



CITY of NOVI CITY COUNCIL

Agenda Item K
August 28, 2017

SUBJECT: Approval of a request from Etkin, LLC for a variance from Chapter 5, Section 2.2.4 (B)(7) of the Engineering Design Manual to allow the construction of a permanent storm water pump station to service drainage for the proposed Fountain Office Park (A123 Systems) development located south of 12 Mile Road and west of Cabaret Drive, subject to the applicant meeting requirements of said section of the Engineering Design Manual.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division

CITY MANAGER APPROVAL: *DA*

BACKGROUND INFORMATION:

The applicant, Etkin, LLC, is requesting a variance from Chapter 5, Section 2.2.4 (B)(7) of the Engineering Design Manual (which is adopted by reference in Section 11-93(a) of the Novi Code of Ordinances) to allow a pumped outlet for storm water for the development site. The applicant has submitted a site plan which proposes to provide onsite detention for 100-year flood events.

The topography of the southern portion of the site, the area being developed, currently discharges storm water via sheet flow along the southwestern and southern boundaries to the CSX railway ditch. Changing the characteristics of the site discharge and releasing it to the CSX railway ditch requires a drainage easement from the railroad company. With support from the Engineering Division and Community Development Department, an alternative storm water management system is being proposed to pump the discharge to a catch basin in Cabaret Drive in the interest of time with the expectation and experience that it is not feasible to receive accommodation from a railroad company.

The Engineering Design Manual states that pumped outlets are not permitted absent a variance from City Council, which shall require demonstration that it is in the public interest and no feasible alternative exists. The applicant has demonstrated in their variance request that draining the site via gravity is not feasible due to the challenges to obtain an easement from the railroad company.

There are several other requirements in the Engineering Design Manual that the applicant has agreed to provide as part of the variance application (see attached excerpt of the Engineering Design manual for the requirements). Among those requirements are a redundant pump, a back-up generator, a maintenance plan and a maintenance agreement with the City that will be recorded.

The variance requests were reviewed by Community Development, the Landscape Architect, DPS Field Operations, DPS Engineering, City Attorney and Fire using the criteria stated for this section of the Engineering Design Manual and Section 11-10 of the

ordinance (attached). Staff takes no exception to this request because the applicant has demonstrated that no feasible alternative exists for the conveyance of storm water from the site. Given the lack of alternatives, Engineering is willing to support the request as long as the applicant meets all the requirements under this section of the Engineering Design Manual to protect the public should the system fail to function.

RECOMMENDED ACTION: Approval of a request from Etkin, LLC for a variance from Chapter 5, Section 2.2.4 (B)(7) of the Engineering Design Manual to allow the construction of a permanent storm water pump station to service drainage for the proposed Fountain Office Park (A123 Systems) development located south of 12 Mile Road and west of Cabaret Drive, subject to the applicant meeting requirements of said section of the Engineering Design Manual.



cityofnovi.org

**CITY OF NOVI
Engineering Department**

MEMORANDUM

To: Charles Boulard, Community Development
Rick Meader, Landscape Architect
Beth Saarela, Attorney
Kevin Pierce, Fire Department
Matt Wiktorowski, Field Ops

From: Charles Anthony, Engineering

Date: August 21, 2017

Re: Variance from Design & Construction Standards
Etkin, LLC.

Attached is a request for a Variance from the Chapter 5 Section 2.2.4 (B)(7) of the Engineering Design Manual for the City of Novi. Please review for a future City Council Agenda. In accordance with Section 11-10 of the Ordinance, the following three conditions **must be met** for a variance to be granted by Council:

- 1) A literal application of the substantive requirement would result in exceptional, practical difficulty to the applicant;
- 2) The alternative proposed by the applicant would be adequate for the intended use and would not substantially deviate from the performance that would be obtained by strict enforcement of the standards; and,
- 3) The granting of the variance would not be detrimental to the public health, safety or welfare, nor injurious to adjoining or neighboring property.

Following review of the variance, check the appropriate box below and provide your signature. If you have no basis for recommending either approval or denial, please check the "No Exceptions Taken" box. If you are recommending approval or denial of the request, **please also complete the matrix on the reverse of this form.** Please return to my attention by **Tuesday, August 22, 2017.**

ROUTING

Delivered To	Returned On	RECOMMENDED ACTION			Signature
		Approval*	Denial*	No Exceptions Taken	
George Melistas (Engineering)	8/21/17			✓	
Charles Boulard (Comm Dev.)	8/21/17			✓	
Rick Meader (Landscape Arch)	8/21/17			✓	
Beth Saarela (City Attorney)	August 21, 2017			Per Letter August 21, 2017	
Jeff Johnson Kevin Pierce (Fire Department)	8/22/17			✓	

Matt Wiktorowski (Field Ops)	8/21/17					
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* SEE REVERSE

If recommending approval or denial, please complete the following:

1. Would a literal application of the substantive requirement of the ordinance result in an exceptional, practical difficulty to the application? Yes No

Explain:

2. Would the alternative proposed by the applicant be adequate for the Intended use and not deviate from the performance that would be obtained by strict enforcement of the standards? Yes No

Explain:

3. Would granting the variance not be detrimental to public health, safety, or welfare, and not injurious to adjoining or neighboring property? Yes No

Explain:

DCS Variance Location Map

A123 Pumped Discharge

Twelve Mile Rd
Twelve Mile Rd

50-22-15-126-016

Proposed Detention Pond with Proposed Outlet.

Proposed Pump Discharge to Existing Storm Sewer

Cabaret Dr

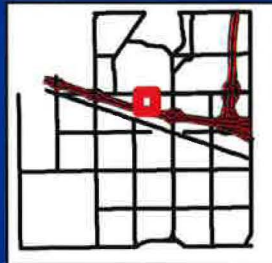


Map Author: Charles Anthony
Date: August 18, 2017
Project:
Version #:

Amended By:
Date:
Department:

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.



City of Novi

Engineering Division
Department of Public Services
26300 Lee BeGole Drive
Novi, MI 48375
cityofnovi.org

0 62.5 125 250 375 Feet

1 inch = 306 feet





Request for Variance Design and Construction Standards

Applicant Information

Name: Etkin (Acting as Development Manager)

Address: 200 Franklin Center 29000 Northwestern
Southfield, MI 48034

Phone No: 248.358.0800

Engineer Information

Name: PEA (Steve Sorensen)

Address: 2430 Rochester Court, Suite 100
Troy, MI 48083

Phone No: 248.689.9090

Applicant Status (please check one):

- Property Owner Developer Developer / Owner Representative
 Other _____

Project Name A123 Systems

Project Address/Location South Side of 12 Mile Road, West of Cabaret Drive

Variance Request Pumped Storm Water Outlet

Justification (attach additional pages if necessary)

The topography of the southern portion of the site, varies approximately 23 feet from North to South and currently discharges storm water via sheet flow along the southwestern and southern boundaries to the CSX railway ditch. Changing the characteristics of the site discharge and releasing it to the CSX railway ditch requires a drainage easement from the railroad company. Upon discussion with the City, an alternative storm water management system has been proposed to pump the discharge to a catch basin in Cabaret Drive consistent with the storm water master plan for regional detention in this area.

The city has stated that pumped outlets are not permitted absent a variance from City Council, which shall require demonstration that it is in the public interest and no feasible alternative exists. It is not feasible to drain the site via gravity due to the challenges involved to obtain an easement from the railroad company. Therefore a pumped outlet is being requested.

INTERNAL USE

Date Submitted: _____

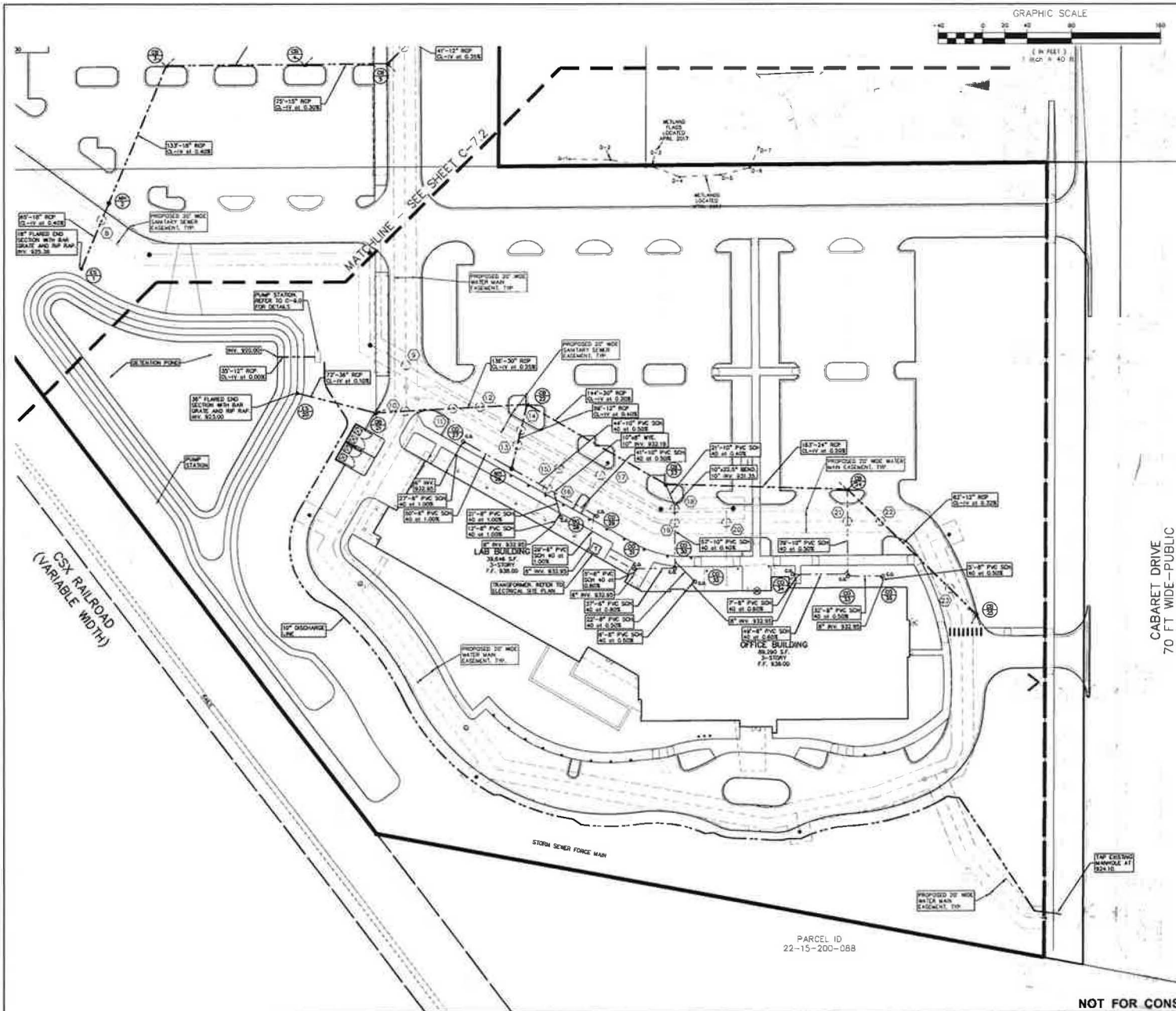
Code Section from which variance is sought: _____

- Submission Checklist: One (1) copy of plan on 8.5 x 11 size paper
 \$100 Filing Fee (No fee for driveway width variance requests)

Request Status: APPROVED DENIED

Authorized By: _____

Authorization Date: _____



LEGEND

- 18" DI PIPE
- 12" PVC SDN
- 8" PVC SDN
- 6" PVC SDN
- 4" PVC SDN
- 3" PVC SDN
- 2" PVC SDN
- 1.5" PVC SDN
- 1" PVC SDN
- 0.75" PVC SDN
- 0.5" PVC SDN
- 0.375" PVC SDN
- 0.25" PVC SDN
- 0.1875" PVC SDN
- 0.125" PVC SDN
- 0.0625" PVC SDN
- 18" DI PIPE
- 12" PVC SDN
- 8" PVC SDN
- 6" PVC SDN
- 4" PVC SDN
- 3" PVC SDN
- 2" PVC SDN
- 1.5" PVC SDN
- 1" PVC SDN
- 0.75" PVC SDN
- 0.5" PVC SDN
- 0.375" PVC SDN
- 0.25" PVC SDN
- 0.1875" PVC SDN
- 0.125" PVC SDN
- 0.0625" PVC SDN

GENERAL UTILITY NOTES:

- REFER TO SHEET C-3.5 FOR GENERAL UTILITY NOTES, UTILITY STRUCTURE TABLES, AND PUBLIC WATER MAIN AND SANITARY SEWER BASIS OF DESIGN.
- REFER TO SHEETS C-7.3 AND C-7.4 FOR WATER MAIN AND SANITARY SEWER PLANS.

FLOODPLAIN NOTE:
BY GRAPHICAL PLOTTING, SITE IS WITHIN ZONE "X" AREAS DETERMINED TO BE OUTSIDE OF THE 1% ANNUAL CHANCE FLOODPLAIN PER FLOOD INSURANCE RATE MAP NUMBER 28120-024P DATED SEPTEMBER 28, 2006.

SAND BACKFILL NOTE:
ALL UTILITIES UNDER PAYMENT OR WITHIN 3' OF THE EDGE OF PAYMENT (OR WITHIN THE 40' WIDE OF WILDLIFE OF PAYMENT) SHALL HAVE 1.5' CLASS 3 GRANULAR SANDFILL COMPACTED TO 95% MAX. DRY DENSITY (ASTM D-1557).

REVISIONS

NO.	DATE	DESCRIPTION
1	7/14/2011	ISSUED FOR PERMIT

3 FULL WORKING DAYS BEFORE YOU DIG CALL 811

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www.missing.com

PEA, Inc.

2430 Rochester Ct, Ste 100
Troy, MI 48063-1872
1 588 883 8200
1 248 889 1044
www.peainc.com

ETKIN, LLC
28100 HUNTERS HILL RD SUITE 200
SOUTHFIELD, MICHIGAN 48034

**STORM SEWER PLAN
FOUNTAIN OFFICE PARK**
PART OF THE MAP OF SECTION 16, T. 14 N., R. 4 E., S. 16 W., CO. OF WAYNE, MI.

ORIGINAL ISSUE DATE: JULY 14, 2011
PEA JOB NO: 3818-212
SCALE: 1" = 40'
DRAWING NUMBER: C-7.1

PARCEL ID
22-15-200-058

NOT FOR CONSTRUCTION

- perimeter of the riser between the elevation of the permanent water and the 100-year storm event. The riser will not function to restrict flow but will prevent clogging of the internal restrictive device.
- b. Hoods or trash racks shall be installed on the riser to prevent clogging.
 - c. The riser shall be placed near or within the embankment, to provide for ready maintenance access. Where the outlet structure is not located near enough to the bank to facilitate visual inspection of the structure, a stone bridge with a minimum top width of five (5) feet shall be provided.
 - d. The riser pipe shall be a minimum of three (3) feet in diameter and constructed of materials that will reduce future maintenance requirements.
6. Backwater on the outlet structure from the downstream drainage system will be evaluated when designing the outlet.
 7. Pumped outlets are not permitted absent a variance from City Council, which shall require demonstration that it is in the public interest and no feasible alternative exists. IF City Council grants a variance to allow a pumped outlet, the following documentation shall be standards shall apply:
 - a. The pump(s) shall be designed to meet the maximum discharge rate and time requirements for the 100-year and bankfull flood events. Minimum and maximum system head curves and pump curves shall be provided to verify the operating duty points of the pump(s).
 - b. Pumps shall be of appropriate construction for conveying storm water.
 - c. A redundant pump shall be provided.
 - d. A generator shall be provided for the pump station. A permanent on-site generator shall be provided or a generator receptacle in combination with a portable generator shall be provided.
 - e. A mechanism for determining failure of the pumps (alarm lights, water depth indicator, etc.) shall be provided. The mechanism shall be of a nature that ensures the ultimate property owner (filed with the Register of Deeds) will easily be able to identify a pump failure.
 - f. An operation and maintenance plan shall be provided and a maintenance agreement shall be in place with the ultimate property owner (filed with the Register of Deeds).

