



AGENDA
CHARTER TOWNSHIP OF MERIDIAN
PLANNING COMMISSION – REGULAR MEETING
November 26, 2018 7PM

1. CALL MEETING TO ORDER
2. PUBLIC REMARKS
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
 - A. November 5, 2018 Regular Meeting
5. COMMUNICATIONS
 - A. Sheila Zwiesele RE: Planned Unit Development #18014
 - B. Suzanne Ferris RE: Special Use Permit #18081
 - C. Cecelia Kramer RE: Special Use Permit #18081
 - D. Michael Casby RE: Planned Unit Development #18014
 - E. Cecelia Kramer RE: Special Use Permit #18081
 - F. Chris Weiss RE: Special Use Permit #18111
 - G. Kathy & Larry McCurdy RE: Rezoning #18120
 - H. Catherine & Chris Cleveland RE: MUPUD #18044
 - I. Jessi Adler RE: Special Use Permit #18101
 - J. Alice Cardy RE: Special Use Permit #18081
 - K. Carol Weaver RE: Special Use Permit #18111
6. PUBLIC HEARINGS
 - A. Special Use Permit #18101 (Green Castle Properties LLC), construct 23,094 square foot new car dealership at 1614 & 1622 Grand River Avenue.
 - B. Special Use Permit #18111 (Fedewa Holdings), construct two multiple family apartment buildings with a total of 15 units at 1730 Chief Okemos Circle.
7. UNFINISHED BUSINESS
 - A. Mixed Use Planned Unit Development #18044 (Newton Pointe LLC), establish Newton Park mixed use planned unit development (MUPUD) project consisting of 19,367 square feet of commercial space and 218 residential units at 6276 Newton Road.
 - B. Special Use Permit #18091 (Newton Pointe LLC), construct group of buildings greater than 25,000 square feet in size (approximately 264,684 total square feet) at 6276 Newton Road .
8. OTHER BUSINESS
 - A. Commission Review #18133 (Meridian Township), Section 61 Review for land preservation purchase located north of Biber Street, east of Towar Avenue (Tax ID #06-226-001).
9. TOWNSHIP BOARD, PLANNING COMMISSION OFFICER, COMMITTEE CHAIR, AND STAFF COMMENTS OR REPORTS

AGENDA page 2
CHARTER TOWNSHIP OF MERIDIAN
PLANNING COMMISSION MEETING
November 26, 2018 7:00 pm

10. PROJECT UPDATES
 - A. New Applications - NONE
 - B. Site Plans Received - NONE
 - C. Site Plans Approved - NONE
11. PUBLIC REMARKS
12. ADJOURNMENT

TENTATIVE PLANNING COMMISSION AGENDA

December 10, 2018

1. PUBLIC HEARINGS
 - A. Rezoning #18140 (Thomas M. Hitch), rezone approximately 2.87 acres located at 2530 & 2540 Jolly Road from RA (Single Family-Medium Density) to PO (Professional and Office)
 - B. Rezoning #18150 (Meridian Township), rezone the south four acres of Parcel I.D. #21-226-011 from RDD (Multiple Family) to C-3 (Commercial), located on the east side of Okemos Road, south of Central Park Drive.
2. UNFINISHED BUSINESS
 - A. Special Use Permit #18081 (Lafontaine Automotive Group), construct new car dealership located at 1492, 1478, 1476, and 1448 Grand River Avenue.
 - B. Special Use Permit #18101 (Green Castle Properties LLC), construct 24,969 square foot new car dealership at 1614 & 1622 Grand River Avenue.
 - C. Special Use Permit #18111 (Fedewa Holdings), construct two multiple family apartment buildings with a total of 15 units at 1730 Chief Okemos Circle.
3. OTHER BUSINESS - NONE

Individuals with disabilities requiring auxiliary aids or services should contact: Principal Planner Peter Menser, 5151 Marsh Road, Okemos, MI 48864 or 517.853.4576 - Ten Day Notice is Required.
Meeting Location: 5151 Marsh Road, Okemos, MI 48864 Township Hall

Providing a safe and welcoming, sustainable, prime community.



**CHARTER TOWNSHIP OF MERIDIAN
PLANNING COMMISSION
REGULAR MEETING MINUTES**

DRAFT

**November 5, 2018
5151 Marsh Road, Okemos, MI 48864-1198
517-853-4560, Town Hall Room, 7:00 P.M.**

**PRESENT: Commissioners Premoe, Trezise, Cordill, Scott-Craig, Ianni, Stivers, Richards,
and Lane**
ABSENT: Commissioner Shrewsbury
**STAFF: Director of Community Planning & Development Mark Kieselbach, Principal
Planner Peter Menser, Economic Development Director Chris Buck.**

1. Call meeting to order

Chair Ianni called the regular meeting to order at 7:00 P.M.

