

Agenda

Natural Features Protection

Review Board



City of Kalamazoo

Tuesday, November 26, 2024

4:00 PM

City Commission Chambers at City Hall - 241 W. South Street

A. CALL TO ORDER/ROLL CALL

1. Excuse Absent Board Members (**Action: Motion to Excuse Absent Board Members**)

B. ADOPTION OF AGENDA

(**Action: Motion to approve the agenda**)

1. Agenda Approval (**Action: Motion to approve the agenda**)

C. APPROVAL OF MINUTES

1. Approval of the minutes from the Natural Features Protection Review Board meeting on October 22nd, 2024 (**Action: Motion to approve meeting minutes from the October 22nd, 2024 Natural Features Protection Review Board Meeting**)

D. PUBLIC COMMENTS

E. BOARD MEMBER COMMENTS

F. NEW BUSINESS

1. NFP Site Plan for the Friendship Village Campus Repositioning & Skilled Additions project located at 1400 and 1402 N. Drake Road
2. NFP Site Plan for Site Improvements and Building Addition at 3301 Tech Circle Drive
3. 2025 Natural Features Protection Board Meeting Schedule (**Action: Motion to adopt 2025 Meeting Schedule**)

G. UNFINISHED BUSINESS

H. STAFF REPORTS AND UPDATES

I. COMMUNICATIONS AND ANNOUNCEMENTS

J. ADJOURNMENT



Minutes
Natural Features Protection Review Board
October 22, 2024
Regular Meeting

Held at City Hall, Commission Chambers

4:00 p.m.

A. Call to Order: Director Martin called the meeting to order at 4:00 p.m.

B. Members absent: None

C. Adoption of Agenda

Motion to adopt the agenda made by Director Fuller, supported by Director Lettow, motion passed unanimously.

C. Approval of the Meeting Minutes

Motion to approve the minutes from the July 23rd, 2024, NFP Review Board Meeting made by Director Basset, supported by Director Hollander, passed unanimously.

D. General Citizen Comments

There were no general citizen comments, either in person or by phone.

E. Board Comments

No comments

F. New Business

1. **Initial Discussion: Discussion of NFP Site Plan for the Friendship Village Campus Repositioning IL & Skilled Additions project located at 1400 and 1402 N Drake Road**



Nolan opened discussion on the Friendship Village, Senior Living campus, planned unit development at 1400 & 1402 properties only, applicants will be discussing what processes they have been through and talk about the Natural Features plans they have so far. They have already been through pre-site plan review and are in the Site plan process. This is for NFP to ask questions and discuss the project with the developers, rare species review, protected trees and Woodland area is pretty large on the 1402 address, then their hope is to come back to next meeting with more plans. They have been to City Commission and Planning Commission and public noticing.

Rachel Hughes-Nilsson presented an overview of the project in Phase I:

- Installation of the Construction of a new independent IL living facility with a parking garage underneath and Skilled Nursing addition, putting in a New Maintenance Building, altering loop road, and adding more parking at these buildings.
- Detailing the Woodlands, the trees and the Natural Features Inventory.
- MSU Scientists were out twice to the site and found no evidence of the 3 plants on site. The Woodlands site was taken on by Davey Resource Group.
- Impact will be on the least amount of woodlands, there is an existing trail with a lot of Memorial trees and Benches that are sacred to the residents and will not be touched. The North side will be altered and everything South will be left.
- There is a 132 ft wide natural buffer is required as part of the Deed along the property line between Westwood residence and the building that cannot be altered. We will be removing what is allowable for the site on 1402. Trees will not be pulled Out on the 1400 site.
- All the protected trees were tested for the risk and health factors, a tree risk assessment by someone who is licensed. Looking for Health issues and Architectural issues and the trees were graded on those standards.
- Landscape plan that has been through pre-site plan for along the parking lots is part of the new code that was adopted this summer.

Questions?:

Randy Lettow: Thank you to Rachel and we know the housing and Senior Housing are in big demand and this a desirable area and the Challenge that is being put forth. Wants to know the dynamic between this process and the residents, were they part of this plan?

Randy, Development Manager of the Senior Campus with LCS, commented that they had listening sessions and presentation regularly, and when walking around to familiarize himself with the grounds the residents commented on how important some of the trees and benches were that were dedicated to love ones. It is not legally protected but they will put on plans as protected. Ongoing conversations are for the open areas and what is a good fit for the areas.

Randy Lettow: On the plans they have a triangle hash texture and many do not indicate there are trees, is that part of the second-growth shrubbery vegetation?

Rachel: That is more for the contractor since we are still in the schematic development stage so we are still really early in our plans.

Randy Lettow: There is a mix of tree protection standard and Woodland on the Independent Housing in the C-shaped portion of how many tree removals will be needed, what is the percentage of Woodland being removed?

Rachel: It's around 7 or 8%.

Nolan: Staff did discuss with Rachel the distinction between the Woodland Standards and the protected tree standards.

Director Fuller: Questions about the rare plants found on site, who were they planted by?

Rachel: Residents gardens that were planted around their homes but not in the wooded area itself and will not be altered. We are also creating courtyards for residents to sit outside and if some of these needed to be replanted we could move there.

Murgia: Can you speak alittle about storm water and how that will be managed?

Rachel: Civil Engineer Andy is not in attendance but from my knowledge there is an existing trail that leads up through a large existing retention Basin area, we are adding another on and it will be sized for phase one. We will have additional screening with the residents, this part was in discussion with the Planning Commission and the City Commission to whether or not a retention basin would be allowable and it was an amendment to the approval because the language that talks about the buffer and what's allowed was vague.

Randy Lettow: Are the basins designed as lined basins with an overflow?

Rachel: Not designed yet but working on the schematic, the intent for infiltration to happen. The residents have questioned if a water feature will ever be possible on the site and that is being worked through and have an overflow.

Randy Lettow: One way to tie in the Natural Area features is that the residents appreciate the site's function.

Director Fuller: There were a couple of non-native species on the landscape plan and with the NFP they are required to be native? Are those good zoning trees?

Rachel: The plan is to have sign lines at a drive with an upright branching pattern so everyone is safe.

Director Fuller: The understanding is that NFP and Landscaping plan should all be native species.

Nolan: He will check the plan and code and give an update.

Rachel: Questioning further that on any plantings around a patio area or similar have to be native whether or not it's related to Woodlands plant protected trees?

Nolan: NFP board can approve a planting list even if there are non-natives on the list, the preliminary review of some of the non-natives on the zoning list did not come up as invasive so they could potentially be non-native and non-invasive species. For final approval, the board could suggest alternatives or if NFP is ok with the species as they are in the plan.

Rachel: For instance, perennials and grasses, ornamental grasses are easy to do native and trees are fairly easy to do native unless there is specific. The issue is the shrubs to plant native, they are large and at entry ways they makes it difficult.

Martin: There is a preference for native species but if something better fits the needs there is a prohibited planting species list. The case can be made for why and what you want to plant and use. Native species to fit there needs?

Murgia: No, but in the past we have worked with people with the native culture bars and it's usually giving the same value.

Rachel: Vendors for some of the plants are hard to find on the east side for Cultivars, lead plant and New Jersey tea. Deer are very friendly and will want to feed or taste what's on the land.

Nolan: Will need full approval from NFP and Site plan when schematics are finished. We can do a conditional if it is a timing issue.

Rachel: The trail that you see around the outside of the building, is a fire land that is required by emergency services. It is going to be a 12ft road with grass pavers on either side, taking out the line of trees but will put more in. Still working on the plans.

Nolan: There was discussion from the water engineer to access the road which will be used as a fire lane only or non-motorized path for the residents.

Hollander: What stage of plan development do you anticipate you will be at a month from now?

Rachel: They want to start next summer, just finished the schematic and the Architects are not scheduled to be finished until next Fall but they want to have site plan review with 90% CD's and Civil at the end of January. Do not anticipate many changes, will wait to see what the non-native/native plants are all discussed. Prior to submitting to Planning and City Commissions meetings, residents were invited to an on-site meeting.



Public Comments:

Unfinished Business

None

Staff Reports and Update

IK 2035 Meeting on the Go as a trial run with the board members

Communications and Announcements

None

Adjourn Meeting

Director Martin adjourned the meeting at 6:14 p.m.



NFP Review Board Staff Report

City of Kalamazoo

TO: The Natural Features Protection Review Board

FROM: Nolan Bergstrom, NFP Board Liaison

DATE: November 26, 2024

SUBJECT: NFP Site Plan for the Friendship Village Campus Repositioning & Skilled Additions project located at 1400 and 1402 N. Drake Road

RECOMMENDATION:

It is recommended the Natural Features Protection (NFP) Review Board approve the NFP Site Plan for the Friendship Village Campus Repositioning & Skilled Additions project located at 1400 and 1402 N. Drake Road conditioned upon full approval by the Site Plan Review Committee. Full Site Plan approval is required prior to the issuance of permits.

BACKGROUND:

Currently, the subject properties (**1400 & 1402 North Drake Road**) are owned by **Lifecare, Inc** and are located in Kalamazoo's Westwood Neighborhood along Drake Road. The parcel is zoned as a Planned Unit Development (PUD) zone and is within a Planned Unit Development Overlay District. The intent of a PUD Overlay District ([§ 50-6.3A](#)) is to promote the following:

- Consistency with the City's Master Plan.
- Development that can be conveniently, efficiently, and economically served by existing and planned utilities and services.
- Design flexibility that results in greater public benefits than could be achieved using conventional district regulations.
- Preservation of environmental and historic resources.
- A mix of attractive and functional residential and nonresidential developments that are compatible with surrounding development.

Friendship Village has existed as a senior living campus since 1975. In its current configuration, Friendship Village has 352 units; 180 units of Independent Living, 50 Independent Living garden homes, 55 Assisted Living apartments, 23 Memory Care apartments, 28 Skilled Nursing units, and 16 Rehab units.

To meet the continued demand for senior living housing needs, provide needed building

upgrades, and remain competitive in the marketplace, the applicant is proposing to make the following improvements to the campus:

1. Demolition of an existing maintenance building, guard shack, and two freestanding garages
2. New construction of single-story skilled nursing addition (40 units, 48 beds). Note, these licensed beds will be relocated from the existing skilled nursing wing.
3. New construction of single-story freestanding maintenance building
4. New construction of one single-story multiple stall parking garage (10 stalls)
5. New construction of a 3-story freestanding independent living building, including underground parking (80 units).

Due to the expansion of the Friendship Village Campus, the Planned Unit Development boundary needed to be updated. This process required Planning Commission and City Commission approval. Both of these approvals have been granted. This process began in July 2024 and was adopted by City Commission in September 2024.

- [Planning Commission Meeting - July 8, 2024 Recording](#)
- [City Commission Meeting - 1st Reading - August 19, 2024 Recording](#)
- [City Commission Meeting - Adoption of PUD Amendment - September 3, 2024 Recording](#)

The NFP Application was received on October 8th, 2024. The applicant attended a Pre-Site Plan Review meeting on October 2nd, 2024 to gather initial comments from the Site Plan Review Committee. The project came before the NFP Board for a first-reading and discussion on October 22nd, 2024.

The project is before the NFP Board seeking approval of the NFP Site Plan which is required for full Site Plan Approval.

FINDINGS:

The applicant's design team evaluated the site to identify all protected natural features on the property. The site was placed in the NFP Overlay District due to the presence of woodlands and community feedback during NFP Phase II work. There are also protected trees on-site.

Natural Features:

1. **Primary Natural Feature: Woodland**
2. **Secondary Natural Feature: Community Feedback**
3. **Tertiary Natural Feature: n/a**

The site also required Rare Species Review. [Michigan Natural Features Inventory \(MNFI\)](#) Rare Species Review required (meaning: Rare Species as defined by [Law](#) with observations of Rare Species having been reported for the subject property)

Since the project is located within the NFP Overlay District, NFP applies across the site and requires the following NFP Site Development Standards to be considered:

- **Water Resources Standard** – Water Resources were not indicated as a natural feature on-site. Due to this, the Water Resources standard does not apply.
- **Wetland Standard** – Wetlands are not indicated as a natural feature on-site. Due to this, the wetland standard does not apply.
- **Protected Tree Standard** – Applies to this project, as Protected Trees have been inventoried on-site. Vital Statistics for the inventoried trees have been provided alongside a justification for removal. A replacement tree plan has also been submitted. Tree protection fencing spec is shown on current plans alongside locations of protection fencing. The applicant worked with Arborist Services of Kalamazoo to complete a woodland protection report outlining management prior to, during, and post-construction ([§ 50-6.2F](#)).
- **Woodland Protection Standard** – Applies to this project, as a large woodland area resides on the 1402 N. Drake Parcel and extends northeast across several other adjacent properties. The applicant worked with Arborist Services of Kalamazoo to complete a woodland protection report outlining management prior to, during, and post-construction ([§ 50-6.2G](#)).
- **Michigan Natural Features Inventory (MNFI) Rare Species Review** - Rare Species Review is required for this site. The MNFI Rare Species Report for this site has been submitted and was conducted by the MSU Extension in July 2024. According to the Michigan State University Extension Office, this review is described as:

["The Rare Species Review provides a desktop-level of information on the rare species in the immediate vicinity of your project. Once project information is provided, MNFI uses the database to evaluate potential impacts to rare species that are known to be](#)

near the project. Results are compiled in a letter listing all species within the area and MNFI's evaluation on the potential impacts the project may have on those species.

This level of review corresponds to the Endangered Species Assessment previously provided by the Wildlife Division of the MDNR. The MNFI letter can be submitted for consideration when working with the State of Michigan.

This is a desktop review based on the MNFI natural heritage database. While we may be able to determine if there will be potential impacts to a rare species, MNFI cannot supply a "no impact" designation without an on-site assessment. The applicant had a rare species review completed, and the report is attached."

- **Plant Selection** – Landscaping will need to comply with NFP standards. Replacement Trees that are indicated on the NFP Plans are all native species and are listed as acceptable replacement trees in the NFP Ordinance ([§ 50-6.2F\(4\)\(a\)](#)) and Table 6.2-5). The landscaping planting list is also provided, which includes two non-native, non-invasive species of tree and 3 species of nativar shrub and one native shrub. A landscaping narrative and seed planting list have been submitted since the October Meeting.
- **Stormwater Management** – Applies and will be managed by the Stormwater Reviewer during the Site Plan Review Process.

Public Noticing Requirement:

Due to the proximity to Fray's Park (a City of Kalamazoo owned Public Park) and the requirements in [§ 50-6.2K\(1\)\(c\)](#) public notice was required. Public notice was sent out prior to the October 22nd NFP Meeting. The applicant provided a copy of the notice letter and address list from this mailing.

After staff review, the plan appears to meet NFP standards and qualifies for conditional approval based upon providing the following documentation and resources:

- Woodland Management Plan from Arborist Services Kalamazoo describing protection prior to, during, and after construction
- Woodland Removal Documentation and Information on Preservation percentage
- Inclusion of Landscaping Plan and List as well as documentation on Seed Mixes
- Images, Locations, Inventory of Trees / Protected Trees and Justifications (Ordinance Specific) for Tree Removals with inclusion of Tree Replacement List
- Submittal of MNFI Rare Species Report which was required

SUPPLEMENTAL SITE PLAN REVIEW APPLICATION FOR NATURAL FEATURES PROTECTION

For projects located within the Natural Features Protection (NFP) Overlay District, separate site plan approval is required before the full site plan can be approved. This review is done either by the NFP Review Board or administratively by staff to verify conformance with NFP Overlay District zoning code ([Chapter 50, NFP](#)). The NFP Overlay District map can be found on the [City's GIS mapping website](#) (select "Planning & Zoning" layer and make sure "NFP Overlay" is clicked on).

The NFP Supplemental Application must be completed and submitted with the regular Site Plan Review Application and checklists. The NFP Review Board meets monthly to review and approve applications. City staff can assist in scheduling a project at an upcoming NFP Review Board meeting. While the review process offers some flexibility, projects often seek NFP approval between the Pre-Application meeting and regular Site Plan Review meeting.

Section I. Project & Applicant Information

All projects must complete Section I. If the project will not impact any natural features on the site, and does not trigger additional stormwater controls or treatment, applicants should sign and submit Section I only. Staff will review and determine if the application can be approved administratively.

Section II. Natural Features Checklist & Attachments

For projects proposing improvements or changes to the site that impact natural features, change grading, or involve work in or near NFP setbacks, Sections II and III must be completed. Section II identifies which natural features are present and standards apply. Section III will assist you in determining what documentation and additional plan sets are needed for a complete application. Once a complete application is submitted to the City, the project will be scheduled for the next available NFP Review Board meeting and an application fee of \$110 will apply.

QUESTIONS

Contact the NFP staff liaison with any questions about your NFP Supplemental Application at (269) 337-8045 or development@kalamazoo-city.org.

SECTION I. PROJECT AND APPLICANT INFORMATION

Please provide all of the project and applicant information requested below. Include the date of your regular site plan review meeting, if one has been scheduled or already taken place.

APPLICANT NAME:	Rachel (first)	Hughes-Nilsson (last)
APPLICANT ADDRESS:	141 West Michigan Avenue, Suite #500 (number) (street name)	
	Kalamazoo (city)	WY MI 49007 (zip)
APPLICANT EMAIL:	rhnilsson@ocba.com	PHONE: (269) 381-3357
PARCEL ADDRESS/PIN:	1400 N. Drake Rd/06-07-362-001 & 1402 N. Drake Rd/06-07-386-002	
PROJECT DESCRIPTION:	See attached narrative	
OWNER NAME: (if different)	(first) (last)	
HAS REGULAR SITE PLAN REVIEW MEETING OCCURRED?	☐ Yes ☒ No	DATE OF SITE PLAN REVIEW MEETING: 10/10/2024 11/26/24

NFP APPLICATION REQUIRED?

Is the project limited to interior work <u>only</u> with no exterior ground changes or increase in impervious coverage?	
YES ☐	If YES , Sections II & III of this application are not needed. Sign below & submit only this page with your site plan review or permit application.
☒ NO	If NO , proceed to Sections II & III. Do NOT sign below.

By signing below, the applicant certifies that no natural features will be disturbed as part of this project.

Print name: _____

Signature: _____

Date: _____

SECTION II. NFP SITE PLAN CHECKLIST & ATTACHMENTS

Use the checklist to determine what documentation and additional plans sets must be prepared for this application. All plan sets, maps, and additional information must be attached to this application to be considered complete. If you checked “no” to certain NFP items in questions 1-7 in Section II, record “N/A” on the checklist.

REQUIRED: NFP SITE PLAN SET

All applications must include separate sheets in the plan set showing the following:

1. Existing conditions map showing an inventory of all protected natural features and any associated natural features setbacks with distances (use checklist below)
2. Future development plan overlaid onto the existing conditions and natural features inventory; indicate where and to what extent protected natural features will be disturbed, removed, altered, or impacted in any way and which natural features will be protected during and after construction

Future development plan must include:

- **Boundary with extent of re-grading**, construction, or site preparation activities
 - **All existing and new building footprints** (mark whether existing buildings will be removed or maintained)
 - **New and existing parking** surfaces or structures, sidewalks, trails, and other impervious or semi-impervious surfaces including decks, patios, viewing platforms, etc. (list proposed surface materials and whether existing surfaces will be maintained or removed)
 - **Proposed location of fencing and screening**, whether permanent, natural, or construction silt fencing and/or natural feature protection fencing (with specifications)
 - **Stormwater facilities** showing boundary of ground disturbance, grading or construction activities, if located near natural features
 - **New utilities** and/or relocation of existing utilities showing corridors that could impact natural features
3. Landscape plan detailing the minimum elements needed to meet zoning code requirements and all proposed additional landscaping elements or features (include table with species name)
 4. Any additional plans or tables detailing which natural features will be restored or replaced after construction, if required (e.g., riparian buffer installation or slope restoration plan may be required under certain circumstances when the ordinance allows changes within these protected areas)

WETLANDS	Present:	Included on page #:	Notes:
Mark existing wetland boundaries with notes about wetland conditions. <i>Attach a copy of EGLE permit or permit application for work impacting Part 303 wetlands regulated by the State.</i>	☐ Yes ☒ No		
WATER RESOURCES	Present:	Included on page #:	Notes:
Mark the location of all water resources on the parcel and those within 25 feet of the parcel boundaries. <i>Attach a copy of EGLE permit or permit application for work impacting Part 301 waters regulated by the State.</i>	☐ Yes ☒ No		
Show required setbacks with dimensions; describe existing or future ground cover within riparian setbacks.			
TREES	Present:	Included on page #:	Notes:
Mark the location of all “protected” trees that are proposed to be removed and those that will remain and require protection fencing.	☒ Yes ☐ No	L1.5 & L1.6	
Include a table with species name, size (DBH and height), and condition of “protected” trees that are proposed to be removed and list replacement tree information.		See attached spreadsheet	
Provide a note with justification for removal.		See attached spreadsheet	
WOODLANDS	Present:	Included on page #:	Notes:
Delineate the boundary of all woodlands on the parcel noting where woodlands likely extend onto adjacent parcels.	☒ Yes ☐ No	L1.3 & L1.4	
Mark all areas of woodland that will be retained and removed (i.e., cleared).		L1.3 & L1.4	
Include a table or note with the required preservation ratio (based on existing woodland coverage), percentage proposed to be removed, and rationale for selecting area for removal.		L1.4	
SLOPES	Present:	Included on page #:	Notes:
Provide a slope analysis that shows the boundaries of all “protected” slopes and mark the required setback(s).	☐ Yes ☒ No		
Include a note with co-existing feature that triggers “protected” slope status (e.g., wooded, within 500 ft of water resource).			

NATURAL HERITAGE AREAS	Present:	Included on page #:	Notes:
Is an MNFI* rare species review required? <i>Parcels can be pre-screened using the City's GIS website, click on the "Planning & Zoning" layer and "NFP Overlay" layer; then click on parcel and see MNFI status.</i>	☒ Yes ☐ No	See attached	report
If an MNFI rare species review is required, attach the resulting report.	Attached		

*Michigan Natural Features Inventory (MNFI) Rare Species Reviews can be requested at:

<https://mnfi.anr.msu.edu/services/rare-species-reviews>

ACCEPTED DATA SOURCES & ANALYSIS

All data sources, analysis, and professionals are subject to approval by the City Planner according to Chapter 50-6.2. The following guidance may be useful when selecting a professional or methodology for inventorying natural features.

1. WETLANDS

- Wetland delineation report performed by a qualified consultant including a map denoting delineated boundary of all wetlands, OR
- Most recent US Fish & Wildlife Service's National Wetlands Inventory boundary (State of Michigan mapper: <https://www.michigan.gov/egle/about/organization/water-resources/wetlands/inventory-maps>)

2. PROTECTED TREE IDENTIFICATION

- May be performed by an qualified professional (including ISA Certified Arborist or similar); a full tree inventory is not required if all necessary information can be obtained and communicated using another survey, inventory, or site assessment methodology

3. WOODLANDS

- A qualified professional, such as an ISA Certified Arborist, landscape architect, or license engineer may perform a desktop analysis or field survey to delineate woodlands
- When a variances is being requests to remove more woodland cover than is allowed under the preservation ration, the following is required
 - Woodland assessment report with determination that the Trees per Area (TPA) meets the NFP definition of a woodland and mapped delineation of woodland
 - Woodland assessment report with a determination that Basal Area is equivalent to the TPA in the NFP definition and meets definition of a woodland and mapped delineation of woodland
 - In addition to determination of whether stand of trees meets NFP definition of a woodland, assessment must include information on general species diversity,
 -

composition of species, any notable trees (either notable species or size), invasive species composition, and general health and age observations of tree stand

4. PROTECTED SLOPES

- Topographic survey performed in the field by a qualified consultant to delineate areas of a slope with grade of 20% or greater
- Desktop analysis performed using U.S. Geological Survey digital topographic maps, LIDAR, digital elevation map, or equivalent data showing 2' intervals or finer resolution, performed by a qualified consultant or engineer



NOTICE OF UPCOMING PROJECT

FRIENDSHIP VILLAGE KALAMAZOO CAMPUS ADDITIONS & NEW BUILDINGS

Project Information:

This project consists of demolition, new construction, and remodeling of two (2) buildings at Friendship Village Kalamazoo, an existing senior living campus in Michigan. Helping seniors since 1975, this campus is nestled among over 70 acres of beautiful woods and groomed courtyards. In its current configuration, Friendship Village has 352 units; 180 units of Independent Living, 50 Independent Living garden homes, 55 Assisted Living apartments, 23 Memory Care apartments, 28 Skilled Nursing units, and 16 Rehab units.

To meet the continued demand for senior living housing needs, provide needed building upgrades, and remain competitive in the marketplace, Friendship Village plans to grow the campus in coming years. In alignment with the City's vision for sustainable growth and community enhancement, the proposed development will contribute to the revitalization of the area, create additional employment opportunities, and stimulate economic growth within the community.

Plan Information:

Plans can be viewed at the front lobby desk at Friendship Village, 1400 North Drake Road, Kalamazoo, MI 49009.

Project Questions/Comments:

Any project related questions or comments can be emailed to Tim Cain, Executive Director of Friendship Village – Kalamazoo at caint@fvknet.com

Project Schedule:

City of Kalamazoo NFP Review Meeting: October 22, 2024

- NFP Standards to be reviewed: Trees, Woodlands, and Natural Features Inventory

City of Kalamazoo NFP Action Meeting: November 26, 2024

- NFP Standards to be reviewed: Trees, Woodlands, and Natural Features Inventory

City of Kalamazoo Site Plan Review Submittal: January 31, 2025

Construction Timeline: June 2025 – early 2027

Rare Plant Survey of Friendship Village Complex Kalamazoo, Michigan



Prepared By:

Paul R. Schilke and Michael A. Sanders, Michigan Natural Features Inventory, Michigan State University Extension, PO Box 13036, Lansing, MI 48901-3036

Prepared For:

Lifecare, Inc.

July 31, 2024

MNFI Report Number 2024-16

Suggested Citation:

Schilke, P.R. and M.A. Sanders. 2024. Rare Plant Survey of Friendship Village Complex
Kalamazoo, Michigan. Michigan Natural Features Inventory, Report No. 2024-16, Lansing, MI.

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We collectively acknowledge that Michigan State University occupies the ancestral, traditional, and contemporary Lands of the Anishinaabeg – Three Fires Confederacy of Ojibwe, Odawa, and Potawatomi peoples. In particular, the University resides on Land ceded in the 1819 Treaty of Saginaw. We recognize, support, and advocate for the sovereignty of Michigan’s twelve federally recognized Indian nations, for historic Indigenous communities in Michigan, for Indigenous individuals and communities who live here now, and for those who were forcibly removed from their Homelands. By offering this Land Acknowledgement, we affirm Indigenous sovereignty and will work to hold Michigan State University more accountable to the needs of American Indian and Indigenous peoples.

Cover: A grassland-forest edge at Friendship Village.
All photos by Paul R. Schilke.

ACKNOWLEDGEMENTS

Thank you to MNFI colleagues Ashley Adkins, Deb Richardson, Sarah Carter, and Mike Monfils for administrative assistance.



A grassland at the northern edge of 1402 Drake Road contained both native and non-native grassland plants.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
TABLE OF CONTENTS.....	ii
LIST OF TABLES.....	iii
LIST OF FIGURES	iii
INTRODUCTION.....	1
METHODS.....	3
RESULTS	4
DISCUSSION	11
LITERATURE CITED	13
APPENDIX 1.....	14

LIST OF TABLES

Table 1. Historical occurrences of rare plant species..... 1

Table 2. Rare plants found during surveys (planted)..... 4

LIST OF FIGURES

Table 1. c1800 landcover of the city of Kalamazoo 2

Table 2. Survey area map of 1400 and 1402 Drake Road..... 4

INTRODUCTION

Lifecare Inc. contracted with Michigan Natural Features Inventory in 2024 to conduct a survey of two parcels: 1400 and 1402 Drake Road in the city of Kalamazoo. A rare species review of the Michigan Natural Heritage Database found historical occurrences of three rare plant species, white wild indigo (*Baptisia lactea*), prairie coreopsis (*Coreopsis palmata*), and American ginseng (*Panax quinquefolius*), within one kilometer of the survey area (Table 1) (Michigan Natural Features Inventory).

Table 1: Historical occurrences of rare plant species within one kilometer of the survey area at 1400 and 1402 Drake Road, Kalamazoo.

Species (Common Name)	Species (Scientific Name)	Michigan Status	Year last observed	Habitat
white false indigo	<i>Baptisia lactea</i>	State Threatened	1978	Grassland/prairie
prairie coreopsis	<i>Coreopsis palmata</i>	State Threatened	1838	Grassland/prairie
American ginseng	<i>Panax quinquefolius</i>	State Threatened	1838	Forest

Much of the survey area has been developed but the parcel at 1402 Drake Road includes areas of undeveloped forest and grassland and the parcel at 1400 Drake Road includes undeveloped grassy and shrubby areas. These undeveloped areas can harbor remnant natural communities that have not been substantially altered by human activity and often provide suitable habitat for rare plant species. Historical landcover of the survey area included both forest and grassland in the broader region while the survey area was grassland circa 1800 (Fig. 1) (Comer et al. 1995). Natural occurrences of white wild indigo and prairie coreopsis are found in remnant prairie and savanna habitats in Southwest Michigan (Slaughter 2009). American ginseng occurs in shaded habitats of dry-mesic and mesic forests in Michigan (Penskar 1996).

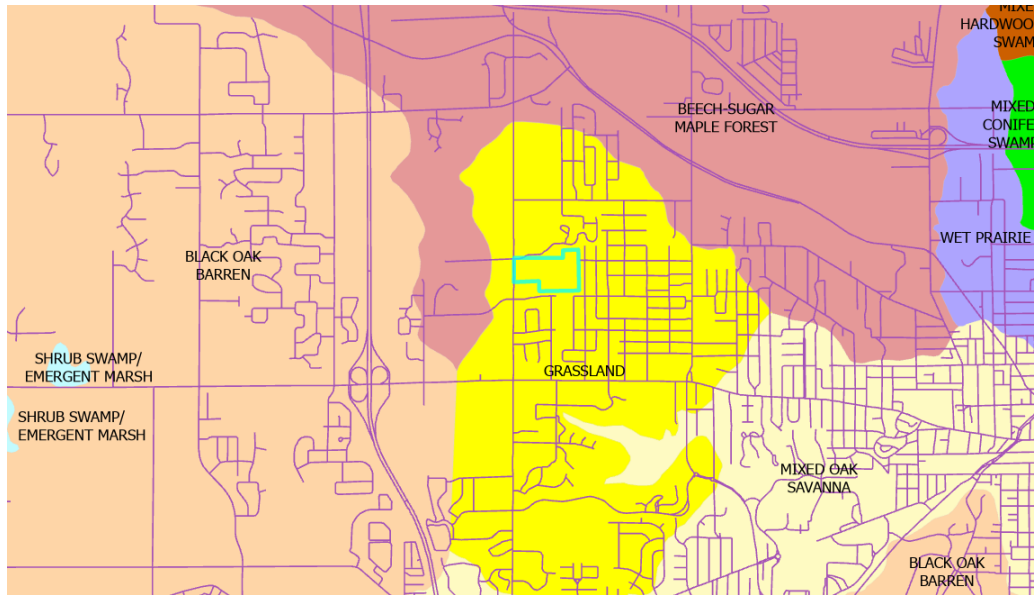


Figure 1. Historical landcover with current roads for reference. The map shows the survey area in Kalamazoo, Michigan highlighted in light blue. The c1800 landcover derived from General Land Office notes was grassland with forest and barrens in the surrounding area.

METHODS

Friendship Village provided aerial photographs and parcel boundaries of the survey area (Fig. 2). MNFI reviewed aerial imagery and the Michigan Natural Heritage Database to determine priority areas for rare plant surveys. A field survey was conducted on June 4th, 2024 by MNFI botanist Paul Schilke. Meander surveys were conducted in priority survey areas. In addition, other undeveloped areas that were encountered were also surveyed. A later season survey of the prairie area was conducted on July 5th, 2024, to match the ideal survey window for several of the rare plant species found in grasslands.

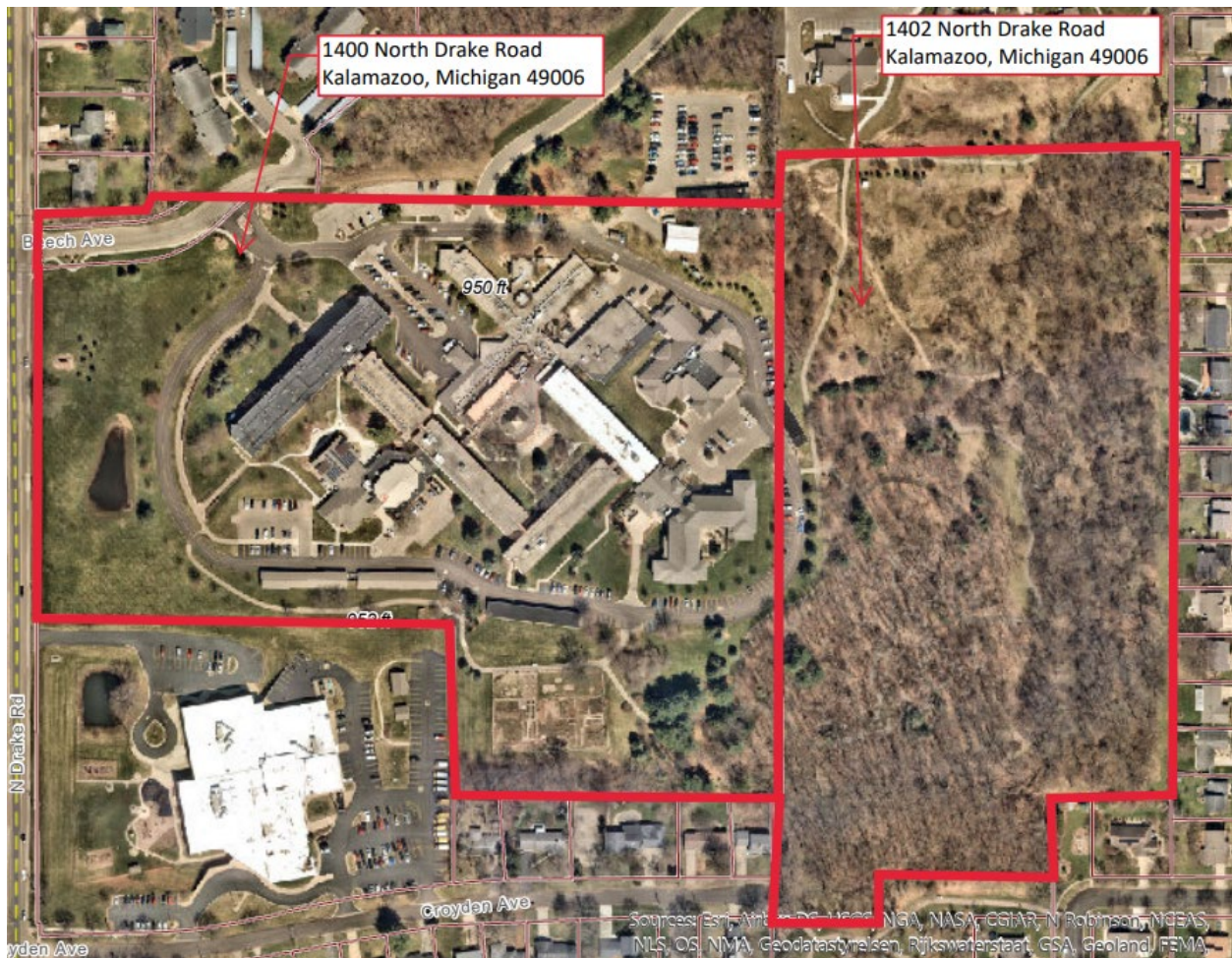


Figure 2. Aerial photograph with parcel boundaries (survey areas) outlined in red.

RESULTS

No natural occurrences of rare plant species were found in the survey area. Five rare plant species were found in the survey area; however, these were determined to have been planted and therefore require no protection or mitigation and were not added to the Michigan Natural Heritage Database (Table 2).

Table 2: Rare plants encountered during the survey. All these species were most likely planted and therefore were not added to the Michigan Natural Heritage Database.

Species (Common Name)	Species (Scientific Name)	Michigan Status	Coefficient of Conservatism	Habitat
twinleaf	<i>Jeffersonia diphylla</i>	Special Concern	9	Forest
goldenseal	<i>Hydrastis canadensis</i>	State Threatened	10	Forest
Virginia bluebells	<i>Mertensia virginiana</i>	State Threatened	10	Forest
rattlesnake master	<i>Eryngium yuccifolium</i>	State Endangered	10	Grassland/prairie
leadplant	<i>Amorpha canescens</i>	Special Concern	8	Grassland/prairie

There were no areas found within 1400 and 1402 Drake Road that have a high likelihood of harboring rare plants. The wooded area at 1402 Drake Road was dominated by black walnut (*Juglans nigra*) and black cherry (*Prunus serotina*) in the overstory and non-native shrubs and forbs in the shrub and ground layer. The grassy and shrubby areas were dominated by non-native species and contained several native species that can be found in either high-quality or semi-degraded grasslands, such as Virginia mountain mint (*Pycnanthemum virginianum*).

A noxious weed – poison hemlock – was found in one area at the northern edge of 1402 Drake Road. The survey area contains a high diversity of plant species; however, a large proportion of them are not indigenous to Southwest Michigan and appeared spontaneously or appeared to have been planted for aesthetic value.



Poison hemlock (*Conium maculatum*) was observed near the northern edge of the 1402 Drake Street parcel. This carrot-family species is highly toxic to humans.

Past and current human activity is the main process shaping the plant communities at 1400 and 1402 Drake Road. No remnant forest or grassland areas were located, and all of the area was likely farmed with row crops or grazed in the past. The forests and grasslands in the survey area formed after intensive human disturbance rather than from pre-settlement natural communities and therefore include a mix of native and non-native species (Appendix 1).



Goldenseal (*Hydrastis canadensis*), a state threatened plant of mesic southern forest was found planted in the Michigan natives woodland garden at 1402 Drake Road.



Twinleaf (*Jeffersonia diphylla*), a special concern plant in Michigan, was found planted in the Michigan natives woodland garden at 1402 Drake Road.



Virginia bluebells (*Mertensia virginica*), a state threatened plant of mesic forest, was found planted or spreading from plantings along a path in the woodland at 1402 Drake Road.



Rattlesnake master (*Eryngium yuccifolium*), a state endangered plant, was found in a planted prairie. Note the footpath and stake next to the plant.



Leadplant (*Amorpha canescens*), special concern, is a plant of prairie remnants. This individual was planted in a prairie planting at 1400 Drake Road.

DISCUSSION

The three rare plant species that were targets of surveys, white wild indigo, prairie coreopsis, and American ginseng, are species associated with high quality natural communities. White indigo and prairie coreopsis are primarily found in remnant prairies where the native flora has not been disturbed by development, agriculture, or other human activity. American ginseng is found in high-quality woodlands where the native ground flora has not been disturbed by logging, grazing, tilling, harvesting, or other anthropogenic disturbance. The Friendship Village survey area has been heavily altered by past and current human activity and does not contain remnant natural communities that harbor rare plants. Due to the lack of high-quality habitat, it is unlikely that these, or other rare plants, could persist in the survey area.

The types of anthropogenic natural communities observed in the Friendship Village survey area are common in Southern Michigan and have a low likelihood of harboring rare plants and animals compared to natural communities that have primarily been shaped by natural processes. The wooded area is similar to other woodlands in Southern Michigan that regenerated after major anthropogenic disturbances, such as logging and tilling for agriculture. These second or third-growth woodlands contain many non-native plants and relatively few native plants. A vine, bittersweet (*Celastrus orbiculatus*), is a common non-native component of young forests such as those at Friendship Village and makes these forests difficult to traverse.



Bittersweet is a common component of the forests at 1402 Drake Road. This non-native plant species has degraded forests throughout Southern Michigan.

The wooded area at Friendship Village contains many plant species that were planted. The plantings include three woodland native plants that are threatened or endangered in Michigan: goldenseal, twinleaf, and Virginia bluebells. These rare plant species occurred near trails and in small numbers. The lack of associated specialized plants, the low quality of the woodland

habitat, and signs indicating plantings in some areas all indicate that these are not natural occurrences and therefore not protected.

The grassland and shrubland located in the northern portion of the survey area is similar to other grasslands that have assembled after historic land clearing, tilling, and agriculture. These grasslands contain many non-native species and relatively few native species. In particular, rare and specialized perennial grassland plants such as white wild indigo and prairie coreopsis are not found in these types of grasslands, while the rare species leadplant and rattlesnake master were observed to have been planted. Native plantings can provide food and habitat for native animals such as pollinating insects, increasing the ecological value of anthropogenic grasslands.