C. Overflow

1. An emergency spillway with a defined downstream drainage path or a secondary standpipe must be provided at an elevation 6-inches above the 100-year elevation to allow discharge from the basin when the flows exceed the capacity of the outlet structure. Provisions for preventing erosion of the spillway shall be provided. The emergency spillway or secondary standpipe shall have sufficient capacity to convey the peak flow associated with a 100-year design storm. Methods for determining the 100-year storm peak flows are outlined in Section 5.5.1.



JOHNSON ROSATI SCHULTZ JOPPICH PC

27555 Executive Drive Suite 250 ~ Farmington Hills, Michigan 48331
Phone: 248.489.4100 | Fax: 248.489.1726

Elizabeth Kudla Saarela
esaarela@jrslaw.com

www.jrslaw.com

August 22, 2017

Darcy Rechten, Plan Review Engineer
City of Novi
Public Services
Field Services Complex
26300 Lee BeGole Drive
Novi, MI 48375

Re: ***A123 Systems***
Variance from Design and Construction Standards
Pumped Storm Water Outlet

Dear Ms. Rechten:

Our office has reviewed the proposed request for a variance from the City's Stormwater Management Design Standards as set forth in the Engineering Design Manual for the purpose of constructing a detention pond with a pumped outlet. The property owner has requested a waiver from Section 2.2.4.B.7 of the Engineering Design Manual, which states in relevant part:

7. Pumped outlets are not permitted absent a variance from City Council, which shall require demonstration that it is in the public interest and no feasible alternative exists. If City Council grants a variance to allow a pumped outlet, the following documentation shall be standards shall apply:
 - a. The pump(s) shall be designed to meet the maximum discharge rate and time requirements for the 100-year and bankfull flood events. Minimum and maximum system head curves and pump curves shall be provided to verify the operating duty points of the pump(s).
 - b. Pumps shall be of appropriate construction for conveying storm water.
 - c. A redundant pump shall be provided.
 - d. A generator shall be provided for the pump station. A permanent on-site generator shall be provided or a generator receptacle in combination with a portable generator shall be provided.

- e. A mechanism for determining failure of the pumps (alarm lights, water depth indicator, etc.) shall be provided. The mechanism shall be of a nature that ensures the ultimate property owner (filed with the Register of Deeds) will easily be able to identify a pump failure.
- f. An operation and maintenance plan shall be provided and a maintenance agreement shall be in place with the ultimate property owner (filed with the Register of Deeds).

The Engineering Design Manual requires that all variances from the standards must be requested and are approvable in accordance with the procedure and standards set forth in the City of Novi Code of Ordinances. Section 11-10 of the Ordinance Code permits the City Council to grant a variance from the Design and Construction Standards when a property owner shows all of the following:

- (b) A variance may be granted when all of the following conditions are satisfied:
 - (1) A literal application of the substantive requirement would result in exceptional, practical difficulty to the applicant;
 - (2) The alternative proposed by the applicant shall be adequate for the intended use and shall not substantially deviate from the performance that would be obtained by strict enforcement of the standards; and
 - (3) The granting of the variance will not be detrimental to the public health, safety or welfare, nor injurious to adjoining or neighboring property.

The applicant indicates that draining the site via gravity is not feasible due to inability to obtain a drainage easement from the railroad company.

In the event that City Council finds that the standards for a variance or waiver have been met, our office sees no legal impediment to granting the variance, subject to the condition that the Engineering Division finds that the alternative proposed by the applicant is adequate for the intended use, will not substantially deviate from the performance of a gravity system, and that the variance is subject to the conditions set forth in Section 2.2.4.B.7(a)-(f), above.

We would recommend that if the variance is granted by City Council, that it be conditioned upon the Applicant providing a Storm Drainage Facility Maintenance Easement Agreement for the site that addresses the conditions for maintaining the pumped outlet, as set forth above. A sample Storm Drainage Facility Maintenance Easement Agreement has been enclosed.

Darcy Rechten, Plan Review Engineer

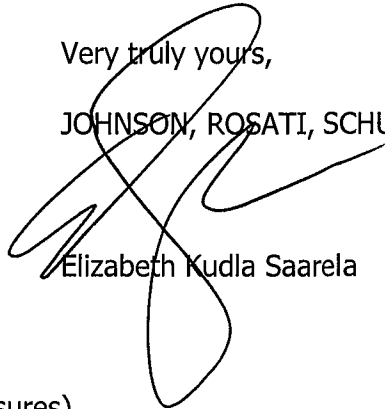
August 22, 2017

Page 3

Please feel free to contact me with any questions or concerns in regard to this matter.

Very truly yours,

JOHNSON, ROSATI, SCHULTZ & JOPPICH, P.C.



Elizabeth Kudla Saarela

EKS

Enclosures

- C: Cortney Hanson, Clerk (w/Enclosures)
Charles Boulard, Community Development Director (w/Enclosures)
Barb McBeth, City Planner (w/Enclosures)
Kirsten Mellem, Planner (w/Enclosures)
Sri Komaragiri, Planner (w/Enclosures)
Angie Pawlowski, Community Development Bond Coordinator (w/Enclosures)
George Melistas, Senior Engineering Manager (w/Enclosures)
Theresa Bridges, Construction Engineer (w/Enclosures)
Sarah Marchioni, Community Development Building Project Coordinator (w/Enclosures)
Sue Troutman, City Clerk's Office (w/Enclosures)
Thomas R. Schultz, Esquire (w/Enclosures)

**STORM DRAINAGE FACILITY
MAINTENANCE AGREEMENT**

THIS EASEMENT AGREEMENT is made this ____ day of _____, 2017, by and between _____, a Michigan _____ whose address is _____, Michigan 48____ (hereinafter the "Owner"), and the City of Novi, its successors, assigns, or transferees, whose address is 45175 Ten Mile Road, Novi, MI 48375 (hereinafter the "City").

RECITATIONS:

- A. Owner is the owner and developer of a certain parcel of land situated in Section 15 of the City of Novi, Oakland County, Michigan, described on the attached and incorporated Exhibit A (the "Property"). Owner has received final site plan approval for construction of an office lab space/assembly building development on the Property.
- B. The office/lab space/assembly building development, shall contain certain storm drainage, detention facilities, including but not limited to, a detention/sedimentation basin, for the collection, conveyance, storage, treatment and/or discharge of storm water from the Property in accordance with all approved plans, and all applicable ordinances, laws and regulations.
- B. Based on the topography of the site, the storm drainage detention basin elevation prohibits drainage by gravity and shall require storm drainage facilities, consisting of a pumped outlet from the basin, with a redundant pump and a backup generator (the basin, the redundant pump and a backup generator are hereinafter identified as the "Storm Drainage Facilities") to discharge of storm water in accordance with all approved plans, and all applicable ordinances, laws and regulations.
- C. Owner obtained a variance to operate and maintain the pumped outlet in accordance with the terms and conditions of the City's Engineering Design Manual, as amended from time to time.

NOW, THEREFORE, the Owner hereby covenants and agrees that the Owner shall, at its own expense, perpetually preserve, maintain, and repair the Storm Drainage Facilities which are part of the system, to insure that the same continue to function as intended. The Owner shall establish a regular and systematic program of maintenance (the "Maintenance Plan") for such facilities and areas to insure that the physical condition and intended function of such areas and facilities shall be preserved and maintained. The Maintenance Plan is described in the attached and incorporated Exhibit B.

In the event that the Owner shall at any time fail to carry out the responsibilities specified within this agreement, and/or in the event of a failure to preserve and/or maintain the Storm Drainage Facilities in reasonable order and condition, the City may serve written notice upon the Owner setting forth the deficiencies in maintenance and/or preservation along with a demand that the deficiencies be cured within a stated reasonable time period, and the date, time and place for a hearing before the City for the purpose of allowing Owner an opportunity to be heard as to why the City should not proceed with the correction of the deficiency or obligation which has not been undertaken or properly fulfilled. At any such hearing, the time for curing and the hearing itself may be extended and/or continued to a date certain. If, following such hearing, the person conducting the hearing shall determine that the obligation has not been fulfilled or failure corrected within the time specified in the notice, as determined by the City in its reasonable discretion, the City shall thereupon have the power and authority, but not the obligation, to enter upon the Property, or cause its agents or contractors to enter the Property through the Ingress/Egress Easement Area as described and depicted in **Exhibit C** and perform such obligation or take such corrective measures as reasonably found by the City to be appropriate or necessary with respect to the Storm Drainage Facilities described and depicted in **Exhibit D**, for the purposes described above. The cost and expense of making and financing such actions by the City, including notices by the City and reasonable legal fees incurred by the City, plus an administrative fee in an amount equivalent to twenty-five (25%) percent of the total of all such costs and expenses incurred, shall be paid by Owner within thirty (30) days of a billing to the Owner. All unpaid amounts may be placed on the delinquent tax roll of the City as to the Property, and shall accrue interest and penalties, and shall be collected as, and deemed delinquent real property taxes, according to the laws made and provided for the collection of delinquent real property taxes. In the discretion of the City, such costs and expenses may be collected by suit initiated against the Owner, and, in such event, the Owner shall pay all court costs and reasonable attorney fees incurred by the City in connection with such suit.

The Owner shall defend, indemnify and hold the City harmless from and against any claims, demands, actions, damages, injuries, costs or expenses of any nature whatsoever, fixed or contingent, known or unknown, including costs, expenses and attorneys' fees incurred by the City arising out of or in any way connected with the design, construction, use, maintenance, repair or operation of the Storm Drainage Facilities described in Exhibit D.

The parties hereto make this Agreement on behalf of themselves, their heirs, successors, assigns and transferees, and hereby warrant that they have the authority and capacity to execute this Agreement and bind the property as described in the terms and conditions of this agreement.

Invalidation of any of these covenants or conditions by Judgment or Court Order shall in no way affect the validity of any other provision which shall remain in full force and effect.

This agreement shall run with the land and be binding upon all owners, their agents, heirs, successors, assigns and transferees.

IN WITNESS WHEREOF, Owner has executed this Agreement as of the day and year first above set forth.

OWNER

By: _____
Its: _____

STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

The foregoing instrument was acknowledged before me this ____ day of _____, 201_,
by _____, as the _____ of _____.

Notary Public
Acting in Oakland County, Michigan
My Commission Expires: _____

Drafted by: Elizabeth Kudla Saarela Johnson, Rosati, Schultz & Joppich, P.C. 27555 W. Twelve Mile Road, Suite 250 Farmington Hills, MI 48331	And when recorded return to: Cortney Hanson, City Clerk City of Novi 45175 Ten Mile Rd Novi, MI 48375
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PLAN REVIEW CENTER REPORT

August 2, 2017

Engineering Review

A123 Systems
JSP17-0021

Applicant

Etkin, LLC

Review Type

Final Site Plan

Property Characteristics

- Site Location: South of 12 Mile Road, West of Cabaret Drive
- Site Size: 30 +/- acres
- Plan Date: July 14, 2017
- Design Engineer: PEA, Inc.

Project Summary

- Construction of 89,290 square-foot office building, 39,646 square-foot laboratory building, 53,469 square-foot assembly building, and associated parking. Site access would be provided off of Cabaret Drive, a public street.
- Water service would be provided by an 8-inch extension from the existing 8-inch water main stub at the north property line of proposed site adjacent to hotel site at Cabaret Drive and by an 8-inch extension from the existing 12-inch water main stub on the southeast corner of proposed site that crossed Cabaret Drive.
- Sanitary sewer service would be provided from the existing 12-inch sanitary sewer adjacent to the west property line of the proposed site.
- Storm water would be collected by multiple storm sewer collection systems that drain into a single detention basin.

Recommendation

Approval of the Final Site Plan is NOT recommended until the following items are addressed.

Comments:

The Final Site Plan does not meet the general requirements of Chapter 11 of the Code of Ordinances, the Storm Water Management Ordinance and/or the Engineering Design Manual. The following must be addressed prior to resubmittal:

General

1. The City standard detail sheets are not required for the Final Site Plan submittal. They will be required with the Stamping Set submittal. They can be found on the City website (www.cityofnovi.org/DesignManual).
2. Provide the City's standard detail sheets for water main (5 sheets-March 2014), sanitary sewer (3 sheets-March 2014), storm sewer (2 sheets-June 2012), and pathway and board walks (1 sheet-May 2012) at the time of the Stamping Set submittal. These details are available on the City's website (www.cityofnovi.org/DesignManual).
3. The Non-domestic User Survey form shall be submitted to the City so it can be forwarded to Oakland County. This form was included in the original site plan package.
4. Provide sight distance measurements for the Cabaret Drive entrances in accordance with Figure VIII-E of the Design and Construction Standards.
5. Label "FUTURE ROW" as "PROPOSED ROW" and the said right-of-way may be dedicated to the City at this time to conform with the City's Master Road Plan.
6. Provide a traffic control plan for the proposed road work activity along Cabaret Drive.
7. Where the minimum 18-inch clearance at utility crossings cannot be achieved, provide a prominent note stating the substandard clearance and that proper bedding/encasement will be determined by the inspecting engineer. There appears to be at least four crossings (Crossings 2, 5, 8, 12).
8. There appears to be a couple typos in the utility crossing inverts. The top of sanitary for crossing #5 has an elevation of 834.55, which seems low. The top of sanitary for crossing # 14 has an elevation 827.50, which also seems low.
9. Provide a note stating if dewatering is anticipated or encountered during construction a dewatering plan must be submitted to the Engineering Division for review.
10. Generally, all proposed trees shall remain outside utility easements. Where proposed trees are required within a utility easement, the trees shall maintain a minimum 5-foot horizontal separation distance from any existing or proposed utility. All utilities shall be shown on the landscape plan, or other appropriate sheet, to confirm the separation distance.
11. Show the locations of all light poles on the utility plan and indicate the typical foundation depth for the pole to verify that no conflicts with utilities will occur. Light poles in a utility easement will require a License Agreement.

Water Main

12. A majority of the proposed water main is proposed to be installed beneath pavement. Whenever possible, water main should be installed outside of the influence of the pavement.

13. Note and show the existing off-site water main easement near the northwest corner of the site. Note liber and page numbers. If the existing off-site easement doesn't not extend to the property line, an additional off-site easement for the proposed work will be required.
14. Provide water main modeling calculations demonstrating that the required water supply of 2,000/4,000 gpm will be available.
15. Provide a profile for all proposed water main 8-inch and larger.
16. Three (3) sealed sets of revised utility plans along with the MDEQ permit application (1/07 rev.) for water main construction and the Streamlined Water Main Permit Checklist should be submitted to the Engineering Division for review, assuming no further design changes are anticipated. Utility plan sets shall include only the cover sheet, any applicable utility sheets and the standard detail sheets.