2. Public Remarks

- A. Cecelia Kramer, 4560 Oakwood, spoke in opposition to Special Use Permit #18081.
- B. Betty Casby, 5624 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.
- C. Mike Casby, 5624 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.
- D. Christine Coady, 5639 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.
- E. Sheila Saliganan, 5648 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.
- F. Joshua Morey, 5609 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.
- G. Craig Phillipich, 5594 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.
- H. Brian Dyke, 486 Haslett Road, spoke in opposition to Planned Unit Development #18014.
- I. Kristen Hood, 5636 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.
- J. Ari Adler, 1580 Hillside Drive, spoke in opposition to Special Use Permit #18081.
- K. Denise Kane, 5600 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.
- L. Quenda Story, 4526 Marlborough, spoke in opposition to Special Use Permit #18081.
- M. Gary Laundroche, 4000 West Highland Road, introduced himself as the applicant from LaFontaine Automotive Group.
- N. Lorraine Cook, 5654 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.
- O. Amy Garcia, 5603 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.
- P. John Garcia, 5603 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.

3. Approval of Agenda

Commissioner Premoe moved to approve the agenda as written.

Supported by Commissioner Scott-Craig.

VOICE VOTE: Motion approved unanimously.

4. Approval of Minutes

- A. September 24, 2018 Regular Meeting
- B. October 8, 2018 Regular Meeting
- C. October 22, 2018 Regular Meeting

Commissioner Cordill moved to approve the three sets of minutes as written.

Seconded by Commissioner Richards.

VOICE VOTE: Motion approved unanimously.

5. Communications

Principal Planner Menser noted five additional communications were received after the Planning Commission meeting packets were assembled. He further noted that hard copies of the communications were distributed to the Planning Commission at their places on the dais prior to tonight's meeting and would be included on the agenda for the November 26, 2018 Planning Commission Meeting.

6. Public Hearings

Chair Ianni opened the public hearing at 7:44 P.M.

- A. Special Use Permit #18081 (Lafontaine Automotive Group), construct new car dealership located at 1492, 1478, 1476, and 1448 Grand River Avenue.

Principal Planner Menser provided a brief summary of the staff report.

The applicant, Gary Laundroche, 4000 West Highland Road and owner, Ryan Lafontaine, 4000 West Highland Road, Lafontaine Automotive Group provided a presentation and announced they were available to answer questions.

Public Comments: None

Planning Commission Discussion:

Commissioner Scott-Craig asked about the future proposal on the west side of Powell Road. He also expressed concerns with Danielle's Drain and suggested the applicant work with the Ingham County Drain Commission to collaborate efforts to address the drainage before the second phase of the project begins. Commissioner Scott-Craig also commented on the concern of protecting trees and providing a more appealing "green" view when driving on Grand River past the proposed dealership.

Commissioner Trezise asked how many parking spaces would be on the site and Gary Laundroche replied a total of 373.

Commissioner Premoe asked the applicant about storm water and how they planned to address the issue.

Commissioner Cordill stated her concerns regarding future traffic flow and turning lanes in this busy area. She also asked about the dealership hours of operation and how many employees the dealership would be hiring when in full operation.

Commissioner Stivers expressed her appreciation to the applicant for listening to residents and addressing their concerns at a recent meeting.

Principal Planner Menser noted the Commissioners need to express special conditions (such as buffers and tree preservation) if they are to be added to the Special Use Permit.

Commissioner Trezise stated he would like to see the greenspace buffer off Grand River retaining a 40 foot minimum in the Greenspace Plan.

A straw poll conducted by Chair Ianni indicated the Planning Commission would like to add Special User Permit #18081 for action at the November 26, 2018 meeting.

Chair Ianni closed the public hearing at 8:36 P.M.

The Planning Commission took a ten minute recess.

- B. Mixed Use Planned Unit Development #18044 (Newton Pointe LLC), establish Newton Park mixed use planned unit development (MUPUD) project consisting of 19,367 square feet of commercial space and 218 residential units at 6276 Newton Road.
- C. Special Use Permit #18091 (Newton Pointe LLC), construct group of buildings greater than 25,000 square feet in size (approximately 264,684 total square feet) at 6276 Newton Road.

Chair Ianni opened the public hearing at 8:45 P.M.

Principal Planner Menser stated they were going to combine 6.B and 6.C agenda items and outlined the projects from Newton Pointe LLC for discussion. He also mentioned the rezoning from 2006 greatly influences the design of the site relating the uses and types.

Applicant presenters, Raji Uppal and Chuck Holman with DTN Management Company reviewed the plans for the site and were available for questions.

Public Comments:

- A. John Garcia, 5603 Creekwood Lane, had a question regarding site access.
- B. Jerry Fedewa, 5570 Okemos Road, questioned the residential setbacks for the Sierra Ridge Development which backs up to the proposed development of Newton Pointe LLC. He is in favor of Newton Pointe LLC but would like to see a 100 foot buffer between the residential and commercial property.

