

Agenda

Natural Features Protection

Review Board



City of Kalamazoo

Tuesday, March 24, 2026

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

C. APPROVAL OF MINUTES

1. Approval of the meeting minutes from the Natural Features Protection Review Board Meeting on February 24th, 2026 (**Action: Motion to approve the meeting minutes from the Natural Features Protection Review Board Meeting on February 24th, 2026**)

D. PUBLIC COMMENTS

E. BOARD MEMBER COMMENTS

F. NEW BUSINESS

1. 1617 N. Drake Road - Westgate Sports Complex - Phase 1
- 2.

G. UNFINISHED BUSINESS

H. STAFF REPORTS AND UPDATES

1. NFP Work Session

I. COMMUNICATIONS AND ANNOUNCEMENTS

J. ADJOURNMENT



NFP Review Board Staff Report

City of Kalamazoo

TO: The Natural Features Protection Review Board

FROM: Nolan Bergstrom, NFP Board Liaison

DATE: March 24, 2026

SUBJECT: 1617 N. Drake Road - Westgate Sports Complex - Phase 1

RECOMMENDATION:

It is recommended the Natural Features Protection (NFP) Review Board approve the Phase 1 Site Plan for the project the Westgate Sports Complex project at 1617 N. Drake Road with the following conditions:

- No work begins until Full Site Plan Review Approval
- If required, a copy of any required permit obtained from a state or federal agency must be submitted to the City.
- Tree Protection Fencing is in place prior to work beginning

BACKGROUND:

Property Overview

1617 North Drake Road is owned by WESTGATE 131, LLC. The parcel is zoned RS-5 or Single Family Residential. The property is located within the Westwood Neighborhood and is flag shaped with Oshtemo Township and Kalamazoo Township bordering three sides of it. Discover Kalamazoo is looking to construct an amateur sports facility as there is visibility from US-131. This project is being led by Discover Kalamazoo in partnership with multiple agencies. The parcel, presently, is approximately 62 acres. However, the plan is to split this parcel into two separate parcels. The resulting project parcel will be approximately 23.34 acres and be where the Sports complex is located. The project is complex, involving multiple agencies and government jurisdictions. Access to the site is proposed by extending Maple Hill Drive from Oshtemo Township and onto the site, connecting with the parking lot.

Previous NFP Meeting

In December 2025, the applicant was before the NFP Review Board seeking a recommendation to the Zoning Board of Appeals from the NFP Board for two variances: 1)

NFP Woodland Standard to preserve 13.5% of the existing woodland, when 25% is the minimum allowed by right, given the woodland delineation and size of the parcel, and 2) to the Protected Slopes and Slope Setback standards within the project limits.

Four of the seven NFP Board members were present for the meeting, constituting a majority of the members creating a quorum. The final vote of 3 yesses to 1 no represents the vote of the majority of members present at the meeting at which a quorum is present, constituting the action of the Board. The variances and conditions that were recommended by the NFP Board to the Zoning Board of Appeals were:

- A Recommendation to the Zoning Board of Appeals to grant a variance from the Protected Slopes and Slope Setback NFP Standards within the project limits.
- A Recommendation to the Zoning Board of Appeals to grant a variance from the Woodland Standard to preserve 13.5% of the existing woodland when 25% is the minimum required by right conditioned upon as much of the remaining green space or undeveloped area as possible to be replanted using native species with a preference for dense replanting of native tree species.

The project went before the Zoning Board of Appeals in January 2026. The Zoning Board of Appeals granted the Slope and Slope Setback variance but denied the Woodland Preservation variance. This outcome led to changes to the development process as well as a reassessment of how to meet the Woodland Preservation percentage.

Changes since December 2025 Special NFP Meeting:

- Since the ZBA decision in January 2026. The applicant has since updated the boundary of parcel to meet the woodland preservation requirement.
- The applicant is also pursuing a two-phase Site Plan Review process. The NFP Board will see Phase 2 at a future NFP meeting.

Site Plan Next Steps

This phase of the project is scheduled to start Site Plan Review on April 1st. Phase 2 of the project would come before the NFP Board at a future meeting.

FINDINGS:

The site is within the NFP Overlay District due to variations in topography, including **areas of slopes that are greater than or equal to 20 percent grade** and because the **site is majority woodland**. The site also **requires MNFI Rare Species Review**.

Since the project is located within the NFP Overlay District, the NFP Standards were reviewed and applied as follows:

- **Water Resources Standard** ([§ 50-6.2D](#)) – Significant water resources do not exist / have not been identified on-site.
- **Wetland Standard** ([§ 50-6.2C](#)) – Wetlands do not exist / have not been identified on-site.
- **Woodland Standard** ([§ 50-6.2G](#)) – A woodland delineation was conducted by Hurley & Stewart. The 23.34-acre project area is approximately 89.2% wooded and is a part of a larger woodland complex extending out into the adjacent Townships and City of Kalamazoo sized at approximately 152 acres. A woodland report provides more information on the woodland itself. This means that approximately 20.82 acres is delineated as woodland. The applicant is proposing to remove 72.8% of the Woodland. This would preserve 27.2% of the woodland or 5.66 acres. This meets the 25% Preservation requirement as described in Table 6.2-3 (Woodland Preservation). Woodland areas to be preserved are along the Northern property line staying consistent with maintaining the boundary areas of the larger woodland complex that cuts across jurisdictional boundaries. There is also a large area to the east that corresponds with steeper slopes that will be preserved. Woodland protection fencing for the proposed woodland areas to be preserved is shown on the plans alongside the specifications for the fencing. Per [§ 50-6.2G\(6\)](#) of the NFP Ordinance: *Woodlands trees and their CRZ shall be protected during site construction following the standards of [§ 50-6.2K\(8\)](#), Protection during construction*
- **Protected Slopes and Slope Setbacks Standards** ([§ 50-6.2H](#)) — **Slopes** 20% grade or greater are located throughout the project limits. The applicant obtained a variance to the Slope and Slope Setbacks within the project area.
- **Protected Tree Standard** ([§ 50-6.2F](#)) — The site is approximately 89.2 percent woodland and thus, the woodland standard is applied.
- **Rare Species Review** – This site required Rare Species Review to be completed by the [Michigan State University Extension](#). The review was completed by MSU Extension and is attached. The assessment from the MSU Extension MNFI Staff Biologist was that:

Although several at-risk species and/or natural communities have been documented within 1.5 miles of the project location it is unlikely that adverse impacts will occur. This response reflects a desktop review of the database and MNFI cannot fully evaluate this project without visiting the area. Per [§ 50-6.2I\(3\)](#) of the NFP Ordinance states: On-site survey. When a database search indicates a rare species has been identified within two miles of the parcel, an on-site survey shall be conducted. The survey must be conducted by a consultant with a Michigan endangered species permit or another qualified professional approved by the City Planner. ASTI Environmental conducted an on-site survey focused on Bats. Nothing within the MNFI Report indicated a need to start woodland work prior to April 1st.

- **Plant Selection ([§ 50-6.2J\(4\)\(b\)](#))** – Any Landscaping and screening are required for this project as well as other plantings. Per [§ 50-6.1C](#) *If a conflict arises between the overlay district regulations and those of the base zoning district, the overlay district regulations control.* This will be applicable during Site Plan Review.
- **Stormwater Management ([§ 50-6.2J\(6\)](#))** – Stormwater requirements on NFP sites are dictated by the City of Kalamazoo Performance Standards for Groundwater Protection within Wellhead Protection Capture Zones. Stormwater is shown as being captured on-site. This will be reviewed by the City Stormwater Engineer. A stormwater agreement will be required for this project.



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.



Community Planning & Economic Development

245 N Rose St • Suite 100 • Kalamazoo, MI 49007

(269) 337-8000 • www.kalamazoo.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:	(first) CURT	(last) AARDEMA
APPLICANT ADDRESS:	4200 (number) W. CENTRE AVE. (street name)	
	(city) PORTAGE (state) MI (Zip) 49024	
APPLICANT EMAIL:	caardema@rubinc.com	PHONE: 269-323-2022
PARCEL ADDRESS/PIN:	1617 N. DRAKE RD. - Western 23 acres only; #0512-413-001	
PROJECT DESCRIPTION:	REMOVAL OF EXISTING TREES BELOW THE 75% NFP PERMITTED THRESHOLD. NO NEW CONSTRUCTION OR CHANGE OF SLOPES.	
OWNER NAME: (if different)	(first) WESTBATE (last) LLC	
HAS REGULAR SITE PLAN REVIEW MEETING OCCURRED?	☐ Yes ☒ No	DATE OF SITE PLAN REVIEW MEETING:

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)



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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		NO WETLANDS ON SITE
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		NO WATER RESOURCES ON SITE
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		SEE ATTACHED
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
Provide a note with justification for removal.			SEE ATTACHED
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		SEE ATTACHED
Mark all areas of woodland that will be retained and removed (i.e., cleared).			SEE ATTACHED
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.			SEE ATTACHED
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		SEE ATTACHED
Include a note with co-existing feature that triggers "protected" slope status (e.g., wooded, within 500 ft of water resource).			SEE ATTACHED

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	SEE ATTACHED
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,
 -



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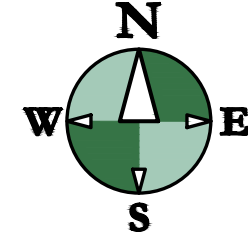
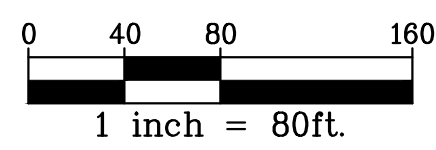
composition of species, any notable trees (either notable species or size), invasive species composition, and general health and age observations of tree stand

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

DRAWING LOCATION: H:\25-0340 (Mesquite Sports Facility)\FINAL DRAWINGS\NFP City of Kalamazoo Exhibit\200 Tree Clearing and SESC Plan.mxd LAST SAVED BY: JMT/LLT ON 3/17/2026

TREE REMOVAL PERCENTAGES
89.2% OF CURRENT SITE IS TREELOT
72.8% OF 23.34 ACRE SITE TREES TO BE REMOVED

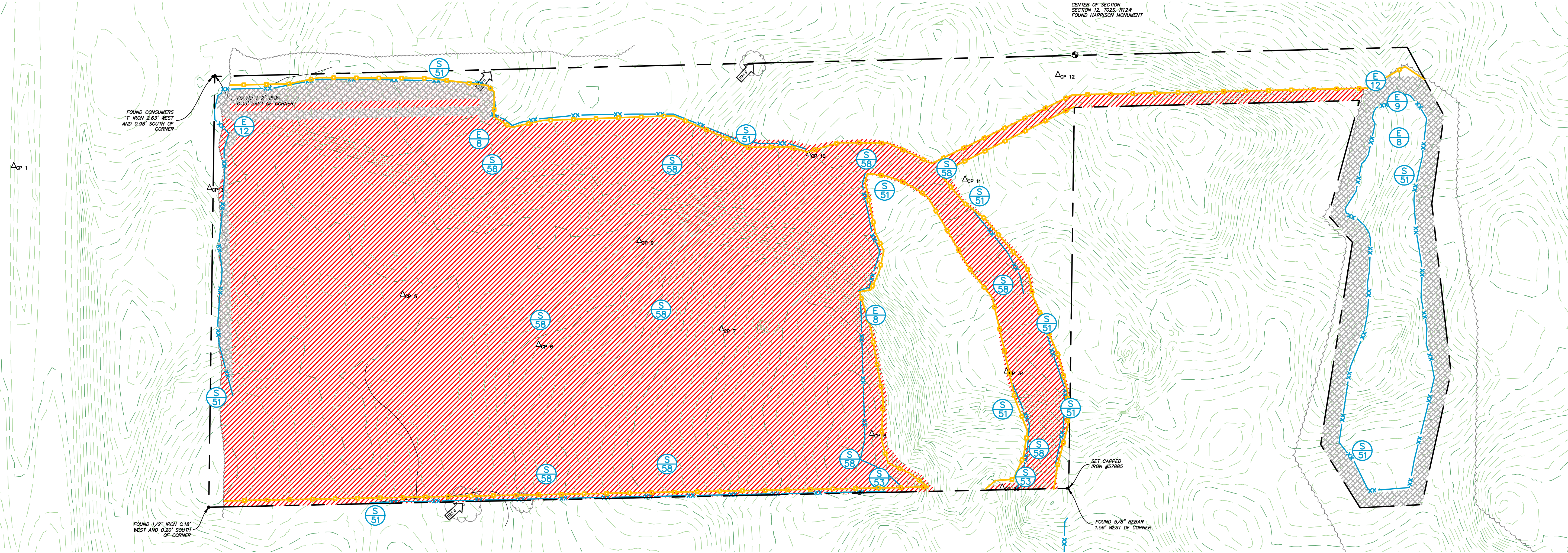


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FIELD WORK PERFORMED BY:
HURLEY & STEWART, LLC

hurley & stewart
hurley & stewart, llc
2800 s. 11th street
kalamazoo, michigan 49009
269.552.4960 fax 269.552.4961
www.hurleystewart.com

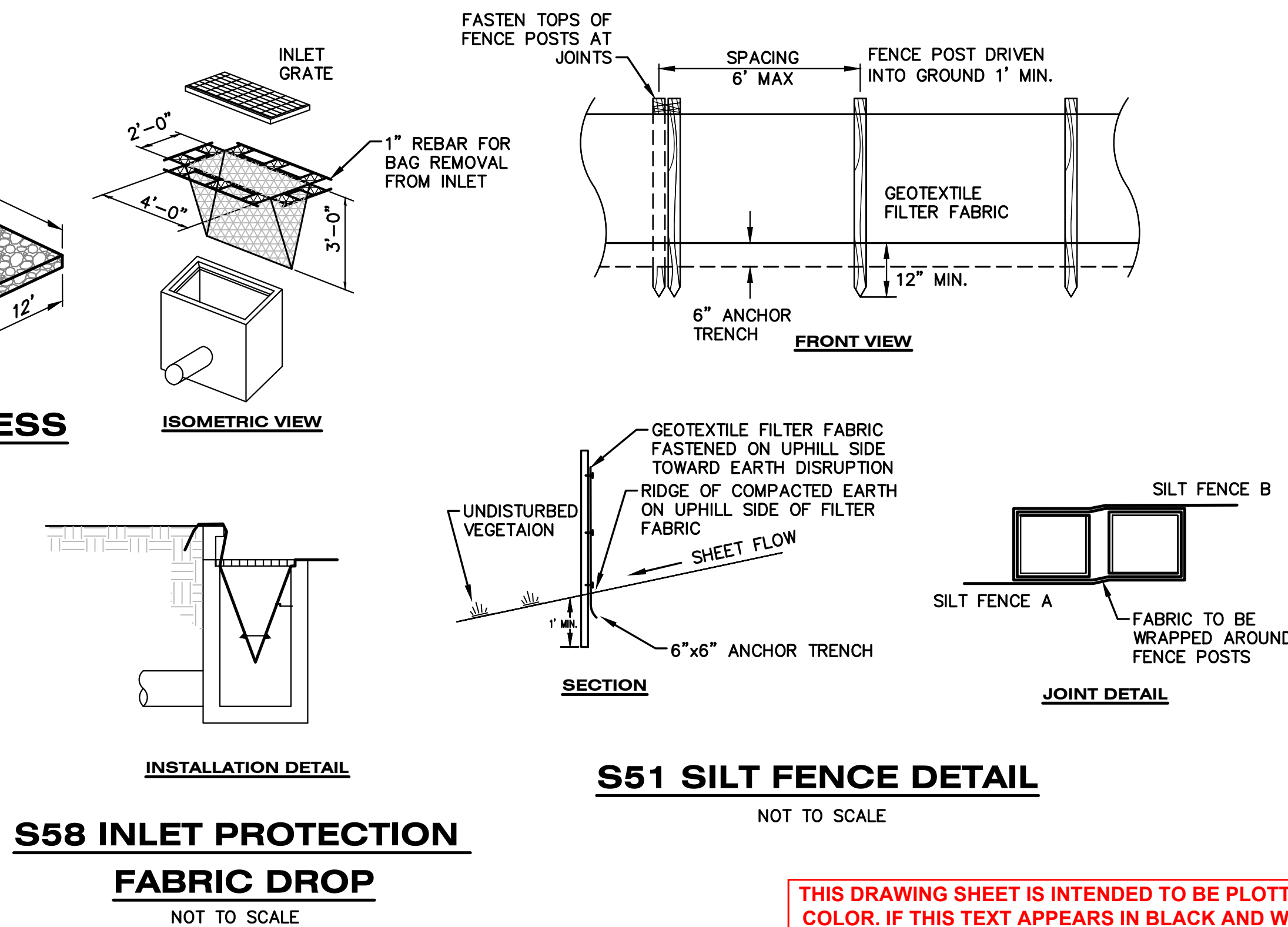
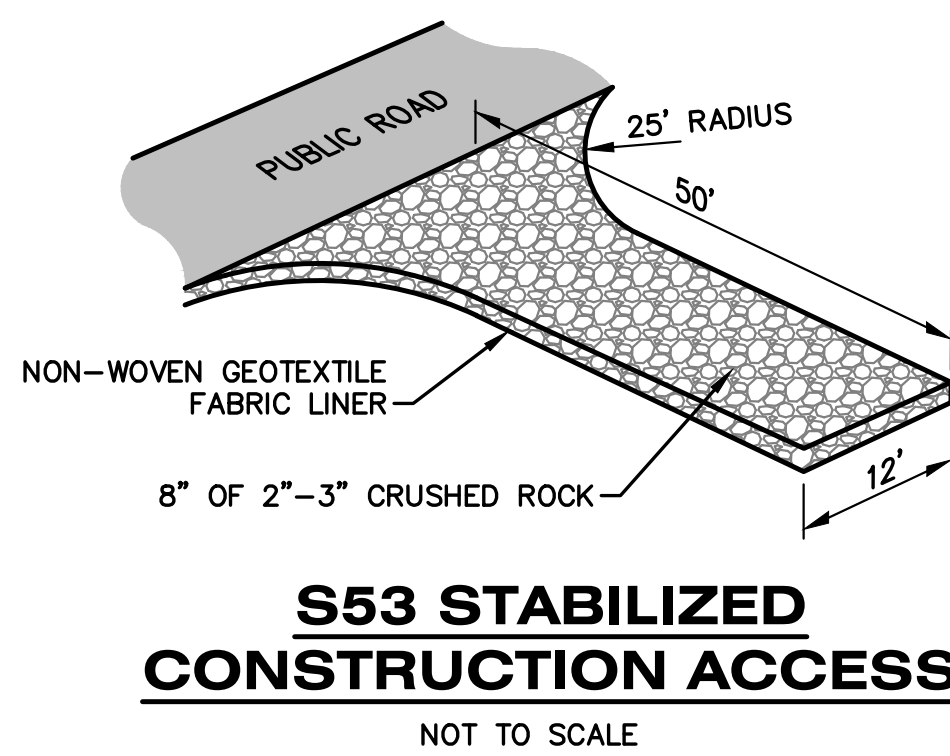
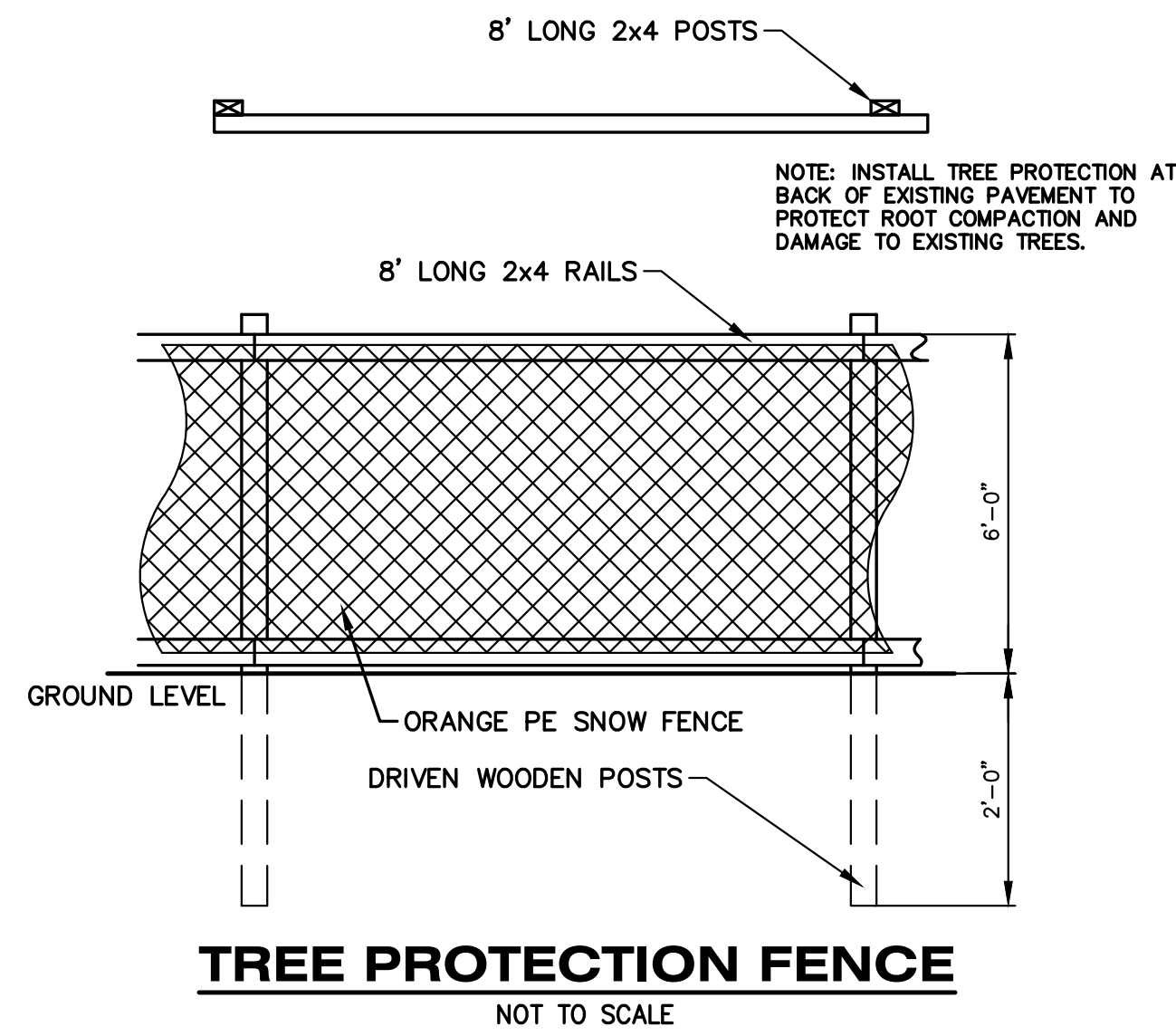


SESC PLAN LEGEND

- TREE REMOVAL
- PROPOSED SILT FENCE
- MULCH BLANKET
- BENCH MARK
- SOIL EROSION MEASURE
- SEDIMENT CONTROL MEASURE
- TREE PROTECTION

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
E8	PERMANENT SEEDING		Stabilization method utilized on sites where earth change has been completed (final grading attained).
E9	MULCH BLANKETS		On exposed slopes, newly seeded areas, new ditch bottoms, or areas subject to erosion.
E12	RIPRAP		Use along shorelines, waterways, or where concentrated flows occur. Slows velocity, reduces sediment load, and reduces erosion.
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.
S53	STABILIZED CONSTRUCTION ACCESS		Used at every point where construction traffic enters or leaves a construction site.
S58	INLET PROTECTION FABRIC DROP		Use at stormwater inlets, especially at construction sites.



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PRELIMINARY
NOT FOR CONSTRUCTION

ISSUED FOR: DATE:

PROJECT TITLE
INDOOR YOUTH & AMATEUR SPORTS FACILITY

OWNER
KALAMAZOO COUNTY EVENT CENTER ASSESSMENT DISTRICT (KCECAD)
1617 NORTH DRAKE ROAD
KALAMAZOO, MI

SHEET TITLE
TREE CLEARING AND SESC PLAN

DATE
MARCH 17, 2026

SHEET NUMBER
C 200
25-034D

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Westgate Athletic Facility Woodland Evaluation Natural Features Protection Area 2026



Background

Discover Kalamazoo is pursuing the construction of an amateur sports facility within the City of Kalamazoo. The site selected has the unique opportunity to fall within the City, but to have the visual exposure to US-131. The selected parcel will be approximately 23.5 acres split off from a larger parent parcel currently approximately 62 acres in size lying west of Drake Rd. The parent parcel falls within the Natural Features Protection overlay within the City of Kalamazoo.

Woodland Criteria

- Minimum coverage area: Trees cover a minimum area of a half acre, regardless of parcel boundaries.
- Tree Count: The area contains at least 40 trees per acre of at least two inches DBH and reach or at maturity will reach at least 50 feet in height.
- Natural ground cover; No more than 25% of the ground area is mowed turf grass.
- Understory : The area contains a layering of shorter understory trees and/or shrubs and forbs.

Minimum coverage area

Using an aerial photograph of the site and its surrounding area, it was determined that the woodland covering the applicant site extends past the boundaries of the site encompassing approximately 152 acres in total occupying both the City of Kalamazoo and Oshtemo township. See Image 1.