Sanitary Sewer

17. Note and show the existing easement of the sanitary sewer adjacent to the west property line of the proposed site that it is connecting to. Note the liber and page numbers on plan. If the existing off-site easement doesn't not extend to the property line, an additional off-site easement for the proposed work will be required.
18. Provide a sanitary sewer monitoring manhole, unique to this site, within a dedicated access easement. Provide a 20-foot wide access easement to the monitoring manhole from the Cabaret Drive right-of-way via one of the 2 drive entrances (rather than a public sanitary sewer easement).
19. *For 8-inch and larger extensions* - Provide a testing bulkhead immediately upstream of the sanitary connection point. Additionally, provide a temporary 1-foot deep sump in the first sanitary structure proposed upstream of the connection point, and provide a secondary watertight bulkhead in the downstream side of this structure.
20. Seven (7) sealed sets of revised utility plans along with the MDEQ permit application (04/14 rev.) for sanitary sewer construction and the Streamlined Sanitary Sewer Permit Certification Checklist should be submitted to the Engineering Division for review, assuming no further design changes are anticipated. Utility plan sets shall include only the cover sheet, any applicable utility sheets and the standard detail sheets. Also, the MDEQ can be contacted for an expedited review by their office.

Storm Sewer

21. A storm water agreement/detention basin agreement is required.
22. Match the 0.80 diameter depth above invert for pipe size increases.
23. Sheet C-5.1: The existing curb-type pavement catch basin located on the proposed south drive approach must be replaced by a non-curb type cover.
24. Sheet C-7.1: Note the length, material, class/type of the proposed 10" discharge line.

25. Sheet 8.1: Note on profile: Grade must be built up to approximate proposed elevation prior to installation of storm sewer between Structures ES10 and CB12. The same applies to storm sewer between Structures ES1 and CB4.

Storm Water Management Plan

26. Provide calculations verifying the post-development runoff rate directed to the proposed receiving drainage course does not exceed the pre-development runoff rate for the site.
27. Provide release rate calculations for the three design storm events (first flush, bank full, 100-year).
28. Provide a soil boring in the vicinity of the storm water basin to determine soil conditions and to establish the high water elevation of the groundwater table.
29. Provide supporting calculations for the runoff coefficient determination.
30. A 4-foot wide safety shelf is required one-foot below the permanent water surface elevation within the basin.
31. Sheet C-5.1: Per Section 11-93 of Chapter 11 of the City of Novi Codified Ordinance, underground drainage facilities will be required for storm water disposal system; i.e., the runoff directed into the 4 spillways in the south side must be caught by storm structures. The same applies for the other 2 spillways to the north of the detention pond. These 2 spillways can potentially erode the north bank of the basin.
32. Sheets C-5.1 & 5.2: Note the length and slope of proposed swales to the north and south of the detention basin. The swale drainage must be caught by a storm structure. Overland runoff into the detention basin will not be allowed because of potential bank erosion.
33. Sheet C-7-2: End Section ES10 must be connected to the detention basin. Limit number of inlets to the basin by combining End Section ES10 and ES1 to just one inlet.
34. Sheets C-8.1 and 8.2: Note and show the riprap for the Inlet and outlet at the detention basin. Include detail on the plans.

Paving & Grading

35. Detectable warning plates are required at all barrier free ramps, hazardous vehicular crossings and other areas where the sidewalk is flush with the adjacent drive or parking pavement. The barrier-free ramps shall comply with current MDOT specifications for ADA Sidewalk Ramps. Provide the latest version of the MDOT standard detail for detectable surfaces.
36. A proposed ADA ramp with detectable warning plates must be provided at the sidewalk on northwest corner of Cabaret Drive and Fountain Walk Avenue.
37. Sheets C-1.1, 2.1, 3.1 & 4.1: Note and show the existing west right-of-way line of Cabaret Drive across the existing site to the north of proposed site. The proposed sidewalk replacement, which is wider than the existing sidewalk to be removed, must be within the existing right-of-way.

38. Additional easement or ROW must be dedicated for the portion of existing Cabaret Drive radius encroaching onto the southeast corner of the proposed site.
39. There is a paved access driveway on the existing hotel site to the north extended at the property line of the proposed site. It appears that the intent of this driveway is to be connected to the proposed site for shared use of drive entries. If so, show proposed paved connection to this existing driveway on the plans and a cross-access easement would be required.
40. Label specific ramp locations on the plans where the detectable warning surface is to be installed.
41. Specify the product proposed and provide a detail for the detectable warning surface for barrier free ramps. The product shall be the concrete-embedded detectable warning plates, or equal, and shall be approved by the Engineering Division. Stamped concrete will not be acceptable.
42. Additional spot grades along the ingress/egress routing to the building from the barrier-free stalls to ensure compliance with Michigan Barrier-Free regulations.
43. The grade of the drive approach shall not exceed 2-percent within the first 25 feet of the intersection. Provide spot grades as necessary to establish this grade.
44. Provide additional spot grades as necessary to demonstrate that a minimum 5-percent slope away from the building is provided for a minimum distance of ten feet around the perimeter of the building.
45. The end islands shall conform to the City standard island design, or variations of the standard design, while still conforming to the standards given in Section 2506 of Appendix A of the Zoning ordinance (i.e. 2' minor radius, 15' major radius, minimum 8' wide, 3' shorter than adjacent 19' stall).
46. The City standard straight-faced curb (MDOT F-4 curb detail) shall be provided. Revise details accordingly.
47. Provide additional top of curb/walk and pavement/gutter grades to indicate height of curb adjacent to parking stalls or drive areas.
48. Curbing and walks adjacent to the end of 17-foot stalls shall be reduced to 4-inches high, rather than the standard 6-inch height to be provided adjacent to 19-foot stalls. Provide additional details and notes as appropriate.

Soil Erosion and Sediment Control

49. A SESC permit is required. A full review has not been done at this time. The review checklist detailing all SESC requirements is attached to this letter. Please address the comments below and submit a SESC permit application under a separate cover. The application can be found on the City's website at <http://cityofnovi.org/Reference/Forms-and-Permits.aspx>.
50. Sheet C-6.3: Include a S.E.S.C. timing schedule on the plans.
51. Sheet C-6.3: Note the ultimate drainage outlet on the plans.
52. Sheet C-6.3: Note the soil type on the proposed plans.

Off-Site Easements

53. Any off-site utility easements anticipated must be executed **prior to final approval of the plans**. If you have not done so already, drafts of the easements and a recent title search shall be submitted to the Community Development Department as soon as possible for review, and shall be approved by the Engineering Division and the City Attorney prior to executing the easements.
54. Approval from the neighboring property owner for the work associated with the possible off-site water main, sanitary sewer, and cross access easements shall be forwarded to the Engineering Division **prior to site plan approval**.

The following must be submitted with the Revised Final Site Plan:

55. A letter from either the applicant or the applicant's engineer must be submitted with the Stamping Set highlighting the changes made to the plans addressing each of the comments listed above and indicating the revised sheets involved. **Additionally, a statement must be provided stating that all changes to the plan have been discussed in the applicant's response letter.**
56. An itemized construction cost estimate must be submitted to the Community Development Department for the determination of plan review and construction inspection fees. This estimate should only include the civil site work and not any costs associated with construction of the building or any demolition work. **The estimate must be itemized** for each utility (water, sanitary, storm sewer), on-site paving (square yardage), right-of-way paving (including proposed right-of-way), grading, and the storm water basin (basin construction, control structure, pretreatment structure and restoration).

The following must be submitted with the Stamping Set:

(Please note that all documents must be submitted together as a package with the Stamping Set submittal with a legal review transmittal form that can be found on the City's website. Partial submittals will not be accepted.)

57. A draft copy of the Storm Drainage Facility Maintenance Easement Agreement, as outlined in the Storm Water Management Ordinance, must be submitted to the Community Development Department. Once the form of the agreement is approved, this agreement must be approved by City Council and shall be recorded in the office of the Oakland County Register of Deeds. This document is available on our website.
58. A draft copy of the 20-foot wide easement for the water main to be constructed on the site must be submitted to the Community Development Department. This document is available on our website.
59. A draft copy of the 20-foot wide easement for the sanitary sewer and monitoring manhole to be constructed on the site must be submitted to the Community Development Department. This document is available on our website.
60. Executed copies of approved off-site utility easements.

The following must be addressed prior to construction:

61. A pre-construction meeting shall be required prior to any site work being started. Please contact Sarah Marchioni in the Community Development Department to setup a meeting (248-347-0430).
62. A City of Novi Grading Permit will be required prior to any grading on the site. This permit will be issued at the pre-construction meeting (no application required). No fee is required for this permit.
63. Material certifications must be submitted to Spalding DeDecker for review prior to the construction of any utilities on the site. Contact Ted Meadows at 248-844-5400 for more information.
64. Construction inspection fees (Amount TBD) must be paid to the City Treasurer's Office.
65. Legal escrow fees (Amount TBD) must be deposited with the City Treasurer. Unused escrow will be returned to the payee at the end of the project. This amount includes engineering legal fees only. There may be additional legal fees for planning legal documents.
66. A storm water performance guarantee (Amount TBD)(equal to 150% of the cost required to complete the storm water management facilities) as specified in the Storm Water Management Ordinance must be posted at the City Treasurer's Office.
67. Storm Water Detention Fees (Amount TBD) must be paid at the City Treasurer's Office.
68. Water and Sanitary Sewer Fees must be paid prior to the pre-construction meeting. Contact the Water & Sewer Division at 248-347-0498 to determine the amount of these fees.
69. A street sign financial guarantee in the amount of \$19,600.00 (\$400 per traffic control sign proposed) must be posted at the City Treasurer's Office. Signs must be installed in accordance with MMUTCD standards.
70. A Soil Erosion Control Permit must be obtained from the City of Novi. Contact Sarah Marchioni in the Community Development Department, Building Division (248-347-0430) for forms and information. The financial guarantee and inspection fees will be determined during the SESC review.
71. A permit for work within the right-of-way must be obtained from the City of Novi. The application is available from the City Engineering Division or on the City website and may be filed once the Final Site Plan has been submitted. Please contact the Engineering Division at 248-347-0454 for further information. Only submit the cover sheet, standard details and plan sheets applicable to the permit.
72. A permit for water main construction must be obtained from the MDEQ. This permit application must be submitted through the City Engineer after the

- water main plans have been approved. Only submit the cover sheet, overall utility sheet, standard details and plan/profile sheets applicable to the permit.
73. A permit for sanitary sewer construction must be obtained from the MDEQ. This permit application must be submitted through the City Engineer after the sanitary sewer plans have been approved. Only submit the cover sheet, overall utility sheet, standard details and plan/profile sheets applicable to the permit.
 74. An NPDES permit must be obtained from the MDEQ because the site is over 5 acres in size. The MDEQ may require an approved SESC plan to be submitted with the Notice of Coverage.
 75. An inspection permit for the sanitary sewer tap must be obtained from the Oakland County Water Resource Commissioner.

The following must be addressed prior to issuance of a Temporary Certificate of Occupancy approval for the development:

76. The amount of the incomplete site work performance guarantee for any outstanding site improvement items, limited to top course of pavement and other minor items, at 1.2 times the amount required to complete the site improvements as specified in the Performance Guarantee Ordinance.
77. All easements and agreements referenced above, with the exception of the warranty deed for Cabaret Drive to be dedicated as public, must be executed, notarized and approved by the City Attorney and City Engineer.
78. A Bill of Sale for the utilities conveying the improvements to the City of Novi must be submitted to the Community Development Department. This document is available on our website.
79. Spalding DeDecker will prepare the record drawings for this development. The record drawings will be prepared in accordance with Article XII, Design and Construction Standards, Chapter 11 of the Novi Code of Ordinances.
80. Submit to the Community Development Department, Waivers of Lien from any parties involved with the installation of each utility as well as a Sworn Statement listing those parties and stating that all labor and material expenses incurred in connection with the subject construction improvements have been paid.
81. Submit a Maintenance Bond to the City Treasurer's Office (Amount TBD) (equal to 25 percent of the cost of the construction of the utilities to be accepted). This bond must be for a period of two years from the date that the Utility Acceptance Permit is issued by the City of Novi Engineering Division. This document is available on our website.
82. Submit an up-to-date Title Policy (dated within 90 days of City Council consideration of acceptance) for the purpose of verifying that the parties

signing the Easement and Bill of Sale documents have the legal authority to do so. Please be sure that all parties of interest shown on the title policy (including mortgage holders) either sign the easement documents themselves or a Subordination Agreement. Please be aware that the title policy may indicate that additional documentation is necessary to complete the acceptance process.

83. Provide a warranty deed for the additional right-of-way along Cabaret Drive for acceptance by the City.

Prior to preparing stamping sets, the Applicant is advised to provide any revised sheets directly to the Engineering Division for an informal review and approval.

To the extent this review letter addresses items and requirements that require the approval of or a permit from an agency or entity other than the City, this review shall not be considered an indication or statement that such approvals or permits will be issued.

Please contact Noel Santos at (248) 844-5400 with any questions.