Planning Commission Discussion:

Commissioner Scott-Craig suggested the developers work with MDOT for further evaluation of traffic flow in this area. The traffic studies for the demographics involved in the area raise many concerns. Commissioner Scott-Craig also expressed concerns (safety and noise) for the proposed building C-7 being too close to M-78/Saginaw Highway and would prefer to see it removed and replacing it with green space. He also added that by reducing the amount of ten-unit apartment buildings from ten to nine perhaps that would allow for more flexibility in building plans.

A straw poll conducted by Chair Ianni indicated the Planning Commission would like to have a resolution to approve the Mixed Use Planned Unit Development #18044 and Special Use Permit #18091 at the next meeting.

Chair Ianni closed the public hearing at 9:36 P.M.

7. Unfinished Business

- A. Planned Unit Development #18014 (Haslett Road LLC), develop Copper Creek PUD consisting of 88 single family homes on 44 acres located on the north side of Haslett Road, east of Creekwood Lane.

Commissioner Lane moved to adopt the resolution recommending approval of Planned Unit Development #18014 as outlined in the resolution.

Supported by Commissioner Richards.

VOICE VOTE:

YEAS: Commissioners Lane, Richards, Premoe, Trezise, Scott-Craig and Chair Ianni

NAYS: Commissioners Stivers and Cordill

MOTION CARRIED: 6-2

8. Other Business- None

9. Township Board, Planning Commission Officer, Committee Chair, and staff comments or Reports

Commissioner Scott-Craig noted a Redevelopment Ready Certification Ceremony being held on Friday, November 16, 2018 at 3 P.M. at the Okemos Elevations Community Room on Jolly Oak Road.

Commissioner Stivers attended the Downtown Development Authority meeting this morning and had an ongoing discussion on the tax capture plan. The Planning Commission is being asked to review the downtown area when reviewing the section for the Master Plan because there are a couple parcels that are listed as residential and should be changed to commercial so the map is accurate.

10. Project Updates

- A. New Applications – NONE
- B. Site Plans Received
 - 1. Site Plan Review #18-09 (Affinity 9), construct 4,534 square foot Panera restaurant with drive-through window at 2080 Grand River Avenue.
- C. Site Plans Approved- NONE

11. Public Remarks

- A. Randy Kindy, 5642 Creekwood Lane, spoke in opposition to Planned Unit Development #18014.

12. Adjournment

Commissioner Cordill moved to adjourn the meeting.

Supported by Commissioner Richards.

VOICE VOTE: Motion carried unanimously.

Chair Ianni adjourned the regular meeting at 9:55 P.M.

Respectfully Submitted,

Debbie Budzynski
Recording Secretary

Peter Menser

From: Sheila Zwiesele <sczwiese@gmail.com>
Sent: Saturday, November 03, 2018 9:21 PM
To: Peter Menser
Subject: Letter for 11-5-18 meeting re: Copper Creek PUD

Dear Peter,

We would like to officially submit the letter below for the upcoming planning committee meeting on Monday 11-5-18. May you please see that it gets added to the meeting materials?

Thank you

Sheila

We are again writing regarding the planned unit development proposal for Copper Creek.

We live in the Wood Ridge subdivision, directly adjacent to the proposed Copper Creek development. Our home at 5648 Creekwood Lane is one that is in closest proximity to the proposed units at the NW corner of the development. As you know from your review of previously submitted materials, the developer's initial proposal suggested zero setbacks between our abutting properties, which we and several other neighbors as well as planning committee members felt was inappropriate. We advocated for increased setbacks and preservation of the natural wooded border along the West boundary of their property. After several revisions, there is now a proposed 75 foot buffer between our properties. While we would ideally prefer even more separation, this seems to be a minimum acceptable compromise to both parties which at the very least must be upheld. As revisions are seemingly still being made to the proposed development, we felt compelled to again bring this to your attention so that our prior progress is not undone.

While progress has been made in one area, there is another that demands our attention. The proposed connection between Wood Ridge subdivision and Copper Creek via Wood Knoll Drive (and subsequently Creekwood Lane) is unsafe, unsuitable, and undesirable for the following reasons:

- One neighborhood should not serve as an entrance for another
- There is severely limited sight distance at the intersection of Creekwood Lane and Haslett Road, which will only become more dangerous with increased traffic through our neighborhood
- Creekwood Lane is a narrow road that becomes a single lane when cars are parked along the curbs, and cannot accommodate increased traffic flow
- A safer alternative exists. The developer has the option to build a road on the East end of their property since they have future plans to expand that way further. This would satisfy the fire code requirements for access and eliminate the unnecessary shortcut through an existing subdivision
- The proposed connection will destroy a protected wetland area, which raises additional concerns for drainage and wildlife displacement
- The connection would negatively impact the safety and quality of life of the current residents of the Wood Ridge subdivision

We would like to elaborate on the last point and provide some perspective. Creekwood Lane is a single access dead-end cul-de-sac with only 25 houses. This fosters a sense of security, charm, and close knit community which current residents have come to love. Our children play outside, we look out for each other, and we enjoy coming home to a quiet and peaceful neighborhood. In fact, this is what drew us to buy a house here. We love living in Haslett and we want future residents to as well, but not by compromising what we love in the first place.