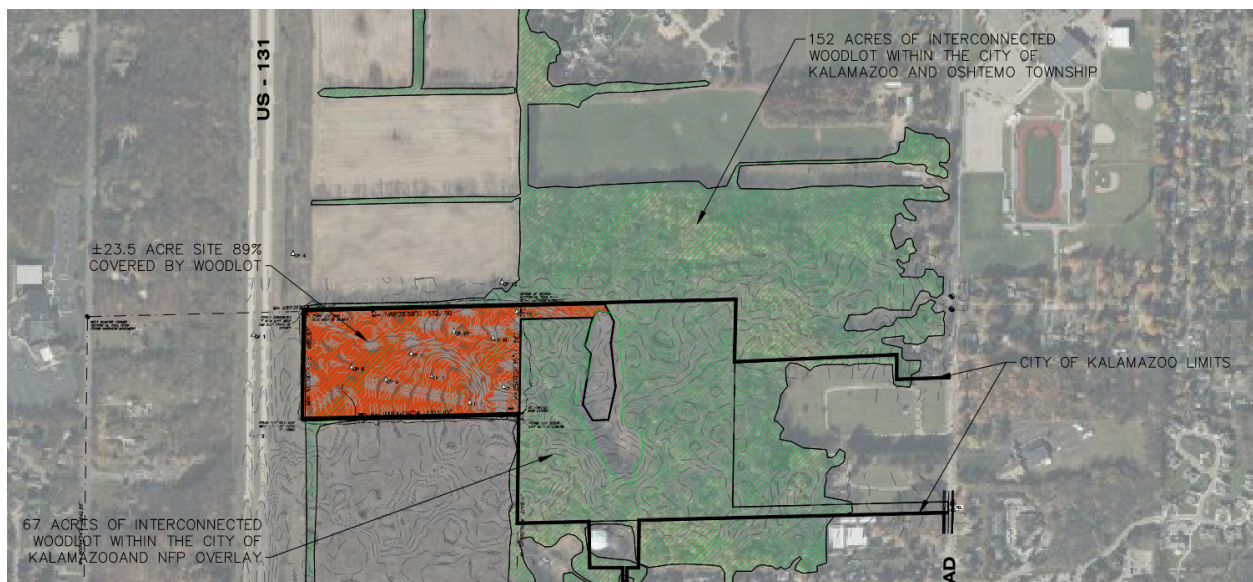


Image 1 Contiguous Woodlot

Of the 23.5 acre 89% of it falls within the woodland and is a mostly wooded site. There is a 5.17 acres portion of the parent parcel that has no mature trees and was cleared in 2019 prior to the site being designated NFP. The 11% of the proposed parcel that is not wooded falls within this cleared area.

Tree Count

The entirety of the 20 acre site is quite uniformly covered with trees greater than 2" in diameter. With an estimation that the trees are between 5' and 12' apart throughout the 20 acres, at a minimum there are 300 trees per acre. The entire mass of mature woodland being greater than 50 feet in height today.

Natural Ground Cover

The wooded portion of the site has no areas of turf ground cover. It currently (11/7/25) has a few inches of leaf litter.

Understory

The site has mostly young sugar maples and paw paw trees as understory as well as raspberries and roses.

Site Character



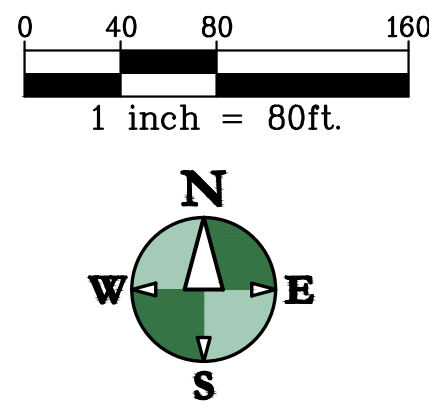
Image 2

The woodlot is composed of mostly sugar maples (*Acer saccharum*), with fewer examples of white oak (*Quercus alba*), tulip trees (*Liriodendron tulipifera*), bitternut hickory (*Carya cordiformis*), Norway Maple (*Acer platanoides*), black walnut (*Juglans*

nigra), paw paw (*Asimina triloba*), American Beech (*Fagus grandifolia*), black cherry (*Prunus serotina*), and cottonwood (*Populus deltoides*).

Within the majority of the site, Maple trees range from the oldest trees 15" DBH to the smallest saplings and trees such as faster growing cottonwoods and tulip trees as large as 40" dbh. The north and south lot lines are an exception to this. These areas were likely once fencelines and have older trees. There are clusters of 5-6 24-30" black walnut trees, some clusters of 15" black cherries, and several single sugar maples with 40" or larger dbh although some of those appear to be in decline. It is possible that with careful grading or with the use of limited tree wells, some of these large border trees can be saved.





SLOPES GREATER THAN 20%
SLOPE SETBACKS
85,414 SFT OF SLOPES AND SETBACKS



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FIELD WORK PERFORMED BY:
HURLEY & STEWART, LLC

HS
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2800 s. 11th street
kalamazoo, michigan 49009
269.552.4960 fax 269.552.4961
www.hurleystewart.com

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PRELIMINARY
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DESCRIPTION 1
ISSUED FOR
DATE 1
DATE

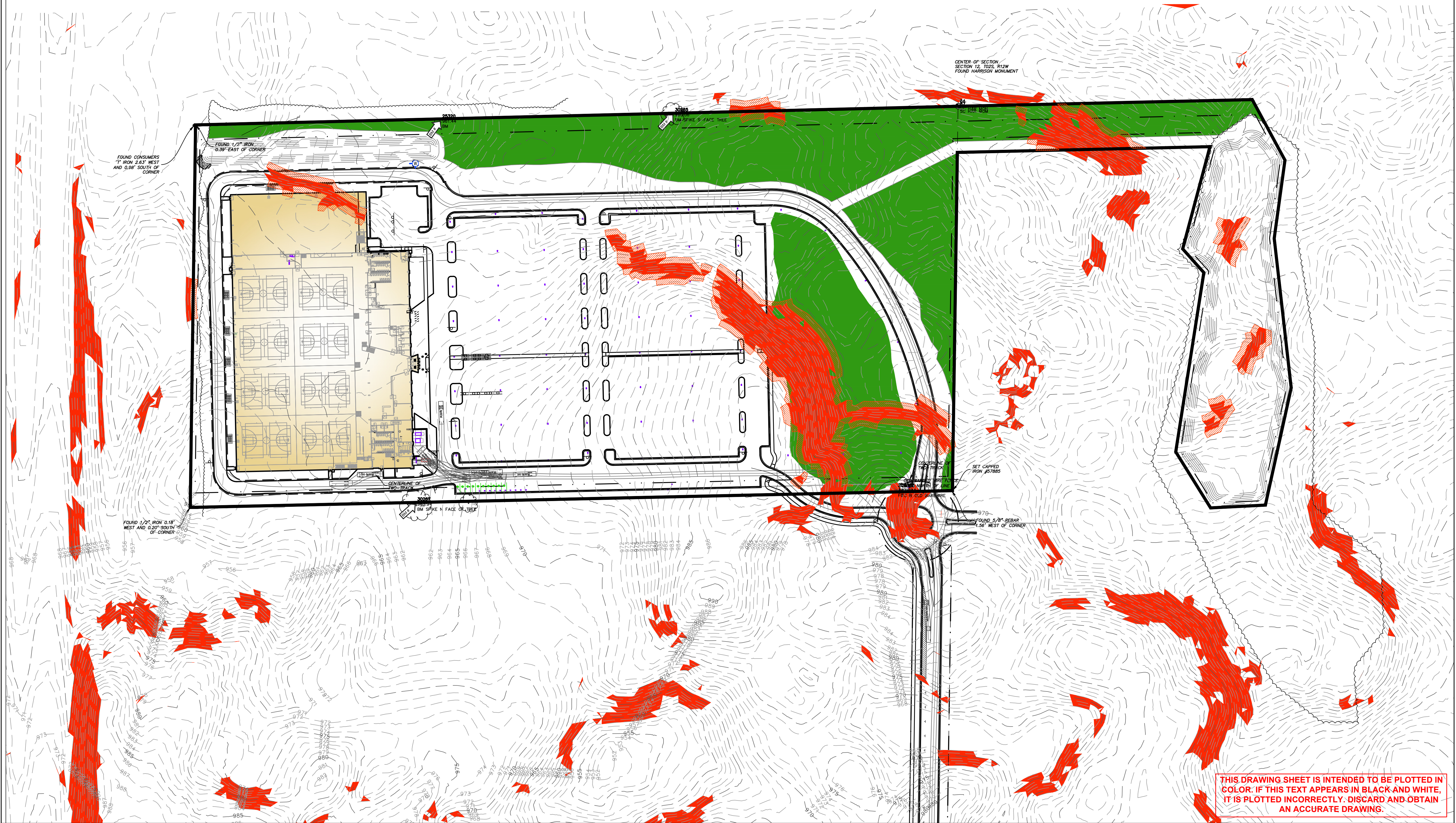
PROJECT TITLE
INDOOR YOUTH &
AMATEUR SPORTS
FACILITY

OWNER
KALAMAZOO COUNTY
EVENT CENTER
ASSESSMENT
DISTRICT (KCECAD)
KALAMAZOO, MI

SHEET TITLE
NFP SLOPE EVALUATION

DATE
MARCH 20, 2026

SHEET NUMBER
CD 103
25-034D



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Laurie Davis
Hurley & Stewart
2800 South 11th Street
Kalamazoo, MI 49009

January 14, 2026

Re: Rare Species Review #5710 – 20 acres - hardscape elements and stormwater

Hello:

The location for the proposed project was checked against known localities for rare species and unique natural features, which are recorded in the Michigan Natural Features Inventory (MNFI) natural heritage database. This continuously updated database is a comprehensive source of existing data on Michigan's endangered, threatened, or otherwise significant plant and animal species, natural plant communities, and other natural features. Records in the database indicate that a qualified observer has documented the presence of special natural features. The absence of records in the database for a particular site may mean that the site has not been surveyed. The only way to obtain a definitive statement on the status of natural features is to have a competent biologist perform a complete field survey.

Under Act 451 of 1994, the Natural Resources and Environmental Protection Act, Part 365, Endangered Species Protection, "a person shall not take, possess, transport, ...fish, plants, and wildlife indigenous to the state and determined to be endangered or threatened," unless first receiving an Endangered Species Permit from the Michigan Department of Natural Resources (MDNR), Wildlife Division. Responsibility to protect endangered and threatened species is not limited to the lists below. Other species may be present that have not been recorded in the database.



MSU EXTENSION

**Michigan Natural
Features Inventory**

PO Box 13036
Lansing MI 48901

(517) 284-6200
Fax (517) 373-9566

mnfi.anr.msu.edu

Although several at-risk species and/or natural communities have been documented within 1.5 miles of the project location it is unlikely that adverse impacts will occur. This response reflects a desktop review of the database and MNFI cannot fully evaluate this project without visiting the area. MNFI offers several levels of [Rare Species Reviews](#), including field surveys which I would be happy to discuss with you.

Sincerely,

Nicolette Sexton

Nicolette Sexton
Environmental Review Assistant
Michigan Natural Features Inventory

Comments for Rare Species Review #5710

It is important to note that it is the applicant's responsibility to comply with both state and federal threatened and endangered species legislation. Therefore, if a state listed species occurs at a project site, and you think you need an endangered species permit, please contact Amy Bleisch at DNR-Wildlife Division, DNR-StateTEPermit@michigan.gov and review details on the [MDNR's Threatened/Endangered Species](#) resource page. If a federally listed species is involved and, you think a permit is needed, please contact Jessica Pruden, U.S. Fish and Wildlife Service, East Lansing office, 517-351-8316, or Jessica_Pruden@fws.gov.

NOTE: Special concern species and natural communities are not protected under endangered species legislation, but efforts should be taken to minimize any or all impacts. Please consult MNFI's [Rare Species pages](#) for additional information on Michigan's rare plants and animals.

Table 1: Occurrences of Threatened & Endangered Species within 1.5 miles of Project Site

Element Category	Scientific Name	Common Name	Federal Status	State Status	G Rank	S Rank	EO Rank	First Observed Date	Last Observed Date
Animal	<i>Erynnis persius persius</i>	Persius dusky wing		T	G5T1T3	S3	H	1986	1989
Plant	<i>Baptisia lactea</i>	White or prairie false indigo		T	G4Q	S3	D	1978	1978
Plant	<i>Bouteloua curtipendula</i>	Side-oats grama grass		E	G5	S1	H	1838-07-23	1838-07-23
Plant	<i>Coreopsis palmata</i>	Prairie coreopsis		E	G5	S2	H	1838-07-23	1838-07-23
Plant	<i>Panax quinquefolius</i>	Ginseng		T	G3G4	S2S3	H	1838-07-27	1838-07-27

Comments for Table 1

All of the above EO's are historical and/or far removed from the project area, no concerns.

Table 2: Occurrences of Special Concern Species and Natural Communities within 1.5 miles of Project Site

Element Category	Scientific Name	Common Name	Federal Status	State Status	G Rank	S Rank	EO Rank	First Observed Date	Last Observed Date
Animal	<i>Bombus auricomus</i>	Black and gold bumble bee		SC	G5	S2	B	2020-07-21	2021-08-04
Animal	<i>Bombus fervidus</i>	Yellow bumble bee		SC	G3G4	S3	E	2021-08-04	2021-08-04
Animal	<i>Mesomphix cupreus</i>	Copper button		SC	G5	S1	H		
Plant	<i>Angelica venenosa</i>	Hairy angelica		SC	G5	S3	D	2021-06-17	2021-06-17
Plant	<i>Linum sulcatum</i>	Furrowed flax		SC	G5	S2S3	H	1838	1838-08-01

Comments for Table 2

All of the above EO's are historical and/or far removed from the project area, no concerns.

Codes to accompany table

State Protection Status Code Definitions

E = Endangered

T = Threatened

SC = Special concern

Federal Protection Status Code Definitions

LE = listed endangered

LT = listed threatened

LELT = partly listed endangered and partly listed threatened

PDL = proposed delist

E(S/A) = endangered based on similarities/appearance

PS = partial status (federally listed in only part of its range)

C = species being considered for federal status

Global Heritage Status Rank Definitions (G RANK)

The priority assigned by [NatureServe](#)'s national office for data collection and protection based upon the element's status throughout its entire world-wide range. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.

G1 = critically imperiled globally because of extreme rarity (5 or fewer occurrences range-wide or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2 = imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3 = Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g. a single western state, a physiographic region in the East) or because of other factor(s) making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.

G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

Q = Taxonomy uncertain

State Heritage Status Rank Definitions (S RANK)

The priority assigned by the Michigan Natural Features Inventory for data collection and protection based upon the element's status within the state. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.

S1 = Critically imperiled in the state because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extirpation in the state.

S2 = Imperiled in state because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extirpation from the state.

S3 = Rare or uncommon in state (on the order of 21 to 100 occurrences). S4 = apparently secure in state, with many occurrences.

S5 = demonstrably secure in state and essentially ineradicable under present conditions.

SX = apparently extirpated from state.

EO Rank Codes

Element Occurrence (EO) ranks refer to the viability or ecological integrity of the occurrence; they provide an assessment of the likelihood that if current conditions prevail the EO will persist for a defined period of time, typically 20-100 years.

- A - Excellent estimated viability/ecological integrity
- A? - Possibly excellent estimated viability/ecological integrity
- AB - Excellent or good estimated viability/ecological integrity
- AC - Excellent, good, or fair estimated viability/ecological integrity
- B - Good estimated viability/ecological integrity
- B? - Possibly good estimated viability/ecological integrity
- BC - Good or fair estimated viability/ecological integrity
- BD - Good, fair, or poor estimated viability/ecological integrity
- C - Fair estimated viability/ecological integrity
- C? - Possibly fair estimated viability/ecological integrity
- CD - Fair or poor estimated viability/ecological integrity
- D - Poor estimated viability/ecological integrity
- D? - Possibly poor estimated viability/ecological integrity
- E - Verified extant (viability/ecological integrity not assessed)
- F - Failed to find
- F? - Possibly failed to find
- H - Historical
- H? - Possibly historical
- X - Extirpated
- X? - Possibly extirpated
- U - Unrankable
- NR - Not ranked

Section 7 Comments for Rare Species Review #5710

20 acres - hardscape elements and stormwater

Laurie Davis
Hurley & Stewart
2800 South 11th Street
Kalamazoo, MI 49009

January 14, 2026

For projects involving Federal funding or a federal agency authorization

The following information is provided to assist you with Section 7 compliance of the Federal Endangered Species Act (ESA). The ESA directs all Federal agencies "to work to conserve endangered and threatened species. Section 7 of the ESA, called "Interagency Cooperation," is the means by which Federal agencies ensure their actions, including those they authorize or fund, do not jeopardize the existence of any listed species."

The project falls within the range of the following federally listed/proposed/candidate species which have been identified by the U.S. Fish and Wildlife Service (USFWS) to occur in Kalamazoo County, Michigan:

Federally Endangered

Indiana bat – there **does appear** to be suitable habitat within 1.5 miles of the project. Indiana bats (*Myotis sodalis*) are found only in the eastern United States and are typically confined to the southern three tiers of counties in Michigan. Indiana bats that summer in Michigan winter in caves in Indiana and Kentucky. This species forms colonies and forages in riparian and mature floodplain habitats. Nursery roost sites are usually located under loose bark or in hollows of trees near riparian habitat. Indiana bats typically avoid houses or other artificial structures and typically roost underneath loose bark of dead elm, maple and ash trees. Other dead trees used include oak, hickory and cottonwood. Foraging typically occurs over slow-moving, wooded streams and rivers as well as in the canopy of mature trees. Movements may also extend into the outer edge of the floodplain and to nearby solitary trees. A summer colony's foraging area usually encompasses a stretch of stream over a half-mile in length. Upland areas isolated from floodplains and non-wooded streams are generally avoided.

Management and Conservation: Every March, the USFWS publishes [survey guidelines](#) to assist project proponents (both Federal and non-Federal) with conservation planning for Federally listed bats in Michigan. We strongly encourage project managers and their designated representatives to use the U.S. Fish and Wildlife Service (USFWS) online planning tool [Information for Planning and Consultation](#) (IPaC) to evaluate potential effects of proposed activities on listed bats and other Federally listed species in Michigan. Projects that complete consultation or coordination through IPaC automatically adhere to the recommendations provided in these guidelines and are not required to implement any additional conservation measures for listed bats.

Snuffbox – there **does not appear** to be suitable habitat within 1.5 miles of the project. The state and federally endangered snuffbox mussel (*Epioblasma triquetra*) inhabits rivers and streams with cobble, gravel, or sand bottoms in swift currents and usually is deeply buried in the substrate. Glochidia, the parasitic larval stage of the mussel, are released from May to mid-July. In Michigan, the only host fish known for snuffbox is the log perch (*Percina caprodes*). In other parts of their range the banded sculpin (*Cottus carolinae*) is also a known host. After completing the parasitic stage and reaching adulthood, snuffbox remain relatively sessile on the river bottom, living between 8-10 years. The best time to survey for snuffbox is April through September.

Management and Conservation: the snuffbox mussel is sensitive to river impoundment, siltation, and disturbance, due to its requirement for clean, swift current and relative immobility as an adult. To maintain the current populations in Michigan, rivers need to be protected to reduce silt loading and run-off. Maintaining or establishing vegetated riparian buffers can aid in controlling many of the threats to mussels. Control of zebra mussels is critical to preserving native

mussels. And as with all mussels, protection of their hosts habitat is also crucial. Because the life cycle of the snuffbox is inherently linked with that of the logperch in Michigan, conservation and management of this fish species is needed to ensure that of the snuffbox.

Mitchell's satyr butterfly – there **does not appear** to be suitable habitat within 1.5 miles of the project. The federally endangered and state endangered Mitchell's satyr butterfly (*Neonympha mitchellii mitchellii*) is restricted to calcareous wetlands known as prairie fens. In Michigan, this habitat is characterized by scattered tamaracks, poison sumac, and dogwood with a ground cover of sedges, shrubby cinquefoil, and a variety of herbaceous species with prairie affinities. Adult Mitchell's satyr butterflies are active two to three weeks each summer, with males emerging before females. Adult flight dates are from mid-June to mid-July. Larvae hibernate near the bottom of a sedge. The larval food plant is thought to be several species of sedge. The caterpillar is green with white stripes.

Management and Conservation: the primary threat to the continued survival of this species is habitat loss and modification. Many of the wetland complexes occupied currently have been altered or drained for agriculture or development. Wetland alteration is responsible for extirpating the single known satyr population in Ohio. Wetland alteration also can lead to invasion by exotic plant species such as glossy buckthorn (*Rhamnus frangula*), purple loosestrife (*Lythrum salicaria*), common buckthorn (*Rhamnus cathartica*), and the common reed (*Phragmites australis*). In addition, landscape-scale processes that may be important for maintaining suitable satyr habitat and/or creating new habitat, such as wildfires, fluctuations in hydrologic regimes, and flooding from beaver (*Castor canadensis*) activity, have been virtually eliminated or altered throughout the species' range.

Northern long-eared bat – Northern long-eared bat (*M. septentrionalis*) numbers in the northeast US have declined up to 99 percent. Loss or degradation of summer habitat, wind turbines, disturbance to hibernacula, predation, and pesticides have contributed to declines in Northern long-eared bat populations. However, no other threat has been as severe to the decline as White-nose Syndrome (WNS). WNS is a fungus that thrives in the cold, damp conditions in caves and mines where bats hibernate. The disease is believed to disrupt the hibernation cycle by causing bats to repeatedly awake thereby depleting vital energy reserves. This species was federally listed in May 2015 primarily due to the threat from WNS.

Although no known hibernacula or roost trees have been documented within 1.5 miles of the project site, this activity occurs within the designated WNS zone (i.e., within 150 miles of positive counties/districts impacted by WNS. Also, there **does appear** to be suitable habitat within 1.5 miles of the project.

Also called northern bat or northern myotis, this bat is distinguished from other *Myotis* species by its long ears. In Michigan, northern long-eared bats hibernate in abandoned mines and caves in the Upper Peninsula; they also commonly hibernate in the Tippy Dam spillway in Manistee County. This species is a regional migrant with migratory distance largely determined by locations of suitable hibernacula sites.

Northern long-eared bats typically roost and forage in forested areas. During the summer, these bats roost singly or in colonies underneath bark, in cavities or in crevices of both living and dead trees. Roost trees are selected based on the suitability to retain bark or provide cavities or crevices. Common roost trees in southern Lower Michigan include species of ash, elm and maple. Foraging occurs primarily in areas along woodland edges, woodland clearings and over small woodland ponds. Moths, beetles, and small flies are common food items. Like all temperate bats this species typically produces only 1-2 young per year.

Management and Conservation: Every March, the USFWS publishes [survey guidelines](#) to assist project proponents (both Federal and non-Federal) with conservation planning for Federally listed bats in Michigan. We strongly encourage project managers and their designated representatives to use the U.S. Fish and Wildlife Service (USFWS) online planning tool [Information for Planning and Consultation](#) (IPaC) to evaluate potential effects of proposed activities on listed bats and other Federally listed species in Michigan. Projects that complete consultation or coordination through IPaC automatically adhere to the recommendations provided in these guidelines and are not required to implement any additional conservation measures for listed bats.

Federally Threatened

Eastern massasauga rattlesnake (EMR) – there **does not appear** to be suitable habitat within 1.5 miles of the project. The project **falls outside Tier 1/Tier 2 EMR habitat** as designated by the U.S. Fish & Wildlife Service (USFWS). The federally threatened and state special concern Eastern massasauga rattlesnake (*Sistrurus catenatus*) is Michigan's only venomous snake and is found in a variety of wetland habitats including bogs, fens, shrub swamps, wet meadows, marshes, moist grasslands, wet prairies, and floodplain forests. Eastern massasaugas occur throughout the Lower Peninsula but are not found in the Upper Peninsula. Populations in southern Michigan are typically associated with open wetlands, particularly prairie fens, while those in northern Michigan are better known from lowland coniferous forests, such as cedar swamps. These snakes normally overwinter in crayfish or small mammal burrows often close to the groundwater level and emerge in spring as water levels rise. During late spring, these snakes move into adjacent uplands they spend the warmer months foraging in shrubby fields and grasslands in search of mice and voles, their favorite food.

Often described as “shy and sluggish”, these snakes avoid human confrontation and are not prone to strike, preferring to leave the area when they are threatened. However, like any wild animal, they will protect themselves from anything they see as a potential predator. Their short fangs can easily puncture skin and they do possess potent venom. Like many snakes, the first human reaction may be to kill the snake, but it is important to remember that all snakes play vital roles in the ecosystem. Some may eat harmful insects. Others like the massasauga consider rodents a delicacy and help control their population. Snakes are also a part of a larger food web and can provide food to eagles, herons, and several mammals.

Management and Conservation: protection of extant populations and suitable wetland and adjacent upland habitats is crucial for successful conservation of the Eastern Massasauga. Maintaining or restoring open habitat conditions is critical for this species. Fragmentation of suitable wetland-upland habitat complexes by roads or other barriers should be avoided or minimized. Land management practices such as timber harvesting, mowing, disking or prescribed burning should be conducted in such a manner so as to minimize the potential for adverse impacts to massasaugas (e.g., conducting management activities during the snakes' inactive season (November through early March) or on days when snakes are less likely to be active on the surface during the active season). Protecting suitable hibernation sites also is critical.

Copperbelly water snake – there **does not appear** to be suitable habitat within 1.5 miles of the project. The federally threatened and state endangered copperbelly water snake (*Nerodia erythrogaster neglecta*) can grow to a length of 4-5 feet. Adult snakes are easily identified by their deep brown or black back which contrasts easily with the unmarked reddish-to-orange belly and chin.

Copperbelly water snakes are usually found in or near shrub swamps, ponds, lakes, oxbow sloughs, fens, and slow-moving streams. They can also be found in mature or second-growth woodlands and in more open habitats adjacent to wetland areas. In spring these snakes often inhabit the open edges of shallow ponds and buttonbush swamps and frequently bask on shoreline vegetation, muskrat lodges, or woody debris. When temperatures rise, and these seasonal waters begin to dry up in early summer, the snakes migrate to permanent waters (lake and stream edges), often using fairly dry wooded or grassy upland corridors. They may become largely nocturnal during hot weather. As excellent swimmers, they hunt aquatic species including tadpoles, frogs, salamanders, insect larvae, and crayfish. In the spring, tadpoles seem to be especially tasty to hungry copper-bellied water snakes.