Noel Y. Santos, P.E.
Senior Project Engineer

cc: Angela Pawlowski, Community Development
Tina Glenn, Treasurers
Kristin Pace, Treasurers
Ben Croy, Water and Sewer
Theresa Bridges, Engineering
Darcy Rechten, Engineering
George Mellistas, Engineering
D. Richmond, Spalding DeDecker
B. Allen, Spalding DeDecker

NO.	DATE	DESCRIPTION
1	05/14/2017	ISSUED FOR PERMITS
2	05/14/2017	ISSUED FOR PERMITS
3	05/14/2017	ISSUED FOR PERMITS
4	05/14/2017	ISSUED FOR PERMITS
5	05/14/2017	ISSUED FOR PERMITS
6	05/14/2017	ISSUED FOR PERMITS
7	05/14/2017	ISSUED FOR PERMITS
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50	05/14/2017	ISSUED FOR PERMITS

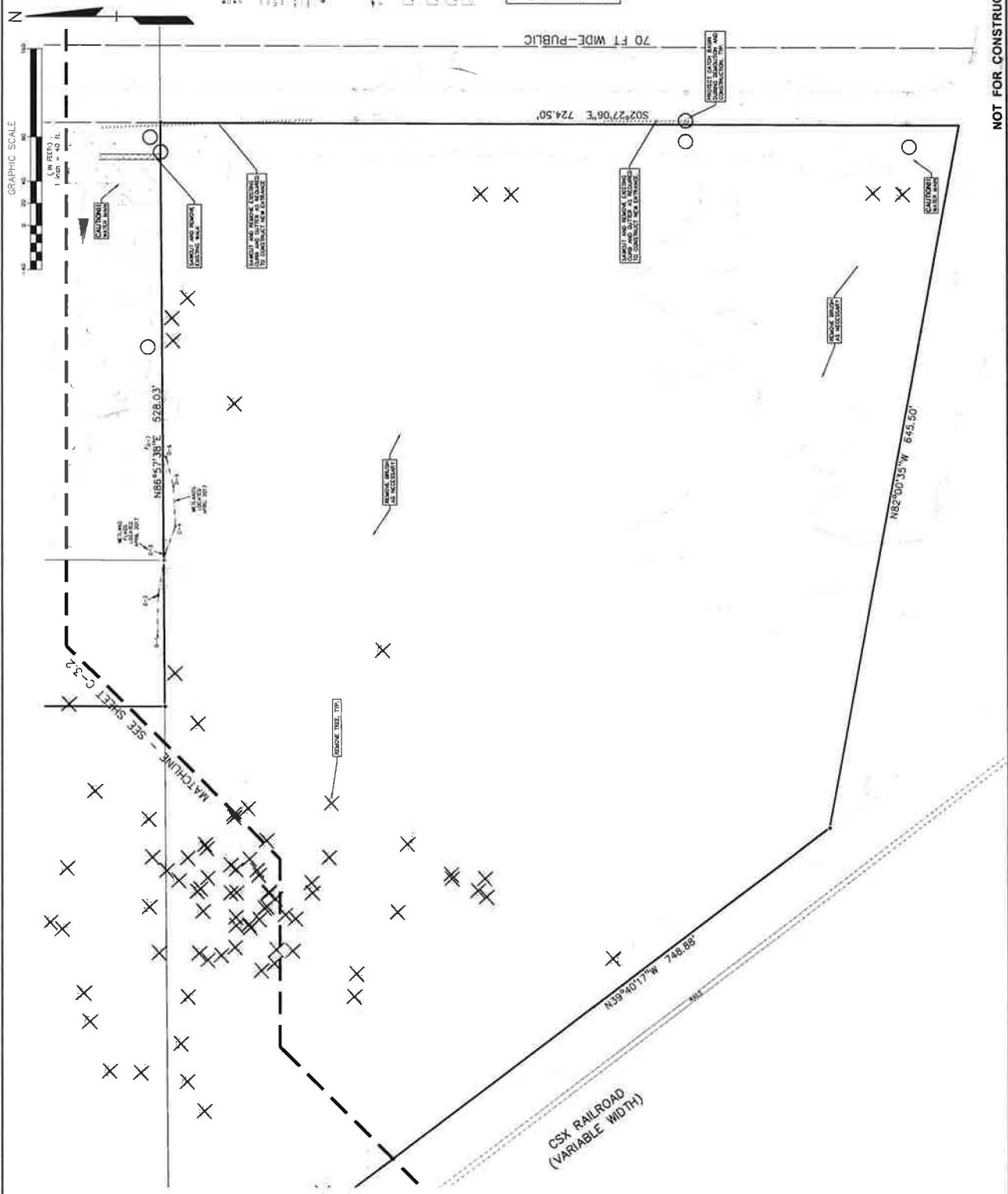


3 FULL WORKING DAYS BEFORE YOU DIG CALL 811
 Call before you dig
 1-800-4-A-DIG
 www.811.com

PEA
 PE A, Inc.
 2400 Research Center Dr., Suite 100
 Raleigh, NC 27607
 Tel: 919.888.8800
 Fax: 919.888.8801
 www.pea.com

ETRN, LLC
 2010 NORTH MICHIGAN STREET, SUITE 200
 FOUNTAIN OFFICE PARK
 FOUNTAIN, NORTH CAROLINA 27834
 SCALE: 1" = 40'

DEMOLITION PLAN
 FOUNTAIN OFFICE PARK
 PART OF THE MAP OF SECTION 15 T. 1 N. R. 6E
 CITY OF FOUNTAIN, NORTH CAROLINA



GRAPHIC SCALE
 1" = 40'
 0 20 40 60 80 100

LOCATION MAP - NOT TO SCALE
 13 HILL ROAD
 FOUNTAIN, NC
 CHAPEL DR
 RAILROAD TRAILS
 GRAND RIVER AVE
 SITE

LEGEND
 1. EXISTING STRUCTURE
 2. DEMOLITION
 3. EXISTING UTILITY
 4. EXISTING DRIVEWAY
 5. EXISTING DRIVEWAY

DEMOLITION LEGEND
 X TO BE DEMOLISHED
 O TO BE DEMOLISHED
 CONCRETE FOUNDATION AND
 REINFORCING
 UTILITY REMAINS
 EXISTING DRIVEWAY

NOT FOR CONSTRUCTION

KEY PLAN

C-3.1

NO.	DATE	DESCRIPTION



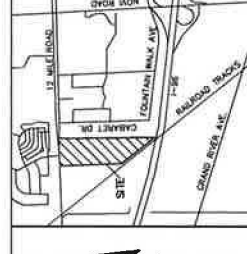
CAUTION:
 ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY ENGINEERING DEPARTMENT'S SPECIFICATIONS AND STANDARDS.
 ANY DEVIATION FROM THESE SPECIFICATIONS SHALL BE APPROVED BY THE CITY ENGINEERING DEPARTMENT.
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY ENGINEERING DEPARTMENT AND ANY OTHER AFFECTING AGENCIES.
 THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES AND STRUCTURES TO REMAIN.
 THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AND EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD.
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THE SITE TO ORIGINAL OR BETTER CONDITION UPON COMPLETION OF THE PROJECT.

3 FULL WORKING DAYS BEFORE YOU DIG CALL 811
 Call below for more information
 1-800-368-8888

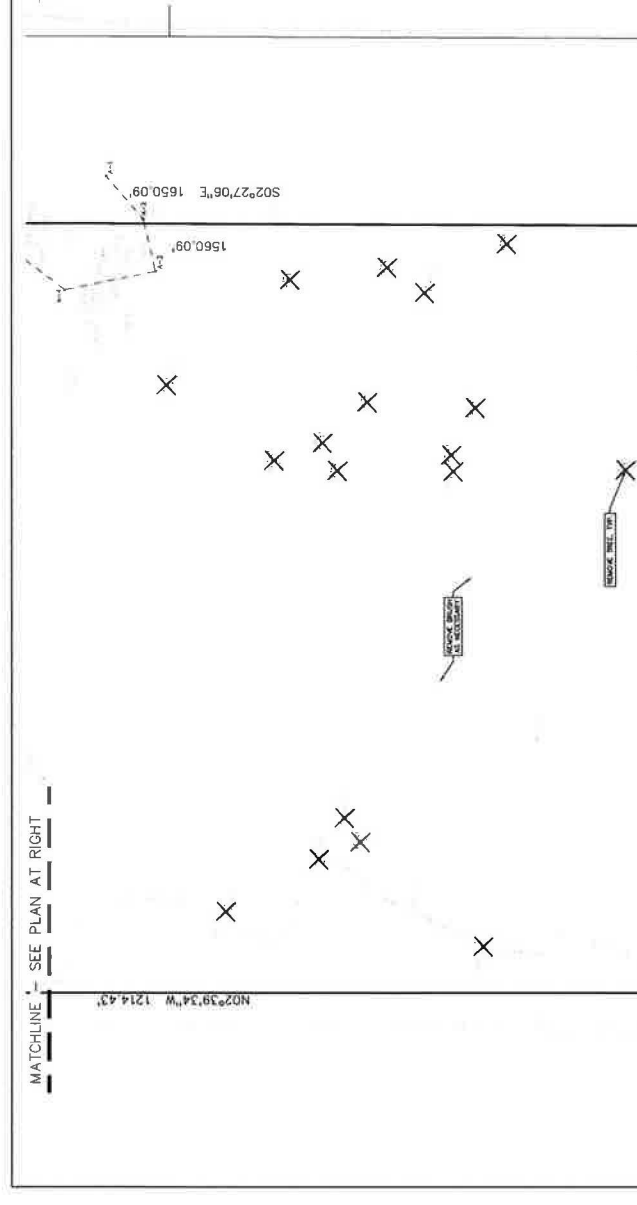
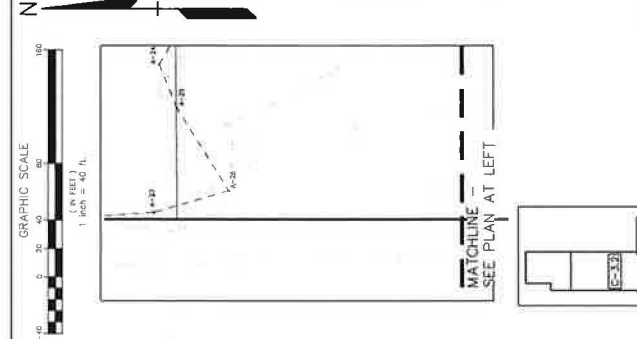


PEA, Inc.
 2400 BROADWAY, SUITE 100
 NEW YORK, NY 10002-1072
 TEL: 212-688-8888
 FAX: 212-688-8888

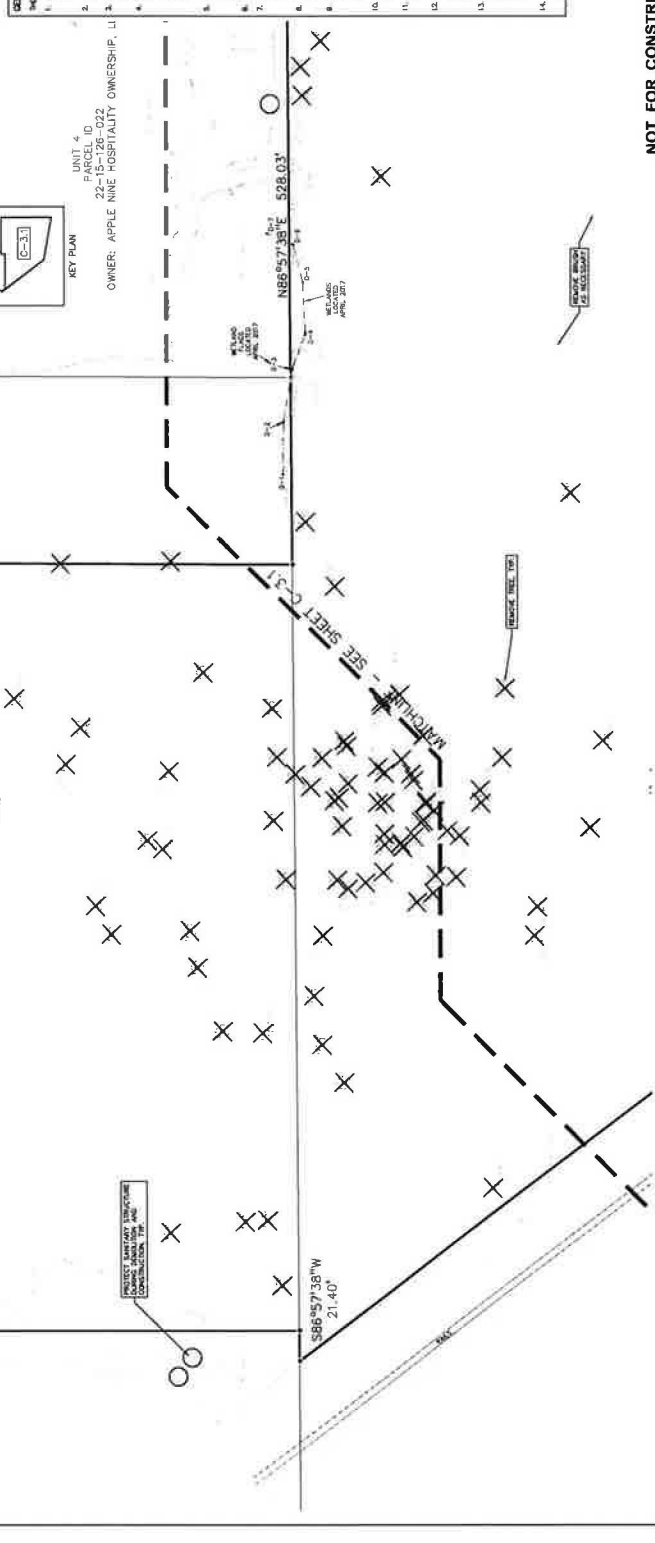
ETKIN, LLC
 28100 NORTHWESTERN HIGHWAY, SUITE 200
 FOUNTAIN OF PLEASURES PARK
 CITY OF NEW YORK, COUNTY OF MICHIGAN
 SCALE: 1" = 40' (AS SHOWN)
 DATE: 04/17/14



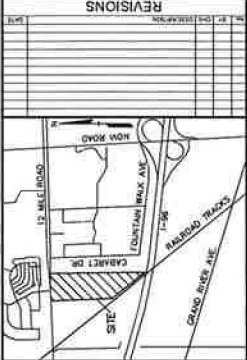
LEGEND
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 2. EXISTING SIDEWALK
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- GENERAL CONSTRUCTION NOTES**
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY ENGINEERING DEPARTMENT AND ANY OTHER AFFECTING AGENCIES.
 - THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES AND STRUCTURES TO REMAIN.
 - THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AND EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THE SITE TO ORIGINAL OR BETTER CONDITION UPON COMPLETION OF THE PROJECT.
 - ALL MATERIALS TO BE INSTALLED SHALL BE APPROVED BY THE CITY ENGINEERING DEPARTMENT AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY ENGINEERING DEPARTMENT'S SPECIFICATIONS AND STANDARDS.
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NOT FOR CONSTRUCTION



