degrees 05' 50" E 810.08 feet along the North and South 1/4 line of said Section; thence N 70 degrees 54' 30" E 759.87 feet along the centerline of Plymouth Road for a PLACE OF BEGINNING; thence N 19 degrees 05' 30" W 243.0 feet; thence 43.57 feet along the arc of a tangential curve to the left, radius 108.0 feet, chord N 30 degrees 39' W 43.29 feet; thence Northeastly 59.62 feet along the arc of a non-tangential circular curve to the left, radius 65.0 feet, chord N 23 degrees 38' E 57.37 feet; thence N 70 degrees 53' 40" E 58.86 feet; thence N 19 degrees 06' 20" W 13.0 feet; thence N 70 degrees 53' 40" E 129.33 feet; thence S 19 degrees 06' 20" E 152.16 feet; thence S 25 degrees 53' 40" W 266.60 feet; thence S 70 degrees 54' 30" W 30.26 feet along the centerline of Plymouth Road to the Place of Beginning, being part of the Southeast 1/4 of said Section.

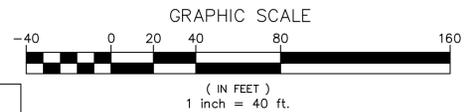
Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 349.47 feet along the centerline of Plymouth Road; thence North 00 degrees 05 minutes 30 seconds East, 347.77 feet for a place of beginning; thence 200.28 feet along the arc of a nontangential circular curve to the right, radius 500.00 feet, chord North 64 degrees 30 minutes 30 seconds East, 198.94 feet; thence 160.05 feet along the arc of a circular curve to the right, radius 108.0 feet; chord South 61 degrees 32 minutes 45 seconds East, 145.80 feet; thence South 19 degrees 05 minutes 30 seconds East, 243.0 feet to the place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress and egress from Parcel II above as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

Together with and subject to the rights of others in a Non-exclusive 27 foot wide easement, the centerline of which is described as: Commencing at the South 1/4 corner of Section 14, Town 2 South, Range 6 East, City of Ann Arbor, Michigan; thence North 00 degrees 05 minutes 50 seconds East, 810.08 feet along the North and South 1/4 line of said Section; thence North 70 degrees 54 minutes 30 seconds East, 759.87 feet along the centerline of Plymouth Road; thence North 19 degrees 05 minutes 30 seconds West, 243.00 feet; thence 43.57 feet along the arc of a circular curve to the left, radius 108.00 feet, chord North 30 degrees 39 minutes West, 43.29 feet for a place of beginning; thence Northeastly 59.62 feet along the arc of a nontangential circular curve to the left, radius 65.0 feet, chord North 23 degrees 38 minutes East, 57.37 feet for a place of ending, being a part of the Southeast 1/4 of said section, for the purpose of ingress to and egress, as created by Development and Easement Agreement recorded in Liber 1673, page 501, Washtenaw County Records, as amended by document recorded in Liber 3877, Page 724 Washtenaw County Records.

**SCHEDULE B-II (EXCEPTIONS)**  
 (Per Reputation First Title Agency (First American Title Insurance Company) Commitment No. 26857, Commitment Date January 22, 2018.)

Items 1-9 and 27-35 are not plottable survey items.

- 10 Affidavit of Notice of Energy Assessment Agreement between Marsh Diequez Properties, LLC and the City of Ann Arbor as recorded in Liber 4976, page 36. [AFFECTS ALL OF THE SUBJECT PROPERTY]
- 11 Terms and Conditions contained in the Grant of Easement for Water Mains as disclosed by instrument recorded in Liber 5124, page 906. [AS PLOTTED]
- 12 Non-exclusive Easements for ingress and egress crossing the subject property and neighboring property as disclosed by legal description and documents as recorded in Liber 1673, page 501, as amended by documents as recorded in Liber 1694, page 108, Liber 3877, page 724, and as disclosed by documents as recorded in Liber 1694, pages 64 and 74, Liber 1701, page 403, Liber 1702, page 258 and Liber 4072, page 370. [AS PLOTTED]
- 13 Terms and Conditions contained in the Releases of Right of Way in favor of the State Highway Commissioner of the State of Michigan as disclosed by instrument recorded in Liber 261, page 178 and 179, as to Plymouth Road. [AS PLOTTED]
- 14 Terms and Conditions contained in the Determination of Necessity by the State Highway Commissioner of the State of Michigan as disclosed by instrument recorded in Liber 946, page 341, as to State Trunkline Highway US-23. [NOT PROVIDED]
- 15 Terms and Conditions contained in the Common Entryway Agreement as disclosed by instrument recorded in Liber 1694, page 76. [AS PLOTTED]
- 16 Party wall with adjacent property as disclosed by Common Entryway Agreement as recorded in Liber 1694, page 76. [AS PLOTTED]
- 17 Terms and Conditions contained in the Development and Easement Agreement as disclosed by instrument recorded in Liber 1673, page 501, re recorded in Liber 1694, page 108 and Liber 3877, page 724. [AS PLOTTED]
- 18 Terms and Conditions contained in the Utilities Development and Easement Agreement as disclosed by instrument recorded in Liber 1694, page 87. [AS PLOTTED]
- 19 Terms and Conditions contained in the Site Preparation Agreement as disclosed by instrument recorded in Liber 1694, page 100. [AFFECTS ALL OF THE SUBJECT PROPERTY]
- 20 Terms and Conditions contained in the Development and Easement Agreement as disclosed by instrument recorded in Liber 1694, page 50, re-recorded in Liber 1701, page 758 and further amended in Liber 3877, page 724. [AS PLOTTED]
- 21 Terms and Conditions contained in the Signage Easement as disclosed by instrument recorded in Liber 1748, page 251. [AS PLOTTED]
- 22 Right of Way (Underground) in favor of The Detroit Edison Company and the Covenants, Conditions and Restrictions contained in the instrument recorded in Liber 1800, page 481. [AS PLOTTED]
- 23 Terms and Conditions contained in the Agreement for Water Service as disclosed by instrument recorded in Liber 1813, page 724. [NOT PLOTTABLE. NO SPECIFIC LOCATION DESCRIBED]
- 24 Right of Way (Underground) in favor of The Detroit Edison Company and the Covenants, Conditions and Restrictions contained in the instrument recorded in Liber 2017, page 904. [AS PLOTTED]
- 25 Easement for joint use of parking spaces with neighboring property and the right to enter upon paved areas of the neighboring property to allow access to and from the parking spaces as recorded in Liber 2162, page 371. [AS PLOTTED]
- 26 Terms and Conditions contained in the Underground Right of Way Agreement in favor of The Detroit Edison Company as disclosed by instrument recorded in Liber 2363, page 668. [AS PLOTTED]
- 29 Mortgage in the original amount of \$1,100,000.00 executed by Elias Brothers Restaurants, Inc., to MANUFACTURERS NATIONAL BANK OF DETROIT, dated April 27, 1990, recorded May 4, 1990, in Liber 2402, page 871; Amended and Restated Real Estate Mortgage dated November 22, 1996 and recorded December 16, 1996 in Liber 3359, page 212; now being held by Standard Federal Bank, a Federal Savings Bank, by Assignment as recorded in Liber 3671, page 536. Said Mortgage was further amended by First Amendment dated May 14, 1998, and recorded May 29, 1998 in Liber 3671, page 538. [NOT PROVIDED]



**PARKING SPACES**  
 ON SITE  
 53 REGULAR  
 6 REGULAR IN EASEMENT  
 2 HANDICAP

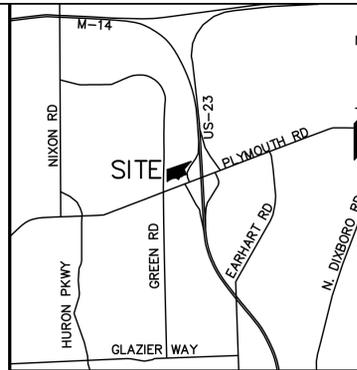
**SURVEYOR'S CERTIFICATE:**

TO: First American Title Insurance Company  
 Reputation First Title Agency  
 Markus Associates, LLC  
 Doraid Markus  
 Nason Kassab

This is to certify that this map or plat and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2016, and includes Items 2, 3, 4, 7(a), 8, 11, 13, 16-18 and 19 of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA and NSPS and in effect on the date of this certification, undersigned further states that in my professional opinion, as a land surveyor registered in the State of Michigan, the Relative Positional Accuracy of this survey does not exceed that which is specified therein. The field work was completed on March 13, 2018.

Todd D. Shelly, PS  
 Michigan Professional Surveyor No. 41111  
 Agent for PEA, Inc.

**LOCATION MAP - NOT TO SCALE**



NO.	BY	CHK DESCRIPTION	DATE

**REVISIONS**

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

THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE SEPARATE FROM THE CONTRACT AND SHALL BE RETURNED TO PEA, INC. IMMEDIATELY UPON COMPLETION OF THE PROJECT. NO PART OF THIS DRAWING OR DESIGN SHALL BE REPRODUCED, COPIED, REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF PEA, INC. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED. © 2018 PEA, INC.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THE REQUIREMENTS SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFINE, IDENTIFY AND LOCATE DESIGN PROFESSIONAL OR ALLIED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

**3 FULL WORKING DAYS BEFORE YOU DIG CALL**



**PEA, Inc.**  
 2430 Rochester Ct, Ste 100  
 Troy, MI 48063-1872  
 t: 248.689.9090  
 f: 248.689.1044  
 www.peainc.com

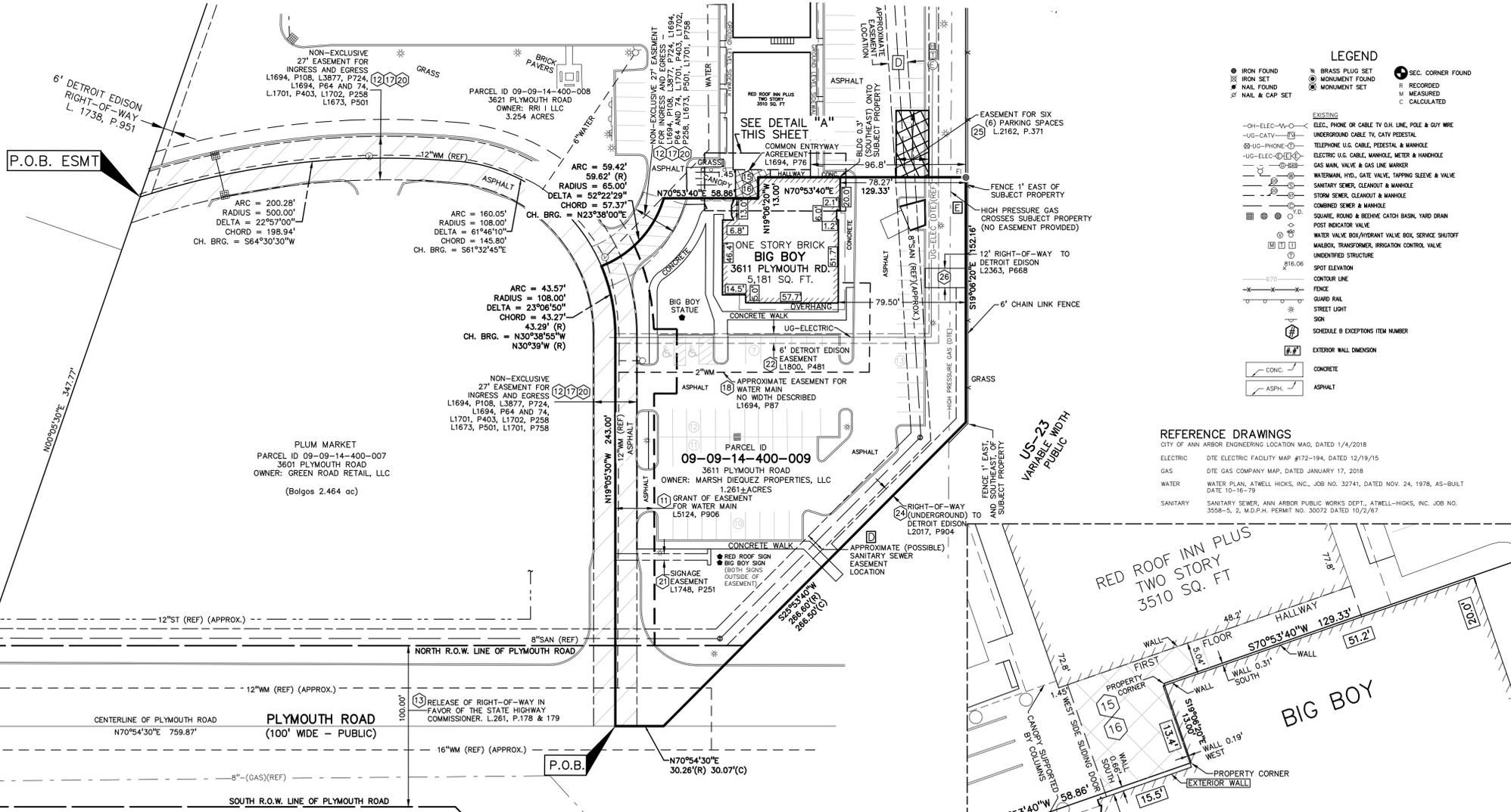
**MARKUS ASSOCIATES, LLC**  
 351E MERRILL SUITE 205  
 BIRMINGHAM, MICHIGAN 48009

**ALTA/NSPS LAND TITLE SURVEY**  
**3611 PLYMOUTH ROAD**  
 PART OF THE SE 1/4 OF SECTION 14, T.02S. R.06E. CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES.	DN.	GWC	SUR.	ROISE	P.M.	JPB
------	-----	-----	------	-------	------	-----

ORIGINAL ISSUE DATE: MARCH 22, 2018  
 PEA JOB NO. 2017-435  
 SCALE: 1" = 50'  
 DRAWING NUMBER: **C-1.2**

CENTER OF SECTION SECTION 14 T.02S., R.06E. CITY OF ANN ARBOR WASHTENAW COUNTY, MI FOUND MON IN MON BOX



- SURVEYORS NOTES:**
- A At the time of survey there was no evidence observed of any tanks, drainage fields, or use as a solid waste dump or sanitary landfill.
  - B There is no visual evidence of earth moving or construction on the subject parcel at some point in the past.
  - C There is no evidence of potential wetlands observed on the subject property at the time the survey was conducted. No wetland delineation report was provided to the surveyor.
  - D Potential sanitary sewer easement crossing subject property. No easement document provided.
  - E High pressure natural gas line crosses subject property. No easement document provided.

**LEGEND**

● IRON FOUND	⊗ BRASS PLUG SET	⊙ SEC. CORNER FOUND
⊗ IRON SET	⊙ MONUMENT FOUND	⊙ RECORDED
⊙ NAIL FOUND	⊙ MONUMENT SET	⊙ MEASURED
⊙ NAIL & CAP SET		⊙ CALCULATED

**EXISTING**

- O-ELEC-W-C- ELEC. PHONE OR CABLE TV OR LINE, POLE & GUY WIRE
- U-CATV- UNDERGROUND CABLE TV, CATV FEEDLINE
- U-PH- PHONE
- U-ELEC- ELECTRIC U.G. CABLE, FEEDLINE, & MANHOLE
- GAS- GAS MAIN, VALVE & GAS LINE MARKER
- WATER- WATER MAIN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
- SEWER- SANITARY SEWER, CLEANOUT & MANHOLE
- STORM- STORM SEWER, CLEANOUT & MANHOLE
- SQUARE- SQUARE, ROUND & BEEHIVE CATCH BASIN, YARD DRAIN
- POST- POST INDICATOR VALVE
- WATER- WATER VALVE BOX, HYDRANT VALVE BOX, SERVICE SHUTOFF
- MASON- MASON, TRANSFORMER, IRRIGATION CONTROL, VALVE
- LIFT- LIFTED STRUCTURE
- SPOT- SPOT ELEVATION
- CONTOUR- CONTOUR LINE
- FENCE- FENCE
- GUARD- GUARD RAIL
- STREET- STREET LIGHT
- SIGN- SIGN

SCHEDULE B EXCEPTIONS ITEM NUMBER

EXTERIOR WALL DIMENSION

CONC. CONCRETE  
 ASPH. ASPHALT

**REFERENCE DRAWINGS**

CITY OF ANN ARBOR ENGINEERING LOCATION MAP, DATED 1/4/2018

ELECTRIC DTE ELECTRIC FACILITY MAP #172-194, DATED 12/19/15

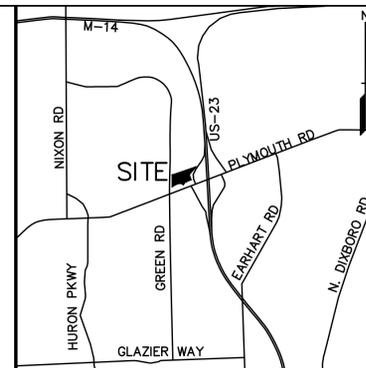
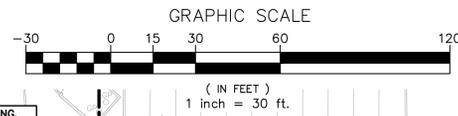
GAS DTE GAS COMPANY MAP, DATED JANUARY 17, 2018

WATER WATER PLAN, ATWELL HICKS, INC., JOB NO. 32741, DATED NOV. 24, 1978, AS-BUILT DATE 10-16-79

SANITARY SANITARY SEWER, ANN ARBOR PUBLIC WORKS DEPT., ATWELL-HICKS, INC. JOB NO. 3558-5, 2, M.D.P.H. PERMIT NO. 30072 DATED 10/2/67

**FLOODPLAIN NOTE:**  
 THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE "X") PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012

**DETAIL "A"**



NO.	DATE	REVISIONS
1	10/22/15	ISSUED FOR PERMITS
2	04/02/16	REVISED PER CITY COMMENTS
3	04/02/16	REVISED PER CITY COMMENTS
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5	04/02/16	REVISED PER CITY COMMENTS
6	04/02/16	REVISED PER CITY COMMENTS
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100	04/02/16	REVISED PER CITY COMMENTS



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

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL PRACTICES OF THE CONSTRUCTION INDUSTRY, THE CONTRACTOR SHALL BE SOLE AND COMPLETE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AUTHORITIES HAVING JURISDICTION OVER THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AUTHORITIES HAVING JURISDICTION OVER THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AUTHORITIES HAVING JURISDICTION OVER THE PROJECT.

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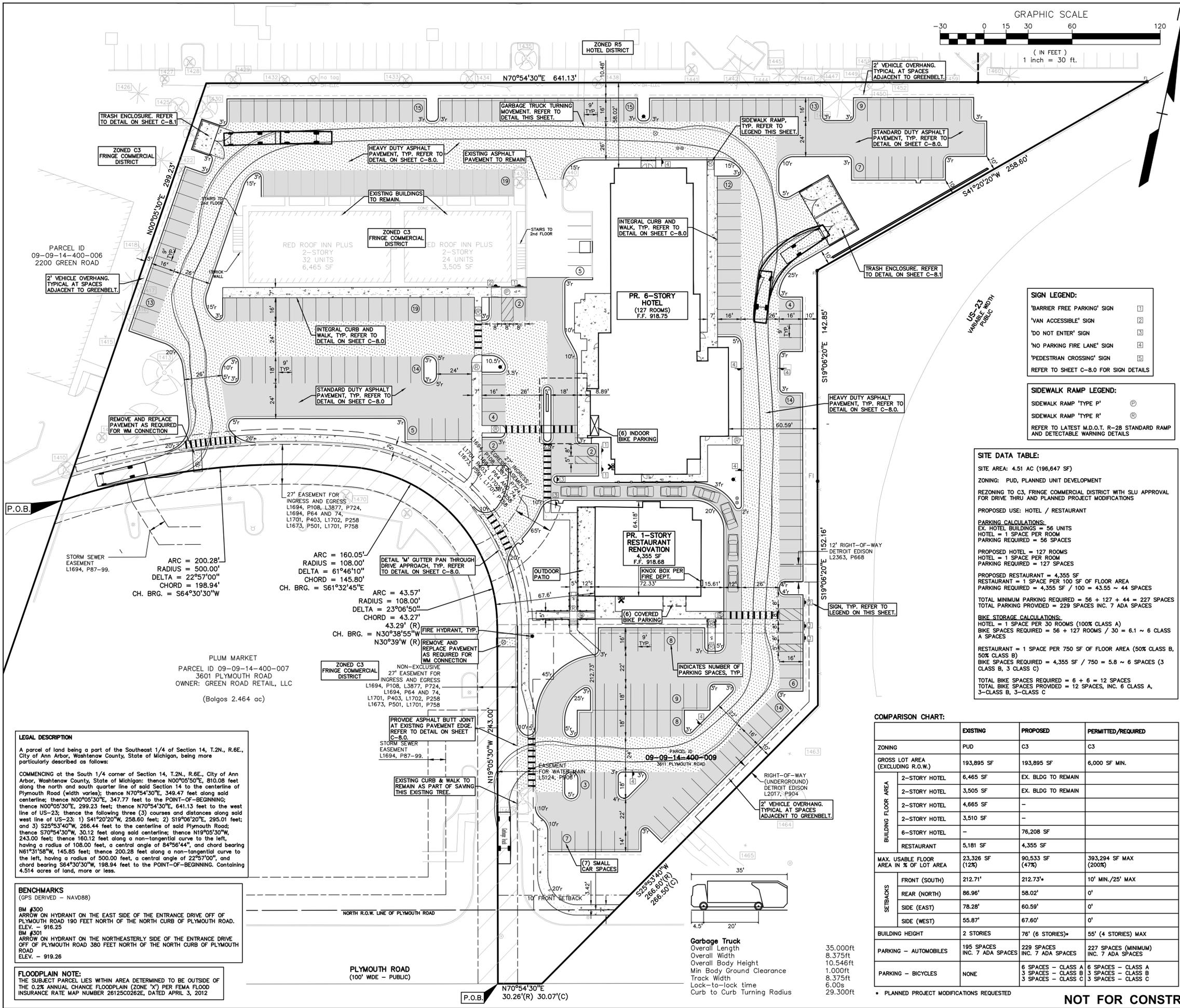
**PEA, Inc.**  
2430 Rochester Ct., Ste. 100  
Troy, MI 48063-1872  
T: 248.689.9090  
F: 248.689.1044  
www.peainc.com

**MARKUS MANAGEMENT GROUP, LLC**  
221 E. MERILL STREET  
BIRMINGHAM, MICHIGAN 48009

**DIMENSION AND PAVING PLAN**  
**MMG-PLYMOUTH MIXED USE DEVELOPMENT**  
PART OF THE SE 1/4 OF SECTION 14, T. 25, R. 6E,  
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES: GMB  
DN: GMB  
SUR: GWC  
P.M.: JPB

ORIGINAL ISSUE DATE: JANUARY 31, 2019  
PEA JOB NO. 2017-435  
SCALE: 1" = 30'  
DRAWING NUMBER: **C-2.0**



**SIGN LEGEND:**

'BARRIER FREE PARKING' SIGN	1
'VAN ACCESSIBLE' SIGN	2
'DO NOT ENTER' SIGN	3
'NO PARKING FIRE LANE' SIGN	4
'PEDESTRIAN CROSSING' SIGN	5

REFER TO SHEET C-8.0 FOR SIGN DETAILS

**SIDEWALK RAMP LEGEND:**

SIDEWALK RAMP 'TYPE P'	Ⓟ
SIDEWALK RAMP 'TYPE R'	Ⓡ

REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

**SITE DATA TABLE:**

SITE AREA: 4.51 AC (196,647 SF)  
ZONING: PUD, PLANNED UNIT DEVELOPMENT  
REZONING TO C3, FRINGE COMMERCIAL DISTRICT WITH SLU APPROVAL FOR DRIVE THRU AND PLANNED PROJECT MODIFICATIONS

PROPOSED USE: HOTEL / RESTAURANT

**PARKING CALCULATIONS:**  
EX. HOTEL BUILDINGS = 56 UNITS  
HOTEL = 1 SPACE PER ROOM  
PARKING REQUIRED = 56 SPACES

PROPOSED HOTEL = 127 ROOMS  
HOTEL = 1 SPACE PER ROOM  
PARKING REQUIRED = 127 SPACES

PROPOSED RESTAURANT = 4,355 SF  
RESTAURANT = 1 SPACE PER 100 SF OF FLOOR AREA  
PARKING REQUIRED = 4,355 SF / 100 = 43.55 ~ 44 SPACES

TOTAL MINIMUM PARKING REQUIRED = 56 + 127 + 44 = 227 SPACES  
TOTAL PARKING PROVIDED = 229 SPACES INC. 7 ADA SPACES

**BIKE STORAGE CALCULATIONS:**  
HOTEL = 1 SPACE PER 30 ROOMS (100% CLASS A)  
BIKE SPACES REQUIRED = 56 + 127 ROOMS / 30 = 6.1 ~ 6 CLASS A SPACES

RESTAURANT = 1 SPACE PER 750 SF OF FLOOR AREA (50% CLASS B, 50% CLASS C)  
BIKE SPACES REQUIRED = 4,355 SF / 750 = 5.8 ~ 6 SPACES (3 CLASS B, 3 CLASS C)

TOTAL BIKE SPACES REQUIRED = 6 + 6 = 12 SPACES  
TOTAL BIKE SPACES PROVIDED = 12 SPACES, INC. 6 CLASS A, 3-CLASS B, 3-CLASS C

**COMPARISON CHART:**

	EXISTING	PROPOSED	PERMITTED/REQUIRED
ZONING	PUD	C3	C3
GROSS LOT AREA (EXCLUDING R.O.W.)	193,895 SF	193,895 SF	6,000 SF MIN.
BUILDING FLOOR AREA	2-STORY HOTEL, 6,465 SF	EX. BLDG TO REMAIN	
	2-STORY HOTEL, 3,505 SF	EX. BLDG TO REMAIN	
	2-STORY HOTEL, 4,665 SF	-	
	2-STORY HOTEL, 3,510 SF	-	
	6-STORY HOTEL -	76,208 SF	
	RESTAURANT, 5,181 SF	4,355 SF	
MAX. USABLE FLOOR AREA IN % OF LOT AREA	23,326 SF (12%)	90,533 SF (47%)	393,294 SF MAX (200%)
SETBACKS	FRONT (SOUTH) 212.71'	212.73*	10' MIN./25' MAX
	REAR (NORTH) 86.96'	58.02'	0'
	SIDE (EAST) 78.28'	60.59'	0'
	SIDE (WEST) 55.87'	67.60'	0'
BUILDING HEIGHT	2 STORIES	76' (6 STORIES)*	55' (4 STORIES) MAX
PARKING - AUTOMOBILES	195 SPACES INC. 7 ADA SPACES	229 SPACES INC. 7 ADA SPACES	227 SPACES (MINIMUM) INC. 7 ADA SPACES
PARKING - BICYCLES	NONE	6 SPACES - CLASS A 3 SPACES - CLASS B 3 SPACES - CLASS C	6 SPACES - CLASS A 3 SPACES - CLASS B 3 SPACES - CLASS C

\* PLANNED PROJECT MODIFICATIONS REQUESTED

**LEGAL DESCRIPTION**  
A parcel of land being a part of the Southeast 1/4 of Section 14, T.2N., R.6E., City of Ann Arbor, Washtenaw County, State of Michigan, being more particularly described as follows:

COMMENCING at the South 1/4 corner of Section 14, T.2N., R.6E., City of Ann Arbor, Washtenaw County, State of Michigan; thence N00°05'50"E, 810.08 feet along the north and south quarter line of said Section 14 to the centerline of Plymouth Road (width varies); thence N70°54'30"E, 348.47 feet along said centerline; thence N00°05'30"E, 347.77 feet to the POINT-OF-BEGINNING; thence N00°05'30"E, 299.23 feet; thence N70°54'30"E, 641.13 feet to the west line of US-23; thence the following three (3) courses and distances along said west line of US-23: 1) S41°20'20"W, 258.60 feet; 2) S19°06'20"E, 295.01 feet; and 3) S25°53'40"W, 286.44 feet to the centerline of said Plymouth Road; thence S70°54'30"W, 30.12 feet along said centerline; thence N19°05'30"W, 243.00 feet; thence 180.12 feet along a non-tangential curve to the left, having a radius of 108.00 feet, a central angle of 84°56'44", and chord bearing N51°31'58"W, 145.85 feet; thence 200.28 feet along a non-tangential curve to the left, having a radius of 500.00 feet, a central angle of 22°57'00", and chord bearing S64°30'30"W, 198.94 feet to the POINT-OF-BEGINNING. Containing 4.514 acres of land, more or less.