Management and Conservation: a copperbelly water snake travels often during spring, summer, and fall. It moves to different wetlands as water levels and food availability change and then travels to and from its hibernation site. When moving to various locations, these snakes are vulnerable to predators (e.g., skunks, raccoons, raptors, and snapping turtles), especially if the snakes must travel across cleared areas, such as roads, mowed areas and farmlands. The decline of this species can be attributed to habitat loss and fragmentation, collection for the pet trade and predation. Conservation efforts should protect or create riparian corridors and habitat corridors between wetlands, protect existing and expand upland forest habitats, and reduce forest fragmentation. Permanently lowering water tables can cause seasonally inundated wetlands and hibernacula sites to become permanently dry which could lead to local population extirpations. Maintaining adequate prey base (i.e., mainly frogs) and shrub and log cover along the edge of wetlands for

cover and thermoregulation also is crucial. Please inform field crews that snakes should not be killed, harmed, or harassed. Any copperbelly water snake sightings should be reported to this office.

USFWS Section 7 Consultation Technical Assistance can be found at:

<https://www.fws.gov/service/esa-section-7-consultation>

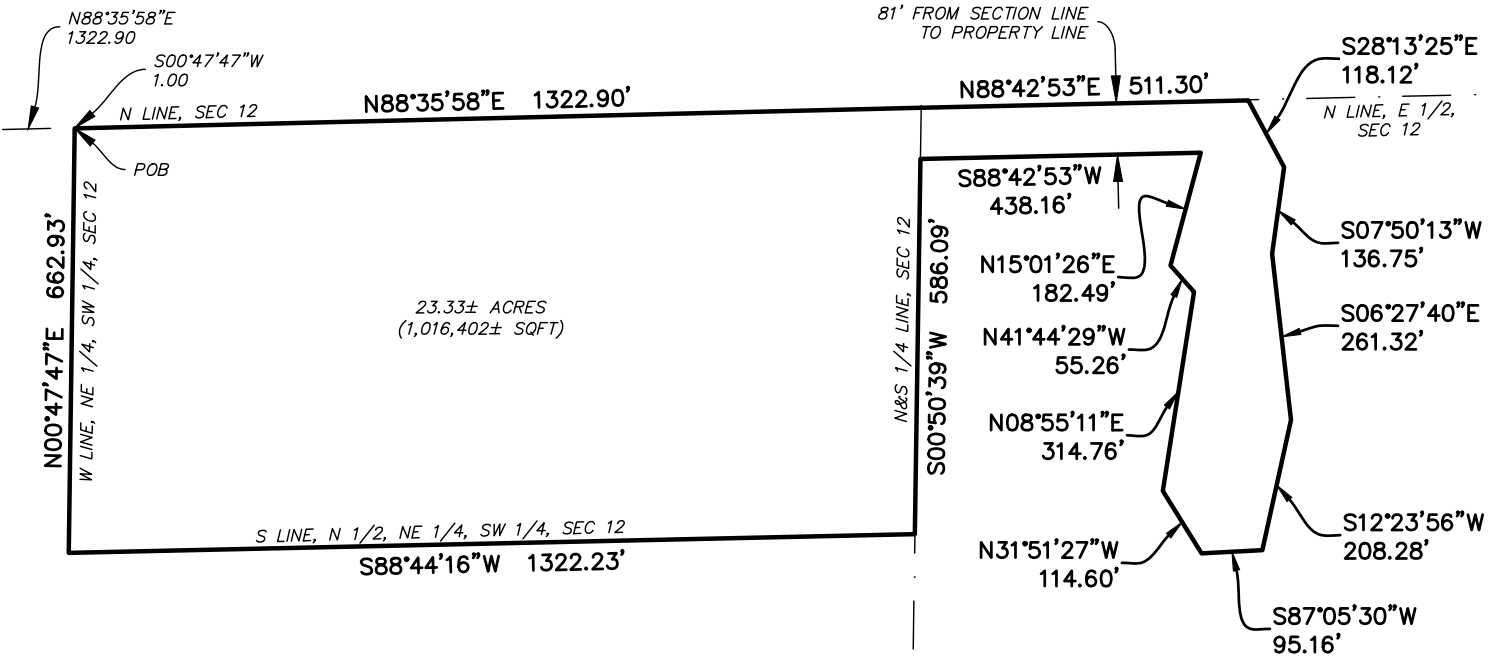
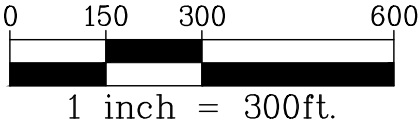
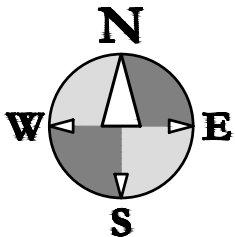
The website offers step-by-step instructions to guide you through the Section 7 consultation process with prepared templates for documenting “no effect” as well as requesting concurrence on "may affect, but not likely to adversely affect" determinations.

Please let us know if you have questions.

Nicolette Sexton
Environmental Review Assistant
Michigan Natural Features Inventory

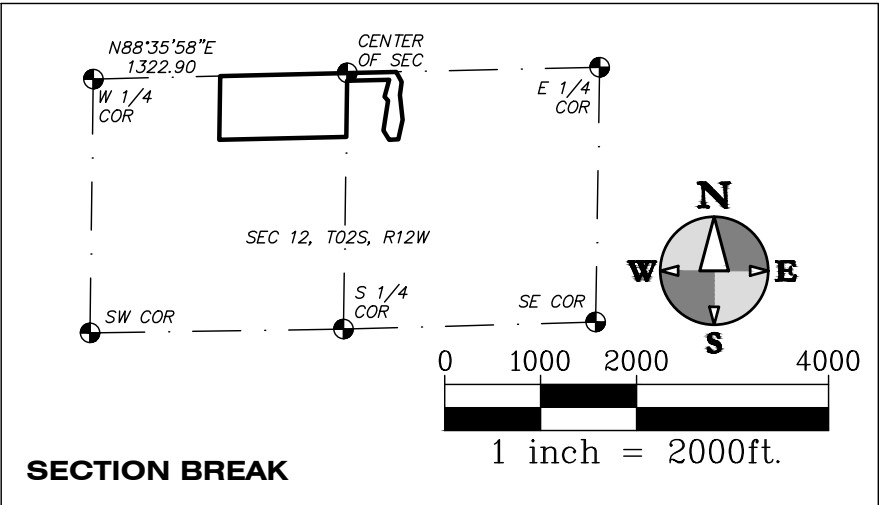
SKETCH OF DESCRIPTION

SECTION 12, TOWN 02 SOUTH, RANGE 12 WEST,
CITY OF KALAMAZOO, COUNTY OF KALAMAZOO, STATE OF MICHIGAN



LEGEND

- SECTION CORNER
- PROPERTY LINE
- SECTION LINE



DESCRIPTION

PART OF THE NORTH HALF OF SECTION 12, TOWN 02 SOUTH, RANGE 12 WEST, CITY OF KALAMAZOO, COUNTY OF KALAMAZOO, STATE OF MICHIGAN, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE WEST QUARTER CORNER OF SECTION 12, TOWN 02 SOUTH, RANGE 12 WEST; THENCE ALONG THE NORTH LINE OF SAID SECTION 12, NORTH 88 DEGREES 35 MINUTES 58 SECONDS EAST 1322.90 FEET TO WEST LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 12; THENCE ALONG SAID WEST LINE, SOUTH 00 DEGREES 47 MINUTES 47 SECONDS WEST 1.00 FEET TO THE POINT OF BEGINNING; THENCE PARALLEL WITH THE NORTH LINE OF THE WEST HALF SAID SECTION 12, NORTH 88 DEGREES 35 MINUTES 58 SECONDS EAST 1322.90 FEET TO THE NORTH AND SOUTH QUARTER LINE OF SAID SECTION; THENCE PARALLEL WITH THE NORTH LINE OF THE EAST HALF OF SAID SECTION 12, NORTH 88 DEGREES 42 MINUTES 53 SECONDS EAST 511.30 FEET; THENCE SOUTH 28 DEGREES 13 MINUTES 25 SECONDS EAST 118.12 FEET; THENCE SOUTH 07 DEGREES 50 MINUTES 13 SECONDS WEST 136.75 FEET; THENCE SOUTH 06 DEGREES 27 MINUTES 40 SECONDS EAST 261.32 FEET; THENCE SOUTH 12 DEGREES 23 MINUTES 56 SECONDS WEST 208.28 FEET; THENCE SOUTH 87 DEGREES 05 MINUTES 30 SECONDS WEST 95.16 FEET; THENCE NORTH 31 DEGREES 51 MINUTES 27 SECONDS WEST 114.60 FEET; THENCE NORTH 08 DEGREES 55 MINUTES 11 SECONDS EAST 314.76 FEET; THENCE NORTH 41 DEGREES 44 MINUTES 29 SECONDS WEST 55.26 FEET; THENCE NORTH 15 DEGREES 01 MINUTES 26 SECONDS EAST 182.49 FEET TO A POINT 81.00 FEET SOUTH (PERPENDICULAR MEASURE) OF THE NORTH LINE OF THE EAST HALF OF SAID SECTION 12; THENCE PARALLEL WITH SAID NORTH LINE, SOUTH 88 DEGREES 42 MINUTES 53 SECONDS WEST 438.16 FEET TO THE NORTH AND SOUTH QUARTER LINE OF SAID SECTION; THENCE ALONG SAID NORTH AND SOUTH QUARTER LINE, SOUTH 00 DEGREES 50 MINUTES 39 SECONDS WEST 586.09 FEET TO THE SOUTH LINE OF THE NORTH HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 12; THENCE ALONG SAID SOUTH LINE, SOUTH 88 DEGREES 44 MINUTES 16 SECONDS WEST 1322.23 FEET TO THE WEST LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION; THENCE ALONG SAID WEST LINE, NORTH 00 DEGREES 47 MINUTES 47 SECONDS EAST 662.93 FEET TO A POINT LYING 1.00 FEET SOUTH OF THE NORTH LINE OF SAID SECTION AND THE POINT OF BEGINNING. PARCEL CONTAINS 23.33± ACRES (1,016,402± SQUARE FEET). SUBJECT TO EASEMENTS AND RESTRICTIONS BOTH APPARENT AND OF RECORD.

SARAH MUNCHOW

SARAH.MUNCHOW@GMAIL.COM

2447 HILLSDALE AVE • KALAMAZOO, MI 49006 • PHONE (269) 532-4188

Licensed architect with 8+ years of experience in education, healthcare, and community-based projects. Champion of sustainable design practices, embodied and operational carbon reduction, and energy modeling. Open to opportunities to grow in responsible, resilient design.

PROFESSIONAL EXPERIENCE

Eckert Wordell Architecture and Engineering

Kalamazoo, MI

Architect III, Sustainability Manager

April 2022 - present

Project Architect for Northwest Cancer Center and Powers Health hospital group; projects ranging from 10,000 SF - 70,000 SF

Lead project team through all phases from pre-design through post-construction

Initiated sustainable design process and improvements to BIM practices

Seven Generations Architecture and Engineering

Kalamazoo, MI

Project Coordinator

Dec. 2019 – April 2022

Acted as Project Architect on community projects including hospitality, multi-family housing

Managed small teams and led client meetings

Initiated internal sustainability standards and implemented use of energy modeling software

Produced content from Pre-Design through Construction Documentation and Administration

Support documentation on LEED-certified buildings

Wight & Company

Darien, IL

Architectural Designer

May 2017 – Nov. 2019

Lead designer for Maine Township West High School

Support on a 60,000 SF ILFI-certified net-zero energy high school in Lincolnshire, IL

Support on a PHIUS-certified net-zero energy recreation center in Plainfield, IL

Interior palette design, presentation, documentation

EDUCATION

University of Michigan

Ann Arbor, MI

Master of Architecture

April 2017

Relevant Coursework: Sustainable Systems I and II, Building Systems and Energy Conservation, Net-Zero Energy Buildings, and Integrative Systems

Travel Course: Cultural Landscapes and Archeological Site Work in Anatolia, Turkey

Southern Illinois University

Carbondale, IL

Master of Arts, English Magna cum laude

Aug. 2014

Western Michigan University

Kalamazoo, MI

Bachelor of Arts, English Magna cum laude

Dec. 2009

SKILLS

Revit

Rhinoceros

Adobe CS

Sketchup

Lumion

cove.tool

Ceramics

MS Office Suite

Teaching

Writing

Editing

Research

Board, Commission, or Committee Application

Submitted on5 February 2026, 3:12PM

Receipt number410

Related form version21

Applicant Information

Full NameSarah Louise Munchow

Home Address

Are you a City of Kalamazoo resident?No

Phone Number269.532.4188

Email Addresssarah.munchow@gmail.com

OccupationArchitect

EmployerEckert Wordell

Employer AddressHaymarket Building, 161 E Michigan Ave, Kalamazoo, MI 49007, USA [Map](#)
(42.2918958, -85.58187459999999)

Employer Phone Number(269) 388-7313

Board or Commission

Which Board or Commission are you applying for?Natural Features Protection (NFP) Review Board

What experience, education, community activities, etc. do you think should be considered for your appointment to this board or commission?8 years of practice in architecture, including coordination with civil engineering, landscape architecture, and local governing bodies; LEED Green Associate; Kalamazoo Area Wild Ones member and native plants enthusiast

Are there any reasons you may have a conflict of interest if you were appointed to this board or commisison? If so, please explain.While my employer mainly works nationally, we may have future work in Kalamazoo which may be submitted for review.

Are you currently serving as an appointee to any other City of Kalamazoo board or commission? If so, which one(s)?None

References

Reference 1 Full NameJared VanderWheele

Reference 1 Address

Reference 1 Phone Number	9079782098
Reference 2 Full Name	Nadine Rios-Rivas
Reference 2 Address	
Reference 2 Phone Number	2699296910

Supporting Documents

[Munchow_Sarah_Resume-2026.pdf](#)

Optional Demographic Information

Gender	Female
Race	White
Ethnicity	Non-Hispanic or Latinx
Year of Birth	1988
Household Income	More than 80% median family income
Disability Status	No disability
Employment	Full-time
Education	Post-graduate degree
Where do you live?	Westwood
How did you learn about this opportunity to serve on a board or commission?	City of Kalamazoo LinkedIn post

Submit

Applicant Signature



[Link to signature](#)



Advisory Boards and Commissions Appointee Nomination Report

City of Kalamazoo

RECOMMENDATION

It is recommended that the City Commission approve the following appointments (and/or reappointments) to the Natural Feature Protection Board:

SPECIAL REQUIREMENTS FOR THIS POSITION

The NFP Bylaws require Board Member representation in the following expertise areas: *Members shall have education or experience so that the Board has at least one member with knowledge in each of the following areas: 1) wetlands/water resources, 2) plants/trees, 3) slopes, and 4) site development/building construction.*

SELECTION PROCESS

Applicants Considered

One NFP Board Member term expire in March 2025. Since March 2025 staff have been promoting various commission / board opportunities using the following tools:

- City social media
- Professional Networks
- Contacting Previous Applicants

Two applications were received. One applicant did not respond to staff communications. In 2026, a second application was submitted. The NFP Board Liaison conducted an initial interview with the applicant who stated they were still interested in serving on the NFP Board. At the February 2026 NFP Regular Meeting, a Nominating Subcommittee of NFP Board Members was created to interview / review applications and qualifications. The applicant met requirements to serve on the NFP Review Board and are moving forward for City Commission / Mayoral approval.

Interview Process and Final Recommendation

Staff have been attempting to fill one NFP Review Board position since March 2025. All staff expertise areas are filled so outreach was focused on letting people know that anyone with interest in serving, could indeed apply. The applicant was interviewed twice. Once with just the NFP Board Liaison and then again with the NFP Nominating Subcommittee. The goal of the nominating subcommittee is to act as an extension of the NFP Board and report

back to the full board on the applicant interview and make a recommendation to City Commission / Mayor for appointment.

NOMINEE QUALIFICATIONS

See attached Resume/CV

Dual Board Memberships

Currently, the nominee does not serve as a member on other city advisory boards.

Residency

The NFP Bylaws do not require City residency. However, they currently reside near the City of Kalamazoo in Kalamazoo Township, just West of the Douglas Neighborhood.

Term Limits

Sarah Munchow would serve a full board term of three years with the opportunity to serve an additional term prior to terming off the NFP Board.

Training, Experience, Education And Skills

Sarah Munchow is a Architect III / Sustainability Manager for Eckert Wordell Architecture and Engineering. They've held that position for 4 years. They have earned an M.S. in Architecture from the University of Michigan (2017). They are a Licensed architect with 8+ years of experience in education, healthcare, and community-based projects and champion of sustainable design practices, embodied and operational carbon reduction, and energy Modeling. They are open to opportunities to grow in responsible, resilient design. In addition to their work, they are also a LEED Green Associate and are a Kalamazoo Area Wild Ones member and enthusiast of native plant species.

Contribution To Diversity

Sarah Munchow contributes to the diversity and balance to the NFP Board in their Experience, Architectural Knowledge, and Demographic background. They are also located on the edge of the Douglas Neighborhood which is a geography not represented.

NOMINATION RATIONALE

The appointment of Sarah Munchow fits well with the current membership of the NFP Review Board. This balances the board membership expertise areas between ecology and biological sciences and site plan development and architectural backgrounds. They also add to the overall diversity of the board and fill a position that has been open since March 2025.

CITY CLERK'S CERTIFICATION

The nominee's qualifications regarding dual board memberships, residency, and term limits have been reviewed and verified by the City Clerk's Office.

Scott A. Borling, City Clerk



Natural Features Protection Guide

Table of Contents

Introduction

Adopted in 2019, the Natural Features Protection Ordinance put in place standards for the development of land on or near areas identified with Natural Features in order to achieve better management and long-term protection of these areas. Overlay districts provide an additional set of requirements for the development and use of parcels with the overlay.

When a parcel is developed, redeveloped, or the natural feature is impacted due to any site alterations, the standards for all applicable natural features are applied. The site development standards shall be applied to all parcels in the NFP Overlay District. The NFP Overlay District is intended to balance development with the consideration of natural features in the City of Kalamazoo, specifically wetlands, water resources, trees, woodlands, floodplains, slopes, natural heritage areas, and habitat corridors.



Contact

City Liaison

Nolan Bergstrom, Community Planner

Phone

311 or 269-337-8000

Email

development@kalamazoocity.org

Location

245 N Rose Street Suite 100
Kalamazoo, MI 49007

Introduction

The Creation of the NFP Overlay District & Ordinance

Guiding Principles

The creation of the NFP Overlay was guided by four principles:

- 1 Does not mean no development, means more thoughtful development as it relates to Natural Features
- 2 Standards must be protective of the defined natural feature
- 3 City staff must be able to manage and enforce standards
- 4 The ordinance must work for a variety of parcels all over the City

Phases

There are three phases to Natural Features Protection in the City:

- 1 **Engagement, Ordinance Creation, Map**
2019
- 2 **Mapping Analysis**
2020 - 2021
- 3 **Public Education & Stewardship**
2024 & Beyond

What is a Zoning Overlay?

A Zoning Overlay is a set of zoning standards applied to a property in addition to the zoning standards from the base or underlying zoning district. For properties within the NFP Overlay, the standards of today's zoning district apply in addition to those of the NFP Overlay. In cases of conflict, the NFP Overlay standards apply.

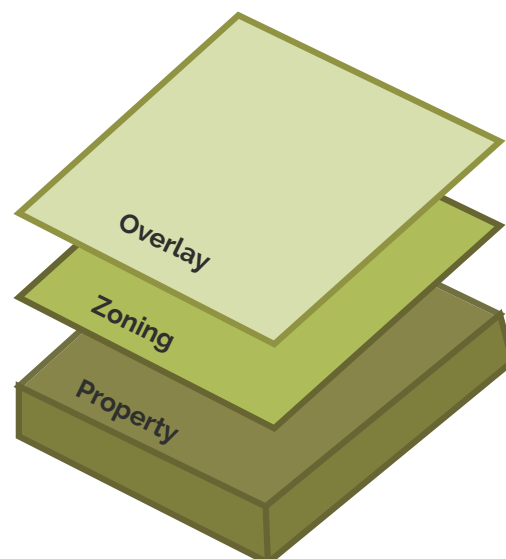
Environmental Responsibility

A green and healthy city.



Since the last Master Plan was adopted (7 years ago) we have:

- Sustainability Plan & Greenhouse Gas Reports**
A 10-year guiding document to create a more sustainable, resilient city and a document to detail where we are now.
- 1,400+ NFP Parcels Added**
Protecting natural features during new and existing development projects
- Purchase of Renewable Energy**
Beginning in 2028, the City of Kalamazoo will use renewable energy for its electric use.
- Recycling Audit & Tree Inventory Completed**
Gaining understanding of the City's green resources and capacity for growth
- Affordable Green Housing**
35 homes audited for energy efficiency and future sustainability
- 1,800+ Trees Planted**
Initiative to grow our urban forest so everyone can enjoy the benefits trees provide
- 5,000 Tires Recycled**
Recycled tires are used in driveways, trails, and other products



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Development Process

Road to Approval

Projects located within the NFP Overlay District have pathways for approval. The following pages will go through each step in greater detail. The next section will showcase real project examples and how they navigated this process.

Project Review Paths

There are three different review pathways for projects to consider for development or changes planned for an NFP property:

- 1 Administrative Review**
For projects not requiring Site Plan Review & require permits.
- 2 NFP Review Board & Site Plan Review**
For projects requiring Site Plan Review OR there is a ground disturbance affecting existing natural features.
- 3 NFP Review Board & Public Notice**
For more extensive projects with multiple Natural Features and those requiring zoning approvals from the Planning Commission or Zoning Board of Appeals

All projects require site plan review, except:

- Development or expansion of a one-family or two-family dwelling unit.
- Placement of a dwelling unit in an approved mobile home park.
- Internal construction or change in the floor area of a structure that does not increase gross floor area, increase the intensity of use or affect parking requirements on a site that meets all development and site design standards of this Ordinance.
- Grading, excavation, filling, soil removal, creation of ponds or clearing of trees within an area of less than 1/2 acre in size.
- Temporary Uses
- Expansion or new structures up to and including 250 square feet in area.
- Antenna co-locations in compliance with State Act 514 (plans will be reviewed to determine if Site Plan Review is required)

Development Process

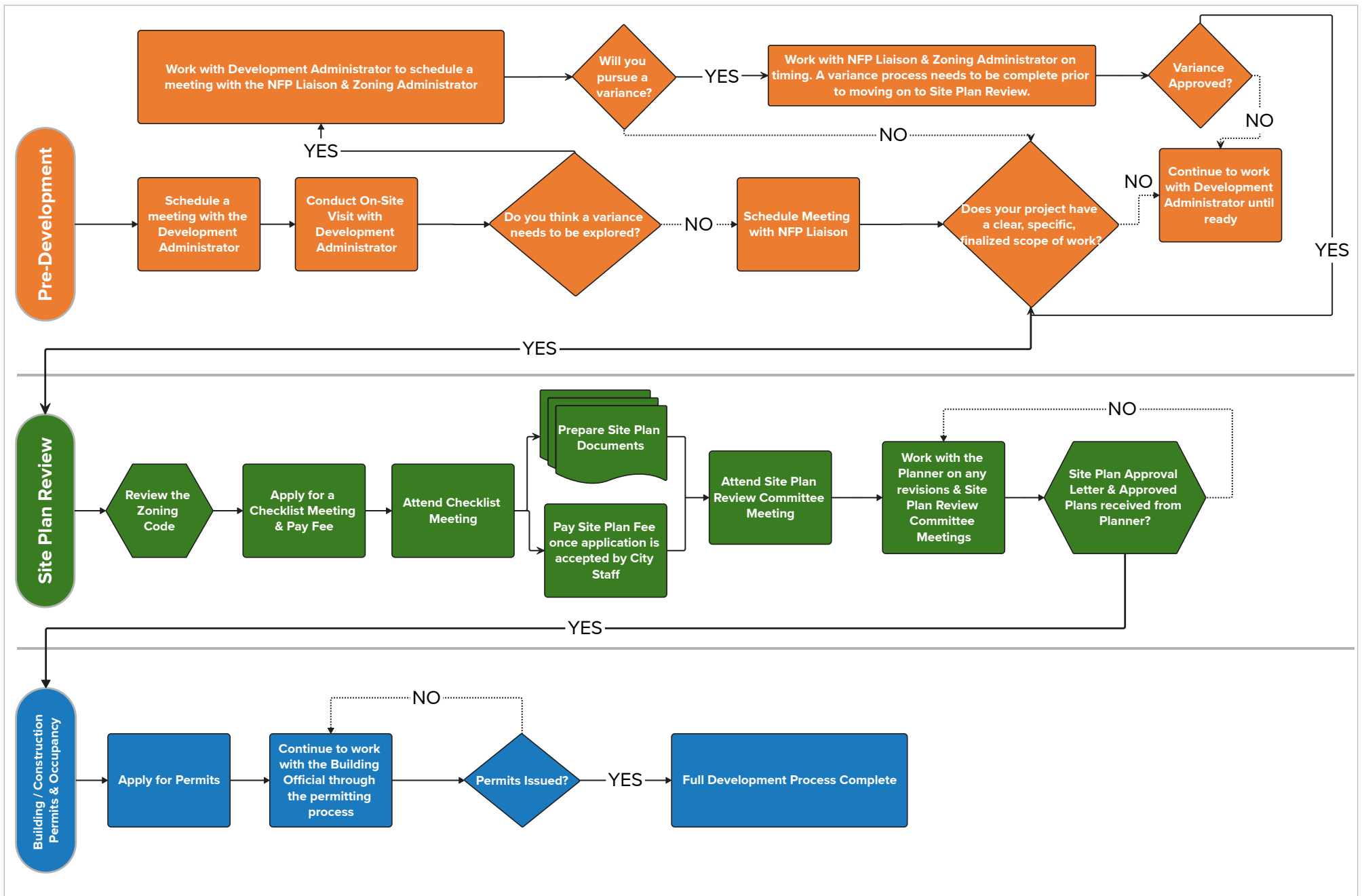
In 2025, the City of Kalamazoo launched a new Development process (see picture on next page). This streamlines the process and walks you, the applicant, through each step with the end goal of completing the development process.