GENERAL GRADING AND EARTHWORK NOTES

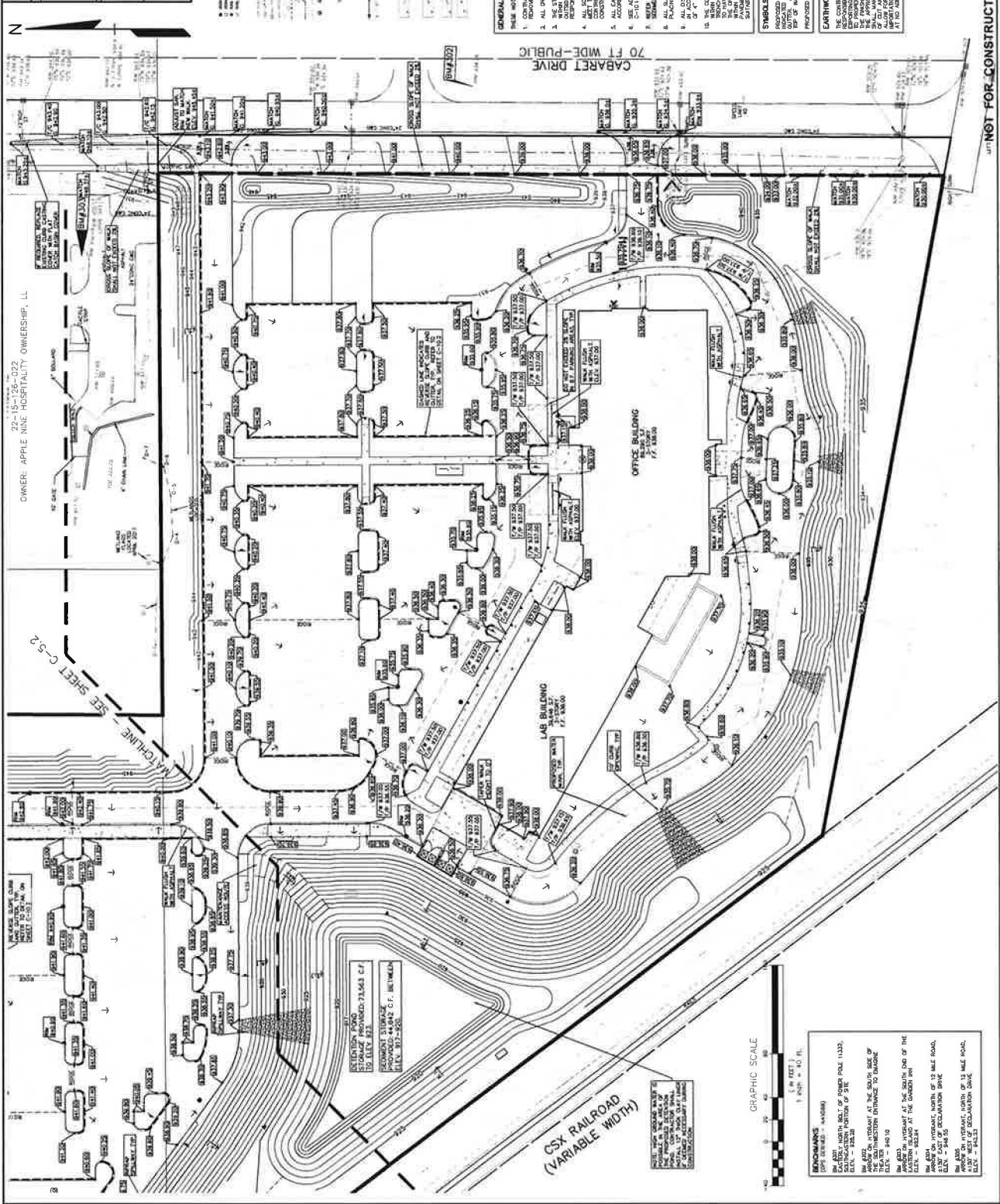
1. ALL CHANGES ARE TO TOP OF FINISH UNLESS OTHERWISE NOTED.
2. THE STUDY OF CONSTRUCTION ACCURACY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF ALL EXISTING UTILITIES AND STRUCTURES BY AND TO THE SATISFACTION OF THE ENGINEER.
3. ALL EXISTING AND REMOVAL CONTROL MEASURES SHALL BE INSTALLED FROM NORTH TO SOUTH FROM THE CITY FRONT TO THE REAR OF THE SITE.
4. ACCORDANCE WITH THE SOIL INVESTIGATION AND REPORT.
5. SEE ADDITIONAL GRADING AND EARTHWORK NOTES ON DETAIL SHEET.
6. REFER TO CONSTRUCTION PLAN FOR ALL SIDE SLOPES AND EROSION CONTROL MEASURES.
7. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SOILED TO MATCH EXISTING SURFACE AND MAINTAINED THROUGHOUT CONSTRUCTION.
8. ALL EXISTING AND REMOVAL CONTROL MEASURES SHALL BE INSTALLED FROM NORTH TO SOUTH FROM THE CITY FRONT TO THE REAR OF THE SITE.
9. THE CONTRACTOR SHALL NOT EXISTING UNDERGROUND UTILITIES UNLESS THEY ARE EXPLICITLY IDENTIFIED ON THE GRADING PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL UTILITIES AND SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES.
10. ALL UTILITIES SHALL BE COMPLETELY EXPOSED AND RECONSTRUCTED WITH APPROVED MATERIAL.
11. ALL UTILITIES SHALL BE RECONSTRUCTED TO THE DEPTH OF THE ORIGINAL DESIGN.

PEA INC.
 2400 Independence Blvd. Ste 100
 Charlotte, NC 28217
 Tel: 704.889.8000
 Fax: 704.889.8001
 www.peainc.com

ETKIN, LLC
 2070 KENNEDY DRIVE, SUITE 200
 SOUTH FIELDS, CHARLOTTE, NC 28216
 Tel: 704.582.2222
 Fax: 704.582.2223
 www.etkin.com

FOURTH FLOOR GRADING PLAN
 SHEET C-5.1
 SCALE: 1" = 40'

DATE: JULY 14, 2011
 DRAWING NUMBER: C-5.1



OWNER: APPLE NINE HOSPITALITY OWNERSHIP, LL
 22-15-176-022
 22-15-176-022

REVISIONS

NO.	DATE	DESCRIPTION
1	07/14/11	ISSUED FOR PERMIT

LOCATION MAP - NOT TO SCALE

LEGEND

GENERAL GRADING AND EARTHWORK NOTES

SYMBOLS: GRADING

EARTHWORK BALANCING NOTE

GRAPHIC SCALE

NOT FOR CONSTRUCTION

CSX RAILROAD (VARIABLE WIDTH)

LAB BUILDING

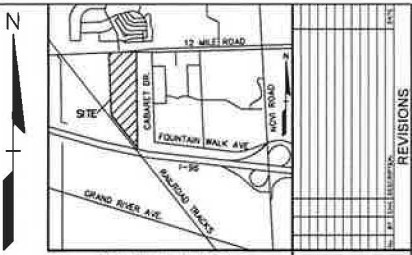
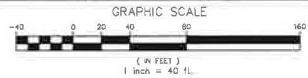
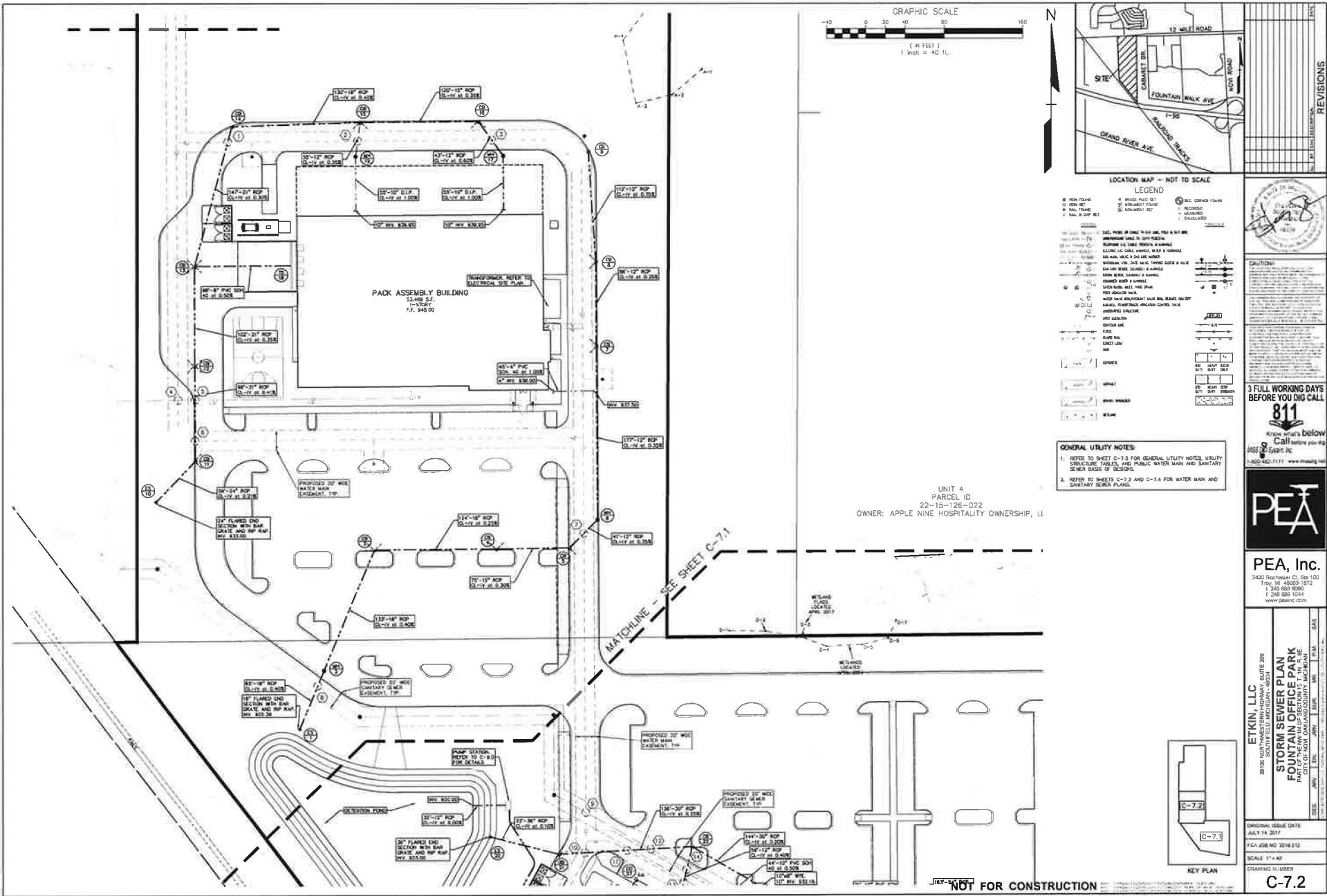
OFFICE BUILDING

70 FT WIDE PUBLIC CABARET DRIVE

STORAGE PROVIDED 71663 CF
 STORAGE PROVIDED 71663 CF
 STORAGE PROVIDED 71663 CF

GRAPHIC SCALE
 1 inch = 40 feet

NOT FOR CONSTRUCTION



LEGEND

- HIGH FOUND
- LOW FOUND
- MAN. FOUND
- MAN. & COP SET
- BRASS PLUG SET
- INVERTMENT FOUND
- UNKNOWN SET
- BIC OTHER FOUND
- RECORDED
- UNRECORDED
- CALLED

GENERAL UTILITY NOTES:

- REFER TO SHEET C-7.1 FOR GENERAL UTILITY NOTES, UTILITY STRUCTURE TABLES, AND PUBLIC WATER MAIN AND SANITARY SEWER BASES OF RECORD.
- REFER TO SHEETS C-7.3 AND C-7.4 FOR WATER MAIN AND SANITARY SEWER PLANS.

UNIT 4
 PARCEL ID
 22-15-126-022
 OWNER: APPLE NINE HOSPITALITY OWNERSHIP, LL

MATCHLINE - SEE SHEET C-7.1

REVISIONS

NO.	DATE	DESCRIPTION



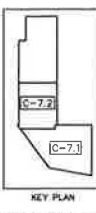
CAUTION: Know what's below. Call before you dig. 811

3 FULL WORKING DAYS BEFORE YOU DIG CALL 811



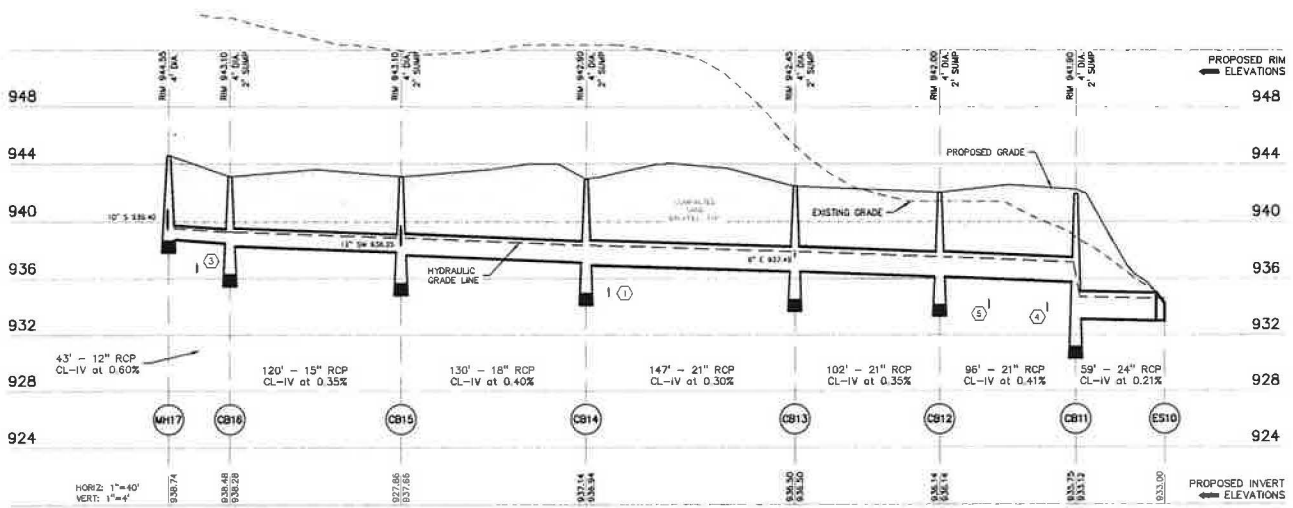
PEA, Inc.
 2430 Rochester Ct, Ste 100
 Troy, MI 48063-1872
 1-248-688-8090
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ETKIN, LLC
 26100 NORTHWESTERN HIGHWAY, SUITE 200
 FOUNTAIN OFFICE PARK
 CITY OF MIAMI, OKLAHOMA COUNTY, OKLAHOMA



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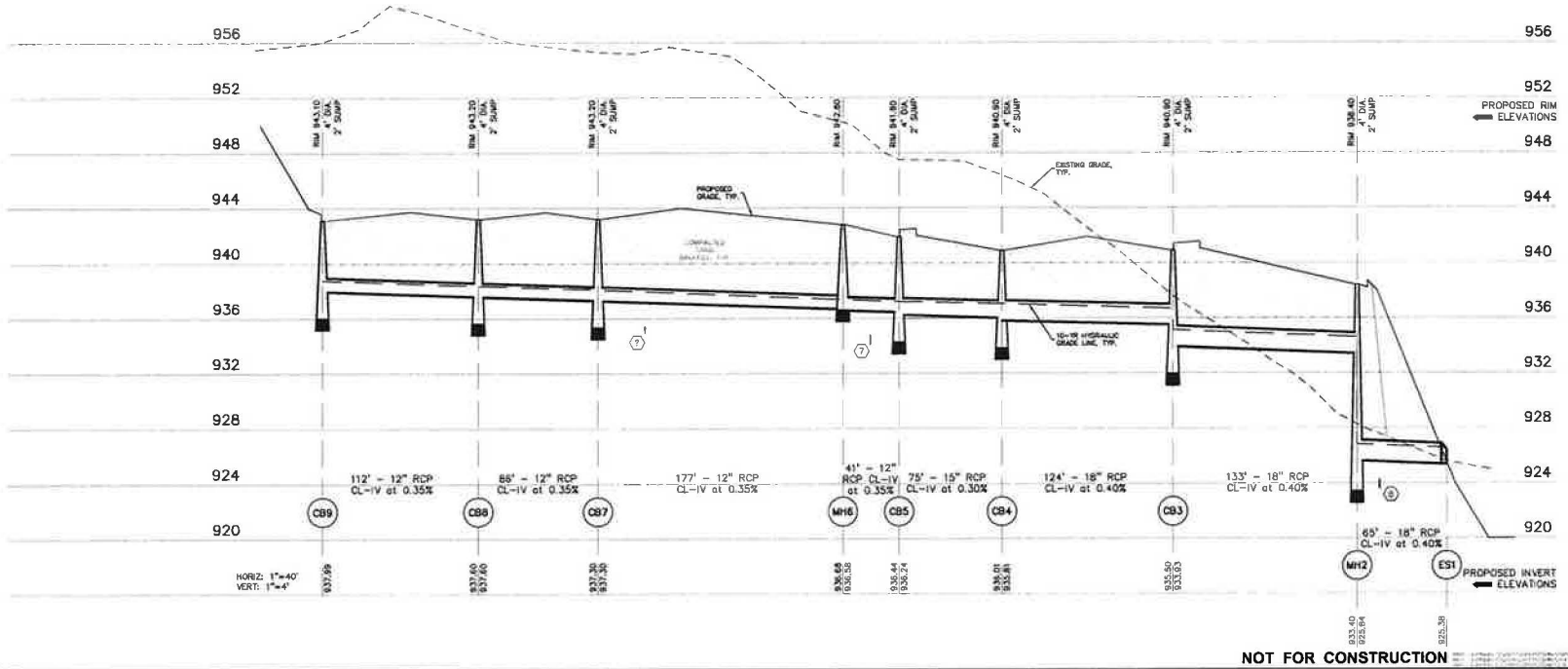
DATE: 06/11/2014
 SCALE: 1" = 40'
 DRAWING NUMBER: C-7.2