**BENCHMARKS**  
(GPS DERIVED - NAVD88)

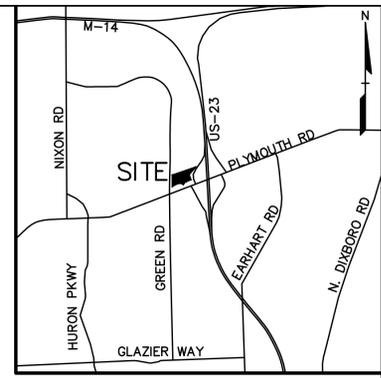
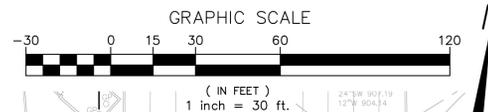
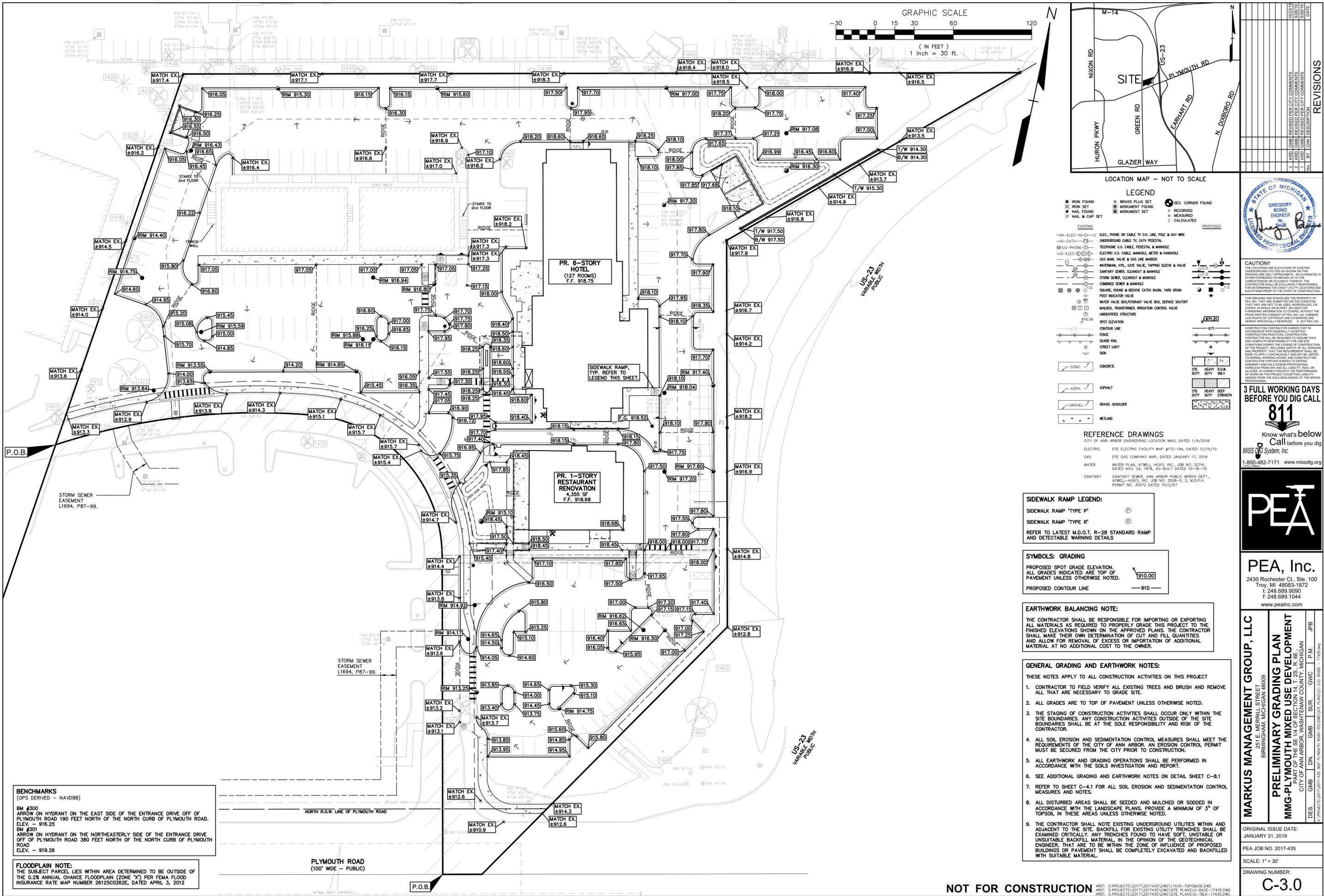
BM #300  
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.  
ELEV. - 916.25

BM #301  
ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.  
ELEV. - 919.26

**FLOODPLAIN NOTE:**  
THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE 'X') PER FEMA FLOOD INSURANCE RATE MAP NUMBER 261250C262E, DATED APRIL 3, 2012

**Garbage Truck**  
Overall Length 35.00ft  
Overall Width 8.375ft  
Overall Body Height 10.546ft  
Min Body Ground Clearance 1.000ft  
Track Width 8.375ft  
Lock-to-lock time 6.00s  
Curb to Curb Turning Radius 29.300ft

**NOT FOR CONSTRUCTION**



NO.	DATE	REVISIONS
1	10/22/15	ISSUED FOR PERMITS
2	08/01/15	REVISED PER CITY COMMENTS
3	06/01/15	REVISED PER CITY COMMENTS
4	05/01/15	REVISED PER CITY COMMENTS
5	04/01/15	REVISED PER CITY COMMENTS
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200	01/01/99	REVISED PER CITY COMMENTS

**LEGEND**

- IRON FOUND
  - BRASS PLUG SET
  - MONUMENT FOUND
  - RECORDED
  - MEASURED
  - CALCULATED
  - SEC. CORNER FOUND
  - MONUMENT SET
  - RECORDED
  - MEASURED
  - CALCULATED
- EXISTING**
- ON-ELEC-110-  
UNDERGROUND CABLE TV, CATV FEESTAL
  - ON-ELEC-110-  
TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
  - ON-ELEC-110-  
ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
  - ON-ELEC-110-  
GAS MAN, VALVE & GAS LINE MARKER
  - ON-ELEC-110-  
WATERMAN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
  - ON-ELEC-110-  
SANITARY SEWER, CLEANOUT & MANHOLE
  - ON-ELEC-110-  
STORM SEWER, CLEANOUT & MANHOLE
  - ON-ELEC-110-  
COMBINED SEWER & MANHOLE
  - ON-ELEC-110-  
SQUARE, ROUND & BEDDING CATCH BASIN, YARD DRAIN
  - ON-ELEC-110-  
POST INDICATOR VALVE
  - ON-ELEC-110-  
WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
  - ON-ELEC-110-  
MATERIAL TRANSFORMER, HYDRANT CONTROL VALVE
  - ON-ELEC-110-  
UNIDENTIFIED STRUCTURE
  - ON-ELEC-110-  
SPOT ELEVATION
  - ON-ELEC-110-  
CONTOUR LINE
  - ON-ELEC-110-  
FENCE
  - ON-ELEC-110-  
GUARD RAIL
  - ON-ELEC-110-  
STREET LIGHT
  - ON-ELEC-110-  
SIGN
  - ON-ELEC-110-  
CONC.
  - ON-ELEC-110-  
ASPH.
  - ON-ELEC-110-  
GRAVEL SHOULDER
  - ON-ELEC-110-  
METALD
- PROPOSED**
- ON-ELEC-110-  
CONC.
  - ON-ELEC-110-  
ASPH.
  - ON-ELEC-110-  
GRAVEL SHOULDER
  - ON-ELEC-110-  
METALD

**REFERENCE DRAWINGS**

- CITY OF ANN ARBOR ENGINEERING LOCATION MAP, DATED 1/4/2018
- ELECTRIC DTE ELECTRIC FACILITY MAP #172-194, DATED 12/19/15
- GAS DTE GAS COMPANY MAP, DATED JANUARY 17, 2018
- WATER WATER PLAN, ATWELL HIGGS, INC., JOB NO. 32741, DATED NOV. 24, 1978, AS-BUILT DATED 10-16-79
- SANITARY SANITARY SEWER, ANN ARBOR PUBLIC WORKS DEPT., ATWELL-HIGGS, INC., JOB NO. 3558-5, 2, M.D.P.H., PERMIT NO. 35072 DATED 10/2/67

**SIDEWALK RAMP LEGEND:**

- SIDEWALK RAMP 'TYPE P'
- SIDEWALK RAMP 'TYPE R'
- REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

**SYMBOLS: GRADING**

- PROPOSED SPOT GRADE ELEVATION.
- ALL GRADES INDICATED ARE TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
- PROPOSED CONTOUR LINE

**EARTHWORK BALANCING NOTE:**

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

**GENERAL GRADING AND EARTHWORK NOTES:**

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
2. ALL GRADES ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
3. THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
4. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF THE CITY OF ANN ARBOR. AN EROSION CONTROL PERMIT MUST BE SECURED FROM THE CITY PRIOR TO CONSTRUCTION.
5. ALL EARTHWORK AND GRADING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE SOILS INVESTIGATION AND REPORT.
6. SEE ADDITIONAL GRADING AND EARTHWORK NOTES ON DETAIL SHEET C-8.1
7. REFER TO SHEET C-4.1 FOR ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES.
8. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 3" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
9. THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE SITE. BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL, IN THE OPINION OF THE GEOTECHNICAL ENGINEER, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.

**BENCHMARKS**  
(GPS DERIVED - NAVD88)

- BM #300  
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.  
ELEV. - 916.25
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ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.  
ELEV. - 919.26

**FLOODPLAIN NOTE:**

THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE 'X') PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012



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

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CONTRACTOR CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THE CONTRACTOR SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONALS OR ALLEGIED IN CONNECTION WITH THE PERFORMANCE OF THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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221 E. MERRILL STREET  
BIRMINGHAM, MICHIGAN 48009

**PRELIMINARY GRADING PLAN**  
**MMG-PLYMOUTH MIXED USE DEVELOPMENT**  
PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E.  
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES. GMB DN. GMB SUR. GWC P.M. JPB  
S:\PROJECTS\2017\2017435\DWG\SITE PLANS\VA-BASE-17435.DWG

ORIGINAL ISSUE DATE:  
JANUARY 31, 2019

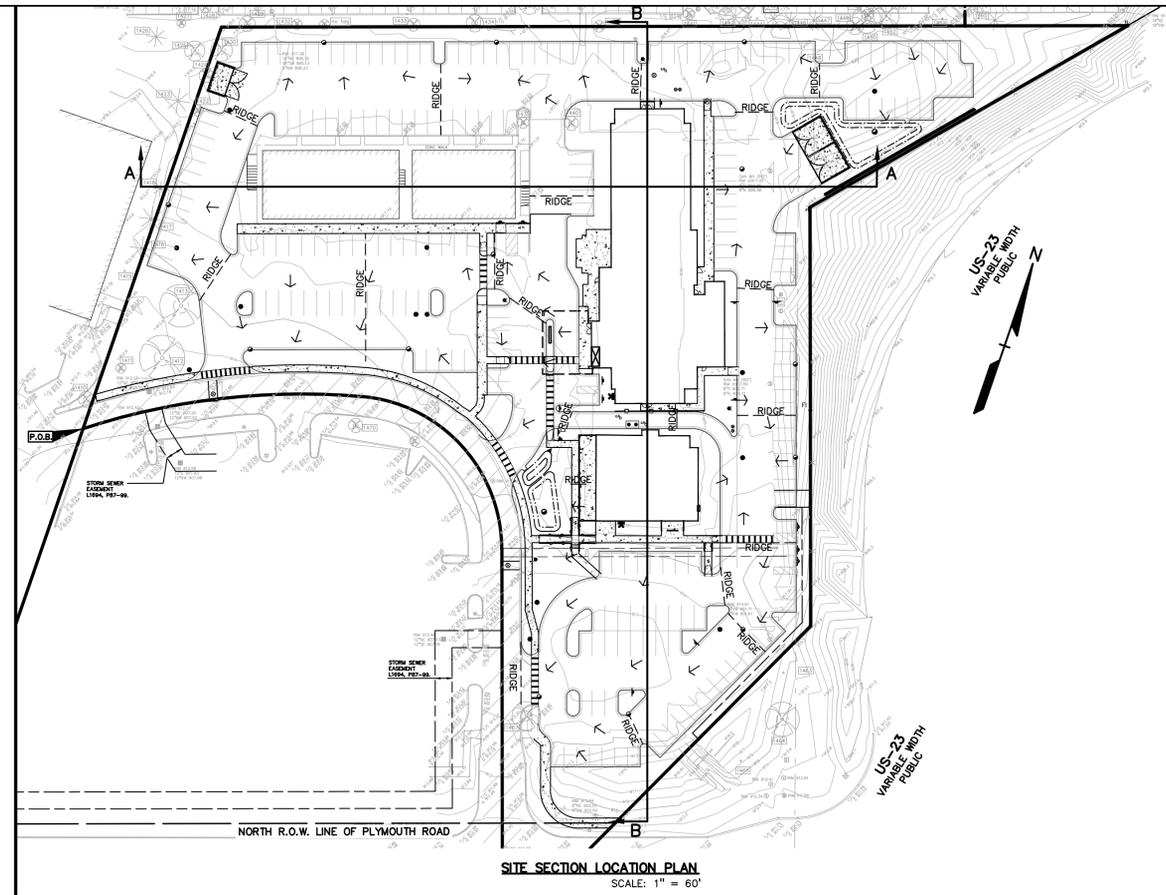
PEA JOB NO. 2017-435

SCALE: 1" = 30'

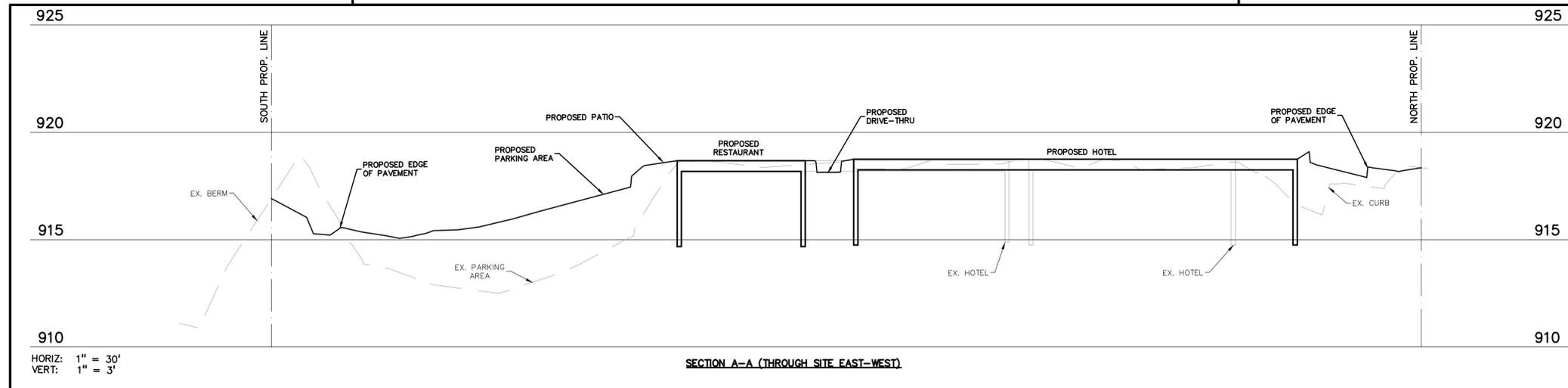
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**C-3.0**

**NOT FOR CONSTRUCTION**

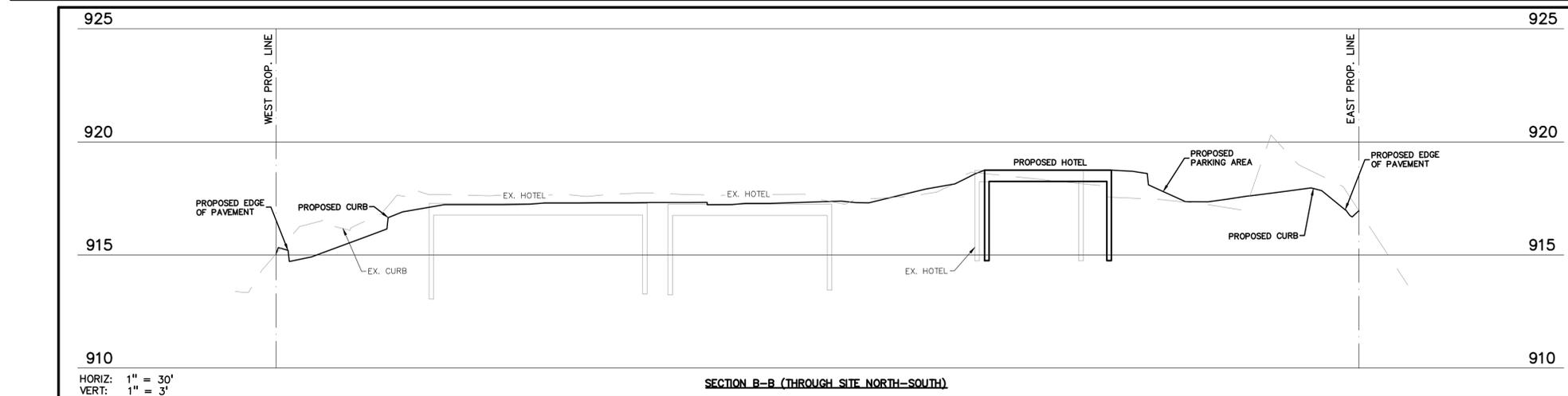
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**SITE SECTION LOCATION PLAN**  
SCALE: 1" = 60'



**SECTION A-A (THROUGH SITE EAST-WEST)**



**SECTION B-B (THROUGH SITE NORTH-SOUTH)**

NO.	DATE	DESCRIPTION
1	10/23/19	REVISED PER CITY COMMENTS
2	0/26/19	REVISED PER CITY COMMENTS
3	0/26/19	REVISED PER CITY COMMENTS



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

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CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL BE RESPONSIBLE FOR SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THE CONTRACTOR SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

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f: 248.689.1044  
www.peainc.com

**MARKUS MANAGEMENT GROUP, LLC**  
221 E. MERRILL STREET  
BIRMINGHAM, MICHIGAN 48009

**SITE CROSS SECTIONS**  
**MMG-PLYMOUTH MIXED USE DEVELOPMENT**  
PART OF THE SE 1/4 OF SECTION 14, T. 2S, R. 6E,  
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

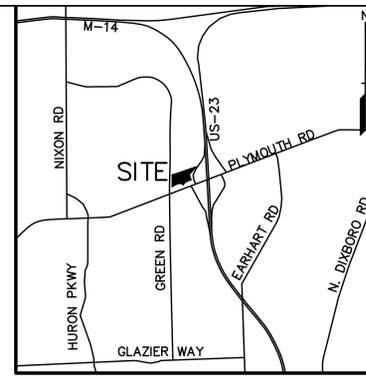
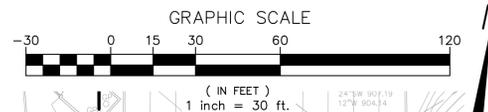
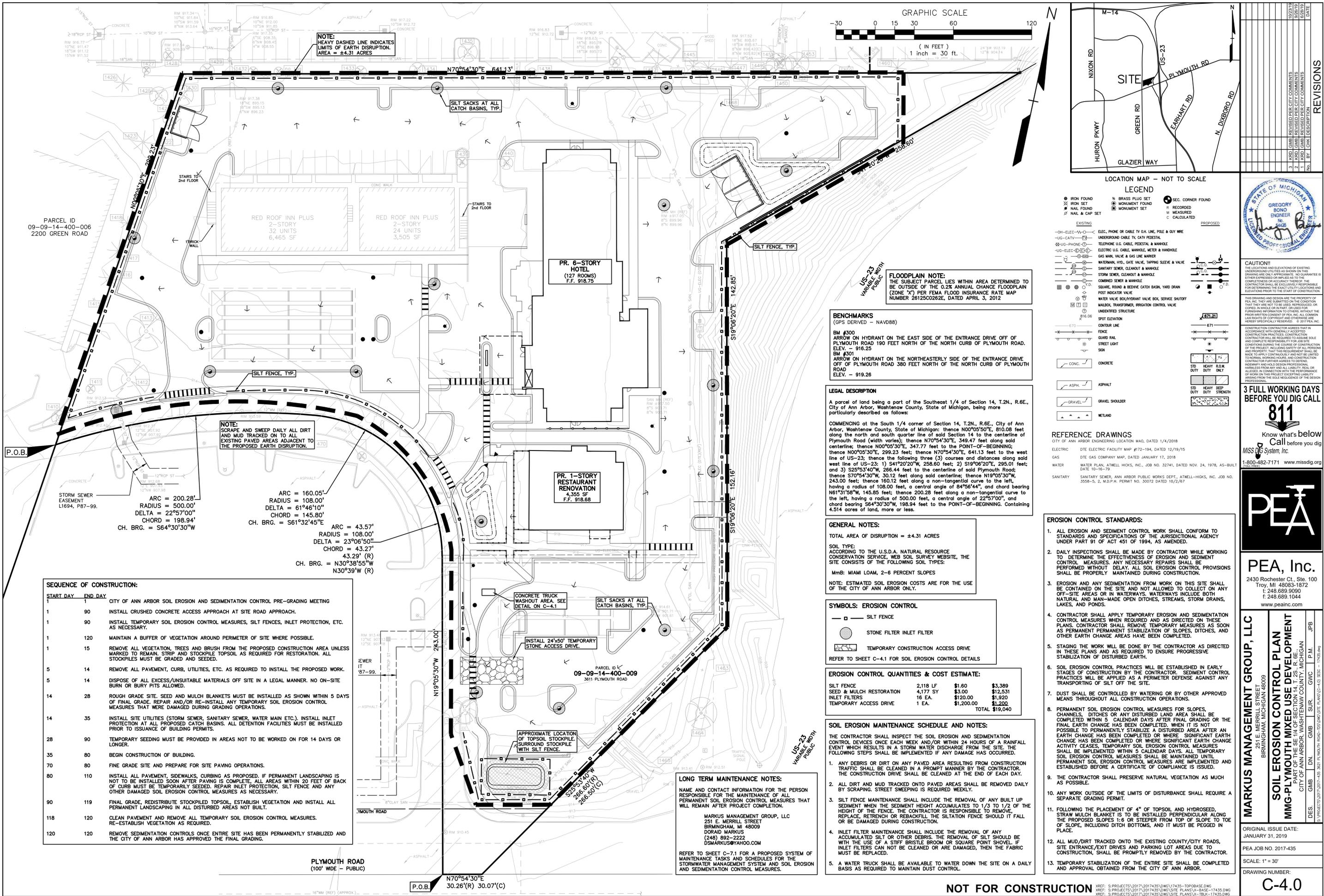
DES.	GMB	DN.	GMB	SUR.	GWC	P.M.	JPB
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ORIGINAL ISSUE DATE:  
JANUARY 31, 2019  
PEA JOB NO. 2017-435  
SCALE: N.T.S.  
DRAWING NUMBER:

**C-3.1**

**NOT FOR CONSTRUCTION**

XREF: S:\PROJECTS\2017\2017435\DWG\17435- TOP\09BASE.DWG  
XREF: S:\PROJECTS\2017\2017435\DWG\SITE PLANS\VA-BASE-17435.DWG  
XREF: S:\PROJECTS\2017\2017435\DWG\SITE PLANS\VB-TBK-17435.DWG



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

CONSTRUCTION CONTRACTOR AGREES THAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE PERIOD OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE TO APPLY CONTROLS AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION. CONTRACTOR FURTHER AGREES TO DEFINE, NOTIFY AND MAINTAIN ALL NEARBY PROFESSIONALS OR ALLIED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

**3 FULL WORKING DAYS BEFORE YOU DIG CALL 811**

Know what's below  
Call before you dig  
Miss Dig System, Inc.  
1-800-482-7171 www.missdig.org

**PEA, Inc.**  
2430 Rochester Ct., Ste. 100  
Troy, MI 48063-1872  
t: 248.689.9090  
f: 248.689.1044  
www.peainc.com

**MARKUS MANAGEMENT GROUP, LLC**  
221 E. MERRILL STREET  
BIRMINGHAM, MICHIGAN 48009

**SOIL EROSION CONTROL PLAN**  
**MMG-PLYMOUTH MIXED USE DEVELOPMENT**  
PART OF THE SE 1/4 OF SECTION 14, T. 25, R. 6E,  
CITY OF ANN ARBOR, WASHINGTON COUNTY, MICHIGAN

DES: GMB  
SUR: GWC  
P.M.: JPB  
GMB: DN  
GMB: GWC  
GMB: GWC

ORIGINAL ISSUE DATE: JANUARY 31, 2019  
PEA JOB NO: 2017-435  
SCALE: 1" = 30'  
DRAWING NUMBER: **C-4.0**

**LEGEND**

● IRON FOUND	○ BRASS PLUG SET	○ SEC. CORNER FOUND
○ IRON SET	○ MONUMENT FOUND	○ RECORDED
○ NAIL FOUND	○ MONUMENT SET	○ MEASURED
○ NAIL & CAP SET		○ CALCULATED

**EXISTING**

- OH-ELEC-4V-0 ELEC. PHONE OR CABLE TV OH. LINE, POLE & GUY WIRE
- UG-CATV-0 UNDERGROUND CABLE TV, CATV PEDESTAL
- UG-PHONE-0 TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
- UG-ELEC-0 ELECTRIC U.G. CABLE, MANHOLE, WETTER & HANDBOLE
- GAS GAS MAIN, VALVE & GAS LINE MARKER
- WATERMAN, HYD. GATE VALVE, TAPPING SLAVE & VALVE
- SANITARY SEWER, CLEANOUT & MANHOLE
- STORM SEWER, CLEANOUT & MANHOLE
- COMBINED SEWER & MANHOLE
- SQUARE, ROUND & BEEHIVE CATCH BASIN, YARD DRAIN
- POST INDICATOR VALVE
- WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
- MALBOK, STRUCTURE, IRRIGATION CONTROL VALVE
- UNIDENTIFIED STRUCTURE
- SPOT ELEVATION
- CONTOUR LINE
- FENCE
- GUARD RAIL
- STREET LIGHT
- SIGN

**PROPOSED**

- CONC. CONCRETE
- ASPH. ASPHALT
- GRAVEL GRAVEL SHOULDER
- WETLAND WETLAND
- STD. HEAVY ROW DUTY DUTY ONLY
- STD. HEAVY DEEP DUTY DUTY STRENGTH

**FLOODPLAIN NOTE:**  
THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE "V") PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C02E2E, DATED APRIL 3, 2012

**BENCHMARKS**  
(GPS DERIVED - NAVD83)

BM #300  
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 180 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD. ELEV. - 916.25

BM #301  
ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD. ELEV. - 919.26

**LEGAL DESCRIPTION**  
A parcel of land being a part of the Southeast 1/4 of Section 14, T.2N., R.6E., City of Ann Arbor, Washtenaw County, State of Michigan, being more particularly described as follows:

COMMENCING at the South 1/4 corner of Section 14, T.2N., R.6E., City of Ann Arbor, Washtenaw County, State of Michigan; thence N00°05'50"E, 810.08 feet along the north and south quarter line of said Section 14 to the centerline of Plymouth Road (width varies); thence N70°54'30"E, 349.47 feet along said centerline; thence N00°05'30"E, 347.77 feet to the POINT-OF-BEGINNING; thence N00°05'30"E, 299.23 feet; thence N70°54'30"E, 641.13 feet to the west line of US-23; thence the following three (3) courses and distances along said west line of US-23: 1) S41°20'20"W, 256.60 feet; 2) S19°06'20"E, 295.01 feet; and 3) S25°53'40"W, 266.44 feet to the centerline of said Plymouth Road; thence S70°54'30"W, 30.12 feet along said centerline; thence N19°05'30"W, 243.00 feet; thence 160.12 feet along a non-tangential curve to the left, having a radius of 108.00 feet, a central angle of 84°56'44", and chord bearing N51°58'W, 145.85 feet; thence 200.28 feet along a non-tangential curve to the left, having a radius of 500.00 feet, a central angle of 22°57'00", and chord bearing S64°30'30"W, 198.94 feet to the POINT-OF-BEGINNING. Containing 4.514 acres of land, more or less.

**GENERAL NOTES:**  
TOTAL AREA OF DISRUPTION = ±4.31 ACRES

SOIL TYPE:  
ACCORDING TO THE U.S.D.A. NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE, THE SITE CONSISTS OF THE FOLLOWING SOIL TYPES:

Mmb: MIAMI LOAM, 2-6 PERCENT SLOPES

NOTE: ESTIMATED SOIL EROSION COSTS ARE FOR THE USE OF THE CITY OF ANN ARBOR ONLY.

**SYMBOLS: EROSION CONTROL**

- SILT FENCE
- STONE FILTER INLET FILTER
- TEMPORARY CONSTRUCTION ACCESS DRIVE

REFER TO SHEET C-4.1 FOR SOIL EROSION CONTROL DETAILS

**EROSION CONTROL QUANTITIES & COST ESTIMATE:**

SILT FENCE	2,118 LF	\$1.60	\$3,389
SEED & MULCH RESTORATION	4,177 SY	\$3.00	\$12,531
INLET FILTERS	16 EA.	\$120.00	\$1,920
TEMPORARY ACCESS DRIVE	1 EA.	\$1,200.00	\$1,200
		<b>TOTAL</b>	<b>\$19,040</b>

**SOIL EROSION MAINTENANCE SCHEDULE AND NOTES:**

THE CONTRACTOR SHALL INSPECT THE SOIL EROSION AND SEDIMENTATION CONTROL DEVICES ONCE EACH WEEK AND/OR WITHIN 24 HOURS OF A RAINFALL EVENT WHICH RESULTS IN A STORM WATER DISCHARGE FROM THE SITE. THE FOLLOWING STEPS SHALL BE IMPLEMENTED IF ANY DAMAGE HAS OCCURRED.

- ANY DEBRIS OR DIRT ON ANY PAVED AREA RESULTING FROM CONSTRUCTION TRAFFIC SHALL BE CLEANED IN A PROMPT MANNER BY THE CONTRACTOR. THE CONSTRUCTION DRIVE SHALL BE CLEANED AT THE END OF EACH DAY.
- ALL DIRT AND MUD TRACKED ONTO PAVED AREAS SHALL BE REMOVED DAILY BY SCRAPING. STREET SWEEPING IS REQUIRED WEEKLY.
- SILT FENCE MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY BUILT UP SEDIMENT WHEN THE SEDIMENT HEIGHT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE FENCE. THE CONTRACTOR IS RESPONSIBLE TO REMOVE, REPLACE, RETIGHTEN OR REBACKFILL THE SILTATION FENCE SHOULD IT FALL OR BE DAMAGED DURING CONSTRUCTION.
- INLET FILTER MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY ACCUMULATED SILT OR OTHER DEBRIS. THE REMOVAL OF SILT SHOULD BE WITH THE USE OF A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL. IF INLET FILTERS CAN NOT BE CLEANED OR ARE DAMAGED, THEN THE FABRIC MUST BE REPLACED.
- A WATER TRUCK SHALL BE AVAILABLE TO WATER DOWN THE SITE ON A DAILY BASIS AS NECESSARY TO MAINTAIN DUST CONTROL.

**LONG TERM MAINTENANCE NOTES:**  
NAME AND CONTACT INFORMATION FOR THE PERSON RESPONSIBLE FOR THE MAINTENANCE OF ALL PERMANENT SOIL EROSION CONTROL MEASURES THAT WILL REMAIN AFTER PROJECT COMPLETION.

MARKUS MANAGEMENT GROUP, LLC  
251 E. MERRILL STREET  
BIRMINGHAM, MI 48009  
DORAND MARKUS  
(248) 892-2222  
DSMARKUS@YAHOO.COM

REFER TO SHEET C-7.1 FOR A PROPOSED SYSTEM OF MAINTENANCE TASKS AND SCHEDULES FOR THE STORMWATER MANAGEMENT SYSTEM AND SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.

PARCEL ID  
09-09-14-400-006  
2200 GREEN ROAD

NOTE:  
HEAVY DASHED LINE INDICATES  
LIMITS OF EARTH DISRUPTION.  
AREA = ±4.31 ACRES

SILT SACKS AT ALL  
CATCH BASINS, TYP.

SILT FENCE, TYP.

PR. 6-STORY  
HOTEL  
(127 ROOMS)  
F.F. 918.75

PR. 1-STORY  
RESTAURANT  
RENOVATION  
4,355 SF  
F.F. 918.75

NOTE:  
SCRAPE AND SWEEP DAILY ALL DIRT  
AND MUD TRACKED ON TO ALL  
EXISTING PAVED AREAS ADJACENT TO  
THE PROPOSED EARTH DISRUPTION.

ARC = 200.28'  
RADIUS = 500.00'  
DELTA = 22°57'00"  
CHORD = 198.94'  
CH. BRG. = S64°30'30"W

ARC = 160.05'  
RADIUS = 108.00'  
DELTA = 61°46'10"  
CHORD = 145.80'  
CH. BRG. = S61°32'45"E

ARC = 43.57'  
RADIUS = 108.00'  
DELTA = 23°06'50"  
CHORD = 43.27'  
43.29' (R)  
CH. BRG. = N30°38'55"W  
N30°39'W (R)

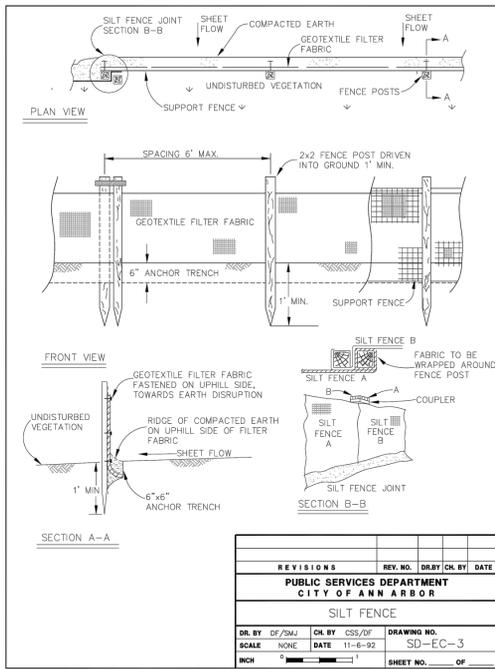
**SEQUENCE OF CONSTRUCTION:**

START DAY	END DAY	DESCRIPTION
1	90	CITY OF ANN ARBOR SOIL EROSION AND SEDIMENTATION CONTROL PRE-GRADING MEETING
1	90	INSTALL CRUSHED CONCRETE ACCESS APPROACH AT SITE ROAD APPROACH.
1	90	INSTALL TEMPORARY SOIL EROSION CONTROL MEASURES, SILT FENCES, INLET PROTECTION, ETC. AS NECESSARY.
1	120	MAINTAIN A BUFFER OF VEGETATION AROUND PERIMETER OF SITE WHERE POSSIBLE.
1	15	REMOVE ALL VEGETATION, TREES AND BRUSH FROM THE PROPOSED CONSTRUCTION AREA UNLESS MARKED TO REMAIN. STRIP AND STOCKPILE TOPSOIL AS REQUIRED FOR RESTORATION. ALL STOCKPILES MUST BE GRADED AND SEEDDED.
5	14	REMOVE ALL PAVEMENT, CURB, UTILITIES, ETC. AS REQUIRED TO INSTALL THE PROPOSED WORK.
5	14	DISPOSE OF ALL EXCESS/UNSUITABLE MATERIALS OFF SITE IN A LEGAL MANNER. NO ON-SITE BURN OR BURY PITS ALLOWED.
14	28	ROUGH GRADE SITE. SEED AND MULCH BLANKETS MUST BE INSTALLED AS SHOWN WITHIN 5 DAYS OF FINAL GRADE. REPAIR AND/OR RE-INSTALL ANY TEMPORARY SOIL EROSION CONTROL MEASURES THAT WERE DAMAGED DURING GRADING OPERATIONS.
14	35	INSTALL SITE UTILITIES (STORM SEWER, SANITARY SEWER, WATER MAIN ETC.). INSTALL INLET PROTECTION AT ALL PROPOSED CATCH BASINS. ALL DETENTION FACILITIES MUST BE INSTALLED PRIOR TO ISSUANCE OF BUILDING PERMITS.
28	90	TEMPORARY SEEDING MUST BE PROVIDED IN AREAS NOT TO BE WORKED ON FOR 14 DAYS OR LONGER.
35	80	BEGIN CONSTRUCTION OF BUILDING.
70	80	FINE GRADE SITE AND PREPARE FOR SITE PAVING OPERATIONS.
80	110	INSTALL ALL PAVEMENT, SIDEWALKS, CURBING AS PROPOSED. IF PERMANENT LANDSCAPING IS NOT TO BE INSTALLED SOON AFTER PAVING IS COMPLETE, ALL AREAS WITHIN 20 FEET OF BACK OF CURB MUST BE TEMPORARILY SEEDDED. REPAIR INLET PROTECTION, SILT FENCE AND ANY OTHER DAMAGED SOIL EROSION CONTROL MEASURES AS NECESSARY.
90	119	FINAL GRADE, REDISTRIBUTE STOCKPILED TOPSOIL, ESTABLISH VEGETATION AND INSTALL ALL PERMANENT LANDSCAPING IN ALL DISTURBED AREAS NOT BUILT.
118	120	CLEAN PAVEMENT AND REMOVE ALL TEMPORARY SOIL EROSION CONTROL MEASURES. RE-ESTABLISH VEGETATION AS REQUIRED.
120	120	REMOVE SEDIMENTATION CONTROLS ONCE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED AND THE CITY OF ANN ARBOR HAS APPROVED THE FINAL GRADING.

PLYMOUTH ROAD  
(100' WIDE - PUBLIC)

**NOT FOR CONSTRUCTION**

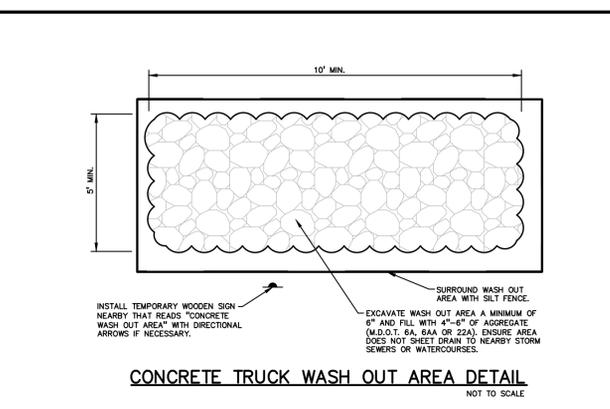
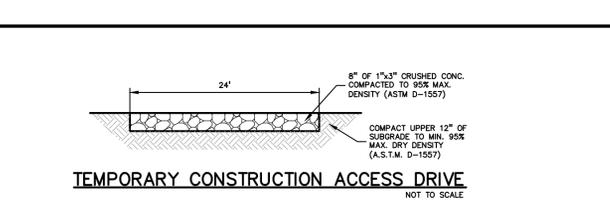
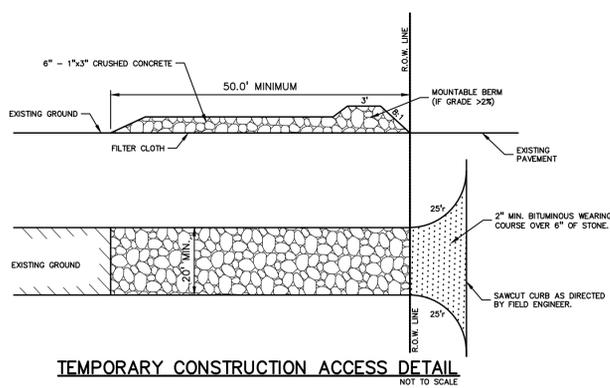
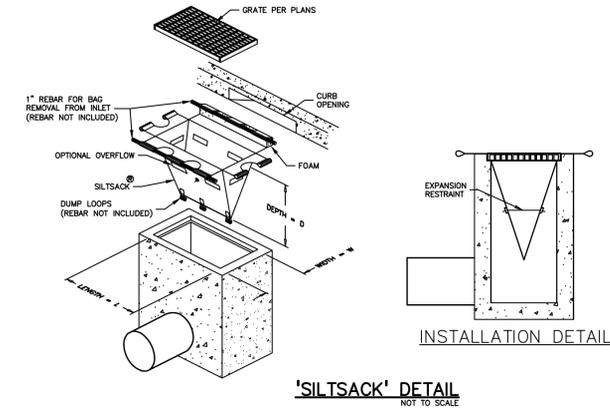
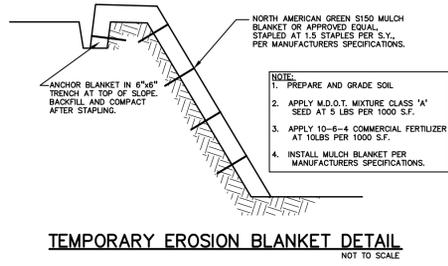
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REV. NO.	DATE	BY	CHKD BY
1	11-6-92	CSB/DF	CSB/DF



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98	0/26/19	REVISED PER CITY COMMENTS
99	0/26/19	REVISED PER CITY COMMENTS
100	0/26/19	REVISED PER CITY COMMENTS

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DES.	GMB	DN.	GMB	SUR.	GWC	P.M.	JPB
MARKUS MANAGEMENT GROUP, LLC 2211 E. MERRILL STREET BIRMINGHAM, MICHIGAN 48009							
<b>SOIL EROSION CONTROL DETAILS</b>							
<b>MMG-PLYMOUTH MIXED USE DEVELOPMENT</b>							
PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E., CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN							

ORIGINAL ISSUE DATE:  
JANUARY 31, 2019

PEA JOB NO. 2017-435

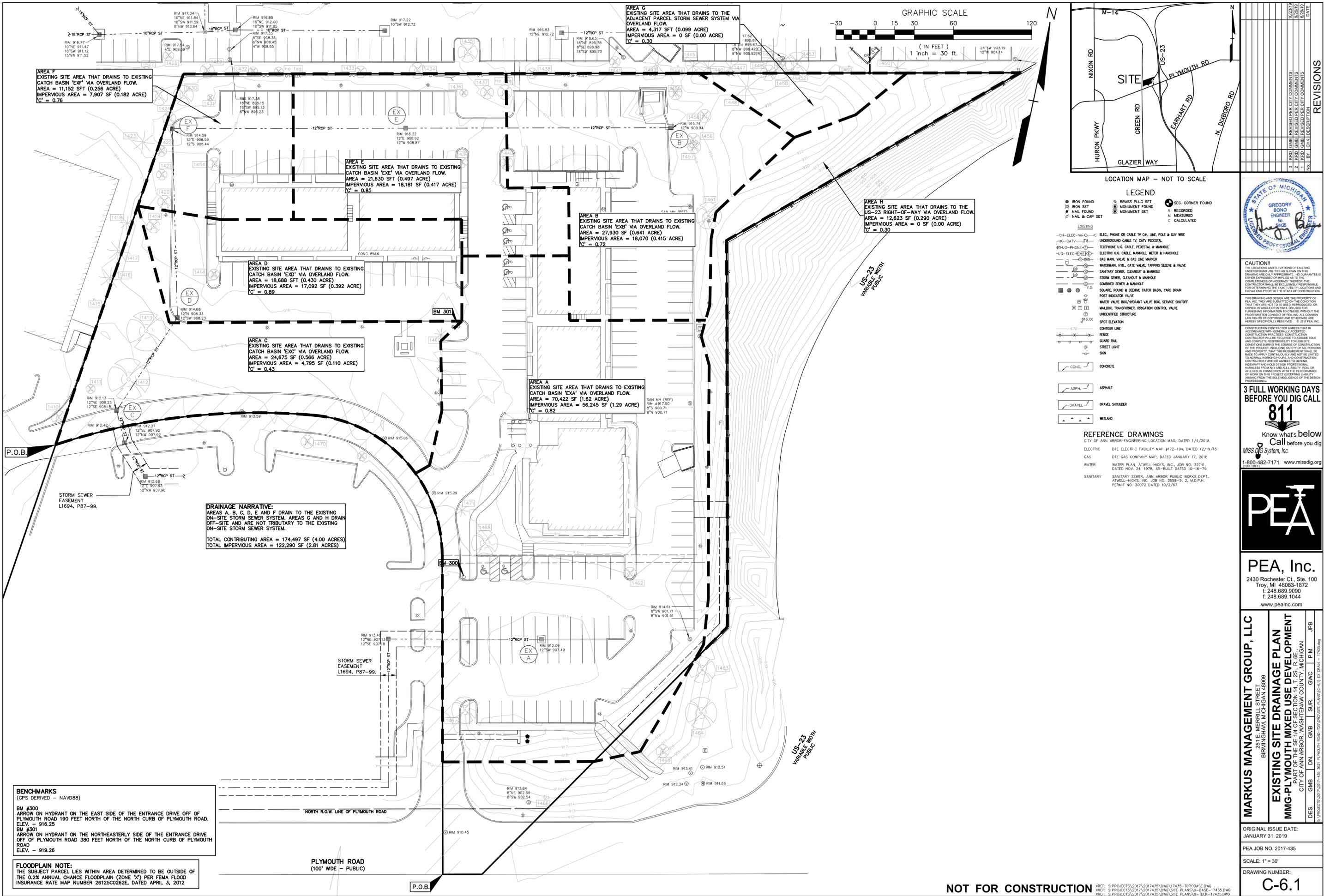
SCALE: N.T.S.