A grassland with planted species is located in the north portion of 1402 Drake Road

LITERATURE CITED

- Comer, P.J., D.A. Albert, H.A. Wells, B.L. Hart, J.B. Raab, D.L. Price, D.M. Kashian, R.A. Corner, and D.W. Schuen. 1995. Michigan's presettlement vegetation, as interpreted from the General Land Office Surveys 1816-1856. Michigan Natural Features Inventory, Lansing, MI. Digital map.
- Michigan Natural Features Inventory (MNFI). 2024. Michigan Natural Heritage Database, Lansing, MI.
- Penskar, M.R. and P.J. Higman. 1996. Special plant abstract for *Panax quinquefolius* (ginseng). Michigan Natural Features Inventory, Lansing, MI. 3 pp
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APPENDIX: COMPREHENSIV

Appendix 1: Vascular plants detected during surveys of 1400 and 1402 Drake Road, Kalamazoo, Michigan

Scientific Name	Native	Physiognomy	Duration	Common Name
<i>Acer negundo</i>	native	tree	perennial	box-elder
<i>Acer rubrum</i>	native	tree	perennial	red maple
<i>Acer saccharinum</i>	native	tree	perennial	silver maple
<i>Acer saccharum</i>	native	tree	perennial	sugar maple
<i>Achillea millefolium</i>	native	forb	perennial	yarrow
<i>Actaea pachypoda</i>	native	forb	perennial	dolls-eyes
<i>Adiantum pedatum</i>	native	fern	perennial	maidenhair fern
<i>Ajuga reptans</i>	non-native	forb	perennial	carpet bugle
<i>Alliaria petiolata</i>	non-native	forb	biennial	garlic mustard
<i>Amorpha canescens</i>	native	shrub	perennial	lead-plant
<i>Andropogon gerardii</i>	native	grass	perennial	big bluestem
<i>Anemone canadensis</i>	native	forb	perennial	Canada anemone
<i>Apocynum androsaemifolium</i>	native	forb	perennial	spreading dogbane
<i>Aralia racemosa</i>	native	forb	perennial	spikenard
<i>Arctium minus</i>	non-native	forb	biennial	common burdock
<i>Arisaema triphyllum</i>	native	forb	perennial	jack-in-the-pulpit
<i>Artemisia vulgaris</i>	non-native	forb	perennial	mugwort
<i>Asarum canadense</i>	native	forb	perennial	wild-ginger
<i>Asclepias syriaca</i>	native	forb	perennial	common milkweed
<i>Asclepias tuberosa</i>	native	forb	perennial	butterfly milkweed
<i>Asimina triloba</i>	native	tree	perennial	pawpaw
<i>Asplenium platyneuron</i>	native	fern	perennial	ebony spleenwort
<i>Athyrium filix-femina</i>	native	fern	perennial	lady fern
<i>Betula papyrifera</i>	native	tree	perennial	paper birch
<i>Betula pendula</i>	non-native	tree	perennial	European white birch
<i>Bromus tectorum</i>	non-native	grass	annual	cheat grass
<i>Campsis radicans</i>	non-native	vine	perennial	trumpet-vine
<i>Carex cephalophora</i>	native	sedge	perennial	sedge
<i>Carex swanii</i>	native	sedge	perennial	sedge
<i>Carex vulpinoidea</i>	native	sedge	perennial	sedge
<i>Castanea dentata</i>	native	tree	perennial	American chestnut
<i>Celastrus orbiculatus</i>	non-native	vine	perennial	oriental bittersweet
<i>Celtis occidentalis</i>	native	tree	perennial	hackberry
<i>Centaurea stoebe</i> ; c. <i>maculosa</i>	non-native	forb	biennial	spotted knapweed
<i>Cercis canadensis</i>	native	tree	perennial	redbud
<i>Circaea canadensis</i> ; c. <i>lutetiana</i>	native	forb	perennial	enchanters-nightshade

Scientific Name	Native	Physiognomy	Duration	Common Name
Cirsium arvense	non-native	forb	perennial	Canada thistle
Cirsium vulgare	non-native	forb	biennial	bull thistle
Conium maculatum	non-native	forb	biennial	poison hemlock
Convallaria majalis	non-native	forb	perennial	lily-of-the-valley
Convolvulus arvensis	non-native	vine	perennial	field bindweed
Cornus florida	native	tree	perennial	flowering dogwood
Cornus foemina	native	shrub	perennial	gray dogwood
Daucus carota	non-native	forb	biennial	queen-annes-lace
Desmodium canadense	native	forb	perennial	showy tick-trefoil
Dryopteris carthusiana	native	fern	perennial	spinulose woodfern
Echinacea purpurea	non-native	forb	perennial	purple coneflower
Elymus hystrix; hystrix patula	native	grass	perennial	bottlebrush grass
Eryngium yuccifolium	native	forb	perennial	rattlesnake-master
Fagus grandifolia	native	tree	perennial	American beech
Fraxinus americana	native	tree	perennial	white ash
Galium odoratum	non-native	forb	perennial	sweet woodruff
Geranium robertianum	native	forb	annual	herb robert
Geum aleppicum	native	forb	perennial	yellow avens
Geum canadense	native	forb	perennial	white avens
Glechoma hederacea	non-native	forb	perennial	ground-ivy
Gleditsia triacanthos	native	tree	perennial	honey locust
Gymnocladus dioicus	native	tree	perennial	Kentucky coffee-tree
Hesperis matronalis	non-native	forb	perennial	dames rocket
Hydrastis canadensis	native	forb	perennial	goldenseal
Hydrophyllum appendiculatum	native	forb	biennial	great waterleaf
Hypericum punctatum	native	forb	perennial	spotted st. johns-wort
Hypochaeris radicata	non-native	forb	perennial	cats-ear
Jeffersonia diphylla	native	forb	perennial	twinleaf
Juglans nigra	native	tree	perennial	black walnut
Leonurus cardiaca	non-native	forb	perennial	motherwort
Leucanthemum vulgare; chrysanthemum leucanthemum	non-native	forb	perennial	ox-eye daisy
Ligustrum vulgare	non-native	shrub	perennial	common privet
Liriodendron tulipifera	native	tree	perennial	tulip tree
Lonicera maackii	non-native	shrub	perennial	amur honeysuckle
Lysimachia nummularia	non-native	forb	perennial	moneywort
Maianthemum racemosum; smilacina r.	native	forb	perennial	false spikenard
Matteuccia struthiopteris	native	fern	perennial	ostrich fern
Medicago lupulina	non-native	forb	annual	black medick
Mentha suaveolens	non-native	forb	perennial	apple mint

Scientific Name	Native	Physiognomy	Duration	Common Name
Mertensia virginica	native	forb	perennial	Virginia bluebells
Monarda fistulosa	native	forb	perennial	wild-bergamot
Monarda punctata	native	forb	perennial	horse mint
Morus alba	non-native	tree	perennial	white mulberry
Nepeta cataria	non-native	forb	perennial	catnip
Onoclea sensibilis	native	fern	perennial	sensitive fern
Osmorhiza claytonii	native	forb	perennial	hairy sweet-cicely
Oxalis acetosella	native	forb	perennial	northern wood-sorrel
Pachysandra terminalis	non-native	forb	perennial	Japanese spurge
Parthenocissus quinquefolia	native	vine	perennial	Virginia creeper
Persicaria virginiana; polygonum v.	native	forb	perennial	jumpseed
Phalaris arundinacea	native	grass	perennial	reed canary grass
Phleum pratense	non-native	grass	perennial	timothy
Phytolacca americana	native	forb	perennial	pokeweed
Pilea pumila	native	forb	annual	clearweed
Pinus strobus	native	tree	perennial	white pine
Pinus sylvestris	non-native	tree	perennial	scotch pine
Plantago lanceolata	non-native	forb	perennial	English plantain
Poa pratensis	non-native	grass	perennial	Kentucky bluegrass
Podophyllum peltatum	native	forb	perennial	may-apple
Polymnia canadensis	native	forb	perennial	leaf-cup
Polystichum acrostichoides	native	fern	perennial	christmas fern
Populus deltoides	native	tree	perennial	cottonwood
Populus tremuloides	native	tree	perennial	quaking aspen
Potentilla indica; duchesnea i.	non-native	forb	perennial	indian-strawberry
Potentilla norvegica	native	forb	annual	rough cinquefoil
Prunella vulgaris	native	forb	perennial	self-heal
Prunus serotina	native	tree	perennial	wild black cherry
Pycnanthemum virginianum	native	forb	perennial	common mountain mint
Pyrus calleryana	non-native	tree	perennial	callery pear
Ranunculus recurvatus	native	forb	perennial	hooked crowfoot
Ratibida pinnata	native	forb	perennial	yellow coneflower
Rhamnus cathartica	non-native	tree	perennial	common buckthorn
Rhodotypos scandens	non-native	shrub	perennial	jetbead
Rhus aromatica	native	shrub	perennial	fragrant sumac
Rhus typhina	native	shrub	perennial	staghorn sumac
Ribes cynosbati	native	shrub	perennial	prickly or wild gooseberry
Robinia pseudoacacia	non-native	tree	perennial	black locust
Rosa multiflora	non-native	shrub	perennial	multiflora rose

Scientific Name	Native	Physiognomy	Duration	Common Name
Rubus occidentalis	native	shrub	perennial	black raspberry
Rudbeckia hirta	native	forb	perennial	black-eyed susan
Rudbeckia laciniata	native	forb	perennial	cut-leaf coneflower
Rumex acetosella	non-native	forb	perennial	sheep sorrel
Sambucus canadensis	native	shrub	perennial	elderberry
Sanguinaria canadensis	native	forb	perennial	bloodroot
Sassafras albidum	native	tree	perennial	sassafras
Securigera varia; coronilla v.	non-native	forb	perennial	crown-vetch
Silene latifolia; s. pratensis	non-native	forb	annual	white campion
Smilax lasioneura	native	vine	perennial	carrion-flower
Solanum dulcamara	non-native	vine	perennial	bittersweet nightshade
Solidago speciosa	native	forb	perennial	showy goldenrod
Sorbus aucuparia	non-native	tree	perennial	European mountain- ash
Tilia americana	native	tree	perennial	basswood
Toxicodendron radicans	native	vine	perennial	poison-ivy
Toxicodendron rydbergii; t. radicans	native	shrub	perennial	poison-ivy
Tradescantia ohiensis	native	forb	perennial	common spiderwort
Trifolium pratense	non-native	forb	perennial	red clover
Trifolium repens	non-native	forb	perennial	white clover
Trillium grandiflorum	native	forb	perennial	common trillium
Tsuga canadensis	native	tree	perennial	hemlock
Ulmus americana	native	tree	perennial	American elm
Urtica dioica	native	forb	perennial	stinging nettle
Vaccinium corymbosum	native	shrub	perennial	highbush blueberry
Verbascum blattaria	non-native	forb	biennial	moth mullein
Viburnum dentatum	native	shrub	perennial	arrow-wood
Viburnum lantana	non-native	shrub	perennial	wayfaring tree
Viburnum opulus	non-native	shrub	perennial	European highbush- cranberry
Vinca minor	non-native	shrub	perennial	periwinkle
Vitis riparia	native	vine	perennial	river-bank grape

Existing NFP Protected Trees to be Removed
(refer to attached spreadsheet)

Tree #26 (IMG 0747)



Trees #30 & #31 (IMG0726)



Tree #32 (IMG0725)



Tree #33 (IMG0724)



Tree #34 (IMG0728)



Tree #35 (IMG0730)



Tree #36 (IMG0733)



Tree #37 (IMG0732)



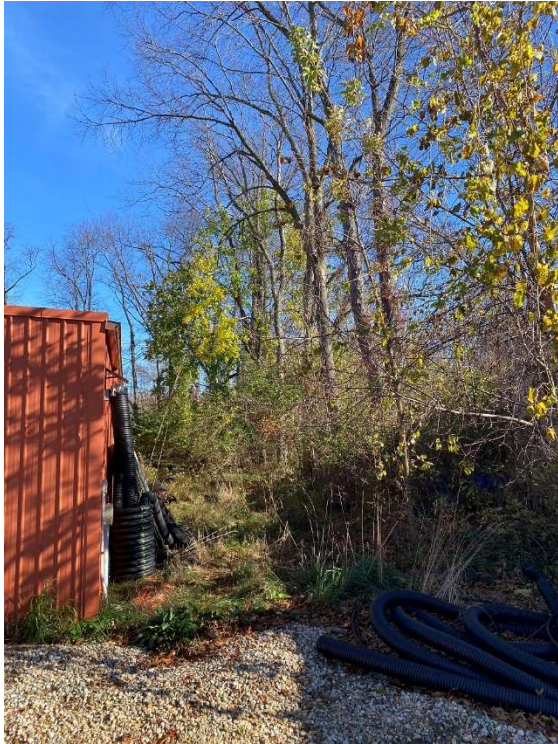
Tree #38 (IMG0731)



Tree #39 (IMG0727)



Trees #50, #51, #52, #53, #54 (IMG0735)



Trees #55 & #56 (IMG0738)



Tree #57 (IMG0741)



Tree #58 (IMG0737)



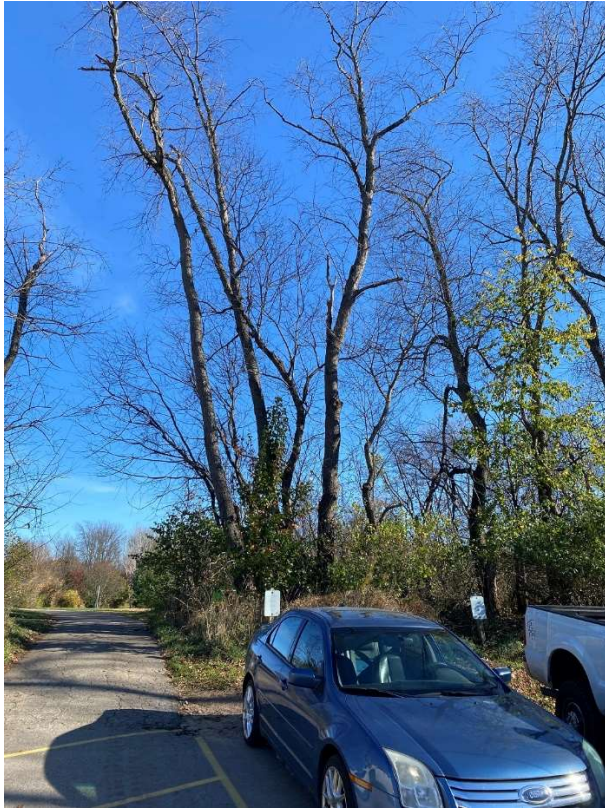
Tree #59 (IMG0738)



Tree #60 & #61 (IMG0737)



Trees #62, #63, #64, #65 (IMG0736)



Trees #66, #67, #68 (IMG0740)



Trees #74, #75 (IMG0745)



Trees #82, #83, #84 (IMG0746)



Tree #96 (IMG0744)



Trees #97, #97, #98 (IMG0742)



Trees #100, #101 (IMG0743)



NFP OVERLAY ZONE EXISTING PROTECTED TREE DOCUMENTATION

Friendship Village Kalamazoo
1400 N Drake Rd, Kalamazoo, MI 49006

Tree #	Common Name	Botanical Name	Condition	Stems	Caliper	Priority	Protected (Y/N) or I	Action	Ordinance Reason	Photo File #	Priority	Meaning
26	Silver Maple	Acer saccharinum	Root Problem	1	21	3	Y	Replace	F3b	IMG0747	1	Highest priority for preservation (i.e., combination of a particularly Good condition, unique tree, etc.). This tree should be protected if site plans can accommodate its current location and protection costs are reasonable.
30	Willow Oak	Quercus phellos	N/A	1	25	2	Y	Replace	F3a	IMG0726		
31	Willow Oak	Quercus phellos	N/A	1	31	2	Y	Replace	F3a	IMG0726		
32	Willow Oak	Quercus phellos	N/A	1	29	2	Y	Replace	F3a	IMG0725		
33	Eastern White Pine	Pinus strobus	Decay or Cavity	1	23	4	Y	Replace	F3b	IMG0724		
34	Eastern White Pine	Pinus strobus	Dead and/or Dying Branches	1	19	3	Y	Replace	F3b	IMG0728		
35	Eastern White Pine	Pinus strobus	Dead and/or Dying Branches	1	20	3	Y	Replace	F3b	IMG0730	2	A tree in Good condition and worth protecting though it may not be uniquely valuable. This category may include trees in Fair condition that can be considered uniquely valuable or otherwise score favorably across all categories of consideration.
36	Eastern White Pine	Pinus strobus	N/A	1	24	2	Y	Replace	F3a	IMG0733		
37	Eastern White Pine	Pinus strobus	Dead and/or Dying Branches	1	19	3	Y	Replace	F3b	IMG0732		
38	Eastern White Pine	Pinus strobus	Dead and/or Dying Branches	1	20	3	Y	Replace	F3b	IMG0731		
39	Eastern White Pine	Pinus strobus	Dead and/or Dying Branches	1	20	3	Y	Replace	F3b	IMG0727		
50	Black Cherry	Prunus serotina	Decay or Cavity	1	27	4	Y	Replace	F3b	IMG0735		
51	Black Cherry	Prunus serotina	N/A	1	18	2	Y	Replace	F3a	IMG0735	3	A Fair condition tree that will not be missed if it were gone and is not worth any special protection measures.
52	Black Cherry	Prunus serotina	Dead and/or Dying Branches	1	19	3	Y	Replace	F3b	IMG0735		
53	Black Cherry	Prunus serotina	Dead and/or Dying Branches	2	19,14	3	Y	Replace	F3b	IMG0735		
54	Black Cherry	Prunus serotina	Dead and/or Dying Branches	2	20,14	4	Y	Replace	F3b	IMG0735		
55	Black Cherry	Prunus serotina	Dead and/or Dying Branches	1	21	3	Y	Replace	F3b	IMG0738		
56	Black Cherry	Prunus serotina	Dead and/or Dying Branches	1	19	3	Y	Replace	F3b	IMG0738		
57	Black Cherry	Prunus serotina	Dead and/or Dying Branches	1	18	3	Y	Replace	F3b	IMG0741	4	Trees that should be removed under most any circumstances such as an invasive or undesirable species, poor or critical condition or dead trees, or a tree causing a particularly high-risk situation.
58	Black Cherry	Prunus serotina	Dead and/or Dying Branches	2	21,20	3	Y	Replace	F3b	IMG0737		
59	Black Cherry	Prunus serotina	Dead and/or Dying Branches	2	20,16	3	Y	Replace	F3b	IMG0738		
60	Black Cherry	Prunus serotina	Dead and/or Dying Branches	1	20	3	Y	Replace	F3b	IMG0737		
61	Black Cherry	Prunus serotina	Dead and/or Dying Branches	1	25	3	Y	Replace	F3b	IMG0737		
62	Black Cherry	Prunus serotina	Dead and/or Dying Branches	1	18	3	Y	Replace	F3b	IMG0736		
63	Black Cherry	Prunus serotina	Dead and/or Dying Branches	1	20	3	Y	Replace	F3b	IMG0736		
64	Black Cherry	Prunus serotina	Dead and/or Dying Branches	2	19,16	3	Y	Replace	F3b	IMG0736		
65	Black Cherry	Prunus serotina	Dead and/or Dying Branches	1	18	4	Y	Replace	F3b	IMG0736		
66	Eastern Redbud	Cercis canadensis	N/A	3	3,4,7	2	Y	Repalce	F3a	IMG0740		
67	Eastern Redbud	Cercis canadensis	Dead and/or Dying Branches	2	5,6	3	Y	Replace	F3b	IMG0740	Ordinance Reason	Meaning
68	Eastern Redbud	Cercis canadensis	branch attachment	5	3,3,5,6,7	3	Y	Replace	F3b	IMG0740		
74	Black Cherry	Prunus serotina	Decay or Cavity	2	21,14	4	Y	Replace	F3b	IMG0745	F3a	The protected tree is located such that it impedes access to the site or prevents utility connection, or
75	Black Cherry	Prunus serotina	Decay or Cavity	1	28	3	Y	Replace	F3b	IMG0745		
82	Black Cherry	Prunus serotina	Dead and/or Dying Branches	2	19,13	3	Y	Replace	F3b	IMG0746		
83	Sugar Maple	Acer saccharum	Branch attachment	1	20	3	Y	Replace	F3b	IMG0746	F3b	There is clear evidence that a protected tree is diseased, dying, or has sustained substantial damage prior to site work.
84	Black Cherry	Prunus serotina	Decay or Cavity	1	20	4	Y	Replace	F3b	IMG0746		
96	Black Cherry	Prunus serotina	Dead and/or Dying Branches	1	27	3	Y	Replace	F3b	IMG0744		
97	Black Willow	Salix nigra	Dead and/or Dying Branches	1	22	3	Y	Replace	F3b	IMG0742		
98	Black Willow	Salix nigra	Dead and/or Dying Branches	1	25	3	Y	Replace	F3b	IMG0742		
99	Black Willow	Salix nigra	Dead and/or Dying Branches	1	17	3	Y	Replace	F3b	IMG0742		
100	Black Willow	Salix nigra	Dead and/or Dying Branches	1	22	3	Y	Replace	F3b	IMG0743		
101	Black Willow	Salix nigra	Dead and/or Dying Branches	1	19	3	Y	Replace	F3b	IMG0743		

MEMORANDUM

Date: 11 November 2024

To: Nolan Bergstrom, City of Kalamazoo

From: OCBA Landscape Architects

Project: Friendship Village Campus Repositioning, IL & Skilled Additions
Kalamazoo, Michigan

The proposed Friendship Village Campus & Repositioning, IL & Skilled Additions project is located at 1400 & 1402 North Drake Road, Kalamazoo, Michigan 49009. The proposed project construction will impact approximately 0.74 acres of the overall 13.39 acres of existing woodland area on the 1402 North Drake Road property, per the Natural Features Protection Overlay (NFP) zoning ordinance.

This Woodland Protection Plan memo has been requested by the City of Kalamazoo's NFP Board to help guide the construction process in a designated woodland area and to minimize potential or unintended damage to any of the remaining woodland area. The information included in this memo has been reviewed and approved by Ben Yost, Arborist Services of Kalamazoo, ISA #xx.

Woodland Preservation Guidelines

Prior to the start of construction:

- The tree protection fencing along the existing woodland areas designated to remain should be installed. Per City of Kalamazoo's NFP standards, the tree protection fencing should be installed along the construction limits per the approved site plan review and NFP review plans and per the following requirements:
 - Fencing must be built using posts six feet in height, spaced between six to eight feet apart on center and buried at least two feet below grade. If using an auger or post hole digger and a tree root over 2" diameter is encountered, adjust the spacing between posts to protect the tree root.

- Fence must have two cross beams placed approximately at two and six feet above grade.
- Plastic mesh barrier fence shall be affixed to the front of the posts.
- Fencing must be placed outside the critical root zone of each existing tree to remain. Critical root zones are calculated as:
 - The zone encompassing the majority of a tree's roots. It is calculated by measuring the diameter of a tree trunk at breast height and measuring outward from the trunk 18 inches for every inch of trunk diameter. Refer to Figure 1.3-2, Measuring Critical Root Zone.

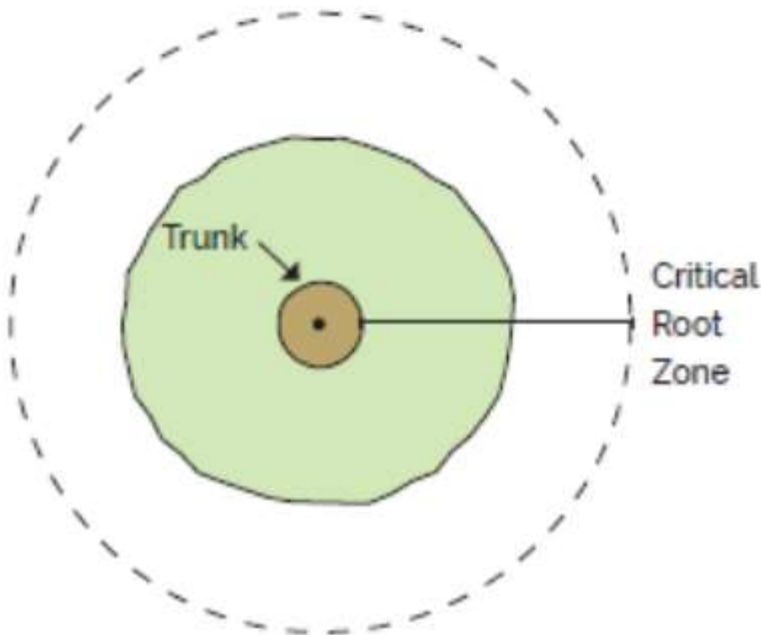


Figure 1.3-2 Measuring Critical Root Zone

- A basic tree risk assessment should be completed for any existing trees to remain in the woodland area adjacent to the proposed construction limits. A visual assessment of each tree should be performed and recorded, with photographs, to document the condition of the tree prior to the start of construction. The tree assessment should be completed per the ANSI A 300 – 2011 Tree Risk Assessment standards.
 - If trees are documented to have dead parts, weakly attached branching and codominant stems, cracks into or through the wood, decay, or cankers, these items should be documented. The tree architecture and the root and root collars should also be documented.
- Tree canopies along the protection fencing should be evaluated for potential conflicts with construction equipment. If there are potential conflicts identified, the following measures should be taken:

- Prune branches that are affected by temporary and permanent construction. Prune branches as directed by arborist.
- Prune to remove only injured, broken, dying, or dead branches unless otherwise indicated. Do not prune for shape unless otherwise indicated.
 - Do not remove or reduce living branches to compensate for root loss caused by damaging or cutting root system.
 - Pruning Standards: Prune trees according to ANSI A300.
 - Type of Pruning: Raising, reducing, and thinning
 - Unless otherwise directed by arborist and acceptable to Architect, do not cut tree leaders.
 - Cut branches with sharp pruning instruments; do not break or chop.
 - Do not paint or apply sealants to wounds.
 - Provide subsequent maintenance pruning during Contract period as recommended by arborist.

During construction:

- The tree protection fencing should be reviewed and maintained weekly.
- If additional tree canopies will be affected by construction movements, refer to pruning information in prior section.
- If tree roots outside of the critical root zones are encountered, the following measures should be taken:
 - Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches (75 mm) back from new construction and as required for root pruning.
 - Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.
 - Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
 - Cut Ends: Do not paint cut root ends.
 - Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
 - Cover exposed roots with burlap and water regularly.
 - Backfill as soon as possible according to requirements in Construction Document Specification Section 312000 "Earth Moving."
 - Root pruning within the critical root zone will be prohibited.
- The following practices are prohibited from within tree protection zones:

- Storage of construction materials, debris, or excavated materials.
- Moving or parking vehicles or equipment.
- Foot traffic
- Impoundment of water
- Excavation or other digging unless otherwise indicated.
- Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- Do not direct vehicle or equipment exhaust towards protection zones
- No heat sources, flames, ignition sources, and smoking within or near protection zones or organic mulch.
- If temporary access within an existing tree to remain's critical root zone is needed, the following measures should be taken:
 - A minimum 6" depth of organic mulch must be placed over the critical root zone for the entire temporary path access to prevent soil compaction.
 - Do not place mulch or drive construction vehicles within 12" of tree trunks.
 - Install tree trunk protection measures to reduce damage to existing tree trunk.
- If any existing trees indicated to remain are damaged by construction operations, the following measures must be taken:
 - Employ an ISA licensed arborist to review the damage with a basic visual inspection. Limited visual assessments will not be accepted. If an advanced visual inspection is warranted, that inspection should also be performed by an ISA licensed arborist.
 - Submit details of proposed pruning and repairs to Owner and Landscape Architect by an ISA licensed arborist.
 - Perform repairs of damaged trunks, branches and roots within 24 hours according to arborist's written instructions.
 - Replace trees that cannot be repaired and restored to full growth status as determined by the arborist. Replacement trees must meet City of Kalamazoo's Zoning Ordinance and Natural Features Protection Overlay ordinance. Construction manager is responsible for notifying City of Kalamazoo NFP staff of all replacement trees.

After Construction:

- Once construction is complete and the site has been restored, the Construction Manager should employ an ISA licensed arborist to complete a last basic visual inspection of all trees along the construction boundary line. Limited visual inspections will not be accepted.
 - If an advanced visual inspection is warranted, that inspection should also be performed by an ISA licensed arborist.

- Submit details of proposed repairs by the ISA licensed arborist to Owner and Landscape Architect.
- Perform repairs to damaged trunks, roots, and branches within 24 hours according to arborist's written instructions.
- Replace trees that cannot be repaired and restored to full growth status as determined by the arborist. Replacement trees must meet City of Kalamazoo's Zoning Ordinance and Natural Features Protection overlay ordinance. Construction manager is responsible for notifying City of Kalamazoo NFP staff of all replacement trees.

NFP OVERLAY ZONE TREE REPLACEMENT DOCUMENTATION

Friendship Village Kalamazoo

1400 N Drake Rd, Kalamazoo, MI 49006

Tree #	Removed Trees		2" Caliper Replacement Trees		
	Common Name	Botanical Name	Common Name	Botanical Name	Condition Code
26	Silver Maple	Acer saccharum	Flowering Dogwood	Cornus florida	Cr
30	Willow Oak	Quercus phellos	Northern Red Oak	Quercus rubra	Cr, Cs
31	Willow Oak	Quercus phellos	Northern Red Oak	Quercus rubra	Cr, Cs
32	Willow Oak	Quercus phellos	Northern Red Oak	Quercus rubra	Cr, Cs
33	Eastern White Pine	Pinus strobus	Eastern White Pine	Pinus strobus	N/A
34	Eastern White Pine	Pinus strobus	Eastern White Pine	Pinus strobus	N/A
35	Eastern White Pine	Pinus strobus	Eastern White Pine	Pinus strobus	N/A
36	Eastern White Pine	Pinus strobus	Eastern White Pine	Pinus strobus	N/A
37	Eastern White Pine	Pinus strobus	Eastern White Pine	Pinus strobus	N/A
38	Eastern White Pine	Pinus strobus	Eastern White Pine	Pinus strobus	N/A
39	Eastern White Pine	Pinus strobus	Eastern White Pine	Pinus strobus	N/A
50	Black Cherry	Prunus serotina	Northern Red Oak	Quercus rubra	Cr, Cs
51	Black Cherry	Prunus serotina	Northern Red Oak	Quercus rubra	Cr, Cs
52	Black Cherry	Prunus serotina	Sugar Maple	Acer saccharum	Cv, Cul
53	Black Cherry	Prunus serotina	Northern Red Oak	Quercus rubra	Cr, Cs
54	Black Cherry	Prunus serotina	Sugar Maple	Acer saccharum	Cv, Cul
55	Black Cherry	Prunus serotina	Sugar Maple	Acer saccharum	Cv, Cul
56	Black Cherry	Prunus serotina	Northern Red Oak	Quercus rubra	Cr, Cs
57	Black Cherry	Prunus serotina	Eastern Redbud	Cercis canadensis	Cr, P
58	Black Cherry	Prunus serotina	Eastern Redbud	Cercis canadensis	Cr, P
59	Black Cherry	Prunus serotina	Eastern Redbud	Cercis canadensis	Cr, P
60	Black Cherry	Prunus serotina	Eastern Redbud	Cercis canadensis	Cr, P
61	Black Cherry	Prunus serotina	Sugar Maple	Acer saccharum	Cv, Cul
62	Black Cherry	Prunus serotina	Sugar Maple	Acer saccharum	Cv, Cul
63	Black Cherry	Prunus serotina	Sugar Maple	Acer saccharum	Cv, Cul
64	Black Cherry	Prunus serotina	Sugar Maple	Acer saccharum	Cv, Cul
65	Black Cherry	Prunus serotina	Sugar Maple	Acer saccharum	Cv, Cul
66	Eastern Redbud	Cercis canadensis	Eastern Redbud	Cercis canadensis	Cr, P
67	Eastern Redbud	Cercis canadensis	Eastern Redbud	Cercis canadensis	Cr, P
68	Eastern Redbud	Cercis canadensis	Eastern Redbud	Cercis canadensis	Cr, P
74	Black Cherry	Prunus serotina	Flowering Dogwood	Cornus florida	Cr
75	Black Cherry	Prunus serotina	Flowering Dogwood	Cornus florida	Cr
82	Black Cherry	Prunus serotina	Flowering Dogwood	Cornus florida	Cr
83	Sugar Maple	Acer saccharum	Sugar Maple	Acer saccharum	Cv, Cul
84	Black Cherry	Prunus serotina	Eastern Redbud	Cercis canadensis	Cr, P
96	Black Cherry	Prunus serotina	Sugar Maple	Acer saccharum	Cv, Cul
97	Black Willow	Salix nigra	Eastern White Pine	Pinus strobus	N/A
98	Black Willow	Salix nigra	Eastern White Pine	Pinus strobus	N/A
99	Black Willow	Salix nigra	Eastern White Pine	Pinus strobus	N/A
100	Black Willow	Salix nigra	Eastern White Pine	Pinus strobus	N/A
101	Black Willow	Salix nigra	Eastern White Pine	Pinus strobus	N/A

Condition Code	Meaning
Cr	Climate resilient
Cs	Carbon Sequestration
P	Suitable for parking lots and roadways
Cul	Culturally significant
Cv	Climate vulnerable
Cul	Culturally significant



O'BOYLE, COWELL, BLALOCK
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Kalamazoo, Michigan 49007

124 Fulton Street E., Suite 6B
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T (269) 381-3357
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ocba.com

MEMORANDUM

Date: 11 November 2024

To: Nolan Bergstrom, City of Kalamazoo

From: OCBA Landscape Architects

Project: Friendship Village Campus Repositioning, IL & Skilled Nursing Additions
Kalamazoo, Michigan

Per the Natural Features Protection (NFP) Board's request at the October 22nd meeting, OCBA Landscape Architects is submitting a plant list narrative to accompany the updated landscape plan for the proposed project. This narrative will explain why there are native, native cultivars, and non-native plants shown for this project.

Friendship Village is an existing senior housing community located at 1400 North Drake Road and 1402 North Drake Road. As part of this proposed development, there is a new independent-living facility building and a skilled nursing addition building proposed for the community. Senior living communities are both residential and commercial in nature as they have to attract new residents to the facility. So, having tidy and ornamental landscaping beds helps to create the curb appeal needed to attract new residents. These planting areas also need to not create security issues by blocking visuals in and out of the building's windows and doors. The buildings need to protect the residents' safety as well.

The majority of the trees and perennial plants shown in the planting plan are natives. There is one (1) non-native evergreen tree, Thuja 'Green Giant' (Green Giant Arborvitae), proposed for the site. We need more than two types of evergreen trees (zoning states that there cannot be more than 50% of one species) for screening. Green Giant Arborvitae is a good screen tree that is also deer-resistant. It will only be used in areas that require screening.

In the planting beds at building entry doors and patios, plantings should be kept low in height so as to not block visual access at the entries and create a safe and secure environment for residents. At this time, there are no evergreen shrubs that are native to Michigan that are also under 3' height for safety. We are proposing to use Buxus 'Green Velvet' (Green Velvet



Boxwood) to create an aesthetic winter interest at the entries, but not create hiding places for security issues. We are also proposing eight (8) native cultivars (i.e. "nativars") of shrubs at the entry planting beds. The native shrubs are very large and would block views into the facility while also creating potential security issues for residents. The native cultivars of these shrubs are smaller and more compact, which allows us to reduce those issues in these planting beds.

Lastly, again to keep the balance with smaller, more compact plantings for these entry landscape beds, we are proposing several nativars of perennials and ornamental grasses. These nativars also provide more commercial, aesthetical appeal in comparison to the original native perennials.

In addition to these native trees, shrubs, and perennials on site, the senior housing facility is proposing to plant native prairie grasses and forbs in the existing open space to remain north of the new skilled nursing facility and in the new stormwater basin located north of the new independent living building. Those native seed mixes are:

- Dry Shortgrass Prairie Seed Mix, by Native Connections, 3815 North Westnedge Avenue, Kalamazoo, Michigan 49004
- Stormwater Basin Seed Mix, by Native Connections, 3815 North Westnedge Avenue, Kalamazoo, Michigan 49004.



Native Connections

3815 N Westnedge Ave, Kalamazoo, MI 49004
(P) 269.459.6900
info@nativeconnections.net
www.nativeconnections.net

Dry Shortgrass Prairie Mix

A mix based on a variety of "poor-soil" communities including dry sand prairies, oak barrens and pine barrens. This mix is designed to be low-profile so most plants won't exceed four feet in height. Big bluestem and Indian grass would typically be important components of such prairies, and could be added. This mix is appropriate for drier soils.

Total Seeding Rate: 32.75 lbs per acre
4.75 lbs grasses • 3 lbs forbs • 25 lbs nurse crop
62 native seeds per sq ft

Call, email or visit our website for pricing.

Grasses		PLS Oz/acre	Seeds/sq ft
Bouteloua curtipendula	Side-oats Grama	20.00	2.75
Bromus kalmii	Prairie Brome	4.00	0.73
Elymus canadensis	Canada Wild Rye	16.00	1.91
Koeleria cristata	June Grass	0.50	2.30
Schizachyrium scoparium	Little Bluestem	35.00	12.05
Sporobolus heterolepis	Prairie Dropseed	0.50	0.18
Total Grasses		76.00	19.93

Forbs		PLS Oz/acre	Seeds/sq ft
Anemone virginiana	Tall Thimbleweed	0.25	0.16
Asclepias tuberosa	Butterfly Milkweed	1.50	0.15
Aster azureus (A. oolentangiensis)	Sky Blue Aster	1.00	1.84
Aster laevis	Smooth Blue Aster	1.00	1.26
Baptisia lactea (B. leucantha, B. alba)	White Wild Indigo	2.50	0.10
Cassia fasciculata (Chamaecrista f.)	Partridge Pea	6.00	0.37
Coreopsis lanceolata	Lance-leaf Coreopsis	4.50	2.07
Dalea purpurea (Petalostemum p.)	Purple Prairie Clover	4.50	1.86
Desmodium illinoense	Prairie Tick Trefoil	0.25	0.02
Echinacea purpurea	Purple Coneflower	4.50	0.68
Eryngium yuccifolium	Rattlesnake Master	1.25	0.22
Liatris aspera	Rough Blazingstar	0.25	0.09
Lupinus perennis	Lupine	1.50	0.04
Monarda fistulosa	Wild Bergamot	2.25	3.62
Penstemon digitalis	Foxglove Beardtongue	2.00	5.97
Potentilla arguta (Drymocallis a.)	Prairie Cinquefoil	1.25	6.60
Ratibida pinnata	Yellow Coneflower	2.50	1.72
Rudbeckia hirta	Black-eyed Susan	5.00	10.56
Solidago nemoralis	Old-field Goldenrod	0.25	1.72
Solidago rigida	Stiff Goldenrod	1.50	1.41
Tradescantia ohimensis	Common Spiderwort	1.00	0.18
Verbena stricta	Hoary Vervain	2.50	1.61
Zizia aptera	Prairie Golden Alexander	0.75	0.21
Total Forbs		48.00	42.45

Temporary Grass Cover		Oz/acre	Seeds/sq ft
Lolium multiflorum	Annual Ryegrass	80.00	24.79
Avena sativa	Seed Oats	320.00	7.35
Total Temp Grasses		400.00	32.14



Native Connections

3815 N Westnedge Ave, Kalamazoo, MI 49004
(P) 269.459.6900
info@nativeconnections.net
www.nativeconnections.net

Stormwater Mix

An economical mix specifically designed to withstand the low water quality and highly variable conditions associated with stormwater features. Approximately half of the species are salt tolerant and most species will do well in mesic to wet hydrology with others filling in the wettest and driest ends of the spectrum. The high native seed count and heavy annual nurse crop in this mix ensure full and aggressive establishment in a wide range of site conditions.

Total Seeding Rate: 34.2 lbs per acre
2.61 lbs grasses • 1.59 lbs forbs • 30 lbs nurse crop
105 native seeds per sq ft

Call, email or visit our website for pricing.

Grasses, Sedges & Rushes		PLS Oz/acre	Seeds/sq ft
Andropogon gerardii	Big Bluestem	4.00	0.92
Carex bebbii	Bebb's oval sedge	2.00	1.56
Carex vulpinoidea	Fox Sedge	2.50	5.74
Eleocharis palustris	Great Spike Rush	1.00	1.17
Elymus virginicus	Virginia Wild Rye	18.00	1.74
Juncus effusus	Soft Rush	0.50	11.48
Juncus tenuis	Path Rush	0.50	11.48
Juncus torreyi	Torrey's Rush	0.25	9.18
Panicum virgatum	Switchgrass	7.00	2.25
Scirpus pungens (S. americanus)	Three square Rush	1.00	2.87
Scirpus validus (S. tabernaemontanii)	Soft-stem Bulrush	1.00	0.71
Sorghastrum nutans	Indian Grass	4.00	1.10
Total Grasses		41.75	50.20

Forbs		PLS Oz/acre	Seeds/sq ft
Alisma subcordatum	Common Water Plantain	2.00	2.75
Asclepias incarnata	Swamp Milkweed	1.00	0.11
Aster novae-angliae	New England Aster	0.25	0.38
Aster umbellatus (Doellingeria u.)	Flat-topped Aster	0.25	0.38
Bidens cernua	Nodding Bur Marigold	1.00	0.48
Echinacea purpurea	Purple Coneflower	4.00	0.61
Helenium autumnale	Sneezeweed	0.75	2.24
Liatris spicata	Marsh Blazingstar	1.25	0.32
Lycopus americanus	Water Horehound	0.50	1.49
Mimulus ringens	Monkey Flower	0.25	13.20
Monarda fistulosa	Wild Bergamot	0.50	0.80
Oenothera biennis	Common Evening Primrose	1.00	2.07
Penthorum sedoides	Ditch Stonecrop	0.50	14.92
Physostegia virginiana	Obedient Plant	0.50	0.13
Polygonum pensylvanicum (Persicaria p.)	Pennsylvania Smartweed	2.75	0.82
Rudbeckia hirta	Black-eyed Susan	4.00	8.45
Verbena hastata	Blue Vervain	2.50	5.34
Zizia aurea	Golden Alexander	2.50	0.63
Total Forbs		25.50	55.12

Temporary Grass Cover		Oz/acre	Seeds/sq ft
Lolium multiflorum	Annual Ryegrass	112.00	34.71
Avena sativa	Seed Oats	368.00	8.45
Total Temp Grasses		480.00	43.16



PARTIAL TOPOGRAPHIC / BOUNDARY SURVEY

SURVEY CONTROL			
POINT NUMBER	NORTHING (ASSUMED)	EASTING (ASSUMED)	ELEVATION (CITY DATUM)
54	5675.2073	5102.6508	946.25
55	5623.3004	5299.9898	947.92
56	5684.0036	5249.6036	951.42
57	5675.0836	5175.9602	948.82
601	5764.0574	5809.1590	951.15
602	5748.8182	5907.1366	948.92
603	5748.7326	5907.1366	948.92
604	5934.9050	6226.7470	948.41
30082	4036.5500	6338.7830	946.27
30083	4036.0000	6338.2230	946.27
30133	4704.3980	6150.9270	947.74
30155	4781.9790	6112.7960	948.13
30165	4816.0240	6025.2230	948.05
30181	4894.2620	5937.1460	948.52
80003	4545.4884	5165.7943	946.22
80004	5172.7853	5051.0442	950.82
80005	5172.5251	5051.0442	950.82
90005	5457.7797	5581.4320	951.13
90002	5528.9046	5649.6745	958.69
90003	5528.9057	5649.6745	958.69
90001	5568.2749	5617.6149	960.20
90006	5936.9196	5512.4270	953.00
90007	5936.3278	5512.4270	953.00
90008	5949.6717	5339.3681	953.78
90009	5957.8482	5118.3206	952.07
90010	5958.2880	5094.6942	952.07
90016	5456.2846	5904.6942	952.07
90010	5255.8910	5952.9788	949.54
90012	5255.2002	5952.9788	949.54
90014	5156.6481	5833.9051	949.69
90013	5254.4716	6156.0168	948.35
90015	5254.6915	6156.0168	948.35
90016	5404.3451	5903.7006	950.31
90017	5165.4763	6164.0872	947.54
90018	5165.9086	6164.0872	947.54
90016	5505.9454	6013.7179	951.40

SCHEDULE "A" LEGAL DESCRIPTION
FROM: ATTORNEYS TITLE AGENCY, LIMITED LIABILITY COMPANY
FILE NO.: 39-12283736-KAZ (EFFECTIVE DATE: NOVEMBER 20, 2012)

THE LAND REFERRED TO IN THIS COMMITMENT IS DESCRIBED AS FOLLOWS: CITY OF KALAMAZOO, COUNTY OF KALAMAZOO, STATE OF MICHIGAN.