Based on the initial concept plan, the developers are eventually planning to build 350+ units. It is unreasonable to consider connecting our small established neighborhood to one that is OVER 14 TIMES its size and comprised of newly constructed units with different zoning requirements. This proposed connection raises concerns for our safety, home value, quality of life, and environmental impacts. The current residents of Wood Ridge subdivision have continuously and unanimously voiced these objections even when the connection was planned as an emergency access only in earlier proposals. Despite our concerns, the developers proceeded to propose a full vehicular connection via Wood Knoll Drive/Creekwood Lane, which we strongly oppose. We urge the planning committee to take these concerns seriously and advocate for the current residents rather than appease the requests of a new developer at our expense.

Thank you for your time and consideration.

Sheila and Daryl Saliganan
5648 Creekwood Lane, Haslett MI 48840

Peter Menser

From: Suzanne Ferris <marecksmf@gmail.com>
Sent: Sunday, November 04, 2018 5:17 PM
To: Mark Kieselbach; Peter Menser; Brett Dreyfus
Subject: Proposed car dealership

Dear Planning Commission Committee,

As an owner of a condo in the 1563 West Pond Drive building, I am very opposed to this special use to LaFontaine Automotive Group. I have serious concerns. How would this development impact the drainage? Will the pond located on Waldon Ponds property have to be enlarged? Especially with the exceptionally large parking lots that are a part of a dealership drainage is definitely a concern.

In addition to the drainage, light and noise pollution and increased traffic are generally another issue that comes to mind. How would all this be addressed so as to not affect our generally quiet calm area?

I'm not opposed to this area being developed, but I think a dealership is not an appropriate development at this time.

Sincerely,
Suzanne Ferris

RECEIVED

NOV 05 2018

Remarks for the Meridian Twp. Planning Commission
November 5, 2018
La Fontaine Car Dealership #18081

Good evening, my name is Cecelia Kramer and I live at 4560 Oakwood in the Forest Hills subdivision. I am also President of the Forest Hills HOA. I am here this evening to speak on the SUP request by the LaFontaine Car Group at 1448 Grand River Ave.

As I understand the project, LaFontaine has a phased concept that starts with the project before you now. The current project proposal covers 2 of 4 lots in parcels 1448-1478 Grand River Avenue immediately east of Powell Road.

LaFontaine proposes a new car dealership in this first phase. They plan to use the building that most recently housed a Sports Equipment store as their sales office while displaying new cars on next parcel set up like a parking lot. At one point Phase I was to cover the front half of all four parcels. Before you is an adjusted version. The remainder of the two eastern-most lots on these parcels will be Phase III.

Further, I understand that La Fontaine Phase II will be an additional two lots on the immediate west side of Powell Road. Current plans indicate that that area will be a new car outdoor sales, a showroom/service center building. At this time, this is not before you; however, I am not certain how you can review Phase I when you don't have the "Big Picture" or as they say in the trade, the "Full Vision" of the project.

Nonetheless, at this moment, I would like just to focus on a couple of items of interest on this first phase—the stormwater and water quality issues of the proposal before you. I would direct your attention to the Landscape Plan on page 5 in the plan set. This best shows the Daniels Drain easement, located between the eastern two parcels. This is the stormwater outlet for pond on the south side of Grand River Avenue and drains parcels from the north end of Forest Hills Subdivision, the Walden Ponds Condominiums, the Meridian Meadows Apartments, the Baryames Cleaners/Bank One outlot, Tom's Grocery store, and west to Arrow Tree Apartments and a small portion of Dobie Road along the front of Arrow Tree Apartments. A rather impressive amount of real estate counts on this drain.

At this time, the Ingham County Drain Commissioner has a petition project to rebuild this old drain. The drain running through this parcel is enclosed in a buried pipe. The applicant and Township need to know that plans have not yet been finalized on this petition project. The ICDC is still in the review and design phase. The reason for the petition centers on some severe flooding problems on the south side of Grand River. Apparently several of the units in the condominium that were sold as "Garden" meaning walk out Apartments, in fact have turned into "Underwater Garden" Apartments during heavy storm events. Part of the restriction

appears to be the size of the culvert under Grand River that may need to be replaced and then there is the size of the pipe through the easement on LaFontaine property running from Grand River Road to the northern boundary that needs to be reviewed.

The developer needs to work with the ICDC to so that any improvements they make in the drain easement will not conflict with the possible changes that may occur with the pipe through the drain redesign. They may wish to explore alternatives such as daylighting the drain to an open swale, creating new easements that would take the drain on a meandering journey through the property. There are endless opportunities.