DRAWING NUMBER:  
**C-4.1**

**NOT FOR CONSTRUCTION**

XREF: S:\PROJECTS\2017\2017435\DWG\17435-TOPBASE.DWG  
XREF: S:\PROJECTS\2017\2017435\DWG\SITE PLANS\VA-BASE-17435.DWG  
XREF: S:\PROJECTS\2017\2017435\DWG\SITE PLANS\VA-TBLK-17435.DWG





**AREA F**  
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX F' VIA OVERLAND FLOW.  
AREA = 11,152 SFT (0.256 ACRE)  
IMPERVIOUS AREA = 7,907 SF (0.182 ACRE)  
C<sub>i</sub>' = 0.76

**AREA E**  
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX E' VIA OVERLAND FLOW.  
AREA = 21,630 SFT (0.497 ACRE)  
IMPERVIOUS AREA = 18,181 SF (0.417 ACRE)  
C<sub>i</sub>' = 0.85

**AREA D**  
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX D' VIA OVERLAND FLOW.  
AREA = 18,688 SFT (0.430 ACRE)  
IMPERVIOUS AREA = 17,092 SF (0.392 ACRE)  
C<sub>i</sub>' = 0.89

**AREA C**  
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX C' VIA OVERLAND FLOW.  
AREA = 24,675 SF (0.566 ACRE)  
IMPERVIOUS AREA = 4,795 SF (0.110 ACRE)  
C<sub>i</sub>' = 0.43

**AREA A**  
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX A' VIA OVERLAND FLOW.  
AREA = 70,422 SF (1.62 ACRE)  
IMPERVIOUS AREA = 56,245 SF (1.29 ACRE)  
C<sub>i</sub>' = 0.82

**AREA B**  
EXISTING SITE AREA THAT DRAINS TO EXISTING CATCH BASIN 'EX B' VIA OVERLAND FLOW.  
AREA = 27,930 SF (0.641 ACRE)  
IMPERVIOUS AREA = 18,070 (0.415 ACRE)  
C<sub>i</sub>' = 0.72

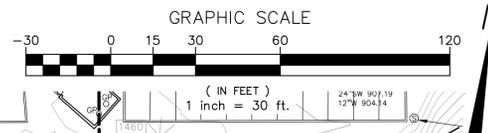
**AREA G**  
EXISTING SITE AREA THAT DRAINS TO THE ADJACENT PARCEL STORM SEWER SYSTEM VIA OVERLAND FLOW.  
AREA = 4,317 SFT (0.099 ACRE)  
IMPERVIOUS AREA = 0 SF (0.00 ACRE)  
C<sub>i</sub>' = 0.30

**AREA H**  
EXISTING SITE AREA THAT DRAINS TO THE US-23 RIGHT-OF-WAY VIA OVERLAND FLOW.  
AREA = 12,623 SF (0.290 ACRE)  
IMPERVIOUS AREA = 0 SF (0.00 ACRE)  
C<sub>i</sub>' = 0.30

**DRAINAGE NARRATIVE:**  
AREAS A, B, C, D, E AND F DRAIN TO THE EXISTING ON-SITE STORM SEWER SYSTEM. AREAS G AND H DRAIN OFF-SITE AND ARE NOT TRIBUTARY TO THE EXISTING ON-SITE STORM SEWER SYSTEM.  
TOTAL CONTRIBUTING AREA = 174,497 SF (4.00 ACRES)  
TOTAL IMPERVIOUS AREA = 122,290 SF (2.81 ACRES)

**BENCHMARKS**  
(GPS DERIVED - NAVD88)  
BM #300  
ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.  
ELEV. - 916.25  
BM #301  
ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.  
ELEV. - 919.26

**FLOODPLAIN NOTE:**  
THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE 'X') PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012



- LEGEND**
- IRON FOUND
  - BRASS PLUG SET
  - MONUMENT FOUND
  - RECORDED
  - MEASURED
  - CALCULATED
  - SEC. CORNER FOUND
  - RECORDED
  - MEASURED
  - CALCULATED
- EXISTING**
- 0-8" ELEC. OR CABLE TV CH. LINE, POLE & GUY WIRE
  - UNDERGROUND CABLE TV, CTV FEDESTAL
  - TELEPHONE U.G. CABLE, PEDESTAL & MANHOLE
  - ELECTRIC U.G. CABLE, MANHOLE, METER & HANDHOLE
  - GAS MAN. VALVE & GAS LINE MARKER
  - WATERMAN, HYD. GATE VALVE, TAPPING SLEEVE & VALVE
  - SEWER MAN. VALVE & MANHOLE
  - STORM SEWER, CLEANOUT & MANHOLE
  - COMBINED SEWER & MANHOLE
  - SQUARE, ROUND & BEDDING CATCH BASIN, YARD DRAIN
  - POST INDICATOR VALVE
  - WATER VALVE BOX/HYDRANT VALVE BOX, SERVICE SHUTOFF
  - MALBOX, TRANSFORMER, IRRIGATION CONTROL, VALVE
  - UNIDENTIFIED STRUCTURE
  - SPOT ELEVATION
  - CONTOUR LINE
  - FENCE
  - GUARD RAIL
  - STREET LIGHT
  - SIEN
  - CONC.
  - CONCRETE
  - ASPH.
  - ASPHALT
  - GRAVEL SHOULDER
  - METALD

- REFERENCE DRAWINGS**
- CITY OF ANN ARBOR ENGINEERING LOCATION MAP, DATED 1/4/2018
  - ELECTRIC DTE ELECTRIC FACILITY MAP #172-194, DATED 12/19/15
  - GAS DTE GAS COMPANY MAP, DATED JANUARY 17, 2018
  - WATER WATER PLAN, ATWELL HIGGS, INC., JOB NO. 32741, DATED NOV. 24, 1978. AS-BUILT DATED 10-16-79
  - SANITARY SANITARY SEWER, ANN ARBOR PUBLIC WORKS DEPT., ATWELL-HIGGS, INC., JOB NO. 3558-5, 2, M.D.P.H., PERMIT NO. 35072 DATED 10/2/67

NO.	DATE	REVISIONS
1	10/21/15	ISSUED PER CITY COMMENTS
2	04/06/16	REVISED PER CITY COMMENTS
3	06/09/16	REVISED PER CITY COMMENTS
4	06/09/16	REVISED PER CITY COMMENTS
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100	06/09/16	REVISED PER CITY COMMENTS



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BIRMINGHAM, MICHIGAN 48009

**EXISTING SITE DRAINAGE PLAN**  
**MMG-PLYMOUTH MIXED USE DEVELOPMENT**  
PART OF THE SE 1/4 OF SECTION 14, T. 2S, R. 6E,  
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES.	GMB	DN.	GMB	SUR.	GWC	P.M.	JPB
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ORIGINAL ISSUE DATE:  
JANUARY 31, 2019

PEA JOB NO. 2017-435

SCALE: 1" = 30'

DRAWING NUMBER:  
**C-6.1**

**NOT FOR CONSTRUCTION**



DETENTION CALCULATIONS - EAST DRAINAGE AREA  
USING WASHTENAW COUNTY WATER RESOURCE COMMISSIONER  
RULES & GUIDELINES FOR STORMWATER MANAGEMENT SYSTEMS

**W1 Determining Cover Types, Areas, Curve Numbers and Runoff Coefficients**

Proposed Site Conditions:			
Pervious Area:	7,867 sft		
Impervious Area:	55,576 sft		
Total Area:	63,443 sft		
Pervious Runoff Coefficient 'C':	1.456 acres		
Impervious Runoff Coefficient 'C':	0.25		
Pervious Curve Number 'CN':	0.95		
Impervious Curve Number 'CN':	58.00		
Weighted Runoff Coefficient 'C':	98.00		
Weighted Curve Number 'CN':	0.86		
Weighted Curve Number 'CN':	93.04		

**Bio-Retention Area 'A'**

Surface Storage Volume:			
Elev. (ft)	Area (sft)	Vol. (cft)	Tot. Vol. (cft)
916.33	746	0	0
917.00	1,168	641	641
Storage Bed Depth:			4.0 ft
Storage Bed Area:			746 sft
Storage Bed Volume:			2,984 cft
Storage Bed Percent Voids:			30 %
Storage Bed Soil Void Volume:			895 cft
<b>Total Storage Volume of Bio-Swale 'A':</b>			<b>1,536 cft</b>

**W2 First Flush Runoff Calculations (Vff):**

A. Vff = (1") x (1/12") x (43560 sft/1 ac.) x A x C = 4,564 cft

**Bio-Retention Area 'B'**

Surface Storage Volume:			
Elev. (ft)	Area (sft)	Vol. (cft)	Tot. Vol. (cft)
914.33	1,118	0	0
915.00	1,623	918	918
Storage Bed Depth:			4.0 ft
Storage Bed Area:			1,623 sft
Storage Bed Volume:			6,492 cft
Storage Bed Percent Voids:			30 %
Storage Bed Soil Void Volume:			1,948 cft
<b>Total Storage Volume of Bio-Swale 'B':</b>			<b>2,866 cft</b>

**W3 Pre-Development Bankfull Runoff Calculations**

A. 2 year/24 hours storm event (P): 2.35 in

B. Pre-Development Curve Number (CN): 58.00

C. S = (1000 / CN) - 10: 7.24 in

D. Q = (P - 0.2 \* S) / (P + 0.8 \* S): 0.10 in

E. Total Site Area excluding Self-Crediting BMPs: 63,443 sft

F. Vbf pre = Q x (1/12) x Area: 528 cft

**Underground Detention System**

Perf. Pipe Diameter: 144 in

Perf. Pipe Volume per Linear Foot: 113.097 cft

Total Pipe Length: 171 ft

Total Pipe Volume: 19,340 cft

Length of Detention Field: 88 ft

Width of Detention Field: 31 ft

Area of Detention Field: 2728 sft

Height of Detention Field: 12 ft

Volume of Detention Field: 32,736 cft

Volume of Aggregate: 13,396 cft

Volume of Detention Field - Total Pipe Volume: 19,340 cft

Percent Voids of Aggregate: 30 %

Void Volume: 4,019 cft

\*Infiltration Rate of Site Soils: 0.1 in/hr

Infiltration Design Rate (1/2 or Infiltration Rate): 0.05 in/hr

Infiltration Volume: 68 cft

= Bottom Area x Infiltration Design Rate x 6 hr x (1/12)

Total Detention Volume: 23,427 cft

Total Pipe Volume + Void Volume: 19,340 cft

Total Detention Volume per L.F. of Pipe: 137.00 cft

**Total Storage (Bio-Swales & Detention System): 27,829 cft**

**W4 Pervious Cover Post-Development Bankfull Runoff Calculations**

A. 2 year/24 hours storm event (P): 2.35 in

B. Pervious Cover CN from W1: 58

C. S = (1000 / CN) - 10: 7.24 in

D. Q = (P - 0.2 \* S) / (P + 0.8 \* S): 0.10 in

E. Total Site Area excluding Self-Crediting BMPs: 7,867 sft

F. Vbf per-post = Q x (1/12) x Area: 65 cft

**Underground Detention System**

Perf. Pipe Diameter: 144 in

Perf. Pipe Volume per Linear Foot: 113.097 cft

Total Pipe Length: 171 ft

Total Pipe Volume: 19,340 cft

Length of Detention Field: 88 ft

Width of Detention Field: 31 ft

Area of Detention Field: 2728 sft

Height of Detention Field: 12 ft

Volume of Detention Field: 32,736 cft

Volume of Aggregate: 13,396 cft

Volume of Detention Field - Total Pipe Volume: 19,340 cft

Percent Voids of Aggregate: 30 %

Void Volume: 4,019 cft

\*Infiltration Rate of Site Soils: 0.1 in/hr

Infiltration Design Rate (1/2 or Infiltration Rate): 0.05 in/hr

Infiltration Volume: 68 cft

= Bottom Area x Infiltration Design Rate x 6 hr x (1/12)

Total Detention Volume: 23,427 cft

Total Pipe Volume + Void Volume: 19,340 cft

Total Detention Volume per L.F. of Pipe: 137.00 cft

**Total Storage (Bio-Swales & Detention System): 27,829 cft**

**W5 Impervious Cover Post-Development Bankfull Runoff Calculations**

A. 2 year/24 hours storm event (P): 2.35 in

B. Impervious Cover CN from W1: 98

C. S = (1000 / CN) - 10: 0.20 in

D. Q = (P - 0.2 \* S) / (P + 0.8 \* S): 2.12 in

E. Total Site Area excluding Self-Crediting BMPs: 55,576 sft

F. Vbf imp-post = Q x (1/12) x Area: 9,826 cft

**Underground Detention System**

Perf. Pipe Diameter: 144 in

Perf. Pipe Volume per Linear Foot: 113.097 cft

Total Pipe Length: 171 ft

Total Pipe Volume: 19,340 cft

Length of Detention Field: 88 ft

Width of Detention Field: 31 ft

Area of Detention Field: 2728 sft

Height of Detention Field: 12 ft

Volume of Detention Field: 32,736 cft

Volume of Aggregate: 13,396 cft

Volume of Detention Field - Total Pipe Volume: 19,340 cft

Percent Voids of Aggregate: 30 %

Void Volume: 4,019 cft

\*Infiltration Rate of Site Soils: 0.1 in/hr

Infiltration Design Rate (1/2 or Infiltration Rate): 0.05 in/hr

Infiltration Volume: 68 cft

= Bottom Area x Infiltration Design Rate x 6 hr x (1/12)

Total Detention Volume: 23,427 cft

Total Pipe Volume + Void Volume: 19,340 cft

Total Detention Volume per L.F. of Pipe: 137.00 cft

**Total Storage (Bio-Swales & Detention System): 27,829 cft**

**W6 Pervious Cover Post-Development 100-year Storm Runoff Calculations**

A. 100-year Storm Event (P): 5.11 in

B. Pervious Cover CN from W1: 58

C. S = (1000 / CN) - 10: 7.24 in

D. Q = (P - 0.2 \* S) / (P + 0.8 \* S): 1.23 in

E. Total Site Area excluding Self-Crediting BMPs: 7,867 sft

F. Vbf 100-per-post = Q x (1/12) x Area: 806 cft

**Underground Detention System**

Perf. Pipe Diameter: 144 in

Perf. Pipe Volume per Linear Foot: 113.097 cft

Total Pipe Length: 171 ft

Total Pipe Volume: 19,340 cft

Length of Detention Field: 88 ft

Width of Detention Field: 31 ft

Area of Detention Field: 2728 sft

Height of Detention Field: 12 ft

Volume of Detention Field: 32,736 cft

Volume of Aggregate: 13,396 cft

Volume of Detention Field - Total Pipe Volume: 19,340 cft

Percent Voids of Aggregate: 30 %

Void Volume: 4,019 cft

\*Infiltration Rate of Site Soils: 0.1 in/hr

Infiltration Design Rate (1/2 or Infiltration Rate): 0.05 in/hr

Infiltration Volume: 68 cft

= Bottom Area x Infiltration Design Rate x 6 hr x (1/12)

Total Detention Volume: 23,427 cft

Total Pipe Volume + Void Volume: 19,340 cft

Total Detention Volume per L.F. of Pipe: 137.00 cft

**Total Storage (Bio-Swales & Detention System): 27,829 cft**

**W7 Impervious Cover Post-Development 100-year Storm Runoff Calculations**

A. 100-year Storm Event (P): 5.11 in

B. Pervious Cover CN from W1: 98

C. S = (1000 / CN) - 10: 0.20 in

D. Q = (P - 0.2 \* S) / (P + 0.8 \* S): 4.87 in

E. Total Site Area excluding Self-Crediting BMPs: 55,576 sft

F. Vbf 100-per-post = Q x (1/12) x Area: 22,568 cft

**Underground Detention System**

Perf. Pipe Diameter: 144 in

Perf. Pipe Volume per Linear Foot: 113.097 cft

Total Pipe Length: 171 ft

Total Pipe Volume: 19,340 cft

Length of Detention Field: 88 ft

Width of Detention Field: 31 ft

Area of Detention Field: 2728 sft

Height of Detention Field: 12 ft

Volume of Detention Field: 32,736 cft

Volume of Aggregate: 13,396 cft

Volume of Detention Field - Total Pipe Volume: 19,340 cft

Percent Voids of Aggregate: 30 %

Void Volume: 4,019 cft

\*Infiltration Rate of Site Soils: 0.1 in/hr

Infiltration Design Rate (1/2 or Infiltration Rate): 0.05 in/hr

Infiltration Volume: 68 cft

= Bottom Area x Infiltration Design Rate x 6 hr x (1/12)

Total Detention Volume: 23,427 cft

Total Pipe Volume + Void Volume: 19,340 cft

Total Detention Volume per L.F. of Pipe: 137.00 cft

**Total Storage (Bio-Swales & Detention System): 27,829 cft**

**W8 Determine Time of Concentration for Applicable Flow Types**

Time of Concentration (Tc): 0.25 hr

**Underground Detention System**

Perf. Pipe Diameter: 144 in

Perf. Pipe Volume per Linear Foot: 113.097 cft

Total Pipe Length: 171 ft

Total Pipe Volume: 19,340 cft

Length of Detention Field: 88 ft

Width of Detention Field: 31 ft

Area of Detention Field: 2728 sft

Height of Detention Field: 12 ft

Volume of Detention Field: 32,736 cft

Volume of Aggregate: 13,396 cft

Volume of Detention Field - Total Pipe Volume: 19,340 cft

Percent Voids of Aggregate: 30 %

Void Volume: 4,019 cft

\*Infiltration Rate of Site Soils: 0.1 in/hr

Infiltration Design Rate (1/2 or Infiltration Rate): 0.05 in/hr

Infiltration Volume: 68 cft

= Bottom Area x Infiltration Design Rate x 6 hr x (1/12)

Total Detention Volume: 23,427 cft

Total Pipe Volume + Void Volume: 19,340 cft

Total Detention Volume per L.F. of Pipe: 137.00 cft

**Total Storage (Bio-Swales & Detention System): 27,829 cft**

**W9 Runoff Summary & Onsite Infiltration Requirement**

A. Runoff Summary from Previous Worksheets

First Flush Volume (Vff): 4,564 cft

Pre-Development Bankfull Runoff Volume (Vbf-pre): 528 cft

Pervious Cover Post-Development Bankfull Runoff Volume (Vbf-per-post): 65 cft

Impervious Cover Post-Development Bankfull Runoff Volume (Vbf-imp-post): 9,826 cft

Total BF Volume (Vbf-post): 9,892 cft

Pervious Cover Post-Development 100-year Volume (V100-per-post): 806 cft

Impervious Cover Post-Development 100-year Volume (V100-imp-post): 22,568 cft

Total 100-year Volume (V100): 23,375 cft

B. Determine Onsite Infiltration Requirement

Total Post-Development Bankfull Runoff Volume (Vbf-post): 9,892 cft

Pre-Development Bankfull Runoff Volume (Vbf-pre): 528 cft

Bankfull Volume Difference: 9,364 cft

Greater of First Flush Volume & Bankfull Volume Difference (Vinf): 9,364 cft

**Underground Detention System**

Perf. Pipe Diameter: 144 in

Perf. Pipe Volume per Linear Foot: 113.097 cft

Total Pipe Length: 171 ft

Total Pipe Volume: 19,340 cft

Length of Detention Field: 88 ft

Width of Detention Field: 31 ft

Area of Detention Field: 2728 sft

Height of Detention Field: 12 ft

Volume of Detention Field: 32,736 cft

Volume of Aggregate: 13,396 cft

Volume of Detention Field - Total Pipe Volume: 19,340 cft

Percent Voids of Aggregate: 30 %

Void Volume: 4,019 cft

\*Infiltration Rate of Site Soils: 0.1 in/hr

Infiltration Design Rate (1/2 or Infiltration Rate): 0.05 in/hr

Infiltration Volume: 68 cft

= Bottom Area x Infiltration Design Rate x 6 hr x (1/12)

Total Detention Volume: 23,427 cft

Total Pipe Volume + Void Volume: 19,340 cft

Total Detention Volume per L.F. of Pipe: 137.00 cft

**Total Storage (Bio-Swales & Detention System): 27,829 cft**

**W10 Detention/Retention Requirement**

A. Qp = 238.6 x Tc^0.82: 744 cfs/in-mi^2

B. Total Site Area excluding Self-Crediting BMPs: 1.456 acre

C. Q100 = Q100-per + Q100-imp: 6.10 in

D. Peak Flow (PF) = (Qp x Q100 x A) / 640: 10.33 cfs

E. Delta = PF - 0.15 x A: 10.11 cfs

F. Vdet = (Delta / PF) x V100 - Vinf: 13,516 cft

Vdet = (Delta / PF) x V100 - Vinf (no infiltration): 22,880 cft

**Underground Detention System**

Perf. Pipe Diameter: 144 in

Perf. Pipe Volume per Linear Foot: 113.097 cft

Total Pipe Length: 171 ft

Total Pipe Volume: 19,340 cft

Length of Detention Field: 88 ft

Width of Detention Field: 31 ft

Area of Detention Field: 2728 sft

Height of Detention Field: 12 ft

Volume of Detention Field: 32,736 cft

Volume of Aggregate: 13,396 cft

Volume of Detention Field - Total Pipe Volume: 19,340 cft

Percent Voids of Aggregate: 30 %

Void Volume: 4,019 cft

\*Infiltration Rate of Site Soils: 0.1 in/hr

Infiltration Design Rate (1/2 or Infiltration Rate): 0.05 in/hr

Infiltration Volume: 68 cft

= Bottom Area x Infiltration Design Rate x 6 hr x (1/12)

Total Detention Volume: 23,427 cft

Total Pipe Volume + Void Volume: 19,340 cft

Total Detention Volume per L.F. of Pipe: 137.00 cft

**Total Storage (Bio-Swales & Detention System): 27,829 cft**

**W11 BMP Volume Credits**

Proposed BMP	Area (ft <sup>2</sup> )	Storage Depth (ft)	Storage Volume (ft <sup>3</sup> )	Avg. Design Infil. Rate (in/hr)	Infil. Vol. During Storm (ft <sup>3</sup> )	Total Vol. Reduction (ft <sup>3</sup> )
Subsurface Infiltration Bed	2,741	0.5	411	0.1	137	548
Bioretention Area A	746	3	1,536	0.1	37	1,574
Bioretention Area B	1,623	3	2,866	0.1	81	2,947

Note: In the infiltration testing report, the geotechnical engineer identifies a range of infiltration rates for clayey soils between 0.04 - 0.2 in/hr. An infiltration rate of 0.1 in/hr was determined to be acceptable for this application. Refer to the Infiltration Testing Report prepared by PEA, Inc. dated 7/2/18.