A PARCEL OF LAND SITUATED IN THE SOUTHWEST FRACTIONAL QUARTER OF SECTION 7 AND IN THE NORTHWEST FRACTIONAL QUARTER OF SECTION 18, TOWN 2 SOUTH, RANGE 11 WEST, CITY OF KALAMAZOO, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

[illegible]

SCHEDULE B-II EXCEPTIONS
FROM: ATTORNEYS TITLE AGENCY, LIMITED LIABILITY COMPANY
FILE NO.: 39-12283736-KAZ (EFFECTIVE DATE: NOVEMBER 20, 2012)

10 EASEMENT FOR SEWER PURPOSES VESTED IN CITY OF KALAMAZOO BY INSTRUMENT RECORDED IN LIBER 952
PAGE 147. (SHOWN ON DRAWING)

11 TERMS, CONDITIONS AND PROVISIONS WHICH ARE RECITED IN THE INSTRUMENT RECORDED IN LIBER 1362, PAGE 1194, WHICH IS AMENDED BY INSTRUMENT RECORDED IN LIBER 1456, PAGE 259 AND IN INSTRUMENT RECORDED IN LIBER 1456, PAGE 261. (SHOWN ON DRAWING) (ABANDONED)

12 EASEMENTS AND THE TERMS, CONDITIONS AND PROVISIONS THEREOF WHICH ARE RECITED IN EASEMENT AGREEMENT RECORDED IN LIBER 1456, PAGE 275. (SHOWN ON DRAWING)

13 EASEMENTS FOR WATER MAIN PURPOSES IN THE INSTRUMENT RECORDED IN LIBER 928, PAGE 808. (SHOWN ON DRAWING)

14 EASEMENT GRANTED TO MICHIGAN BELL TELEPHONE COMPANY RECORDED IN LIBER 879, PAGE 200. (SHOWN ON DRAWING)

15 EASEMENT FOR WATER LINE PURPOSES VESTED IN CITY OF KALAMAZOO BY INSTRUMENT RECORDED IN LIBER
927, PAGE 1058. (SHOWN ON DRAWING)

16 EASEMENT GRANTED TO CONSUMERS ENERGY COMPANY RECORDED IN LIBER 951, PAGE 1292. (SHOWN ON DRAWING)

17 EASEMENT FOR STREET, ROAD AND HIGHWAY PURPOSES VESTED IN CITY OF KALAMAZOO BY INSTRUMENT
RECORDED IN LIBER 960, PAGE 138. (SHOWN ON DRAWING)

18 TERMS, CONDITIONS AND PROVISIONS WHICH ARE RECITED IN AGREEMENT RECORDED IN LIBER 1189, PAGE 500.
(SHOWN ON DRAWING)

19 EASEMENT GRANTED TO CONSUMERS ENERGY COMPANY RECORDED IN LIBER 1465, PAGE 7. (SHOWN ON
DRAWING)

20 TERMS, CONDITIONS AND PROVISIONS WHICH ARE RECITED IN RESOLUTION RECORDED IN LIBER 1935, PAGE 400.
(SHOWN ON DRAWING)

21 EASEMENT GRANTED TO MICHIGAN BELL TELEPHONE COMPANY RECORDED IN INSTRUMENT NUMBER 2007-033177. (SHOWN ON DRAWING)

22 EASEMENT TO CC MICHIGAN LLC RECORDED IN INSTRUMENT NUMBER 2007-044820. (SHOWN ON DRAWING)

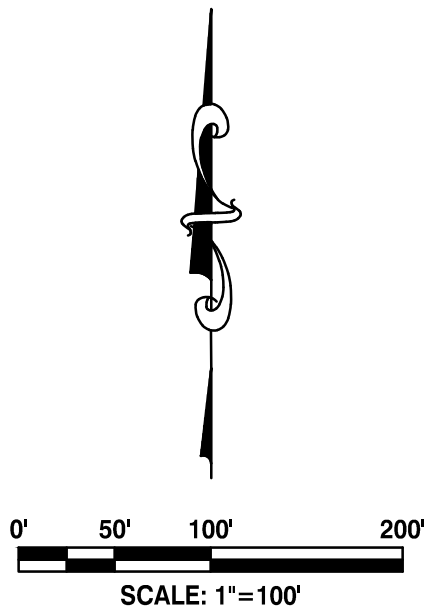
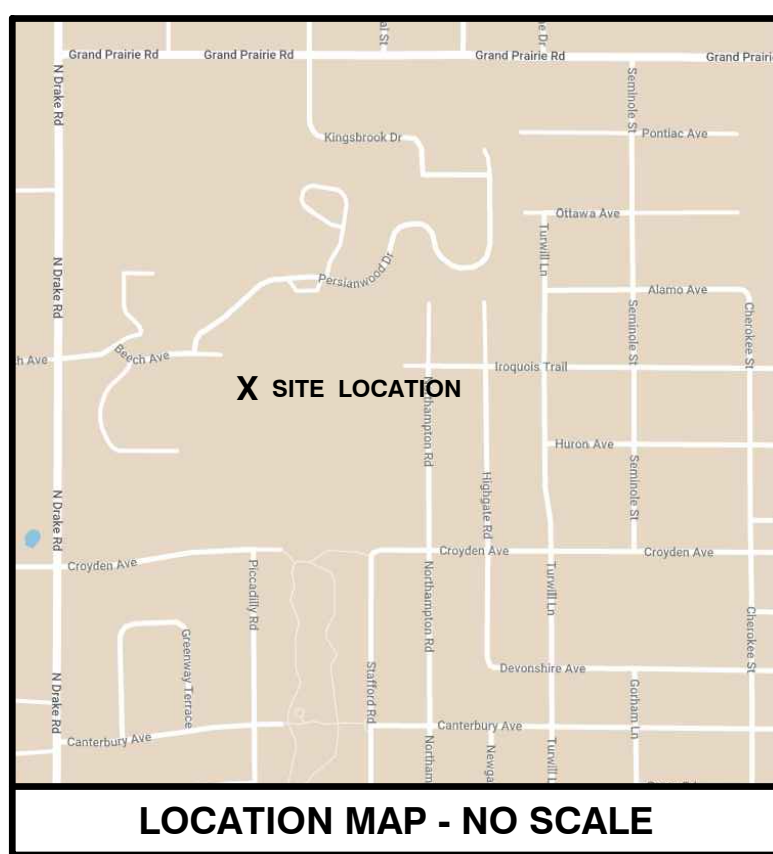
SURVEYOR'S NOTES

1. UTILITIES SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL FIELD MEASUREMENTS AND AVAILABLE RECORDS. THIS MAP IS NOT TO BE INTERPRETED AS SHOWING EXACT LOCATIONS OR SHOWING ALL UTILITIES IN THE AREA.
2. NOTE TO CONTRACTORS: THREE WORKING DAYS BEFORE YOU DIG - CALL MISS DIG AT 811.
3. CONTOUR INTERVAL = 1 FOOT.
4. BY GRAPHIC PLOTTING ONLY. THIS PROPERTY IS IN ZONE "X" (NO SCREEN) OF THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 2607700175D, WHICH BEARS AN EFFECTIVE DATE OF FEBRUARY 17, 2010. ZONE "X" (NO SCREEN) AREAS IS DETERMINED TO BE OUTSIDE OF 0.2% ANNUAL CHANCE FLOODPLAIN.
5. THE FIELD WORK WAS COMPLETED ON FEBRUARY 12, 2024.
6. BOUNDARY AND EASEMENT INFORMATION ON THIS SURVEY IS BASED ON DORSEY & ASSOCIATES, INC. SURVEY JOB NO. 12506965A, DATED 01/20/2013, AND PRIOR INTERESTS, WATSON & MCGACHEN, INC. SURVEY JOB NO. 35564, DATED 11/12/2020. CORNER MONUMENTS SHOWN ON DRAWING WERE VERIFIED IN COURSE OF FIELDWORK - FULL PARCEL BOUNDARY NOT RE-SURVEYED.
7. SUBJECT PARCEL DESCRIPTION AND EXCEPTION ITEM SCHEDULE PER 2012 TITLE SEARCH AS SHOWN ON PRIOR EASEMENT SEARCHES AND RECORDS. A CURRENT SEARCH IS RECOMMENDED TO ENSURE THAT NO NEW EASEMENTS WERE CONVEYED SINCE 2012 TITLE SEARCH.

MISS DIG INFORMATION

MISS DIG SURVEY TICKET # 2024012200164 REV: 000
 INCLUDES INFORMATION RECEIVED THROUGH 02-20-2024)

- CITY OF KALAMAZOO - 02/05/2024 (MAPS RECEIVED)
- AT&T - 01/29/2024 (MAPS RECEIVED)
- CONSUMERS ENERGY (GAS) - 01/26/2024 (MAPS RECEIVED)
- CONSUMERS ENERGY (ELECTRIC) - 01/26/2024 (MAPS RECEIVED)
- CHARTER COMMUNICATIONS - 01/23/2024 (MAPS RECEIVED)
- METRONET FIBER - 01/22/2024 (CLEAR)



LEGEND

SEWER CHIMNEY	
SET CONCRETE MONUMENT	
UNIDENTIFIED FOUND	
SET CAPPED REBAR #47548	
FOUND IRON	
SET CHISELED "X"	
FOUND CHISELED "X"	
CONTROL POINT	
PLATTED	
DESCRIBED	
MEASURED	
RECORD	
STORM SEWER MANHOLE	
CATCH BASIN	
ROOF DRAIN	
SANITARY SEWER MANHOLE	
CLEANOUT	
WELL HEAD	
FIRE HYDRANT	
FIRE DEPARTMENT CONNECTION	
SPRINKLER CONTROL VALVE	
SPRINKLER HEAD	
SPIGOT - HOSE CONNECTION	
VALVE (WATER & GAS)	
GAS METER	
UTILITY PIGGERS	
UTILITY POLE	
LIGHT POLE	
GUY ANCHOR	
TRANSFORMER	
HAND HOLE (ELECTRIC)	
ELECTRIC METER	
GROUND MOUNTED LIGHT	
SOIL BORING	
BOLLARD POST	
POST	
UNDERGROUND COMMUNICATIONS LINE MARKER	
UNDERGROUND ELECTRIC LINE MARKER	
UNDERGROUND GAS LINE MARKER	
GATE	
FORCE LINE	
OVERHEAD UTILITIES	
UNDERGROUND ELECTRIC COMMUNICATIONS	
TELEPHONE	
FIBER OPTIC	
GAS LINE	
EXISTING WATER LINE	
EXISTING STORM SEWER	
EXISTING SANITARY SEWER	
BITUMINOUS SURFACE	
CONCRETE SURFACE	
GRAVEL SURFACE	
CONIFEROUS TREE	
DECIDUOUS TREE	
ORNAMENTAL BUSH	

FRIENDSHIP VILLAGE OF KALAMAZOO
1400 N. DRAKE ROAD, KALAMAZOO, MI 49006
SECTIONS 07 & 18, T2S, R11W, CITY OF KALAMAZOO, KALAMAZOO COUNTY, MI 49006

FRIENDSHIP VILLAGE OF KALAMAZOO
1400 N. DRAKE ROAD, KALAMAZOO, MI 49006

REVISIONS

- | | |
|---|---|
| 1 | ADDITIONAL TOPO. INFO
08-05-2024, GLK |
| 2 | ADDITIONAL TOPO. INFO
09-16-2024, GLK |
| 3 | ADDED TREES FROM
OCBA TREE SURVEY
10-05-2024, GLK |

Drawn By: **GL**

 $1^{\circ}=100'$

Date: 02-15-2024

Project #
2350964.5A

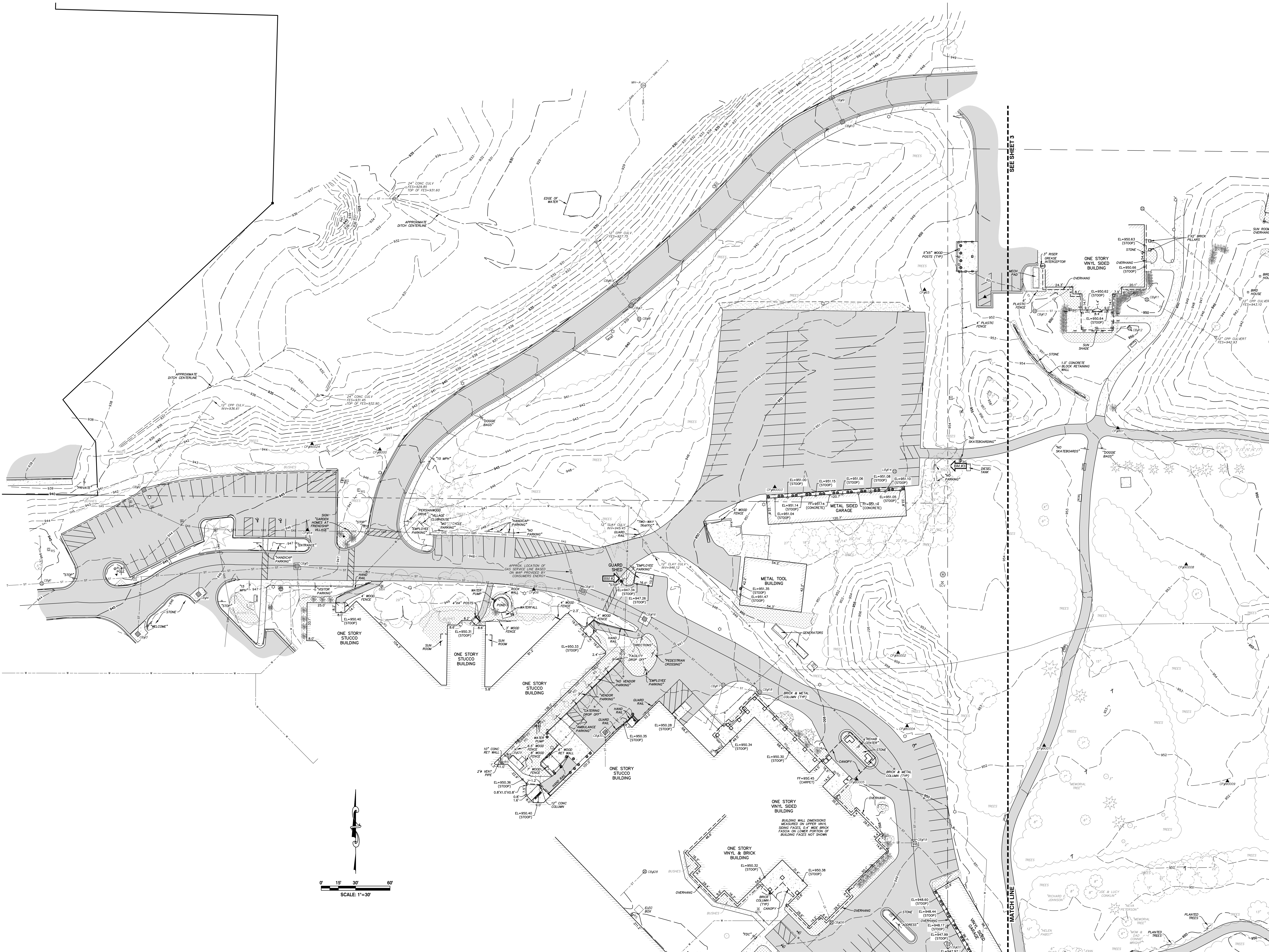
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**PARTIAL
TOPOGRAPHIC
/ BOUNDARY
SURVEY**

Sheet #

V-101
1 of 1

PARTIAL TOPOGRAPHIC / BOUNDARY SURVEY



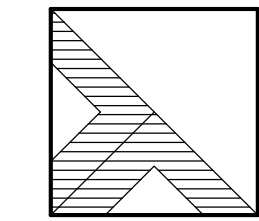
DRIESENKA & ASSOCIATES, INC.
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Surveying
Testing
www.driesenga.com
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Grand Rapids, MI 616-249-3800
Kalamazoo, MI 269-544-1455
Lansing, MI 517-877-1019
Ypsilanti, MI 734-368-9483

FRIENDSHIP VILLAGE OF KALAMAZOO
1400 N. DRAKE ROAD, KALAMAZOO, MI 49006
SECTIONS 07 & 18, T02S, R11W, CITY OF KALAMAZOO, KALAMAZOO CO.
-FOR-
FRIENDSHIP VILLAGE OF KALAMAZOO
1400 N. DRAKE ROAD, KALAMAZOO, MI 49006

REVISIONS	
1	ADDITIONAL TOPO. INFO. 08-25-2024, GLK
2	ADDITIONAL TOPO. INFO. 09-16-2024, GLK
3	ADDED TREES FROM OCA TREE SURVEY 10-25-2024, GLK

Drawn By: GLK
Scale: 1"=30'
Date: 02-15-2024
Project #: 2350964.5A
Sheet Title: **PARTIAL TOPOGRAPHIC / BOUNDARY SURVEY**
Sheet #: **V-102**
2 of 5

PARTIAL TOPOGRAPHIC / BOUNDARY SURVEY



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10-05-2024, GLK

Drawn By: GLK

Scale: 1"=30'

Date: 02-15-2024

Project #: 2350964.5A

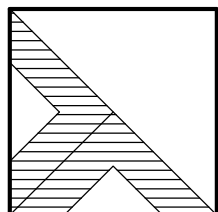
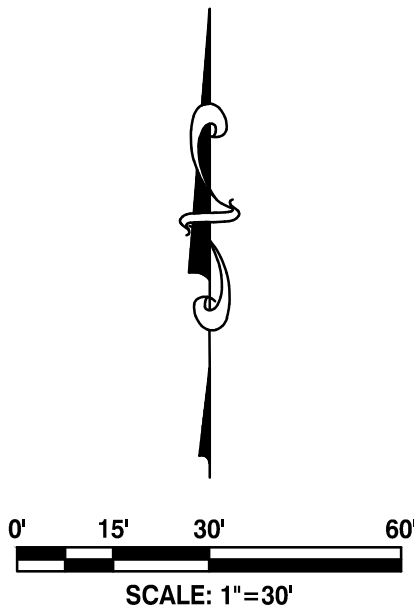
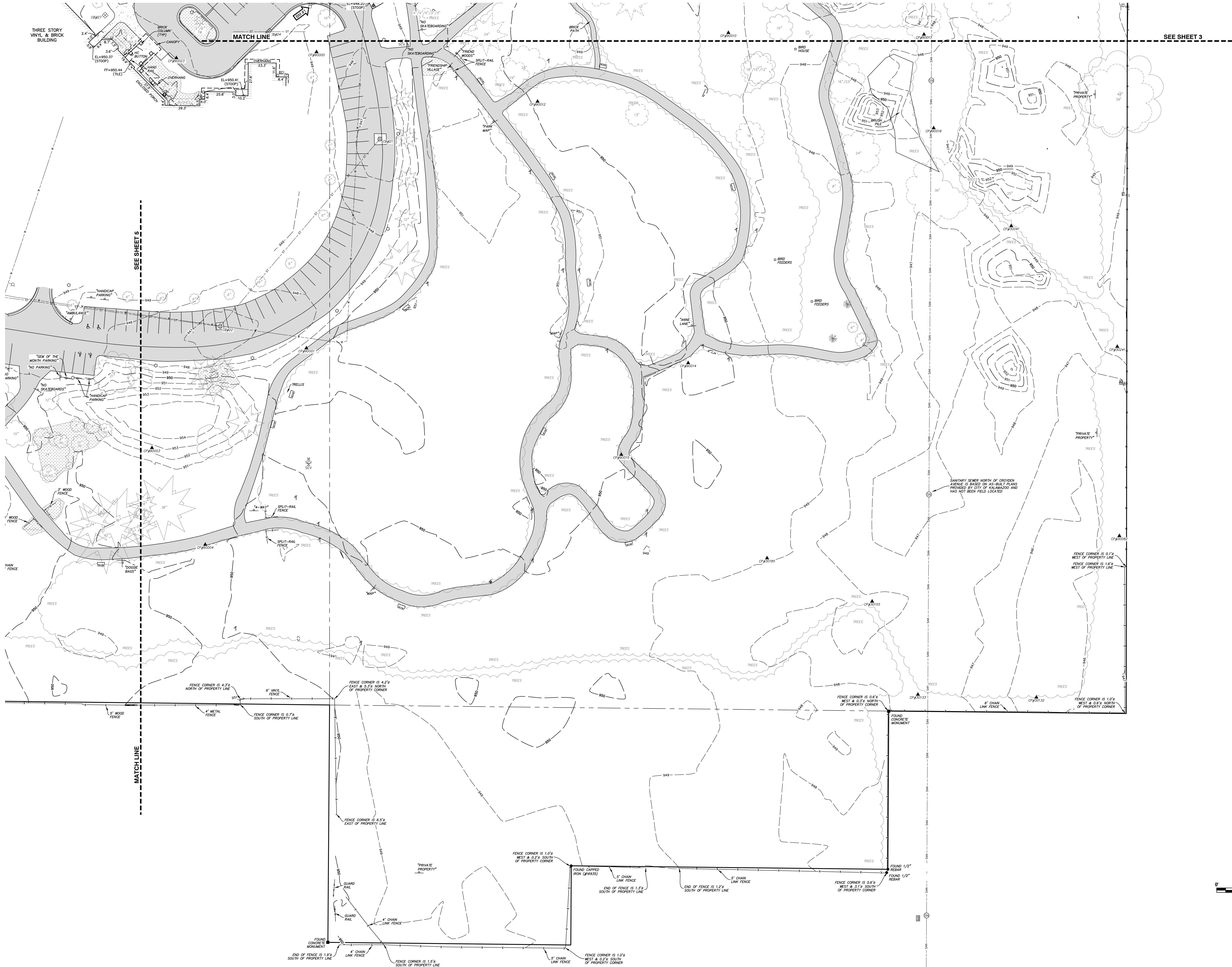
Sheet Title:

**PARTIAL
TOPOGRAPHIC
/ BOUNDARY
SURVEY**

Sheet #

V-103
3 of 5

PARTIAL TOPOGRAPHIC / BOUNDARY SURVEY



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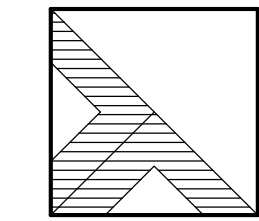
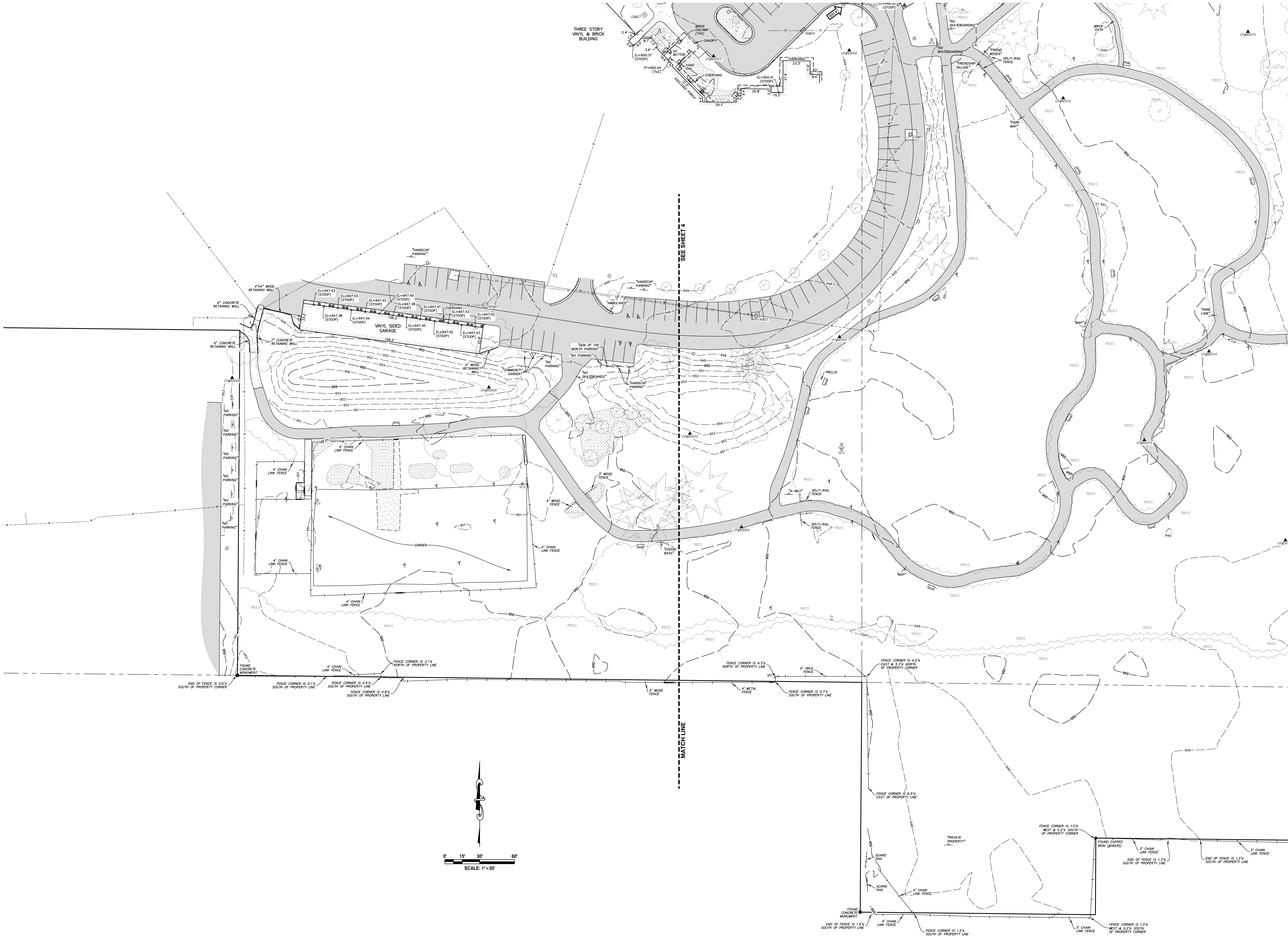
Sheet Title:

**PARTIAL
TOPOGRAPHIC
/ BOUNDARY
SURVEY**

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V-104
4 of 5

PARTIAL TOPOGRAPHIC / BOUNDARY SURVEY



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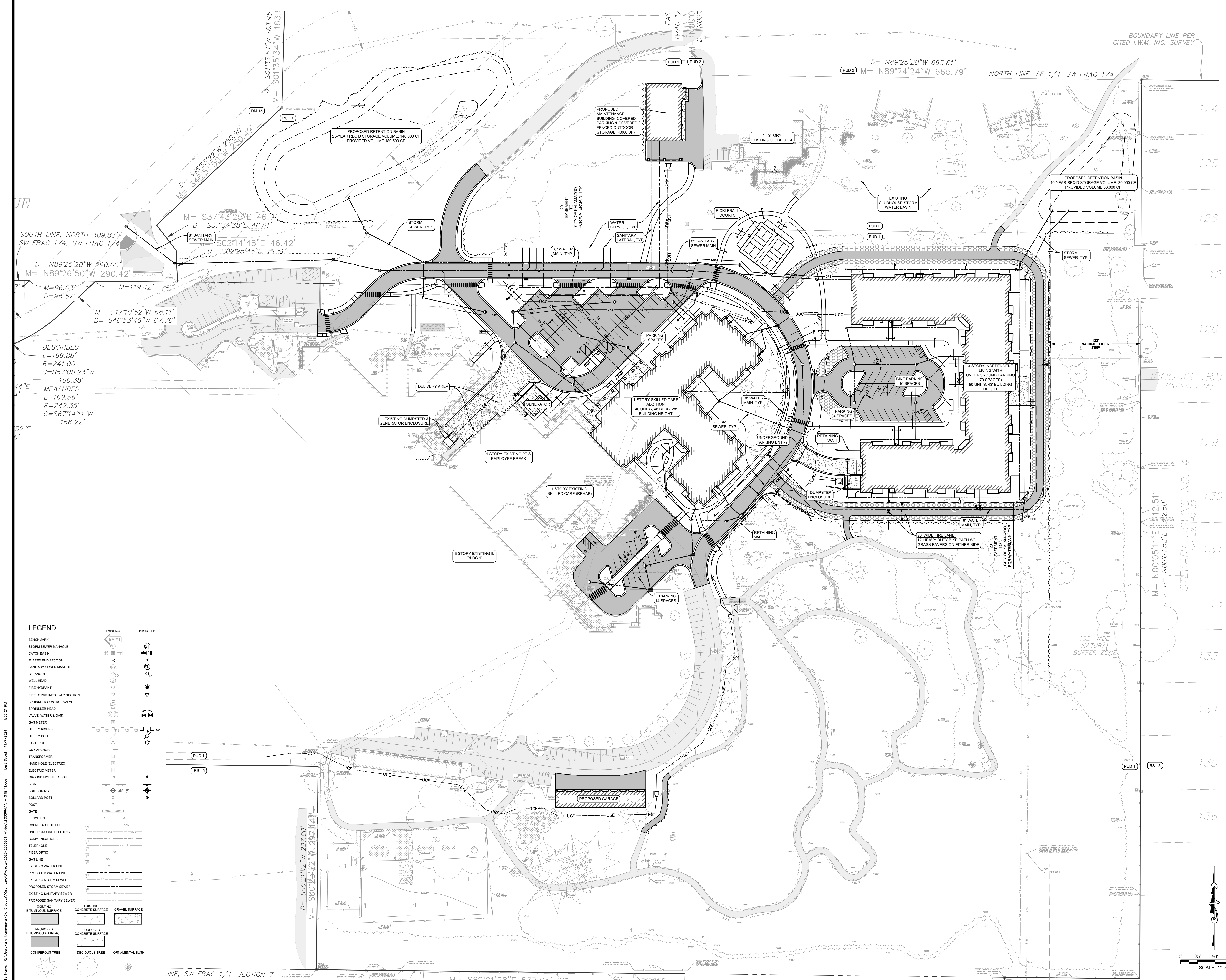
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**PARTIAL
TOPOGRAPHIC
/ BOUNDARY
SURVEY**

Sheet #

V-105
5 of 5



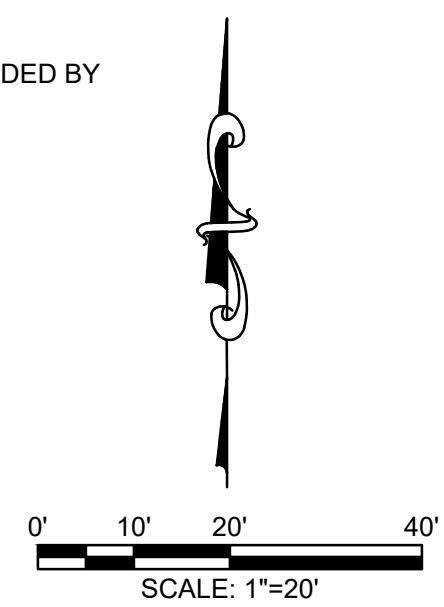
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OVERALL SITE PLAN

ISSUES & REVISIONS	DATE
PRE-APPLICATION MEETING	09-24-2024
FINAL SD B2	09-27-2024
NFP SUBMITTAL	11-12-2024

COMMISSION NO:	41722-23214
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET

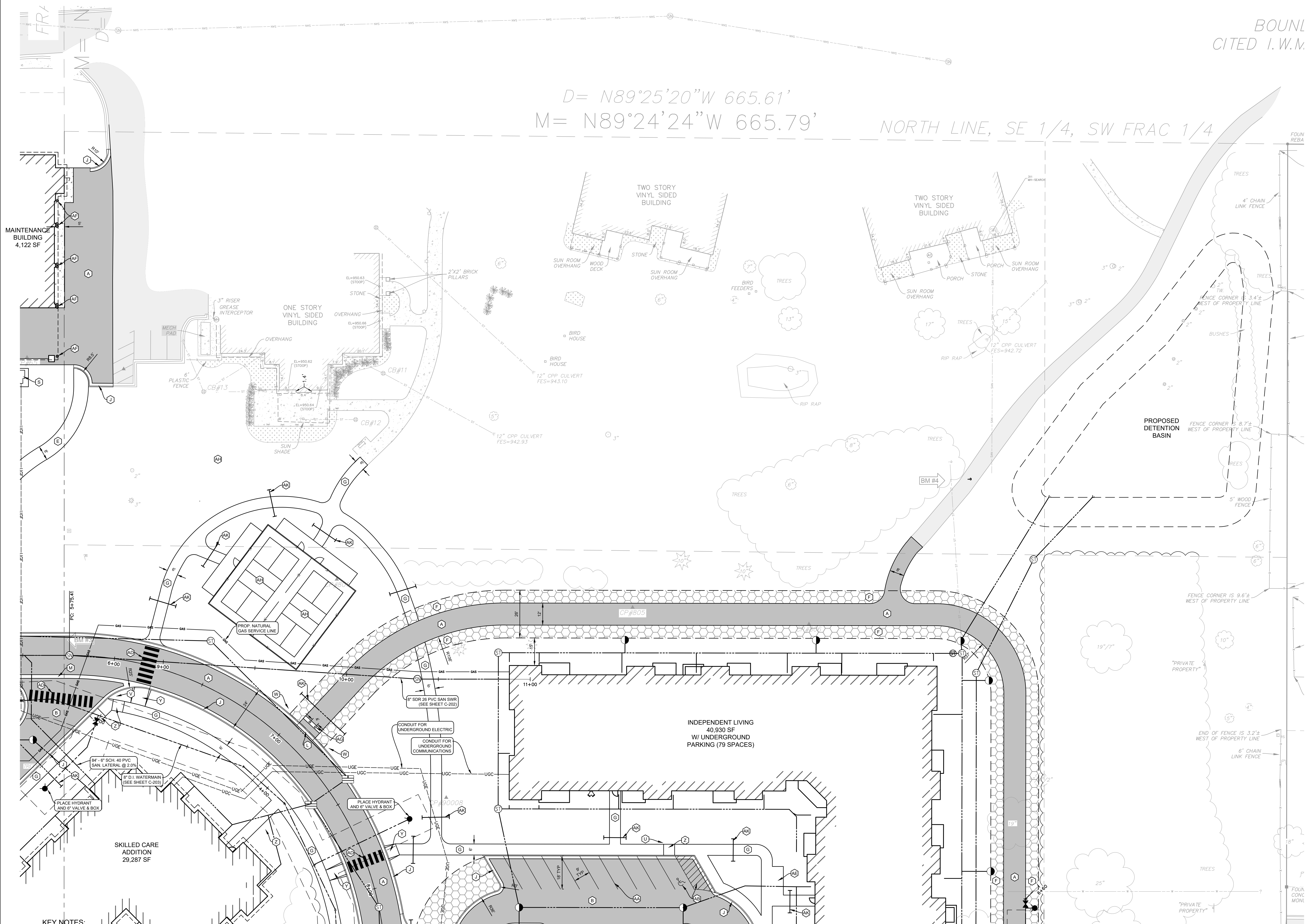


Page 72 of 100

BOUNDARY
CITED I.W.M.

$D = N89^{\circ}25'20''W \ 665.61'$
 $M = N89^{\circ}24'24''W \ 665.79'$

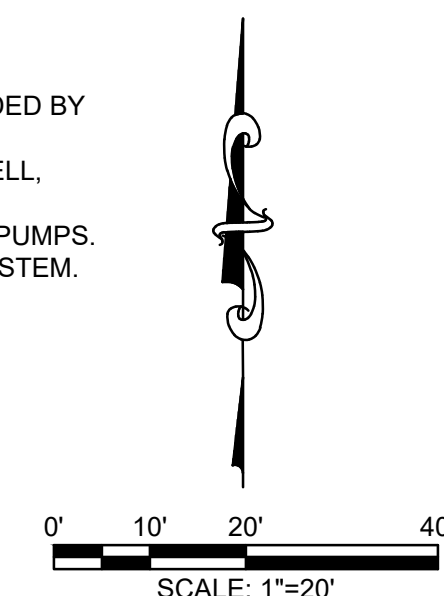
NORTH LINE, SE 1/4, SW FRAC 1/4



KEY NOTES:

- | | | |
|---|--|---|
| (A) ASPHALT PAVEMENT-HEAVY DUTY (SEE DETAIL) | (N) CONCRETE DUMPSTER PAD (SEE DETAIL) | (Z) BARRIER FREE SIDEWALK RAMP - TYPE P (SEE DETAIL) |
| (B) ASPHALT PAVEMENT-STANDARD DUTY (SEE DETAIL) | (P) PRECAST CONC. RETAINING WALL (BY OTHERS) | (AA) 4" YELLOW PAVEMENT MARKINGS, TYP |
| (C) 6" REINFORCED CONC. PAVEMENT (SEE DETAIL) | (G) GENERATOR ENCLOSURE WALL (BY OTHERS) | (AB) 4" BLUE P.V.M.T. MARKING & SYMBOL PER ADA STD.'S, TYP (SEE DETAIL) |
| (D) 6" REINFORCED CONC. PAVEMENT W/ SNOWMELT (SEE DETAIL) | (R) GENERATOR (BY OTHERS) | (AC) ARROW P.V.M.T. MARKING (SEE DETAIL) |
| (E) 5" CONC. PAVEMENT (SEE DETAIL) | (T) TRANSFORMER (BY OTHERS) | (AD) CROSSWALK P.V.M.T. MARKINGS (SEE DETAIL) |
| (F) GRASS PAVERS (SEE DETAIL) | (7) 7" WOOD FENCE (SEE DETAIL) | (AE) BIKE RACK (BY OTHERS) |
| (G) 4" CONC. SIDEWALK (SEE DETAIL) | (U) BARRIER FREE SIGN, VAN ACCESSIBLE (SEE DETAIL) | (AF) 8" STEEL BOLLARD (SEE DETAIL) |
| (H) 4" CONC. PAVEMENT (SEE DETAIL) | (V) STOP SIGN (SEE DETAIL) | (AG) COLLAPSIBLE BOLLARD (SEE DETAIL) |
| (J) 24" CURB & GUTTER - MDT F4 MODIFIED (SEE DETAIL) | (W) FIRE TRUCK / PED. ONLY SIGN (SEE DETAIL) | (AH) PICKLEBALL COURT (BY OTHERS) |
| (K) 24" CURB & GUTTER - MDT F4 INVERTED (SEE DETAIL) | (X) DELIVERIES ONLY SIGN (SEE DETAIL) | (AI) 1.5" ASPHALT OVERLAY |
| (L) 24" ROLLED CURB (SEE DETAIL) | (Y) BARRIER FREE SIDEWALK RAMP - TYPE R (SEE DETAIL) | (AJ) 4" PVC IRRIGATION SLEEVE |
| (M) 24" CONC. GUTTER (SEE DETAIL) | | |

NOTE:
• SITE LIGHTING TO BE PROVIDED BY OTHERS AT A LATER DATE.
• INSTALL NEW IRRIGATION WELL, CONTROLLER, BACKFLOW PREVENTER, AND BOOSTER PUMPS. CONNECT TO IRRIGATION SYSTEM.



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767 N. EUSTIS STREET, SUITE 190
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651.642.9200
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VILLAGE
CAMPUS
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IL & SKILLED
ADDITIONS
KALAMAZOO, MI



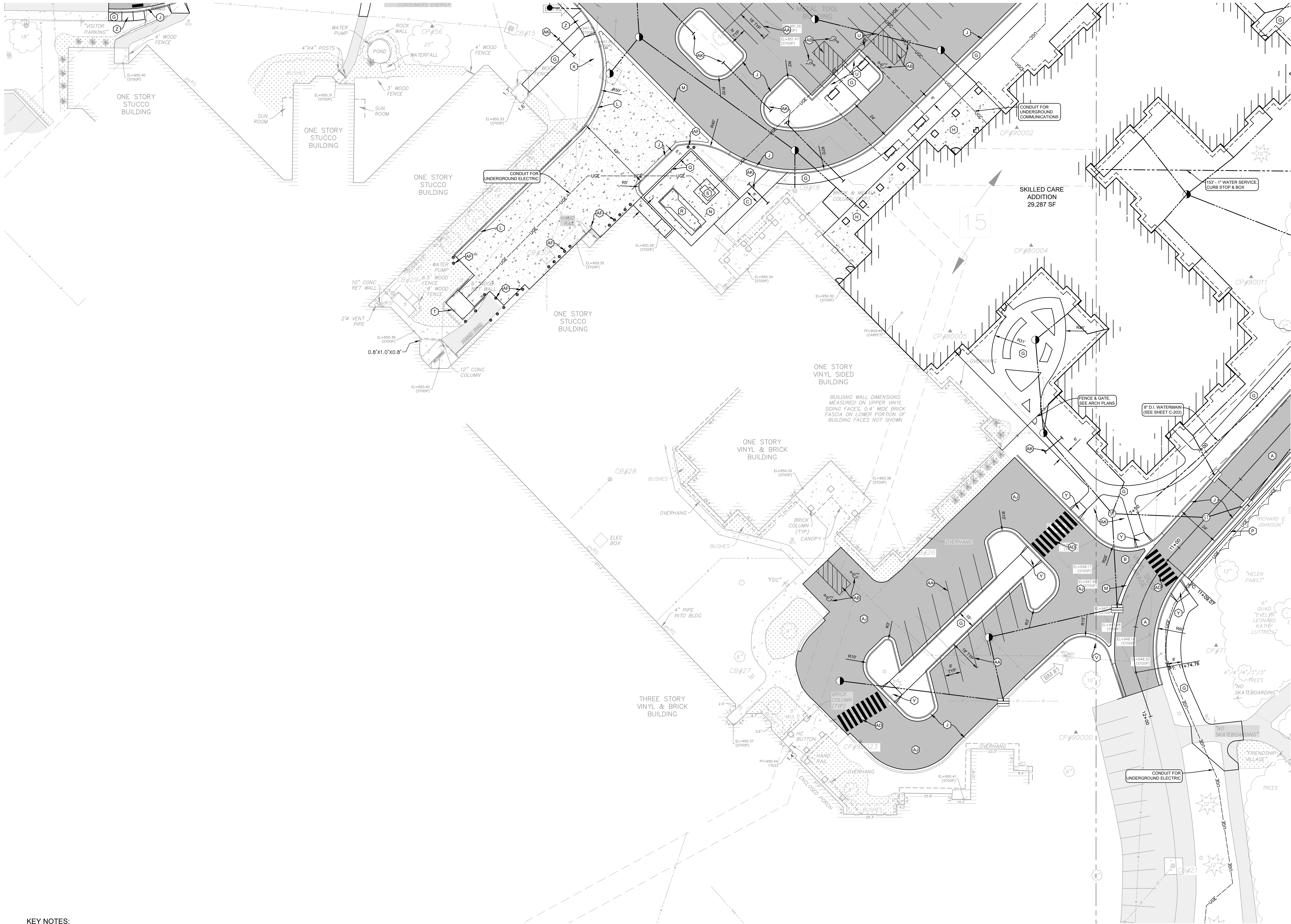
CIVIL SITE/
UTILITY PLAN

ISSUES & REVISIONS	DATE
PRE-APPLICATION MEETING	09-24-2024
FINAL SD B2	09-27-2024
NFP SUBMITTAL	11-12-2024

COMMISSION NO:	41722-23214
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET

C-102



KEY NOTES:

- (A) ASPHALT PAVEMENT-HEAVY DUTY (SEE DETAIL)

(B) ASPHALT PAVEMENT-STANDARD DUTY (SEE DETAIL)

(C) 6" REINFORCED CONC. PAVEMENT (SEE DETAIL)

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(L) 24" ROLLED CURB (SEE DETAIL)

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- (N) CONCRETE DUMPSTER PAD (SEE DETAIL)

(P) PRECAST CONC. RETAINING WALL (BY OTHERS)

(Q) GENERATOR ENCLOSURE WALL (BY OTHERS)

(R) GENERATOR (BY OTHERS)

(S) TRANSFORMER (BY OTHERS)

(T) 7" WOOD FENCE (SEE DETAIL)

(U) BARRIER FREE SIGN, VAN ACCESSIBLE (SEE DETAIL)

(V) STOP SIGN (SEE DETAIL)

(W) FIRE TRUCK / PED. ONLY SIGN (SEE DETAIL)

(X) DELIVERIES ONLY SIGN (SEE DETAIL)

(Y) BARRIER FREE SIDEWALK RAMP - TYPE R (SEE DETAIL)
- (Z) BARRIER FREE SIDEWALK RAMP - TYPE P (SEE DETAIL)

(AA) 4" YELLOW PAVEMENT MARKINGS, TYP

(AB) 4" BLUE PVMT. MARKING & SYMBOL PER ADA STD.'S, TYP (SEE DETAIL)

(AC) ARROW PVMT. MARKING (SEE DETAIL)

(AD) CROSSWALK PVMT. MARKINGS (SEE DETAIL)

(AE) BIKE RACK (BY OTHERS)

(AF) 8" STEEL BOLLARD (SEE DETAIL)

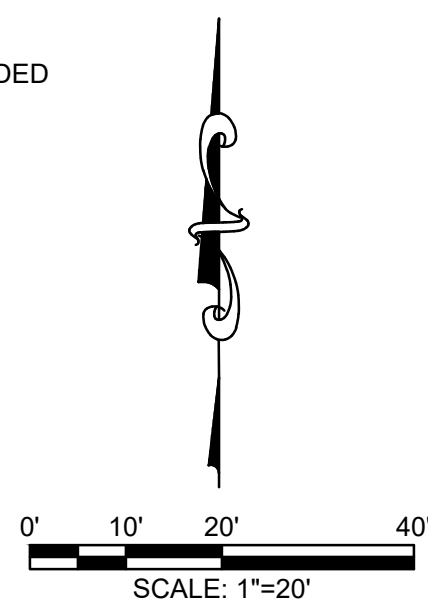
(AG) COLLAPSIBLE BOLLARD (SEE DETAIL)

(AH) PICKLEBALL COURT (BY OTHERS)

(AI) 1.5" ASPHALT OVERLAY

(AM) 4" PVC IRRIGATION SLEEVE

NOTE: SITE LIGHTING TO BE PROVIDED BY OTHERS AT A LATER DATE.