NFP processes are primarily tied to Site Plan Review. It is important for you as the applicant to connect with the City of Kalamazoo in the Pre-Development phase to discuss these processes.



STOP! Scan the QR code at the right to connect to more resources related to Development within the City of Kalamazoo.

Development Process



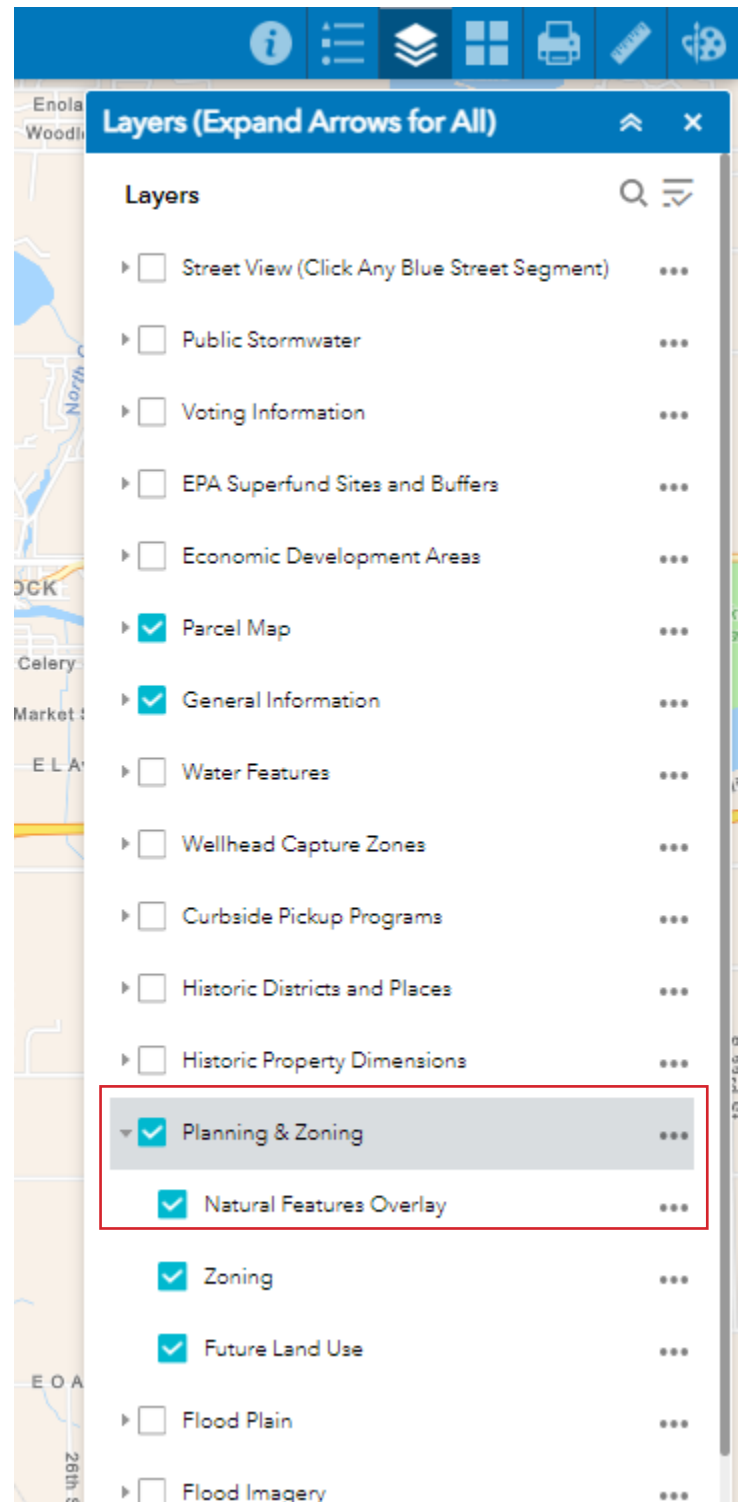
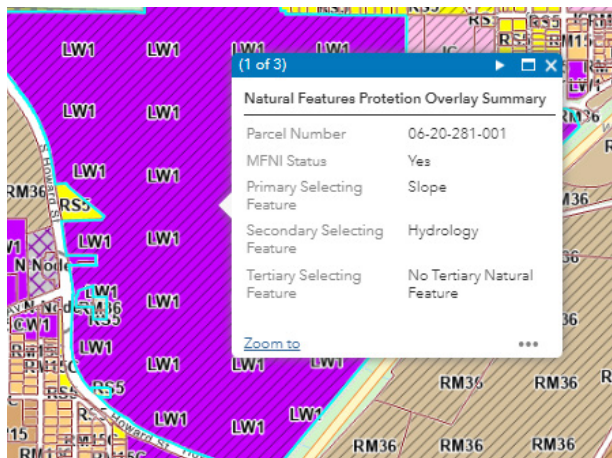
GIS / Map Review

The City of Kalamazoo has a Public GIS Map available for anyone to use. A desktop review is advisable to understand which natural features are on your site, if you require rare species review, and what the base zoning is for the site.

The Public GIS Map system is available here: [City of Kalamazoo GIS](#) and provides many layers including aerial imagery to help conduct a desktop review of your property.

When you expand the layers tab on the Public GIS Map you will want to expand the Planning & Zoning category and make sure the Natural Features Overlay is checked. With this layer checked, properties within the NFP Overlay District will have a hatched marking within them. You can select your property and a pop-up box will give a brief summary of what the natural features identified on-site are as well as the Michigan Natural Features Inventory Rare Species Review Status.

There are a many other layers available to help complete a thorough desktop review. Once this review is complete, you can move onto a review of the ordinance and NFP Supplemental Application.

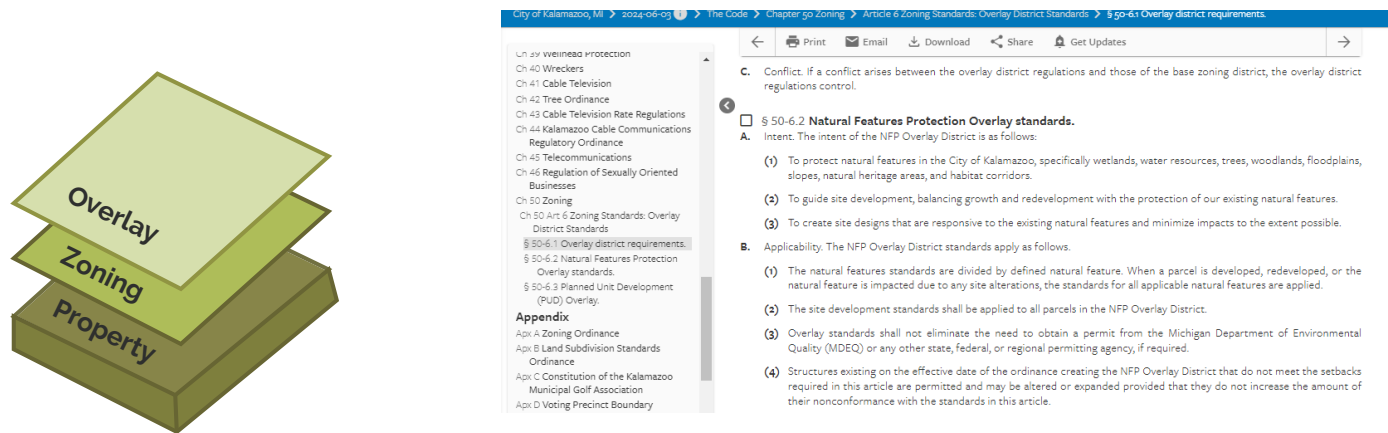


Zoning & NFP Ordinance Review

NFP Overlay District Standards are located within Chapter 50 of the Zoning Code. It is highly recommended that applicants review the standards and procedures to prepare for conversations with City staff. This review is a benefit to you as an applicant in prepping questions for City staff and familiarizing yourself with the Standards within the NFP Ordinance. This can also save time and financial resources.

It is important to remember that Zoning still applies to the site.

[The ordinance is available online to review.](#)



Supplemental NFP Application

A Supplemental Application is required for project that are on a parcel in the NFP Overlay District.

The application consists of various sections related to the NFP Standards. There is a section about if an NFP Application is required. If the project is limited to interior work only with no increase in impervious surface or ground work apart of the scope, then you would sign the page and not fill-in the sections on the following pages. A conversation with the NFP Staff Liaison can help determine what the best path forward is based upon the proposed project scope.

An example of what the Supplemental Application looks like is on the following pages.

The supplemental application is available on the City's website [here](#).

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

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:	(first) (last)		
APPLICANT ADDRESS:	(number) (street name)		
	(city)	(state)	(zip)
APPLICANT EMAIL:		PHONE:	()
PARCEL ADDRESS/PIN:			
PROJECT DESCRIPTION:			
OWNER NAME: (if different)	(first) (last)		
HAS REGULAR SITE PLAN REVIEW MEETING OCCURRED?	☐ Yes ☐ No	DATE OF SITE PLAN REVIEW MEETING:	

NFP APPLICATION REQUIRED?

Is the project limited to interior work only with no exterior ground changes or increase in impervious coverage?

YES	If <u>YES</u> , 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 <u>NO</u> , 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		
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.			
Provide a note with justification for removal.			
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		
Mark all areas of woodland that will be retained and removed (i.e., cleared).			
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.			
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			
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

App Submittal

Once you have completed your NFP Supplemental Application you must submit it along with your regular site plan checklist for review by both City staff and the NFP Review Board.

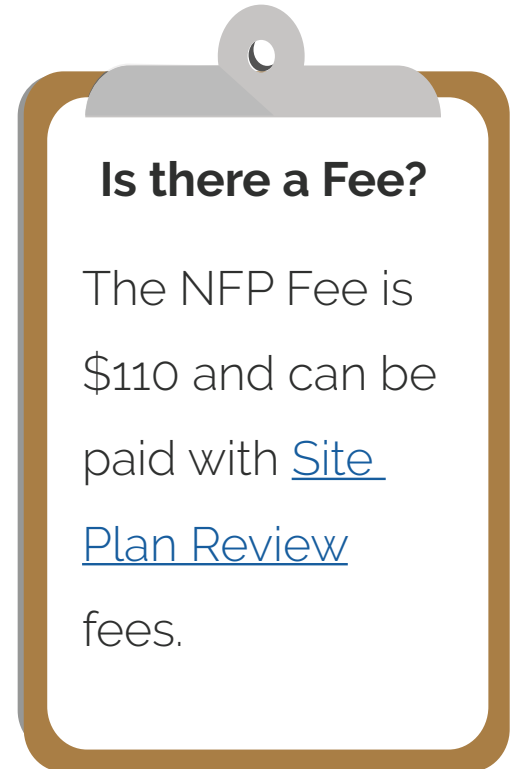
Full site plan approval requires approval from the NFP review board or an Administrative Approval. Meeting with City Staff to discuss the project will help determine the appropriate next steps.

Timing is important. A completed application must be submitted 14 -21 days before the regular meeting of the NFP Review Board.

Public notice is required under [certain situations \(§ 50-6.2K\(1\)\(C\)\)](#). If you are required to notice the public, letters must be mailed no less than **14 days** before the regular NFP Review Board Meeting.

Remember!

If a property is multiple units, in the letter ask the property owner/manager to share this info with tenants or post this information in a public location.



Completed Checklist Due
Date:

14-21 days

Turn in your checklist no less than **2-3 weeks** before the regular NFP Review Board Meeting

IF/When Public Notice is
Required:

14 Days

Mail your letters no less than **14 days** before the regular NFP Review Board Meeting. NOTE! Checklist must be submitted prior to mailing

NFP Meeting Schedule

Meeting Schedule

All meetings are held at
City Hall (241 W South St, Kalamazoo MI 49007) in the City
Commission Chambers

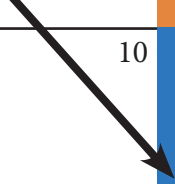
November 2023						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 CR Civil Rights Bo...	2 EC Election Com...	3	4
5	6 SP Shared Prosp...	7	8	9 UP Utility Policy C... ZB Zoning Board ...	10	11
12	13	14 PR Parks & Recre... PS Citizens Publi...	15 E Environmenta...	16 BR Brownfield Re... KG Kalamazoo M... CD Community D... NC Northside Cul...	17	18

You can visit the [City of Kalamazoo website](#) to look at the board meetings calendar to track changes to meeting dates.

FEBRUARY 2025

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29	30	31	1
2	3	Preferred Deadline for Supplemental Application Submittal (21 days)	5	6	7	8
9	10	Deadline to submit Supplemental Application (14 Days)	12	13	14	15
16	17	18	19	20	21	22
23	24	NFP Board Meeting	26	27	28	1

If public notice is required,
it must be post-marked no
later than 14 days prior to
the meeting.



NFP Board Meeting Preparation

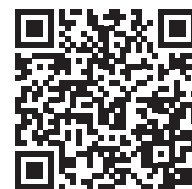
It is strongly recommended that the following be completed in preparation for the NFP Board Meeting:

1. Share copy of Presentation with NFP Board Liaison
2. Bring copy of presentation on PC or USB Thumbdrive
3. Advisable to have both applicant and consultant team members available for the presentation
4. Consider Accessibility of Presented content (see Public Participation Plan Document in Resources section)
5. Review previous NFP Meetings on the City YouTube page to understand pace of meeting
6. Prepare for questions from NFP Board Members
7. Work with City staff to review timing of other required meetings through the approval process
8. Parking is available along South St, Lovell St, next to City Hall and along Rose St
9. Utilize the rear entrance of City Hall
10. Check-in with security staff prior to moving to the second floor

There is a microphone available for when presenting content at the podium. There are TV screens that will show the presentation on the live-stream and for Board members.



July 2023 NFP Meeting



Please see the July 2023 NFP Meeting by scanning the QR code above as an example of a well prepared presentation on a larger-scale project.

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Site Development Standards - Overview

Development Standards

View the full [zoning code](#) and [NFP Ordinance](#) to view all information related to NFP Site Development Standards. These items can be discussed with city staff throughout the Site Plan Review Process. The following Resources are represented in the NFP Ordinance.



Water Resources & Wetlands

Protection of these Natural Features requires specific setbacks from wetlands, rivers, streams, and lakes. A planted buffer is required in the setback to limit pollutants from getting into our waterway.



Woodlands

Protection of this Natural Feature requires developers to preserve a portion of Woodlands on the property, maintain habitat corridors, and avoid damaging roots of nearby trees.



Trees

Individual trees located on a property must be protected within the NFP Overlay. Large trees and special species trees must be replaced if they must be removed. A list of native, climate resilient, and site-appropriate trees guides developers to plant trees that will thrive.



Slopes

Slopes tied to Water Resources, Wetlands, and Woodlands are protected Natural Features and new development will be limited. Setbacks at the top and bottom will help protect the stability of the slope and other Natural Features.



Natural Heritage Areas

Remnants of natural communities and rare species are protected by requiring a database search for known locations of these Natural Features. An on-site survey must be done when species are found in the vicinity of the property.



Zoning & Stormwater

Additional zoning and stormwater requirements apply within the NFP Overlay. For example, certain intensive uses are not allowed and all landscaping must use native plants. And sites must capture and treat more of the stormwater on the property.

Development Standards

View the full [zoning code](#) and [NFP Ordinance](#) to view all information related to NFP Site Development Standards. These items can be discussed with city staff throughout the Site Plan Review Process. When there is a conflict between the Zoning Code and the NFP Ordinance, the NFP Ordinance takes precedence.

Impervious Coverage

- Areas that are required to remain pervious must be left undisturbed (no grading, clearing, etc.)

Landscaping

- Native species must be used for all required landscaping
- No invasive species from the Prohibited Planting List may be planted
- Fill material brought on the parcel must not be contaminated or contain invasive species

Protected Trees

- Table 6.2-4 shows what are considered Protected Trees
- In order to be considered a protected tree both the species and DBH requirements need to be met
- A certified Arborist can help with inventorying protected trees
- The protected tree standard does not apply to a delineated woodland. It may apply elsewhere on-site.

Rare Species Review

- Some NFP sites require MNFI Rare Species Review
- MNFI stands for the Michigan Natural Features Inventory via the Michigan State Extension
- Fees and Review is conducted in conjunction with the MSU Extension or another qualified professional

Stormwater Management

- Restricted uses: Wellhead Protection Overlay 10-year restrictions and Wellhead Protection Overlay 1-year restrictions within 500 feet of surface water apply for NFP Properties
- Higher volumes of stormwater must be collected and treated on-site using more than one stormwater BMP (or underground storage can be used)

Water Resources & Setbacks

- A water resource is any lake, pond, or impoundment; a river, stream, or creek which may or may not be serving as a drain; or any other body of water that has defined banks, a bed, and visible evidence of a continued flow or continued occurrence of water, or as otherwise defined in Part 301 of the NREPA
- The setback from water resources is accompanied by a vegetative buffer to protect the resource where no existing vegetation exists.

Slopes & Slope Setbacks

- Slopes greater than or equal to 20% grade are protected
- Usually coincides with woodland areas
- Many limitations to work that can be completed within the slope face and slope setback

Woodland

- Defined as a minimum area of 21,780 square feet or half an acre, regardless of parcel boundaries.
- At least 40 trees per acre of at least 2 inches DBH
- Requires a Woodland Assessment

Water Resources

How do I know if I have a water resource?

Step 1

Desktop Review

The City's online GIS map can be used as the first step in exploring water resources on your property.

[City of Kalamazoo GIS](#)



- Expand the layers tab
- Click the checkbox next to the **“Water Features”** layer



Step 2

In Person Review

Any lake, pond, river, stream, wetland, or county drain is considered a Water Resource. Look for these features on your property or on adjacent properties within 25 feet of your property boundary.

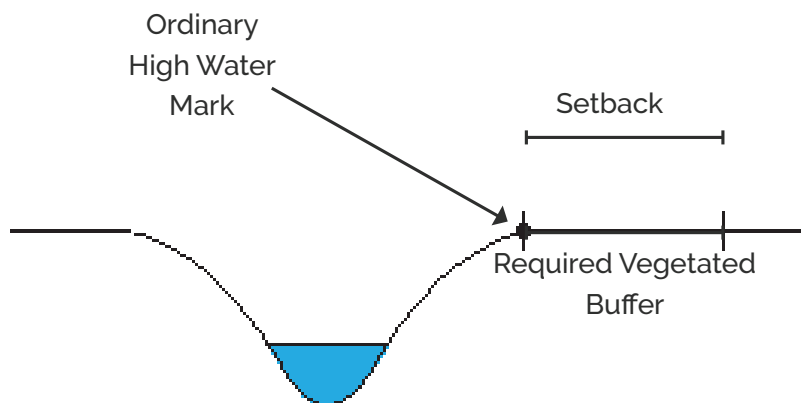


Figure 3 Measuring Water Resource Setbacks

Size of Parent Parcel	Minimum Required Setback
Greater than 1 acre	25 feet
1/2 acre - 1 acre	20 feet
Less than 1/2 acre	15 feet

Table 2 - Water Resource Setbacks

Note!

- A setback is required from the edge of the water resource based on the size of your parcel
- When measuring the setback, be sure to start from the ordinary high watermark
- No impervious coverage, grading, or vegetation removal allowed in the setback area
- Natural vegetation must be kept within the setback area or new vegetation must be planted

Water Resources

Step 3

Ordinance Review

Chapter 50 NFP Overlay District

- Refer to the [Water Resources Section](#)(§ 50-6.2D)

Step 4

Be prepared to:

- Mark the location of water resources and the correct setback on the site plan map
- Design your site plan to keep impervious coverage out of the setback area
- Work with a landscape architect, Certified Natural Shoreline Professional, or consultant to design a vegetated buffer or create your own design with native plants
- Install temporary construction fence or silt fencing at the setback boundary to protect this area during construction

Step 5

Professional Review *Optional but Recommended*

The exact location of Water Resources on the property should be confirmed beyond steps 1 and 2. This is not required but is recommended.

Find a Certified Natural Shoreline Professional

- mishorelinepartnership.org/find-a-shoreline-contractor

Design Your Own Vegetated Buffer

Natural Shoreline Landscaping

- tworiverscoalition.org/naturalshoreline.asp

Native Plants

- mishorelinepartnership.org/plants-for-inland-lakes

Supplemental Site Plan Review Checklist for NFP

Fill out the corresponding sections of the checklist:



Section II. Part B.
Questions 2-4



Section III. Water Resources *(If you have a water resource)*

Wetlands

How do I know if I have a wetland?

Step 1

Desktop Review

There are several online maps you can use as the first step in exploring if you have wetlands on your parcel. Wetlands are considered a water feature.

Michigan EGLE Wetland Map Viewer

mcgi.state.mi.us/wetlands/mcgiMap.html

Step 2

In Person Review

You can also review your property in person and look for any area on the parcel that is wet enough during some part of the year to grow wetland plants (e.g., cattails, pond weed, water lilies, sedges, willow, white cedar, dogwood, or moss).

Step 3

Professional Review *Optional*

If there are low lying areas, soggy spots, or other areas on the parcel you are unsure are wetlands, a Professional Wetland Scientist can perform a wetland determination through an on-site assessment to confirm whether wetlands are on the parcel. The State of Michigan maintains a list of consultants.

State of Michigan List of Consultants

- Visit michigan.gov/egle
- Click “Water” “Wetlands”
- Under “Wetland Quick Links” click “Wetland Consultants List”



Note!

A wetland does not have to be wet all of the time. Areas with soggy, saturated soils that grow wetland plants can also be wetlands.

If you are unsure whether or not you have wetlands, but don't want to hire a consultant for a professional review, you can always just treat the area in question as a wetland and apply the wetland standards.

Supplemental Site Plan Review Checklist for NFP

Fill out the corresponding sections of the checklist:



**Section II. Part B.
Question 1**

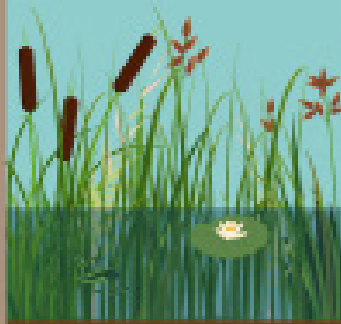


Section III. Wetlands
(If you have wetlands)

TYPES OF WETLANDS

MARSH

Marshes are wetlands found at the edges of water bodies, dominated by rooted plants that grow under water, float, or extend out of the water.



WATER DEPTH 1-6 feet (standing or slow moving)

FREQUENCY Permanent

PLANTS Cattails, Bulrushes, Lotus, Sedges, Water Lily

WET MEADOW

Wet meadows can occur in wetland depressions, swales, or in the transitional zone between marshes and other wetlands with less saturated soils.



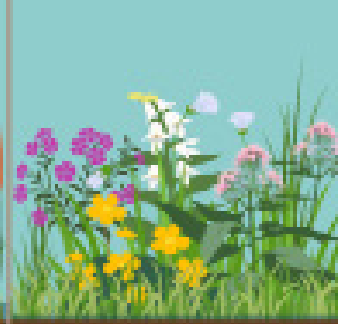
At or near soil surface

Permanent or near permanent

Sedges, Grasses

WET PRAIRIE

Wet prairies are wetland ecosystems where the water level usually varies in wetness between wet meadows and dry prairies.



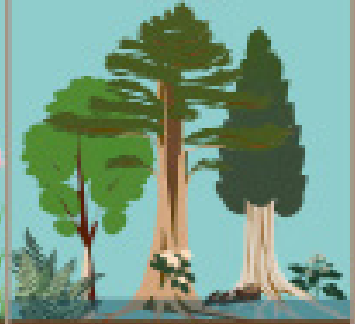
Saturated soils (0-1 feet below soil surface)

Frequent

Grass-like and flowering plants, Orchids

SWAMP

Swamps are dominated by woody vegetation, and are often found in basins or low-elevation floodplains along rivers or slow-moving streams.



0-2 feet (standing or slow moving)

Permanent

Alders, Cypress, Ferns

BOG

Bogs are isolated basin wetlands characterized by spongy peat-rich soils. They have nutrient poor, acidic waters with floating mats of vegetation that are fed by rainfall and snow melt.



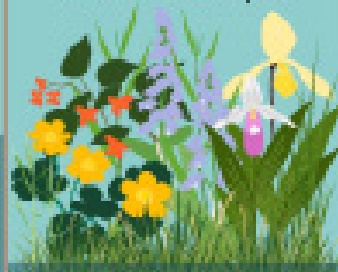
WATER DEPTH Shallow lake basins

FREQUENCY Seasonal to Permanent

PLANTS Sphagnum Moss, Pitcher Plant, Tamarack, Cranberry

FENS & SEEPS

Fens are peatlands that are fed by a calcareous groundwater source, resulting in an alkaline water chemistry. Seeps, or springs, are areas where the groundwater naturally comes to the surface at the base of slopes.