Total Volume Reduction Credit by Proposed Structural BMP's (Vinf) = 5,069 cft

**Underground Detention System**

Perf. Pipe Diameter: 144 in

Perf. Pipe Volume per Linear Foot: 113.097 cft

Total Pipe Length: 171 ft

Total Pipe Volume: 19,340 cft

Length of Detention Field: 88 ft

Width of Detention Field: 31 ft

Area of Detention Field: 2728 sft

Height of Detention Field: 12 ft

Volume of Detention Field: 32,736 cft

Volume of Aggregate: 13,396 cft

Volume of Detention Field - Total Pipe Volume: 19,340 cft

Percent Voids of Aggregate: 30 %

Void Volume: 4,019 cft

\*Infiltration Rate of Site Soils: 0.1 in/hr

Infiltration Design Rate (1/2 or Infiltration Rate): 0.05 in/hr

Infiltration Volume: 68 cft

= Bottom Area x Infiltration Design Rate x 6 hr x (1/12)

Total Detention Volume: 23,427 cft

Total Pipe Volume + Void Volume: 19,340 cft

Total Detention Volume per L.F. of Pipe: 137.00 cft

**Total Storage (Bio-Swales & Detention System): 27,829 cft**

**W13 Infiltration / Detention Summary**

Total Infiltration Required per WCRC standards: 9,364 cft

Total Infiltration Provided: 5,069 cft

Difference: 4,295 cft

% Deficiency: 45.87%

Pro-Rated 20% Detention Penalty: 9.17%

Total Detention Required: 22,880 cft

Total Detention Required w/Pro-Rated Penalty: 24,979 cft

Total Detention Provided: 24,982 cft

**Underground Detention System**

Perf. Pipe Diameter: 144 in

Perf. Pipe Volume per Linear Foot: 113.097 cft

Total Pipe Length: 171 ft

Total Pipe Volume: 19,340 cft

Length of Detention Field: 88 ft

Width of Detention Field: 31 ft

Area of Detention Field: 2728 sft

Height of Detention Field: 12 ft

Volume of Detention Field: 32,736 cft

Volume of Aggregate: 13,396 cft

Volume of Detention Field - Total Pipe Volume: 19,340 cft

Percent Voids of Aggregate: 30 %

Void Volume: 4,019 cft

\*Infiltration Rate of Site Soils: 0.1 in/hr

Infiltration Design Rate (1/2 or Infiltration Rate): 0.05 in/hr

Infiltration Volume: 68 cft

= Bottom Area x Infiltration Design Rate x 6 hr x (1/12)

Total Detention Volume: 23,427 cft

Total Pipe Volume + Void Volume: 19,340 cft

Total Detention Volume per L.F. of Pipe: 137.00 cft

**Total Storage (Bio-Swales & Detention System): 27,829 cft**

DETENTION CALCULATIONS - WEST DRAINAGE AREA  
USING WASHTENAW COUNTY WATER RESOURCE COMMISSIONER  
RULES & GUIDELINES FOR STORMWATER MANAGEMENT SYSTEMS

**W1 Determining Cover Types, Areas, Curve Numbers and Runoff Coefficients**

Proposed Site Conditions:			
Pervious Area:	10,803 sft		
Impervious Area:	81,582 sft		
Total Area:	92,385 sft		
Pervious Runoff Coefficient 'C':	0.25		
Impervious Runoff Coefficient 'C':	0.95		
Pervious Curve Number 'CN':	58.00		
Impervious Curve Number 'CN':	98.00		
Weighted Runoff Coefficient 'C':	0.87		
Weighted Curve Number 'CN':	93.32		

**W2 First Flush Runoff Calculations (Vff):**

A. Vff = (1") x (1/12") x (43560 sft/1 ac.) x A x C = 6,684 cft

**W11 Determine Applicable BMP's and Associated Volume Credits**

Proposed BMP	Area (ft <sup>2</sup> )	Storage Depth (ft)	Storage Volume (ft <sup>3</sup> )	Avg. Design Infil. Rate (in/hr)	Infil. Vol. During Storm (ft <sup>3</sup> )	Total Vol. Reduction (ft <sup>3</sup> )
Subsurface Infiltration Bed	6,281	0.5	942	0.1	314	1,256

Total Volume Reduction Credit by Proposed Structural BMP's (Vinf) = 1,256 cft

**W13 Infiltration / Detention Summary**

Total Infiltration Required per WCRC standards: 13,745 cft

Total Infiltration Provided: 1,256 cft

Difference: 12,489 cft

% Deficiency: 90.86%

Pro-Rated 20% Detention Penalty: 18.17%

Total Detention Required: 33,512 cft

Total Detention Required w/Pro-Rated Penalty: 39,602 cft

Total Detention Provided: 40,267 cft

**STORM SEWER SYSTEM DESIGN**

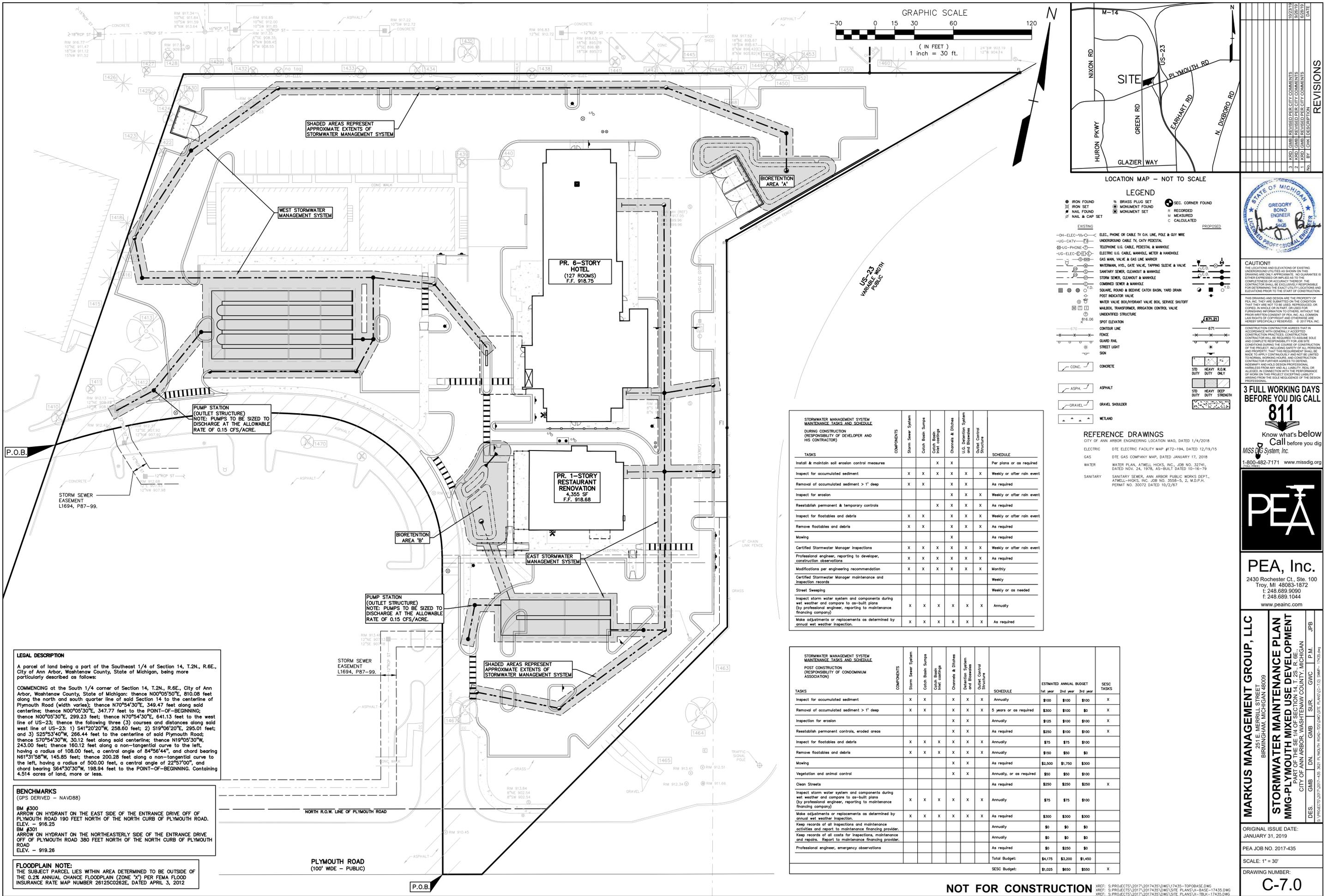
I = B/(T+D)^E      B = 170.0      D = 23.0      E = 1

C = varies

T = 15 (min.)

Pipe "n" VALUE = 0.013

FROM STR	TO STR	AREA (Acres)	COEF. C	AX C	TOTAL AREA (Acres)	TOTAL AREA (Acres)	TIME t (min.)	INT. I (in/hr)	FLOW Q (cfs)	PIPE CAP. (cfs)	PIPE DIA. (in.)	PIPE LENGTH (ft.)	PIPE SLOPE (%)	MIN HG PER "Q"	VEL. FULL (ft/sec)	TIME FLOW (min.)	H.G.L. ELEV. UP STREAM	H.G.L. ELEV. DOWN STREAM	RIM ELEV. UP STREAM	RIM ELEV. DOWN STREAM	INVERT ELEV. UP STREAM	INVERT ELEV. DOWN STREAM	PIPE COVER UP STREAM	PIPE COVER DOWN STREAM	HGL COVER UP STREAM	HGL COVER DOWN STREAM
6A	6	0.15	0.95	0.14	0.14	0.15	15.00	4.47	0.62	1.21	8	32	1.00	0.26%	3.5	0.2	911.23	910.90	918.73	917.20	910.69	910.37	7.23	6.03	7.50	6.30
6	5	0.24	0.86	0.20	0.34	0.38	15.20	4.45	1.51	2.11	12	143	0.35	0.18%	2.7	0.9	910.50	910.40	917.20	918.04	909.60	909.50	5.93	7.27	6.30	7.64
5	4	0.00	0.00	0.00	0.59	0.66	16.10	4.35	2.55	3.82	16	80	0.35	0.16%	3.1	0.3	910.40	910.19	918.04	917.20	909.19	909.19	7.20	6.57	7.64	7.01
4	3	0.00	0.00	0.00	0.81	0.93	16.40	4.31	3.51	3.82	15	121	0.35	0.30%	3.1	0.6	910.19	909.77	917.20	916.50	909.77	908.77	6.57	6.30	7.01	6.73
3	2	0.08	0.89	0.07	1.30	1.47	17.00	4.25	5.52	6.46	15	16	1.00	0.73%	5.3	0.1	909.77	909.60	916.50	916.62	908.77	908.60	6.30	6.58	6.73	7.02
2	1	0.00	0.00	0.00	1.30	1.47	17.10	4.24	5.52	6.46	15	25	1.00	0.73%	5.3	0.1	909.60	909.35	916.62	916.44	908.60	908.35	6.58	6.65	7.02	7.09
9A	9A	0.24	0.73	0.17	0.17	0.24	15.00	4.47	0.77	1.21	8	64	1.00	0.41%	3.5	0.3	911.17	910.53	915.10	915.76	910.64	910.00				



NO.	DATE	DESCRIPTION
1	10/22/16	ISSUED FOR PERMITS
2	03/09/17	REVISED PER CITY COMMENTS
3	03/09/17	REVISED PER CITY COMMENTS
4	03/09/17	REVISED PER CITY COMMENTS
5	03/09/17	REVISED PER CITY COMMENTS
6	03/09/17	REVISED PER CITY COMMENTS
7	03/09/17	REVISED PER CITY COMMENTS
8	03/09/17	REVISED PER CITY COMMENTS
9	03/09/17	REVISED PER CITY COMMENTS
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14	03/09/17	REVISED PER CITY COMMENTS
15	03/09/17	REVISED PER CITY COMMENTS
16	03/09/17	REVISED PER CITY COMMENTS
17	03/09/17	REVISED PER CITY COMMENTS
18	03/09/17	REVISED PER CITY COMMENTS
19	03/09/17	REVISED PER CITY COMMENTS
20	03/09/17	REVISED PER CITY COMMENTS



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**MARKUS MANAGEMENT GROUP, LLC**  
 221 E. MERRELL STREET  
 BIRMINGHAM, MICHIGAN 48009

**STORMWATER MAINTENANCE PLAN**  
**MMG-PLYMOUTH MIXED USE DEVELOPMENT**  
 PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E.,  
 CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DES.	GMB	DN.	GMB	SUR.	GWC	P.M.	JPB
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ORIGINAL ISSUE DATE:  
 JANUARY 31, 2019

PEA JOB NO. 2017-435

SCALE: 1" = 30'

DRAWING NUMBER:  
**C-7.0**

TASKS	COMPONENTS	Storm Sewer System		Catch Basin Sumps	Catch Basin Inlet Castings	Chimney & Ditches	U.C. Detention System and Baffles	Outlet Control Structure	SCHEDULE
		Storm Sewer System	Outlet Control Structure						
Install & maintain soil erosion control measures				X	X				Per plans or as required
Inspect for accumulated sediment		X	X	X	X	X	X	X	Weekly or after rain event
Removal of accumulated sediment > 1' deep		X	X						As required
Inspect for erosion						X	X	X	Weekly or after rain event
Reestablish permanent & temporary controls					X	X	X	X	As required
Inspect for floatables and debris		X	X						Weekly or after rain event
Remove floatables and debris		X	X						As required
Mowing						X			As required
Certified Stormwater Manager inspections		X	X	X	X	X	X	X	Weekly or after rain event
Professional engineer, reporting to developer, construction observations		X	X	X	X	X	X	X	As required
Modifications per engineering recommendation		X	X	X	X	X	X	X	Monthly
Certified Stormwater Manager maintenance and inspection records									Weekly
Street Sweeping									Weekly or as needed
Inspect storm water system and components during wet weather and compare to as-built plans (by professional engineer, reporting to maintenance financing company)		X	X	X	X	X	X	X	Annually
Make adjustments or replacements as determined by annual wet weather inspection.		X	X	X	X	X	X	X	As required

TASKS	COMPONENTS	Storm Sewer System		Catch Basin Sumps	Catch Basin Inlet Castings	Chimney & Ditches	U.C. Detention System and Baffles	Outlet Control Structure	SCHEDULE	ESTIMATED ANNUAL BUDGET			SECC TASKS
		Storm Sewer System	Outlet Control Structure							1st year	2nd year	3rd year	
Inspect for accumulated sediment		X	X						Annually	\$100	\$100	\$100	X
Removal of accumulated sediment > 1' deep		X	X						5 years or as required	\$300	\$100	\$0	X
Inspect for erosion						X	X		Annually	\$125	\$100	\$100	X
Reestablish permanent controls, eroded areas						X	X		As required	\$250	\$100	\$100	X
Inspect for floatables and debris		X	X	X	X	X	X	X	Annually	\$75	\$75	\$100	
Remove floatables and debris		X	X	X	X	X	X	X	Annually	\$150	\$50	\$0	
Mowing						X	X		As required	\$2,500	\$1,750	\$300	
Vegetation and animal control						X	X		Annually, or as required	\$50	\$50	\$100	
Clean Streets									As required	\$250	\$250	\$250	X
Inspect storm water system and components during wet weather and compare to as-built plans (by professional engineer, reporting to maintenance financing company)		X	X	X	X	X	X	X	Annually	\$75	\$75	\$100	
Keep records of all inspections and maintenance activities and report to maintenance financing provider.									Annually	\$0	\$0	\$0	
Keep records of all costs for inspections, maintenance and repairs. Report to maintenance financing provider.									Annually	\$0	\$0	\$0	
Professional engineer, emergency observations									As required	\$0	\$250	\$0	
<b>Total Budget:</b>										<b>\$4,175</b>	<b>\$3,200</b>	<b>\$1,450</b>	
<b>SECC Budget:</b>										<b>\$1,025</b>	<b>\$650</b>	<b>\$550</b>	<b>X</b>

**LEGAL DESCRIPTION**  
 A parcel of land being a part of the Southeast 1/4 of Section 14, T.2N., R.6E., City of Ann Arbor, Washtenaw County, State of Michigan, being more particularly described as follows:

COMMENCING at the South 1/4 corner of Section 14, T.2N., R.6E., City of Ann Arbor, Washtenaw County, State of Michigan; thence N00°05'50"E, 810.08 feet along the north and south quarter line of said Section 14 to the centerline of Plymouth Road (width varies); thence N70°54'30"E, 349.47 feet along said centerline; thence N00°05'30"E, 347.77 feet to the POINT-OF-BEGINNING; thence N00°05'30"E, 299.23 feet; thence N70°54'30"E, 641.13 feet to the west line of US-23; thence the following three (3) courses and distances along said west line of US-23: 1) S41°20'20"W, 258.00 feet; 2) S19°06'20"E, 295.01 feet; and 3) S25°53'40"W, 266.44 feet to the centerline of said Plymouth Road; thence S70°54'30"W, 30.12 feet along said centerline; thence N19°05'30"W, 243.00 feet; thence 180.12 feet along a non-tangential curve to the left, having a radius of 108.00 feet, a central angle of 84°56'44", and chord bearing N51°31'58"W, 145.85 feet; thence 200.28 feet along a non-tangential curve to the left, having a radius of 500.00 feet, a central angle of 22°57'00", and chord bearing S64°30'30"W, 198.94 feet to the POINT-OF-BEGINNING. Containing 4.514 acres of land, more or less.

**BENCHMARKS**  
 (GPS DERIVED - NAVD88)

BM #300  
 ARROW ON HYDRANT ON THE EAST SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 190 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.  
 ELEV. - 916.25

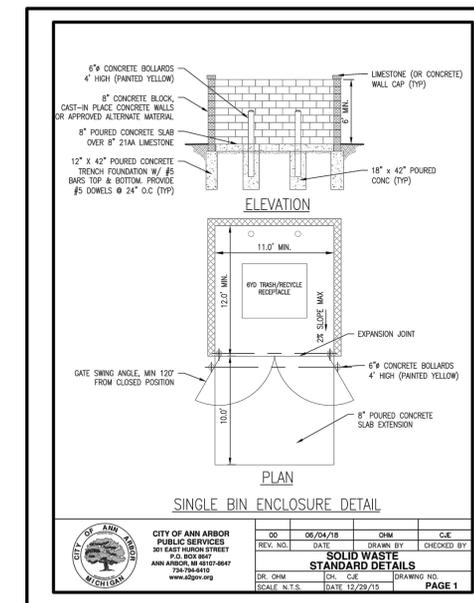
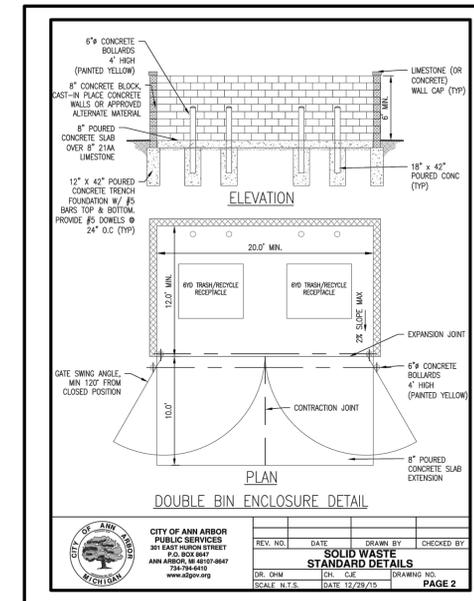
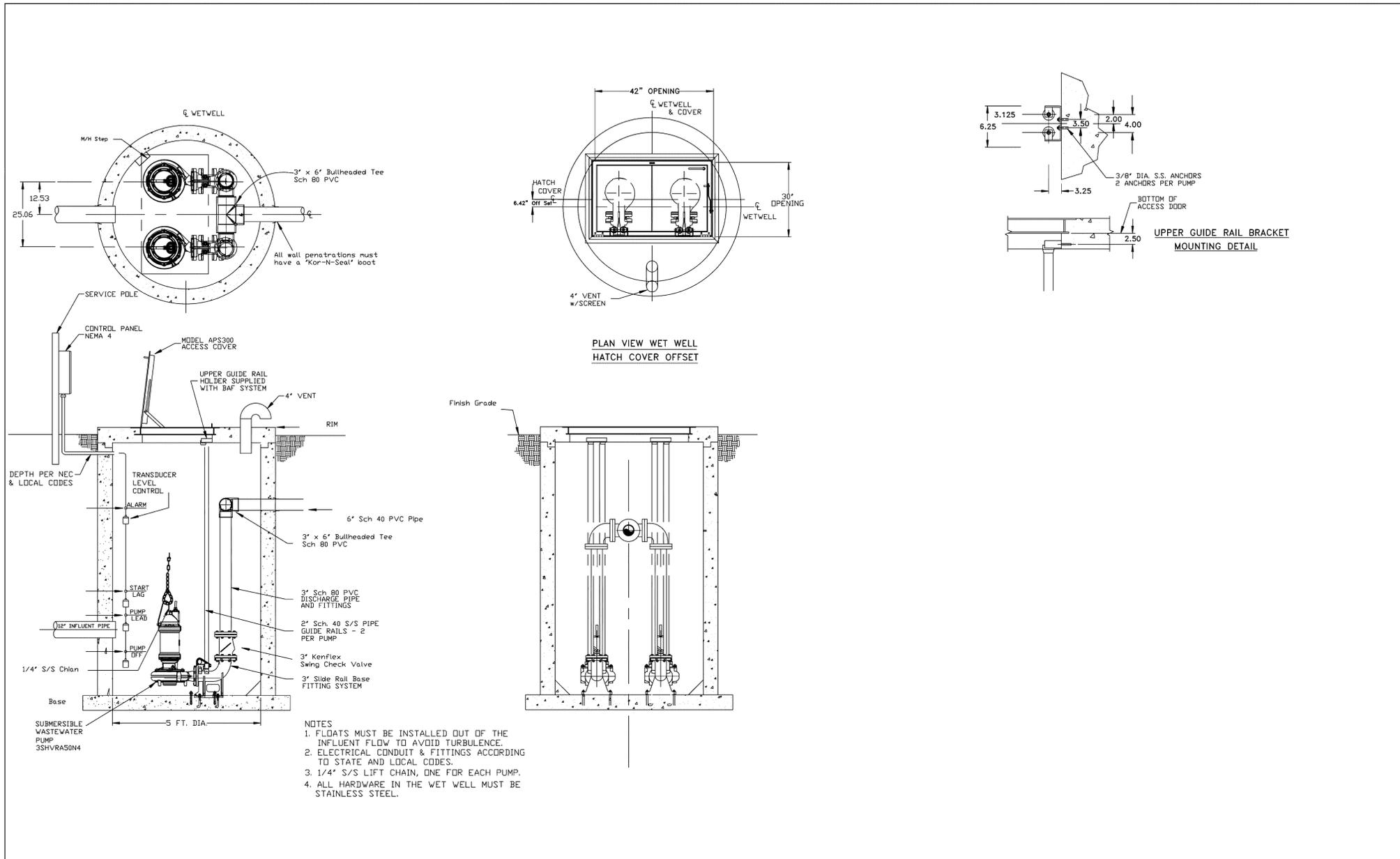
BM #301  
 ARROW ON HYDRANT ON THE NORTHEASTERLY SIDE OF THE ENTRANCE DRIVE OFF OF PLYMOUTH ROAD 380 FEET NORTH OF THE NORTH CURB OF PLYMOUTH ROAD.  
 ELEV. - 919.26

**FLOODPLAIN NOTE:**  
 THE SUBJECT PARCEL LIES WITHIN AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN (ZONE 'X') PER FEMA FLOOD INSURANCE RATE MAP NUMBER 26125C0262E, DATED APRIL 3, 2012

**NOT FOR CONSTRUCTION**

REF: S:\PROJECTS\2017\2017435\DWG\17435-TOPOBASE.DWG  
 REF: S:\PROJECTS\2017\2017435\DWG\17435-V-BASE-17435.DWG  
 REF: S:\PROJECTS\2017\2017435\DWG\17435-SITE-PLANS-V-TLB-17435.DWG





REV	DESCRIPTION	DATE	APPROVED
A	START	01/30/18	
B			
C			
D			
E			
F			
G			

PROJECT NAME:

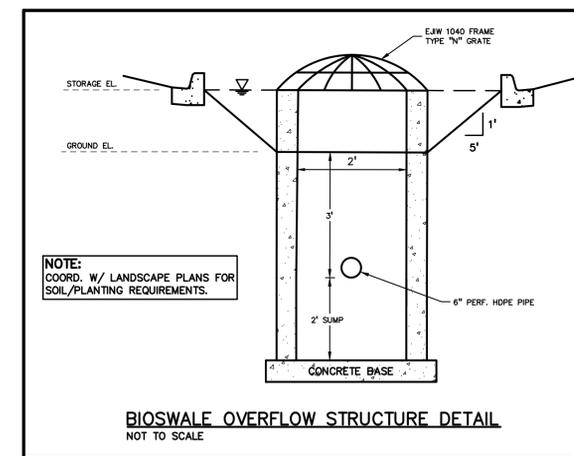
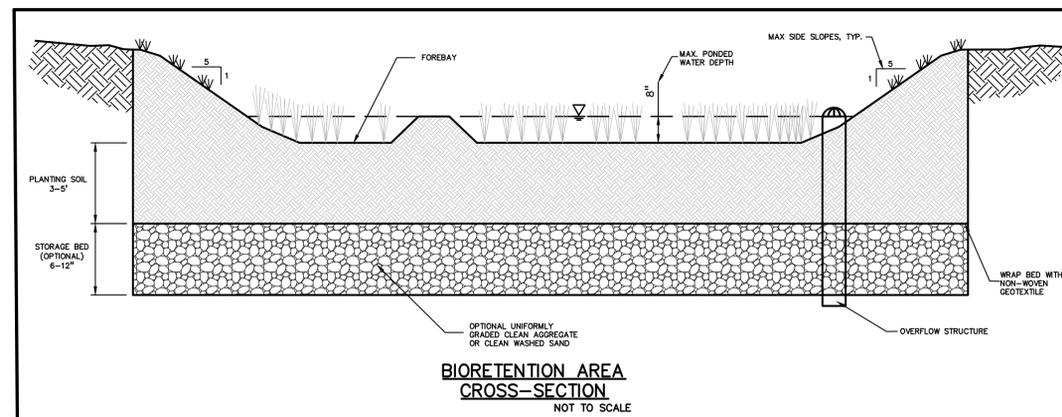
Drawing Title:

**STORM LIFT STATION  
Wet Well/Pump DETAILS  
(OULET STRUCTURE)**

SUPPLIER/INSTALLER:  
**JETT PUMP & Valve, L.L.C.**  
 4770 Pontiac Lk Rd  
 Waterford, MI 48328 Phone: 248-673-2530

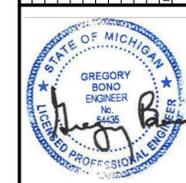
DRAWN BY: JMB  
 CHECK BY:  
 APPROVED BY:  
 SCALE: NONE  
 SHEET: OF  
 DWG NO: JETT P&V STPS 1

SHEET NAME:  
 Storm PUMP STA. 1  
 SHEET NO.  
**STPS1**



**NOT FOR CONSTRUCTION**

NO.	DATE	DESCRIPTION
1	10/23/15	REVISED PER CITY COMMENTS
2	0/26/15	REVISED PER CITY COMMENTS
1	0/26/15	REVISED PER CITY COMMENTS
NO. 1	0/26/15	REVISED PER CITY COMMENTS



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 2211 E. MERRILL STREET  
 BIRMINGHAM, MICHIGAN 48009

**NOTES AND DETAILS**  
**MMG-PLYMOUTH MIXED USE DEVELOPMENT**  
 PART OF THE SE 1/4 OF SECTION 14, T. 2S. R. 6E.  
 CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

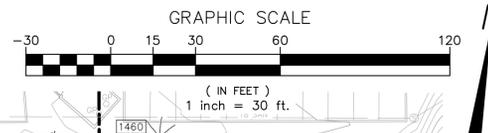
DES. GMB DN. GMB SUR. GWC P.M. JPB  
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ORIGINAL ISSUE DATE:  
 JANUARY 31, 2019

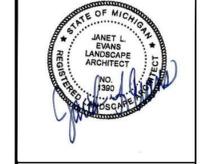
PEA JOB NO. 2017-435

SCALE: N.T.S.