Also moving on to Page 4 of the plan set. When the Commission and Township Staff is considering this project as well as any others, I would be loathe to consider the islands that are peppered throughout the project with small bushes and/or trees on them as helping to meet the pervious/impervious ratio in the development standards. They don't do the job. These islands are all designed as for lack of a better term as "Uppies." They do not soak up the rainwater and snowmelt. In fact, they contribute and exacerbate the flashy runoff moving the stormwater quickly onto the asphalt where it receives no polishing/cleaning or treatment but immediately runs down hill to the detention area. I would suggest the islands be larger and built more like a swales in nature, "Downies" or even full "Rain gardens." These are designed to receive the stormwater, filter it and help recharge the groundwater rather than just wash in quickly into the stormdrain system and head through the Unruh Drain to the Mud Lake Outlet and Red Cedar River.

Please take these concerns about stormwater handling into consideration in your review of this project.

Sincerely,

A handwritten signature in cursive script that reads "Cecelia Kramer".

Cecelia Kramer

Peter Menser

From: M.W. Casby <casbymw@yahoo.com>
Sent: Wednesday, October 31, 2018 12:07 PM
To: Peter Menser
Subject: Copper Creek dev - Nov 5 Planning meeting

Decisions should be made on facts - not subjective opinions, viewpoints, preconceived notions, or poor understanding.

Here are the facts-

From the beginning the Planning Commission repeatedly asked for a second access road to the east off of Haslett Road - for expressed safety concerns. Its requests were repeatedly ignored.

The Township Board has previously rejected a subdivision proposal with an exact traffic pattern plan - declaring it to be unsafe and unsuitable.

The Board also rejected such a plan with an exact traffic pattern because it violated a Township regulation which requires subdivision roads to be arranged so as not to encourage through traffic. This plan forces illicit through traffic.

This previous Board action is relevant today. It is, if you will, the - "law of the land."
(Supportive sources have been submitted numerous times.)

(cf. The Meridian Township Board of Trustees, the final local authority with regard to plat approval, considered the proposed plat at its regular meeting of September 20, 1988, and disapproved it by a vote of five to one. At meetings on October 3 and November 22, 1988, the board amended the minutes of its September 20 meeting to specify the reasons for its disapproval of the plat:

(1) Such a design is not consistent with Section 101-4.12(a) of the subdivision regulations, which states that streets shall be so arranged so as to discourage their use by through traffic.

(2) The alignment of Wood Knoll Drive provides sole access onto Creekwood [Lane], which requires egress onto Haslett Road at a point where there is less than 750 feet of sight distance — in violation of Section VII.B.1 of the County Road Commission Plat Procedures. (Altman v. Meridian))

As for the Wood Knoll Drive stub facts. If the prior submitted materials were read, and understood, it would be clear that it was laid out prior to when the traffic safety concerns became apparent. When those concerns became known the stub basically became unusable. It was further noted that the stub's prior existence did not guarantee any future use, let alone unsafe use. It has had that status for 30 years. People purchased homes on Creekwood with that understanding. Not with the understanding that it might be opened one day.

(cf. Quoting from the relevant Michigan Supreme Court materials: “Equally untenable is the suggestion that the [T]ownship’s prior consent to the construction of the existing Wood Knoll Drive stub street adjoining Creekwood Lane constituted some sort of irrevocable advance consent to the development of any new subdivisions seeking to use that stub street for access. The township was not under any legal requirement, at the time the Creekwood subdivision was developed, to give advance notice of what hypothetical future subdivisions adjoining Creekwood Lane it might approve or disapprove, and on what grounds.”)

Commissioners stated that building another safe access onto Haslett Road would cost the developer money. This is their responsibility. Lack of the access may very well cost someone life or limb. There are dangers on exit and entrance. Other cars come up blindly very quickly on exit and entrance. Approval will make a dangerous situation worse.

Commissioners have clearly acknowledged, the dangers of the roadway. Yet many making excuses for the developer, and trying to predict the future, while ignoring the facts of the past and present. The Chair (Tresize) of the last meeting stated - “I don’t know why anybody would use an exit onto Haslett Road that is difficult and/or dangerous.” At the August 27th meeting Commissioner Tresize stated: “I do not want to get into the driving through the Creekwood neighborhood. I think that's inappropriate, and their roads are too narrow to begin with, and to have an egress or entrance through that neighborhood is inappropriate.”

It was remarked that drivers would just need to be more careful. No. The onus for safety is on the developer and the Township. And in fact, there are other safe options.

It’s like saying it’s ok for one to park cars and trailers in a front yard, even though it’s a violation of a Township ordinance. This plan is in violation of ordinance, regulation, and Board action.

The interests of the Township and its citizens should be foremost - not those of a developer. Support for a known unsafe, unsuitable, illicit access proposed by a developer is not in the interest of the Township or its citizens.