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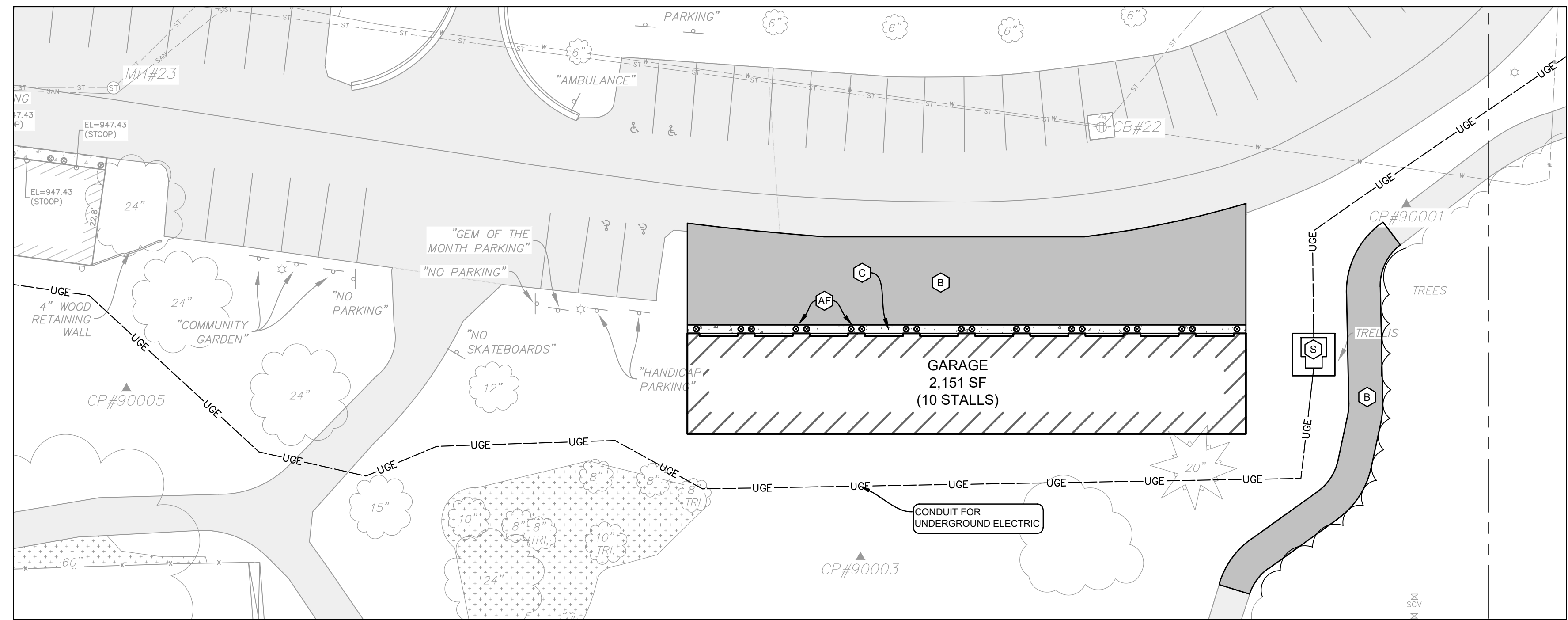
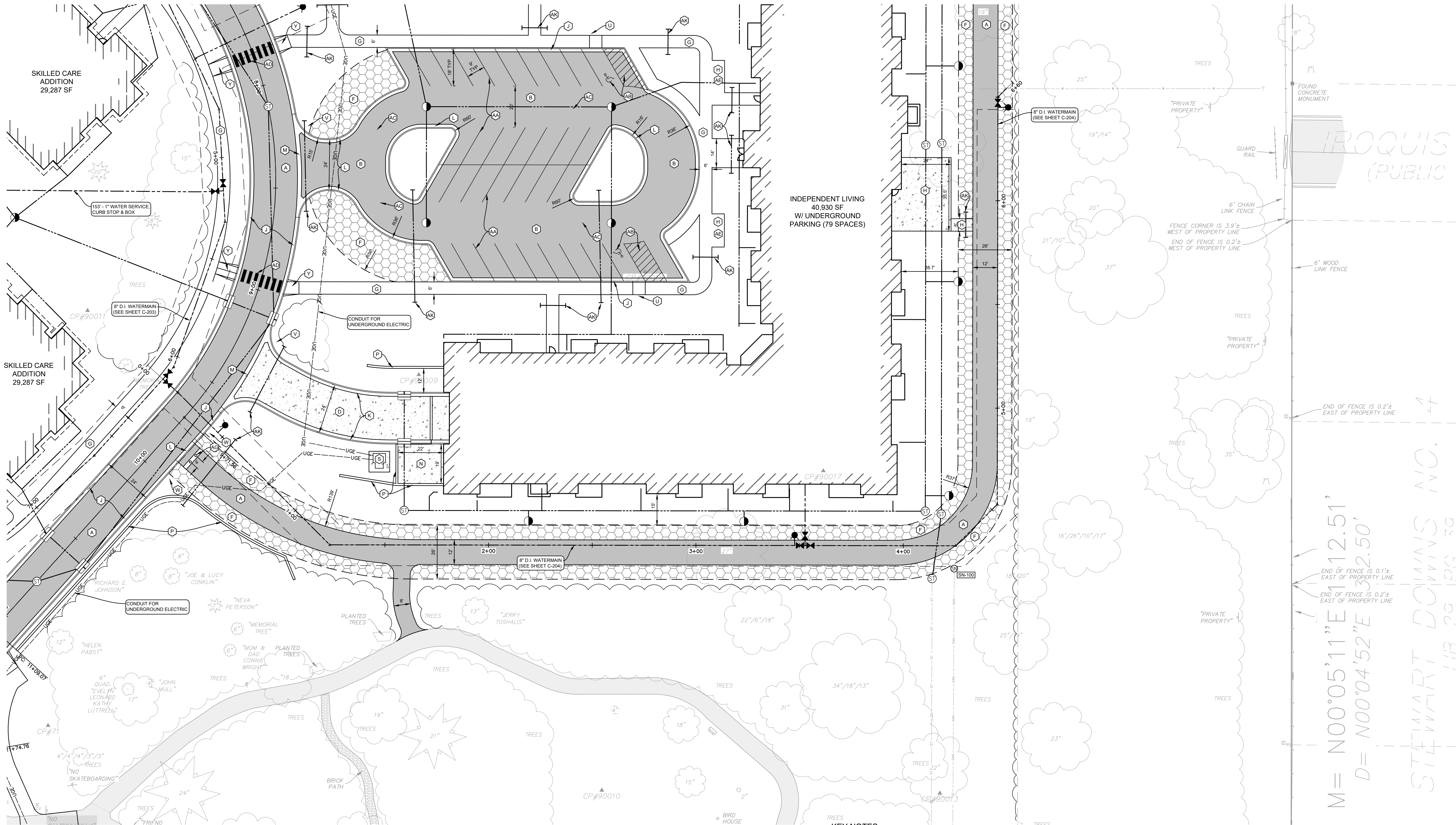
CIVIL SITE/
UTILITY PLAN

ISSUES & REVISIONS	DATE
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SHEET

C-103



KEY NOTES:

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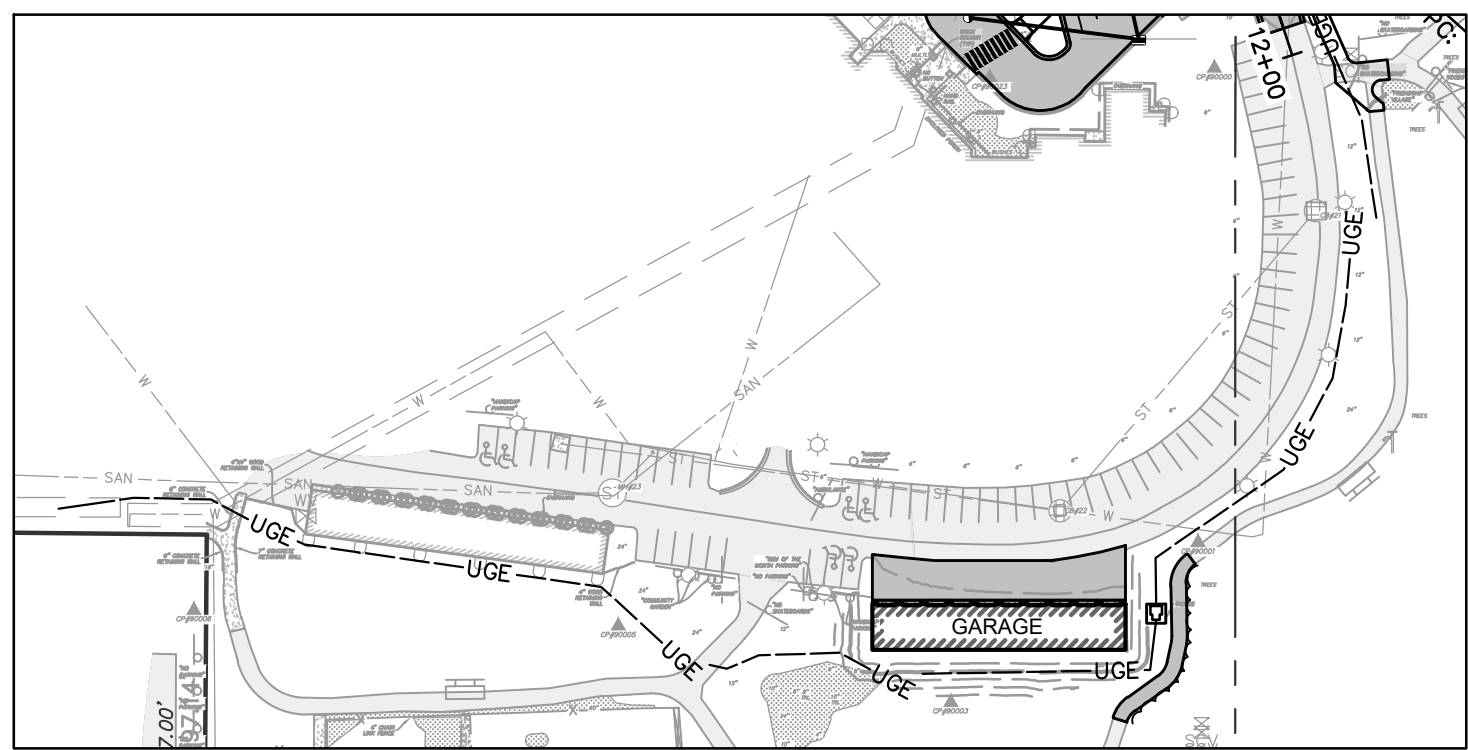
(AF) 8\" STEEL BOLLARD (SEE DETAIL)

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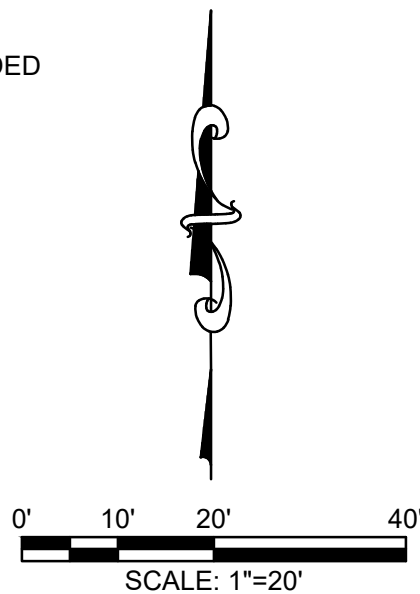
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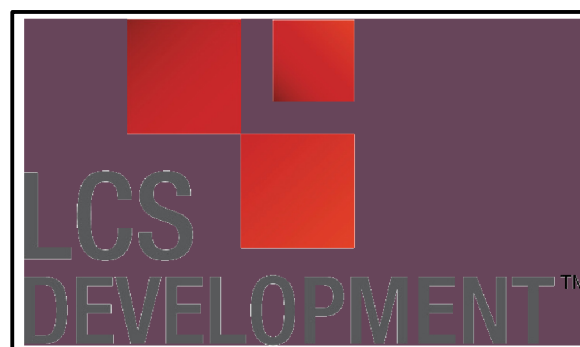
CIVIL SITE/
UTILITY PLAN

ISSUES & REVISIONS	DATE
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COMMISSION NO:	41722-23214
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET

C-104



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FRIENDSHIP
VILLAGE
CAMPUS
REPOSITIONING,
IL & SKILLED
ADDITIONS
KALAMAZOO, MI

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LANDSCAPE NOTES:

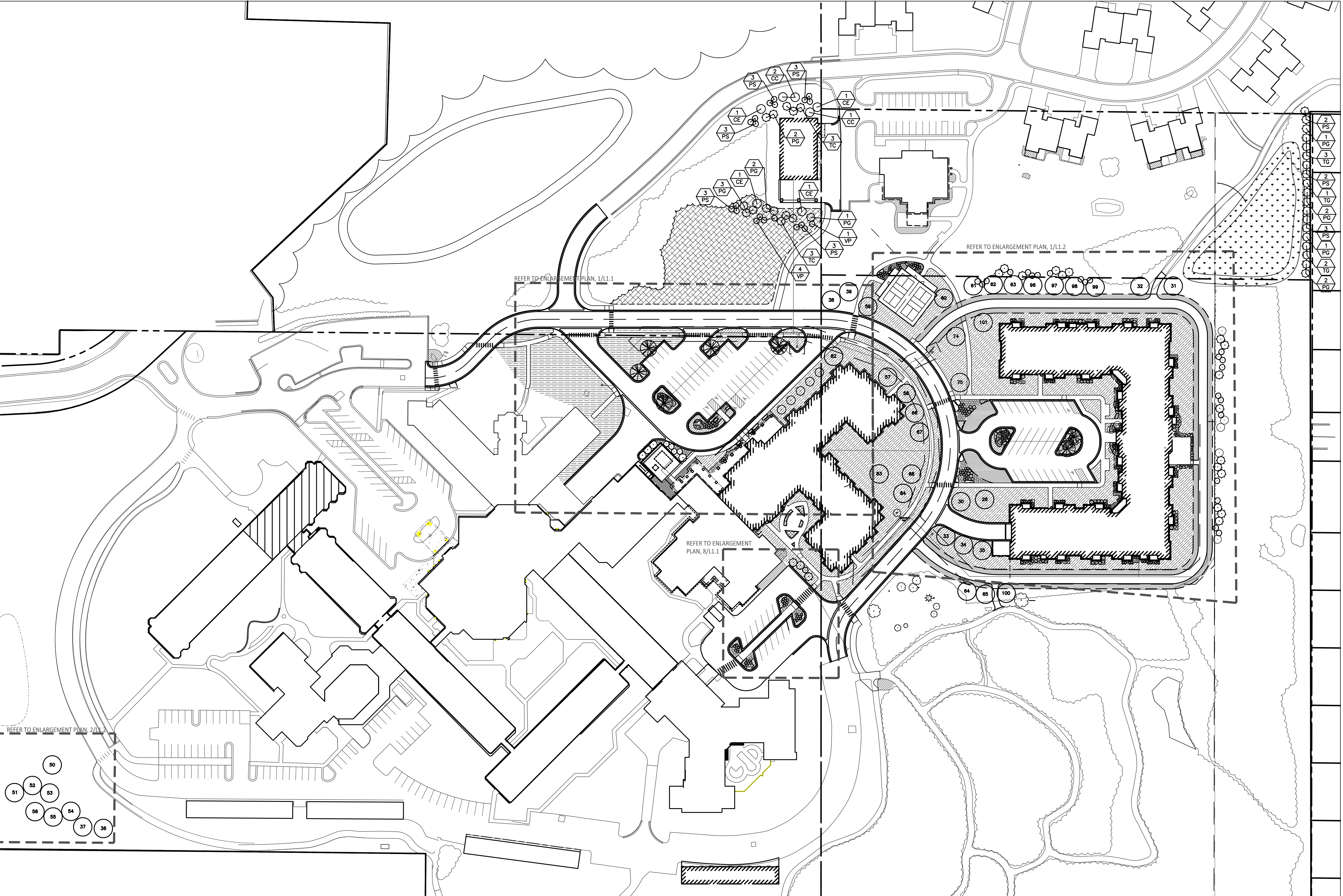
1. SURVEY OF EXISTING CONDITIONS PROVIDED BY DRIESSEN & ASSOCIATES, INC., 552 SOUTH 8TH STREET, KALAMAZOO, MI 49009, (269)544-1455.
2. CALL "MISS DIG" AND VERIFY ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK. 72 HOURS BEFORE YOU DIG CALL "MISS DIG" AT 1-800-482-7371. ANY UTILITIES DISTURBED BY CONSTRUCTION SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
3. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHOULD BE REPORTED TO THE CONSTRUCTION MANAGER IMMEDIATELY FOR RESOLUTION.
4. IN AREAS OF NEW TURF PLACE 4" MINIMUM TOPSOIL, FINE GRADE & ESTABLISH TURF WITHIN SEED LIMIT LINES.
5. PLACE SHREDDED HARDWOOD MULCH TO A 3" DEPTH IN ALL TREE & SHRUB BEDS & TO A 2" DEPTH IN ALL GROUND COVER BEDS.
6. UNLESS OTHERWISE NOTED, TOPSOIL, FINE GRADE AND SEED ALL DISTURBED AREAS WITHIN THE SEEDING LIMIT SHOWN AND AREAS DISTURBED BY CONSTRUCTION.
7. REPAIR AND RESTORE ANY DAMAGE OUTSIDE OF LIMIT OF WORK LINE TO ORIGINAL CONDITION.
8. SEE SHEET L1.0 FOR PLANT LISTS.
9. SEE SHEETS L1.0, L1.1, AND L1.2 FOR LIMIT OF SEEDING.
10. PROTECT ALL TREES AND EXISTING FEATURES TO REMAIN AS SPECIFIED.
11. ALL TOPSOIL AND EXCESS FILL MATERIAL SHALL BE STOCKPILED ON SITE SEPARATELY FOR LATER RE-USE. LOCATE STOCKPILES IN AREAS AS DIRECTED BY CONSTRUCTION MANAGER AND PROTECT FROM EFFECTS OF EROSION.
12. ALL NURSERY STOCK SHALL BE TRUE TO TYPE AND NAME. ALL STOCK SHALL BE FIRST CLASS QUALITY WITH WELL DEVELOPED BRANCH SYSTEMS AND VIGOROUS HEALTHY ROOT SYSTEMS. ALL STOCK SHALL BE WELL FORMED AND THE TRUNKS OF TREES SHALL BE UNIFORM AND STRAIGHT.
13. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR IRRIGATION SCHEDULING FOR THE ENTIRE MAINTENANCE PERIOD UNLESS OTHERWISE NOTED.
14. SEE IRRIGATION PLANS SHEETS IRR. FOR DETAILED IRRIGATION DESIGN.
15. CONTRACTOR RESPONSIBLE TO LOCATE SITE LIGHTING SERVICES. CONTRACTOR RESPONSIBLE TO NOTIFY CONSTRUCTION MANAGER IF DAMAGE TO LIGHTING ELECTRICAL DISTRIBUTION OCCURS.
16. ALL AREAS OF TREE CLEARING SHALL BE STAKED FOR ARCHITECTS APPROVAL PRIOR TO CLEARING.
17. UNLESS OTHERWISE SPECIFIED, ALL PERENNIALS, GRASSES AND GROUNDCOVERS SHALL BE GROWN IN THEIR CONTAINER FOR ONE YEAR PRIOR TO INSTALLATION.

PROPOSED FEATURES LEGEND:

SYMBOL	DESCRIPTION	DETAIL
	SHADE TREE	5 / L1.1
	ORNAMENTAL TREE	XS / L1.1
	EVERGREEN TREE	4 / L1.1
	NFP "REPLACEMENT TREE"	4 OR 5 / L1.1
	DECIDUOUS/EVERGREEN SHRUB	6 / L1.1
	ORNAMENTAL GRASSES OR PERENNIAL	2 / L1.1
	GROUNDCOVER AND/OR PERENNIALS	2 / L1.1
	NATIVE SEED MIX	SEE SPECS.
	STONE MAINTENANCE STRIP	3 / L1.1
	FIRE LANE TURF SEED MIX	SEE SPECS.
	GENERAL TURF SEED MIX, IRRIGATED	SEE SPECS.
	STORMWATER SEED MIX	SEE SPECS.
	PROPOSED BED LINE / METAL EDGING	7 / L1.1
	LIMIT OF WORK	
	PROPERTY LINE	
	ENLARGEMENT LIMIT LINE	
	PLANT TAG: REFERS TO TYPE AND NUMBER OF PLANTINGS TO BE PROVIDED AND MAINTAINED BY CONTRACTOR.	

ZONING TREE
CANOPY REQUIREMENTS

- 1) 1400 NORTH DRAKE ROAD: 23.6 ACRES TOTAL = ONE (1) TREE PER ACRE = 24 TREES
- 2) 1402 NORTH DRAKE ROAD: 18.3 ACRES TOTAL = ONE (1) TREE PER ACRE = 18 TREES
- 3) 4300 BEECH ROAD: 27.07 ACRES TOTAL = ONE (1) TREE PER ACRE = 27 TREES
- 4) TOTAL TREES REQUIRED: 69 TREES
- 5) TOTAL TREES PLANTED: 102 TREES



1 Overall Landscape Plan
Scale: 1" = 60'-0"

PLANT LIST:

	SYM.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	STATUS
TREES	AC	Amelanchier canadensis	Shadblow Serviceberry	2" CAL	B&B	PER PLANS	NATIVE
	AR	Acer rubra	Red Maple	2" CAL	B&B	PER PLANS	NATIVE
	AS	Acer saccharum	Sugar Maple	2" CAL	B&B	PER PLANS	NATIVE
	CC	Carpinus caroliniana	Hophornbeam	2" CAL	B&B	PER PLANS	NATIVE
	CE	Cercis canadensis	Eastern Redbud	2" CAL	B&B	PER PLANS	NATIVE
	CF	Cornus florida	Flowering Dogwood	2" CAL	B&B	PER PLANS	NATIVE
	OV	Ostrya virginiana	American Hophornbeam	2" CAL	B&B	PER PLANS	NATIVE
	PG	Picea glauca	White Spruce	6" HT.	B&B	PER PLANS	NATIVE
	PS	Pinus strobus	Eastern White Pine	6" HT.	B&B	PER PLANS	NATIVE
	QS	Quercus rubra	Red Oak	2" CAL	B&B	PER PLANS	NATIVE
	TC	Tsuga canadensis	Eastern Hemlock	6" HT.	B&B	PER PLANS	NATIVE
	TG	Thuja 'Green Giant'	Green Giant Arborvitae	6" HT.	B&B	PER PLANS	NON-NATIVE
	BG	Buxus 'Green Velvet'	Green Velvet Boxwood	#3	CONT.	3' O.C.	NON-NATIVE
	CA	Ceanothus americanus	New Jersey Tea Shrub	#3	CONT.	3' O.C.	NATIVE
SHRUBS	HV	Hamamelis virginiana	Common Witch Hazel	#5	CONT.	7' O.C.	NATIVE
	IM	Ilex verticillata 'Mr. Poppins'	Mr. Poppins Winterberry Holly	#3	CONT.	5' O.C.	NATIVE
	IB	Ilex verticillata 'Berry Poppins'	Berry Poppins Dwarf Winterberry Holly	#3	CONT.	4' O.C.	NATIVE
	IV	Itea virginica 'Merlot'	Merlot Virginia Sweetpire	#3	CONT.	3' O.C.	NATIVE
	PO	Physocarpus opulifolius 'Little Devil'	Little Devil Ninebark	#3	CONT.	4' O.C.	NATIVE
	PS	Physocarpus opulifolius 'Summer Wine'	Summer Wine Ninebark	#3	CONT.	5' O.C.	NATIVE
	PF	Potentilla fruticosa 'Goldfinger'	Goldfinger Potentilla	#3	CONT.	3' O.C.	NATIVE
	VD	Viburnum dentatum 'Blue Muffin'	Blue Muffin Arrowwood Viburnum	#5	CONT.	5' O.C.	NATIVE
	VP	Viburnum prunifolium	Blackhaw Viburnum	#5	CONT.	7' O.C.	NATIVE
	VT	Viburnum trilobum 'Bailey Compact'	Compact American Cranberrybush Viburnum	#3	CONT.	5' O.C.	NATIVE

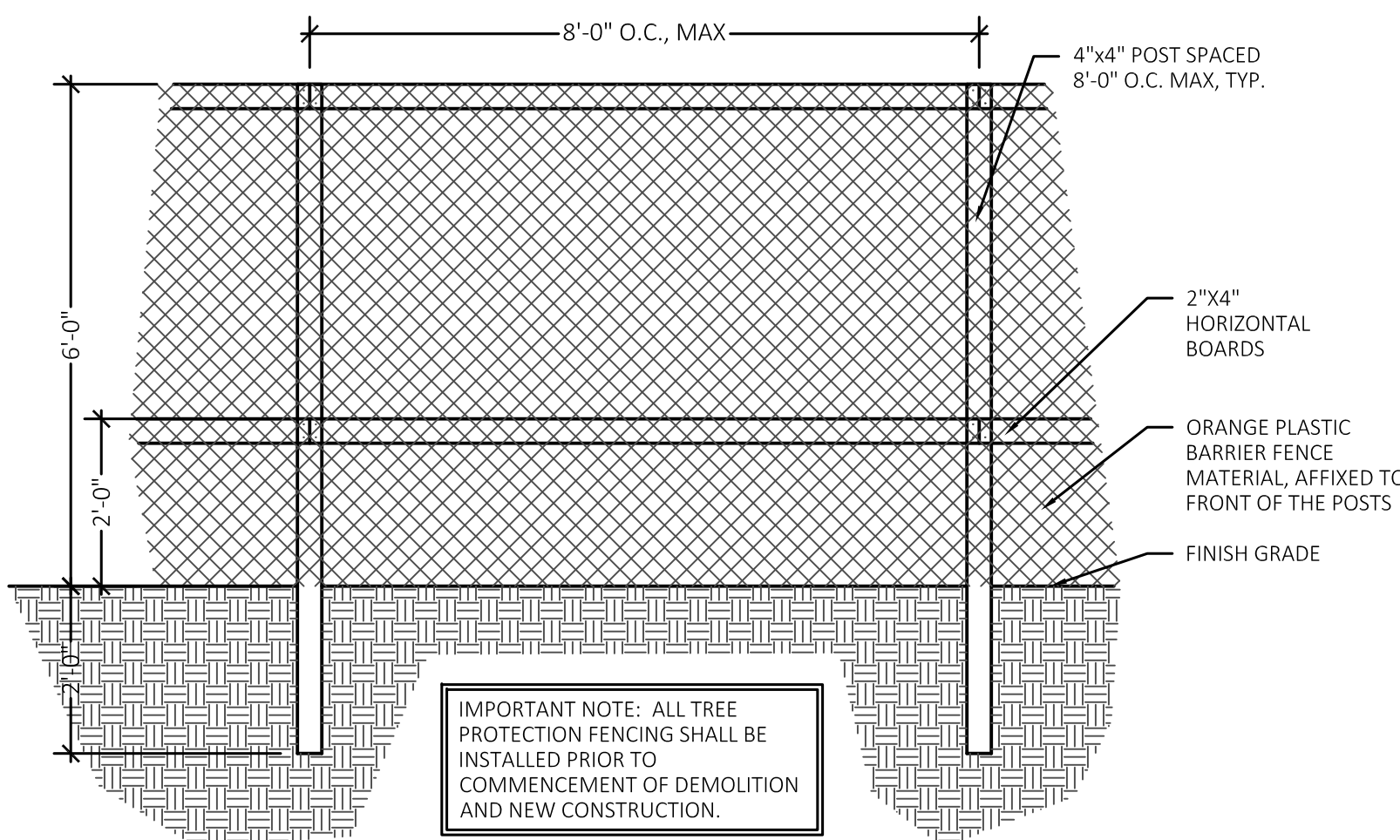
PERENNIALS &
ORNAMENTAL GRASSES

INTERIOR PARKING LOT
LANDSCAPING REQUIREMENTS
FOR EAST PARKING LOT:

- 1) OVERALL PARKING LOT SIZE: 15,075 SF
- 2) 5% OF PARKING LOT REQUIRED FOR PARKING LOT ISLANDS: 754 SF TOTAL
- 3) PROPOSED PARKING LOT ISLAND SIZE: 1,034 SF TOTAL
- 4) ONE (1) TREE REQUIRED PER EACH 300 SF OF PARKING LOT ISLANDS: 3 TREES

INTERIOR PARKING LOT
LANDSCAPING REQUIREMENTS
FOR WEST PARKING LOT:

- 1) OVERALL PARKING LOT SIZE: 28,401 SF
- 2) 5% OF PARKING LOT REQUIRED FOR PARKING LOT ISLANDS: 1,420 SF
- 3) PROPOSED PARKING LOT ISLAND SIZE: 5,520 SF TOTAL
- 4) ONE (1) TREE REQUIRED PER EACH 300 SF OF PARKING LOT ISLANDS: 5 TREES



2 Tree Protection Fencing Detail
Not To Scale

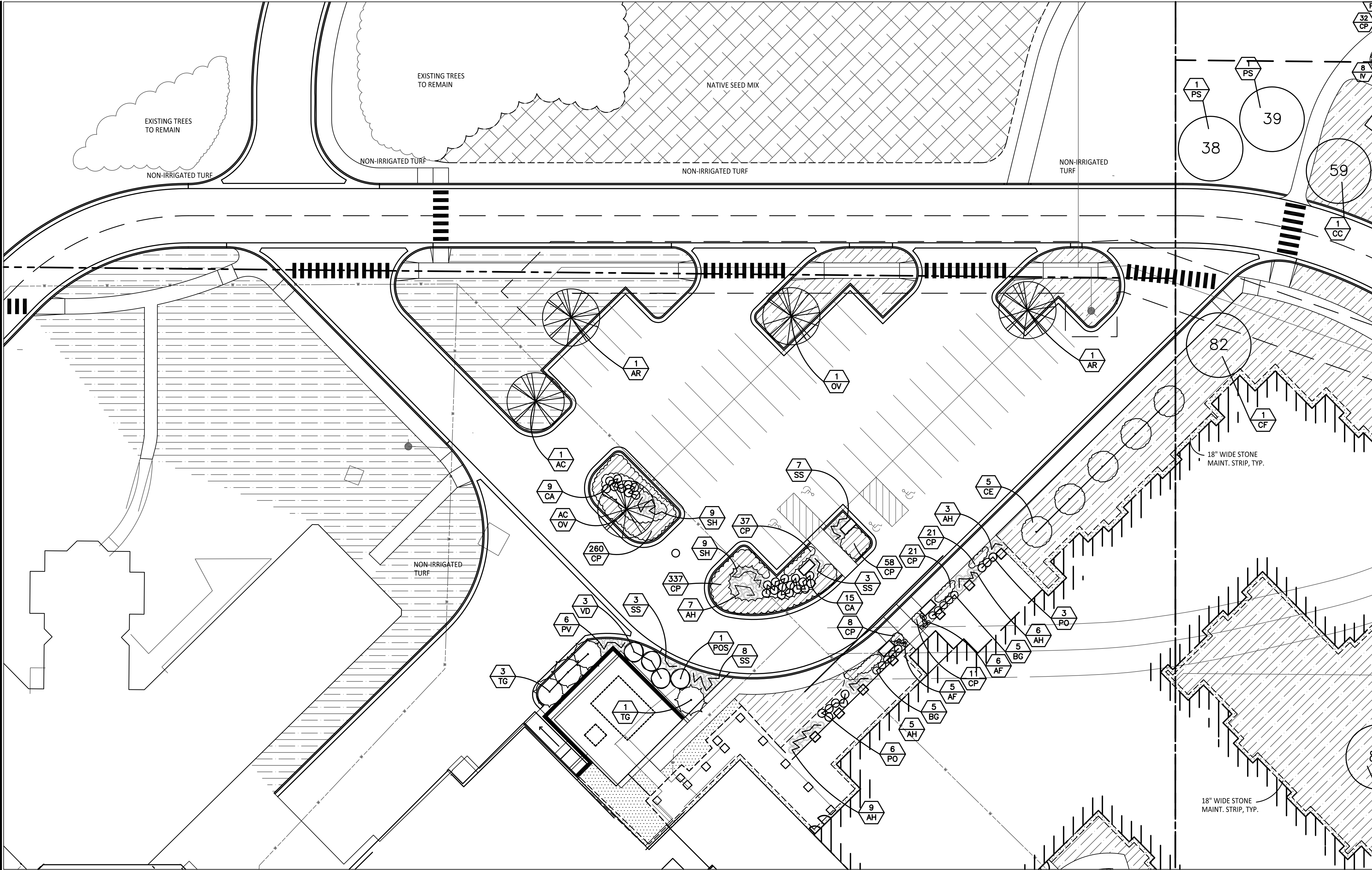
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ISSUES & REVISIONS	DATE
NFP REVIEW	10-08-24
SD B2 SUBMISSION	09-27-24
ADDENDUM #1	10-09-24
NFP REVIEW	11-12-24

Overall
Landscape
Plan

COMMISSION NO:	41722-23214
DRAWN BY:	Author
CHECKED BY:	Checker
SHEET	

L1.0



PROPOSED FEATURES LEGEND:

SYMBOL	DESCRIPTION	DETAIL
	SHADE TREE	5 / L1.1
	ORNAMENTAL TREE	X5 / L1.1
	EVERGREEN TREE	4 / L1.1
	NFP "REPLACEMENT TREE"	4 OR 5 / L1.1
	DECIDUOUS/EVERGREEN SHRUB	6 / L1.1
	ORNAMENTAL GRASSES OR PERENNIAL	2 / L1.1
	GROUNDCOVER AND/OR PERENNIALS	2 / L1.1
	NATIVE SEED MIX	SEE SPECS.
	STONE MAINTENANCE STRIP	3 / L1.1
	FIRE LANE TURF SEED MIX	SEE SPECS.
	GENERAL TURF SEED MIX, IRRIGATED	SEE SPECS.
	STORMWATER SEED MIX	SEE SPECS.
	PROPOSED BED LINE/ METAL EDGING	7 / L1.1
	LIMIT OF WORK	
	PROPERTY LINE	
	ENLARGEMENT LIMIT LINE	
	PLANT TAG - REFERS TO TYPE AND NUMBER OF PLANTINGS TO BE PROVIDED AND MAINTAINED BY CONTRACTOR.	



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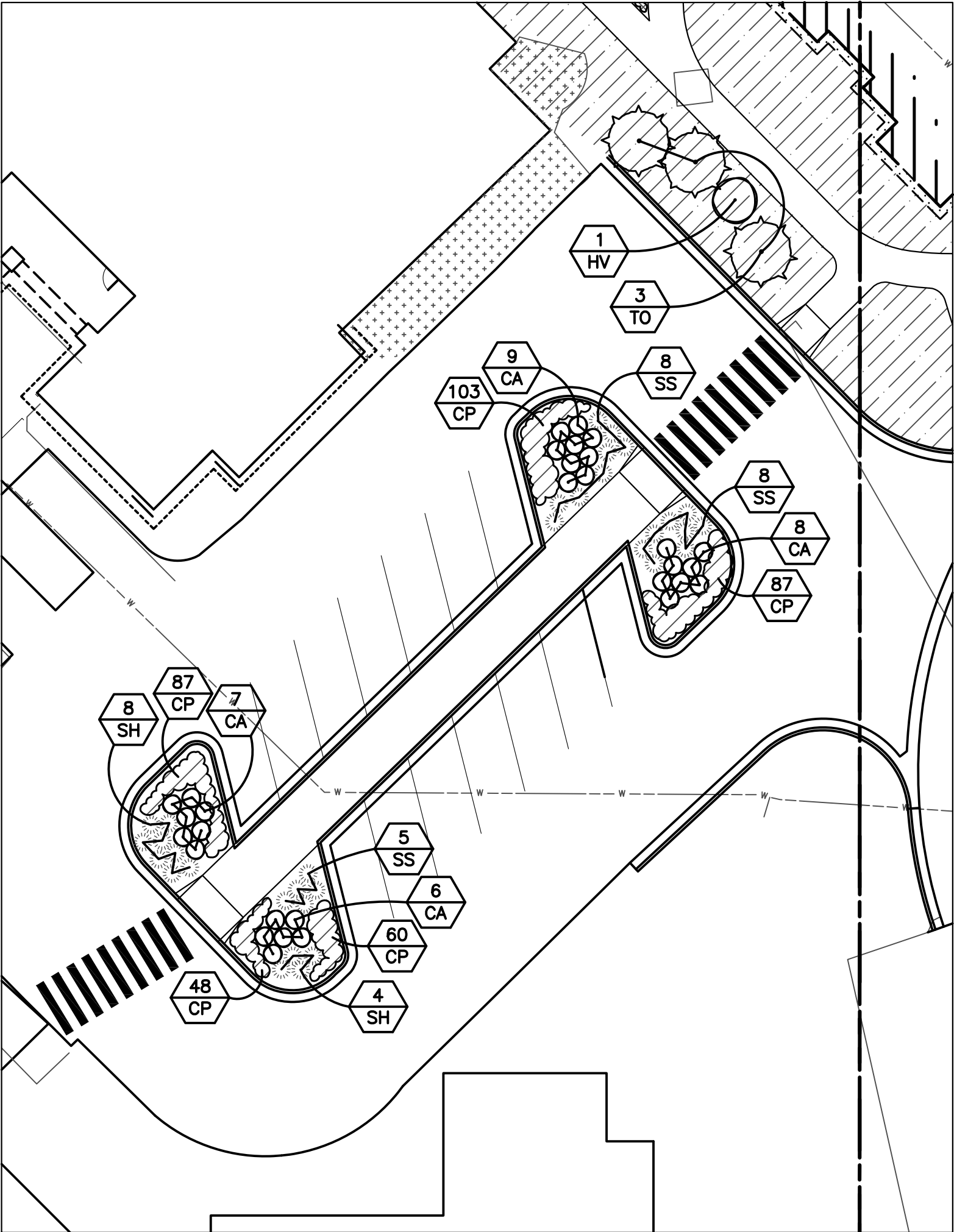


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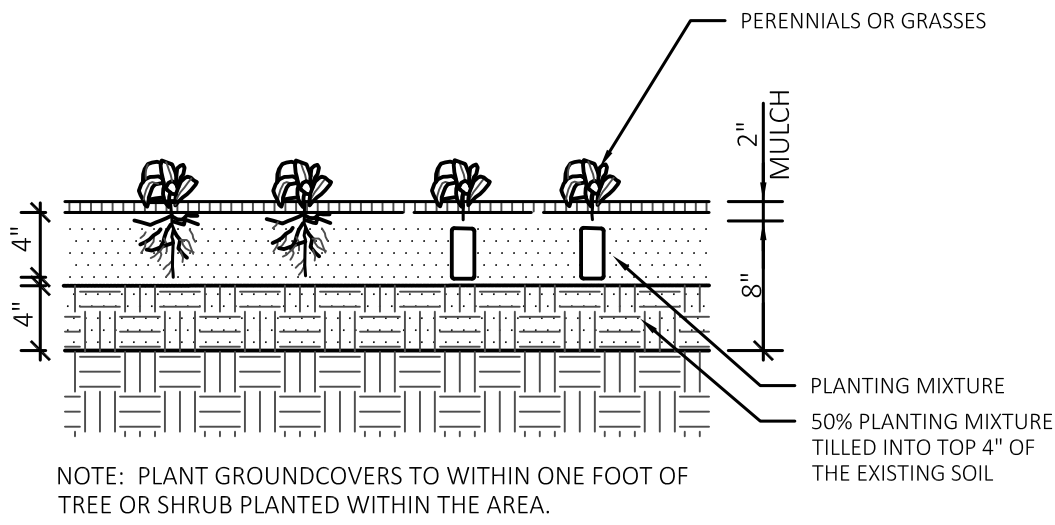


8 Parking Lot Landscaping - Skilled Nursing Care
Scale: 1" = 20'-0"

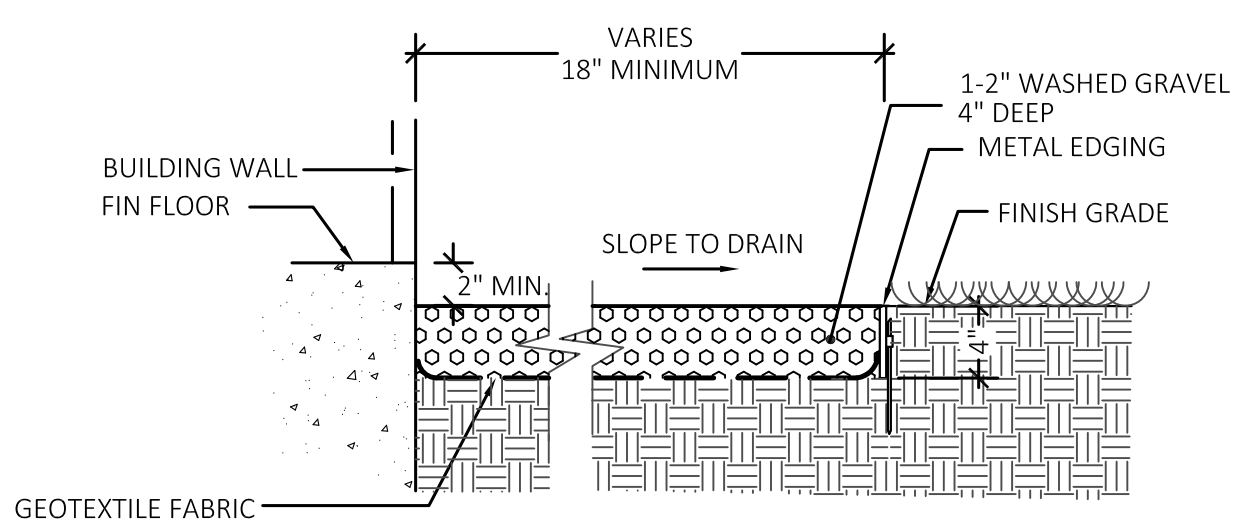
1 Skilled Care Addition Landscape Plan
Scale: 1" = 20'-0"

LANDSCAPE NOTES:

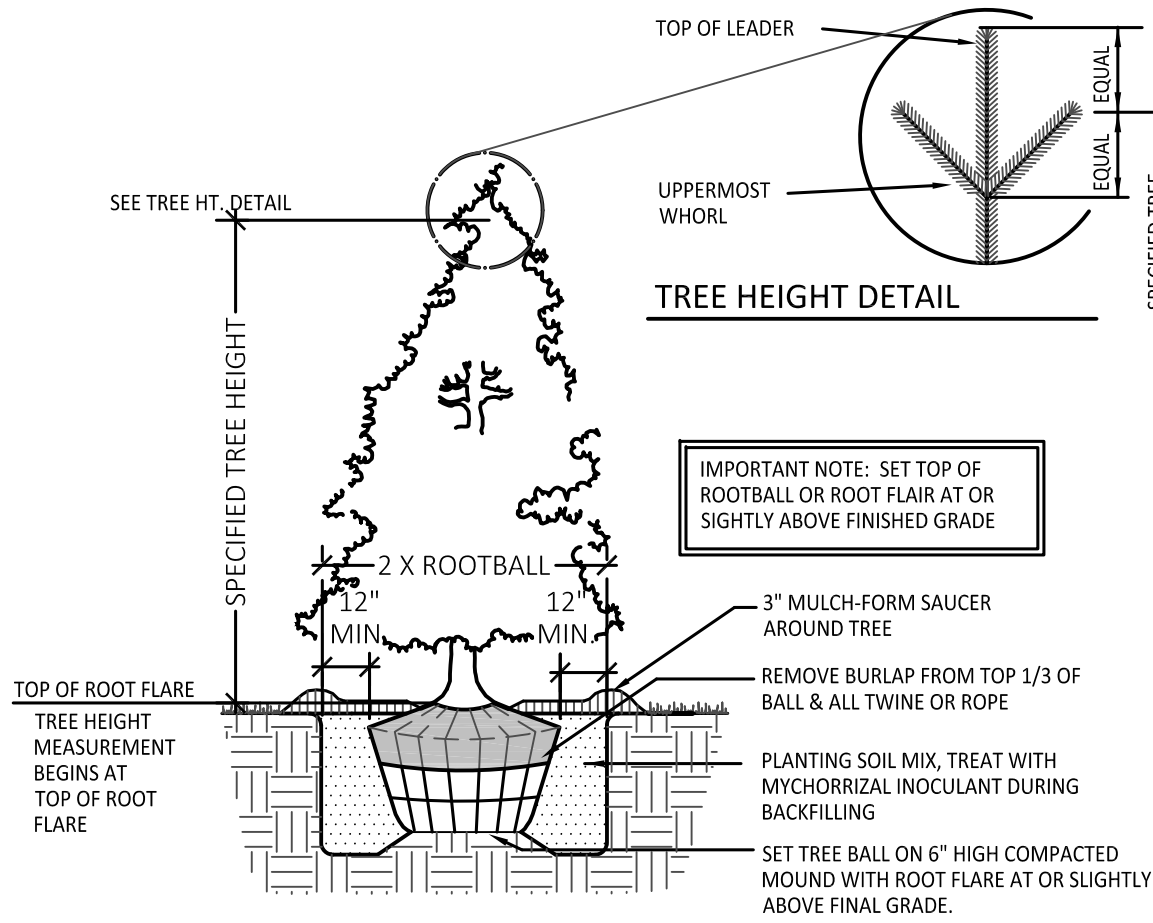
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2. CALL "MISS DIG" AND VERIFY ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK. 72 HOURS BEFORE YOU DIG CALL "MISS DIG" AT 1-800-482-7371. ANY UTILITIES DISTURBED BY CONSTRUCTION SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
3. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHOULD BE REPORTED TO THE CONSTRUCTION MANAGER IMMEDIATELY FOR RESOLUTION.
4. IN AREAS OF NEW TURF PLACE 4" MINIMUM TOPSOIL, FINE GRADE & ESTABLISH TURF WITHIN SEED LIMIT LINES.
5. PLACE SHREDDED HARDWOOD MULCH TO A 3" DEPTH IN ALL TREE & SHRUB BEDS & TO A 2" DEPTH IN ALL GROUND COVER BEDS.
6. UNLESS OTHERWISE NOTED, TOPSOIL, FINE GRADE AND SEED ALL DISTURBED AREAS WITHIN THE SEEDING LIMIT SHOWN AND AREAS DISTURBED BY CONSTRUCTION.
7. REPAIR AND RESTORE ANY DAMAGE OUTSIDE OF LIMIT OF WORK LINE TO ORIGINAL CONDITION.
8. SEE SHEET L1.0 FOR PLANT LISTS.
9. SEE SHEETS L1.0, L1.1, AND L1.2 FOR LIMIT OF SEEDING.
10. PROTECT ALL TREES AND EXISTING FEATURES TO REMAIN AS SPECIFIED.
11. ALL TOPSOIL AND EXCESS FILL MATERIAL SHALL BE STOCKPILED ON SITE SEPARATELY FOR LATER RE-USE. LOCATE STOCKPILES IN AREAS AS DIRECTED BY CONSTRUCTION MANAGER AND PROTECT FROM EFFECTS OF EROSION.
12. ALL NURSERY STOCK SHALL BE TRUE TO TYPE AND NAME. ALL STOCK SHALL BE FIRST CLASS QUALITY WITH WELL DEVELOPED BRANCH SYSTEMS AND VIGOROUS HEALTHY ROOT SYSTEMS. ALL STOCK SHALL BE WELL FORMED AND THE TRUNKS OF TREES SHALL BE UNIFORM AND STRAIGHT.
13. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR IRRIGATION SCHEDULING FOR THE ENTIRE MAINTENANCE PERIOD UNLESS OTHERWISE NOTED.
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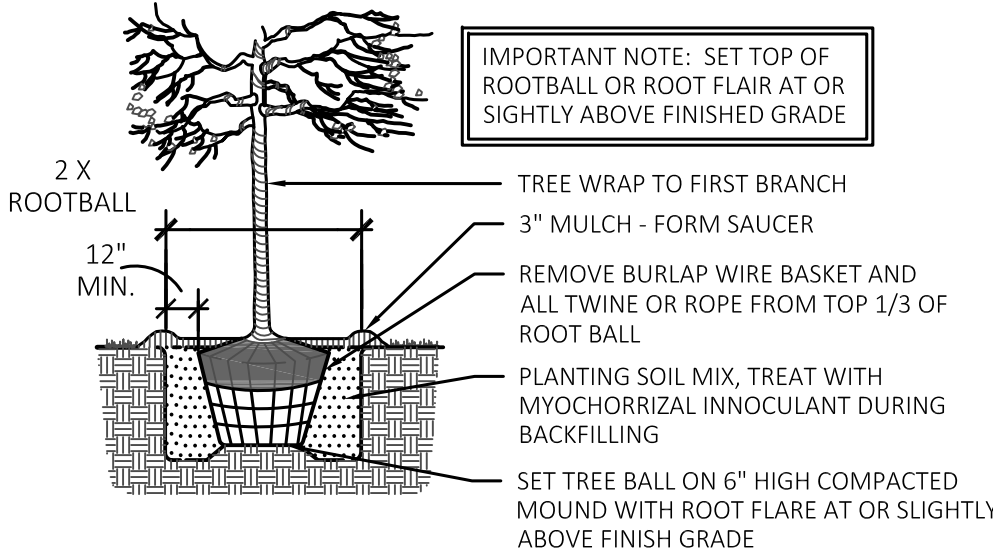
2 Upright Groundcover Planting
NOT TO SCALE