Saturated soils

Seasonal to Permanent

Sedges, Grasses, Orchids, Marsh Marigolds

VERNAL POOL

Vernal pools are shallow, isolated depressions that are filled each spring by rain and snow melt, then dry up since they are not connected to other water bodies. They serve as an essential breeding habitat for frogs and salamanders.



0.5-3 feet

Seasonal (Spring)

Ferns, Irises, Mosses, Marsh Purslane

PRAIRIE POTHOLE

Prairie potholes are water-holding depressions of glacial origin. These isolated wetlands provide essential food and resting places to migrating waterfowl.



1-4 feet

Seasonal to Permanent

Water Lilies, Pondweeds, Bulrushes, Arrowhead

Wetlands

Step 4

View the Full Standards

Chapter 50 NFP Overlay District

- Refer to the [Wetland Section \(§ 50-6.2C\)](#)

Size of Parent Parcel	Minimum Required Setback
Greater than 1 acre	25 feet
1/2 acre - 1 acre	20 feet
Less than 1/2 acre	15 feet

Table 1 - Wetland Setbacks

will need a
A detailed
Be prepared to:

- Mark the location of wetlands and the correct setback on the site plan map
- Design your site plan to keep impervious coverage out of the setback area
- Install temporary construction fence or silt fencing at the setback boundary to

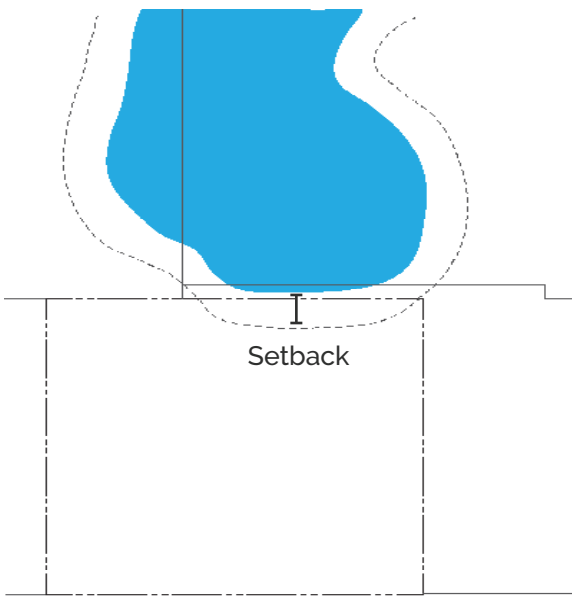
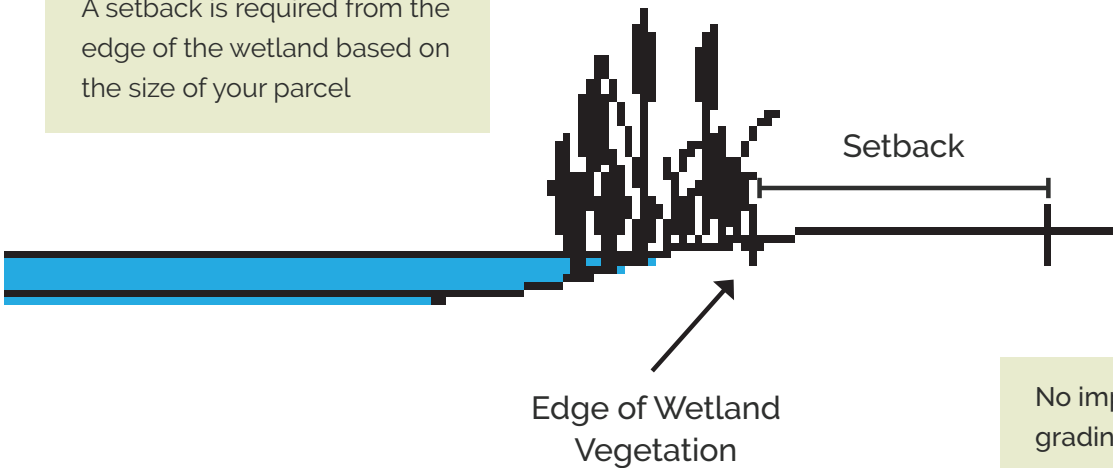


Figure 2 - Setbacks Across Parcel Boundaries

A setback is required from the edge of the wetland based on the size of your parcel



No impervious coverage, grading, or vegetation removal allowed in the setback area

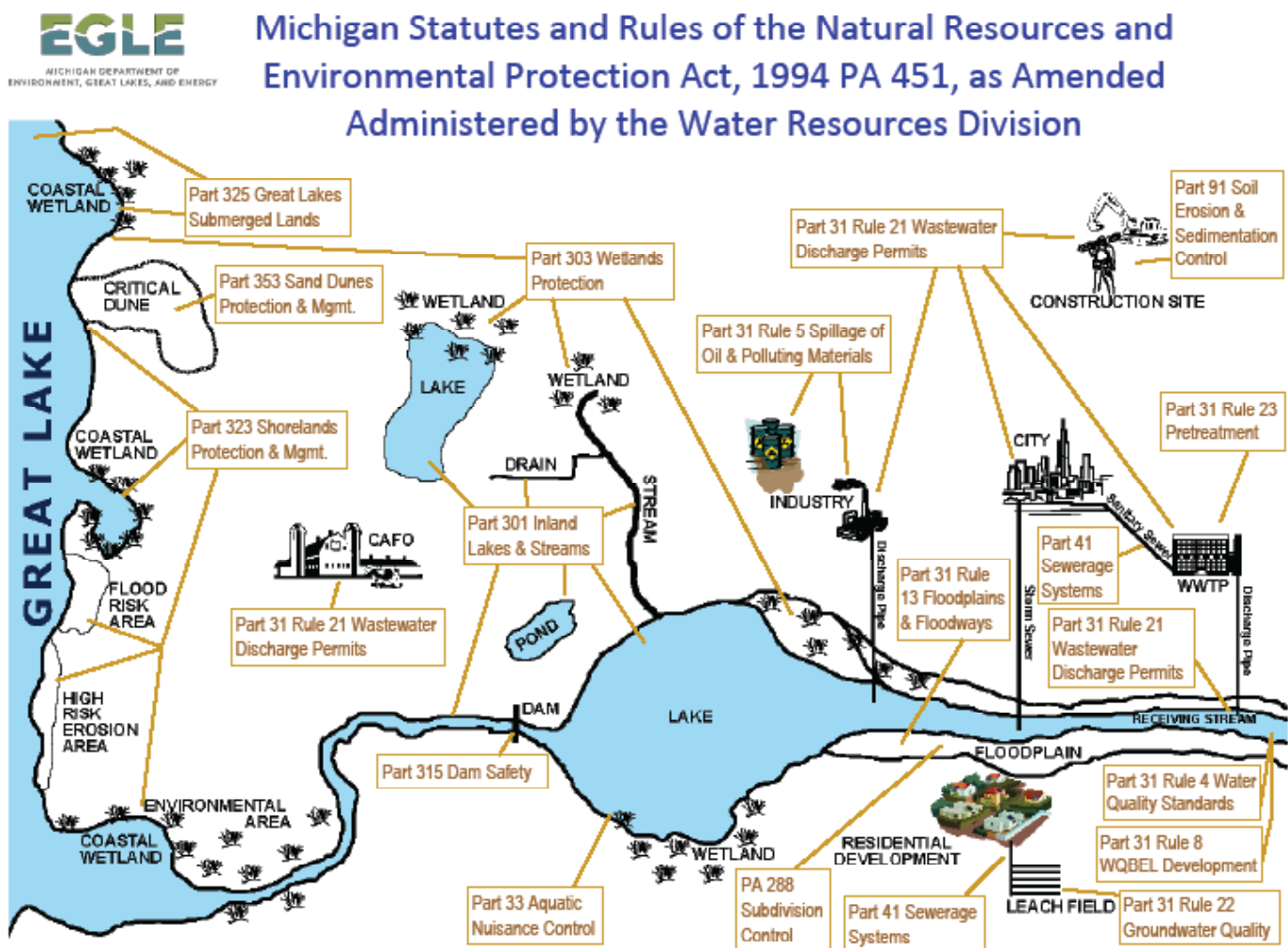
State/Federal Permits

It is important to understand if any State of Michigan or Federal permits are required for your project. The Michigan Department of Environment, Great Lakes, and Energy provides a nice overview of when certain permits may be required.

NFP Projects frequently require but are not limited to:

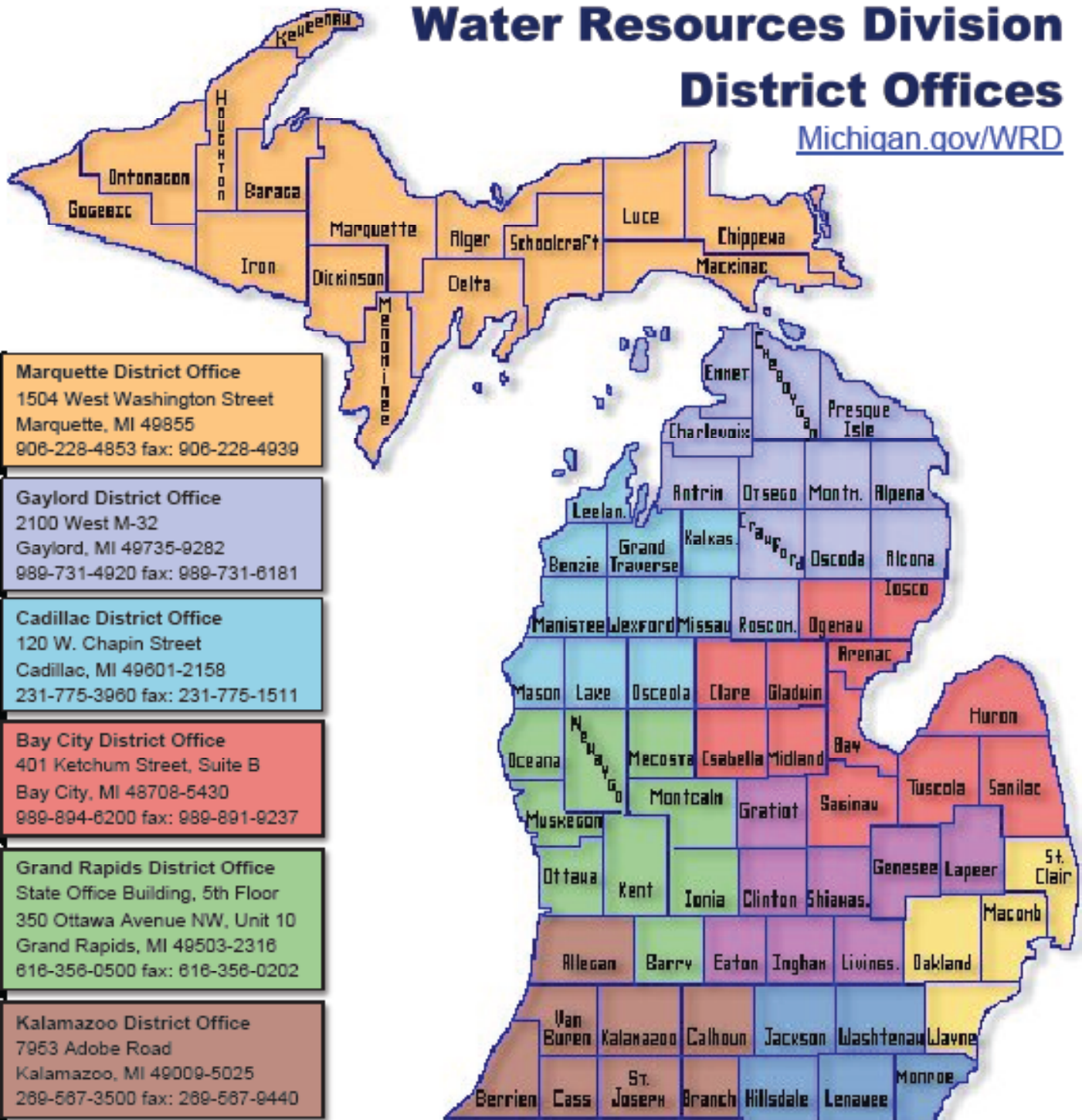
- [Part 303 Wetlands Protection](#)
- [Part 91 Soil Erosion and Sedimentation Control](#)
- [Part 301 Inland Lakes & Streams](#)

If you are unsure of what permit is required, please contact the Michigan Department of Environment, Great Lakes, and Energy Water Resources Division.



Water Resources Division District Offices

Michigan.gov/WRD



Marquette District Office
1504 West Washington Street
Marquette, MI 49855
906-228-4853 fax: 906-228-4939

Gaylord District Office
2100 West M-32
Gaylord, MI 49735-9282
989-731-4920 fax: 989-731-6181

Cadillac District Office
120 W. Chapin Street
Cadillac, MI 49601-2158
231-775-3960 fax: 231-775-1511

Bay City District Office
401 Ketchum Street, Suite B
Bay City, MI 48708-5430
989-894-6200 fax: 989-891-9237

Grand Rapids District Office
State Office Building, 5th Floor
350 Ottawa Avenue NW, Unit 10
Grand Rapids, MI 49503-2316
616-356-0500 fax: 616-356-0202

Kalamazoo District Office
7953 Adobe Road
Kalamazoo, MI 49009-5025
269-567-3500 fax: 269-567-9440

Lansing District Office
525 W. Allegan (Constitution Hall, 1S)
P.O. Box 30242
Lansing, MI 48909-7742
517-284-6851 fax: 517-241-3571

Jackson District Office
301 E Louis Glick Highway
Jackson, MI 49201-1556
517-780-7690 fax: 517-780-7855

Warren District Office
27700 Donald Court
Warren, MI 48092-2793
586-753-3700 fax: 586-753-3751

EGLE Water Resources Division

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Michigan.gov/WRD ↔ 517-284-5567

Protected Trees

How do I know if I have Protected Trees?

Step 1

Desktop Review

The easiest way to identify trees on the parcel is by visiting the site when leaves are on the trees. Individual trees may be visible on the City GIS map, but distinguishing individual trees may be difficult.

[City of Kalamazoo GIS](#)



- Expand the layers tab
- Click the checkbox next to the “City Aerial Imagery” layer

▶ ☐ City Aerial Imagery ...



Step 2

In Person Review

Look for any tree with a trunk diameter of 24” or larger (or equal to approximately 75” when measured around the trunk at 4.5 feet above ground). Measuring Tree DBH can vary based on external factors like angle of the tree due to slope and the growing pattern of the trunk or if a tree has multiple trunks. Some specific types of trees are “protected” when smaller than 24” diameter.

- Refer to Table 6.2-4 in the NFP Ordinance for the Protected Tree List

Note!

The tree standard only applies to individual trees not grouped in what would be considered a delineated woodland.

All of the protected trees on the parcel must be marked on the Engineering Plans or Site Plan Documents.

You can find ISA Certified Arborists in Michigan by visiting: www.asm-isa.org/
This is the Michigan Chapter of the International Society of Arboriculture (ISA)

Step 3

Professional Review *Recommended*

If you have trouble identifying the tree species, it is best to get a tree survey performed by an ISA-certified arborist. The tree survey should include location, species, size (diameter and height), and condition for all “protected” trees.

Protected Trees

Step 4

View the full standards

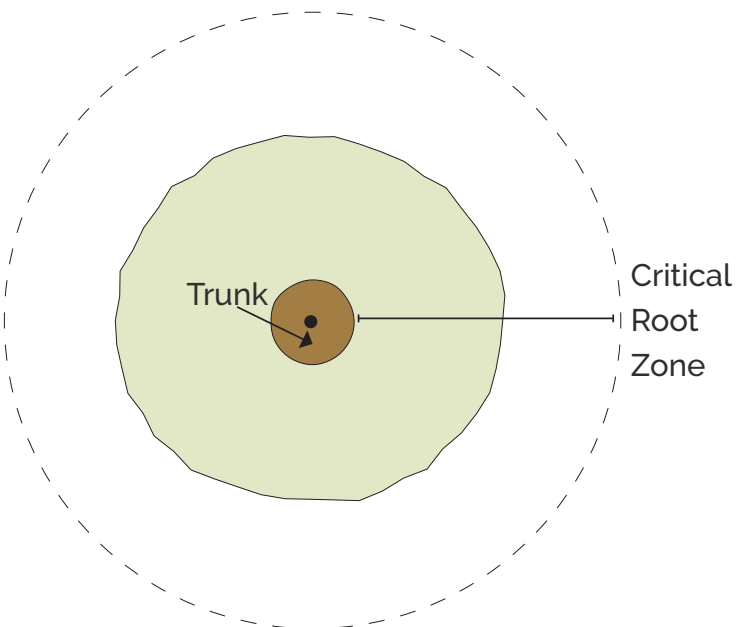
Chapter 50 NFP Overlay District

- Refer to [Protected Tree](#) Standard (§ 50-6.2F)

Step 5

Be prepared to:

- Find an ISA-certified arborist to complete a tree survey
- Mark on the site plan map the location, species, size, and condition of all “protected” trees and whether they will remain or be removed
- Provide justification why a tree must be removed per the NFP Ordinance.
- Use tree protection fencing during construction to protect the Critical Root Zones of ALL Protected Trees.



Supplemental Site Plan Review Checklist for NFP

Fill out the corresponding sections of the checklist:



Section II. Part B.
Question 5



Section III. Trees *(If you have a protected tree(s))*

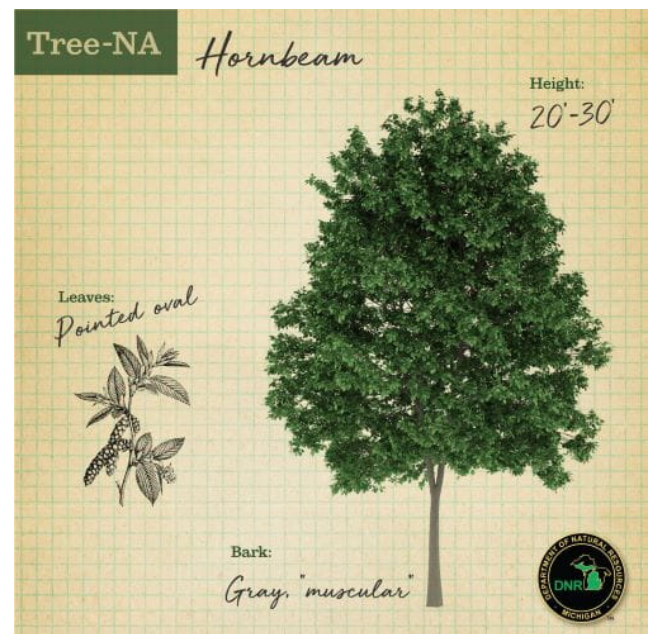
Note!

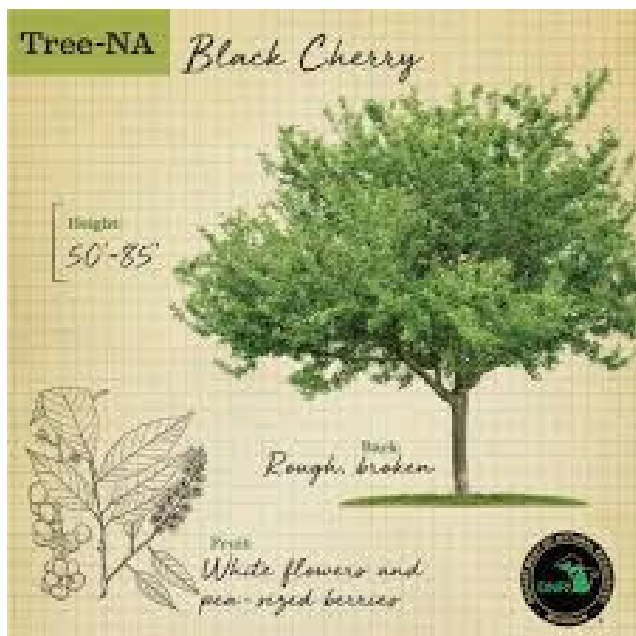
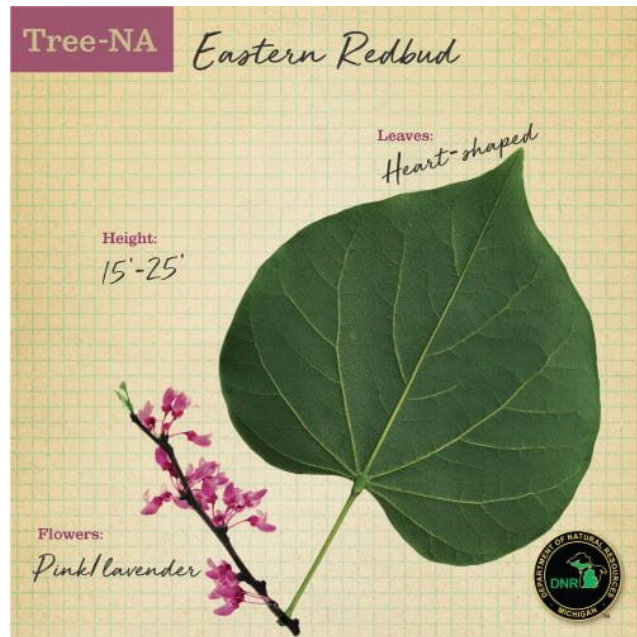
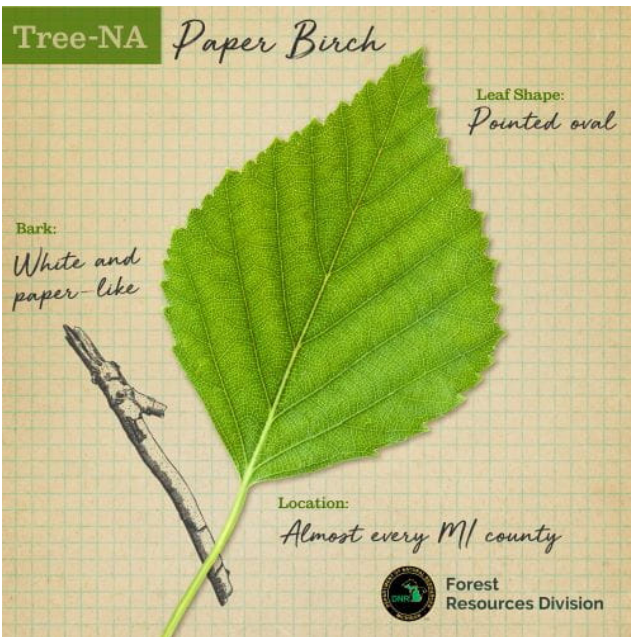
- Protected trees must remain on the site during and after construction
- In specific situations, some trees may be removed (see full tree standard)
- Any “protected” trees that are removed must be replaced with new trees per the NFP Ordinance

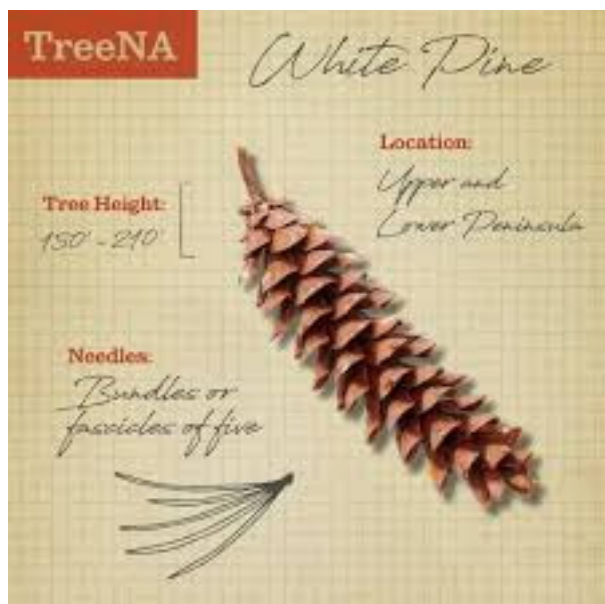
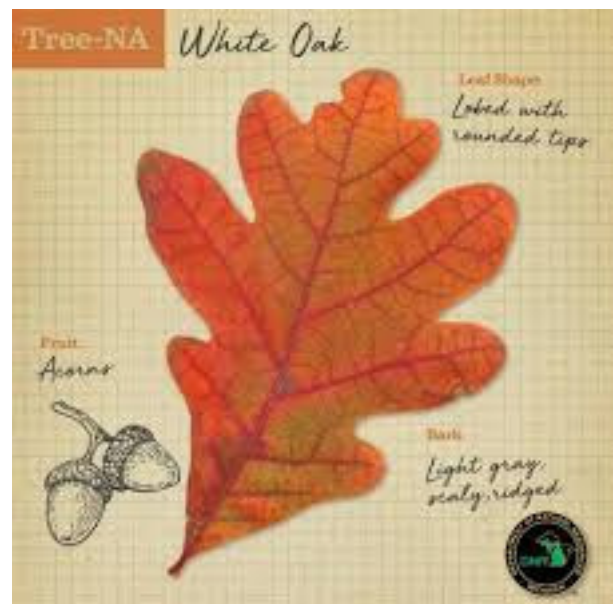
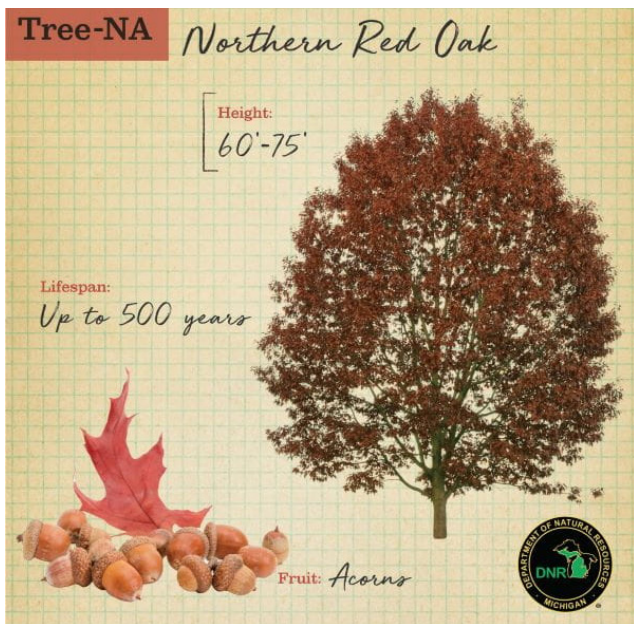


Replacement Trees

The NFP Overlay District provides a replacement tree list that focuses on native species. Below are some of the species of trees that are native to the State of Michigan. More information on each can be reached if you click on the corresponding image.