DRAWING NUMBER:  
**C-8.1**



NO.	DATE	DESCRIPTION
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**MARKUS MANAGEMENT GROUP, LLC**  
221 E. MERRILL STREET  
BIRMINGHAM, MICHIGAN 48009

**PRELIMINARY LANDSCAPE PLAN**  
**MMG-PLYMOUTH MIXED USE DEVELOPMENT**  
PART OF THE SE 1/4 OF SECTION 14, T. 2S., R. 6E.,  
CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

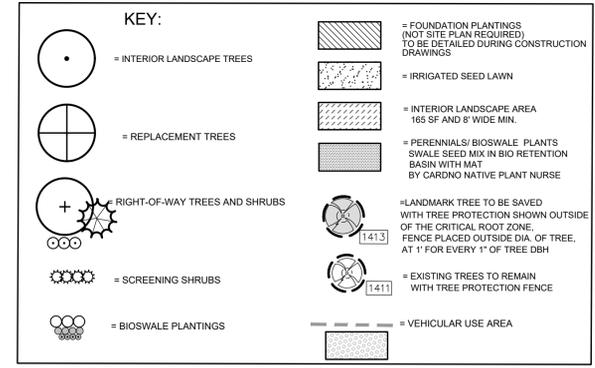
DES. JLE DN. JLE SUR. GWC P.M. JPB  
S:\PROJECTS\2017\2017435\DWG\SITE PLANS\L-10\_LANDSCAPE PLAN - 17435.DWG

ORIGINAL ISSUE DATE:  
JANUARY 31, 2019

PEA JOB NO. 2017-435

SCALE: 1" = 30'

DRAWING NUMBER:  
**L-1.0**



**LANDSCAPE CALCULATIONS:**  
PER THE CITY OF ANN ARBOR ZONING ORDINANCE (C3, FRINGE COMMERCIAL DISTRICT)

**INTERIOR LANDSCAPE AREAS:**  
REQUIRED: VEHICULAR USE AREAS OF 50,000-149,999 SF SHALL PROVIDE INTERIOR LANDSCAPE AREA AT THE RATE OF 1:15 SF. 85,790 SF OF PARKING LOT / 15 = 5,720 SF REQUIRED.  
50% X 5,720 BIORETENTION OF INTERIOR LANDSCAPE = 2,860 SF REQUIRED.  
1 TREE / 250 SF OF INTERIOR LANDSCAPE AREA; 5,720 / 250 = 23 TREES  
(8' LENGTH AND 165 SF MIN. AREA WITH 1 TREE; 200 SF MAX. CORNER WITH 1 TREE FOR VJA)  
CREDIT FOR SAVING LANDMARK TREES (IF EXISTING HEALTHY TREE IS WITHIN 15' OF VJA, 1 CREDIT PER 8" MAX. CREDIT OF 50% OF REQUIRED INTERIOR LA TREES)  
TOTAL OF 92" DBH/8" = 11 TREE CREDITS  
(LM TREE #1413 30" + #1430 16" + #1448 26" + #1467 20" = 92" DBH CREDIT POSSIBLE)  
(LM TREE #1412, 32" DOES NOT COUNT TOWARDS CREDIT SINCE FARTHER THAN 15' FROM VJA)  
PROVIDED: 2,920 SF INTERIOR LANDSCAPE AREA; 2,916 SF BIORETENTION = TOTAL OF 5,836 SF  
13 PROPOSED TREES AND 11 TREES CREDITS TOWARD INTERIOR TREES.

**TREE REPLACEMENT:**  
REQUIRED: 50% OF DBH REMOVED MUST BE REPLACED  
63" LANDMARK TREES X 50% = 31.5" TO BE REPLACED. 31.5" / 3" = 11 TREES  
PROVIDED: 11 TREES

**REFUSE CONTAINER SCREENING:**  
REQUIRED: REFUSE CONTAINERS SHALL BE SCREENED FROM VIEW FROM ANY RESIDENTIAL USE OR PUBLIC RIGHT OF WAY. SCREENING SHALL CONSIST OF A 6' HIGH OPAQUE WALL OR FENCE.  
PROVIDED: SCREEN WALL AND ARBORVITAE HEDGE

**CONFLICTING LAND USE BUFFERS:**  
REQUIRED: NORTH OF PROPERTY - "R5" ZONING NONE WEST OF PROPERTY - "C3" ZONING NONE  
SOUTH OF PROPERTY - "C3" ZONING NONE EAST OF PROPERTY - US 23 NONE  
PROVIDED: NONE

**RIGHT OF WAY SCREENING:**  
REQUIRED: US 23 AND PLYMOUTH ROAD ROW - MINIMUM 10 BUFFER STRIP WITH 1 DEC TREE / 30LF OF FRONTAGE OF VEHICLE USE AREA AND 30" CONTINUOUS SCREEN SHRUB / 4 LF.  
US 23: 636 LF/30 ADJ. TO VJA = 22 DEC. TREES AND 159 SHRUBS.  
PLYMOUTH RD.: 60 LF / 30 ADJ. TO VJA = 2 TREES AND 15 SHRUBS.  
PROVIDED: 24 DEC. TREES AND 174 SHRUBS.  
PER CITY OF ANN ARBOR REQUEST, TREES AND SHRUBS MAY BE LOCATED WITHIN THE UTILITY EASEMENT AT THE SOUTHERN VJA ADJ. TO HWY 23.

**NOTES PER CITY: SEE SHEET L-1.3 FOR GENERAL NOTES**

ALL SPECIES DEVIATIONS FROM THE APPROVED SITE PLAN MUST BE APPROVED IN WRITING PRIOR TO INSTALLATION BY THE CITY OF ANN ARBOR NATAL FEATURES STAFF.

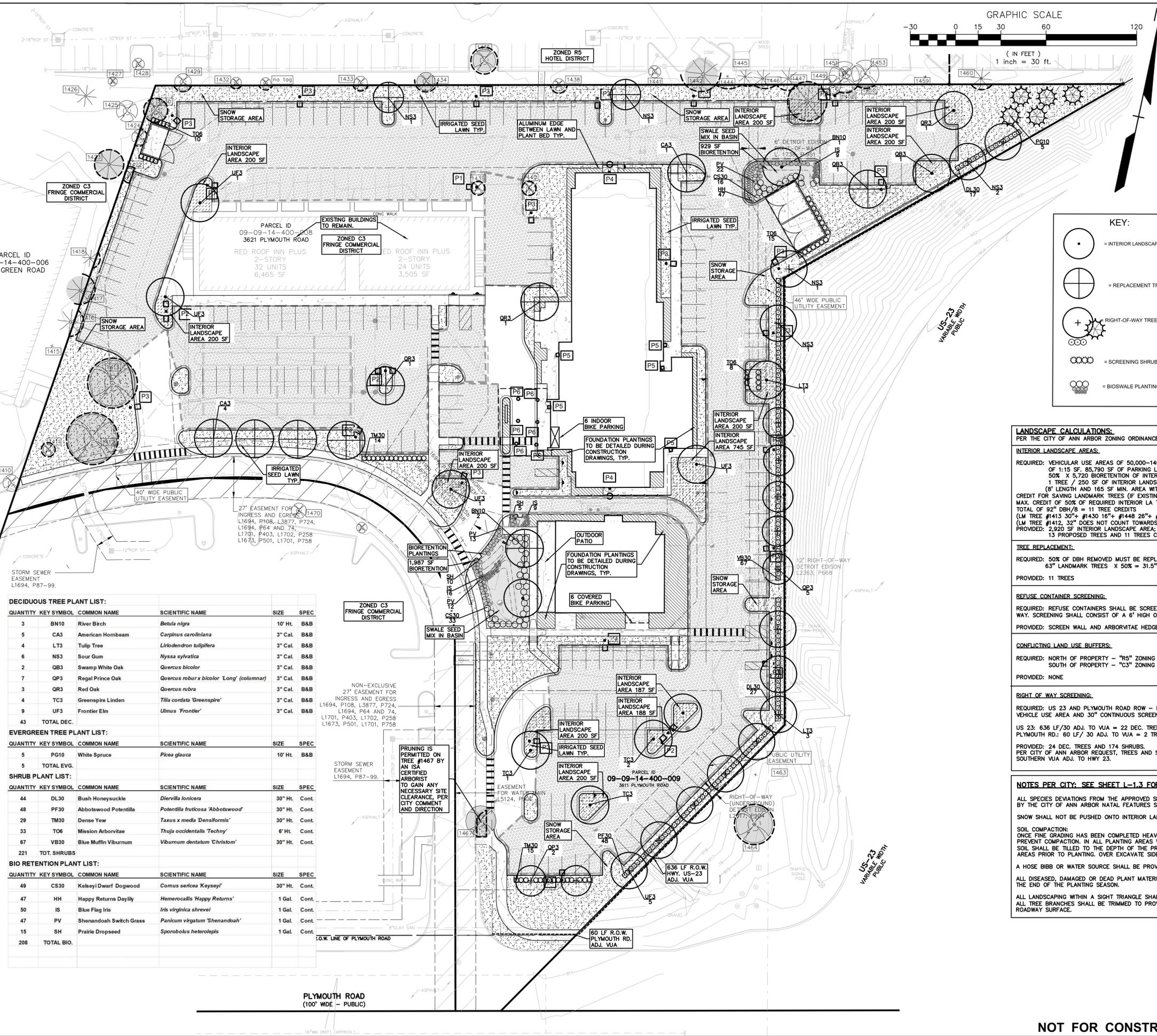
SNOW SHALL NOT BE PUSHED ONTO INTERIOR LANDSCAPE ISLANDS UNLESS DESIGNATED FOR SNOW STORAGE.

**SOIL COMPACTION:**  
ONCE FINE GRADING HAS BEEN COMPLETED HEAVY MACHINERY SHALL NOT BE USED WITHIN PLANTING AREAS TO PREVENT COMPACTION. IN ALL PLANTING AREAS WHERE SOIL COMPACTION HAS OCCURRED DURING CONSTRUCTION, SOIL SHALL BE TILLED TO THE DEPTH OF THE PROPOSED ROOT BALL OF THE PLANTINGS OR 4" DEPTH FOR SEEDED AREAS PRIOR TO PLANTING. OVER EXCAVATE SIDES OF PLANTING PITS IN COMPACTED SOIL AREAS.

A HOSE BIBB OR WATER SOURCE SHALL BE PROVIDED WITHIN 150 FEET OF ALL PLANT MATERIAL.

ALL DISEASED, DAMAGED OR DEAD PLANT MATERIAL SHALL BE REPLACED BY THE END OF THE PLANTING SEASON.

ALL LANDSCAPING WITHIN A SIGHT TRIANGLE SHALL BE NO GREATER THAN 30 INCHES IN HEIGHT. ALL TREE BRANCHES SHALL BE TRIMMED TO PROVIDE CLEAR VISION FOR A VERTICAL HEIGHT OF 8' ABOVE THE ROADWAY SURFACE.



PARCEL ID  
09-09-14-400-006  
2200 GREEN ROAD

DECIDUOUS TREE PLANT LIST:					
QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
3	BN10	River Birch	<i>Betula nigra</i>	10' Ht.	B&B
5	CA3	American Hornbeam	<i>Carpinus caroliniana</i>	3" Cal.	B&B
4	LT3	Tulip Tree	<i>Liriodendron tulipifera</i>	3" Cal.	B&B
6	NS3	Sour Gum	<i>Nyssa sylvatica</i>	3" Cal.	B&B
2	QB3	Swamp White Oak	<i>Quercus bicolor</i>	3" Cal.	B&B
7	QP3	Regal Prince Oak	<i>Quercus robur x bicolor 'Long' (columnar)</i>	3" Cal.	B&B
3	QR3	Red Oak	<i>Quercus rubra</i>	3" Cal.	B&B
4	TC3	Greenspire Linden	<i>Tilia cordata 'Greenspire'</i>	3" Cal.	B&B
9	UF3	Frontier Elm	<i>Ulmus 'Frontier'</i>	3" Cal.	B&B
43	TOTAL DEC.				
EVERGREEN TREE PLANT LIST:					
QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
5	PG10	White Spruce	<i>Picea glauca</i>	10' Ht.	B&B
5	TOTAL EVG.				
SHRUB PLANT LIST:					
QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
44	DL30	Bush Honeysuckle	<i>Lonicera</i>	30" Ht.	Cont.
48	PF30	Abbotswood Potentilla	<i>Potentilla fruticosa 'Abbotswood'</i>	30" Ht.	Cont.
29	TM30	Dense Yew	<i>Taxus x media 'Densiflora'</i>	30" Ht.	Cont.
33	TO6	Mission Arborvitae	<i>Thuja occidentalis 'Techny'</i>	6' Ht.	Cont.
67	VB30	Blue Muffin Viburnum	<i>Viburnum dentatum 'Christom'</i>	30" Ht.	Cont.
221	TOT. SHRUBS				
BIO RETENTION PLANT LIST:					
QUANTITY	KEY SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC
49	CS30	Kelsey Dwarf Dogwood	<i>Cornus sericea 'Kelsey'</i>	30" Ht.	Cont.
47	HH	Happy Returns Daylily	<i>Hemerocallis 'Happy Returns'</i>	1 Gal.	Cont.
50	IS	Blue Flag Iris	<i>Iris virginica shrevei</i>	1 Gal.	Cont.
47	PV	Shenandoah Switch Grass	<i>Panicum virgatum 'Shenandoah'</i>	1 Gal.	Cont.
15	SH	Prairie Dropseed	<i>Sporobolus heterolepis</i>	1 Gal.	Cont.
208	TOTAL BIO.				

NON-EXCLUSIVE  
27' EASEMENT FOR  
INGRESS AND EGRESS  
L1694, P108, L3877, P724,  
L1694, P64 AND 74,  
L1701, P403, L1702, P258  
L1673, P501, L1701, P758

PRUNING IS  
PERMITTED ON  
TREE #1467 BY  
AN ISA  
CERTIFIED  
ARBORIST  
TO GAIN ANY  
NECESSARY SITE  
CLEARANCE, PER  
CITY COMMENT  
AND DIRECTION

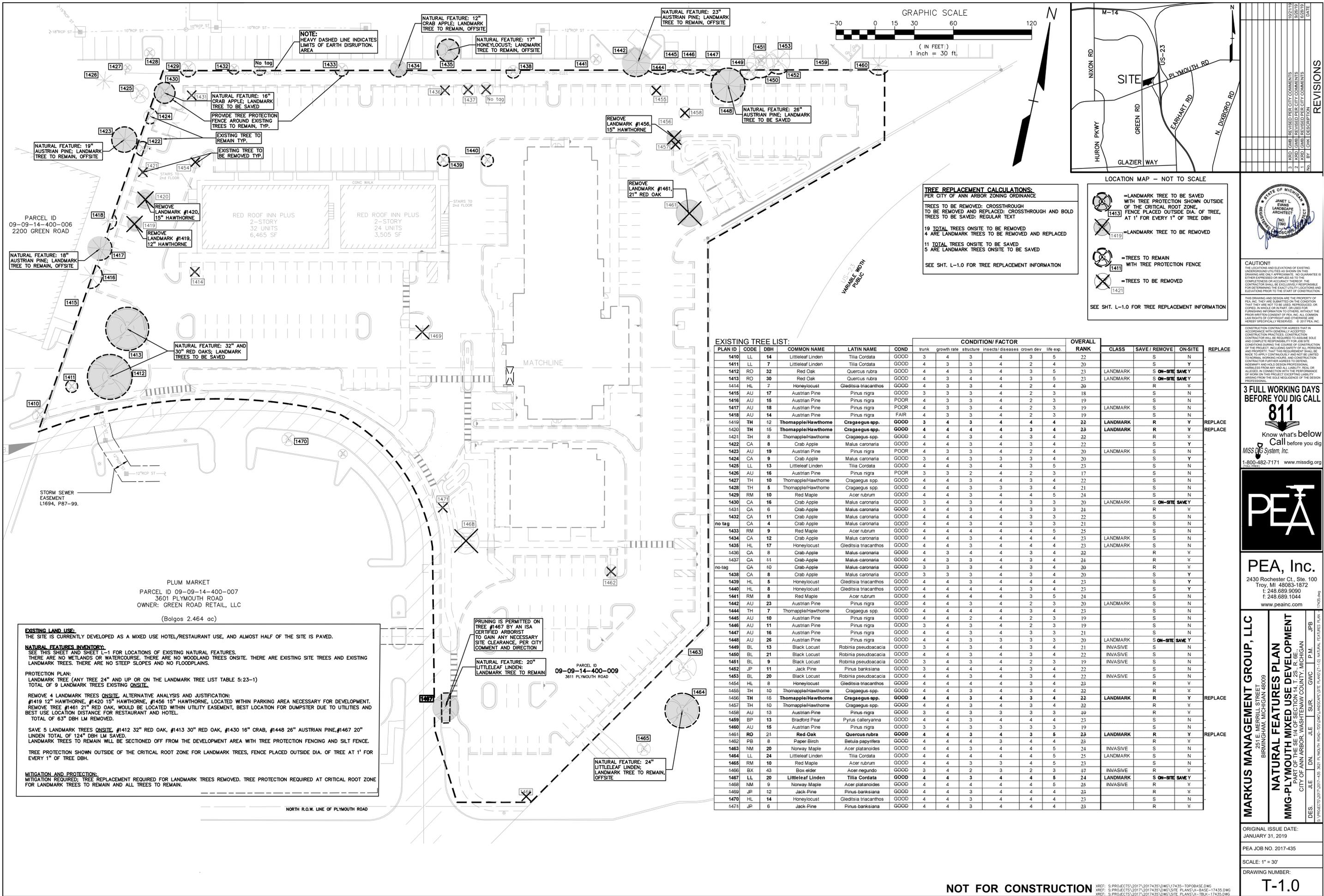
EASEMENT FOR WATER  
L5124, P108

STORM SEWER  
EASEMENT  
L1694, P87-99.

**NOT FOR CONSTRUCTION**

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**TREE REPLACEMENT CALCULATIONS:**  
 PER CITY OF ANN ARBOR ZONING ORDINANCE  
 TREES TO BE REMOVED: CROSSTHROUGH  
 TO BE REMOVED AND REPLACED: CROSSTHROUGH AND BOLD  
 TREES TO BE SAVED: REGULAR TEXT

19 TOTAL TREES ON-SITE TO BE REMOVED  
 4 ARE LANDMARK TREES TO BE REMOVED AND REPLACED

11 TOTAL TREES ON-SITE TO BE SAVED  
 5 ARE LANDMARK TREES ON-SITE TO BE SAVED

SEE SHT. L-1.0 FOR TREE REPLACEMENT INFORMATION

**LOCATION MAP - NOT TO SCALE**

[Symbol] = LANDMARK TREE TO BE SAVED WITH TREE PROTECTION SHOWN OUTSIDE OF THE CRITICAL ROOT ZONE, FENCE PLACED OUTSIDE DIA. OF TREE, AT 1' FOR EVERY 1" OF TREE DBH  
 [Symbol] [1413] = LANDMARK TREE TO BE REMOVED  
 [Symbol] [1419] = LANDMARK TREE TO BE REMOVED  
 [Symbol] [1411] = TREES TO REMAIN WITH TREE PROTECTION FENCE  
 [Symbol] [1421] = TREES TO BE REMOVED

SEE SHT. L-1.0 FOR TREE REPLACEMENT INFORMATION

EXISTING TREE LIST:					CONDITION/ FACTOR					OVERALL	REPLACE					
PLAN ID	CODE	DBH	COMMON NAME	LATIN NAME	COND	trunk	growth rate	structure	insects/diseases	crowd dev	life exp.	RANK	CLASS	SAVE / REMOVE	ON-SITE	REPLACE
1410	LL	14	Littleleaf Linden	Tilia Cordata	GOOD	3	4	3	4	3	5	22		S	N	
1411	LL	7	Littleleaf Linden	Tilia Cordata	GOOD	4	3	3	4	2	4	20		S	Y	
1412	RO	32	Red Oak	Quercus rubra	GOOD	4	4	3	4	3	5	23	LANDMARK	S	ON-SITE SAVE Y	
1413	RO	30	Red Oak	Quercus rubra	GOOD	4	3	4	4	3	5	23	LANDMARK	S	ON-SITE SAVE Y	
1414	HL	7	Honeylocust	Gleditsia triacanthos	GOOD	4	3	3	4	2	4	20		R	Y	
1415	AU	17	Austrian Pine	Pinus nigra	GOOD	3	3	3	4	2	3	18		S	N	
1416	AU	15	Austrian Pine	Pinus nigra	POOR	4	3	3	4	2	3	19		S	N	
1417	AU	18	Austrian Pine	Pinus nigra	POOR	4	3	3	4	2	3	19	LANDMARK	S	N	
1418	AU	14	Austrian Pine	Pinus nigra	FAIR	4	3	3	4	2	3	19		S	N	
1419	TH	12	Thornapple/Hawthorne	Craegagus spp.	GOOD	3	4	3	4	4	4	22	LANDMARK	R	Y	REPLACE
1420	TH	15	Thornapple/Hawthorne	Craegagus spp.	GOOD	4	4	4	4	4	4	23	LANDMARK	R	Y	REPLACE
1421	TH	8	Thornapple/Hawthorne	Craegagus spp.	GOOD	4	4	3	4	3	4	22		R	Y	
1422	CA	8	Crab Apple	Malus caronana	GOOD	4	4	3	4	3	4	22		S	Y	
1423	AU	19	Austrian Pine	Pinus nigra	POOR	4	3	3	4	2	4	20	LANDMARK	S	N	
1424	CA	9	Crab Apple	Malus caronana	GOOD	3	4	3	3	3	4	20		S	Y	
1425	LL	13	Littleleaf Linden	Tilia Cordata	GOOD	4	4	3	4	3	5	23		S	N	
1426	AU	16	Austrian Pine	Pinus nigra	POOR	3	3	2	4	2	3	17		S	N	
1427	TH	10	Thornapple/Hawthorne	Craegagus spp.	GOOD	4	4	3	4	3	4	22		S	N	
1428	TH	5	Thornapple/Hawthorne	Craegagus spp.	GOOD	4	4	3	3	3	4	21		S	N	
1429	RM	10	Red Maple	Acer rubrum	GOOD	4	4	3	4	4	5	24		S	N	
1430	CA	16	Crab Apple	Malus caronana	GOOD	3	4	3	4	3	3	20	LANDMARK	S	ON-SITE SAVE Y	
1431	CA	6	Crab Apple	Malus caronana	GOOD	4	4	3	4	3	3	21		R	Y	
1432	CA	11	Crab Apple	Malus caronana	GOOD	4	4	4	4	3	3	22		S	N	
no tag	CA	4	Crab Apple	Malus caronana	GOOD	4	4	3	4	3	3	21		S	N	
1433	RM	9	Red Maple	Acer rubrum	GOOD	4	4	4	4	4	5	25		S	N	
1434	CA	12	Crab Apple	Malus caronana	GOOD	4	4	3	4	4	4	23	LANDMARK	S	N	
1435	HL	17	Honeylocust	Gleditsia triacanthos	GOOD	4	4	3	4	4	4	23		S	N	
1436	CA	8	Crab Apple	Malus caronana	GOOD	4	3	4	4	3	4	22		R	Y	
1437	CA	11	Crab Apple	Malus caronana	GOOD	4	3	3	4	3	4	21		R	Y	
no tag	CA	10	Crab Apple	Malus caronana	GOOD	3	3	3	4	3	4	20		R	Y	
1438	CA	8	Crab Apple	Malus caronana	GOOD	3	3	3	4	3	4	20		S	Y	
1439	HL	5	Honeylocust	Gleditsia triacanthos	GOOD	4	4	3	4	4	4	23		S	Y	
1440	HL	8	Honeylocust	Gleditsia triacanthos	GOOD	4	4	4	4	3	4	23		S	Y	
1441	RM	8	Red Maple	Acer rubrum	GOOD	4	4	4	4	3	5	24		S	N	
1442	AU	23	Austrian Pine	Pinus nigra	GOOD	4	4	3	4	2	3	20	LANDMARK	S	N	
1444	TH	7	Thornapple/Hawthorne	Craegagus spp.	GOOD	4	4	4	4	3	4	23		S	N	
1445	AU	10	Austrian Pine	Pinus nigra	GOOD	4	4	2	4	2	3	19		S	N	
1446	AU	11	Austrian Pine	Pinus nigra	GOOD	3	4	3	4	2	3	19		S	N	
1447	AU	16	Austrian Pine	Pinus nigra	GOOD	4	4	3	4	3	3	21		S	N	
1448	AU	26	Austrian Pine	Pinus nigra	GOOD	4	4	3	3	3	3	20	LANDMARK	S	ON-SITE SAVE Y	
1449	BL	13	Black Locust	Robinia pseudacacia	GOOD	3	4	3	4	3	4	21	INVASIVE	S	N	
1450	BL	21	Black Locust	Robinia pseudacacia	GOOD	4	4	3	4	3	4	22	INVASIVE	S	N	
1451	BL	9	Black Locust	Robinia pseudacacia	GOOD	3	4	3	4	2	3	19	INVASIVE	S	N	
1452	JP	11	Jack Pine	Pinus banksiana	GOOD	3	4	4	4	3	4	22		S	N	
1453	BL	20	Black Locust	Robinia pseudacacia	GOOD	4	4	3	4	3	4	22	INVASIVE	S	N	
1454	HL	8	Honeylocust	Gleditsia triacanthos	GOOD	4	4	4	4	3	4	23		R	Y	
1455	TH	10	Thornapple/Hawthorne	Craegagus spp.	GOOD	4	4	3	4	3	4	22		R	Y	
1456	TH	15	Thornapple/Hawthorne	Craegagus spp.	GOOD	4	4	3	4	3	4	22	LANDMARK	R	Y	REPLACE
1457	TH	10	Thornapple/Hawthorne	Craegagus spp.	GOOD	4	4	3	4	3	4	22		R	Y	
1458	AU	13	Austrian Pine	Pinus nigra	GOOD	3	4	3	3	3	3	19		R	Y	
1459	BP	13	Bradford Pear	Pyrus calleryana	GOOD	4	4	3	4	4	4	23		S	N	
1460	AU	15	Austrian Pine	Pinus nigra	GOOD	3	4	3	3	3	3	19		S	N	
1461	RO	21	Red Oak	Quercus rubra	GOOD	4	4	3	4	3	5	23	LANDMARK	R	Y	REPLACE
1462	PB	8	Paper Birch	Betula papyrifera	GOOD	4	4	4	3	4	4	23		R	Y	
1463	NM	20	Norway Maple	Acer platanoides	GOOD	4	4	4	4	4	5	24	INVASIVE	S	N	
1464	LL	24	Littleleaf Linden	Tilia Cordata	GOOD	4	4	3	4	4	5	25	LANDMARK	S	N	
1465	RM	10	Red Maple	Acer rubrum	GOOD	4	4	3	3	4	5	23		S	N	
1466	BX	43	Box-elder	Acer-negundo	GOOD	3	4	2	3	2	3	17	INVASIVE	R	Y	
1467	LL	20	Littleleaf Linden	Tilia Cordata	GOOD	4	4	3	4	4	5	24	LANDMARK	S	ON-SITE SAVE Y	
1468	NM	9	Norway Maple	Acer platanoides	GOOD	4	4	4	4	4	5	25	INVASIVE	R	Y	
1469	JP	12	Jack Pine	Pinus banksiana	GOOD	4	4	3	4	4	4	23		R	Y	
1470	HL	14	Honeylocust	Gleditsia triacanthos	GOOD	4	4	3	4	4	4	23		S	N	
1471	JP	6	Jack Pine	Pinus banksiana	GOOD	4	4	3	4	4	4	23		R	Y	

**EXISTING LAND USE:**  
 THE SITE IS CURRENTLY DEVELOPED AS A MIXED USE HOTEL/RESTAURANT USE, AND ALMOST HALF OF THE SITE IS PAVED.