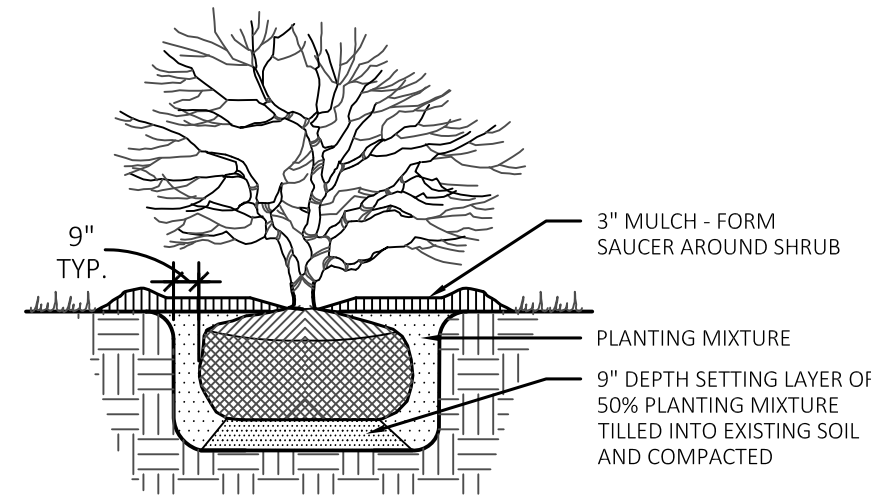
3 Stone Maintenance Strip Detail
NOT TO SCALE



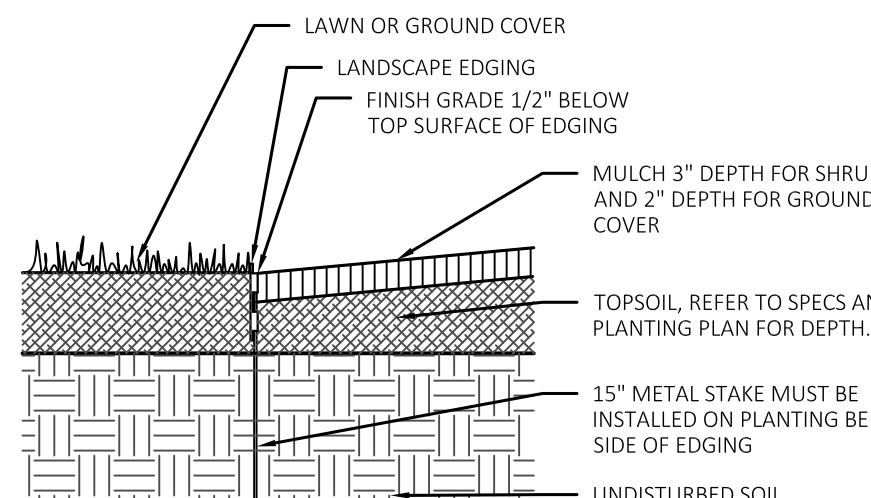
4 Conifer Planting Detail
Not To Scale



5 Tree Planting Detail
Not To Scale



6 Shrub Planting Detail
NOT TO SCALE



7 Metal Edging Detail
NOT TO SCALE

B2 TITLEBLOCK

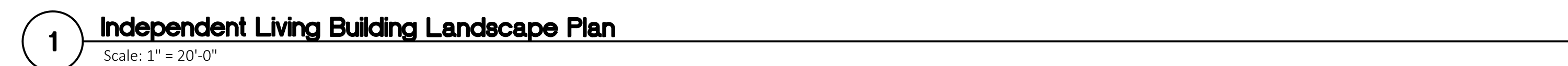
ISSUES & REVISIONS	DATE
NFP REVIEW	10-08-24
SD B2 SUBMISSION	09-27-24
ADDENDUM #1	10-09-24
NFP REVIEW	11-12-24

Landscape
Enlargement
Plan

COMMISSION NO:	41722-23214
DRAWN BY:	Author
CHECKED BY:	Checker

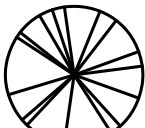
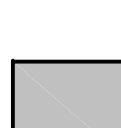
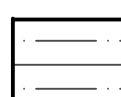
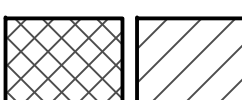
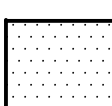
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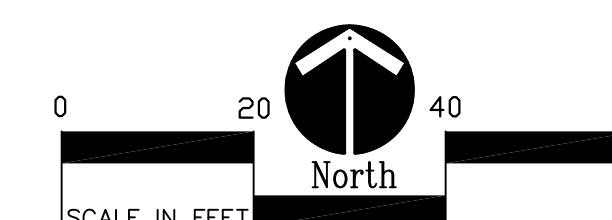
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1. SURVEY OF EXISTING CONDITIONS PROVIDED BY DRIESENGA & ASSOCIATES, INC., 552 SOUTH 8TH STREET, KALAMAZOO, MI 49008, (269)544-1455.
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PROPOSED FEATURES LEGEND:

SYMBOL	DESCRIPTION	DETAIL	SYMBOL	DESCRIPTION	DETAIL
	SHADE TREE	5 / L1.1		FIRE LANE TURF SEED MIX	SEE SPECS.
	ORNAMENTAL TREE	5 / L1.1		GENERAL TURF SEED MIX, IRRIGATED	SEE SPECS.
	EVERGREEN TREE	4 / L1.1		STORMWATER SEED MIX	SEE SPECS.
	NFP "REPLACEMENT TREE"	4 / L1.1 OR 5 / L1.1		PROPOSED BED LINE/ METAL EDGING	7 / L1.1
	DECIDUOUS/EVERGREEN SHRUB	6 / L1.1		LIMIT OF WORK	
	ORNAMENTAL GRASSES AND/OR PERENNIALS	2 / L1.1		PROPERTY LINE	
	GROUNDCOVER AND/OR PERENNIALS	2 / L1.1		ENLARGEMENT LIMIT LINE	
	STONE MAINTENANCE STRIP	3 / L1.1		PLANT TAG- REFERS TO TYPE AND NUMBER OF PLANTINGS TO BE PROVIDED AND MAINTAINED BY CONTRACTOR.	



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B2 TITLEBLOCK

ISSUES & REVISIONS	DATE
NFP REVIEW	10-08-24
SD B2 SUBMISSION	09-27-24
ADDENDUM #1	10-09-24
NFP REVIEW	11-12-24

Landscape Enlargement Plan

COMMISSION NO: 41722-23214

DRAWN BY: Author

CHECKED BY: Checker

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L1.2



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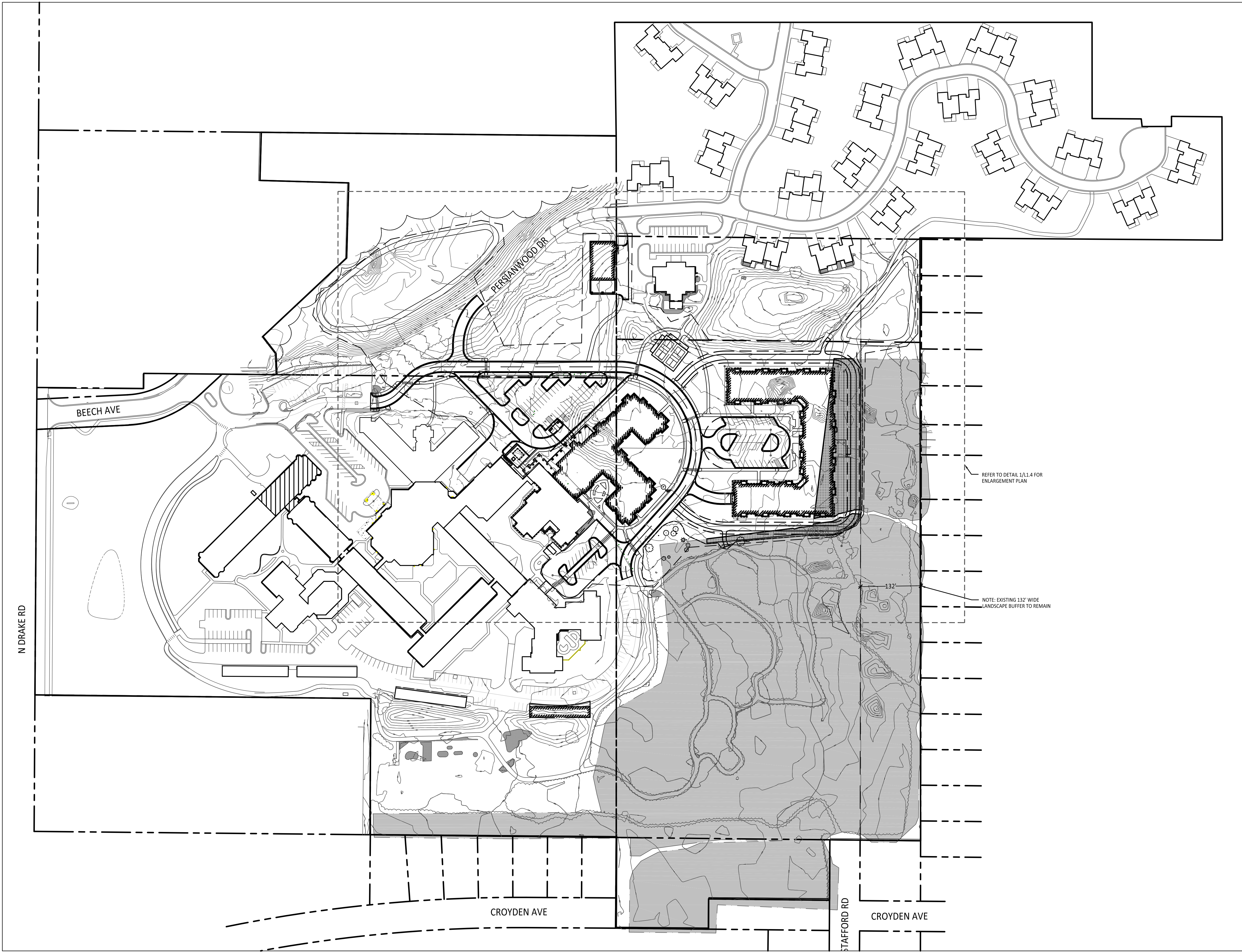
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Parks & Recreation
Public & Institutional Planning
Camp Planning & Design



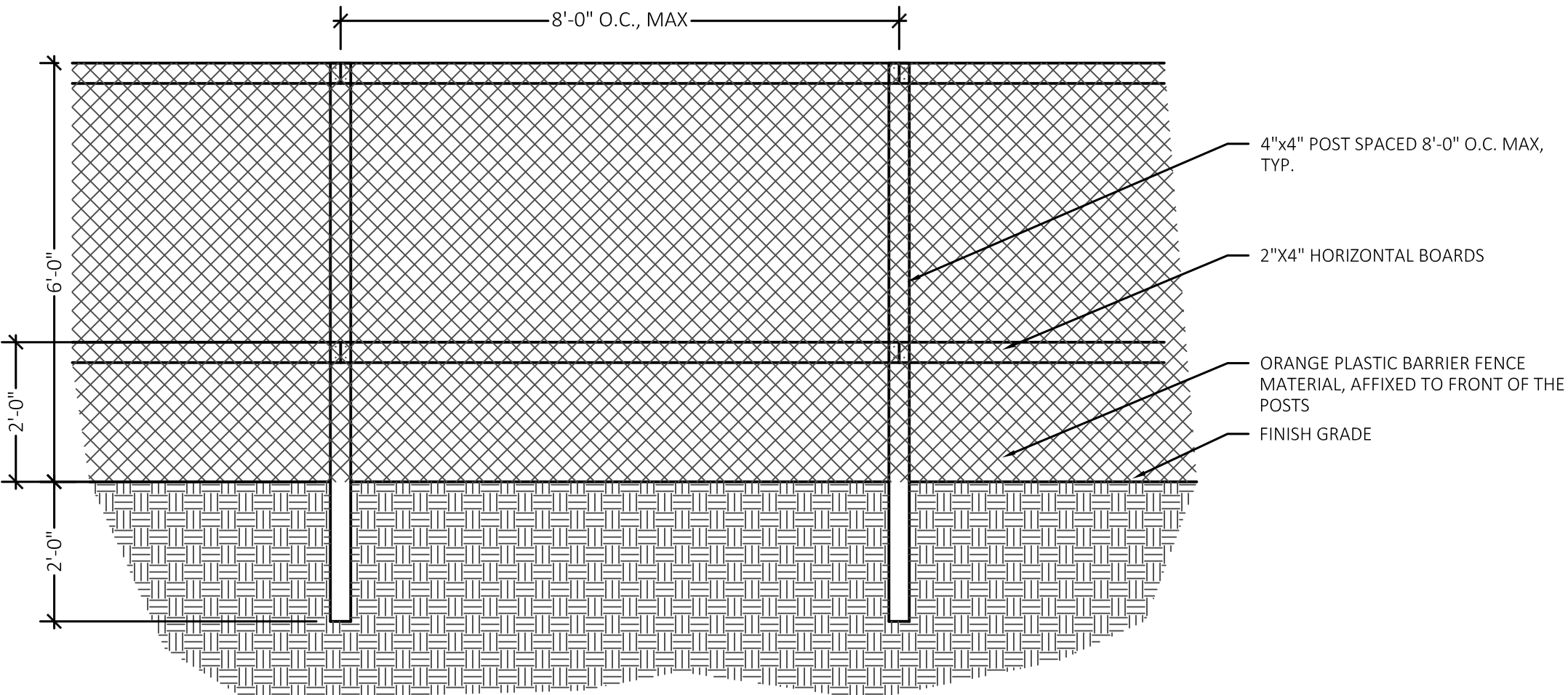
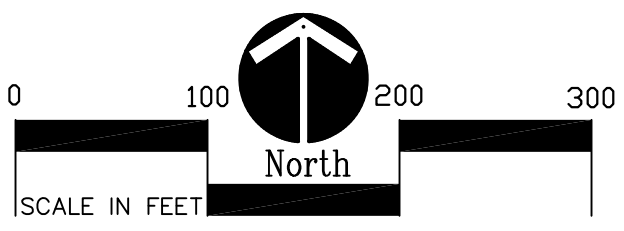
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1 Overall Woodland Removal Plan
Scale: 1" = 100'-0"



2 Tree Protection Fencing Detail
Not To Scale

IMPORTANT NOTE: ALL TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF DEMOLITION AND NEW CONSTRUCTION.

NATURAL FEATURES PROTECTION
OVERLAY WOODLAND
REMOVAL LEGEND:

SYMBOL	DESCRIPTION
	DELINEATED WOODLAND
	PROPOSED WOODLAND REMOVAL
	TEMPORARY TREE PROTECTION FENCE SEE DETAIL 2/L1.3
	PHASE 1 LIMIT OF WORK
	PROPERTY LINE
	PLAN ENLARGEMENT LINE

WOODLAND REMOVAL NOTES:

1. SURVEY OF EXISTING CONDITIONS PROVIDED BY DRISENGA & ASSOCIATES, 552 SOUTH 8TH STREET, KALAMAZOO, MI 49009. 269-544-1455.
2. WOODLAND DELINEATION PROVIDED BY DAVEY RESOURCE GROUP, 5641 WEST 73RD STREET, INDIANAPOLIS, IN, 46278.

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B2 TITLEBLOCK

ISSUES & REVISIONS	DATE
NFP REVIEW	10-08-24
SD B2 SUBMISSION	09-27-24
NFP REVIEW	11-12-24

Overall Woodland
Removal Plan

COMMISSION NO:	41722-23214
DRAWN BY:	Author
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L1.3



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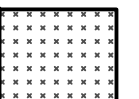
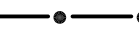
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IMPORTANT NOTE

NATURAL FEATURES PROTECTION
OVERLAY WOODLAND
REMOVAL LEGEND:

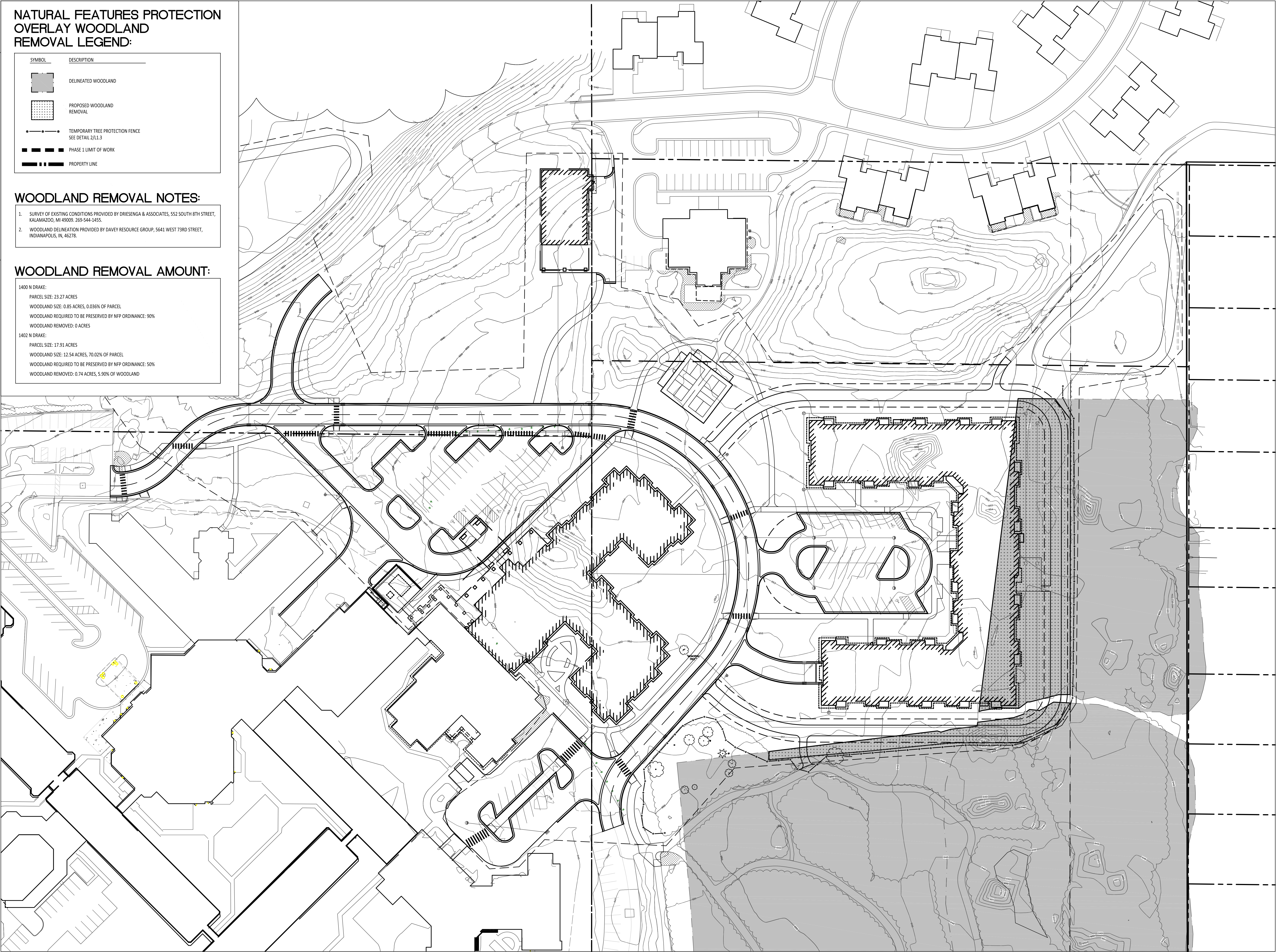
SYMBOL	DESCRIPTION
	DELINEATED WOODLAND
	PROPOSED WOODLAND REMOVAL
	TEMPORARY TREE PROTECTION FENCE SEE DETAIL 2/L1.3
	PHASE I LIMIT OF WORK
	PROPERTY LINE

WOODLAND REMOVAL NOTES:

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2. WOODLAND DELINEATION PROVIDED BY DAVEY RESOURCE GROUP, 5641 WEST 73RD STREET, INDIANAPOLIS, IN, 46278.

WOODLAND REMOVAL AMOUNT:

1400 N DRAKE:
PARCEL SIZE: 23.27 ACRES
WOODLAND SIZE: 0.85 ACRES, 0.036% OF PARCEL
WOODLAND REQUIRED TO BE PRESERVED BY NFP ORDINANCE: 90%
WOODLAND REMOVED: 0 ACRES
1402 N DRAKE:
PARCEL SIZE: 17.91 ACRES
WOODLAND SIZE: 12.54 ACRES, 70.02% OF PARCEL
WOODLAND REQUIRED TO BE PRESERVED BY NFP ORDINANCE: 50%
WOODLAND REMOVED: 0.74 ACRES, 5.90% OF WOODLAND



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B2 TITLEBLOCK

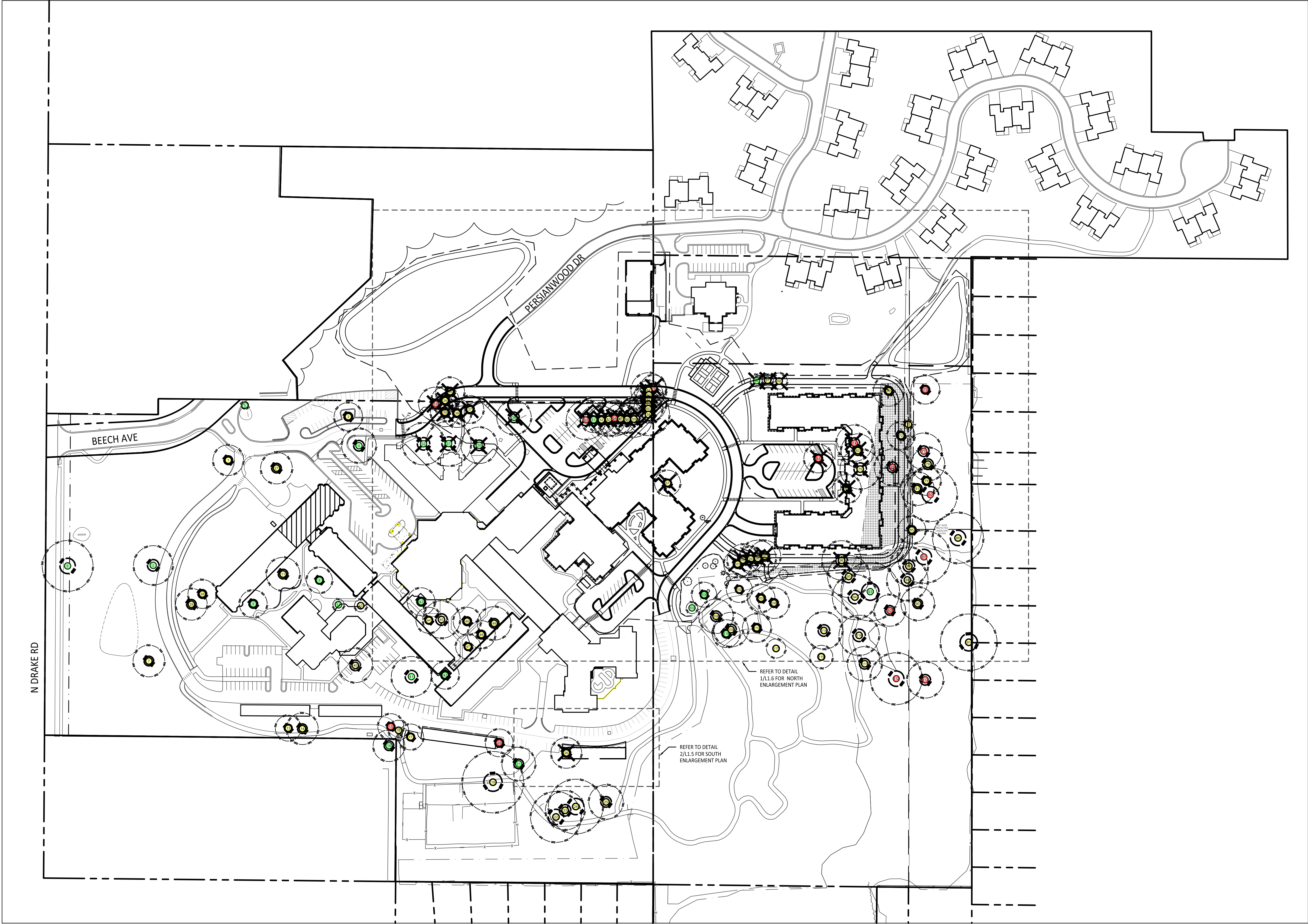
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Woodland Delineation
Removal Enlargement
Plan- Phase 1

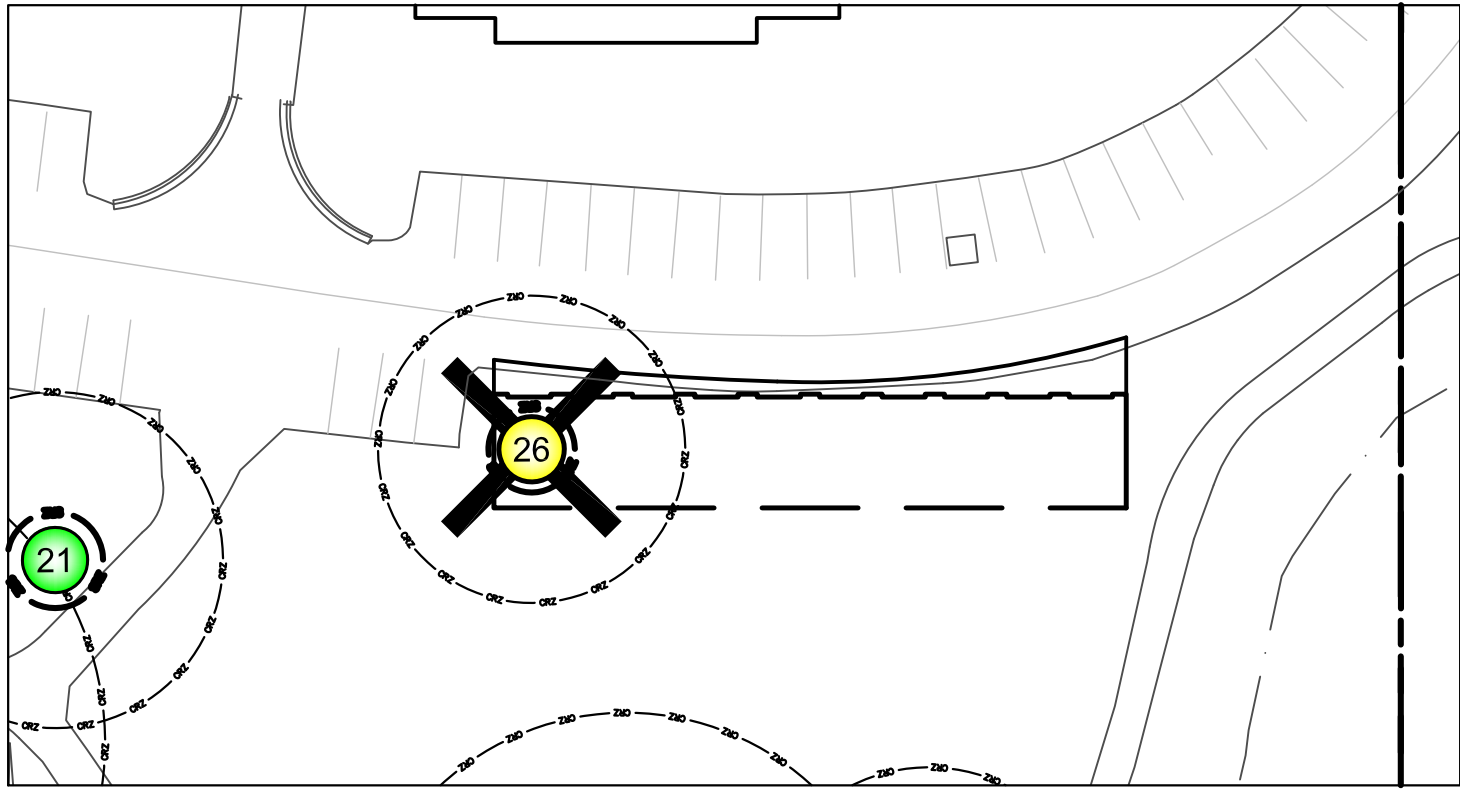
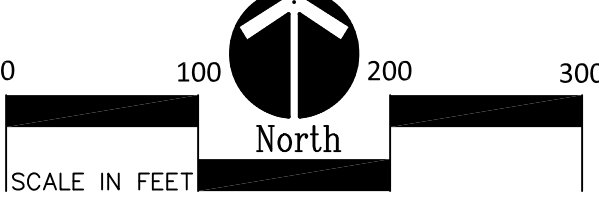
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CHECKED BY:	Checker

SHEET

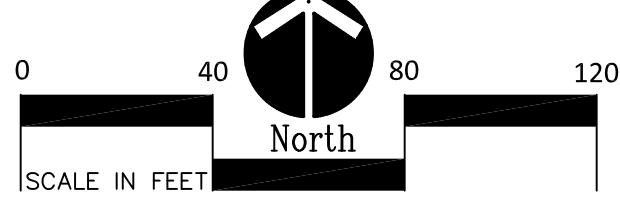
L1.4



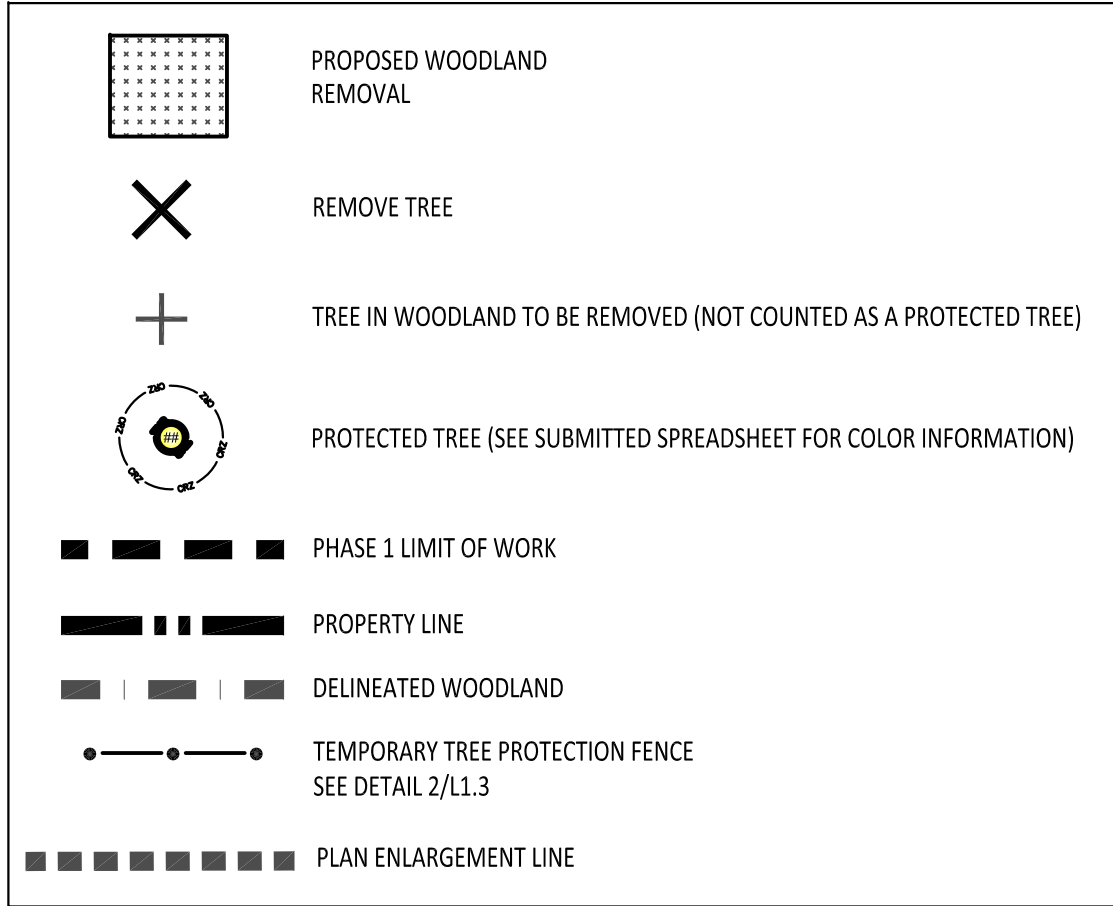
1 Overall Protected Trees Removal Plan
Scale: 1" = 100'-0"



2 Protected Tree Identification and Removal South Enlargement Plan- Phase 1
Scale: 1" = 40'-0"



NATURAL FEATURES PROTECTION
OVERLAY PROTECTED TREES
REMOVAL LEGEND:



NATURAL FEATURES PROTECTION
OVERLAY PROTECTED TREES NOTES:

1. SURVEY OF EXISTING CONDITIONS PROVIDED BY DRIESENGA & ASSOCIATES, 552 SOUTH 8TH STREET, KALAMAZOO, MI 49009. 269-544-1455.
2. WOODLAND DELINEATION PROVIDED BY DAVEY RESOURCE GROUP, 5641 WEST 73RD STREET, INDIANAPOLIS, IN, 46278.
3. REFER TO SUBMITTED SPREADSHEET FROM OCBA & DAVEY RESOURCE GROUP FOR ADDITIONAL PROTECTED TREES INFORMATION.

NOT FOR CONSTRUCTION

B2 TITLEBLOCK

ISSUES & REVISIONS	DATE
NFP REVIEW	10-08-24
SD B2 SUBMISSION	09-27-24
NFP REVIEW	11-12-24

Overall Protected
Trees Removal Plan

COMMISSION NO:	41722-23214
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET

L1.5



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Kalamazoo Michigan 49007
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NATURAL FEATURES PROTECTION
OVERLAY PROTECTED TREES
REMOVAL LEGEND:

PROPOSED WOODLAND
REMOVAL

REMOVE TREE

TREE IN WOODLAND TO BE REMOVED (NOT COUNTED AS A PROTECTED TREE)

PROTECTED TREE (SEE SUBMITTED SPREADSHEET FOR COLOR INFORMATION)

PHASE 1 LIMIT OF WORK

PROPERTY LINE

DELINEATED WOODLAND

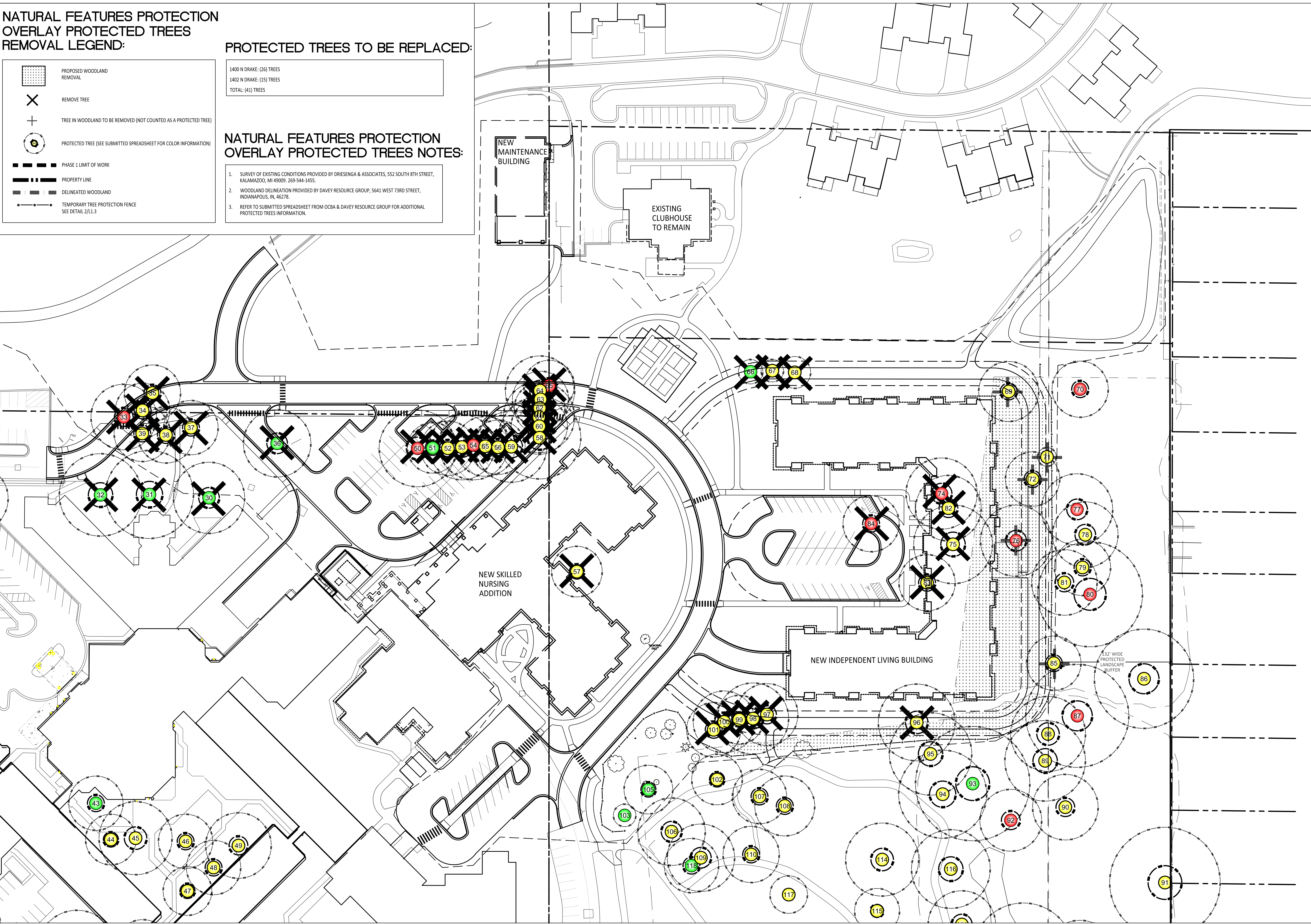
TEMPORARY TREE PROTECTION FENCE
SEE DETAIL 2/1.1.3

PROTECTED TREES TO BE REPLACED:

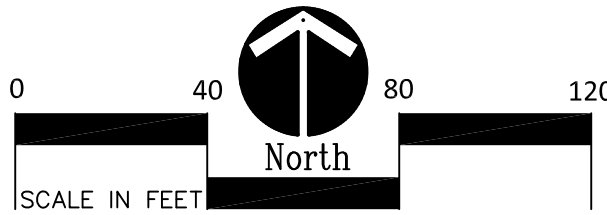
1400 N DRAKE: (26) TREES
1402 N DRAKE: (15) TREES
TOTAL: (41) TREES

NATURAL FEATURES PROTECTION
OVERLAY PROTECTED TREES NOTES:

1. SURVEY OF EXISTING CONDITIONS PROVIDED BY DRIESENGA & ASSOCIATES, 552 SOUTH 8TH STREET, KALAMAZOO, MI 49009. 269-544-1455.
2. WOODLAND DELINEATION PROVIDED BY DAVEY RESOURCE GROUP, 5641 WEST 73RD STREET, INDIANAPOLIS, IN, 46278.
3. REFER TO SUBMITTED SPREADSHEET FROM OCBA & DAVEY RESOURCE GROUP FOR ADDITIONAL PROTECTED TREES INFORMATION.