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Woodlands

How do I know if I have a woodland?

Step 1

Desktop Review

You can use the Public GIS Map to review woodland areas on or adjacent to your parcel. It is recommended that an ISA-Certified Arborist or other qualified professional assist in both the desktop and in-person reviews and analysis.

[City of Kalamazoo GIS](#)

- Expand the layers tab
- Click the checkbox next to the "City Aerial Imagery" layer



Step 2

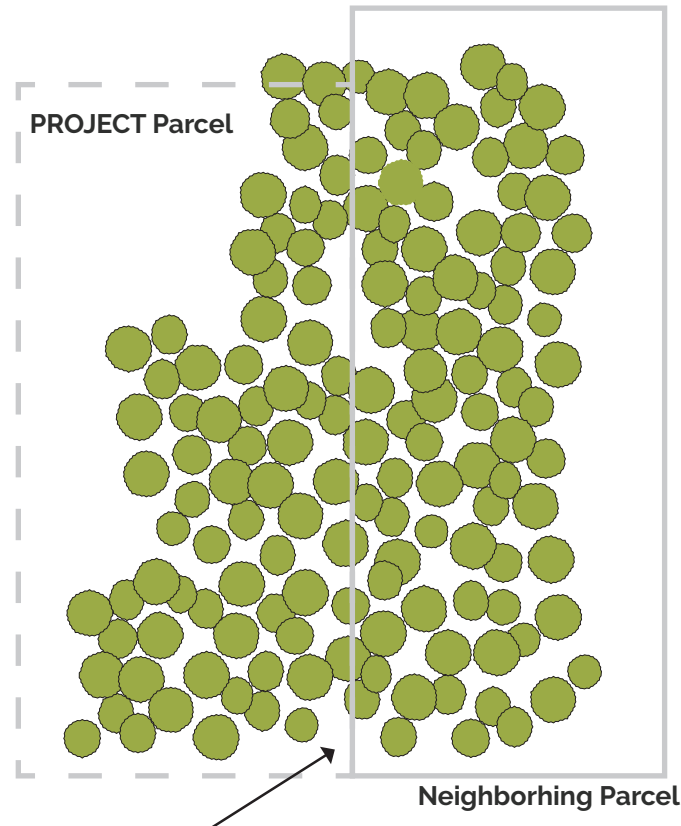
In Person Review

Look for a grouping of trees that covers an area a half acre or greater, regardless of whether the grouping is entirely on your parcel or extends onto adjacent parcels. To be a woodland, the number of trees must be equal to 40 per acre at least 2" diameter or greater. Look for other woodland features, such as natural ground cover (i.e., not mowed lawn) and understory shrubs.

Step 3

Professional Review *Recommended*

If none of the woodlands on the property will be disturbed, then a professional assessment is not required. When woodlands will be cleared, a qualified professional must delineate and assess the existing woodlands (e.g., woodland ecosystem assessment, basal area measurement, or tree survey)



Size of a Woodland is measured across parcel boundaries

Woodland Coverage of Parent Parcel	Minimum Required Woodland Coverage to be Preserved
75% to 100%	25%
50% up to 75%	50%
25% up to 50%	75%
Less than 25%	90%

Table 3 Woodland Preservation

Woodlands

Step 4

View the full standards

Chapter 50 NFP Overlay District

- Refer to the [Woodland](#) Section

Step 5

Be prepared to:

- Mark the full boundary of existing woodland, the section to be removed, and acreage and percent calculations on the site plan map
- Provide justification why the section of the woodland was chosen for preservation
- Fence preserved woodland with temporary barrier fencing during construction at the outer edge of the critical root zone (see Figure 4)
- **An Example Woodland Delineation Report can be found at the end of the NFP Guide.**

No disturbance allowed in preserved woodlands or critical root zones, except for specific permitted activities in the zoning code

Supplemental Site Plan Review Checklist

Fill out the corresponding sections of the checklist:

- ☒ Section II. Part B. Question 5 & 7
- ☒ Section III. Woodlands (If you have a woodland(s))

July 18, 2023

Preservation Action Plan:

Each Zone identified in the commentary will have itemized actions identified. None are implemented until September 2023. Based on individual tree conditions, alterations are possible. In September, a calendar of events will be published.

1. The Southside Tree Community:

In mid-September, the graded zone from the property fence line, north should have a granular application of 10-10-10 at 2 lb./1000 sq. ft, 25 feet wide band.

The excavation has produced exposed roots, some are broken. The broken roots should be cut clean, and this area should be covered with native soil to cover the roots up to 2" deep. This line of trees should be inspected in May 2024 for any individual tree flagging or other issues so that remediation can be engaged in a timely fashion.

2. The Southeast Corner currently has no firm development plans, yet. If there are changes, the trees on both sides of the wetlands should be analyzed for impact and preservation.

3. The Eastside slope, "Playground Area" will need an individual tree analysis. All trees, within and adjacent to it, must have an ID tag. A detailed analysis was not engaged on the 13th, but it is needed in the fall of 2023 for work coordination. A map of the work zone, with individual marked trees, is available and will be used as the site template for the Actions Plan implementation. This will be submitted in September 2023. All trees must be tagged and inventoried.

However, from the site overview on 07.13, each tree in the playground area should be systemically fertilized in October 2023 to prepare it for 2024 impacts. In the winter 2023-24, the trees should be pruned: low, potentially interfering branches and deadwood 1" and bigger taken. Any concerning tree structures should have aerial inspections.

Since wood chips are the designed ground cover, it should be spread at 2" deep over the whole area in late 2023, or early 2024 for soil protection.

In May 2024, a ground application of Glyphosate should be made to kill all herbaceous growth in the playground. A inspection of both trees and the efficacy of the spray, should be made 30 days after the herbicide is applied to insure effectiveness and no tree damages.

All identified trees within the action zone of the retaining wall/sidewalk removal should be systemically fertilized as with the Playground trees. Corrective root pruning, after the "raw excavation" should be done.

4. The two Northedge Trees identified in the Gtation, will have ~6' wide area of fill pulled back from the buttress zone. The two trees should be systemically fertilized in the Fall, 2023.

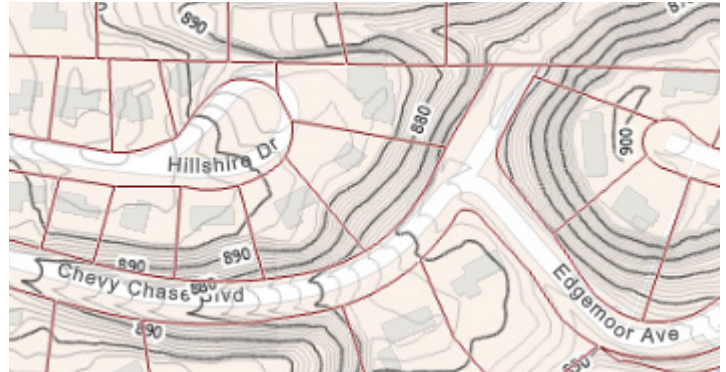
Slopes

How do I know if I have protected slopes?

Step 1

Desktop Review

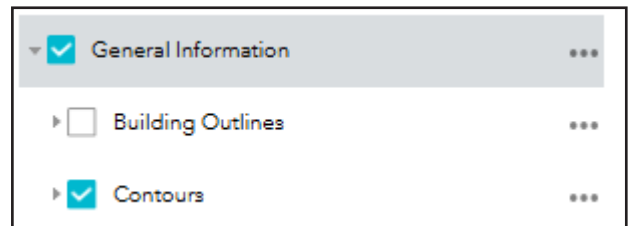
The City's online GIS map can be used as the first step in exploring slopes on your property. When 2-foot topographic contour lines are spaced 10 feet or closer, the slope grade is 20% or greater. Closer lines mean steeper grades



[City of Kalamazoo GIS](#)



- Expand the Layers tab
- Expand the "General Information" Layer and check the "Contours" Layer



Step 2

In Person Review

Look for sloping areas on your parcel (with grade of 20% or greater) that are covered in woodlands or a natural heritage area or within 500 feet of a water resource or wetland. Slopes that meet this definition are considered "protected" slopes.

Step 3

Professional Review *Required*

If none of the slopes on the property will be disturbed, then a professional assessment is not required. All setbacks still apply. For sites with "protected" slopes, complex topography, or a site plan that would disturb or encroach on slopes, a slope analysis must be done by a qualified professional. A resulting map showing "protected" slopes and the top and toe of slope setbacks must be included with your site plan review application

Supplemental Site Plan Review Checklist for NFP

Fill out the corresponding sections of the checklist:



**Section II. Part B.
Question 6**



Section III. Slopes (*If you have a slope*)

Slopes

Step 4

View the full standards

Chapter 50 NFP Overlay District

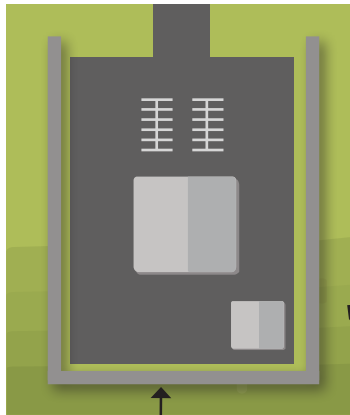
- Refer to the [Slopes Section](#)(§ 50-6.2H)

Step 5

Be prepared to:

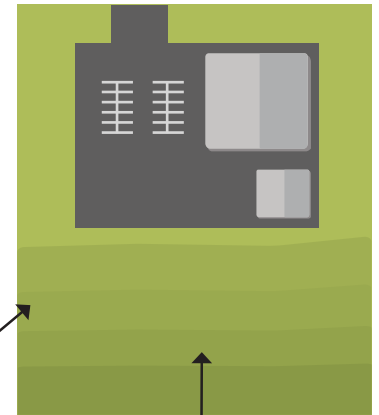
- Mark the location of “protected” slopes and the setbacks on the site plan map
- Consult a qualified professional for a slope analysis, if necessary
- Design your site plan to keep impervious coverage out of the setback area
- Fence “protected” slopes with temporary barrier fencing during construction at the outer edge of the setbacks

Initial Design

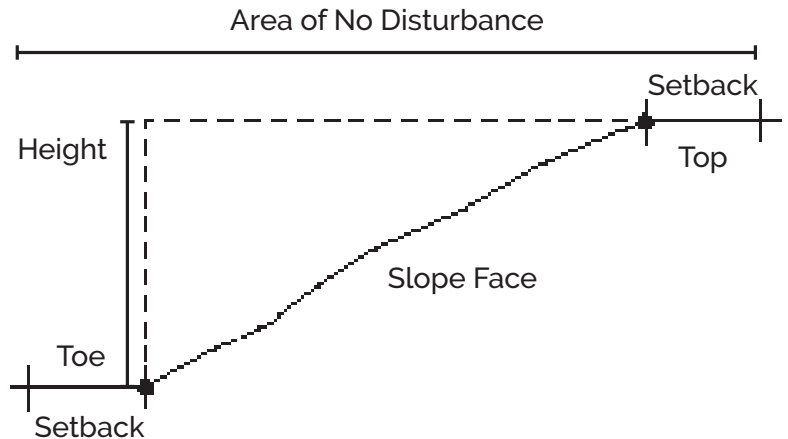


Retaining Wall

NFP Sensitive Design



NFP
Protection
Area



A Soil Erosion Soil Control (SESC) Plan is required when there is any earth change which disturbs one or more acres of land, is on a parcel adjacent to public streets, or is within 500 feet of waters of the state.

The City of Kalamazoo has a Soil Erosion and Soil Control Ordinance. This authority is granted to the City of Kalamazoo by the State of Michigan through the Part 91 of the Natural Resources and Environmental Protection Act (NREPA).

Visit kalamazoocity.org and search for Soil Erosion and Control Permit to learn more about the permitting process.

Natural Heritage Areas

Michigan Natural Feature Inventory (MNFI) Rare Species Review

Step 1

Desktop Review

Natural heritage areas include rare species of plants and animals and patches of historically or culturally significant ecosystems, all of which are considered protected under the zoning code. You can use the City of Kalamazoo Public GIS webmap to pre-screen if your property requires Rare Species Review. You can learn more about this program by viewing this [StoryMap](#) created by the Michigan State University Extension in partnership with the MI-DNR.

Step 2

MNFI Species Review

Michigan Natural Features Inventory
MSU Extension

If the property is labeled as "Yes" for Rare Species Review, then the review process should be started as soon as possible. The Michigan State University Extension staff can be busy during certain times of the year.

Visit: mnfi.anr.msu.edu/services/rare-species-reviews

- Follow the procedure and payment processes for submitting for Rare Species Review

Step 3

On-Site Survey

In some cases, an on-site survey is required when the MNFI rare species search confirms sightings of rare species within close vicinity of the property.

Supplemental Site Plan Review Checklist for NFP

Fill out the corresponding
section of the checklist:



**Section III. Natural
Heritage Areas**

What should I do if a natural heritage area is present?

Step 4

View the full standards

Chapter 50 NFP Overlay District

- Refer to the Natural Heritage Area Section

Note!

All State and Federal protections and/or mitigation activities must be followed. Learn more at:

mnfi.anr.msu.edu/species/definitions-laws

Step 5

Be prepared to:

- Apply for a Rare Species Review through the MSU Extension as soon as possible
- Follow State and Federal protections, if necessary

Phone

(517) 284-6200

Fax

(517) 241-0012

Email

mnfi@msu.edu

Mailing Address

Michigan Natural Features Inventory
PO Box 13036
Lansing, MI 48901-3036

Shipping Address

Michigan Natural Features Inventory
Deborah A. Stabenow Building, 1st Floor
525 W. Allegan St.
Lansing, MI 48933

Landscaping

Step 1

Desktop Review

Additional landscape and screening activities apply within the NFP Overlay District. When conflicts between the underlying zoning district and the NFP Overlay District occur, the Overlay District takes precedent. It is recommended that you work with a professional to navigate these requirements. A few key elements to remember are:

- Native Species are required.
- Existing non-native vegetation needs to be contained
- non-native, non-invasive species may be approved by the NFP Board
- Prohibited plants in table 6.2-6 are not allowed.
- non-native and invasive plant species apart of the [Midwest Invasive Species Network](#) (MISIN) are not allowed.

Step 2

Professional Review (Recommended)

It is recommended that you work with a professional to navigate these requirements, especially for larger projects. Navigating plant species, planting locations, soil conditions is difficult.

You can review professionals near you by clicking [HERE](#).

Step 3

View the full standards

[Chapter 50 NFP Overlay District](#)

- Refer to Section [§ 50-6.2J \(Site Development Standards\)](#)

Example Landscaping Plan

Consumers Credit Union Parkview

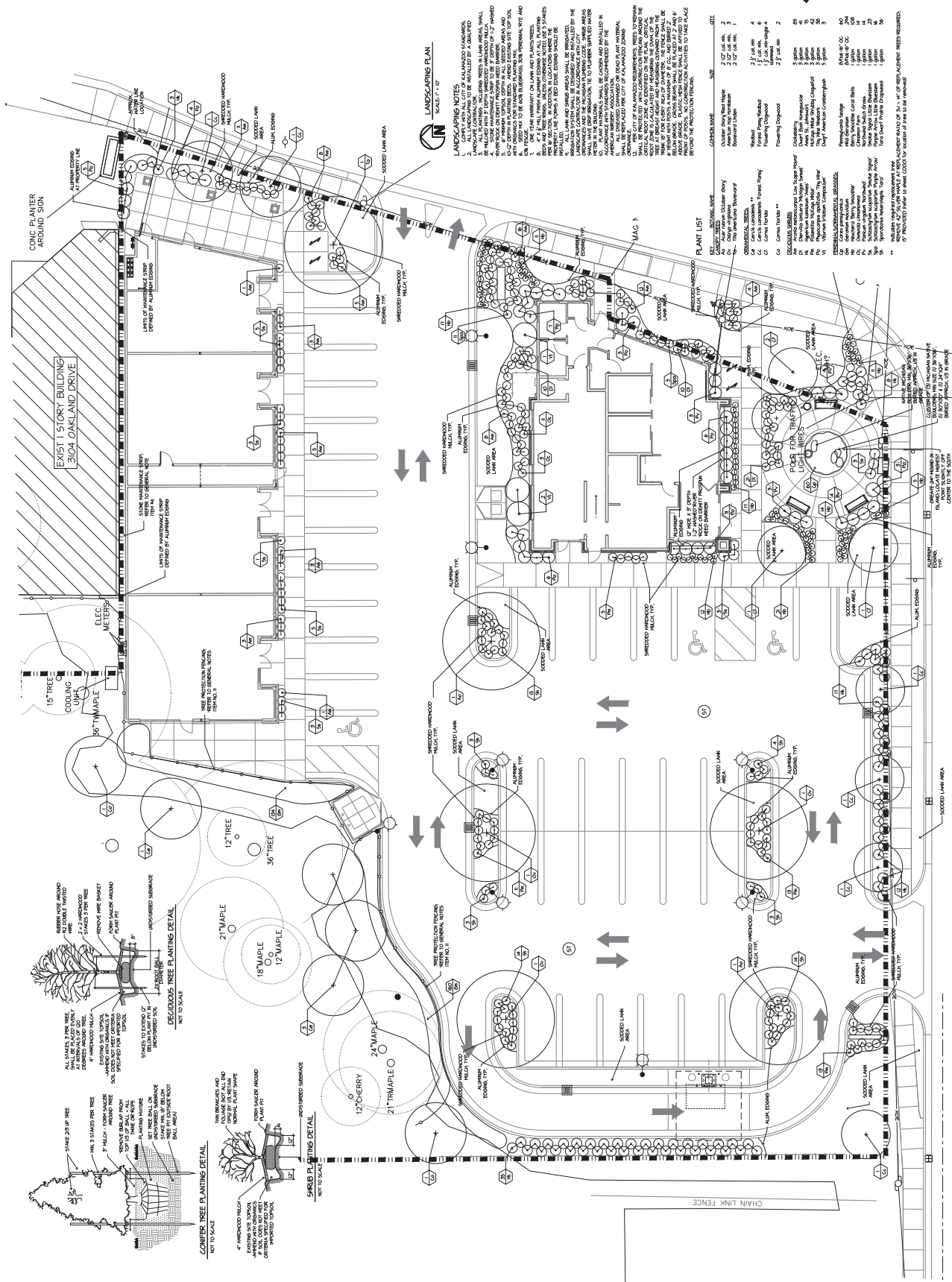
3110 Oakland Drive
Kalamazoo, Michigan 49008



ISSUED	
2021-03-31 SITE PLAN SUBMITTAL	
2021-05-26 SITE PLAN RESUBMITTAL	
2021-06-07 MAP REVIEW	



1007
TRANSCRIBING
PLAN



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Project Examples

Example 1: Commercial Redevelopment

Project Address:

209 E Stockbridge Ave (including 205 E Stockbridge and 210, 216, 220, 302, 302 Rear, 308, 308 Rear, & 316 Lake St)

Natural Features:

Wetlands

Trees

Woodland

Applicable NFP Standards:

Wetlands

Protected Tree

Woodland

Landscaping

Stormwater

<i>C1.0.0</i>	<i>EXISTING CONDITIONS MAP - ZONING</i>
<i>C1.1.0</i>	<i>EXISTING CONDITIONS MAP -</i>
	<i>NATURAL FEATURES</i>
<i>C1.1.1</i>	<i>NFP CODE ANALYSIS - WETLANDS</i>
	<i>AND WATER RESOURCES</i>
<i>C1.1.2</i>	<i>NFP CODE ANALYSIS - FLOODPLAINS,</i>
	<i>TREES, AND WOODLANDS</i>
<i>C1.1.3</i>	<i>NFP CODE ANALYSIS - TREES AND</i>
	<i>WOODLANDS</i>
<i>C1.1.4</i>	<i>NFP CODE ANALYSIS - SLOPES,</i>
	<i>NATURAL HERITAGE AREAS</i>
<i>C1.1.5</i>	<i>NFP CODE ANALYSIS - SITE</i>
	<i>DEVELOPMENT STANDARDS & ADMIN.</i>

Project Summary:

The subject properties are undeveloped and owned by Kalamazoo Community Housing Choices and located in Kalamazoo, in the Edison Neighborhood, along Stockbridge Avenue and Lake St. The parcels are either split-zoned Community Commercial (CC) and Industrial (M-1) zone districts, Commercial Neighborhood (CN-1) and Community Commercial (CC) or solely zoned Community Commercial (CC). The applicant is proposing to redevelop the site by combining parcels into one parent parcel and constructing a 4-story mixed use building having 36 residential units and ground floor non-residential space, parking, and a paved path connecting the building to the sidewalk on Lake Street.

The project started the site plan process in 2021 and proposed a more intensive development with two buildings. The 2023 site plan documents show one building instead of two, perimeter greenspace and an added path connecting to Lake Street which has been moved to mitigate impacts to wetlands and the floodplain. The funding structure of this project also required alternations to stay out of the floodplain.

Example 2: Administrative Approval

Project Address:

251 Mills Street (Growler's Baseball Stadium)

Natural Features:

Wetlands

Water Resources

Trees

Woodland

Natural Heritage Areas / Rare Species Review (MNFI)

Applicable NFP Standards:

Wetlands

Protected Tree

Woodland

Landscaping

Stormwater

Drawing Index:

A-01	Index and Rendering
A-02	Aerial Site Photo
A-03	Ground Screw Foundation Plan
A-04	Ball Field Level Floor Plan
A-05	Upper Deck Framing Plan & Code Requirements
A-06	Upper Deck Level Floor Plan & Notes
A-07	Table Seating Plan
A-08	Team Store Roof Framing Plan
A-09	Roof Plan
A-10	Gazebo & Deck Cross Section
A-11	Team Store Cross Section
A-12	North & West Walkway Cross Sections
A-13	Wedge Wall & Details
A-14	Construction Details
A-15	20x12 Norwood Gazebo Assembly
A-16	South East Perspective

Project Summary:

The subject properties are owned by the City of Kalamazoo and located in Kalamazoo, in the Edison Neighborhood, along Mills Street. This area includes Mayor's Riverfront Park and Kalamazoo River Access as well as the Kalamazoo River Valley Trail. The parcel is zoned Live-Work 1 (LW-1). The Kalamazoo Growler's Organization approached staff with work proposed on the interior of the Stadium. The addition of a team store space and upper deck renovations were proposed.

The project scope was limited to working within the Stadium itself. Due to this, the project did not require Full NFP Board Approval because no natural features were to be impacted by conducting this work. This process only required Administrative Approval by the NFP Board Liaison to proceed. Site Plan Review was still required.

In this project, NFP development standards were not applied as the work did not affect existing Natural Features. This is why it is important to complete a full NFP Review and reach out to City Staff if there are questions. buildi

Example 3: Variance Request from NFP

Project Address:

209 E Stockbridge Ave (including 205 E Stockbridge and 210, 216, 220, 302, 302 Rear, 308, 308 Rear, & 316 Lake St)

Natural Features:

Wetlands

Trees

Woodland

Applicable NFP Standards:

Wetlands

Protected Tree

Woodland

Landscaping

Stormwater

Project Summary:

The subject properties are undeveloped and owned by Kalamazoo Community Housing Choices and located in Kalamazoo, in the Edison Neighborhood, along Stockbridge Avenue and Lake St. The parcels are either split-zoned Community Commercial (CC) and Industrial (M-1) zone districts, Commercial Neighborhood (CN-1) and Community Commercial (CC) or solely zoned Community Commercial (CC). The applicant is proposing to redevelop the site by combining parcels into one parent parcel and constructing a 4-story mixed use building having 36 residential units and ground floor non-residential space, parking, and a paved path connecting the building to the sidewalk on Lake Street.

The project started the site plan process in 2021 and proposed a more intensive development with two buildings. The 2023 site plan documents show one building instead of two, perimeter greenspace and an added path connecting to Lake Street which has been moved to mitigate impacts to wetlands and the floodplain. The funding structure of this project also required alternations to stay out of the floodplain.

In this project, NFP development standards helped inform a less intensive design and pushed to mitigate disturbances to natural features.

Example 4: Residential Development

Project Address:

209 E Stockbridge Ave (including 205 E Stockbridge and 210, 216, 220, 302, 302 Rear, 308, 308 Rear, & 316 Lake St)

Natural Features:

Wetlands

Trees

Woodland

Applicable NFP Standards:

Wetlands

Protected Tree

Woodland

Landscaping

Stormwater

Project Summary:

The subject properties are undeveloped and owned by Kalamazoo Community Housing Choices and located in Kalamazoo, in the Edison Neighborhood, along Stockbridge Avenue and Lake St. The parcels are either split-zoned Community Commercial (CC) and Industrial (M-1) zone districts, Commercial Neighborhood (CN-1) and Community Commercial (CC) or solely zoned Community Commercial (CC). The applicant is proposing to redevelop the site by combining parcels into one parent parcel and constructing a 4-story mixed use building having 36 residential units and ground floor non-residential space, parking, and a paved path connecting the building to the sidewalk on Lake Street.