UTILITY CROSSING INFORMATION

1 BOTTOM OF STORM=936.00 TOP OF WATER=933.40 DIP WATER MAIN	14 BOTTOM OF STORM=928.85 TOP OF SANITARY=927.50
2 BOTTOM OF STORM=938.15 TOP OF WATER=936.85 DIP WATER MAIN	15 BOTTOM OF SANITARY=932.45 TOP OF WATER=930.85
3 BOTTOM OF STORM=936.45 TOP OF SANITARY=933.75 DIP WATER MAIN	16 BOTTOM OF SANITARY=932.70 TOP OF WATER=931.50
4 BOTTOM OF STORM=933.25 TOP OF WATER=933.25 DIP WATER MAIN	17 BOTTOM OF WATER=933.00 TOP OF SANITARY=928.00
5 BOTTOM OF STORM=934.00 TOP OF SANITARY=934.50	18 BOTTOM OF STORM=931.35 TOP OF SANITARY=928.80
6 BOTTOM OF STORM=935.80 TOP OF WATER=934.10 DIP WATER MAIN	19 BOTTOM OF STORM=931.40 TOP OF WATER=928.80 DIP WATER MAIN
7 BOTTOM OF STORM=938.50 TOP OF WATER=933.00 DIP WATER MAIN	20 BOTTOM OF SANITARY=932.40 TOP OF WATER=930.45
8 BOTTOM OF STORM=928.55 TOP OF SANITARY=924.28	21 BOTTOM OF STORM=930.80 TOP OF WATER=928.40 DIP WATER MAIN
9 BOTTOM OF STORM=928.50 TOP OF WATER=928.50 DIP WATER MAIN	22 BOTTOM OF STORM=933.75 TOP OF WATER=928.55 DIP WATER MAIN
10 BOTTOM OF STORM=928.15 TOP OF WATER=928.75 DIP WATER MAIN	23 BOTTOM OF STORM=921.05 TOP OF WATER=928.55 DIP WATER MAIN
11 BOTTOM OF STORM=928.35 TOP OF SANITARY=927.25	
12 BOTTOM OF STORM=930.00 TOP OF WATER=928.50 DIP WATER MAIN	

REFER TO SHEETS C-7,
C-7.2, C-7.3 AND C-7.4 FOR
UTILITY LOCATIONS AND DEPTHS.



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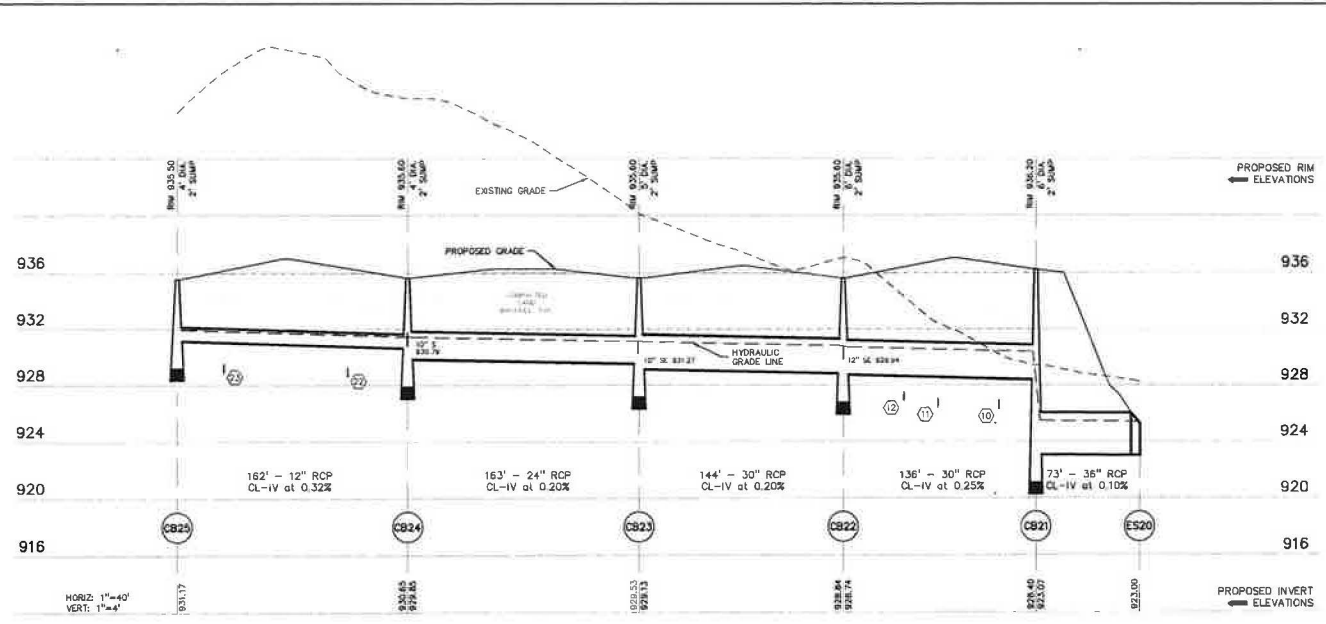
2430 Rochester Ct. Ste 100
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STORM SEWER PROFILES
INDUSTRIAL OFFICE PARK
CITY OF MOUNT CLEMENS, MICHIGAN

ORIGINAL ISSUE DATE
AUG 14, 2011

PEA JOB NO: 2011-012

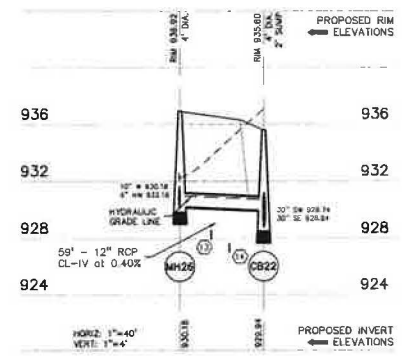
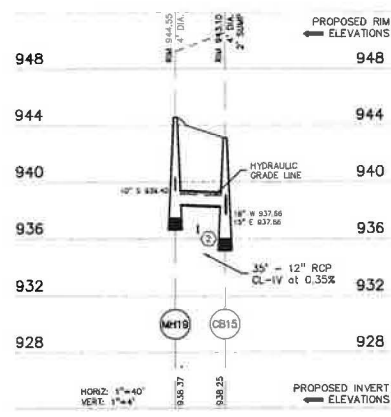
DRAWING NUMBER
C-8.1



UTILITY CROSSING INFORMATION:

1 BOTTOM OF STORM=938.80 TOP OF WATER=935.40 DP WATER MAIN	14 BOTTOM OF STORM=928.80 TOP OF SANITARY=927.50 DP WATER MAIN
2 BOTTOM OF STORM=938.15 TOP OF WATER=936.65 DP WATER MAIN	15 BOTTOM OF SANITARY=931.45 TOP OF WATER=930.55 DP WATER MAIN
3 BOTTOM OF STORM=938.45 TOP OF WATER=936.85 DP WATER MAIN	16 BOTTOM OF SANITARY=931.70 TOP OF STORM=931.30 DP WATER MAIN
4 BOTTOM OF SANITARY=932.75 TOP OF WATER=932.25 DP WATER MAIN	17 BOTTOM OF WATER=930.00 TOP OF SANITARY=928.00 DP WATER MAIN
5 BOTTOM OF STORM=938.20 TOP OF SANITARY=936.55 DP WATER MAIN	18 BOTTOM OF STORM=931.35 TOP OF SANITARY=936.00 DP WATER MAIN
6 BOTTOM OF STORM=938.80 TOP OF WATER=934.10 DP WATER MAIN	19 BOTTOM OF STORM=931.40 TOP OF WATER=929.90 DP WATER MAIN
7 BOTTOM OF STORM=936.50 TOP OF WATER=935.00 DP WATER MAIN	20 BOTTOM OF SANITARY=932.40 TOP OF WATER=930.45 DP WATER MAIN
8 BOTTOM OF STORM=928.55 TOP OF SANITARY=924.25 DP WATER MAIN	21 BOTTOM OF STORM=930.80 TOP OF WATER=929.40 DP WATER MAIN
9 BOTTOM OF WATER=930.00 TOP OF SANITARY=927.00 DP WATER MAIN	22 BOTTOM OF STORM=930.75 TOP OF WATER=929.25 DP WATER MAIN
10 BOTTOM OF STORM=928.15 TOP OF WATER=928.65 DP WATER MAIN	23 BOTTOM OF STORM=931.05 TOP OF WATER=929.50 DP WATER MAIN
11 BOTTOM OF STORM=928.25 TOP OF WATER=928.75 DP WATER MAIN	
12 BOTTOM OF STORM=928.25 TOP OF SANITARY=927.25 DP WATER MAIN	
13 BOTTOM OF STORM=930.00 TOP OF WATER=929.50 DP WATER MAIN	

REFER TO SHEETS C-7.1,
C-7.2, C-7.3 AND C-7.4 FOR
UTILITY CROSSING LOCATIONS.



REVISIONS

NO.	DATE	DESCRIPTION



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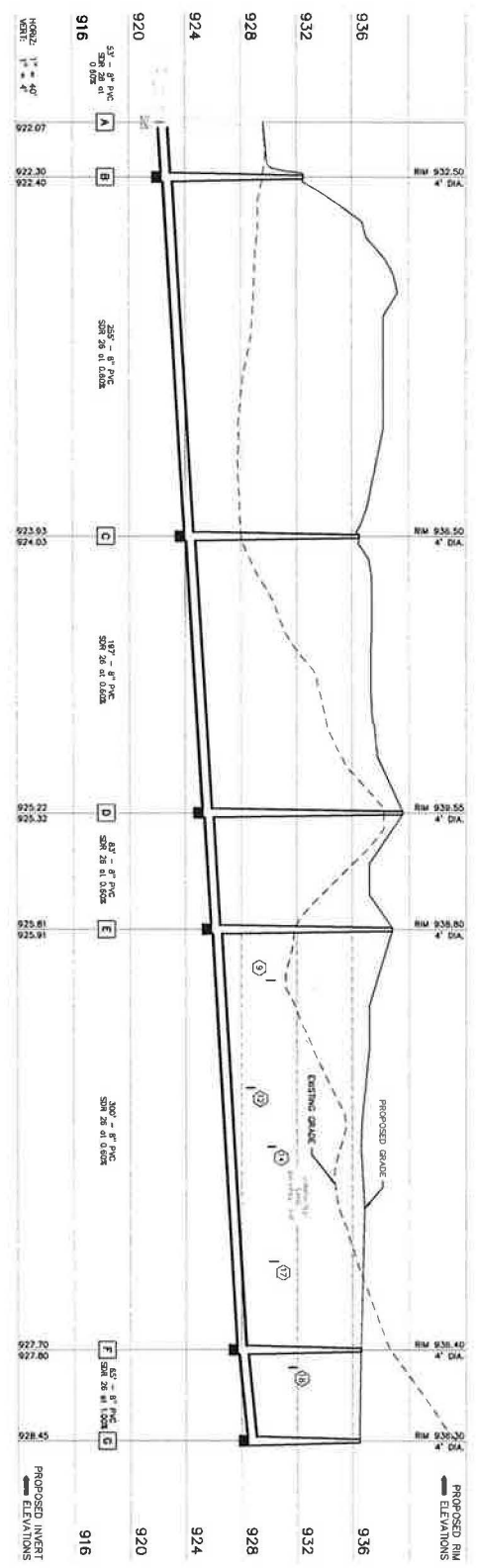
PEA
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Troy, MI 48063-9727
248 688 0300
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ETKIN, LLC
28100 NORTHWESTERN HIGHWAY, SUITE 200
STORM SEWER PROFILES
PLUMBING OFFICE PARK
10000 WOODLAND DRIVE, SUITE 100
CITY OF FARMINGTON HILLS, MI 48334
DATE: 7/14/2013
SCALE: AS SHOWN