1 Protected Tree Identification and Removal Enlargement Plan- Phase 1
Scale: 1" = 40'-0"



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B2 TITLEBLOCK

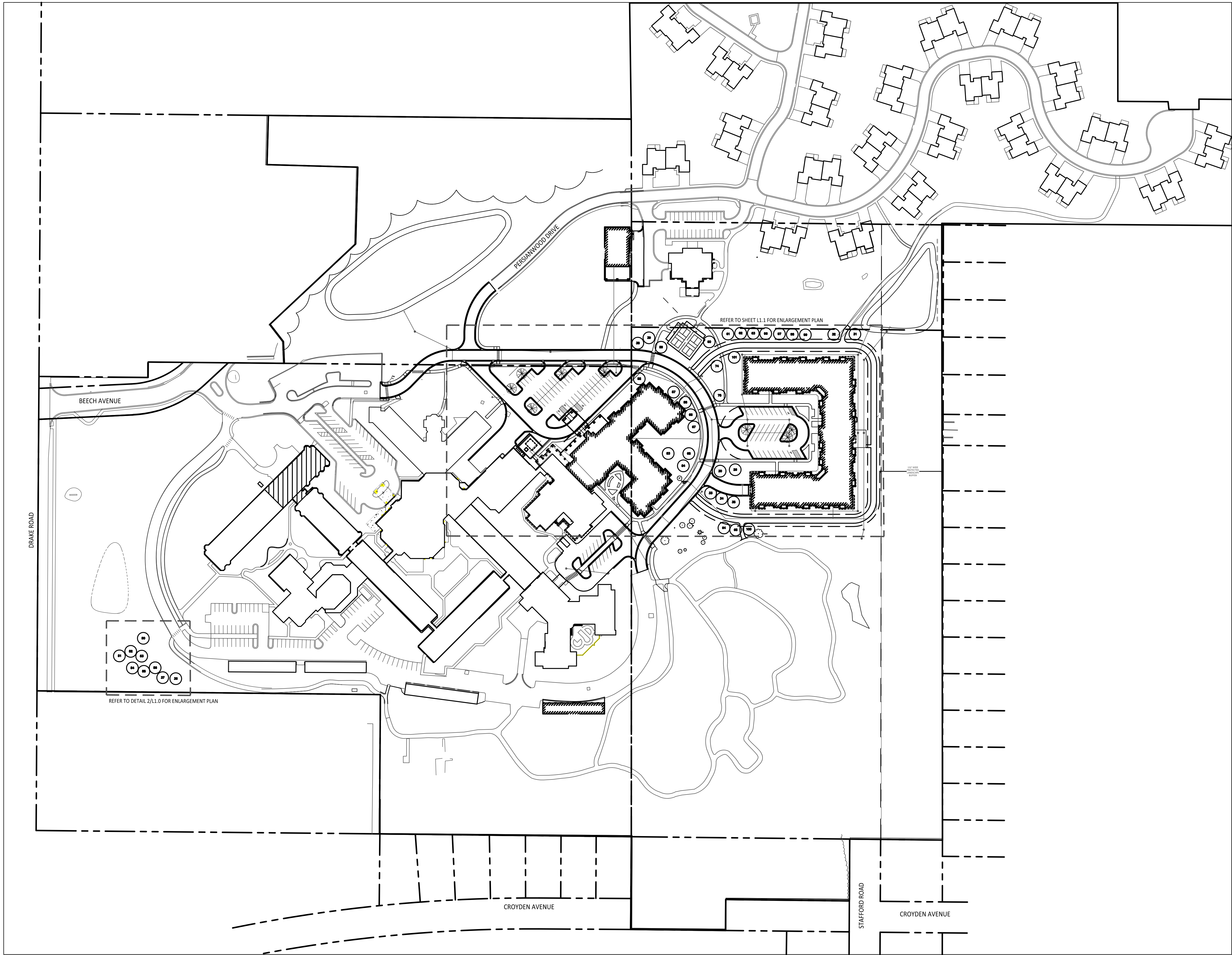
ISSUES & REVISIONS	DATE
NFP REVIEW	10-08-24
SD B2 SUBMISSION	09-27-24
NFP REVIEW	11-12-24

Protected Tree
Identification and
Removals Enlargement
Plan- Phase 1

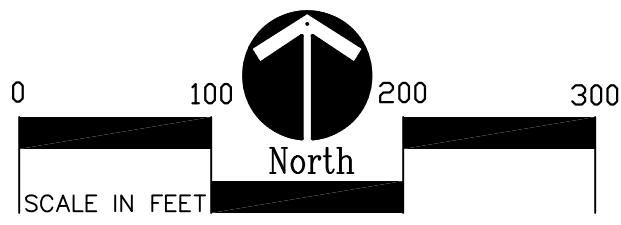
COMMISSION NO:	41722-23214
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET

L1.6



1 Overall Protected Tree Replacement Plan
Scale: 1" = 100'-0"



PROTECTED TREE REPLACEMENT LEGEND:

TREE REQUIRED BY CITY OF KALAMAZOO ZONING ORDINANCE

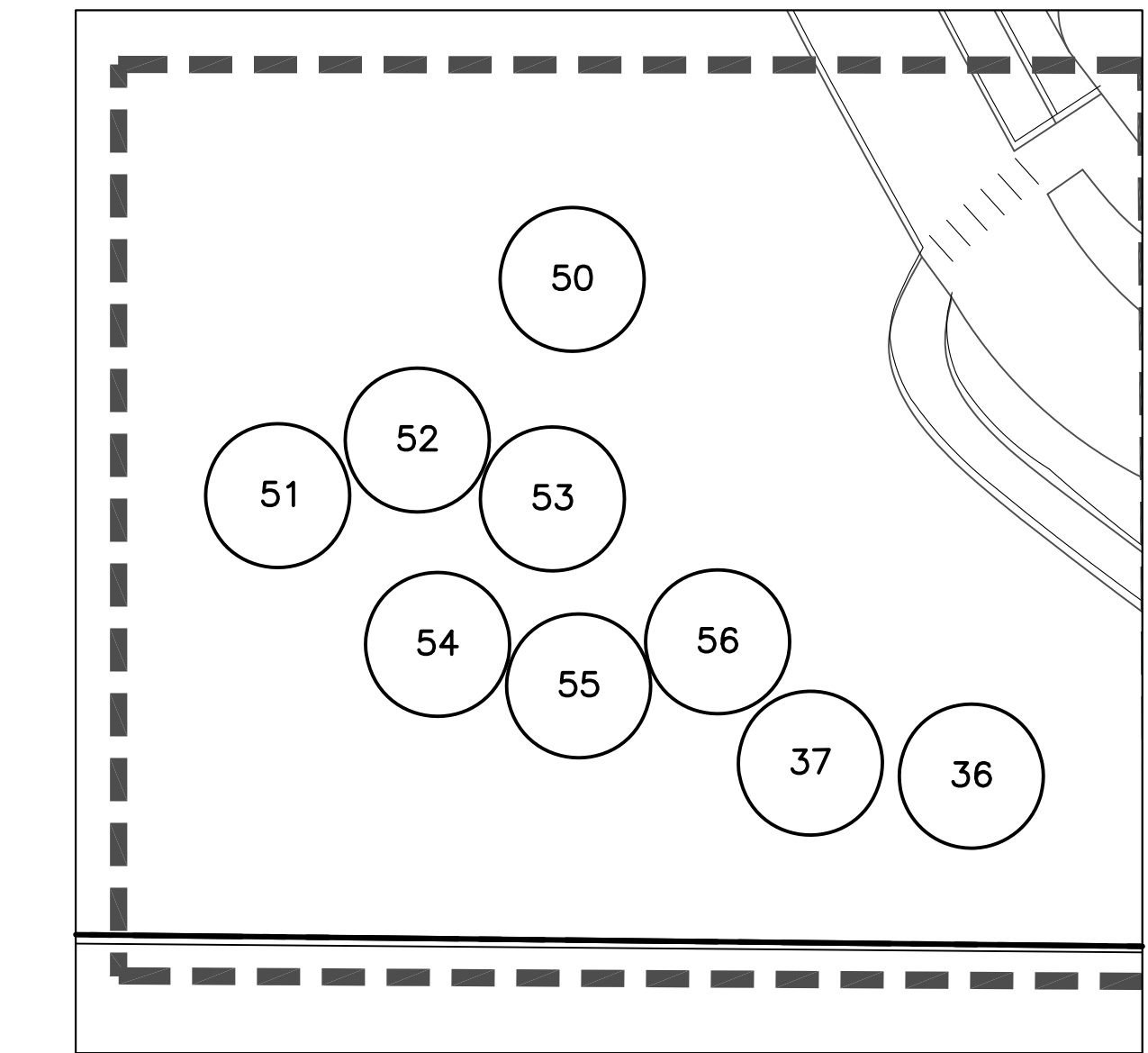
NFP REPLACEMENT TREE. NOTE: TREE NUMBER CORRELATES WITH REMOVED PROTECTED TREE NUMBER; REFER TO SUBMITTED SPREADSHEET

PROPERTY LINE

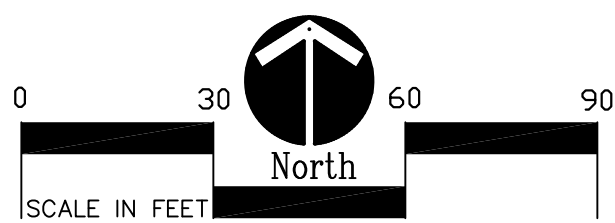
PLAN ENLARGEMENT LINE

PROTECTED TREE REPLACEMENT GENERAL NOTES:

1. SURVEY OF EXISTING CONDITIONS PROVIDED BY DRIESENGA & ASSOCIATES, INC., 552 SOUTH 8TH STREET, KALAMAZOO, MI 49009, (269)544-1455.
2. PROTECTED TREE LOCATION AND IDENTIFICATION AS PROVIDED BY DAVEY RESOURCE GROUP, 5641 WEST 73RD STREET, INDIANAPOLIS, IN 46278, (317)558-8545.
3. REFER TO SUBMITTED SPREADSHEET FROM OCBA & DAVEY RESOURCE GROUP FOR ADDITIONAL PROTECTED TREE INFORMATION.



2 Protected Tree Replacement SW Enlargement Plan
Scale: 1" = 30'-0"



NOT FOR CONSTRUCTION



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B2 TITLEBLOCK

ISSUES & REVISIONS	DATE
NFP REVIEW	10-08-24
SD B2 SUBMISSION	09-27-24
NFP REVIEW	11-12-24

Overall Protected Tree Replacement Plan

COMMISSION NO:	41722-23214
DRAWN BY:	Author
CHECKED BY:	Checker

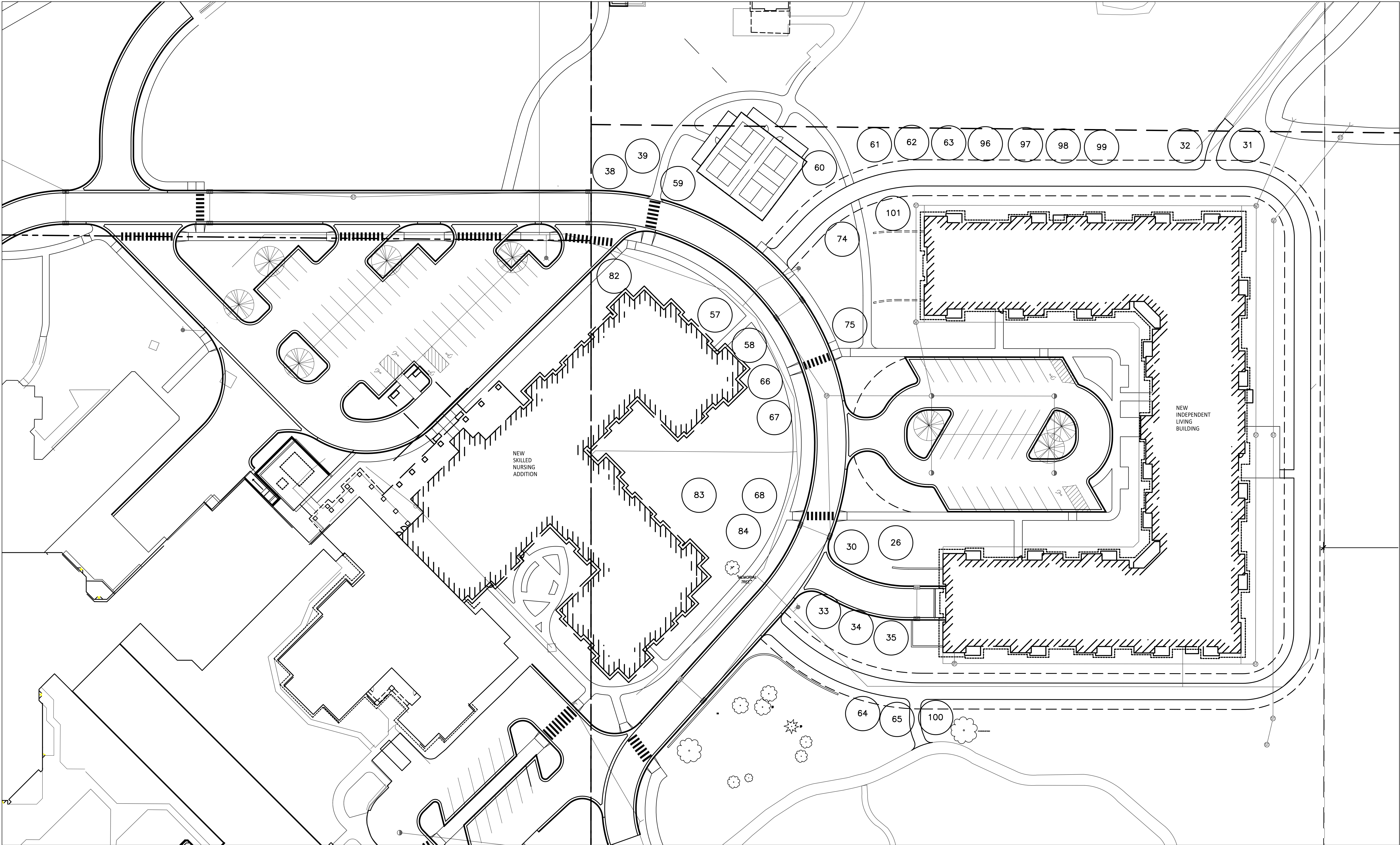
SHEET

L1.7

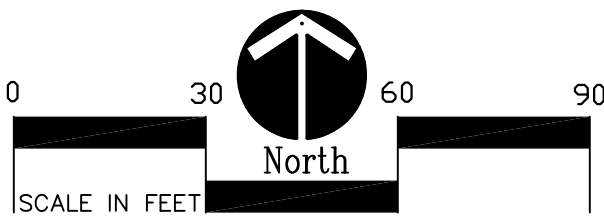


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1 Protected Tree Replacement Building Enlargement Plan
Scale: 1" = 30'-0"



PROTECTED TREE REPLACEMENT LEGEND:

TREE REQUIRED BY CITY OF KALAMAZOO ZONING ORDINANCE

NFP REPLACEMENT TREE. NOTE: TREE NUMBER CORRELATES WITH REMOVED PROTECTED TREE NUMBER; REFER TO SUBMITTED SPREADSHEET

PROPERTY LINE

- NATURAL FEATUES PROTECTION OVERLAY REPLACEMENT INFORMATION:**
- QUANTITY OF PROTECTED TREE REPLACEMENTS TOTAL FOR PROJECT: (41) TREES
 - QUANTITY OF PROTECTED TREE REPLACEMENTS ON 1400 NORTH DRAKE ROAD: (9) TREES
 - QUANTITY OF PROTECTED TREE REPLACEMENTS ON 1402 NORTH DRAKE ROAD: (32) TREES
 - QUANTITY OF PROTECTED TREE REPLACEMENTS ON 4300 BEECH AVENUE: (0) TREES

- PROTECTED TREE REPLACEMENT GENERAL NOTES:**
- SURVEY OF EXISTING CONDITIONS PROVIDED BY DRIESENGA & ASSOCIATES, INC., 552 SOUTH 8TH STREET, KALAMAZOO, MI 49009, (269)544-1455.
 - PROTECTED TREE LOCATION AND IDENTIFICATION AS PROVIDED BY DAVEY RESOURCE GROUP, 5641 WEST 73RD STREET, INDIANAPOLIS, IN 46278, (317)558-8545.
 - REFER TO SUBMITTED SPREADSHEET FROM OCBA & DAVEY RESOURCE GROUP FOR ADDITIONAL PROTECTED TREE INFORMATION.

OCBA LANDSCAPE ARCHITECTS

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B2 TITLEBLOCK	
ISSUES & REVISIONS	DATE
NFP REVIEW	10-08-24
SD B2 SUBMISSION	09-27-24
NFP REVIEW	11-12-24

Protected Tree Replacement Enlargement Plan

COMMISSION NO:	41722-23214
DRAWN BY:	Author
CHECKED BY:	Checker

SHEET

L1.8



NFP Review Board Staff Report

City of Kalamazoo

TO: The Natural Features Protection Review Board

FROM: Nolan Bergstrom, NFP Board Liaison

DATE: November 26, 2024

SUBJECT: NFP Site Plan for Site Improvements and Building Addition at 3301 Tech Circle Drive

RECOMMENDATION:

It is recommended the Natural Features Protection (NFP) Review Board approve the NFP Site Plan for Site Improvements and a Building Addition at 3301 Tech Circle Drive conditioned upon approval by the Site Plan Review Committee and inclusion of full tree protection fencing specs on the engineering plansets. Full Site Plan approval is required prior to the issuing of permits.

BACKGROUND:

Currently, the property is owned by Campus Drive Associates, LLC and occupied by SME or Soil and Materials Engineers, Inc. and located in Kalamazoo at 3301 Tech Circle Drive in the Colony Farm Neighborhood. This property is within the [Western Michigan University Business Technology and Research Park](#). The parcel is zoned CBTR or Commercial, Business, Technology, and Research. Per the Zoning Ordinance ([§ A-2.3H](#)) the CBTR Zone Districts' purpose is:

1. Supporting economic development that is an asset to the community, neighbors and owners;
2. Promoting and maintaining desirable development activities in a setting that is in harmony with the surrounding area;
3. Preserving natural features and historic resources;
4. Maintaining and enhancing surface and ground water quality, and
5. Promoting architecturally attractive buildings and structures.

b) The CBTR district is established to provide a high-quality working environment for research and development institutions, offices, and certain specialized production and assembly establishments along with other special uses, all of a nonnuisance type. The nature, scale, and function of such uses will be limited and regulated to ensure that they pose no significant or unusual risk to the public health, safety, and welfare; generate a minimum of

noise, heat, glare, odor, dust, vibration, or other nuisances; do not emit harmful radiation or pollution to the air, water, or ground; and create a minimum of traffic congestion, or any other safety hazards.

An existing office building is located at 3301 Tech Circle Drive and the applicant is proposing to construct an addition to the existing office building consisting of a 5,124 SF pre-engineered metal building, additional parking, sidewalks, and storm water management structures to account for the additional impervious area.

The applicant attended a Pre-Site Plan meeting on October 30th, 2024. They will be attending the Planning Commission meeting in December and will move onto the Site Plan Review process following the Planning Commission Meeting. The project will also require Western Design District approval through Western Michigan University.

FINDINGS:

The applicant's design team evaluated the site to identify all protected natural features on the property. The site was placed in the NFP Overlay District due to the proximity to Asylum Lake, a preserve. There are also small stands of trees on the property.

Natural Features:

1. **Primary Natural Feature: Adjacent to a Preserve**
2. **Secondary Natural Feature: n/a**
3. **Tertiary Natural Feature: n/a**

Since the project is located within the NFP Overlay District, NFP applies across the site and requires the following NFP Site Development Standards to be considered unless otherwise noted:

- **Protected Tree Standard (§ 50-6.2F)** – A single triple-trunked Beech tree is the only protected tree slated for removal. It's proximity to the existing building makes any addition to the building interfere with the root ball and makes its survival improbable. The applicant is proposing planting two Beech trees on-site as replacement trees. Tree protection fencing spec was submitted alongside locations of protection fencing. The applicant will have a callout on the final construction plans showcasing how the fencing will meet NFP Requirements. ([§ 50-6.2F](#)).

- **Woodland Protection Standard (§ 50-6.2G)** – There is 30% existing woodland coverage or 44,877 square feet with 0.03% proposed to be removed or 1,809 square feet. They are meeting the woodland preservation percentage preserving 95% of existing woodland where the standard indicates at least preserving 75% [§ 50-6.2G\(3\)\(a\)](#)

Site Development Standards ([§ 50-6.2J](#))

- **Plant Selection** – Additional landscape and screening activities apply within the NFP Overlay District. Replacement Trees that are indicated on the NFP Plans are native species and are listed as acceptable replacement trees in the NFP Ordinance ([§ 50-6.2F\(4\)\(a\)](#) and Table 6.2-5). The landscaping planting list is also provided. Final determination on the planting list is within the NFP Boards authority ([§ 50-6.2J\(4\)\(b\)](#)). One species of shrub (viburnum trilobum) is not invasive but could be problematic due to an invasive species of beetle which feeds on the shrub. ([MSU Extension](#))
- **Lighting Development Standard** - Internally illuminated, automatic changeable copy, and blinking and/or flashing lighted signs are not permitted within 300 feet of a preserve. ([§ 50-6.2J\(5\)](#)). The applicant has stated that existing signage will not change.
- **Stormwater Management (§ 50-6.2J(6))** – Applies and will be managed by the Stormwater Reviewer during the Site Plan Review Process.

SUPPLEMENTAL SITE PLAN REVIEW APPLICATION FOR NATURAL FEATURES PROTECTION

For projects located within the Natural Features Protection (NFP) Overlay District, separate site plan approval is required before the full site plan can be approved. This review is done either by the NFP Review Board or administratively by staff to verify conformance with NFP Overlay District zoning code ([Chapter 50, NFP](#)). The NFP Overlay District map can be found on the [City's GIS mapping website](#) (select "Planning & Zoning" layer and make sure "NFP Overlay" is clicked on).

The NFP Supplemental Application must be completed and submitted with the regular Site Plan Review Application and checklists. The NFP Review Board meets monthly to review and approve applications. City staff can assist in scheduling a project at an upcoming NFP Review Board meeting. While the review process offers some flexibility, projects often seek NFP approval between the Pre-Application meeting and regular Site Plan Review meeting.

Section I. Project & Applicant Information

All projects must complete Section I. If the project will not impact any natural features on the site, and does not trigger additional stormwater controls or treatment, applicants should sign and submit Section I only. Staff will review and determine if the application can be approved administratively.

Section II. Natural Features Checklist & Attachments

For projects proposing improvements or changes to the site that impact natural features, change grading, or involve work in or near NFP setbacks, Sections II and III must be completed. Section II identifies which natural features are present and standards apply. Section III will assist you in determining what documentation and additional plan sets are needed for a complete application. Once a complete application is submitted to the City, the project will be scheduled for the next available NFP Review Board meeting and an application fee of \$110 will apply.

QUESTIONS

Contact the NFP staff liaison with any questions about your NFP Supplemental Application at (269) 337-8045 or development@kalamazoocity.org.

SECTION I. PROJECT AND APPLICANT INFORMATION

Please provide all of the project and applicant information requested below. Include the date of your regular site plan review meeting, if one has been scheduled or already taken place.

APPLICANT NAME:	Thomas Carpenter (first) (last)		
APPLICANT ADDRESS:	5725 Venture Park Dr. (number) (street name)		
	Kalamazoo	MI	49009 (city) (state) (Zip)
APPLICANT EMAIL:	thom@arengineeringllc.com	PHONE:	(704)309-6841
PARCEL ADDRESS/PIN:	3301 Tech Cir, Kalamazoo, MI 49008 / 06-31-104-022		
PROJECT DESCRIPTION:	The project includes the addition of a 5,124 SF pre-engineered metal building, additional parking, sidewalks, and storm water management structures to account for the additional impervious area.		
OWNER NAME: <i>(if different)</i>	SME Real Estate Holding (first) (last)		
HAS REGULAR SITE PLAN REVIEW MEETING OCCURRED?	☐ Yes ☒ No	DATE OF SITE PLAN REVIEW MEETING:	10/30/2024

NFP APPLICATION REQUIRED?

Is the project limited to interior work <u>only</u> with no exterior ground changes or increase in impervious coverage?	
☐ YES	If YES, Sections II & III of this application are not needed. Sign below & submit only this page with your site plan review or permit application.
☒ NO	If NO, proceed to Sections II & III. Do NOT sign below.

By signing below, the applicant certifies that no natural features will be disturbed as part of this project.

Print name: Only sign if No is selected above _____

Signature: _____ Date: _____

SECTION II. NFP SITE PLAN CHECKLIST & ATTACHMENTS

Use the checklist to determine what documentation and additional plans sets must be prepared for this application. All plan sets, maps, and additional information must be attached to this application to be considered complete. If you checked “no” to certain NFP items in questions 1-7 in Section II, record “N/A” on the checklist.

REQUIRED: NFP SITE PLAN SET

All applications must include separate sheets in the plan set showing the following:

1. Existing conditions map showing an inventory of all protected natural features and any associated natural features setbacks with distances (use checklist below)
2. Future development plan overlaid onto the existing conditions and natural features inventory; indicate where and to what extent protected natural features will be disturbed, removed, altered, or impacted in any way and which natural features will be protected during and after construction

Future development plan must include:

- **Boundary with extent of re-grading**, construction, or site preparation activities
 - **All existing and new building footprints** (mark whether existing buildings will be removed or maintained)
 - **New and existing parking** surfaces or structures, sidewalks, trails, and other impervious or semi-impervious surfaces including decks, patios, viewing platforms, etc. (list proposed surface materials and whether existing surfaces will be maintained or removed)
 - **Proposed location of fencing and screening**, whether permanent, natural, or construction silt fencing and/or natural feature protection fencing (with specifications)
 - **Stormwater facilities** showing boundary of ground disturbance, grading or construction activities, if located near natural features
 - **New utilities** and/or relocation of existing utilities showing corridors that could impact natural features
3. Landscape plan detailing the minimum elements needed to meet zoning code requirements and all proposed additional landscaping elements or features (include table with species name)
 4. Any additional plans or tables detailing which natural features will be restored or replaced after construction, if required (e.g., riparian buffer installation or slope restoration plan may be required under certain circumstances when the ordinance allows changes within these protected areas)

WETLANDS	Present:	Included on page #:	Notes:
Mark existing wetland boundaries with notes about wetland conditions. <i>Attach a copy of EGLE permit or permit application for work impacting Part 303 wetlands regulated by the State.</i>	☐ Yes ☒ No	if yes, include	if yes, include
WATER RESOURCES	Present:	Included on page #:	Notes:
Mark the location of all water resources on the parcel and those within 25 feet of the parcel boundaries. <i>Attach a copy of EGLE permit or permit application for work impacting Part 301 waters regulated by the State.</i>	☐ Yes ☒ No	if yes, include	if yes, include
Show required setbacks with dimensions; describe existing or future ground cover within riparian setbacks.		if yes, include	if yes, include
TREES	Present:	Included on page #:	Notes:
Mark the location of all “protected” trees that are proposed to be removed and those that will remain and require protection fencing.	☒ Yes ☐ No	C1.0	One Triple trunked Beech
Include a table with species name, size (DBH and height), and condition of “protected” trees that are proposed to be removed and list replacement tree information.		C1.0	See label
Provide a note with justification for removal.		C1.0	Building addition
WOODLANDS	Present:	Included on page #:	Notes:
Delineate the boundary of all woodlands on the parcel noting where woodlands likely extend onto adjacent parcels.	☒ Yes ☐ No	C1.0	Labeled on sheet
Mark all areas of woodland that will be retained and removed (i.e., cleared).		C1.0	Hatched removal area
Include a table or note with the required preservation ratio (based on existing woodland coverage), percentage proposed to be removed, and rationale for selecting area for removal.		C1.0	See Note
SLOPES	Present:	Included on page #:	Notes:
Provide a slope analysis that shows the boundaries of all “protected” slopes and mark the required setback(s).	☐ Yes ☒ No	if yes, include	if yes, include
Include a note with co-existing feature that triggers “protected” slope status (e.g., wooded, within 500 ft of water resource).		if yes, include	if yes, include

NATURAL HERITAGE AREAS	Present:	
Is an MNFI* rare species review required? <i>Parcels can be pre-screened using the City's GIS website, click on the "Planning & Zoning" layer and "NFP Overlay" layer; then click on parcel and see MNFI status.</i>	☐ Yes ☒ No	
If an MNFI rare species review is required, attach the resulting report.		

*Michigan Natural Features Inventory (MNFI) Rare Species Reviews can be requested at:

<https://mnfi.anr.msu.edu/services/rare-species-reviews>

ACCEPTED DATA SOURCES & ANALYSIS

All data sources, analysis, and professionals are subject to approval by the City Planner according to Chapter 50-6.2. The following guidance may be useful when selecting a professional or methodology for inventorying natural features.

1. WETLANDS

- Wetland delineation report performed by a qualified consultant including a map denoting delineated boundary of all wetlands, OR
- Most recent US Fish & Wildlife Service's National Wetlands Inventory boundary (State of Michigan mapper: <https://www.michigan.gov/egle/about/organization/water-resources/wetlands/inventory-maps>)

2. PROTECTED TREE IDENTIFICATION

- May be performed by an qualified professional (including ISA Certified Arborist or similar); a full tree inventory is not required if all necessary information can be obtained and communicated using another survey, inventory, or site assessment methodology

3. WOODLANDS

- A qualified professional, such as an ISA Certified Arborist, landscape architect, or license engineer may perform a desktop analysis or field survey to delineate woodlands
- When a variances is being requests to remove more woodland cover than is allowed under the preservation ration, the following is required
 - Woodland assessment report with determination that the Trees per Area (TPA) meets the NFP definition of a woodland and mapped delineation of woodland
 - Woodland assessment report with a determination that Basal Area is equivalent to the TPA in the NFP definition and meets definition of a woodland and mapped delineation of woodland
 - In addition to determination of whether stand of trees meets NFP definition of a woodland, assessment must include information on general species diversity,

composition of species, any notable trees (either notable species or size), invasive species composition, and general health and age observations of tree stand

4. PROTECTED SLOPES

- Topographic survey performed in the field by a qualified consultant to delineate areas of a slope with grade of 20% or greater
- Desktop analysis performed using U.S. Geological Survey digital topographic maps, LIDAR, digital elevation map, or equivalent data showing 2' intervals or finer resolution, performed by a qualified consultant or engineer

Asylum Lake Preserve

Parkview Avenue

Parkview Avenue

3301 Tech Circle Drive

Campus Drive



Current Time:
11/21/2024 10:32 AM



200

Feet

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

SME ADDITION

3301 TECH CIR KALAMAZOO 49008
SECTION S31, T.T2S, R.R11W
CITY OF KALAMAZOO
KALAMAZOO COUNTY, MI

SITE DEVELOPMENT PLANS
NOVEMBER 7, 2024

ISSUED FOR: SITE PLAN REVIEW

SHEET INDEX

No.	SHEET TITLE
T1.0	TITLE SHEET
C1.0	EX CONDITIONS - DEMO PLAN
C2.0	SITE LAYOUT
C3.0	UTILITY PLAN
C4.0	GRADING - SESC PLAN
C5.0	DETAILS
L1.0	LANDSCAPE PLAN

REVISIONS

No.	ISSUED FOR:	DATE:	BY:
0	OWNER REVIEW	09/16/24	sp
1	SITE PLAN REVIEW	10/30/24	sp
2	CITY COMMENTS	11/07/24	sp
3	.	.	.
4	.	.	.
5	.	.	.

OWNERS:

SME REAL ESTATE HOLDINGS, INC
43980 PLYMOUTH OAKS BLVD
PLYMOUTH, MI 48170

DEVELOPER:

GLAS ASSOCIATES
6339 STADIUM DRIVE
KALAMAZOO, MI 49009
TEL. (269) 353-7737

CIVIL ENGINEER:

AR ENGINEERING, LLC.
5725 VENTURE PARK DRIVE, SUITE A
KALAMAZOO, MI 49009
TEL. (269) 250-5991 FAX. (866) 569-0604

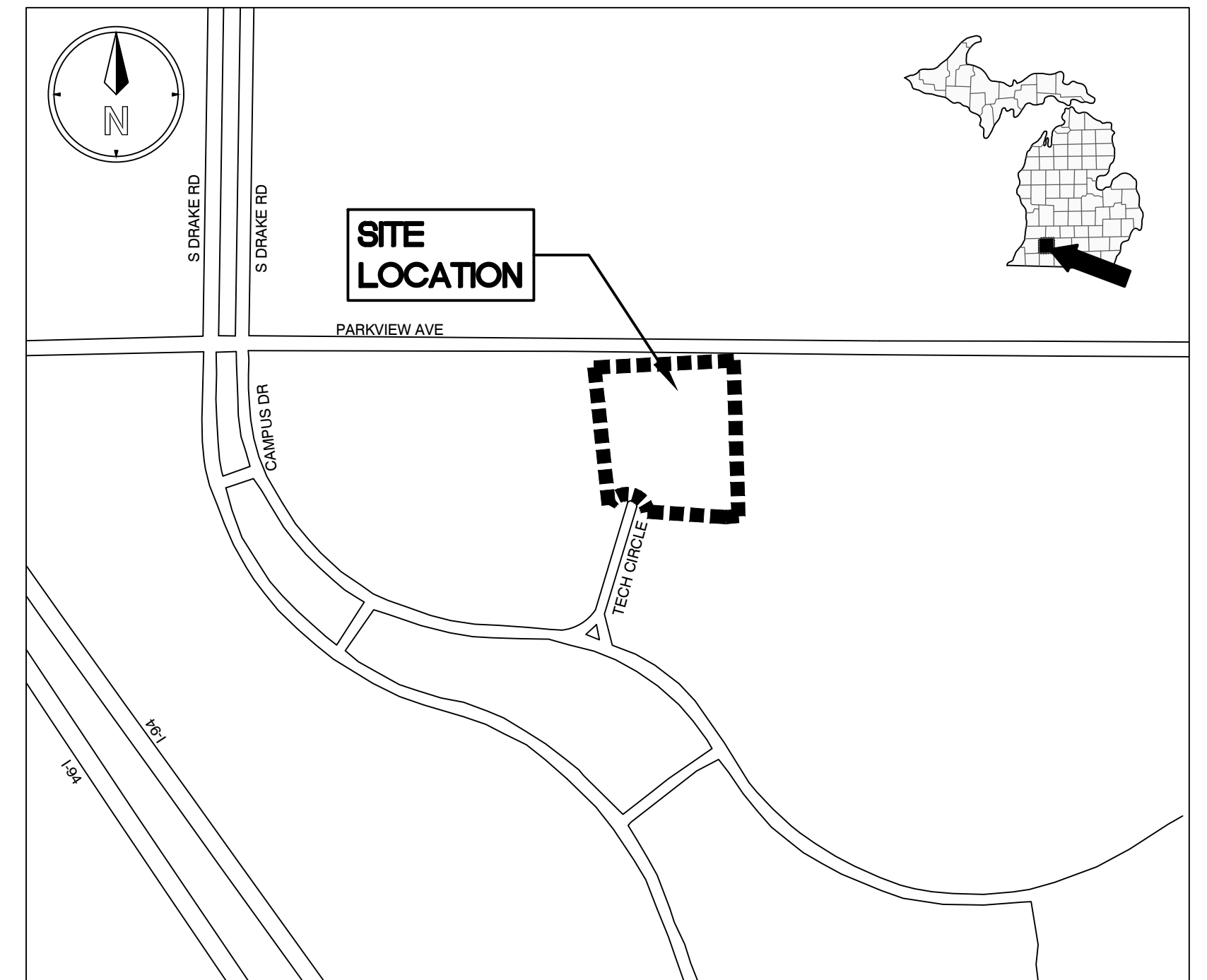


-----, P.E.

DATE

LOCATION MAP

NOT TO SCALE



42°15'33.50"N 85°38'39.19"W

LEGAL DESCRIPTION

PARCEL #: 06-31-104-022

WARRANTY DEED, KALAMAZOO COUNTY RECORDS, DOCUMENT NO. 2005-053272:

PROPERTY LOCATED IN THE CITY OF KALAMAZOO, COUNTY OF KALAMAZOO AND STATE OF MICHIGAN, AND DESCRIBED AS FOLLOWS:

UNIT 22 OF WESTERN MICHIGAN BUSINESS, TECHNOLOGY AND RESEARCH PARK, ACCORDING TO THE MASTER DEED RECORDED AT DOCKET NO. 2001-018722, THE FIRST AMENDMENT TO MASTER DEED RECORDED IN DOCKET NO. 2002-003549, THE SECOND AMENDMENT TO MASTER DEED RECORDED IN DOCKET NO. 2003-051555, AND THE THIRD AMENDMENT TO MASTER DEED RECORDED IN DOCKET NO. 2005-022027, DESIGNATED AS KALAMAZOO COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 134, TOGETHER WITH RIGHTS IN COMMON ELEMENTS AS SET FORTH IN THE MASTER DEED AND AS DESCRIBED IN ACT 59 OF THE PUBLIC ACTS OF 1978, AND AMENDMENTS THERETO.

UTILITY CONTACTS

CABLE	CHARTER COMMUNICATIONS 5095 CENTURY AVE; SUITE A KALAMAZOO, MI (888) 406-7063	TELEPHONE	CHARTER COMMUNICATIONS 5095 CENTURY AVE; SUITE A KALAMAZOO, MI (888) 406-7063
WATER	CITY OF KALAMAZOO WATER & SEWER 415 E STOCKBRIDGE AVE KALAMAZOO, MI 49001 (269) 337-8000	SEWER	CITY OF KALAMAZOO WATER & SEWER 415 E STOCKBRIDGE AVE KALAMAZOO, MI 49001 (269) 337-8000
GAS	CONSUMERS ENERGY 2500 EAST CORK ST KALAMAZOO, MI 49001 (800) 477-5050	ELECTRIC	CONSUMERS ENERGY 2500 EAST CORK ST KALAMAZOO, MI 49001 (800) 477-5050
		INDIANA	811

DEMOLITION NOTES

- ALL WORK SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL LAWS, RULES AND REGULATIONS IN FORCE AT TIME OF CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, PERMIT COSTS, TAP FEES, METER DEPOSITS, PERMANENT UTILITY APPLICATIONS, BONDS, AND OTHER FEES REQUIRED FOR PROPOSED WORK. THIS SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO THOSE REQUIRED BY THE CITY OF KALAMAZOO, MDOT AND KALAMAZOO COUNTY.
- CONTACT "MISS DIG 811" AT 1-800-482-7171 FOR LOCATION OF UNDERGROUND UTILITIES A MINIMUM OF 48 HOURS BEFORE COMMENCING EXCAVATION WORK. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO ARE NOT PART OF THE "811" ALERT SYSTEM. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.
- DEMOLISH & REMOVE ALL EXISTING SITE FEATURES AS REQUIRED.
- ALL SOIL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO DEMOLITION.
- ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS AND GEOTECHNICAL REPORT.
- ALL EXISTING ELEVATIONS ARE TO BE VERIFIED AND ACCEPTED AS SHOWN PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID TRACKING SOIL ONTO ADJACENT ROADWAYS. CONTRACTOR SHALL SWEEP IMMEDIATELY IF OCCURS.
- ANY DISTURBED AREA WHICH WILL BE LEFT UNWORKED 15 DAYS OR LONGER MUST BE SEED TO ESTABLISH VEGETATION FOR TEMPORARY STABILIZATION. BASINS TO BE SEED AND MULCH BLANKETS APPLIED IMMEDIATELY TO PROVIDE A STABLE BASE AND AVOID EXCESSIVE EROSION.
- REVIEW ALL THE REMOVALS AND PROTECTION WITH OWNER PRIOR TO COMMENCING CONSTRUCTION. INSTALL TEMPORARY SNOW FENCE AROUND ALL TREES REQUIRING PROTECTION. SNOW FENCE SHALL BE PLACED AT EDGE OF DRIP LINE.
- SAWCUT ALL CURB, SIDEWALK, AND PAVEMENTS PRIOR TO REMOVAL. ADDITIONAL SAWCUT MAY BE NECESSARY PRIOR TO REPLACEMENT TO ENSURE CLEAN EDGE.
- ALL REMOVALS SHALL BE TAKEN OFF-SITE AND DISPOSED OF PROPERLY. NO STOCKPILE OR BURNING OF DEBRIS IS ALLOWED.
- ALL REMOVALS SHALL BE TO THE LIMITS INDICATED ABOVE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. UNAUTHORIZED REMOVALS AND SUBSEQUENT REPLACEMENT SHALL BE AT THE CONTRACTOR'S EXPENSE.
- REMOVE, STORE, AND RESET ANY EXISTING SIGNS AS DIRECTED BY THE ENGINEER/OWNER.
- REMOVE ALL TREES TO THE CLEARING LIMITS AS SHOWN. REMOVE ALL EXISTING TREES, STUMPS AND BRUSH FROM THE SITE AS NECESSARY TO CONSTRUCT THE IMPROVEMENTS.
- THE CONTRACTOR SHALL DEMOLISH AND REMOVE ANY ITEMS REMAINING FROM THE EXISTING BUILDING, IN ITS ENTIRETY, INCLUDING WALLS, FOUNDATIONS AND FOOTINGS. ALL BUILDING DRAINS AND UTILITY LEADS SHALL BE LOCATED AND PROPERLY PLUGGED. UTILITY LEAD WORK SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY.
- BACKFILL EXCAVATED AREAS WITH CLEAN GRANULAR FILL COMPACTED TO 95% OF THE MATERIAL UNIT WEIGHT BY MODIFIED PROCTOR.
- CONTROL SHALL BE MAINTAINED OVER THE SITE AND OPERATION TO ELIMINATE HAZARDS TO THE PUBLIC. NAILS OR OTHER TIRE PUNCTURING ITEMS SHALL NOT BE DROPPED ON STREETS, ALLEYS AND ADJACENT PROPERTY. PUBLIC STREETS, CURBS AND SIDEWALKS SHALL BE PROTECTED FROM DAMAGE. THE PERSON ENGAGED IN THE DEMOLITION WORK SHALL BE LIABLE FOR ANY AND ALL DAMAGE TO CURBS, STREETS, SIDEWALKS AND OTHER PUBLIC OR PRIVATE PROPERTY AND FOR ANY BODILY INJURY OCCURRING AS A RESULT OF THE DEMOLITION WORK.

LEGEND

- PAVEMENT REMOVAL
- SAWCUT
- TREE REMOVAL
- REMOVE
- PROTECT
- LIMITS OF CONSTRUCTION
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- TREE PROTECTION FENCE

STORM STRUCTURE INFORMATION

CB-1, 2' CONC. STRUCTURE
RIM = 935.03'
ESE 12° CPE (INV. = 932.08')
SUMP = 931.78'

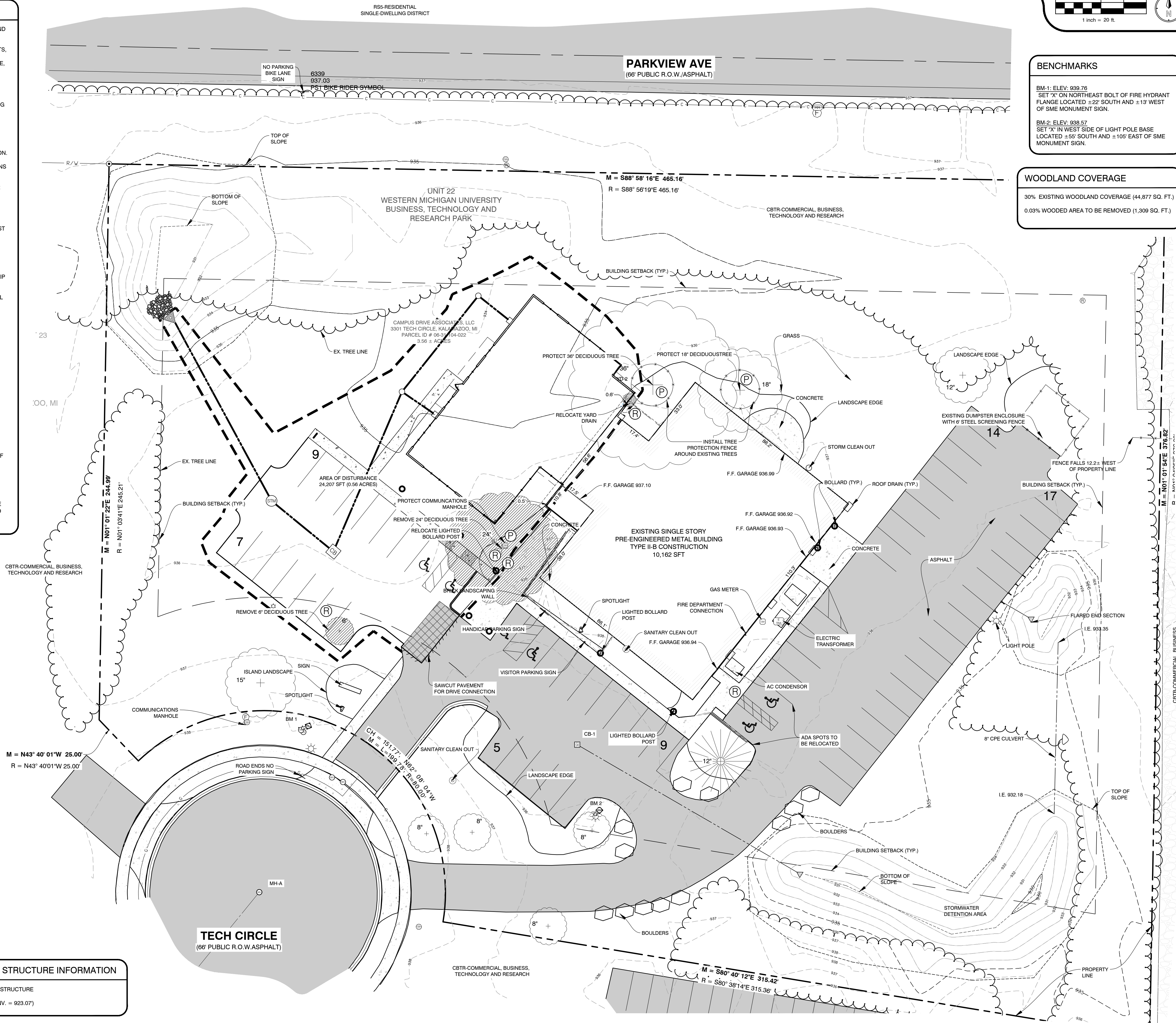
YD-2
RIM = 936.69
NO PIPES VISIBLE



ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA. FIELD WORK PERFORMED BY: AR ENGINEERING

SANITARY STRUCTURE INFORMATION

MH-A, 2' CONC. STRUCTURE
RIM = 938.82'
SSW 12° PVC (INV. = 923.07')



BENCHMARKS

BM-1: ELEV. 939.76
SET "X" ON NORTHEAST BOLT OF FIRE HYDRANT FLANGE LOCATED ±22' SOUTH AND ±13' WEST OF SME MONUMENT SIGN.