**NATURAL FEATURES INVENTORY:**  
 SEE THIS SHEET AND SHEET L-1 FOR LOCATIONS OF EXISTING NATURAL FEATURES. THERE ARE NO WETLANDS OR WATERCOURSE. THERE ARE NO WOODLAND TREES ON-SITE. THERE ARE EXISTING SITE TREES AND EXISTING LANDMARK TREES. THERE ARE NO STEEP SLOPES AND NO FLOODPLAINS.

**PROTECTION PLAN:**  
 LANDMARK TREE (ANY TREE 24" AND UP OR ON THE LANDMARK TREE LIST TABLE 5:23-1) TOTAL OF 9 LANDMARK TREES EXISTING ON-SITE.

REMOVE 4 LANDMARK TREES ON-SITE. ALTERNATIVE ANALYSIS AND JUSTIFICATION:  
 #1419 12" HAWTHORNE, #1420 15" HAWTHORNE, #1456 15" HAWTHORNE, LOCATED WITHIN PARKING AREA NECESSARY FOR DEVELOPMENT.  
 REMOVE TREE #1461 21" RED OAK, WOULD BE LOCATED WITHIN UTILITY EASEMENT, BEST LOCATION FOR DUMPSTER DUE TO UTILITIES AND BEST USE LOCATION DISTANCE FOR RESTAURANT AND HOTEL.  
 TOTAL OF 63" DBH LM REMOVED.

SAVE 5 LANDMARK TREES ON-SITE. #1412 32" RED OAK, #1413 30" RED OAK, #1430 16" CRAB, #1448 26" AUSTRIAN PINE, #1467 20" LINDEN TOTAL OF 124" DBH LM SAVED.  
 LANDMARK TREES TO REMAIN WILL BE SECTIONED OFF FROM THE DEVELOPMENT AREA WITH TREE PROTECTION FENCING AND SILT FENCE.

TREE PROTECTION SHOWN OUTSIDE OF THE CRITICAL ROOT ZONE FOR LANDMARK TREES, FENCE PLACED OUTSIDE DIA. OF TREE AT 1' FOR EVERY 1" OF TREE DBH.

**MITIGATION AND PROTECTION:**  
 MITIGATION REQUIRED: TREE REPLACEMENT REQUIRED FOR LANDMARK TREES REMOVED. TREE PROTECTION REQUIRED AT CRITICAL ROOT ZONE FOR LANDMARK TREES TO REMAIN AND ALL TREES TO REMAIN.

NO.	DATE	REVISIONS
1	10/21/16	REVISED PER CITY COMMENTS
2	04/02/16	REVISED PER CITY COMMENTS
3	04/02/16	REVISED PER CITY COMMENTS
4	04/02/16	REVISED PER CITY COMMENTS
5	04/02/16	REVISED PER CITY COMMENTS
6	04/02/16	REVISED PER CITY COMMENTS
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98	04/02/16	REVISED PER CITY COMMENTS
99	04/02/16	REVISED PER CITY COMMENTS
100	04/02/16	REVISED PER CITY COMMENTS



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

THIS DRAWING AND DESIGN ARE THE PROPERTY OF PEA, INC. THEY ARE SUBMITTED TO THE CONTRACTOR FOR THEIR USE ONLY. THEY ARE NOT TO BE REPRODUCED, COPIED, REPRODUCED, OR







**EAST ELEVATION**  
 SCALE: 1/8" = 1'-0" 5



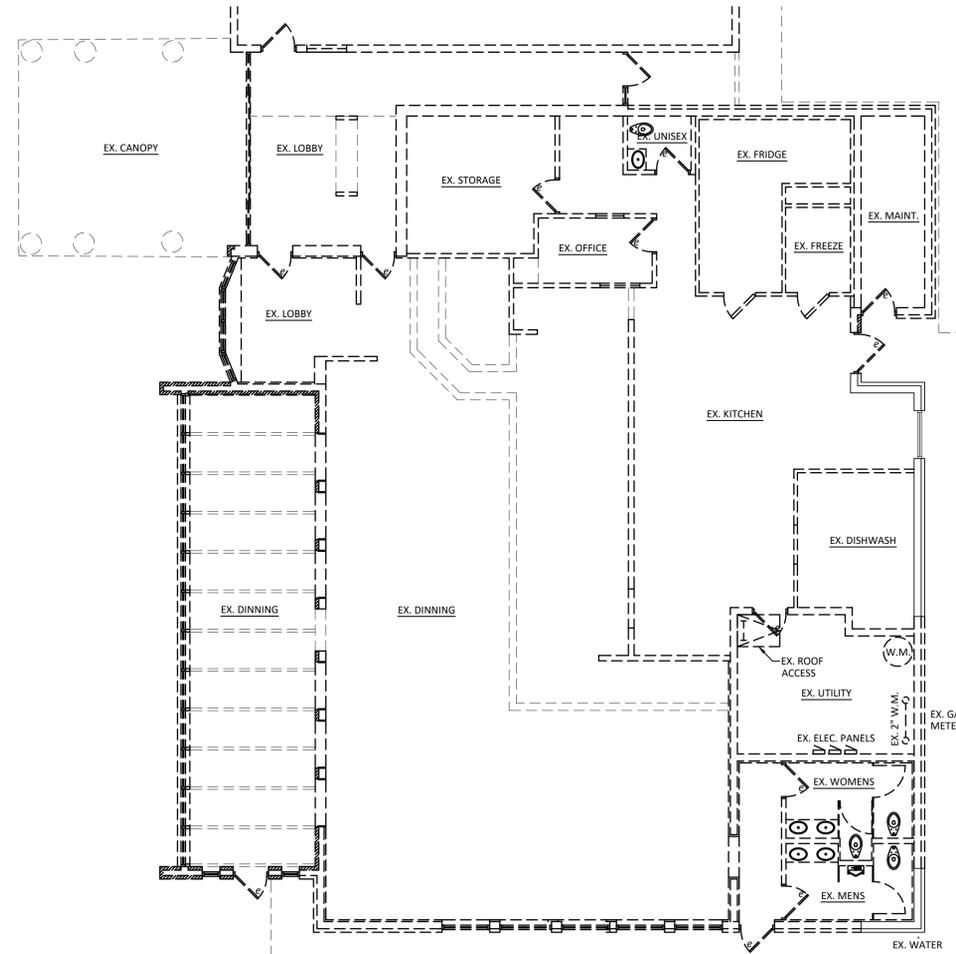
**NORTH ELEVATION**  
 SCALE: 1/8" = 1'-0" 4



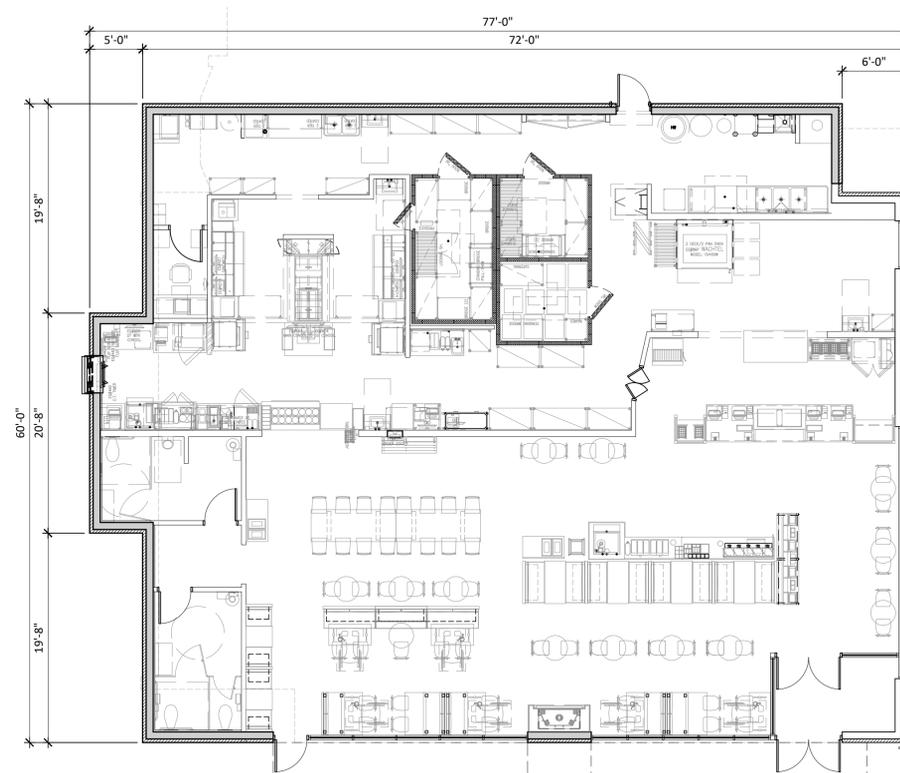
**WEST ELEVATION**  
 SCALE: 1/8" = 1'-0" 3



**SOUTH ELEVATION**  
 SCALE: 1/8" = 1'-0" 2



**EXISTING/DEMO FLOOR PLAN**  
 SCALE: 1/8" = 1'-0" EX.



**PRELIMINARY FLOOR PLAN**  
 SCALE: 1/8" = 1'-0" 1

Proposed

RESTAURANT

3621 PLYMOUTH RD,  
 ANN ARBOR, MI

REV	DATE	ISSUED
01-30-19		SITE PLAN REVIEW
		ISSUED

This drawing is an instrument of service, remains the property of Detroit Architectural Group, Inc. Any changes, publication, or unauthorized use is prohibited unless expressly approved.

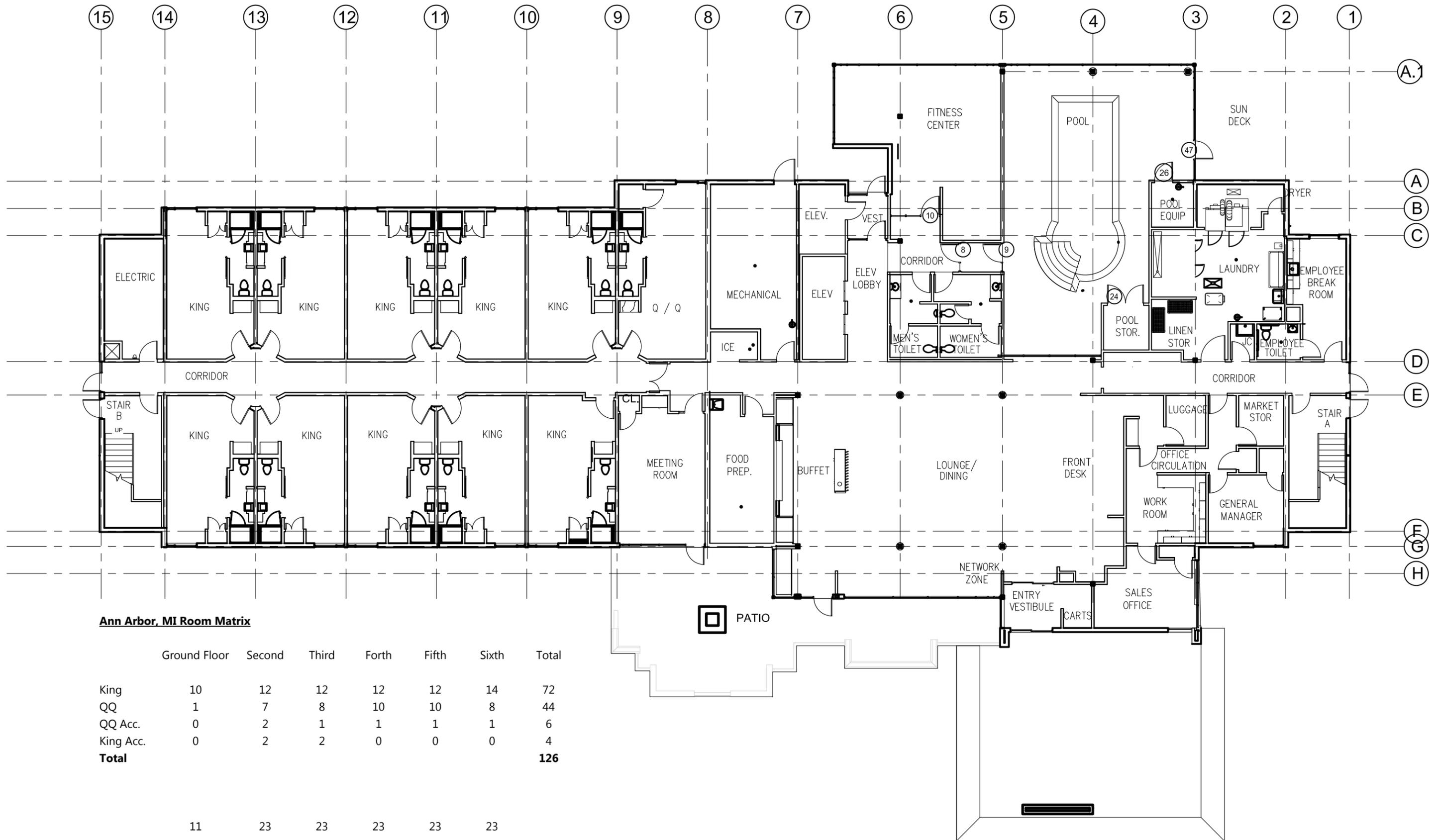
SEAL:

DRAWN BY: TJG  
 CHECKED BY: VW  
 IN CHARGE: VW

SHEET NAME:  
 PRELIMINARY FLOOR PLAN  
 AND ELEVATIONS

JOB NO:  
 18-175

SHEET NO:  
 PP-1



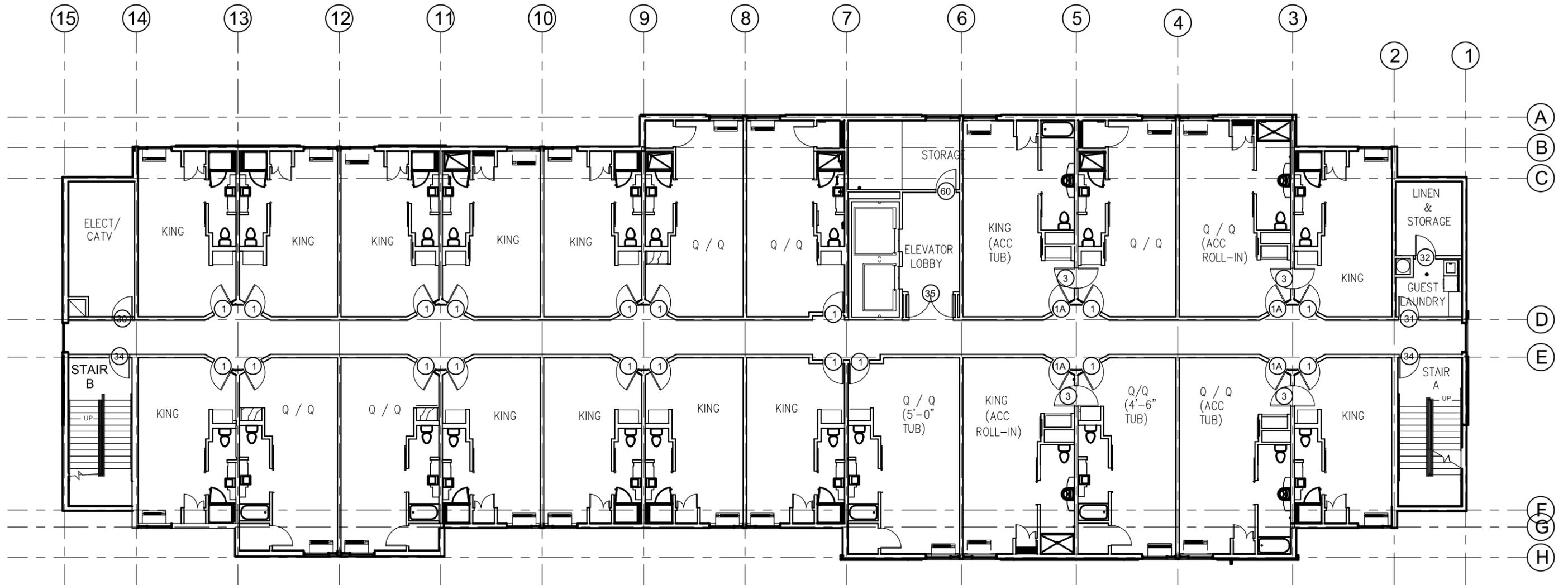
**Ann Arbor, MI Room Matrix**

	Ground Floor	Second	Third	Forth	Fifth	Sixth	Total
King	10	12	12	12	12	14	72
QQ	1	7	8	10	10	8	44
QQ Acc.	0	2	1	1	1	1	6
King Acc.	0	2	2	0	0	0	4
<b>Total</b>							<b>126</b>

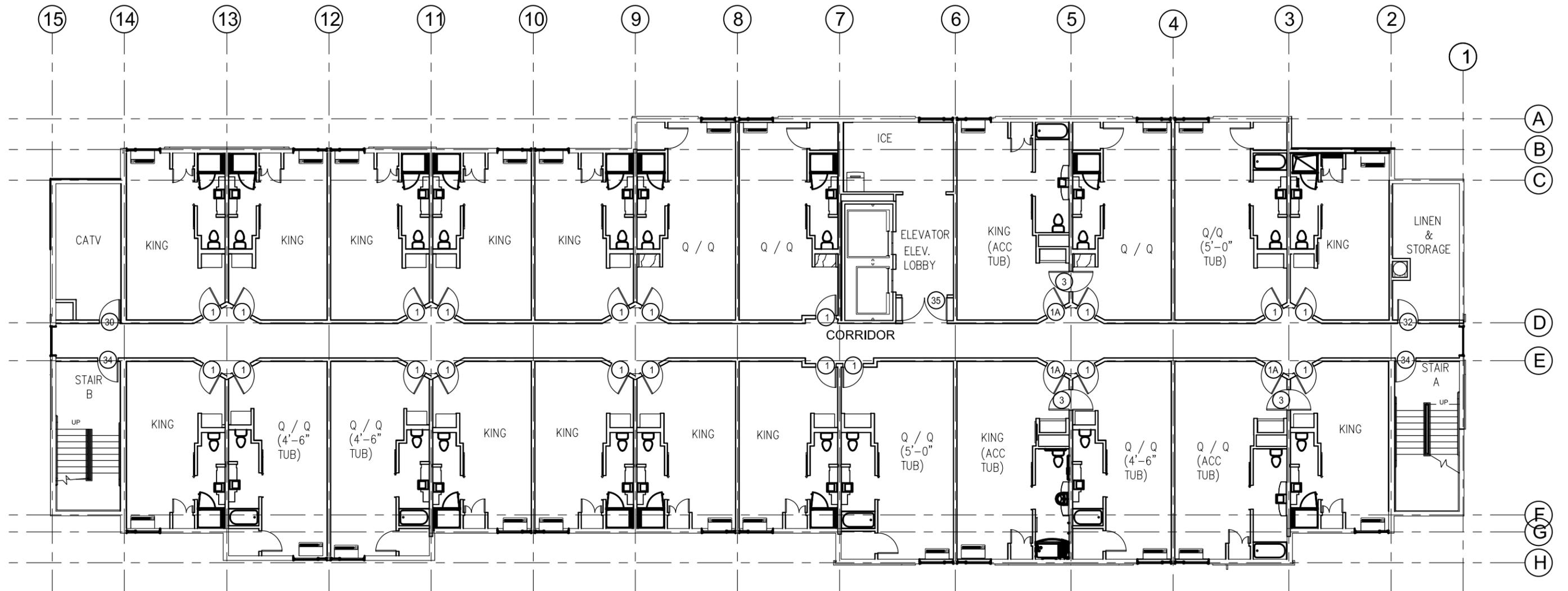
11      23      23      23      23      23