Vote to deny this plan. Voting for it puts the Township and its citizens at significant risk. Funneling more traffic into the Creekwood/Haslett intersection via Wood Knoll is in fact significantly unsafe and unsuitable, and in violation of a Township ordinance and decision. This is a shame, when there are safe alternatives.

Michael & Betty Casby
5624 Creekwood Lane
Haslett, MI 48840

Below you will find Table 3 from the Ingham County Road Commission regulations regarding sight distance. You will also find a map addressing the relevant intersection and distance. Traveling at 35 mph it functionally takes less than 4 sec. to travel the distance.

TABLE 3 - INTERSECTION SIGHT DISTANCE REQUIREMENTS AT SUBDIVISION ROADS & TWO-LANE LOCAL COLLECTOR OR PRIMARY ROADS (Single Unit Trucks)

Local or Primary Road Posted Speed (mph)	Minimum Decision Sight Distance (ft.) ^a
55	770
45	630
35	490
25	350

Table 3 values were taken from the AASHTO manual, A Policy on Geometric Design of Highways and Streets, 2001 edition.

(a) Intersection sight distance measured from a point on the minor road at least 18 feet from the edge of the local collector or primary road pavement and measured from a height of eye located 3.50 feet above the pavement surface of the minor road to a height of object located 3.50 feet above the pavement surface of the local collector or primary road.

Intersection sight distance requirements for commercial or industrial roads where the design vehicle, as determined by the County Engineer, is a WB-50 will be evaluated on a case by case basis. A case by case evaluation of required sight distance will also be performed for proposed subdivision roads that intersect with multi-lane local collector and primary roads.

All intersection sight distance requirements shall be subject to adjustment using the factors set forth in Table 4 - Effect of Grade on Sight Distance.

TABLE 4 - EFFECT OF GRADE ON SIGHT DISTANCE

Grade of Local Collector or Primary Road (%)	Downgrade ⁽¹⁾	Upgrade ⁽²⁾
2.0% to 3.0%	0.9	1.1
3.1% to 4.0%	0.7	1.3
4.1% to 5.0%	0.6	1.4

(1) When the local collector or primary road in the section to be used for acceleration after a vehicle has made a turning movement exhibits a downgrade, sight distance in the direction of approaching descending traffic should be reduced by these factors.

(2) When the local collector or primary road in the section to be used for acceleration after a vehicle has made a turning movement exhibits an upgrade, sight distance in the direction of approaching ascending traffic should be increased by these factors.



Creekwood Ln

~231 ft.

5100

Van Atta Rd

Creekwood Ln

Justin Quagliata

From: Cecelia Kramer <cremark1@sbcglobal.net>
Sent: Wednesday, November 07, 2018 4:44 PM
To: Mark Kieselbach
Cc: Justin Quagliata
Subject: La Fontaine Car Dealership SUP #18081

At the meeting on Monday night, during the public remarks, I failed to bring up one of the requests that our subdivision had for inclusion in the SUP for La Fontaine Car Dealership SUP #18081 that had been suggested during our neighborhood meeting with Gary from La Fontaine.

As you may be aware, the traffic particularly in morning and evening rush hours and even the after-school times make it difficult to get in and out of our Forest Hills Subdivision using the Northview Street exit onto Grand River. We have been assured by the Dealership and its traffic study, that most of the interest in the facility will be on the weekend and mid-day or evening. Nonetheless, a close look at the traffic particularly in Phase 2 development may warrant a **de-excelleration lane** from the east.

Further, and most importantly for our Forest Hills Residents, we would like the SUP to be have a clause that **prohibits test driving** through the subdivisions. Forest Hills does not have curbs or sidewalks. Children bike and ride their skateboards, people jog and walk their dogs on the streets. Additional traffic that is not necessary should be prohibited.

Thank you for taking these traffic issues into consideration.

Cecelia Kramer
4560 Oakwood
Okemos, MI 48864

Peter Menser

From: chris@chrisweiss.com
Sent: Sunday, November 11, 2018 6:50 PM
To: Peter Menser
Cc: 'Theresa Weiss'
Subject: Special Use Permit #18111

Dear Mr. Menser,

This is in follow-up to our phone conversation on Friday.

I have numerous concerns about development on the parcel listed on 1730 Chief Okemos Circle. In particular:

1. If this project is allowed to go forward, I believe that the land owner should be required to put up a 6' fully opaque privacy fence along the rear property line (the western boundary). This property abuts four residences who would be profoundly affected by the headlights of vehicles shining into the rear of their homes. An alternative could be a dense hedge or line of other bushes or trees that are similarly opaque year round.
2. The plot itself is irregularly platted with insufficient curb space for the expected road traffic. I don't believe there is a way to address this problem, creating an irresolvable traffic issue. This could be addressed by limiting the capacity to less than the maximum determined by the township housing code.
3. When the landowner had attempted this project before, he had tried to provide insufficient parking for the number of units as well as insufficient green space. I don't believe that any variance should be accepted given the surrounding density of the housing and the nearby single family homes.
4. There is a civil covenant setting standards on any structure built on the land such as minimum brick to siding ratios, etc. While not a township issue, it would seem pointless for the project to be approved if it will be tied up and blocked by litigation. I would hope that the landowner would be required to address this issue before a special use permit is issued.