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In this project, NFP development standards helped inform a less intensive design and pushed to mitigate disturbances to natural features.

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Appendix A

Example Documents

Example Woodland Assessment

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- 1. Background Page 2
- 2. Minimum Area Page 4
- 3. Tree Count Page 4
- 4. Natural Groundcover Page 4
- 5. Preservation Requirements ... Page 6
- 6. Tree Inventory Page 7

Background

A trail development project has been proposed by the Southwest Michigan Land Conservancy at its Bow in the Clouds Natural Area, which lies between the City of Kalamazoo and Kalamazoo Township. Within the city, it also lies in the Natural Features Protection Layer. This project is intended to create increased community access to this important natural area through Universal Access principles, while also allowing the City of Kalamazoo staff access to manhole covers to conduct maintenance on below-ground sewers that cross the preserve in several areas. The City has a legal access easement to build a road and maintain these sewer lines, but a plan and layout formed working with SWMLC will allow legal access while maintaining a natural area aesthetic.

While several natural features are found on site (wetlands, waterways, slopes, and woodland), only impact to the slope and slope setback features cannot be avoided per NFP requirements. A recommendation was sought for a variance to this feature from the NFP Board and was recommended (5/28/24) with a subsequent approval by the Zoning Board of Appeals (6/13/24). The woodland feature was proposed (as opposed to the tree feature) by SWMLC, and would allow for much more than the limited removal of trees that is being proposed to make room for the trail layout. However, the delineation needed to be demonstrated by meeting the definition of a woodland per the NFP Ordinance language. This document clearly defines the project area as woodland, and represents the additional acreage of woodland on site outside the project area.

Woodland is defined by NFP verbiage by its:

- Minimum area
- Tree count
- Natural ground cover

NFP Woodland Delineation: Bow in the Clouds

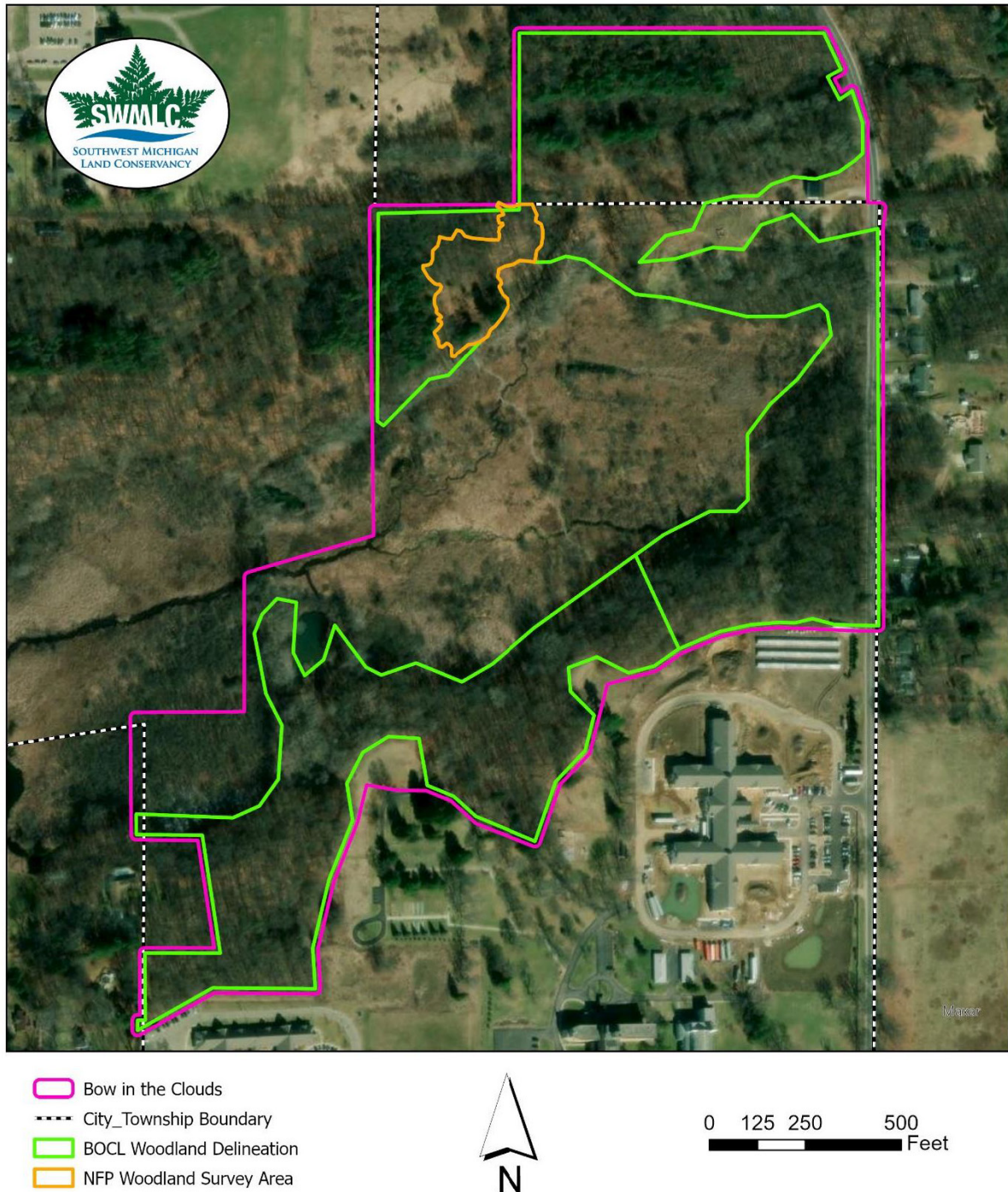


Image 2. Bow in the Clouds Natural Area, including boundary, city/township line, woodland delineation, and survey area.

Minimum Area

Trees cover a minimum area of 21,780 square feet or a half (1/2) acre, regardless of parcel boundaries (NFP II Ordinance with text amendments).

Woodland acreage for the overall property is 34.92 acres (see “BOCL Woodland Delineation” on Image 1). This results in 59% (34.92 acres woodland/58.94 acres parent parcel) coverage and 52% (26.51 acres woodland/50.53 acres parent parcel) coverage if only the acreage within the City of Kalamazoo is counted. This acreage was calculated in a GIS analysis using largely National Wetland Inventory data, aerial imagery, and ground truthing to distinguish between woodland and wetland acreage.

Tree Count

The area contains the equivalent of at least forty (40) trees per acre of at least two (2) inches DBH and reach or at maturity will reach at least fifty feet (50) in height (NFP II Ordinance with text amendments).

SWMLC Stewardship Staff conducted a representative tree inventory in July 2024 using the following criteria: 1) within the City limits, 2) within the project area excluding wetland acreage, 3) trees 2” DBH or greater, and 4) excluding understory trees (less than 50’ at maturity) in density estimates. Trees were measured, identified to species wherever possible, and GPS coordinates/location recorded (See Image 3). Understory trees were initially recorded and reflected in the set of points, but later removed for purposes of calculating tree density per acre (per NFP Guidelines). 297 trees were initially recorded representing 25 species and 275 trees representing 17 species remained once understory trees were eliminated from the calculations (See Table 1). These include native and non-native species. The survey area was 1.44 acres.

191 trees per acre is the tree density within the project area.

Natural Ground Cover

No more than twenty-five (25) percent of the ground area is mowed turf grass (NFP II Ordinance with text amendments).

Bow in the Clouds has approximately 1.25 acre of mowed turf grass and prairie but these were not included in the woodland acreage assessment. Woodland areas had a natural understory of shrubs, herbaceous grasses and forbs, and leaf litter (see Image 4).

Tree Count

Table 1. Tree inventory within representative survey area. 275 total trees were counted and measured.

Tree #	Common Name	Scientific Name	Size (DBH in inches)
3	American elm	<i>Ulmus americana</i>	9.5
164	Black Cherry	<i>Prunus serotina</i>	2
172	Black Cherry	<i>Prunus serotina</i>	2
271	Black Cherry	<i>Prunus serotina</i>	2
278	Black Cherry	<i>Prunus serotina</i>	2
158	Black Cherry	<i>Prunus serotina</i>	2.5
296	Black Cherry	<i>Prunus serotina</i>	2.5
297	Black Cherry	<i>Prunus serotina</i>	2.5
233	Black Cherry	<i>Prunus serotina</i>	3
235	Black Cherry	<i>Prunus serotina</i>	3
244	Black Cherry	<i>Prunus serotina</i>	3
218	Black Cherry	<i>Prunus serotina</i>	3.5
220	Black Cherry	<i>Prunus serotina</i>	3.5
237	Black Cherry	<i>Prunus serotina</i>	3.5
274	Black Cherry	<i>Prunus serotina</i>	3.5
154	Black Cherry	<i>Prunus serotina</i>	4
156	Black Cherry	<i>Prunus serotina</i>	4
248	Black Cherry	<i>Prunus serotina</i>	4
275	Black Cherry	<i>Prunus serotina</i>	4
280	Black Cherry	<i>Prunus serotina</i>	4
295	Black Cherry	<i>Prunus serotina</i>	4

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

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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).

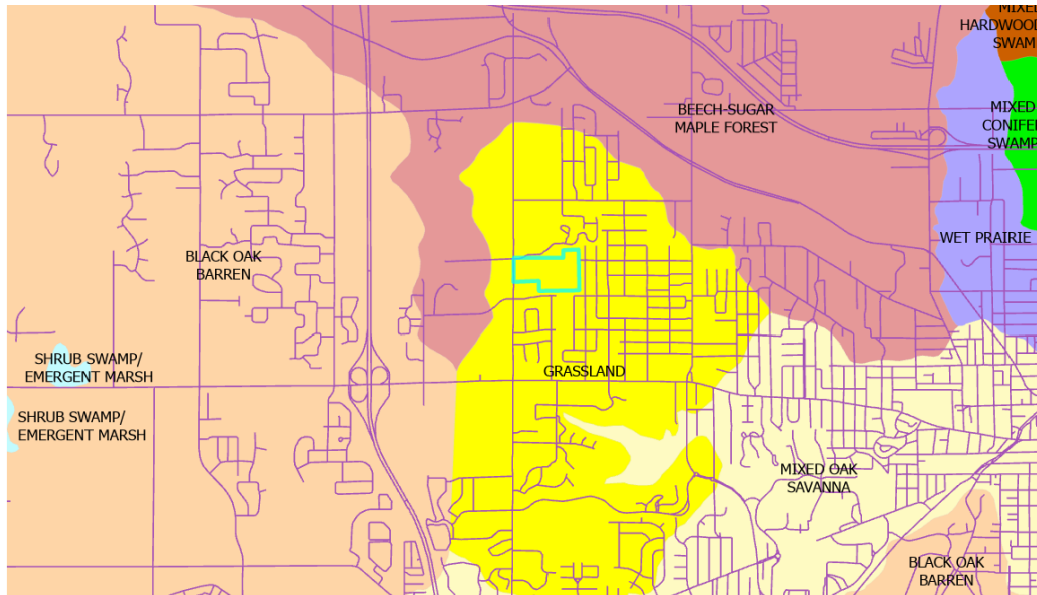


Figure 1. Historical landcover with current roads for reference. The map shows the survey area in Kalamazoo, Michigan highlighted in light blue. The c1800 landcover derived from General Land Office notes was grassland with forest and barrens in the surrounding area.

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.

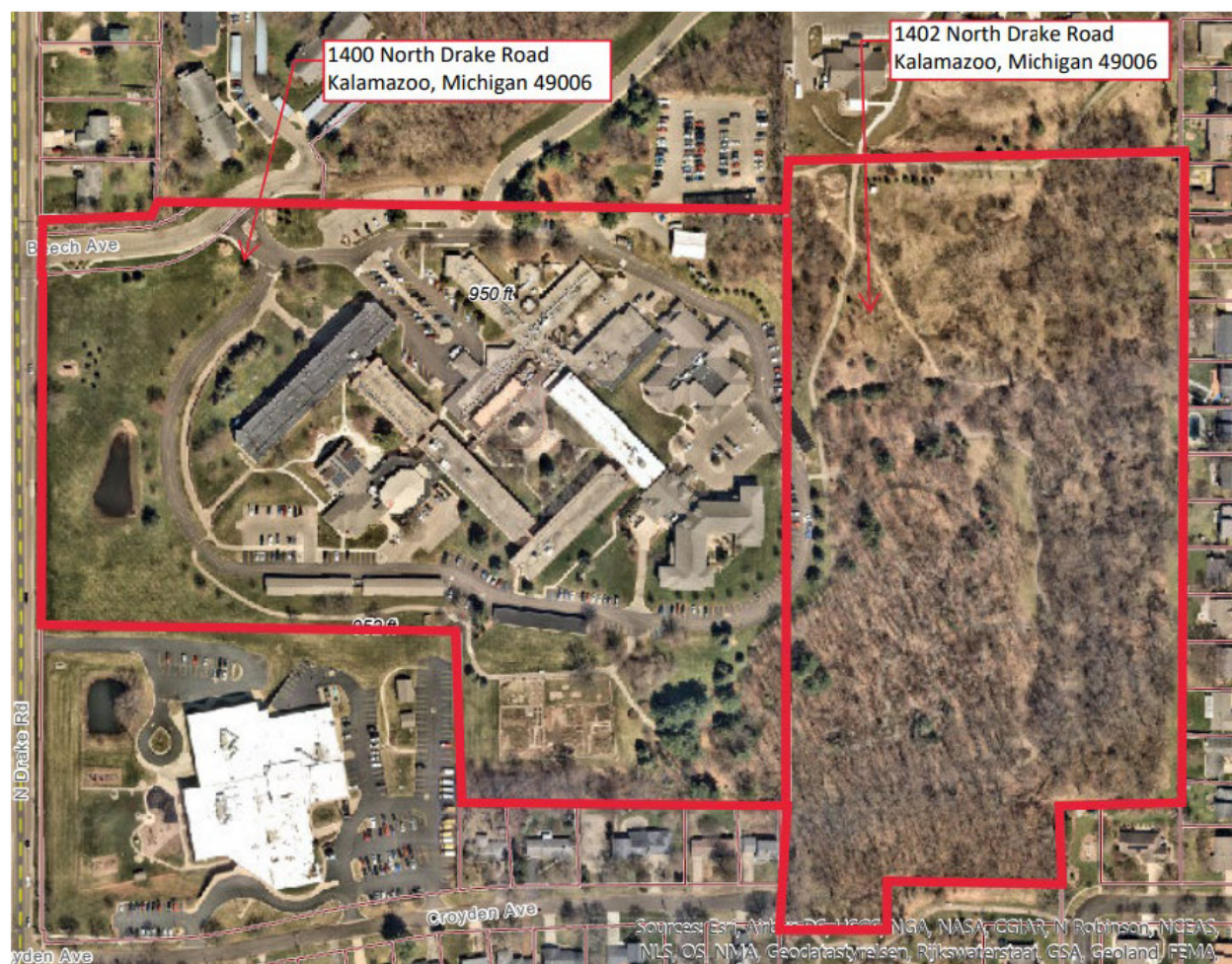


Figure 2. Aerial photograph with parcel boundaries (survey areas) outlined in red.

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).

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

Example Arborist Report

July 18, 2023

REPORT

From:

Re:

Executive Summary:

On 05.31.2023, the Kalamazoo Planning Department issued a Violation Citation: # 06-34-38-001 based upon observed actions on the [REDACTED] property.

The violation is focused on several locations, with identified concerns. These are:

1. The grading of the south property line, with visible root damage, where the installment of construction fencing was placed approximately 30' north of the actual identified and approved clearance line.
2. The far Southeast corner of the property, which holds a protected wetlands and the surrounding trees growing there.
3. The east side of the property, the sloped west bank of White's Lake, which is scheduled for a construction retaining wall, which is the location of the cantilevered Platform Tennis Courts and walls for the pools/patios. The children's playground/boardwalk, under the oaks to the south and down the slope. Also in this zone, an old concrete sidewalk is scheduled for removal. Concurrently, within this area, are several trees which will have the critical root zone impacted.
4. On the Northside, two trees, a Maple and Black Cherry were identified to be impacted by recent grading actions.

All the areas were inspected closely and all impacted trees in each zone were individually assessed. Identified trees requiring imperative actions, pruning or removal were marked with paint. A Preservation Action Plan was verbally approved by [REDACTED] (See Commentary on Page 2 and Recommendations on Page 4.) This is the currently stated Action Plan.

Procedure:

On 07.13.2023 at 11:00 AM a group [REDACTED] walked the site and inspected the trees in the zones of concern. Specific issues, listed in the Citation were addressed.

Commentary on the 07.13 Site/Tree Inspection:

The Southside Property Line was approved for “total tree removal” in the 2022 Zoning Approval. Excavation was stopped within approximately 30± of the prescribed and approved edge and ~ 15’ south of it was graded. Within the area left untouched, ~15’ were scores of trees, which the city Planning Department had accepted originally as taken and lost. No exact count was taken, however on the over the 1,500’+ of property line considered, there is 10,000± sq. ft. of canopy, approved in 2022, for removal, by the Planning Department, which remains.

In the analysis of individual trees, nearly all Black Cherries, *Prunus serotina*, were condemned due to species-specific concerns. These removals will not alter the overall canopy texture or context, due to the connection to the property adjacent and the dominance of the other trees. The Cherry removals will reduce risk of structural failures in the future and provide added root zones for those trees remaining.

Of the other trees in this location, most were Sassafras, *Sassafras albidum*. This species is native and naturally a “sandbank” tree, prospering in very gritty, sandy, high drainage soils. It has naturally deep roots, and routinely produces sinker roots which can explore 6’+ deep. They can withstand more construction stress, and reproduce both by seed and asexually, causing the tree community, as a whole, to be more resolute.

Most significant to the preservation of this identified tree community is that over 60%+, and for many trees 80%+, of the trees’ root zones had not been impacted by the grading. Nearly all trees, showed no decline in their canopies, even with the unusually dry conditions of 2023.

The Southeast Corner is still in a decision mode; thus, commentary is not warranted with the trees in this portion of the property.

The west bank of White’s Lake, on the east side of the development, is a mature southern Mesic Forest*. It is historical and unique for the whole [REDACTED] property. Preservation of the mature trees on site will require individual care, and routine inspection. There are three specific issues in this location: The proposed playground, installation actions and post-installation tree management. The upper edge within the construction impact zone, retaining wall installation and the impact on the nearby tree root masses. The removal of the old concrete stairs going down the slope to the lake shore.

*Dry-mesic Southern Forest – Michigan Natural Features Inventory
Michigan Natural Features Inventory MSU Extension, Dry-mesic Southern Forest

Commentary on the 07.13 Site/Tree Inspection, cont.:

The playground under the oaks is a unique feature, does pose immediate and long-term risks if the trees are not managed properly. The trees, the installed features, and those who use the site for recreation are considerations for both risk exposure and management actions.

The current tree density affords installation with marginal impacts and no removal of trees. The stated plan for wood chips as the ground cover is positive for the trees. The post/pylon installation of both boardwalk and play equipment will not negatively reduce tree root volumes.

Pre-construction actions are critical to elevate the negentropy of the individual trees within the proposed feature. Canopy pruning is critical to reduce failure risks. Each tree should have a permanent ID number tag, installed. (See Recommendation, Page 4)

Yearly inspections in June will allow evaluation of each tree's condition. This annual inspection will update the current condition of each tree and project directions for fall - winter maintenance schedules. Any overt/acute condition can be dealt with before the summer activity season.

The trees on the bluff, exposed to potential construction actions, were evaluated individually. Those condemned were marked for removal. There will be Fall, 2023 preservation actions on those to be preserved.

The Concrete Stair Removal will not impact any trees in this area, if implemented properly. The Hickory at the top of the concrete walk is scheduled for removal. One Black Oak, to the near north of the walkway, will be marginally affected. It can be individually preserved.

To minimize any potential negative impact, this work should be done after November 1 and before February 1. Snow cover will reduce traction of equipment. Rubber-tracked equipment should be used, and the process should begin from top to bottom lifting and carrying the broken concrete pieces up and out along the old concrete walk location.

General Discussion:

In the three actions zones, there is nothing unusual or unique from other construction sites. All trees are energy systems and reactive growers; they either grow or decline based upon their genetic presets and their environment. Preemptive actions and ongoing inspections, with timely responses, as determined, will insure their future and each tree's contribution to the development.

While preliminary discussions on reforestation, for each zone, have been engaged to date, it is only vision casting.

Preservation Action Plan:

Each Zone identified in the commentary will have itemized actions identified. None are implemented until September 2023. Based on individual tree conditions, alterations are possible. In September, a calendar of events will be published.

1. The Southside Tree Community:

In mid-September, the graded zone from the property fence line, north should have a granular application of 10-10-10 at 2 lb./1000 sq. ft, 25 feet wide band.

The excavation has produced exposed roots, some are broken. The broken roots should be cut clean, and this area should be covered with native soil to cover the roots up to 2" deep.

This line of trees should be inspected in May 2024 for any individual tree flagging or other issues so that remediation can be engaged in a timely fashion.

2. The Southeast Corner currently has no firm development plans, yet. If there are changes, the trees on both sides of the wetlands should be analyzed for impact and preservation.

3. The Eastside slope, "Playground Area" will need an individual tree analysis. All trees, within and adjacent to it, must have an ID tag. A detailed analysis was not engaged on the 13th, but it is needed in the fall of 2023 for work coordination. A map of the work zone, with individual marked trees, is available and will be used as the site template for the Actions Plan implementation. This will be submitted in September 2023. All trees must be tagged and inventoried.

However, from the site overview on 07.13, each tree in the playground area should be systemically fertilized in October 2023 to prepare it for 2024 impacts. In the winter 2023-24, the trees should be pruned: low, potentially interfering branches and deadwood 1" and bigger taken. Any concerning tree structures should have aerial inspections.

Since wood chips are the designed ground cover, it should be spread at 2" deep over the whole area in late 2023, or early 2024 for soil protection.

In May 2024, a ground application of Glyphosate should be made to kill all herbaceous growth in the playground. A inspection of both trees and the efficacy of the spray, should be made 30 days after the herbicide is applied to insure effectiveness and no tree damages..

All identified trees within the action zone of the retaining wall/sidewalk removal should be systemically fertilized as/with the Playground trees. Corrective root pruning, after the "raw excavation" should be done.

4. The two Northedge Tees identified in the Citation, will have ~6' wide area of fill pulled back from the buttress zone. The two trees should be systemically fertilized in the Fall, 2023.

Michigan's Invasive Species Watch List

The following information is presented as a guide for reporting occurrences of select invasive species of concern in Michigan.

Invasive Species Watch List

The invasive species included on the watch list are priority species that have been identified as posing an immediate and significant threat to Michigan's natural resources. These species have either never been confirmed in Michigan or have very limited distribution or are localized. Early detection and timely reporting of occurrences of these species is crucial for increasing the likelihood of stopping an invasion and limiting negative ecological and economic impacts. Species are listed below by category. The invasive species below should be reported immediately and directly to staff. Please use the contacts below each category to report a possible detection of a watch list species.

Insects and Tree Diseases (Tree diseases list the scientific name for the pathogen or fungus associated with the disease)

- Asian longhorned beetle (*Anoplophora glabripennis*)
- Balsam woolly adelgid (*Adelges piceae*)
- Beech leaf disease (*Litylenchus crenatae* and potential associates)
- Hemlock woolly adelgid (*Adelges tsugae*)
- Mountain pine beetle (*Dendroctonus ponderosae* Hopkins)
- Spotted lanternfly (*Lycorma delicatula*)
- Thousand cankers disease (*Geosmithia morbida*)

Report the species above to Robert Miller – MDARD Plant Health Section,
MillerR35@michigan.gov, 517-284-5650.

Mammals

- Nutria (*Myocastor coypus*)

Report the species above to Ryan Wheeler – DNR Wildlife Division,
WheelerR5@Michigan.gov, 517-614-1501.

Terrestrial Plants

- Calligraphy sedge (*Carex kobomugi*)
- Chaff flower (*Achyranthes japonica*)
- Cinnamon vine (*Dioscorea polystachya*)
- Kudzu (*Pueraria montana* var. *lobata*)
- Lesser celandine (*Ficaria verna*)
- Mile-a-minute weed (*Persicaria perfoliata*)
- Purple jewelweed (*Impatiens glandulifera*)
- Stiltgrass (*Microstegium vimineum*)

Report the species above to Katie Grzesiak – DNR Terrestrial Invasive Species Coordinator,
GrzesiakK1@Michigan.gov, 231-492-7811.

Aquatic Plants

- Brazilian elodea (*Egeria densa*)
- European water-clover (*Marsilea quadrifolia*) – This species is currently allowable for sale and possession. Please contact EGLE if these plants are observed outside of cultivation.
- Hydrilla (*Hydrilla verticillata*)
- Parrot feather (*Myriophyllum aquaticum*)
- Water chestnut (*Trapa natans*)
- Water hyacinth (*Eichhornia crassipes*) – This species is currently allowable for sale and possession. Please contact EGLE if these plants are observed outside of cultivation.
- Water lettuce (*Pistia stratiotes*) – This species is currently allowable for sale and possession. Please contact EGLE if these plants are observed outside of cultivation.
- Water-primrose (*Ludwigia grandifolia*, *Ludwigia peploides* and *Ludwigia hexapetala*)
- Water soldier (*Stratiotes aloides*)
- Yellow floating heart (*Nymphoides peltata*)

Report the species above to Aquatic Invasive Species Unit– EGLE Water Resources Division, EGLE-WRD-AIP@Michigan.gov, 517-342-4087.