ORIGINAL ISSUE DATE:
JULY 14, 2013
PEA JOB NO: 20130312

DRAWING NUMBER
C-8.2

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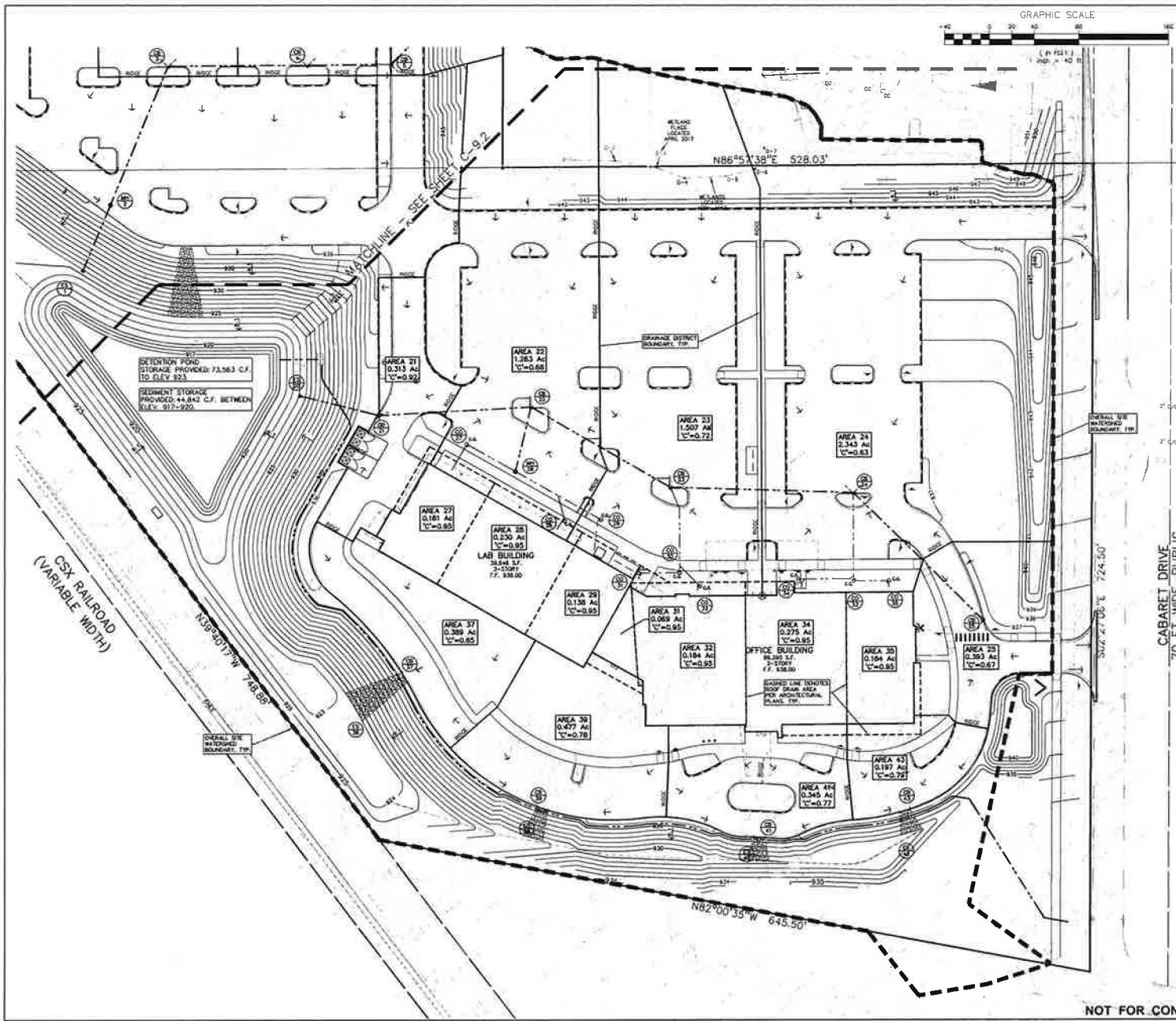
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2	Bottom of STORM-42.15 TOP OF SWANWATER-42.15 DIP SW/NE MAN	15	Bottom of STORM-42.15 TOP OF SWANWATER-42.15 DIP SW/NE MAN
3	Bottom of STORM-42.30 TOP OF SWANWATER-42.30 DIP SW/NE MAN	16	Bottom of STORM-42.30 TOP OF SWANWATER-42.30 DIP SW/NE MAN
4	Bottom of STORM-42.45 TOP OF SWANWATER-42.45 DIP SW/NE MAN	17	Bottom of STORM-42.45 TOP OF SWANWATER-42.45 DIP SW/NE MAN
5	Bottom of STORM-42.60 TOP OF SWANWATER-42.60 DIP SW/NE MAN	18	Bottom of STORM-42.60 TOP OF SWANWATER-42.60 DIP SW/NE MAN
6	Bottom of STORM-42.75 TOP OF SWANWATER-42.75 DIP SW/NE MAN	19	Bottom of STORM-42.75 TOP OF SWANWATER-42.75 DIP SW/NE MAN
7	Bottom of STORM-42.90 TOP OF SWANWATER-42.90 DIP SW/NE MAN	20	Bottom of STORM-42.90 TOP OF SWANWATER-42.90 DIP SW/NE MAN
8	Bottom of STORM-43.05 TOP OF SWANWATER-43.05 DIP SW/NE MAN	21	Bottom of STORM-43.05 TOP OF SWANWATER-43.05 DIP SW/NE MAN
9	Bottom of STORM-43.20 TOP OF SWANWATER-43.20 DIP SW/NE MAN	22	Bottom of STORM-43.20 TOP OF SWANWATER-43.20 DIP SW/NE MAN
10	Bottom of STORM-43.35 TOP OF SWANWATER-43.35 DIP SW/NE MAN	23	Bottom of STORM-43.35 TOP OF SWANWATER-43.35 DIP SW/NE MAN
11	Bottom of STORM-43.50 TOP OF SWANWATER-43.50 DIP SW/NE MAN	24	Bottom of STORM-43.50 TOP OF SWANWATER-43.50 DIP SW/NE MAN
12	Bottom of STORM-43.65 TOP OF SWANWATER-43.65 DIP SW/NE MAN	25	Bottom of STORM-43.65 TOP OF SWANWATER-43.65 DIP SW/NE MAN
13	Bottom of STORM-43.80 TOP OF SWANWATER-43.80 DIP SW/NE MAN	26	Bottom of STORM-43.80 TOP OF SWANWATER-43.80 DIP SW/NE MAN

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<p>PEA, Inc. 2400 Northpark Dr. Suite 100 Northbrook, IL 60062 1-781-888-0000 www.pea.com</p>	<p>ETKIN, LLC 2810 North Western Highway, Suite 200 Northbrook, IL 60062 SANITARY SEWER PROFILES FOUNTAIN OFFICE PARK PART OF THE NEW USE OF SECTION 15 CITY OF HOWLAND COUNTY, MICHIGAN</p>	<p>811 Call Before You Dig 800-4-A-DIG 1-800-4-A-DIG</p>	<p>3 FULL WORKING DAYS BEFORE YOU DIG CALL</p>		<p>DATE: JAN 14 2013</p>
					<p>DESIGNER: JMM</p>
<p>REVISIONS</p>					<p>DATE: JAN 14 2013</p>

C-8.3



LEGEND

● HIGH POINT	○ BRASS PILE SET	⊙ SEC CORNER FOUND
○ LOW POINT	⊙ MONUMENT FOUND	⊙ RECORDED
⊙ TIE TO ADJACENT	⊙ SURVEY ELEV	⊙ UNRECORDED
⊙ TIE TO ADJACENT	⊙ TIE TO ADJACENT	⊙ CALCULATED

BY DATE: 11/14/17
 BY: [Signature]
 FOR: [Signature]
 PROJECT: [Signature]

GENERAL USE PATENTED BOUNDARY TYP
 OVERALL USE PATENTED BOUNDARY TYP

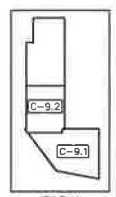
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NO.	DATE	DESCRIPTION
1	11/14/17	ISSUE



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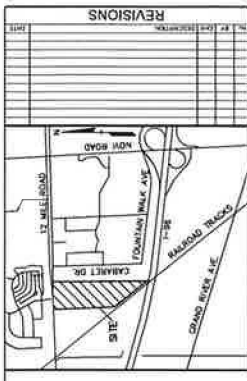


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DRAINAGE MAP
FOUNTAIN OFFICE PARK
 PART OF THE FOUNTAIN OFFICE PARK
 CITY OF TROY, CLATSOP COUNTY, OREGON

ORIGINAL ISSUE DATE: JULY 14, 2017
 PEA JOB NO: 2014-312
 SCALE: 1" = 40'
 DRAWING NUMBER: C-9.1



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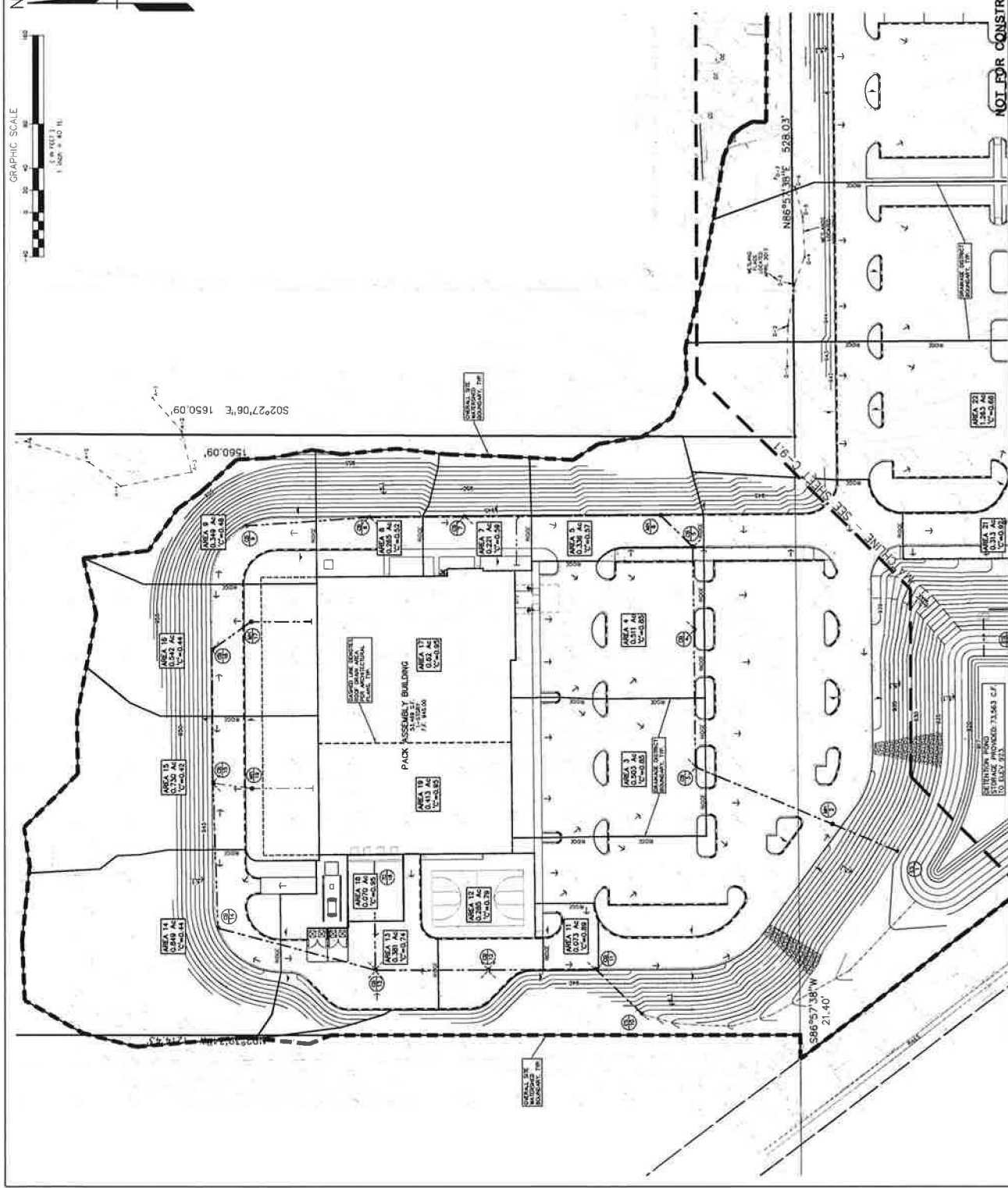
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 Raleigh, NC 27603
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ETKIN, LLC
 2810 KORNBERGER BLVD., SUITE 200
 SOUTHFLEET, NORTH CAROLINA 28684
 PHONE: 704.885.1100
 FAX: 704.885.1101
 WWW.ETKINLLC.COM

C-9.2
 DRAINAGE MAP
 FOUNTAIN OFFICE PARK
 SOUTHFLEET, NORTH CAROLINA 28684
 DATE: 05/14/2013
 SCALE: 1" = 40'

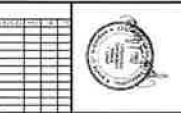


KEY PLAN

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REVISIONS

NO.	DATE	DESCRIPTION



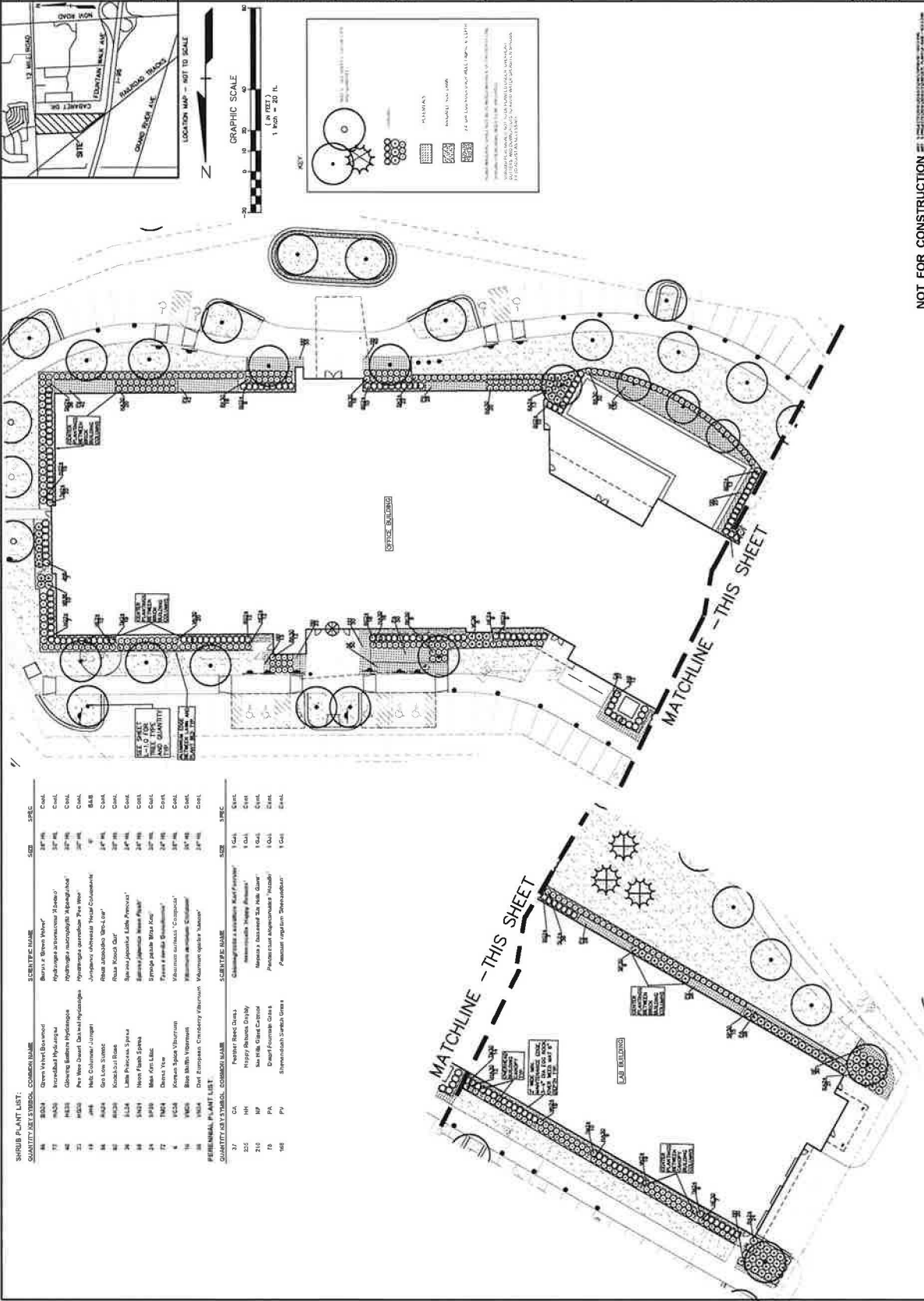
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PROJECT: FOUNTAIN OFFICE PARK
OFFICE/LAB ENLARGEMENT
2100 NORTH WEST 25TH STREET, SUITE 200
FORT LAUDERDALE, FLORIDA 33309
SCALE: 1" = 20'
DRAWING NUMBER: L-1.2



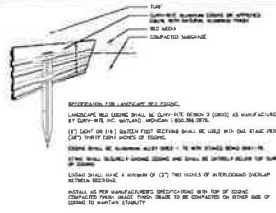
SHRUB PLANT LIST:

QUANTITY	SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC.
16	B04	Green Velvet Bougainvillea	Bougainvillea spectabilis	24" H	Cont.
72	M30	Incoral Red Hydrangea	Hydrangea arborescens 'Incoral'	24" H	Cont.
42	M31	Classic Balthus Hydrangea	Hydrangea macrophylla 'Balthus'	24" H	Cont.
21	M32	Pink New Dawn Oak Leaf Hydrangea	Hydrangea serrata 'New Dawn'	24" H	Cont.
14	M33	Mink Columbine / Juniper	Juniperus chinensis 'Mink'	24" H	BLB
14	M34	Gold Leaf Sycamore	Alnus incana 'Gold Leaf'	24" H	Cont.
14	M35	Kobold Lilac	Syringa vulgaris 'Kobold'	24" H	Cont.
34	L14	Lance Prickly Pear Cactus	Cylindropuntia cholla	24" H	Cont.
14	M36	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M37	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M38	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M39	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M40	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M41	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M42	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M43	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M44	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M45	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M46	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M47	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M48	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M49	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M50	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M51	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M52	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M53	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
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14	M57	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M58	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
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14	M63	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M64	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M65	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M66	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M67	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
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14	M69	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M70	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
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14	M72	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M73	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M74	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M75	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
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14	M81	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
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14	M98	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M99	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.
14	M100	White Pines Spirea	Spiraea japonica 'White Pines'	24" H	Cont.