Thank you for allowing me to voice my concerns over email. I will be out of town on business on 11/26 and could not voice my concerns in person.

Regards,
Chris

Peter Menser

From: Larry Mccurdy <kalamc@ameritech.net>
Sent: Monday, November 19, 2018 3:30 PM
To: Peter Menser
Subject: County Drain Commission

Mr. Mesner,

Please inform the planning commission that we feel it crucial that the county drain commission be asked to look at the drainage issues in the rezoning issue of the property to the east of Champion Woods subdivision. It should not be needed to say that once rezoning is granted and houses and roads are built, there is no going back and redoing. Therefore, everything that can be done to assess the problems that could be created with a new development must be thoroughly examined early in this process. As has already been discussed, not only are we looking at the ramifications to the adjacent developments, but there are other already existing subdivisions that are being effected by drainage issues that are down stream from the property in question. To us it seems like a reasonable and logical step that should be taken before any other rezoning requests are put forward.

Gratefully,
Kathy & Larry McCurdy

Catherine and Chris Cleveland
6025 Marietta Way
East Lansing, MI 48823

RE: MUPUD #18044

November 19, 2018

Mr. Peter Menser
Meridian Township Principal Planner
5151 Marsh Rd.
Okemos, MI 48864

After watching the November 5, 2018 Planning Commission meeting and reviewing the packet associated with that meeting, we are writing to voice our concerns regarding the Newton Park Development (the Development) MUPUD proposal. We understand that this corner will be developed and, in many respects, we support the development of this property. However, we do have concerns regarding the many waivers that are being requested by the applicant. Please share this letter with all who will be making any decisions regarding this proposal.

Per our review, it appears the applicant is requesting at least 9 waivers on a 23 acre development, and some of these waivers are asking for large concessions. For example, two of the waivers in relation to residential set-backs are requesting an 80% concession as requested:

In the C-2 zoning district no structure is permitted within 100 feet of any residential zoning district boundary line. As proposed, Building B15 (a single family home) is located 20 feet from the RAA (Single Family) property to the south, therefore a waiver of 80 feet is requested for the setback from the residential zoning district boundary.

Buildings C4, C5, and C6 (10-unit apartment buildings) are located 20 feet from the RR (Rural Residential) property to the east, therefore a waiver of 80 feet is requested for the setback from the residential zoning district boundary.

At the November 5, Planning Commission meeting, it was discussed to meet somewhere in the middle on these concessions. This may be reasonable if it were only single-family residences bordering the Sierra Ridge Estates Phase IV. However, according to the plan this area also includes a clubhouse (4778 sq ft), pool, maintenance garage (1586 sq ft), as well as the communities recycling center, commercial dumpster, proposed trash compactor and parking areas planned in the standard setback required with C-2 zoning. The only internal access road to these areas is also located in the conventional setback. This waiver request does not provide any relief for future Sierra Ridge

neighbors on the west side who will border the Development's high traffic areas of recycling/trash, clubhouse, pool, and the roadway which create noise, odors, animals, and general unsightliness.

The parking lot setback waivers are requesting concessions of 75% – 92% concessions. This too is excessive. Even after the allowed parking reduction from bicycle parking, the applicant is requesting a 35% concession on parking spaces. This is not a location that is easily/safely accessible via bike. The amount of bike parking will not truly reduce the amount of vehicle parking that will be needed, which inflates that 35% waiver.

Another concern we have is not in the proposed plan, however was mentioned by a commissioner at the November 5, meeting. He indicated it may be a good idea to connect the Development and Sierra Ridge Estates via a road. We are strongly opposed to any road connection between the two developments. This would cause increased traffic and decreased safety for the homeowners of Sierra Ridge Estates.

The concept of this project seems like a good idea for this location. However, after reviewing the amount of requested waivers and the capacity of those waivers, the project as proposed just does not fit on this property. I have only touched on a few of the waivers that would adversely affect the Sierra Ridge Estates Development, which is currently in Phase III of four phases.

Please strongly consider these concerns while making your decision regarding the Newton Park Development proposal. Thank you for your time and considerations.

Sincerely,

Catherine and Chris Cleveland
6025 Marietta Way

November 20, 2018
Re: Special Use Permit #18101

Dear Planning Commissioners and Planning Department,

I'm writing you today to **strongly object and urge you to reject/vote no on special use permit #18101 for Green Castle Properties (Fox Nissan) to construct a car dealership on lots 1614 and 1622 Grand River.**

My husband and I live at the corner of Hillside and Northview in the Forest Hills Subdivision. Along with our neighbors, we have watched this township rezone acres upon acres of rural residential property into commercial zones and allow way too many commercial entities to move in.