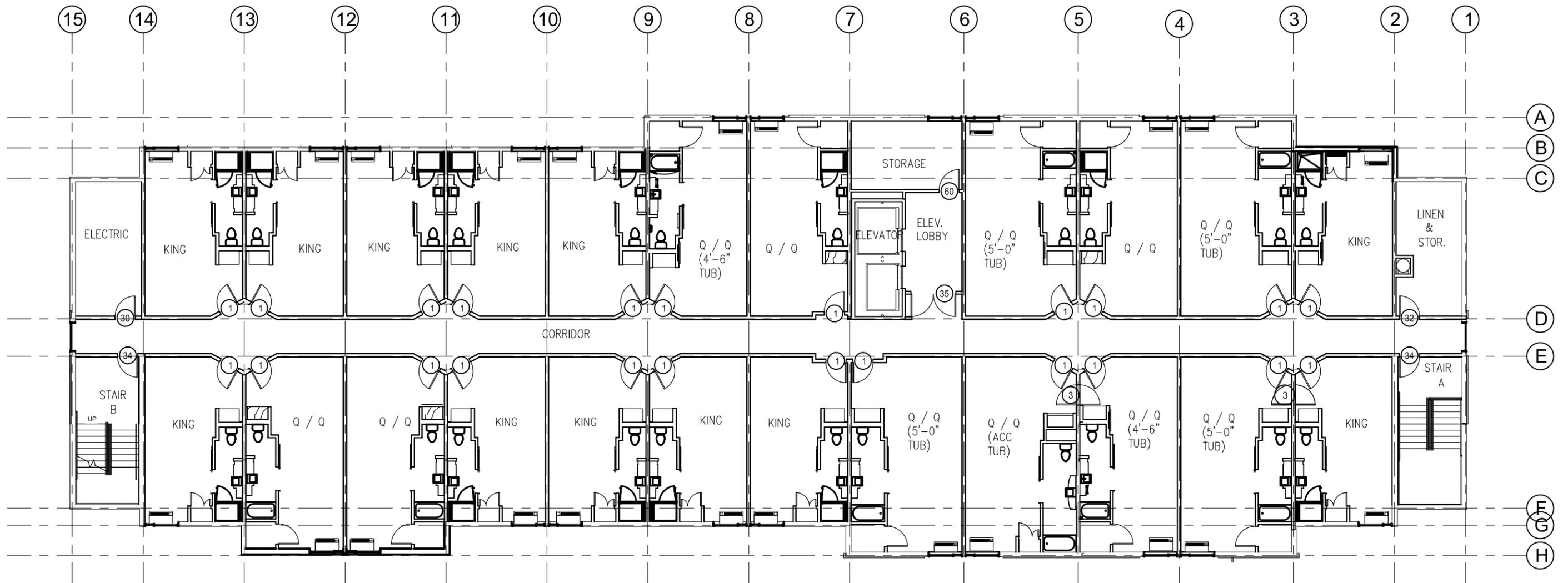
King      60%  
Queen    40%

# HOTEL DEVELOPMENT | GROUND FLOOR PLAN

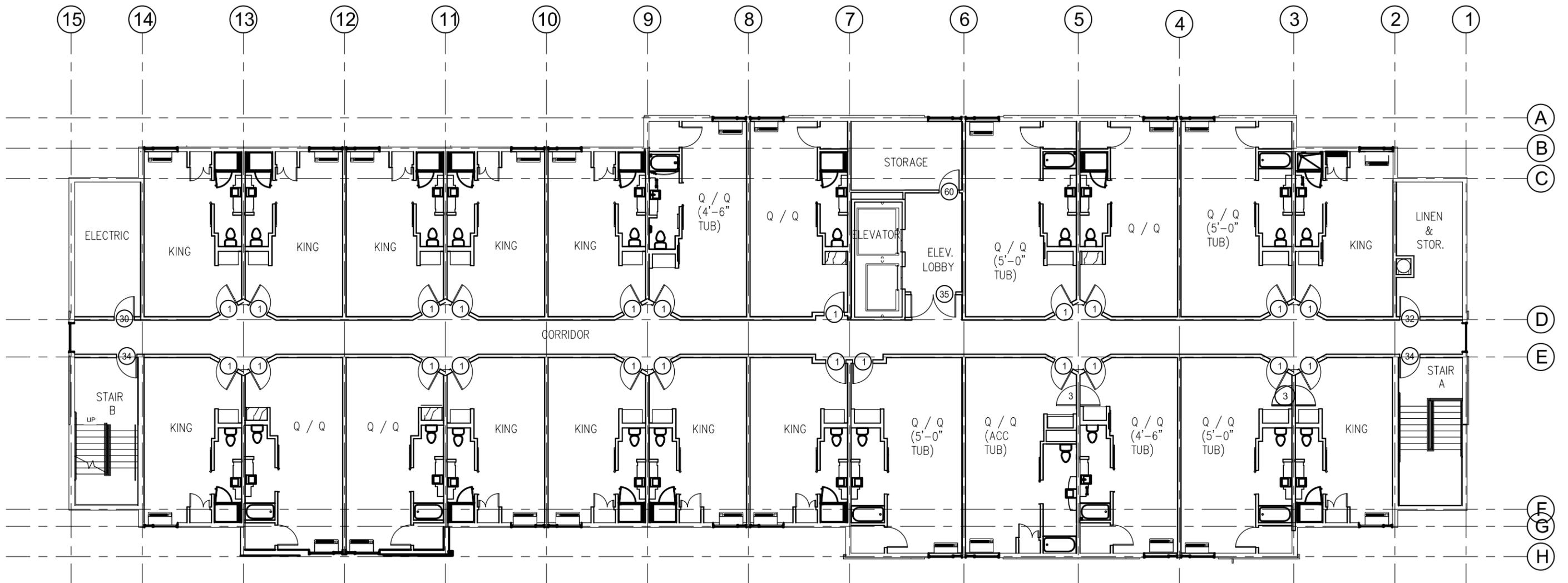


# HOTEL DEVELOPMENT | SECOND FLOOR PLAN



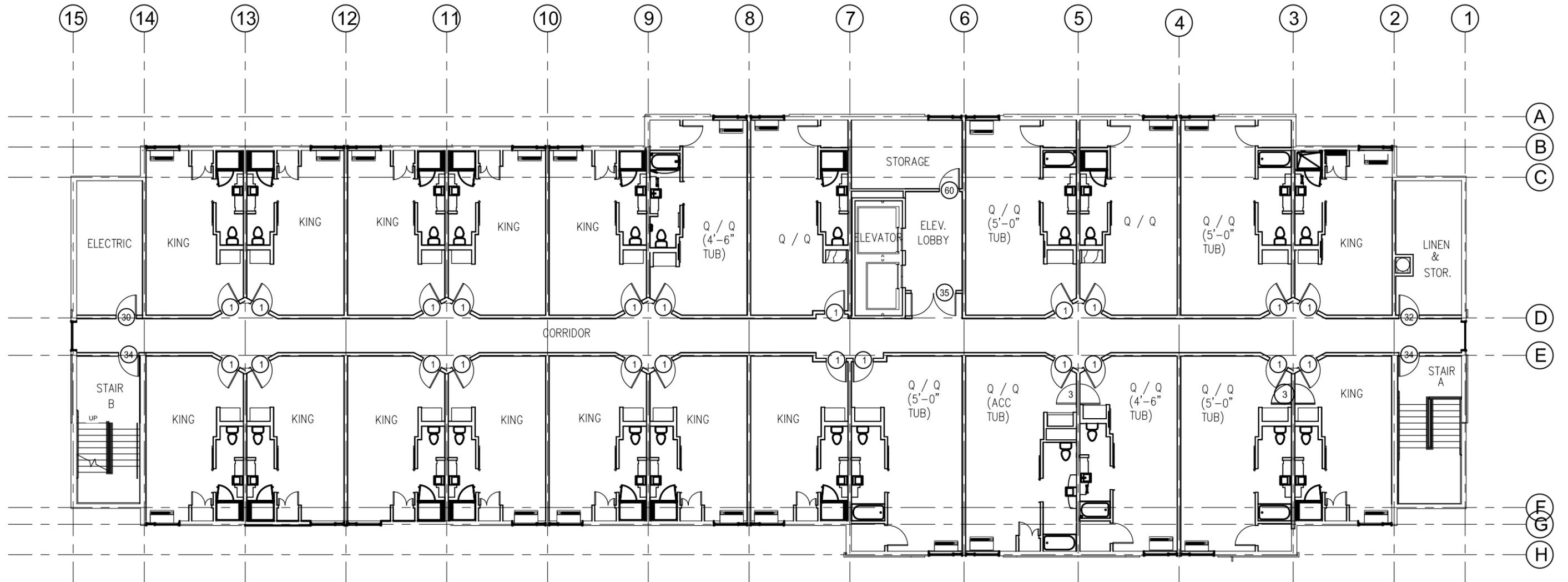


# HOTEL DEVELOPMENT | FOURTH FLOOR PLAN



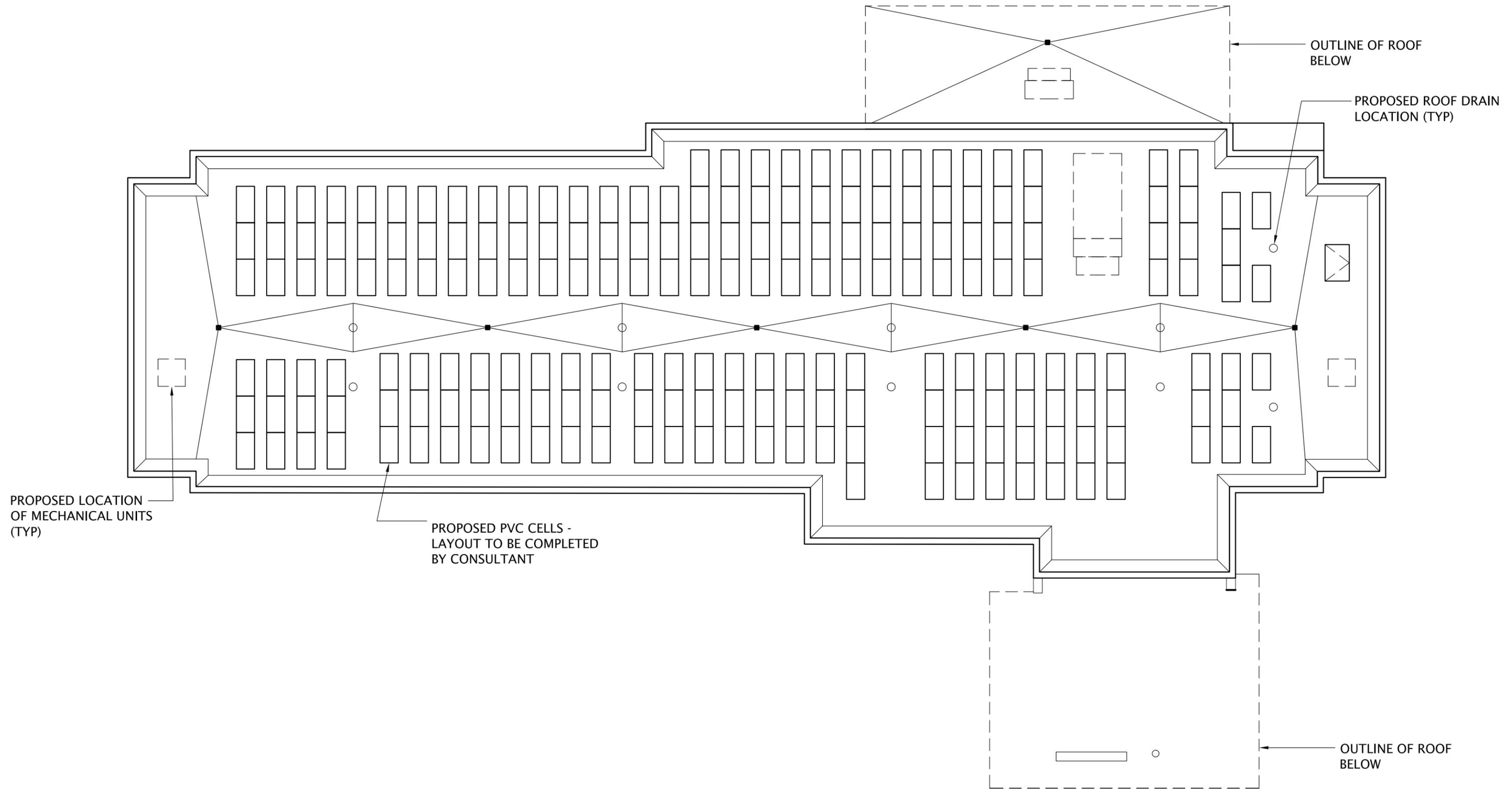
# HOTEL DEVELOPMENT | FIFTH FLOOR PLAN





# HOTEL DEVELOPMENT | SIXTH FLOOR PLAN





# HOTEL DEVELOPMENT | ROOF PLAN



WEST ELEVATION

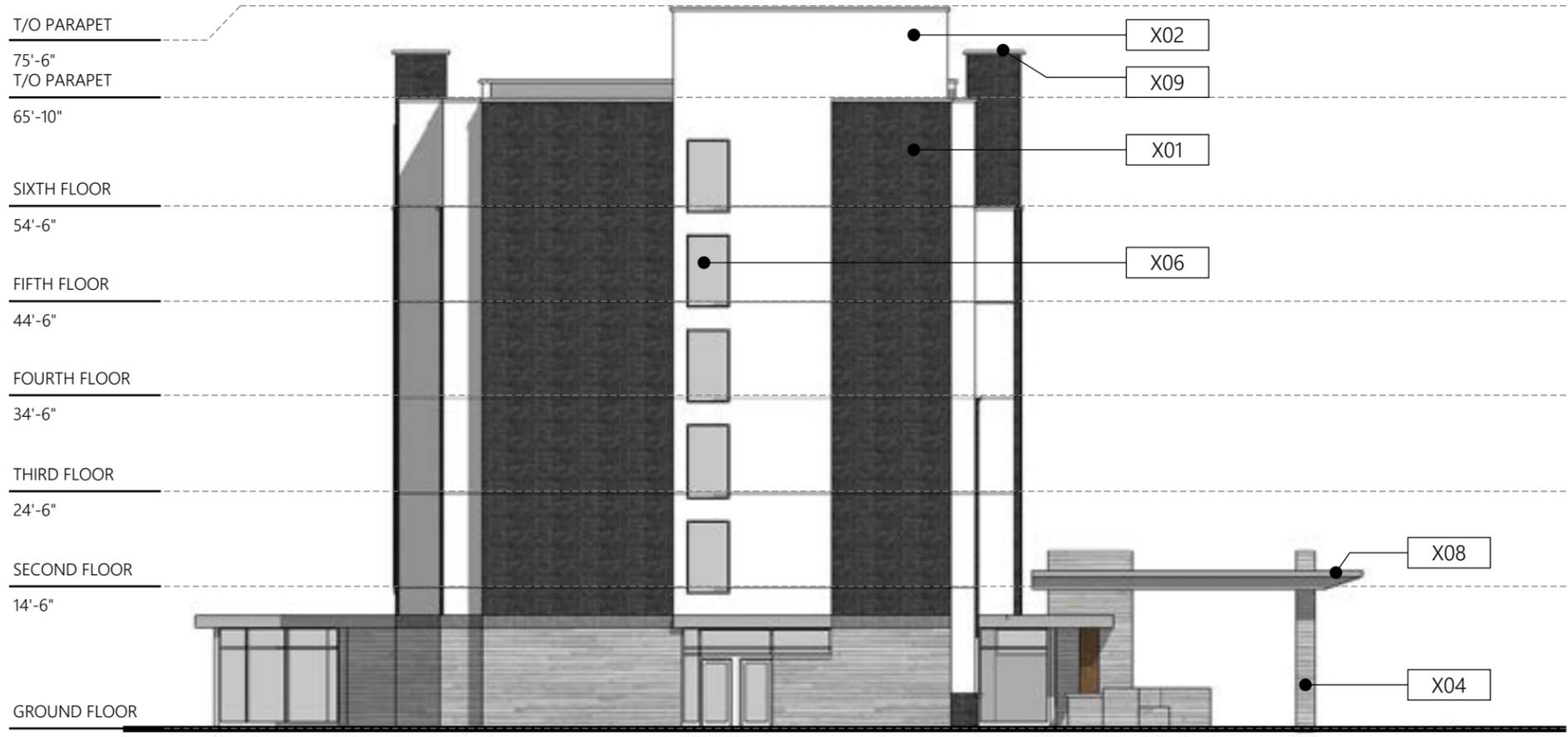


SOUTH ELEVATION

EXTERIOR MATERIALS	
X01	4" BRICK VENEER, COLOR: DARK GREY
X02	EIFS, COLOR: WHITE
X03	ALUMINUM SIDING, WOOD LOOK
X04	4" STONE VENEER
X05	4" BRICK VENEER, COLOR: DARK GREY, SOLDIER COURSE
X06	CLEAR GLASS
X07	PRECAST CONCRETE
X08	ALUMINUM PANEL
X09	PREFINISHED METAL COPING, COLOR: WHITE



EAST ELEVATION



NORTH ELEVATION

EXTERIOR MATERIALS	
X01	4" BRICK VENEER, COLOR: DARK GREY
X02	EIFS, COLOR: WHITE
X03	ALUMINUM SIDING, WOOD LOOK
X04	4" STONE VENEER
X05	4" BRICK VENEER, COLOR: DARK GREY, SOLDIER COURSE
X06	CLEAR GLASS
X07	PRECAST CONCRETE
X08	ALUMINUM PANEL
X09	PREFINISHED METAL COPING, COLOR: WHITE



EX01

Glen-Gery - 4" Brick Veneer  
Color: Crystal Black



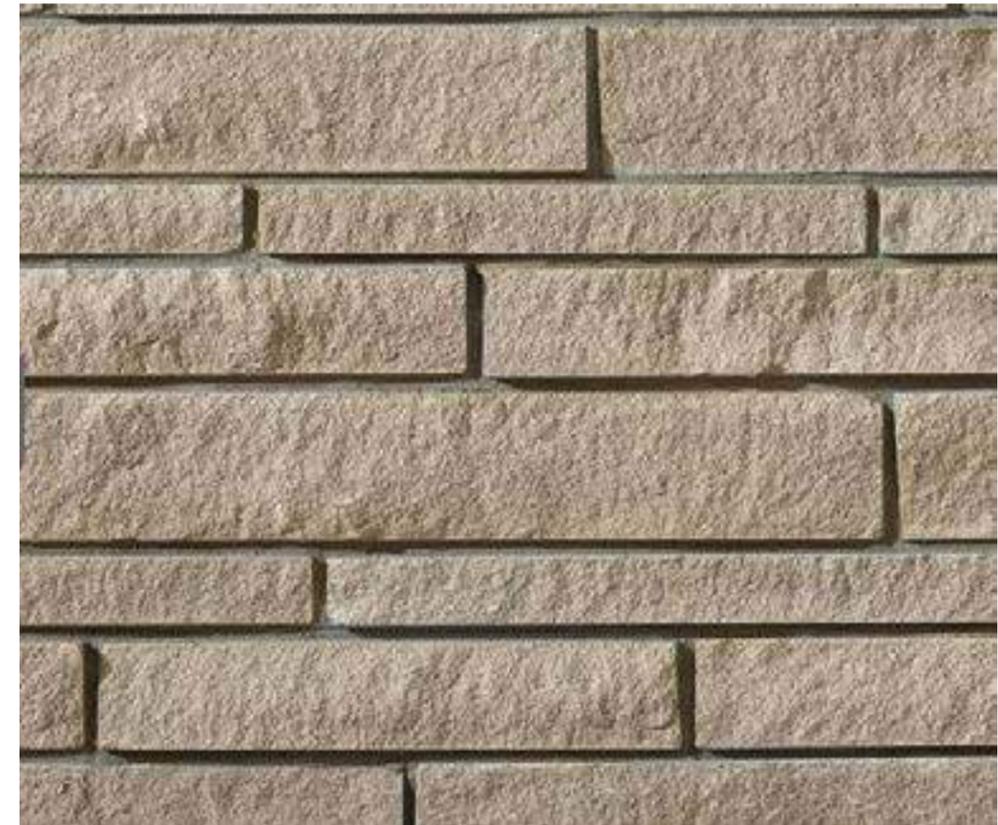
EX02

EIFS - Color: 20001 ITS White



EX03

Longboard - Extruded Aluminum Siding  
Color: Dark Cherry



EX04

Arriscraft - 4" Stone Veneer  
Color: Frost - Urban Landscape



## MEMORANDUM

**DATE:** October 29, 2019

**TO:** Alexis DiLeo  
Planning Division

**FROM:** Anne M. Warrow, PE, Project Manager  
Public Services Area – Engineering Review  
awarrow@a2gov.org, 734 794-6410 ext. 43639

**RE:** MMG Plymouth Mixed Use Development for CPC  
File No. SP19-003, Z19-007 & SEU19-002  
Review # 4 of plans dated October 23, 2019

*Amw*

Based on our review, this petition **should not** be scheduled for Planning Commission action until the items noted have been addressed:

1. Sheet C-1.0 and C-1.1: All easements shall reference the recorded Liber and Page numbers.
2. Sheet C-2.0 - Dimensional & Paving Plan:
  - a. An easement for the western portion of the proposed sidewalk along Plymouth Road shall be shown on the plans.
  - b. Clarify if any part of the existing spillway at the southeast corner of the site will remain. If not, remove line work related to the part of the spillway that will be removed and note it on the plans.
  - c. The sidewalk note shall reference Chapter 49, not "R9."
3. Sheet C-5.0 - Utility Sheet:
  - a. Show the location and size of water and sanitary sewer leads that serve the two existing 2-story hotel buildings that will remain on the western half of the parcel.
  - b. A proposed 12" connection to storm is shown from the proposed 6-story hotel. Clearly show and identify the existing storm sewer to which this lead will connect.
  - c. Show the proposed sanitary sewer easement on the plans. Sanitary sewer easements shall be twice the depth plus ten feet (a minimum of 30'), with the sewer pipe offset five feet from the center. Note that this easement shall be shown separately from the proposed water main easement.

Submit a legal description and drawing for the sanitary sewer easement for review that meets the following criteria:

- i. Submitted as an 8.5" x 11" PDF with at least 1/2" margins
- ii. Labeled as "Exhibit A"

- iii. Use a font size not less than 12 for the legal description
  - iv. Use upper and lowercase letters
  - v. Use the degree symbol (°) in place of the word degree
  - vi. Be extractable text (i.e., the text must be able to be cut and pasted from the PDF into Microsoft Word without text errors). This will require the legal description be converted to a PDF, as opposed to scanned
- d. Show the proposed water main easement separately from the sanitary easement. Water main easements shall be forty feet in width, including twenty feet around all sides of a fire hydrant, with the water main centered within.
- e. Sanitary Sewer Mitigation Calculations:
- i. The plans list four types of hotel rooms; confirm that all proposed hotel rooms are less than 400 sq. ft.
  - ii. Confirm the number of new hotel rooms, as this sheet shows 127, but elsewhere in the plans it is listed as 126.
  - iii. The plans indicate that there is a pool, a lounge/dining area, a fitness center, meeting room, lobby, laundry, various offices. These uses must be included in the proposed flows.
  - iv. The flow rates adopted in Table A of the *Developer Offset-Mitigation Program* shall be used in completing these calculations.
  - v. The **increase in flow** between the proposed and existing uses (including all existing buildings that will remain in use) shall be multiplied by the Peaking Factor of 4 and a System Recovery Factor of 1.1.
- f. Show the discharge location of the pool backwash discharge and its connection to the storm sewer. Note on the plans that pool backwash water **may not** discharge to the sanitary sewer.

The following items are noted and/or require no further action at this time:

1. We have no comment on the special exception use request.
2. The submitted City of Ann Arbor Geodetic Reference System (AAGRS) Coordinate Transformation Worksheet is approved. Once the site plan is approved, CAD files shall be submitted with all applicable CAD layer information.
3. Information regarding Water and Sanitary Capital Cost Recovery Charges and Extension Charges may be found here: [https://www.a2gov.org/departments/systems-planning/planning-areas/water-resources/Documents/Fee%20Schedule\\_2016%20final.pdf](https://www.a2gov.org/departments/systems-planning/planning-areas/water-resources/Documents/Fee%20Schedule_2016%20final.pdf).
4. Water service metering shall occur at the point the service leads enter the building.
5. As the project proposes a new domestic and fire service connection, the applicant must submit a backflow prevention and metering arrangement drawing for the City to review and approve prior to the start of construction. Approval of site or construction plans by the City does not relieve the applicant of complying with City standards on backflow prevention and metering. It is the responsibility of the applicant to submit appropriate plans to the City for review when available, and no later than the start of construction.

6. Construction level details shall be reviewed at the construction plan stage, such as:
  - a. Valving
  - b. Stationing.
  - c. Specific horizontal and vertical location of proposed utilities.
  - d. Final utility main sizing
  - e. Sidewalk design, including both longitudinal and transverse grades, and specifically information concerning ramps
  - f. General Utility Notes on Sheet C-5.0
  
7. The existing structures are presumed not to have footing drains connected to sanitary sewer. The 2-story motel structures, constructed in 1980, and the single-story restaurant, constructed in 1981, have concrete slab foundations with no basements.

AMW:ah (S:\Engineering\Private Development\Comments\MMG Plymouth Mixed Use Development\MMG Plymouth Mixed Use Development SP&Z 4.docx)

- C: Private Development Team (via Email)  
Traffic Team (via Email)  
Kathleen Summersgill, Fire Marshal (via Email)  
Michael Reddmann, Fire Inspector (via Email)

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-MEMORANDUM-

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**TO:** Alexis DiLeo  
Planning and Development Services Unit

**FROM:** Tiffany Giacobazzi, Urban Forestry and Natural Resources Planning Coordinator

**DATE:** October 28, 2019

**SUBJECT:** **Site Plan:** MMG Plymouth Mixed Use Development  
**Location:** 3611 Plymouth Road  
**Plans Dated:** October 21, 2019  
**Project Number:** SP19-003

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We have reviewed the proposed site plan and provide the following comments for the petitioner:

**Landscaping and Screening**

1. **Sheet L-1.0. Deciduous Tree Plant List. Mitigation Trees.** Landmark mitigation trees must be native to Michigan, and must be straight speices, not cultivars or varieties. The following speices are not native to Michigan and/or are cultivated variety that has a form that is not found naturally in Michigan.
  - a. Betula nigra (River birch): not native to Michigan.
2. **Sheet L-1.1. General Planting Notes.** (Chapter 55, Article V 5.29.6.) The following notes must be added to the Notes section.
  - a. Change Note 17 from Chapter 62 stds.” to “city code”. Chapter 62 no longer exists.

**Note:** Expect additional comments when the above comments have been addressed.