BM-2: ELEV. 938.57
SET "X" IN WEST SIDE OF LIGHT POLE BASE LOCATED ±55' SOUTH AND ±105' EAST OF SME MONUMENT SIGN.

WOODLAND COVERAGE

30% EXISTING WOODLAND COVERAGE (44,877 SQ. FT.)
0.03% WOODED AREA TO BE REMOVED (1,309 SQ. FT.)

PLANS PREPARED BY:



DRAWN: SAP
CHECKED: TC

No.	ISSUED FOR:	DATE	BY:
0	OWNER REVIEW	09/16/24	SAP
1	SITE PLAN REVIEW	10/30/24	SAP
2	CITY COMMENTS	11/07/24	SAP
3			
4			

EXISTING CONDITIONS AND DEMO

GLAS ASSOCIATES
3301 TECH CIRCLE DR
KALAMAZOO, MI
SECTION 31, T2S, R11W.

PROJECT:
CLIENT:
SITE ADDRESS:
SITE SECTION:

JOB NUMBER
24116002

DATE
11/07/2024

SHEET NUMBER
C1.0

SITE DATA

1. PROPERTY INFORMATION:
PARCEL #S: 06-31-104-022
SITE AREA: 149,348 SF (3.42 AC)
- OWNER: SME REAL ESTATE HOLDINGS, INC
43980 PLYMOUTH OAKS BLVD
PLYMOUTH, MI 48170
- DEVELOPER: GLAS ASSOCIATES
ADAM HARVEY
8339 STADIUM DRIVE
KALAMAZOO, MI 49009
2. ZONING:
PROPERTY CURRENTLY ZONED:
CBTR. COMMERCIAL, BUSINESS,
TECHNOLOGY AND RESEARCH
- ABUTTING PROPERTY CURRENTLY ZONED:
NORTH: RS5-RESIDENTIAL SINGLE-DWELLING
DISTRICT
SOUTH: CBTR- COMMERCIAL, BUSINESS,
TECHNOLOGY AND RESEARCH
EAST: CBTR- COMMERCIAL, BUSINESS,
TECHNOLOGY AND RESEARCH
WEST: CBTR- COMMERCIAL, BUSINESS,
TECHNOLOGY AND RESEARCH
3. SETBACKS
FRONT = 50'
SIDES = 25'
REAR = 50'
4. PARKING:
REQUIRED = (1) PARKING SPACE PER (300) SF.
OF GROSS FLOOR AREA
EXISTING = 45
PROPOSED 5,124/300 = 16
PROVIDED = STANDARD 10'X20' SPACES = 58
BARRIER FREE SPACES = 4
TOTAL PROVIDED = 62
5. BUILDING:
MAXIMUM HEIGHT: 50'
TOTAL AREA OF 15,324 SFT (SEE FLOOR PLAN AND
ELEVATIONS FOR MORE DETAIL)
MAXIMUM IMPERVIOUS COVERAGE: 70%
PROPOSED IMPERVIOUS COVERAGE: 34.6%
PROPOSED BUILDING COVERAGE: 10.4%
6. LOT:
MINIMUM LOT SIZE: N/A
MINIMUM LOT WIDTH: N/A
LOT SIZE: 149,348 SF (3.42 AC)
LOT DIMENSIONS: IRREGULAR
7. STORM WATER DETENTION REQUIRED:
STORM WATER MANAGEMENT SHALL BE IN
ACCORDANCE WITH CITY STORM WATER
GUIDELINES.

LEGEND

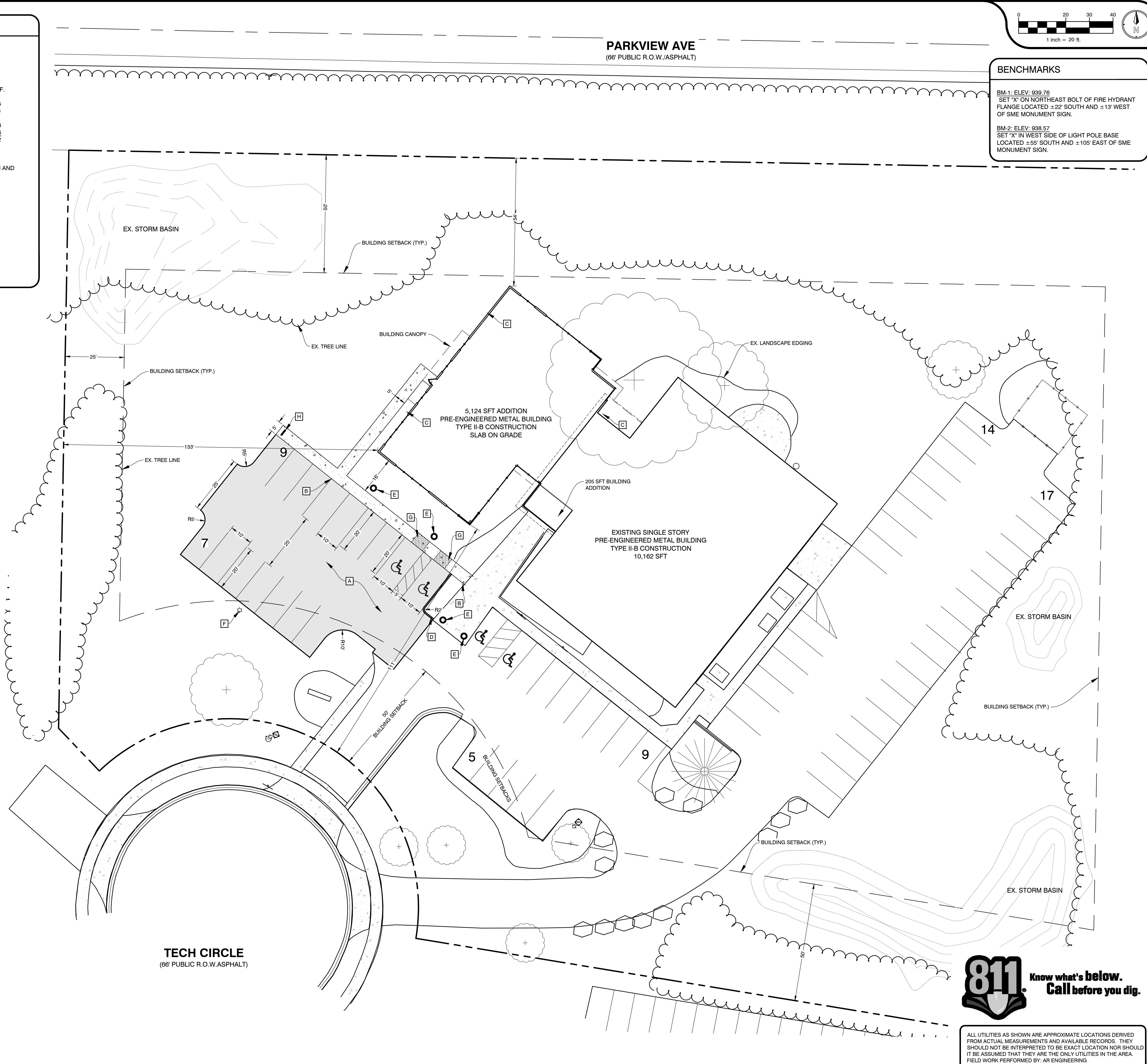
- ASPHALT PAVEMENT
(SEE DETAIL ON C5.0)
- CONCRETE PAVEMENT AND SIDEWALK

SITE PLAN NOTES

- A. ASPHALT PAVEMENT (SEE DETAIL SHEET C5.0)
- B. INTEGRAL CURB/WALK (SEE DETAIL SHEET C5.0).
- C. DOWNSPOUT (TYP)
- D. 6" BARRIER CURB - MDOT E2 (SEE DETAIL SHEET C5.0)
- E. LIGHTED BOLLARD POST (4) (SEE DETAIL SHEET C5.0)
- F. PROPOSED LIGHT POLE
- G. ADA RAMP (SEE DETAIL SHEET C5.0)
- H. BIKE RACK (SEE DETAIL SHEET C5.0)

GENERAL NOTES

1. DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.
2. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS BECOME APPARENT, THESE SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ ENGINEER PRIOR TO CONSTRUCTION OF ANYTHING AFFECTED SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
3. ALL CURB RADII AND DIMENSIONS ARE TO FACE OF CURB. CURB TO BE PROVIDED WHERE SHOWN AND INTEGRAL WITH SIDEWALK AT PAVING EDGE.
4. SLOPE GRADES UNIFORMLY BETWEEN ELEVATIONS SHOWN. NOMINAL GRADING, SLOPE SIDEWALKS AWAY FROM BUILDING AT 1/4" PER FOOT ON ENTRY WALK.



PLANS PREPARED BY:



DRAWN: SAP
CHECKED: TC

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1	SITE PLAN REVIEW	10/30/24	SAP
2	CITY COMMENTS	11/07/24	SAP
3			
4			

SITE LAYOUT
GLAS ASSOCIATES
3301 TECH CIRCLE DR
KALAMAZOO, MI
SECTION 31, T2S, R11W.

PROJECT:
CLIENT:
SITE ADDRESS:
SITE SECTION:

JOB NUMBER
24116002

DATE
11/07/2024

SHEET NUMBER
C2.0

SITE MATERIALS & CONSTRUCTION NOTES

- SOILS EXPOSED IN THE BASE OF ALL SATISFACTORY FOUNDATION EXCAVATIONS SHOULD BE PROTECTED AGAINST ANY DETRIMENTAL CHANGES IN CONDITION SUCH AS FROM DISTURBANCE, RAIN AND FREEZING. SURFACE RUN-OFF WATER SHOULD BE DRAINED AWAY FROM THE EXCAVATION AND NOT ALLOWED TO POND. IF POSSIBLE, ALL FOOTING CONCRETE SHOULD BE POURED THE SAME DAY THE EXCAVATION IS MADE. IF THIS IS NOT PRACTICAL, THE FOOTING EXCAVATIONS SHOULD BE ADEQUATELY PROTECTED.
- REMOVE ALL SUBGRADE GRADE MATERIAL THAT MAY BE SOFTENED BY RAINS, FREEZING, OR CONSTRUCTION TRAFFIC, ETC. AND REPLACE WITH COMPACTED GRANULAR FILL.
- STORM SEWER SHALL BE CORRUGATED HDPE PIPE WITH SMOOTH INTERIOR WALL. BY ADS OR EQUAL. LEACHING BASINS AND MANHOLES ARE TO BE REINFORCED CONCRETE WITH RIM AND SLOTTED GRATING (AS SHOWN). STORM SEWER & LEACHING BASINS ARE TO BE WRAPPED WITH FILTER FABRIC.
- PROVIDE MINIMUM 5' COVER FROM FINISHED GRADE FOR ALL SANITARY SEWER LINES. IF COVER CANNOT BE MAINTAINED DUE TO SITE CONDITIONS OR INVERT ELEVATIONS THE ENTIRE LENGTH OF THE EXTERIOR PIPE MUST BE PROTECTED WITH 2" RIGID INSULATION BOARD ON THE TOP AND SIDES.
- MAINTAIN 10 FOOT MINIMUM HORIZONTAL SEPARATION BETWEEN THE SEWER AND WATER MAIN UTILITIES. PROVIDE 18" MINIMUM VERTICAL SEPARATION WHERE UTILITIES CROSS.
- THE CONTRACTOR SHALL INSTALL A PEDESTRIAN FENCE AROUND ALL EXCAVATIONS TO BE LEFT OPEN OVERNIGHT AS REQUIRED.
- EXTERIOR CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 4000 PSI AND SHALL HAVE LIMESTONE AGGREGATE AND SHALL HAVE 4 - 6 % AIR ENTRAINMENT WITH A BROOM FINISH.
- EXPANSION JOINTS IN CONCRETE PAVEMENT AND WALLS SHALL BE 1/2" ASPHALT IMPREGNATED FULL DEPTH 40" O.C. MAXIMUM & AT SIDEWALK INTERSECTIONS. CRACK CONTROL SCORING AT SIDEWALK WIDTH DIMENSION AND @ 10'-0" O.C. IN DRIVES.

GENERAL NOTES

- ALL WORK SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL LAWS, RULES AND REGULATIONS IN FORCE AT TIME OF CONSTRUCTION.
- ELECTRICAL WORK SHALL BE PERFORMED BY A STATE OF MICHIGAN LICENSED ELECTRICIAN ACCORDING TO THE N.E.P.A. NATIONAL ELECTRICAL CODE AS MODIFIED BY THE STATE OF MICHIGAN. FURNISH AND INSTALL ALL MATERIALS AND LABOR TO PROVIDE A COMPLETE WORKING SYSTEM.
- ALL PLUMBING WORK SHALL BE PERFORMED BY A STATE OF MICHIGAN LICENSED PLUMBER ACCORDING TO THE INTERNATIONAL PLUMBING CODE AS MODIFIED BY THE STATE OF MICHIGAN AND LOCAL HEALTH DEPARTMENT. FURNISH AND INSTALL ALL MATERIALS AND LABOR TO PROVIDE A FULL WORKING SYSTEM.
- ALL MECHANICAL WORK SHALL BE PERFORMED ACCORDING TO THE INTERNATIONAL MECHANICAL CODE AS MODIFIED BY THE STATE OF MICHIGAN AND THE MICHIGAN ENERGY CODE. FURNISH AND INSTALL ALL MATERIALS AND LABOR TO PROVIDE A FULL WORKING SYSTEM.
- ALL WORK SHALL CONFORM TO THE MICHIGAN HANDICAPPED ACCESSIBILITY CODE AND THE AMERICANS WITH DISABILITIES ACT.
- WATER SERVICE PRESSURE TESTING AND CHLORINATION SHALL BE PER EGLE AND CITY OF KALAMAZOO REQUIREMENTS.
- SANITARY SEWER INSTALLATION AND TESTING MUST MEET THE REQUIREMENTS OF CITY OF KALAMAZOO AND EGLE.
- ALL REGULATORY SIGNAGE (IF SPECIFIED) SHALL BE PER THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT).
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, PERMIT COSTS, TAP FEES, METER DEPOSITS, PERMANENT UTILITY APPLICATIONS, BONDS, AND OTHER FEES REQUIRED FOR PROPOSED WORK.
- CONTACT "MISS DIG 811" AT 1-800-482-7171 FOR LOCATION OF UNDERGROUND UTILITIES A MINIMUM OF 48 HOURS BEFORE COMMENCING EXCAVATION WORK. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO ARE NOT PART OF THE "MISS DIG" ALERT SYSTEM. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.
- ANY SANITARY SEWER, SANITARY SEWER SERVICE LEADS, WATER MAIN, WATER SERVICES, OR STORM SEWER WHICH IS DAMAGED BY THE CONTRACTOR DURING HIS OPERATIONS SHALL BE REPAIRED TO THE OWNERS SATISFACTION, AND AT THE CONTRACTORS EXPENSE. IF ANY ELEMENTS OF THE SANITARY SEWER SYSTEM ARE DAMAGED AND NEED REPAIRED, IT MUST MEET CITY OF KALAMAZOO SPECIFICATIONS.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE ELECTRICAL TRANSFORMER PAD PER THE UTILITY COMPANY SPECIFICATIONS.
- THE TELEPHONE UTILITY COMPANY SHALL PROVIDE UNDERGROUND TELEPHONE TO THE BUILDING AT THE OWNERS EXPENSE.
- REFER TO ELECTRICAL DRAWINGS FOR UNDERGROUND ELECTRICAL REQUIREMENTS FOR SITE LIGHTING & SITE DETAILS SHEETS FOR THE FIXTURE AND POLE SPECIFICATIONS.
- DESIGN, INSTALLATION AND SPECIFICATION FOR IMPROVEMENTS RELATED TO GAS, TELEPHONE, ELECTRIC AND CABLE TELEVISION SERVICES SHALL BE COORDINATED BY THE CONTRACTOR.
- CONTRACTOR SHALL COORDINATE TELEPHONE, ELECTRIC, AND CABLE TELEVISION CONDUITS WITH THE APPROPRIATE UTILITY PRIOR TO PAVEMENT INSTALLATION.
- CONTRACTOR IS TO UNCOVER AND CONFIRM ALL TAP LOCATIONS. LOCATION DISCREPANCIES ARE TO BE BROUGHT TO THE ENGINEERS ATTENTION FOR RESOLUTION.
- THE CONTRACTOR IS TO PROVIDE THE WATER SERVICE PIPING FROM THE BUILDING TO THE EXISTING MAIN. THE CONTRACTOR SHALL MAKE THE CONNECTION TO THE SHUT OFF VALVE. THE CONTRACTOR SHALL COORDINATE SERVICES WITH THE VILLAGE.
- CONTRACTOR/OWNER SHALL OBTAIN UTILITY CONNECTION PERMITS AND SETTLE APPLICABLE UTILITY ASSESSMENTS PRIOR TO EXTENSION OF PUBLIC UTILITIES ONSITE.
- MANHOLE AND CATCH BASIN STRUCTURES SHALL BE PRECAST AND HAVE A MAXIMUM OF 2 ADJUSTING RINGS FOR FINISH GRADE ADJUSTMENT. STORM STRUCTURES MUST ALL HAVE A SUMP OF TWO FEET.
- ALL WATER MAIN TO HAVE A BURIAL DEPTH AS REQUIRED BY EGLE FOR THE SPECIFIC REGION OF WORK IN KALAMAZOO COUNTY.
- DEMOLISH & REMOVE ALL EXISTING SITE FEATURES AS REQUIRED.
- THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT PREPARED BY SME.
- GEOTEXTILE FABRIC SHALL BE PLACED UNDER ALL APPLICATIONS OF RIP RAP OUTFALLS AND SPILLWAYS.

UTILITY PLAN NOTES

- A 12" FLARED END SECTION WITH RIP RAP AND REFUSE SCREEN. I.E. 933.01
- B DOWNSPOUT (TYP)
- C STORM CLEAN OUT (SEE DETAIL SHEET C5.0)

STORM STRUCTURE DATA

CB-1, 4' DIA, EJIW 5105
RIM = 935.87
12" HDPE W 933.37
12" HDPE NNW 933.37

MH-2, 4' DIA, EJIW 5105
RIM = 936.82
12" HDPE E 933.27 **
12" HDPE NW 933.27

* ALL STRUCTURES HAVE 2' SUMPS
** ADS BARRUCUDA S4

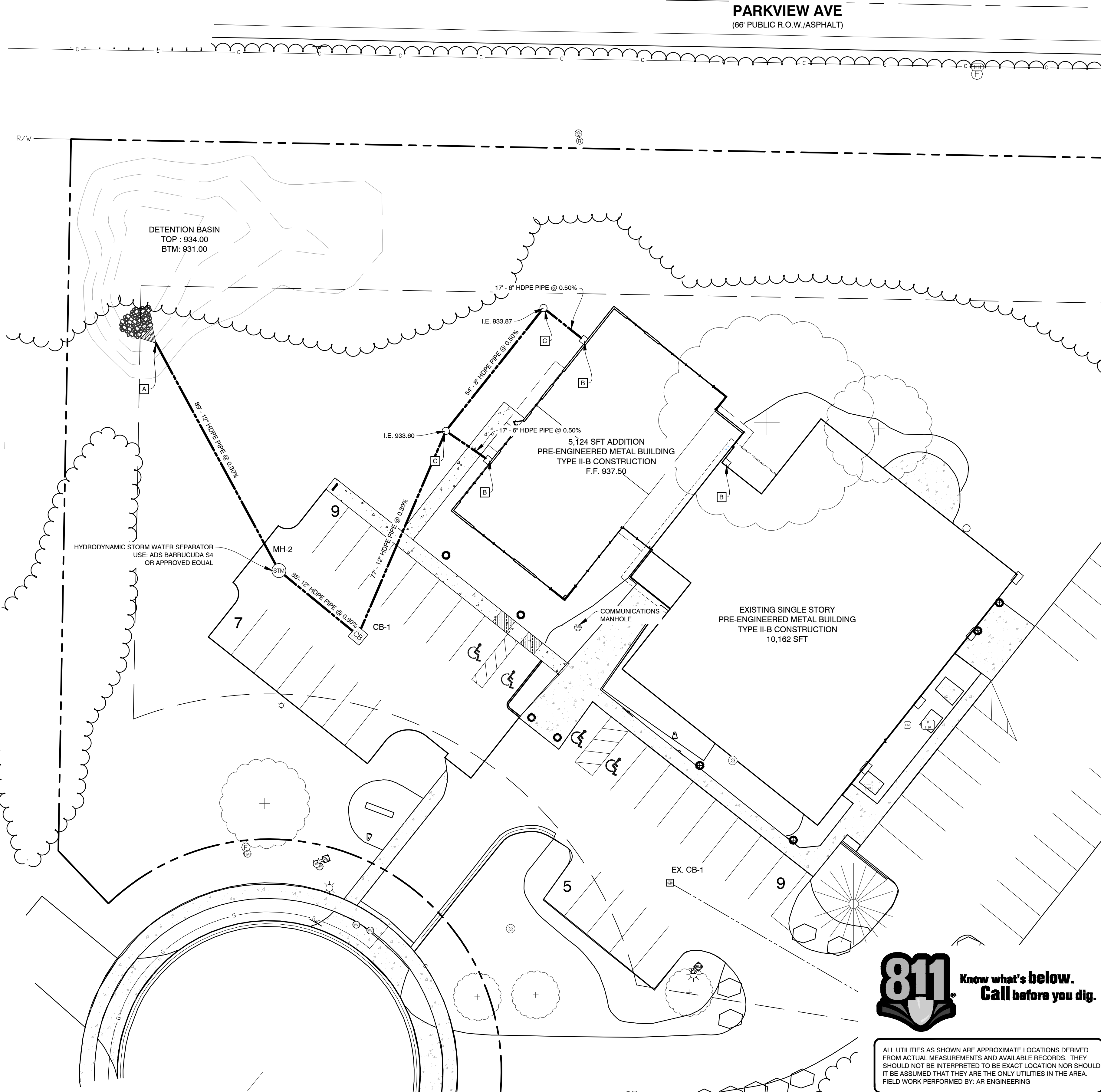
EX. STORM STRUCTURE INFORMATION

EX. CB-1, 2' CONC. STRUCTURE
RIM = 935.03'
ESE 12" CPE (INV. = 932.08)
SUMP = 931.78'

YD-2
RIM = 936.69
NO PIPES VISIBLE

EX. SANITARY STRUCTURE INFORMATION

MH-A, 2' CONC. STRUCTURE
RIM = 938.82'
SSW 12" PVC (INV. = 923.07')



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PLANS PREPARED BY:



DRAWN: SAP
CHECKED: TC

No.	ISSUED FOR:	DATE	BY:
0	OWNER REVIEW	09/16/24	SAP
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2	CITY COMMENTS	11/07/24	SAP
3			
4			

UTILITY PLAN
GLAS ASSOCIATES
3301 TECH CIRCLE DR
KALAMAZOO, MI
SECTION 31, T2S, R11W.

PROJECT:
CLIENT:
SITE ADDRESS:
SITE SECTION:

JOB NUMBER
24116002
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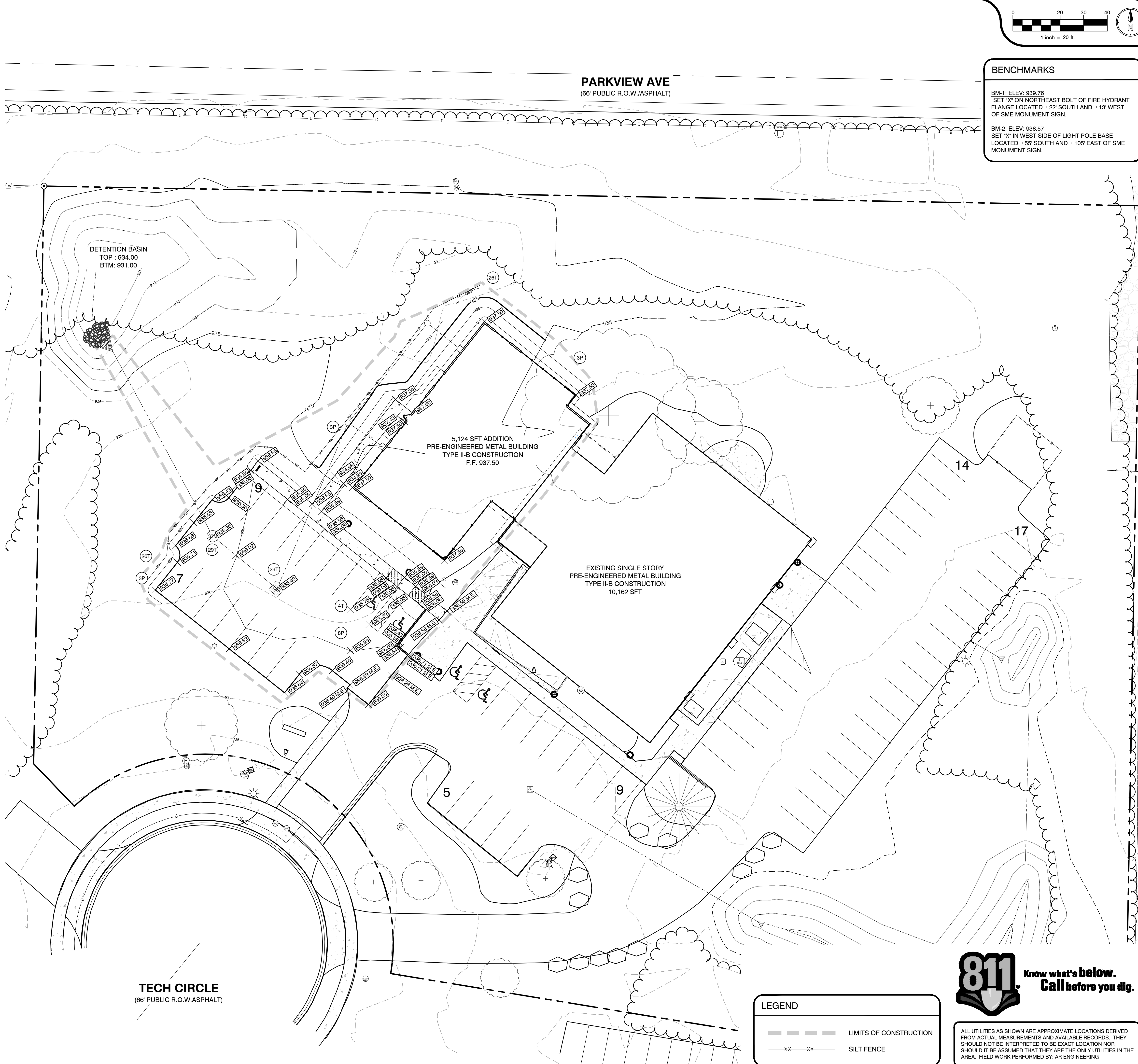
SHEET NUMBER
C3.0

SOIL EROSION & SEDIMENTATION CONTROL NOTES

- ALL CONSTRUCTION METHODS SHALL BE DONE IN COMPLIANCE WITH MDOOT-MDEQ. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING A "SOIL EROSION PERMIT" FROM THE COUNTY AND A "PERMIT BY RULE/NOTICE OF COVERAGE" FROM MDEQ, IF APPLICABLE, PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS OF THE COUNTY "SOIL EROSION PERMIT" AND FOR ALL CERTIFIED STORM WATER INSPECTION SERVICE REQUIRED BY THE "PERMIT BY RULE." EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS AND SHALL NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR PROVIDING ALL REQUIRED EROSION CONTROL MEASURES.
 - AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER. THESE COVER AREAS ACT AS SEDIMENT FILTERS.
 - ALL TEMPORARY SOIL EROSION PROTECTION SHALL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEAN UP AND APPROVAL.
 - GEOTEXTILE SILT FENCE SHALL BE INSTALLED AS REQUIRED WHEN CROSSING CREEKS OR WHEN ADJACENT TO WETLANDS OR SURFACE WATER BODIES TO PREVENT SILTATION AND ELSEWHERE AS DIRECTED BY THE ENGINEER. SEEDING AND/OR SODDING SHALL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
 - MAINTENANCE, CLEANING, AND REMOVAL OF THE VARIOUS SEDIMENT CONTROL MEASURES SHALL BE INCLUDED IN THE VARIOUS EROSION CONTROL ITEMS.
- ## NUMBER IN CIRCLE REFERS TO NUMBERED DETAILS ON MDOOT STANDARD PLAN R-96-D. SOIL EROSION & SEDIMENTATION CONTROL MEASURES. "P" DENOTES PERMANENT MEASURE AND "T" DENOTES TEMPORARY MEASURE. SOIL EROSION CONTROL PLANS DENOTE MINIMUM EROSION MEASURES REQUIRED AS DESCRIBED BELOW.
- 3P DENOTES PERMANENT SEEDING. ALL DISTURBED AREAS NOT PAVED OR GRAVELED SHALL BE RESTORED. PLACE TOPSOIL SURFACE, SALV, 3 INCH, MDOOT SEEDING, MIXTURE TUF APPLIED AT A RATE OF 220 LB/ACRE, FERTILIZER, CHEMICAL NUTRIENT, CLA APPLIED AT A RATE OF 228 LB/ACRE, MULCH AT A RATE OF 2 TON/ACRE AND MULCH ANCHORING. (APPLIES TO ENTIRE PROJECT)
- 3T DENOTES TEMPORARY SEEDING. TEMPORARY SEEDING SHALL BE PLACED AT LOCATIONS DETERMINED BY THE ENGINEER IN THE FIELD AND SHALL INCLUDE CEREAL RYE SEED APPLIED AT A RATE OF 70 LB/ACRE AND MULCH.
- 4T DENOTES DUST CONTROL. DUST CONTROL MAY BE REQUIRED ON THE SUBGRADE CONSTRUCTION AND WILL INCLUDE APPLYING FRESH WATER TO BE INCLUDED IN THE ITEM OF EMBANKMENT. DUST CONTROL ON THE AGGREGATE BASE COURSE WILL BE ACCOMPLISHED BY APPLYING FRESH WATER (INCLUDED IN THE ITEM OF AGGREGATE BASE, 6 INCH) AND APPLYING DUST PALLIATIVE, APPLIED, CACLO, (TON) AS DIRECTED BY THE PROJECT ENGINEER.
- 8P DENOTES AGGREGATE COVER/PERMANENT PAVEMENT RESTORATION
- 14T DENOTES GRAVEL ACCESS APPROACH. APPROACH SHALL BE INSTALLED TO PROVIDE STABLE ACCESS TO ROADWAYS AND MINIMIZE DUST AND TRACKING OF MATERIALS ONTO PUBLIC STREETS AND HIGHWAYS. THE APPROACH SHALL BE A MINIMUM OF 12' WIDE, 6" DEEP, AND CONSIST OF 2"-4" AGGREGATE
- 26T DENOTES TEMPORARY SILT FENCE. SILT FENCE SHALL BE INSTALLED AT CREEK CROSSINGS, ADJACENT TO ALL WETLANDS AND SURFACE WATERS, AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. EACH SILT FENCE SHALL BE INSTALLED GENERALLY ALONG THE SAME CONTOUR ELEVATION.
- 29T DENOTES INLET PROTECTION FABRIC DROP. SHALL BE INSTALLED AT EXISTING AND PROPOSED STORM SEWER INLETS TO PROVIDE SETTLING AND FILTERING OF SILT LADEN WATER PRIOR TO ENTRY INTO THE DRAINAGE SYSTEM.
- 33T DENOTES MULCH BLANKET OR MATTING. SHALL BE NORTH AMERICAN GREEN DS150, OR APPROVED EQUAL. MULCH BLANKETS SHALL BE PLACED ON ALL 1:3 SLOPES OR GREATER, IN AND AROUND DITCH BOTTOMS WHERE THERE IS NO BIOSWALE BY CONTRACTOR RESPONSIBLE FOR RESTORING THAT AREA.

GRADING NOTES

- ALL WORK SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL LAWS, RULES AND REGULATIONS IN FORCE AT TIME OF CONSTRUCTION.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, PERMIT COSTS, TAP FEES, METER DEPOSITS, PERMANENT UTILITY APPLICATIONS, BONDS, AND OTHER FEES REQUIRED FOR PROPOSED WORK. THIS SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO THOSE REQUIRED BY THE MICHIGAN DEPARTMENT OF TRANSPORTATION.
- CONTACT "MISS DIG 811" AT 1-800-482-7171 FOR LOCATION OF UNDERGROUND UTILITIES A MINIMUM OF 48 HOURS BEFORE COMMENCING EXCAVATION WORK. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO ARE NOT PART OF THE "811" ALERT SYSTEM. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.
- DEMOLISH & REMOVE ALL EXISTING SITE FEATURES AS REQUIRED.
- MATCH EXISTING GRADES AROUND PERIMETER WITH SLOPES AS SHOWN.
- ALL SPOT ELEVATIONS ARE TOP OF PAVEMENT GRADES AT EDGE OF METAL (EOM) UNLESS OTHERWISE NOTED.
- ALL SOIL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO MASS GRADING.
- ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS AND GEOTECHNICAL REPORT.
- ALL EXISTING ELEVATIONS ARE TO BE VERIFIED AND ACCEPTED AS SHOWN PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID TRACKING SOIL ONTO ADJACENT ROADWAYS. CONTRACTOR SHALL SWEEP IMMEDIATELY IF OCCURS.
- ANY DISTURBED AREA WHICH WILL BE LEFT UNWORKED 15 DAYS OR LONGER MUST BE SEEDED TO ESTABLISH VEGETATION FOR TEMPORARY STABILIZATION. BASINS TO BE SEEDED AND MULCH BLANKETS APPLIED IMMEDIATELY TO PROVIDE A STABLE BASE AND AVOID EXCESSIVE EROSION.



BENCHMARKS

BM-1: ELEV: 939.76
SET "X" ON NORTHEAST BOLT OF FIRE HYDRANT
FLANGE LOCATED ±22' SOUTH AND ±13' WEST
OF SIME MONUMENT SIGN.

BM-2: ELEV: 938.57
SET "X" IN WEST SIDE OF LIGHT POLE BASE
LOCATED ±55' SOUTH AND ±105' EAST OF SIME
MONUMENT SIGN.

PLANS PREPARED BY:



DRAWN: SAP
CHECKED: TC

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3			
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GRADING SESC
GLAS ASSOCIATES
3301 TECH CIRCLE DR
KALAMAZOO, MI
SECTION 31, T2S, R11W.