PERENNIAL PLANT LIST:

QUANTITY	SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE	SPEC.
37	CA	Peppercorn Reed Grass	Chloris glabra	1 Gal.	Cont.
252	M4	Fluffy Redhead Daisy	Helianthus scaberrimus	1 Gal.	Cont.
210	PA	San Hill Black Catnip	Nepeta x 'Black Cat'	1 Gal.	Cont.
70	PA	Dwarf Fountain Grass	Fontainea sp.	1 Gal.	Cont.
168	PV	Strombosia Switch Grass	Strombosia sp.	1 Gal.	Cont.

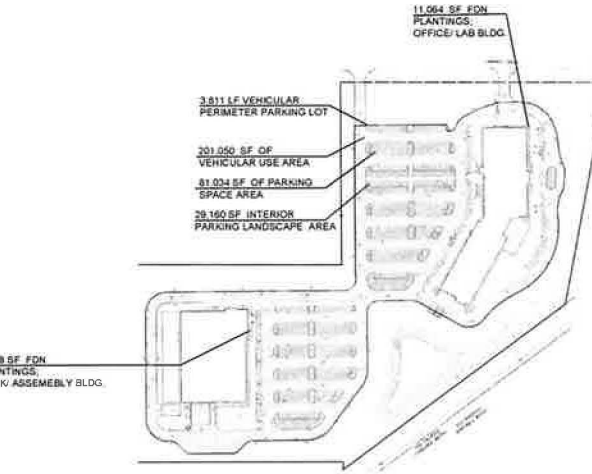
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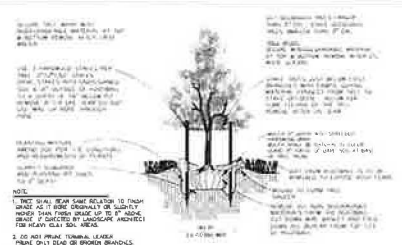
ALUMINUM EDGE DETAIL
NOT TO SCALE

- GENERAL PLANTING NOTES:**
- LANDSCAPE CONTRACTOR SHALL VISIT SITE, INSPECT EXISTING SITE CONDITIONS AND REVIEW PROPOSED PLANTING AND RELATED WORK. IN CASE OF DISCREPANCY BETWEEN PLAN AND FIELD, PLAN SHALL CONTROL. QUANTITIES CONTACT LANDSCAPE ARCHITECT WITH ANY CONCERNS.
 - CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ON-SITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION OR INSURANCE PHASE OF WORK. ELECTRIC, GAS, TELEPHONE, CABLE TELEVISION MAY BE LOCATED BY CALLING 800-368-7827. ANY DAMAGE OR INTERFERENCE OF SERVICES SHALL BE THE RESPONSIBILITY OF CONSTRUCTION CONTRACTOR. CONTRACTOR SHALL COORDINATE ALL RELATED ACTIVITIES WITH OTHER TRADES ON THE JOB AND SHALL RESIST ANY UNACCEPTABLE JOB CONDITIONS TO OWNER'S REPRESENTATIVE PRIOR TO COMMENCING.
 - ALL PLANT MATERIALS ARE TO BE NORTHERN HARDY GROUP NO. 1 AND INSTALLED ACCORDING TO ACCEPTED PLANTING PROCEDURES. ALL PLANT MATERIALS SHALL COMPARE TO THE LARGEST (LARGEST) STANDING FOR HISTORY SIZES. THEY SHALL BE PLANTED ACCORDING TO THE CITY OF HOUSTON PLANTING AND SPECIFICATIONS. THE CITY SHALL HAVE THE RIGHT TO REJECT THE PLANT MATERIAL PRIOR TO PLANTING AND TO REJECT ANY PLANT MATERIALS DEEMED NOT TO MEET THE STANDARDS OF THE ZONING ORDINANCE.
 - ALL TREES SHALL HAVE A CENTRAL LEADN AND A BALANCED BRANCHING STRUCTURE. PANK GRADE TREES ARE NOT ACCEPTABLE. ALL TREES SHALL BE SHAPED AND UNBURNED (B&B). ANY EXCESSIVE CANNOPY TREE WITH BRANCHES THAT MIGHT LEAD TO DEVELOP WINDY BRANCHES SHALL BE SUBSTITUTED AS SO NOT TO BECOME DOMINANT BRANCHES.
 - ALL WILD OILM TREES SHALL BE HEAVILY BRANCHED AND HAVE SPANBRANCH BROWNS. ONE LEADY TREES OR THOSE WITH PINN OR OPEN CANNOPY SHALL NOT BE ACCEPTED.
 - ALL EVERGREEN TREES SHALL BE HEAVILY BRANCHED AND FULL TO THE GROUND. SPANBRANCH IN SHAPE AND NOT SHEARED FOR THE LAST FIVE GROWING SEASONS.
 - NO MACHINERY IS TO BE USED WITHIN THE BRP LINE OF EXISTING TREES. HAND GRADE ALL LAWN AREAS WITHIN THE BRP LINE OF EXISTING TREES.
 - MULCH SHALL BE NATURAL COLOR FINELY SPREADED PINEWOOD BARK FOR ALL PLANTINGS 4" THICK FOR TREES IN 4-FOOT DIAMETER ORGLES WITH 3" FOLDED BARK FROM TRUNK 1" FOR BARKS AND SHUB BEDS AND 2" THICK BARK MULCH FOR PERENNIALS.
 - ALL LAWN AREAS SHALL RECEIVE 3" COMPACTED TOPSOIL.
 - ALL PLANT MATERIALS SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION INCLUDING WATERING, DISEASE CONTROL, WEED CONTROL, AND SOIL ENRICHMENTS AS MAY BE NECESSARY.

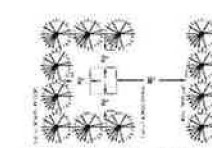
- GENERAL PLANTING NOTES (cont.):**
- ALL PLANT MATERIALS ARE TO BE INSTALLED IN A SOUND, BROWN-LINE MANNER AND IN ACCORDANCE WITH THE CURRENT CITY OF HOUSTON PLANTING REQUIREMENTS.
 - ALL PLANT MATERIALS SHALL BE INSTALLED BETWEEN MARCH 15TH AND NOVEMBER 15TH.
 - ALL PLANT MATERIAL SHALL BE WARRANTED FOR THREE FULL YEARS FROM DATE OF ACCEPTANCE BY THE CITY OF HOUSTON. ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN ONE YEAR OF THE NEXT APPROPRIATE PLANTING PERIOD, WHICH EVER COMES FIRST.
 - A MINIMUM OF ONE WEED CONTROL APPLICATION PER MONTH OCCURRING IN APRIL AND AUGUST SHALL BE PERFORMED DURING THE TWO-YEAR ESTABLISHMENT PERIOD.
 - ANY SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED IN WRITING BY THE CITY OF HOUSTON PRIOR TO INSTALLATION.
 - ALL TREE WRAP, STAKES, AND DUTYS MUST BE REMOVED BY 90 DAYS FOLLOWING THE FIRST WATERING AFTER INSTALLATION.
 - ALL LANDSCAPE AREAS ARE TO BE MAINTAINED IN A HEALTHY GROWING CONDITION FREE OF OBSTACLES AND ROTURE, AND IN COMPLIANCE WITH THE APPROVED LANDSCAPE PLAN.
 - ALL LANDSCAPE AREAS ARE TO BE WATERED BY A FULLY AUTOMATIC IRRIGATION SYSTEM.
 - CONTRACTOR TO REMOVE ALL CONSTRUCTION DEBRIS AND EXCESS MATERIALS FROM THE SITE PRIOR TO FINAL ACCEPTANCE.
 - PLANT MATERIALS (EXCEPT SOIL, GROUND COVER, AND GRASS) MUST BE PLANTED IN A HEALTHY GROWING CONDITION. ALL PLANTINGS SHALL NOT BE LOCATED WITHIN FIVE FEET OF THE PROPERTY LINE.
 - ALL TRANSPLANTS ARE TO BE SPECIFIED ON THE CITY'S SHEET IN ACCORDANCE WITH THE CITY OF HOUSTON ORDINANCE AND SO AS TO NOT CONFLICT WITH D.T.C. RESTRICTIONS (DETAIL THIS SHEET).
 - ALL TREES MUST BE PLANTED WITH A COMBINATION OF TREE BRANCHES, LEAF OR OTHER ENHANCING GROWING CHARACTERS.
 - THE OWNER IS RESPONSIBLE FOR REQUEST OF FINAL INSPECTION AND ACCEPTANCE OF THE LANDSCAPE AT THE END OF THE 2-YEAR GUARANTEE PERIOD.
 - THE PROVIDER OF THE FINANCIAL GUARANTEE FOR THE LANDSCAPE INSTALLATION SHALL BE FULLY RESPONSIBLE FOR COMPLETION OF THE LANDSCAPE INSTALLATION AND MAINTENANCE PER THE APPROVED LANDSCAPE PLAN AND APPLICABLE CITY ORDINANCES.



PARKING LOT LANDSCAPE CALCULATION KEY:



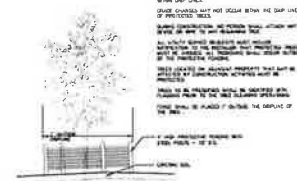
DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



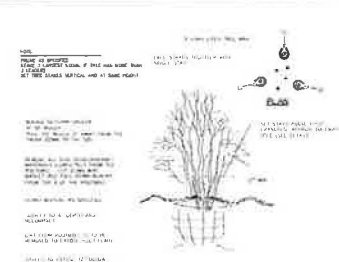
TRANSFORMER SCREENING DETAIL
NOT TO SCALE



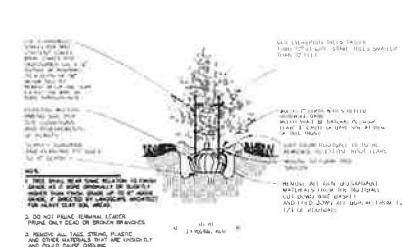
TREE STAKING DETAIL
NOT TO SCALE



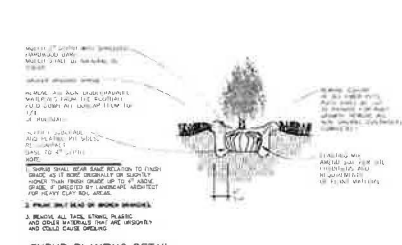
TREE PROTECTION DETAIL
NOT TO SCALE



MULTI-STEM TREE PLANTING DETAIL
NOT TO SCALE



EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE

CONTRACTOR'S				
PROJECT NAME: LOUISIANA OFFICE PARK - BLDG 2				
ESTIMATOR: [Name]				
DATE: [Date]				
CITY: HOUSTON, TEXAS				
ESTIMATE SUMMARY				
ESTIMATED QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	ITEM PRICE
12,500	SF	Grass Sod Installation (4" Deep)	\$1.20	\$15,000.00
8,200	SF	Grass Sod Installation (2" Deep)	\$1.20	\$9,840.00
10,000	SF	Grass Sod Installation (1" Deep)	\$1.20	\$12,000.00
500	EA	Grass Sod Installation (1" Deep)	\$1.20	\$600.00
100	EA	Grass Sod Installation (1" Deep)	\$1.20	\$120.00
50	EA	Grass Sod Installation (1" Deep)	\$1.20	\$60.00
25	EA	Grass Sod Installation (1" Deep)	\$1.20	\$30.00
10	EA	Grass Sod Installation (1" Deep)	\$1.20	\$12.00
5	EA	Grass Sod Installation (1" Deep)	\$1.20	\$6.00
2	EA	Grass Sod Installation (1" Deep)	\$1.20	\$2.40
1	EA	Grass Sod Installation (1" Deep)	\$1.20	\$1.20
TOTAL LANDSCAPE			\$187,480	

NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	DESCRIPTION

CAUTION

3 FULL WORKING DAYS BEFORE YOU DIG CALL

811
Call before you dig
MISSOURI
800-368-7827

PEA, Inc.
2432 Richmond Ct. Ste 100
Houston, TX 77050-1872
281.683.9000
281.683.1044
www.peainc.com

ETIKIN, LLC
3010 SOUTHVIEW BLVD., SUITE 200
SCOTTSDALE, ARIZONA 85267

LANDSCAPE DETAILS
FOUNTAIN OFFICE PARK
CITY OF HOUSTON, HARRIS COUNTY, TEXAS

ORIGINAL ISSUE DATE: JULY 14, 2011
PEA ISSUE DATE: 2016-01-01
SCALE: N/A
DRAWING NUMBER: L-13

STATISTICS	Value	Unit	Notes
Total Luminaire Count	144	Count	
Total Luminaire Power	14400	Watts	
Total Luminaire Output	14400	Watts	
Total Luminaire Output (lm)	14400	lm	

LUMINAIRE SCHEDULE	Quantity	Wattage	Beam Angle	Height	Notes
1	144	100	60	10	100W LED Flood Light, 60° Beam Angle, 10' Height
2	144	100	60	10	100W LED Flood Light, 60° Beam Angle, 10' Height
3	144	100	60	10	100W LED Flood Light, 60° Beam Angle, 10' Height
4	144	100	60	10	100W LED Flood Light, 60° Beam Angle, 10' Height
5	144	100	60	10	100W LED Flood Light, 60° Beam Angle, 10' Height
6	144	100	60	10	100W LED Flood Light, 60° Beam Angle, 10' Height
7	144	100	60	10	100W LED Flood Light, 60° Beam Angle, 10' Height
8	144	100	60	10	100W LED Flood Light, 60° Beam Angle, 10' Height
9	144	100	60	10	100W LED Flood Light, 60° Beam Angle, 10' Height
10	144	100	60	10	100W LED Flood Light, 60° Beam Angle, 10' Height

LUMINAIRE LOCATIONS	Location	Quantity	Wattage	Beam Angle	Height	Notes
1	100	1	100	60	10	
2	100	1	100	60	10	
3	100	1	100	60	10	
4	100	1	100	60	10	
5	100	1	100	60	10	
6	100	1	100	60	10	
7	100	1	100	60	10	
8	100	1	100	60	10	
9	100	1	100	60	10	
10	100	1	100	60	10	
11	100	1	100	60	10	
12	100	1	100	60	10	
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96	100	1	100	60	10	
97	100	1	100	60	10	
98	100	1	100	60	10	
99	100	1	100	60	10	
100	100	1	100	60	10	

D-Series Size 0
 100W LED Flood Light, 60° Beam Angle, 10' Height

D-Series Size 1
 100W LED Flood Light, 60° Beam Angle, 10' Height