Fish and other Aquatic Animals

- Invasive carps
 - Silver carp (*Hypophthalmichthys molitrix*)
 - Bighead carp (*Hypophthalmichthys nobilis*)
 - Grass carp (*Ctenopharyngodon idella*)
 - Black carp (*Mylopharyngodon piceus*)
- Marbled crayfish (*Procambarus virginalis*)
- New Zealand mudsnail (*Potamopyrgus antipodarum*)
- Northern snakehead (*Channa argus*)
- Red swamp crayfish (*Procambarus clarkii*)

Report crayfish species to Kathleen Quebedeaux – DNR Fisheries Division, QuebedeauxK@Michigan.gov, 734-780-5571.

Report fish or other invertebrate species to Justin Bopp – DNR Fisheries Division, BoppJ@Michigan.gov, 517-420-9110.

For **invasive carp** report electronically at Michigan.gov/InvasiveCarp.

For more information, please visit:

Michigan.gov/Invasives



Important External Resources



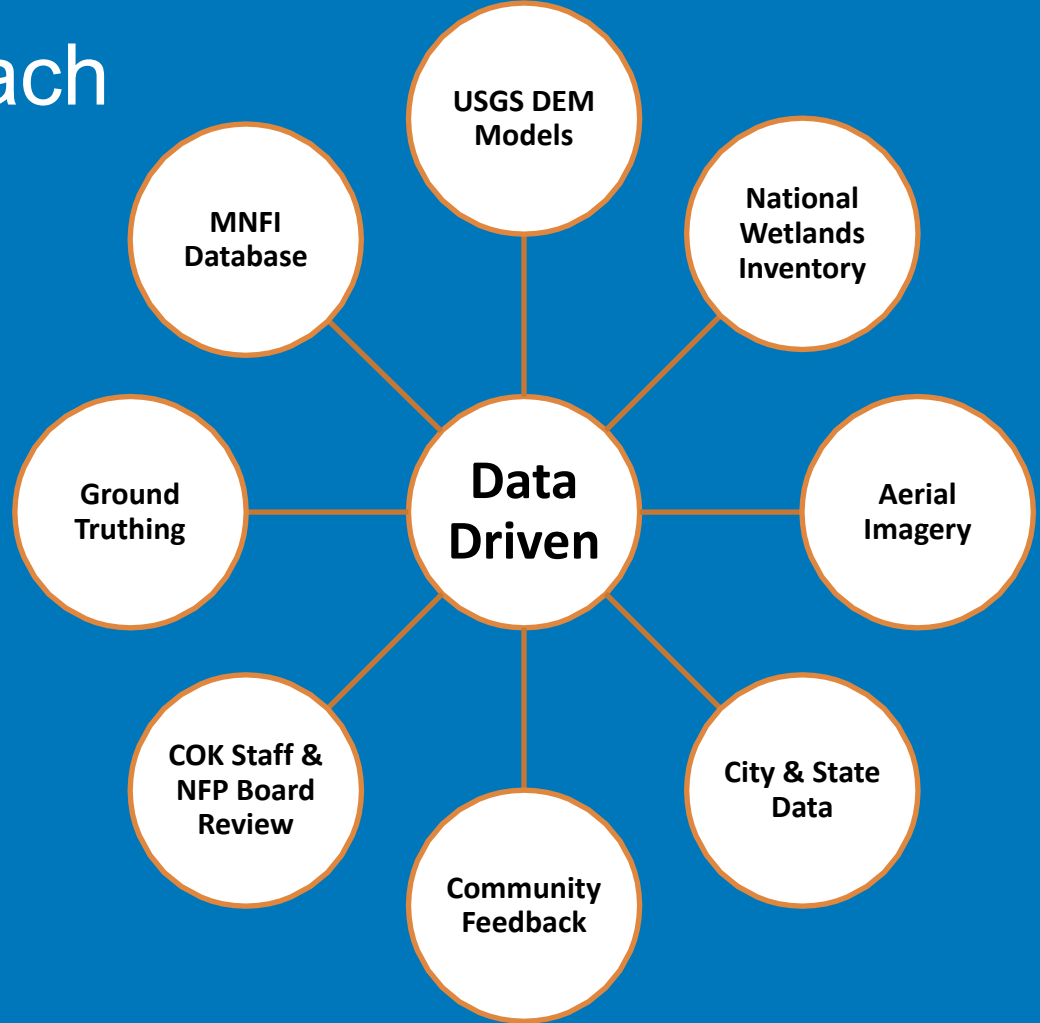
Natural Features Protection Board Work Session

What is the intent of NFP?

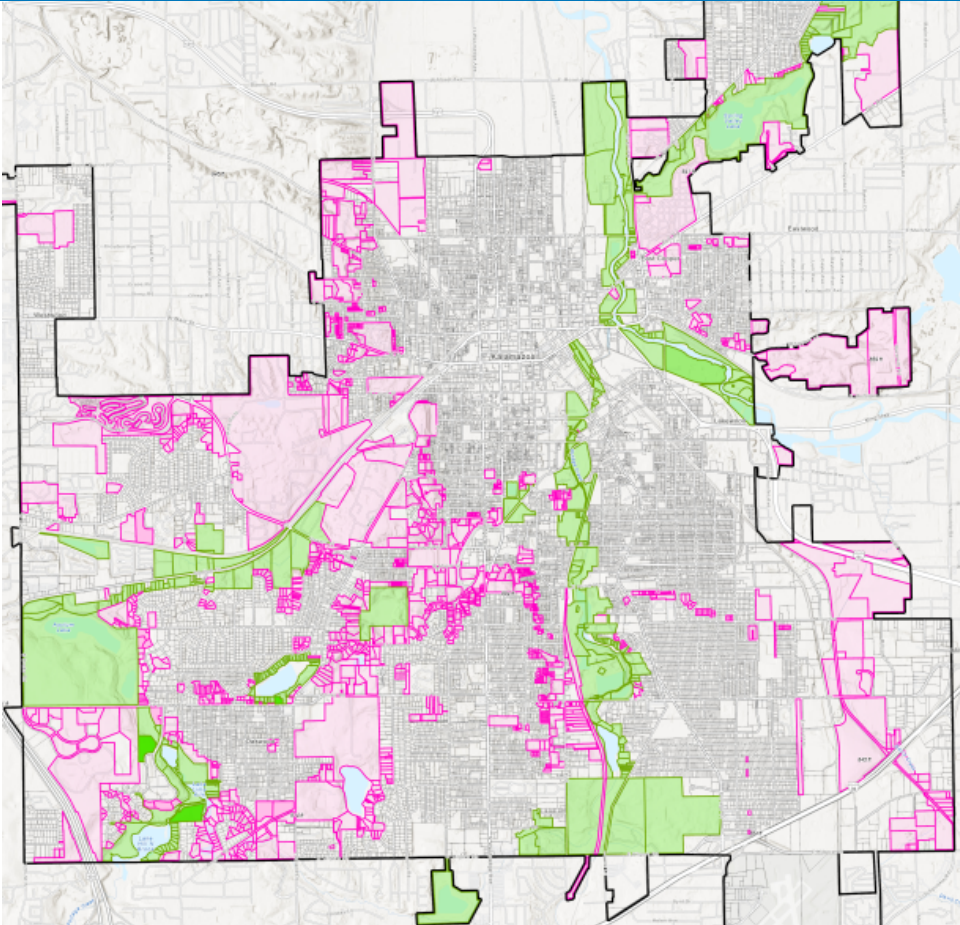
1. To protect natural features in the City of Kalamazoo, specifically wetlands, water resources, trees, woodlands, floodplains, slopes, natural heritage areas, and habitat corridors.
2. To guide site development, balancing growth and redevelopment with the protection of our existing natural features.
3. To create site designs that are responsive to the existing natural features and minimize impacts to the extent possible.

A Data Driven Approach

- Focus on authoritative data sources
- Context-sensitive
- Data has proven accurate



Phase 1 and Phase 2 – A Look Back



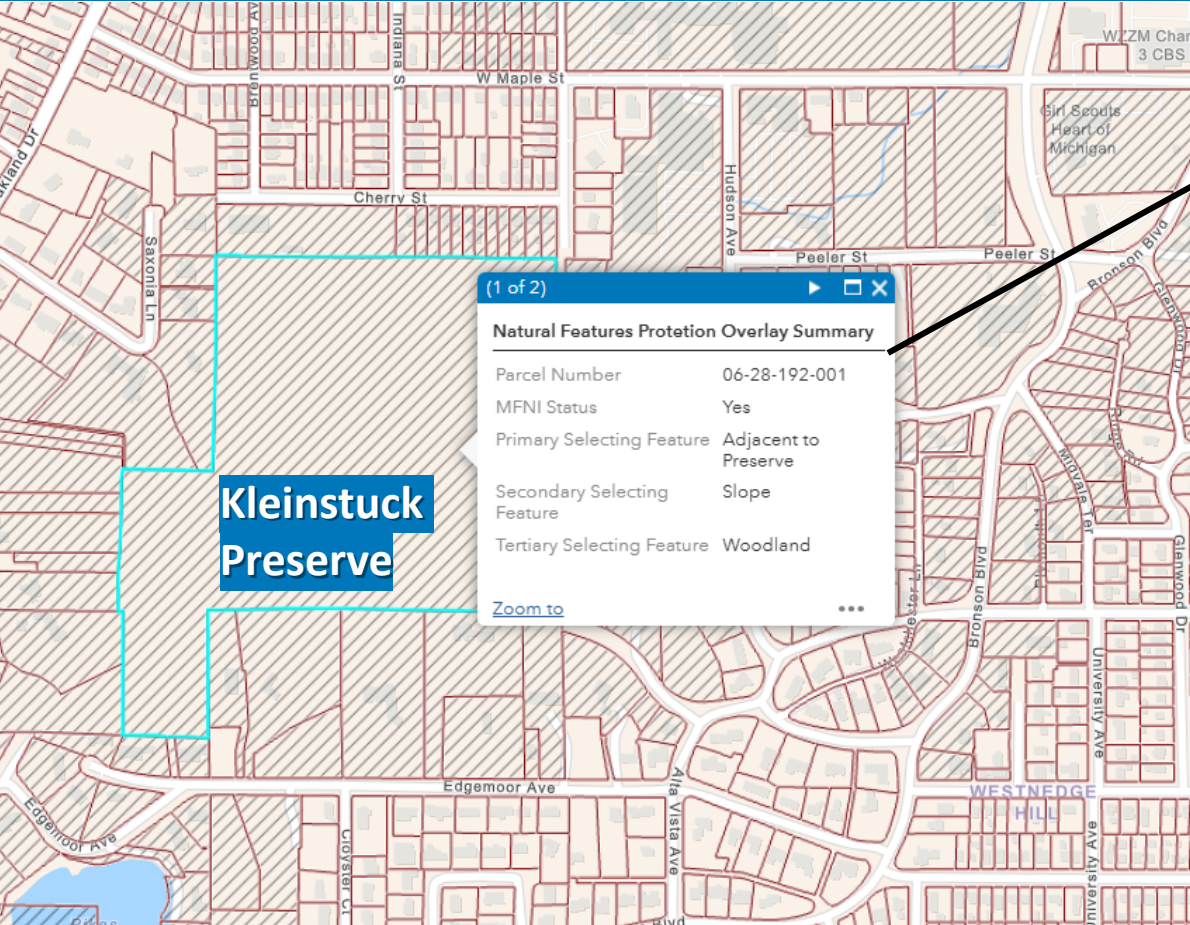
 Phase 1 (376 parcels)

 Phase 2 (1,489 parcels)

**The Michigan Zoning Enabling Act
requires public notice to all affected
property owners and properties
within 300ft of affected properties.**

**~4,600 notices sent when Phase 2
updates occurred.**

Phase 1 and Phase 2 – A Look Back



Interactive Public facing map for ease of use.

- Public Map System (GIS) was updated
- MFNI Status was added
- Selecting Features Shown
- Visual Overlay on NFP Parcels
- 2024 – NFP Properties added to our BS&A System

Text Amendments (since 2019)

Tree Standard

Simplify replacement list &
required with site plan review

Woodland Criteria

Change to fit urban forest form

Native Plants

Native-only for landscaping required by ZO

Bonding Requirement

Required under specific circumstances

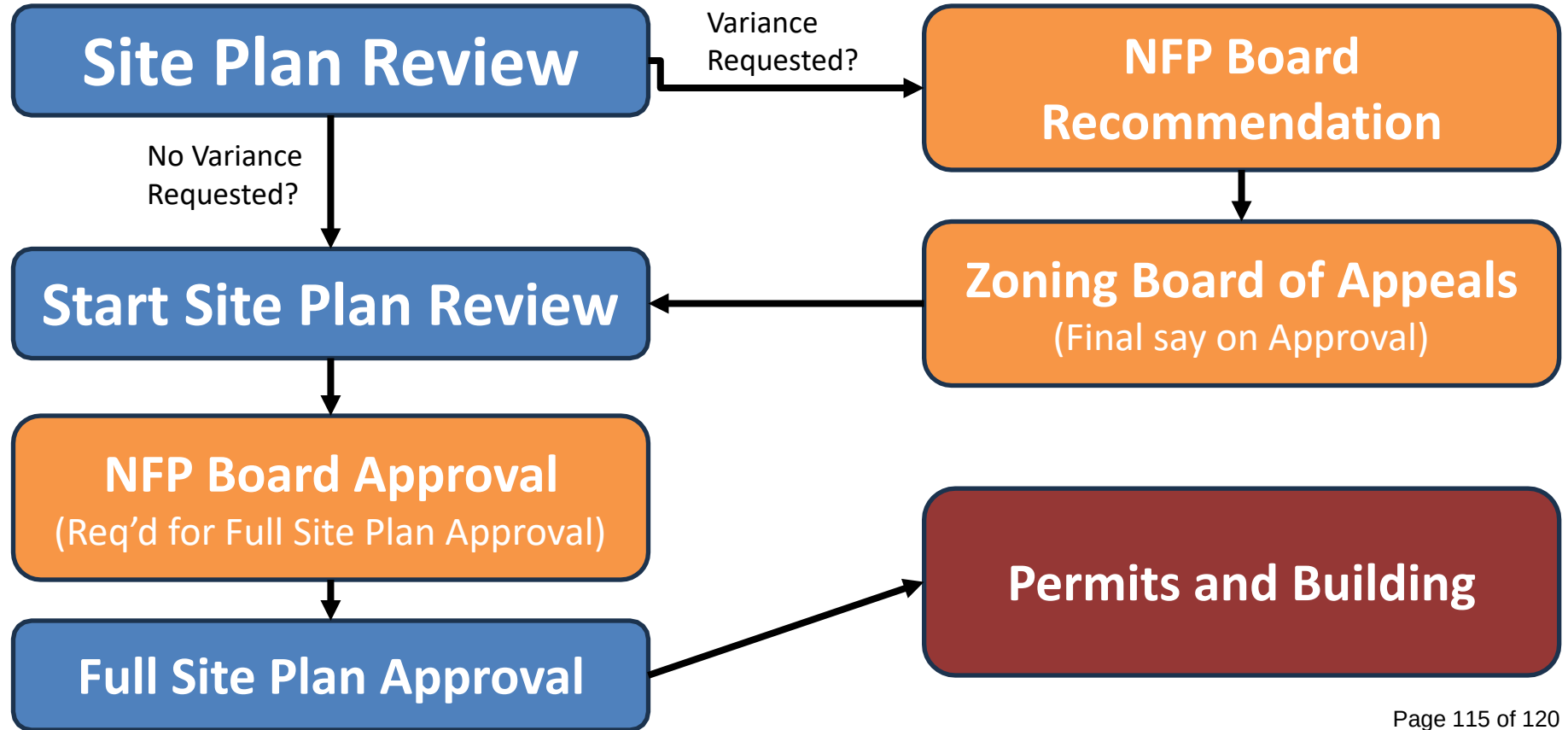
Disturbance Definition

Ensure stewardship activities are not
considered “disturbance”

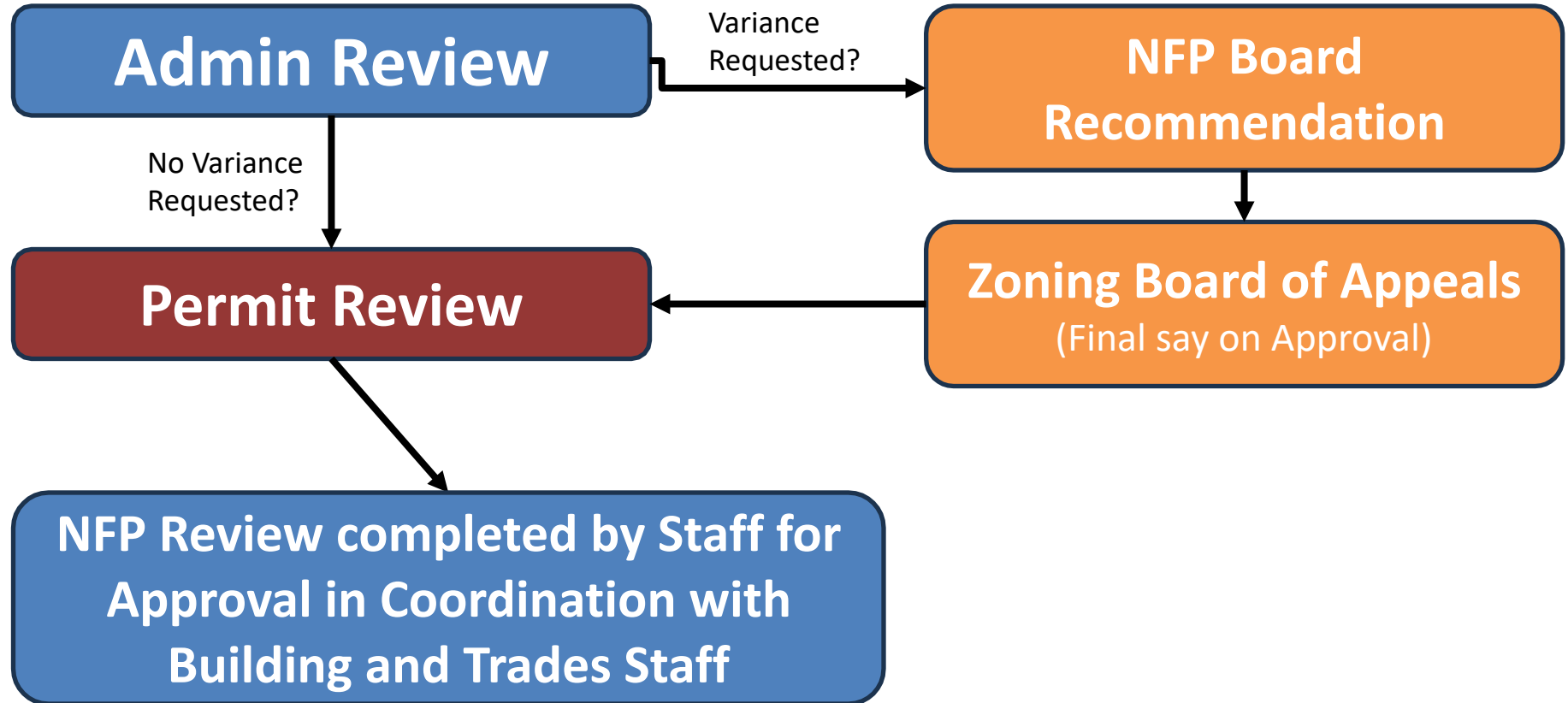
Update the Intent Statement of NFP

Focus on guiding and balancing
development with protection of natural
features

Site Plan Review (NFP & ZBA)



Administrative Review (NFP & ZBA)



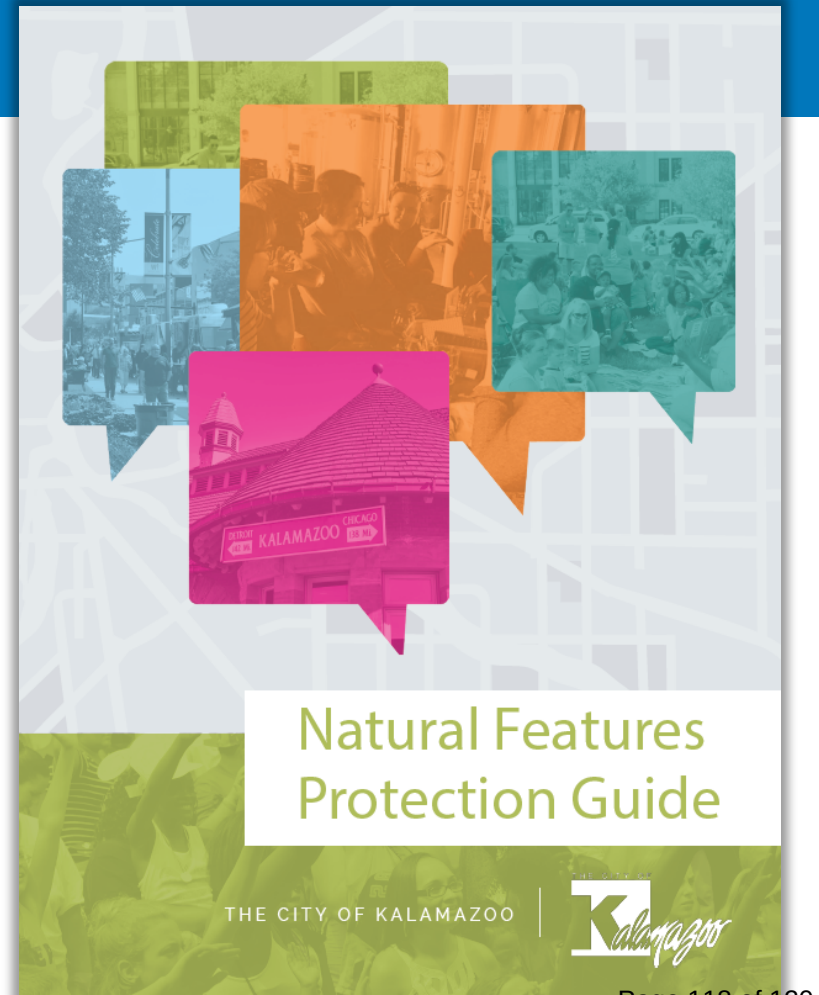
Pre-Application Meetings

- Is a Pre-Development Process
- Utilized for Site Plan Review, Zoning Board of Appeals, NFP Review Board and more.
- Provides an opportunity for staff to understand the project and for an applicant to understand the process.

**City Staff DO NOT
design development
projects for applicants.**

NFP Guide - DRAFT

- Intended for everyone
- Walks through the standards & considerations
- Definitions
- **NEXT STEPS:** Assign NFP Board Members to review sections.



Woodlands

How do I know if I have a woodland?

Step 1 Desktop Review

You can use the Public GIS Map to review woodland areas on or adjacent to your parcel. It is still recommended that an ISA-Certified Arborist or other qualified professional assist in both the desktop and in-person reviews and analysis.

[City of Kalamazoo GIS](#)

- Expand the layers tab

- Click the checkbox next to the "City Aerial Imagery"

layer

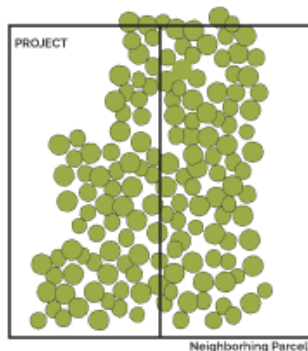
☐ City Aerial Imagery

Step 2 In Person Review

Look for a grouping of trees that covers an area a half acre or greater, regardless of whether the grouping is entirely on your parcel or extends onto adjacent parcels. To be a woodland, the number of trees must be equal to 40 per acre at least 2" diameter or greater. Look for other woodland features, such as natural ground cover (i.e., not mowed lawn) and understory shrubs.

Step 3 Professional Review *Recommended*

If none of the woodlands on the property will be disturbed, then a professional assessment is not required. When woodlands will be cleared, a qualified professional must delineate and assess the existing woodlands (e.g., woodland ecosystem assessment, basal area measurement, or tree survey).



Supplemental Site Plan Review Checklist for NFP

Fill out the corresponding
sections of the checklist:

- ☒ Section II, Part B,
Question 5 & 7
- ☒ Section III, Woodlands
(If you have a
woodland(s))

What should I do if woodlands are present?

Step 1 View the full standards

[Chapter 50 NFP Overlay District](#)

- Refer to the [Woodland Section](#)

Step 2 Be prepared to:

- Find an ISA-certified arborist or another qualified professional to delineate and assess woodland
- Mark the full boundary of existing woodland, the section to be removed, and acreage and percent calculations on the site plan map
- Provide justification why the section of the woodland was chosen for preservation
- Fence preserved woodland with temporary barrier fencing during construction at the outer edge of the critical root zone (see Figure 4)

Woodland Coverage of Parent Parcel	Minimum Required Woodland Coverage to be Preserved
75% to 100%	25%
50% up to 75%	50%
25% up to 50%	75%
Less than 25%	90%

Table 3 Woodland Preservation

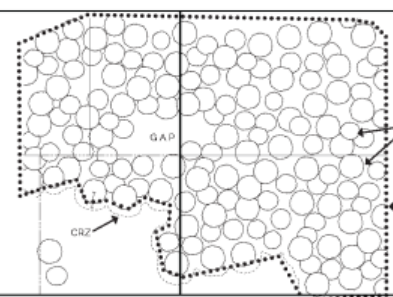


Figure 4 Defining and Delineating a Woodland

No disturbance allowed in preserved woodlands or critical root zones, except for specific permitted activities in the zoning code

Size of a Woodland is measured across parcel boundaries

Woodland Boundary

A portion of the woodland must be preserved during and after construction (see Table 3)

Speaker Series

- **What are four key areas the board would like to focus on and learn more about?**
- **Idea would be to bring 4 staff to present on these subjects, if possible.**
- **Past interests were:**
 - **Compliance**
 - **Stormwater**
 - **Education**