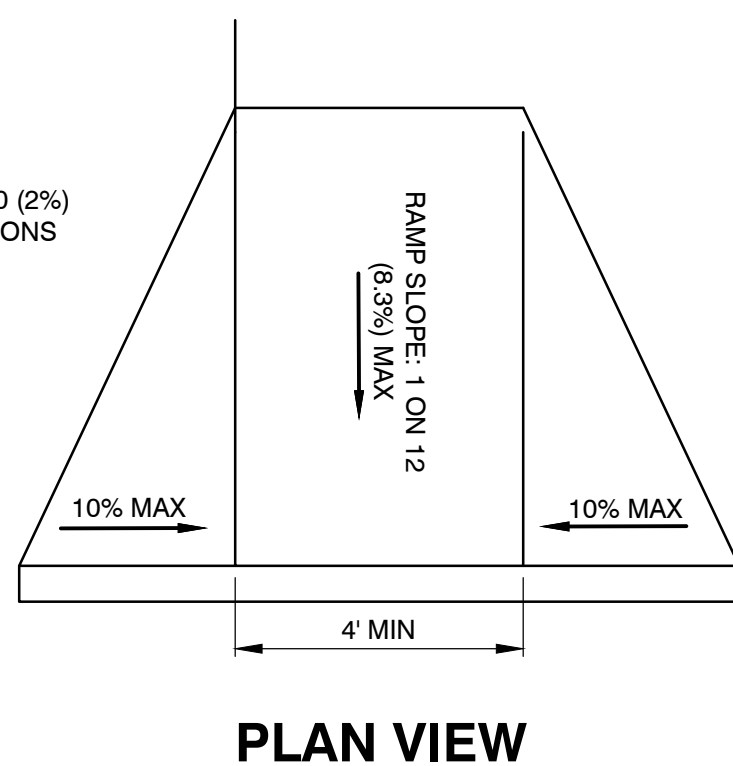
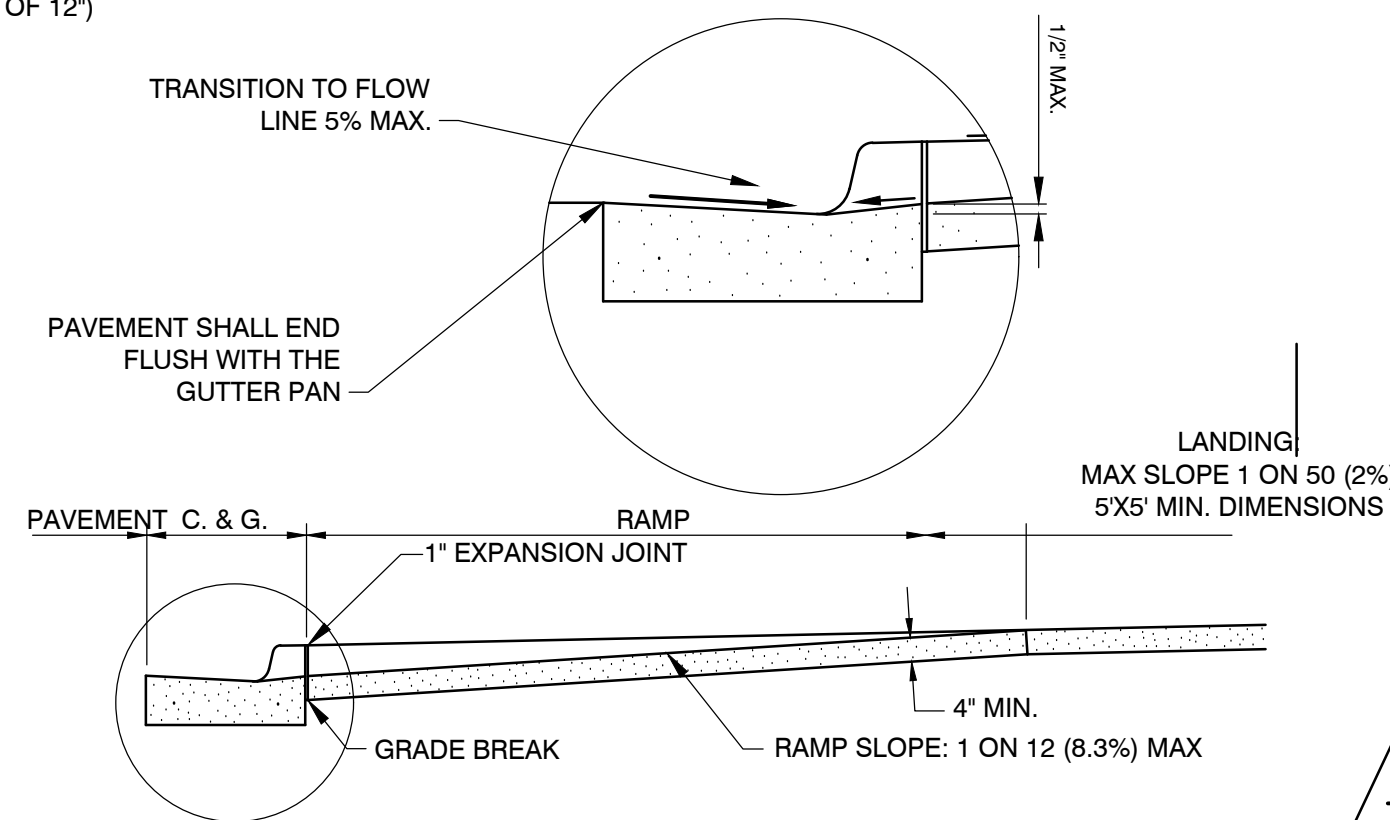
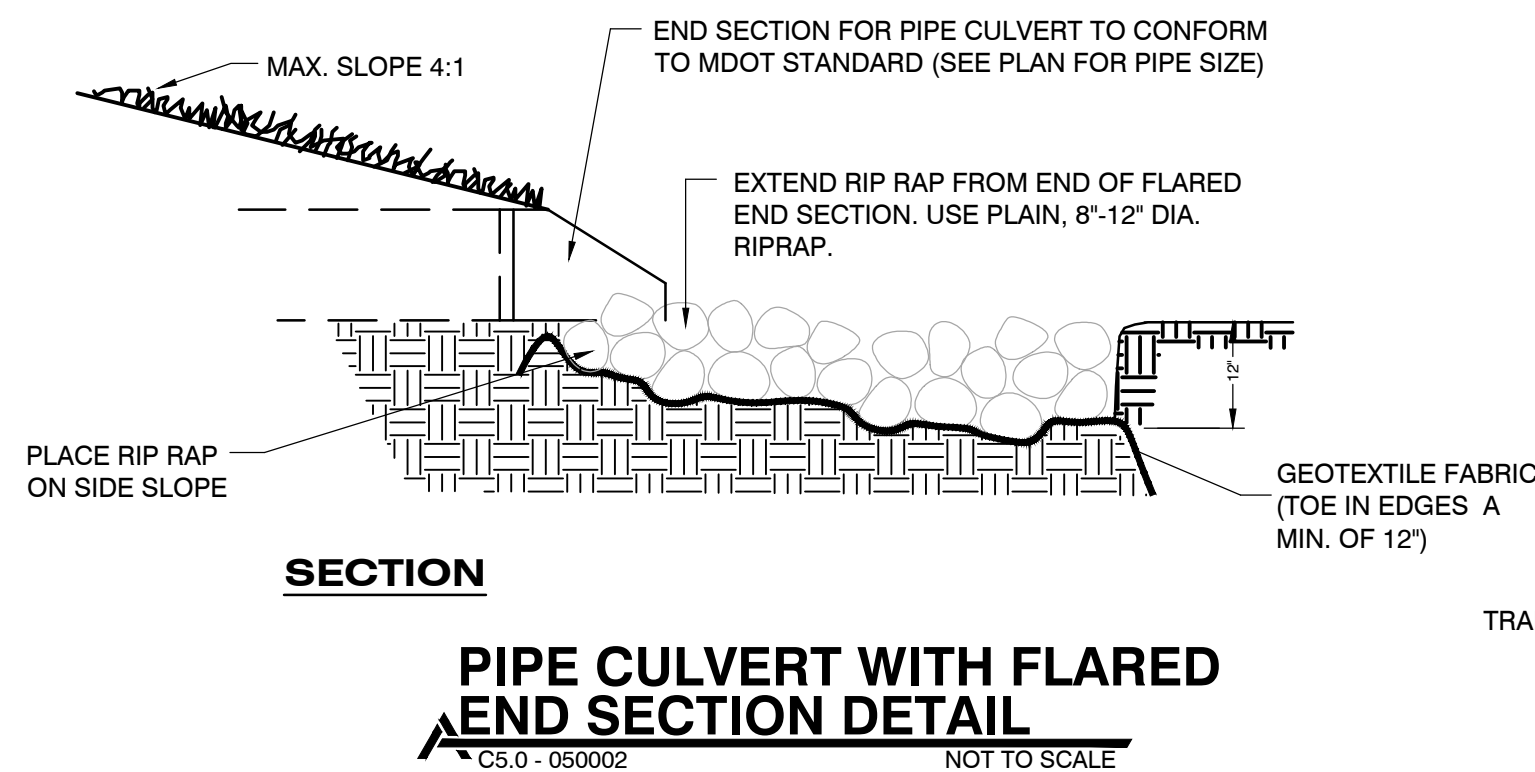
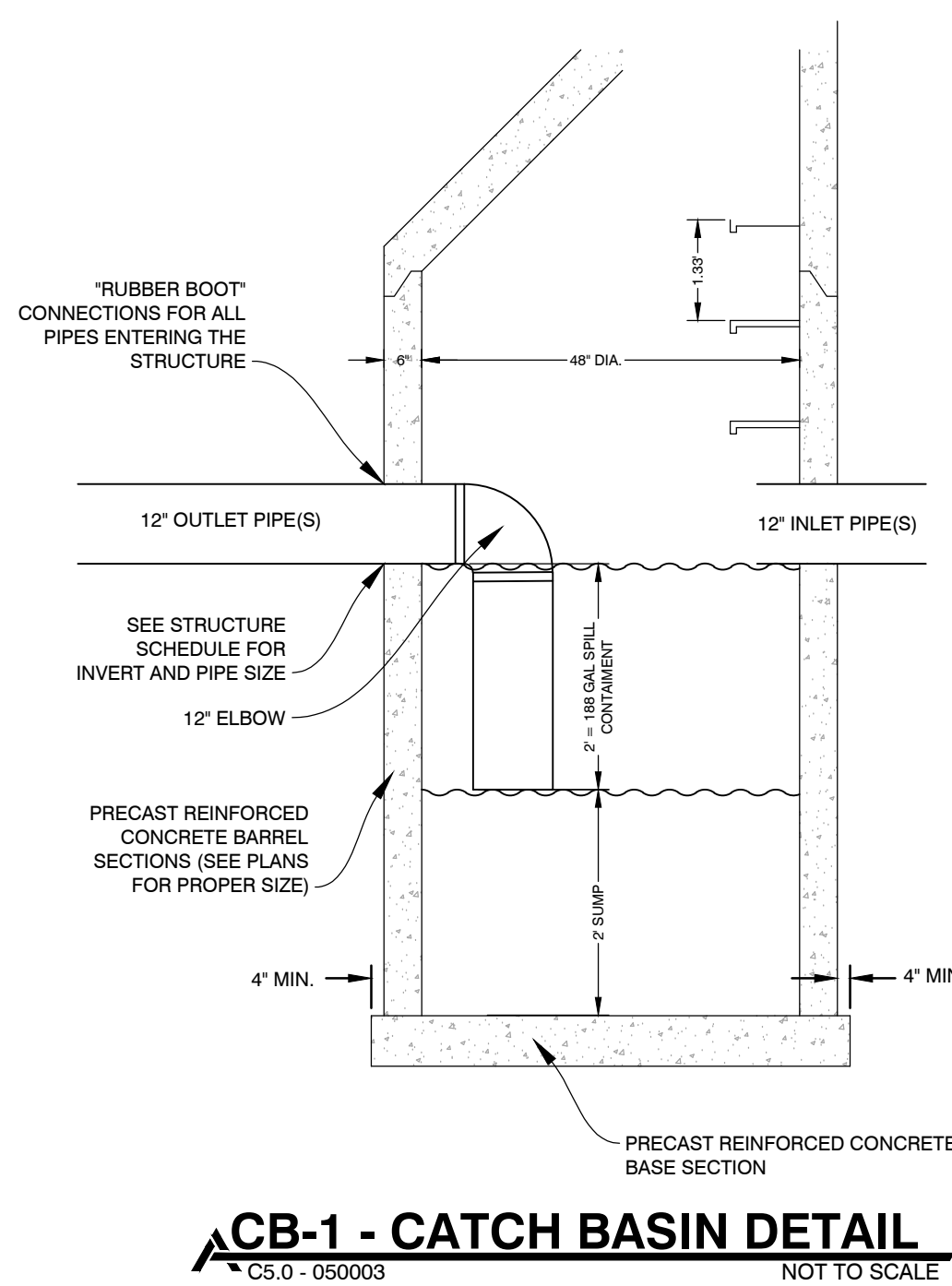
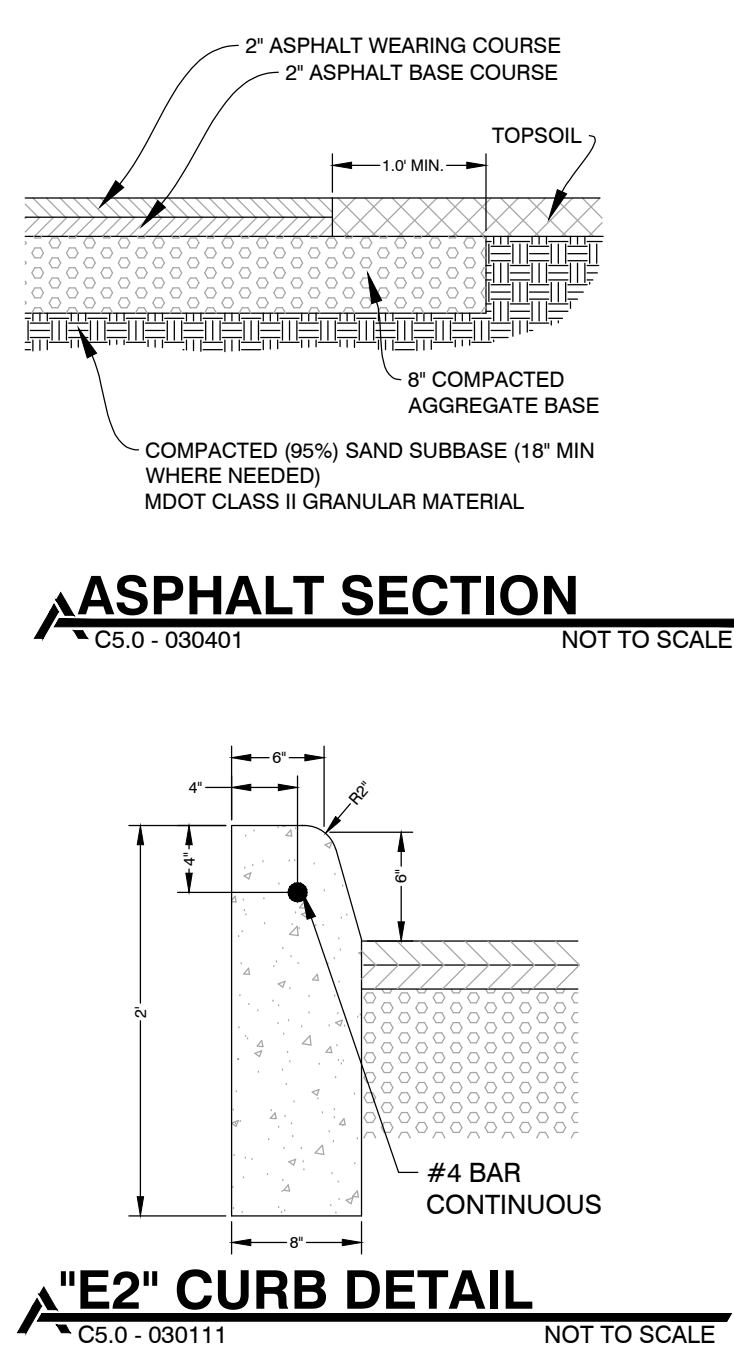
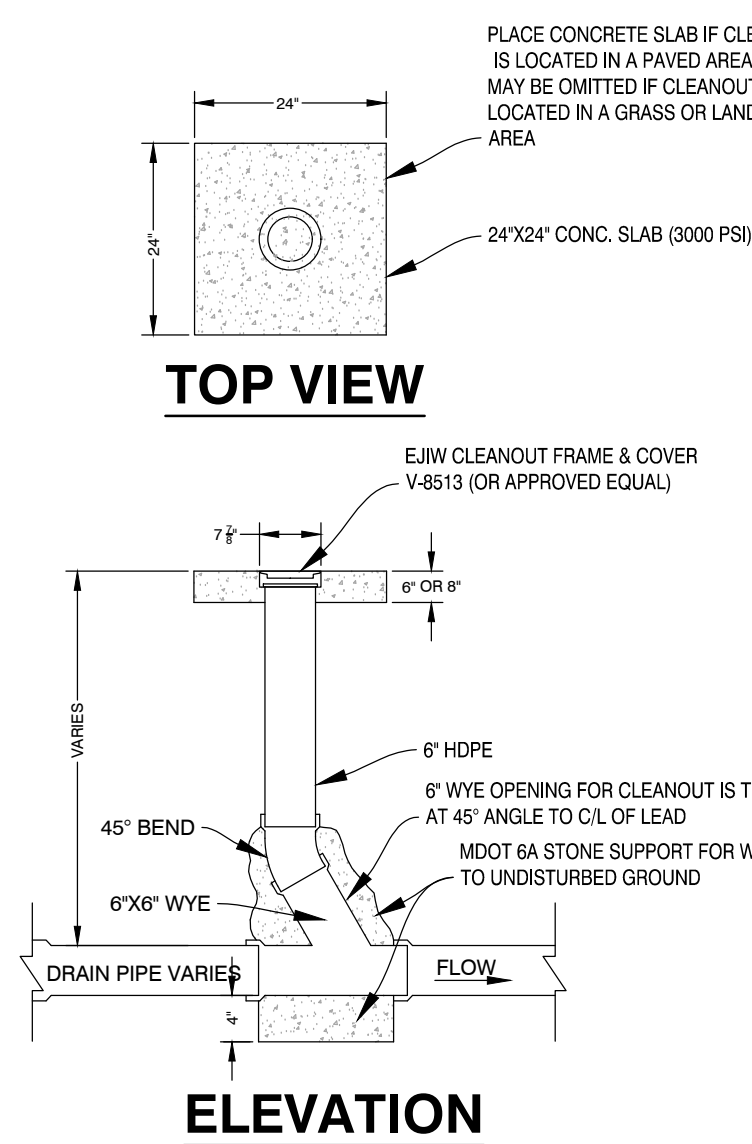
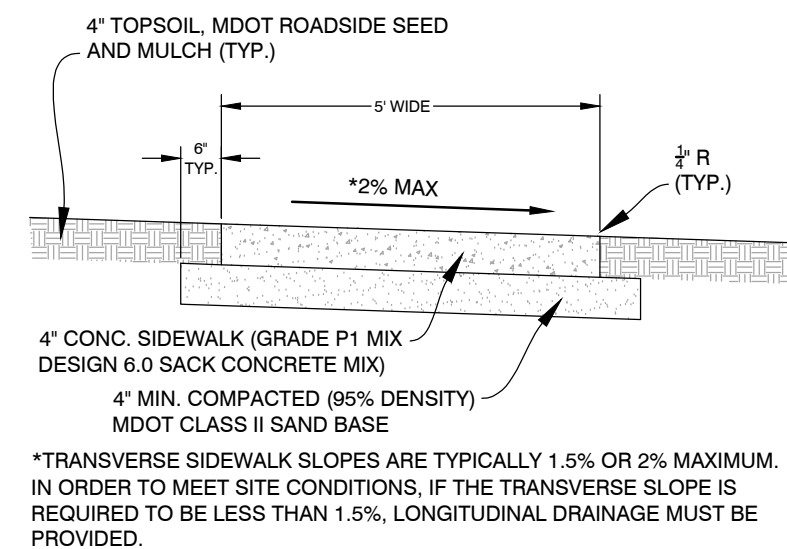
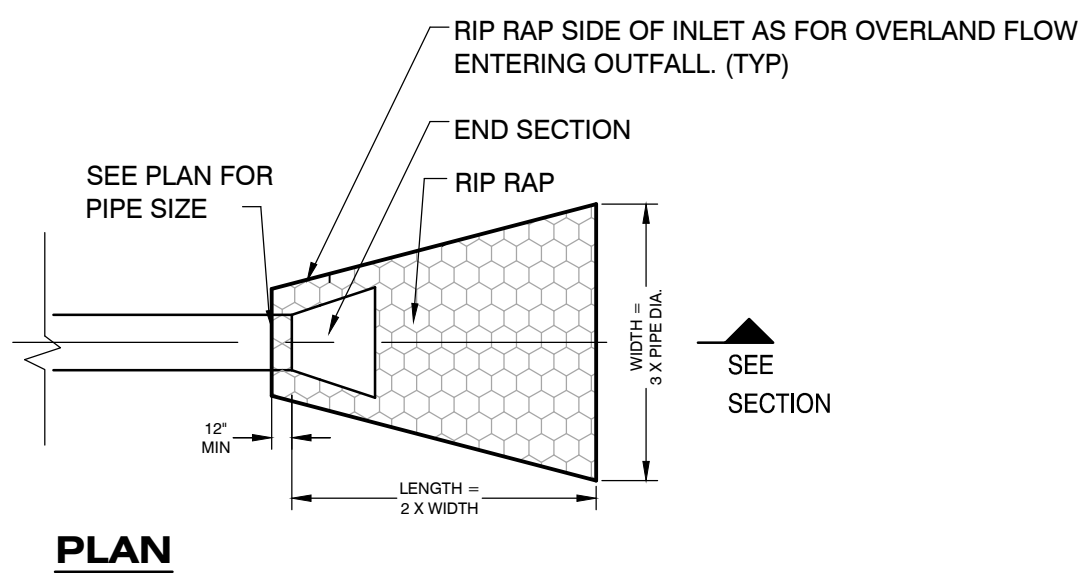
PROJECT:
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SITE SECTION:

JOB NUMBER
24116002
DATE
11/07/2024

SHEET NUMBER
C4.0



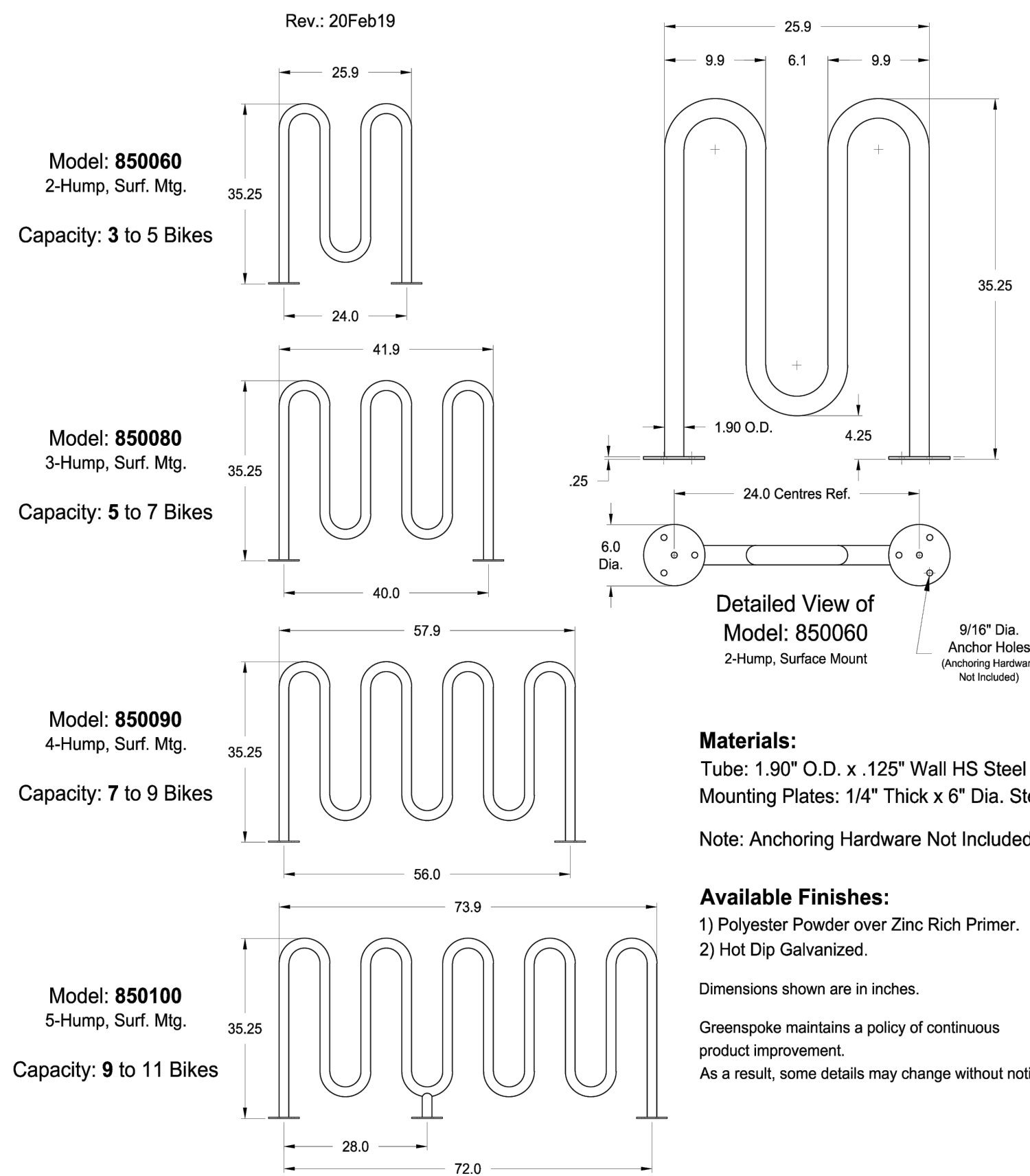
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SECTION VIEW
BARRIER FREE CURB CUT
C5.0 - 030302 NOT TO SCALE

M-Racks

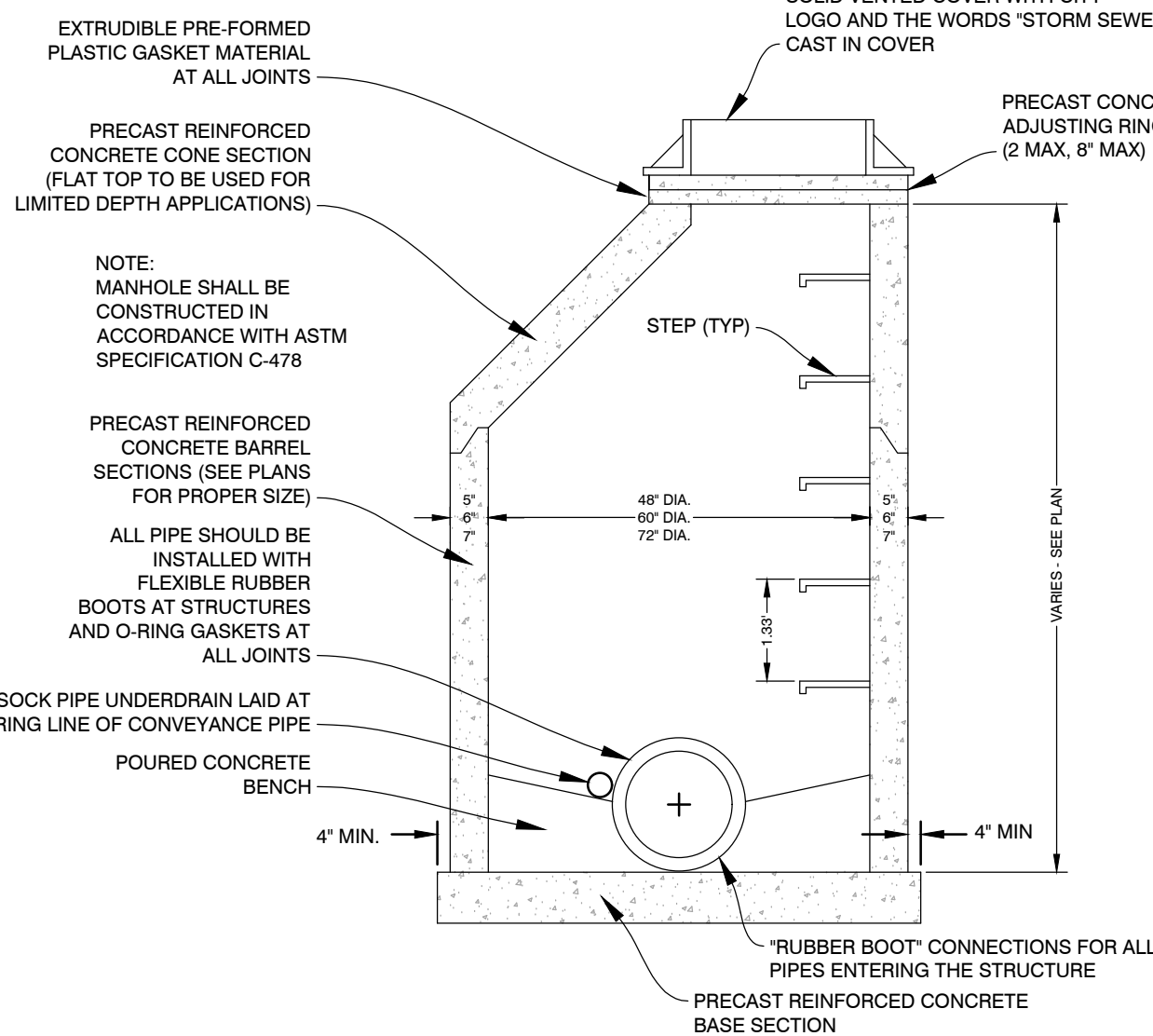
2 to 5 Hump, Surface Mount
- Specifications -



Materials:
Tube: 1.90" O.D. x .125" Wall HS Steel
Mounting Plates: 1/4" Thick x 6" Dia. Steel

Note: Anchoring Hardware Not Included.

Available Finishes:
1) Polyester Powder over Zinc Rich Primer.
2) Hot Dip Galvanized.
Dimensions shown are in inches.
Greenspoke maintains a policy of continuous product improvement.
As a result, some details may change without notice.



STORM MANHOLE DETAIL
C5.0 - 050007 NOT TO SCALE

BDA SERIES-LED

SPECIFICATIONS

INSTALLATION

*When mounting in soil, anchor bolt fasteners and other hardware must be protected from soil by grouting.

OPTICS

VPA - Vertical Array
BDA6 Available in:
36 LED Module

BDA6 Available in:
24 LED Max

RADIAL LED Module
BDA6 Available in:
18 LED Module

BDA6 Available in:
12 LED Module

Spec/Order Example: BDA6-IL/24LED277NW/WM/RAL-7004-T/DUP

SPEC / ORDERING INFORMATION						
BOLLARD	OPTICS	# of LED'S	COLOR	MOUNTING	FINISH	OPTIONS
☐ BDA8-LED ☐ BDA6-LED	VERTICAL POWER ARRAY ☐ INTERNAL LOUVER IL ☐ CAST LOUVER CL ☐ OPAL POLYCARBONATE WP* RADIAL LED MODULE ☐ PARABOLIC REFLECTOR PR	☐ 36LED ¹ ☐ 24LED ☐ 18LED ¹ ☐ 12LED ²	☐ NW (4000K) Standard ☐ CW (5000K) ☐ WW (3000K) OTHER LED COLORS AVAILABLE CONTACT FACTORY	☐ GROUND INSTALLATION I (STANDARD) ☐ WALL MOUNT WM	☐ BLACK RAL-9005-T ☐ WHITE RAL-9003-T ☐ GREY RAL-7004-T ☐ DARK BRONZE RAL-8019-T ☐ GREEN RAL-6005-T	☐ DIMMABLE DRIVER (0-10V PROVIDED) DIM ☐ HIGH/LOW DIMMING FOR HANDWIRED SWITCHING OR NONINTEGRATED MOTION SENSOR HLSW ☐ INTERNAL HOUSE SIDE SHIELD HS ☐ DURLEX RECEPTACLE DUP ☐ GROUND FAULT RECEPTACLE GFI ☐ 10KV SURGE PROTECTOR 10SP ☐ 20KV SURGE PROTECTOR (277V & 480V only) 20SP FOR SMOOTH FINISH REPLACE SURF. TX WITH SURF. TX (EXAMPLE: RAL-9005-S) SEE Q&A TO CONFIRM ADDITIONAL COLOURS OPTIONAL HEIGHTS: ☐ 30" ☐ 36"
			☐ 120 ☐ 208 ☐ 240 ☐ 277 ☐ 347 ☐ 480			

NOTES:
1 - AVAILABLE IN BDA8 ONLY
2 - AVAILABLE IN BDA6 ONLY

*WP OPTICS USE OPAL POLYCARBONATE LENS

U.S. Architectural Lighting

600 West Avenue D, Palm Beach, FL 33501
Phone (888) 333-3000 Fax (888) 333-0001
www.usalighting.com

U.S. ARCHITECTURAL
LIGHTING

U.S. Architectural Lighting
 460 West Avenue G, Redwood City, CA 94061
 Phone (650) 253-0000 Fax (650) 253-0001
 www.usalighting.com

PLANS PREPARED BY:



DRAWN: SAP
CHECKED: TC

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DETAIL PLAN
GLAS ASSOCIATES
3301 TECH CIRCLE DR
KALAMAZOO, MI
SECTION 31, T2S, R11W.

PROJECT:
CLIENT:
SITE ADDRESS:
SITE SECTION:

JOB NUMBER
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C5.0

LANDSCAPING NOTES

1. INSTALL CONSTRUCTION FENCE AROUND DRIP LINES OF EXISTING TREES TO REMAIN. NO COMPACTION OR INCREASED DEPTH OF SOIL OVER THE ROOT SYSTEM AREA PRIOR TO AND DURING CONSTRUCTION.
2. ALL LAWN AREAS SHALL BE SEEDED AND MULCHED WITH THE FOLLOWING MIXTURE: 20% IMPROVED PERENNIAL RYEGRASS, 40% FINE FESCUE, AND 40% KENTUCKY BLUEGRASS AT A RATE OF 3-4 LBS/1000 SFT.
3. ALL EDGING SHALL BE STANDARD COMMERCIAL STEEL EDGING 3/4" X 4", ROLLED EDGE, FABRICATED IN SECTIONS OF STANDARD LENGTHS, WITH LOOPS STAMPED FROM OR WELDED TO FACE OF SECTIONS TO RECEIVE STAKES IN STANDARD FINISH OF GREEN PAINT.
4. PROVIDE QUALITY, SIZE, GENUS, SPECIES, AND VARIETY OF EXTERIOR PLANTS INDICATED, COMPLYING WITH APPLICABLE REQUIREMENTS IN ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK." MEASURE ACCORDING TO ANSI Z60.1 STANDARDS.
5. MAINTAIN AND ESTABLISH LAWN BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, REPLANTING, AND OTHER OPERATIONS. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH TO PRODUCE A UNIFORMLY SMOOTH LAWN.
6. BEGIN LAWN MAINTENANCE IMMEDIATELY AFTER EACH AREA IS PLANTED AND CONTINUE UNTIL ACCEPTABLE LAWN IS ESTABLISHED; A MINIMUM OF 60 DAYS AFTER SUBSTANTIAL COMPLETION.
7. PROTECT ADJACENT AND ADJOINING STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND PLANTINGS FROM HYDROSEEDING OVER-SPRAY AND DAMAGE CAUSED BY PLANTING OPERATIONS.
8. REMOVE STONES LARGER THAN 1" IN ANY DIMENSION AND STICK, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER FROM SITE.
9. MAINTAIN LAWN UNTIL A HEALTHY, UNIFORM, CLOSE STAND OF GRASS HAS BEEN ESTABLISHED, FREE OF WEEDS AND SURFACE IRREGULARITIES, WITH COVERAGE EXCEEDING 90% OVER ANY 10 SFT AND BARE SPOTS DO NOT EXCEED 5 BY 5 INCHES.
10. MAINTAIN TREES AND SHRUBS FOR ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION BY PRUNING, CULTIVATING, WATERING, WEEDING, FERTILIZING, RESTORING PLANTING SAUCERS, TIGHTENING AND REPAIRING STAKES AND GUY SUPPORTS, AND RESETTling TO PROPER GRADES OR VERTICAL POSITION, AS REQUIRED TO ESTABLISH HEALTHY VIABLE PLANTINGS. SPRAY AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE.
11. REMOVE AND REPLACE DEAD PLANTS IMMEDIATELY. REPLACE PLANTS THAT ARE MORE THAN 25% DEAD OR IN AN UNHEALTHY CONDITION AT END OF WARRANTY PERIOD. A LIMIT OF ONE REPLACEMENT OF EACH PLANT WILL BE REQUIRED, EXCEPT FOR LOSSES OR REPLACEMENTS DUE TO FAILURE TO COMPLY WITH REQUIREMENTS.
12. TREES, AND SHRUBS SHALL BE WARRANTED FOR ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM INCIDENTS THAT ARE BEYOND CONTRACTORS CONTROL.

LEGEND

1
XxNUMBER AND TYPE OF PLANTS TO
BE PROVIDED AND INSTALLED

PROPOSED DECIDUOUS TREE



PROPOSED SHRUB DECIDUOUS/ EVERGREEN

SOD LAWN WITH IRRIGATION ON 4"
TOPSOILPERENNIAL RYE GRASS WITHOUT IRRIGATION
ON 4" TOPSOIL

ALL PLANTINGS AND LANDSCAPED BEDS REQUIRE IRRIGATION - EITHER DRIP LINE OR MISTERS AS REQUIRED TO ESTABLISH GROWTH AND MAINTAIN HEALTH OF ALL PLANTINGS/LANDSCAPED BEDS.

LANDSCAPING CONTRACTOR RESPONSIBLE FOR TOUCHING-UP AND FINISH-LEVELING OF TOPSOIL AS NECESSARY TO ENSURE HYDROSEED AND SOD ARE INSTALLED ON A SMOOTH AND LEVEL SURFACE FREE OF CLUMPS, STICKS, HOLES, ETC.

LANDSCAPING REQUIREMENTS

INTERIOR PARKING LOT LANDSCAPING

REQUIRED:

EXISTING: 18,445 SFT * 5% = 922 SFT
PROPOSED: 6,007 SFT * 5% = 300 SFT

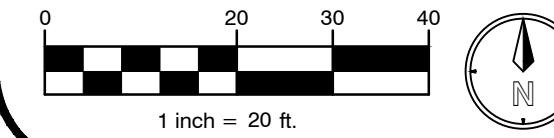
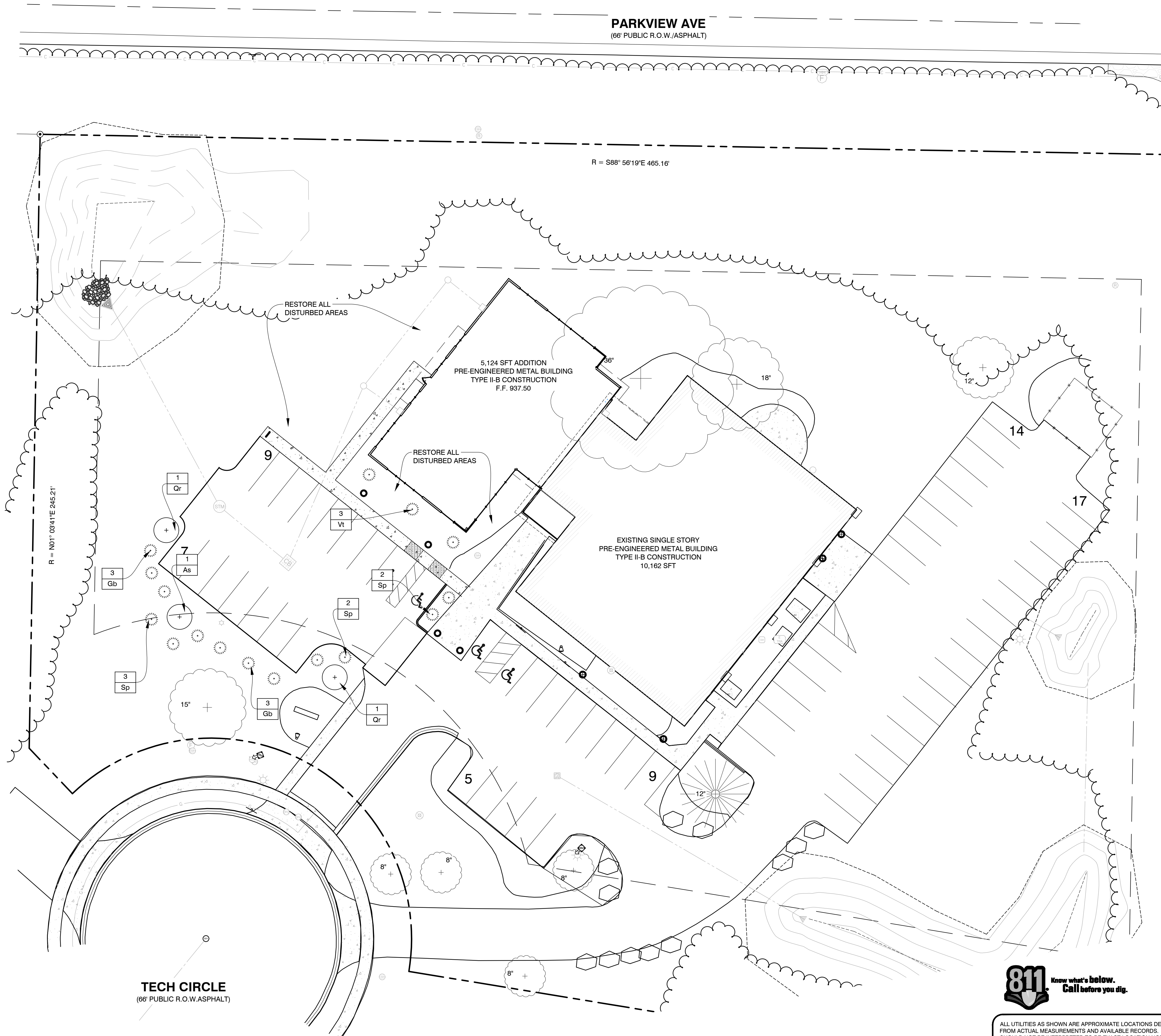
PROVIDED:

EXISTING: 1,737 SFT
PROPOSED: 585 SFT

PERIMETER LANDSCAPING

REQUIRED:

1 TREE / 35' FRONTAGE
70' / 35' = 2 TREES
1 SHRUB / 6' FRONTAGE
70' / 6' = 11.6 = 12 SHRUBS
PROVIDED: 1 EXISTING + 1 PROPOSED TREE
9 SHRUBS



PLANS PREPARED BY:



MICHIGAN | INDIANA | ILLINOIS | OHIO
289.250.5991 PHONE | 800.560.0054 FAX
www.arengineeringllc.com

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LANDSCAPE PLAN
GLAS ASSOCIATES
3301 TECH CIRCLE DR
KALAMAZOO, MI
SECTION 31, T2S, R11W.

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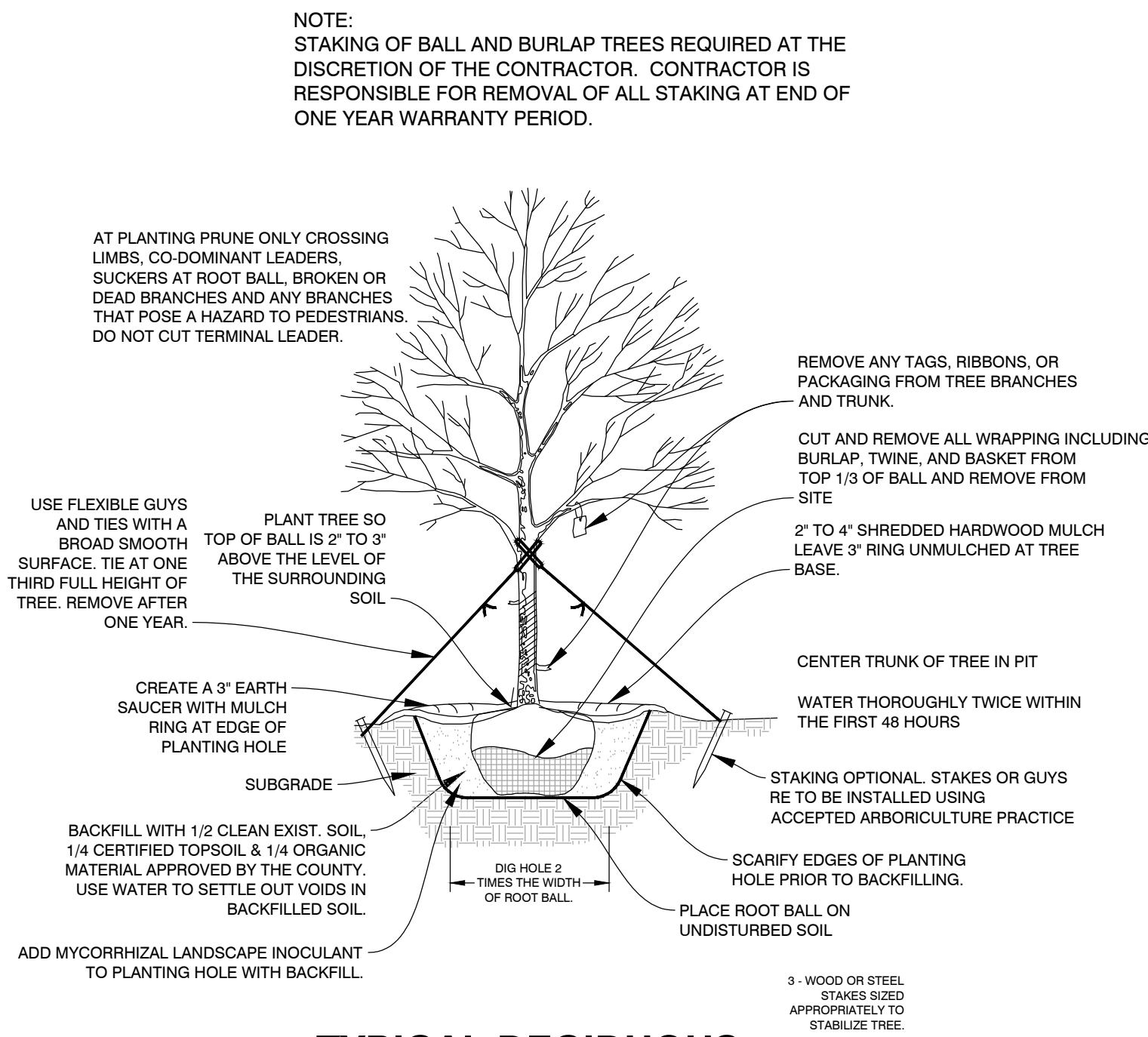
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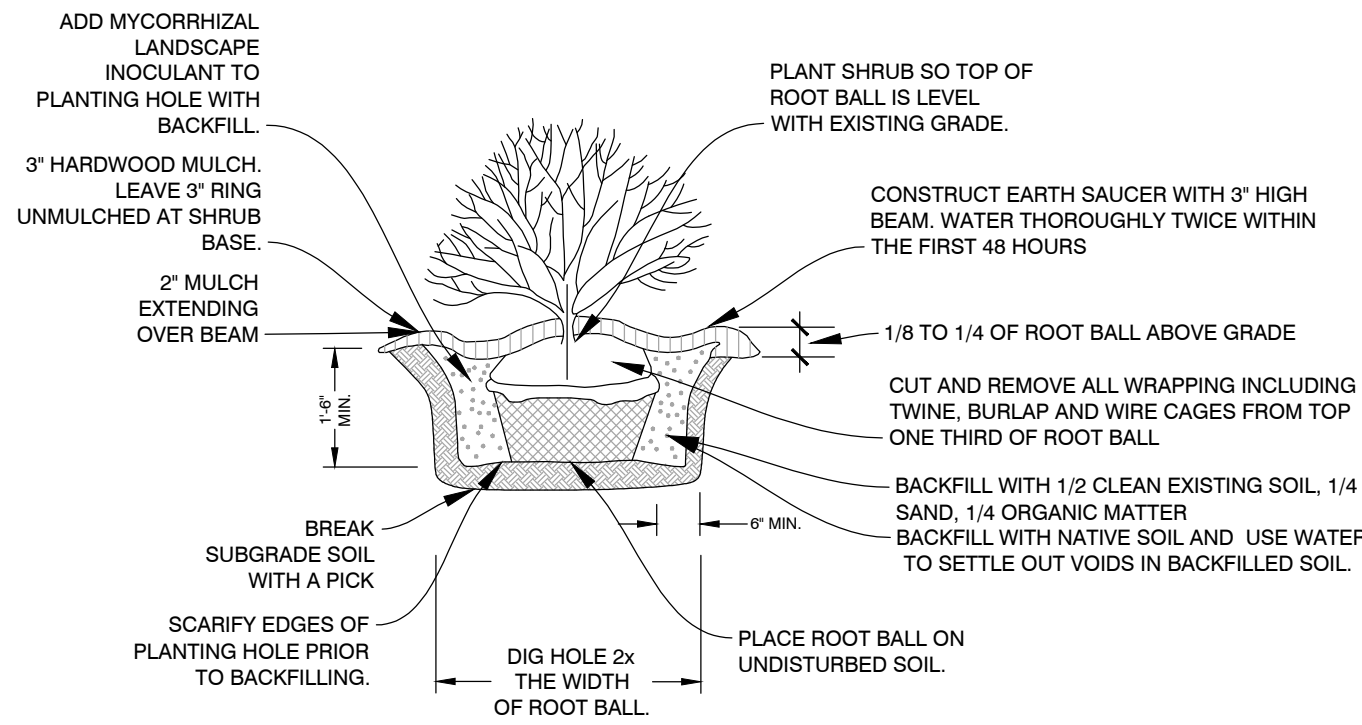
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TYPICAL DECIDUOUS TREE PLANTING DETAIL
L2.0 - 170102 NOT TO SCALE



TYPICAL SHRUB PLANTING DETAIL
L2.0 - 170103 NOT TO SCALE

Tree Planting Schedule					
Symbol	Latin Name	Common Name	Size	Container Type	Comments
As	Acer rubrum 'October Glory'	October Glory Red Maple	2.5" Cal.	B&B	
Qr	Quercus rubra borealis	Red Oak	2.5" Cal	B&B	

Shrub Planting Schedule					
Symbol	Latin Name	Common Name	Size	Container Type	Comments
Sp	Spiraea x bumalda 'Goldflame'	Goldflame Spirea	24" Ht.	3-5 gallon cont.	3' O.C.
Gb	Buxus 'Green Gem'	Green Gem Boxwood	24" Ht.	B&B or Cont.	3' O.C.
Vt	Viburnum trilobum	American Highbush Cranberry	48" Ht	B&B or Cont.	3' O.C.

PLANS PREPARED BY:



DRAWN: SAP
CHECKED: TC

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LANDSCAPE DETAILS
GLAS ASSOCIATES
3301 TECH CIRCLE DR
KALAMAZOO, MI
SECTION 31, T2S, R11W.

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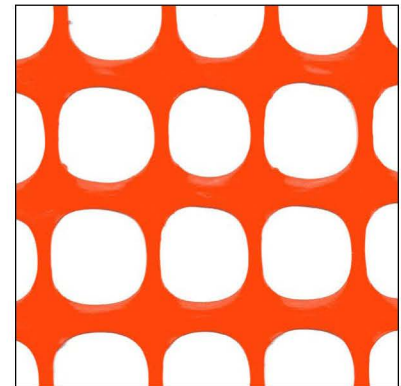
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Snow Guard Fence

AVAILABLE ROLL DIMENSIONS AND WEIGHT

ENGLISH		METRIC	
Dimensions	Weight	Dimensions	Weight
4' x 50'	8 lbs	1.22m x 15.24m	3.86 kg
4' x 100'	16 lbs	1.22m x 30.5m	7.71 kg



Bi-Oriented Net



PHYSICAL CHARACTERISTICS

NOTES

Polymer Type	High Density Polyethylene	
Structure	Circular openings	
Color	Orange, Green, Yellow	
Packaging	Rolls	

DIMENSIONAL CHARACTERISTICS

NOTES

	ENGLISH		METRIC		
	UNIT		UNIT		
MD Mesh Size	in	1.75	mm	44	a, c
TD Mesh Size	in	1.75	mm	44	b, c

TECHNICAL CHARACTERISTICS

NOTES

	ENGLISH		METRIC		
	UNIT		UNIT		
MD Tensile Strength	lbs/ft	130	N/m	1900	a, c
MD Elongation	%	10	%	10	a, c
TD Tensile Strength	lbs/ft	89	N/m	1300	b, c
TD Elongation	%	20	%	20	b, c

Notes

- a Longitudinal direction
- b Transversal direction
- c All dimensions and properties are reported as typical values



CITY OF KALAMAZOO NATURAL FEATURES PROTECTION REVIEW BOARD
 241 West South Street
 Kalamazoo, Michigan 49007
 269-337-8026

2025 NFP Annual Meeting Schedule

All meetings to be held the fourth Tuesday of each month, at 4pm, in City Hall Commission Chambers unless otherwise specified with justification.		
Day	Date	Justification
Tuesday	January 28, 2025 →	Regular Meeting Date with no potential conflicts
Tuesday	February 25, 2025 →	Regular Meeting Date with no potential conflicts
Tuesday	March 25, 2025 →	Regular Meeting Date with no potential conflicts
Tuesday	April 22, 2025 →	Regular Meeting Date with no potential conflicts
Wednesday	May 28, 2025 →	Adjusted for Memorial Day.
Tuesday	June 24, 2025 →	Regular Meeting Date with no potential conflicts
Tuesday	July 22, 2025 →	Regular Meeting Date with no potential conflicts
Tuesday	August 26, 2025 →	Regular Meeting Date with no potential conflicts
Tuesday	September 23, 2025 →	Regular Meeting Date with no potential conflicts
Tuesday	October 28, 2025 →	Regular Meeting Date with no potential conflicts
Tuesday	November 25, 2025 →	Regular Meeting Date with no potential conflicts
Friday	December 19, 2025 →	Adjusted to avoid conflicts with Christmas.