Many of us purposely bought houses in the more rural sections of the community. There is very little of that ruralness left, and the few acres of trees, greenspace and wetlands left continue to be paved over. The earth continues to warm up and cause climate issues because every square inch of pavement means hotter temperatures because there is no grass left to soak up the sun's rays – instead they are radiated back into the atmosphere and are causing icebergs to melt, hurricanes to intensify and resulting in many other natural disasters. Don't take it from me, listen to what major media outlets have to say:

- "Human activity has helped put humans on a potentially irreversible path toward a hot, chaotic planet stripped clean of the natural resources that enrich it, a new report has concluded." (Washington Post, Oct. 30, 2018)
- "Reports of the threats from [a warming planet](#) have been coming fast and furiously. The latest: [a startling analysis from the Intergovernmental Panel on Climate Change](#) predicting terrible food shortages, wildfires and a massive die-off of coral reefs as soon as 2040, unless governments take strong action." (New York Times, Nov 19, 2018)

As a result of this commercial development we are being subjected to decreased property values as well as increased traffic, light pollution, noise, deforestation, and displacement of wildlife.

A car dealership will bring all of those items I just mentioned and negatively impact our daily lives and house values. Listed below are my major concerns and reasons why you should reject this special use permit.

- 1) **Light Pollution.** Car dealerships are known to have more light poles than any business ever needs. Our dark sky area east of Central Park Drive will now be lit up like a major city. Light pollution is an increasing problem globally and we need

to stop this. Why does a dealership need to be lit up like a runway 24-hours a day? If they're concerned with security there are other ways to handle this, without having all the lights on. Even the new LEDs and downward facing or angled lights aren't enough – people are still shorter than a light pole so we would be subjected to seeing these lights and if you look up at the sky they will block your vision.

- 2) **Water redirection.** Car dealers also need as much pavement as possible to park their cars on – pavement is not environmentally friendly because it generates heat, is not permeable, and contributes to global warming. Water that drains into the ground helps replenish the aquifer. If the ground is paved over, that water will be redirected and quite likely contaminated with runoff from the parking lot.
 - a. As a household that is still on a well, this is extremely concerning to me as we rely on our aquifer being replenished.
 - b. Also, there is significant wetlands in that area; I can't tell exactly from the site plan how they intend to work around those, but I do know that the so called "replacement" wetlands required are nowhere near as beneficial and worthwhile as the originals.

- 3) **Deforestation.** Grass and trees are necessary to cool the earth, produce much-needed oxygen, and help with water runoff and drainage. The wholesale removal of large mature trees that they will attempt to replace with tiny sticks that do not even cast a shadow is alarming. We must act now to save these mature trees. The site plan shows almost all solid pavement with little to no trees or shrubs left on the property. That is not enough to counteract the vast amount of pavement planned. Again, for a township that has a [Greenspace Plan](#), you sure are doing a good job of trying to get rid of anything green.
 - a. Have you considered working with Nissan and other parties in town to allow them to build on sections of land already paved over, such as the empty Toys R Us or Meridan Mall? Both those parking lot sit empty most of the time and would be an ideal location for a car dealership that desires lots of pavement. This would prevent additional deforestation and greenspace destruction.

- 4) **Wildlife destruction.** A study released recently by the [World Wildlife Foundation](#) says that in the past 40 years, humans have been responsible for causing the wildlife populations to fall by more than half due to deforestation and pollution – both things a car dealership will contribute to. We already have a large deer herd in this area. Where are those deer going to go if you eliminate their forest? And not just the deer, but the rest of the wildlife that live there and who have made this area their home much longer than any of us? Deforestation up and down Grand River, Central Park Drive and surrounding areas has caused more and more animals to move into our neighborhoods because they have nowhere else to go. As the study says *"We're facing a rapidly closing window for action and the*

urgent need for everyone—everyone—to collectively rethink and redefine how we value, protect, and restore nature.” The township is already paying hunters to unnecessarily reduce the deer population in the township that is seen as a threat. But the deer wouldn't be a threat if we would stop removing the natural areas they want to live in for the sake of more tax revenue.

- 5) **Increased traffic.** Grand River is heavily traveled and in the 10+ years we have lived in Forest Hills, we find it harder and harder every day to exit our subdivision due to increased traffic from the urban sprawl. Additionally, the corner of Grand River/Central Park and Central Park itself is already dangerous enough to due to fast speeds, drivers running red lights, ill-timed signals, drivers not paying attention. This is without the addition of a car dealership that will have customers in and out for sales, service, test drives, vehicle deliveries and more.
 - a. The proposed curb cut entrance on Central Park is located on a curve! This cannot be safe, especially with The Willows curb cut only a few yards away (which is already a dangerous exit on a curve). This was a poorly designed road to begin with and adding an additional entrance is going to land someone in the hospital.
 - b. As you also are considering a proposal for another car dealership (LaFontaine) just a few yards to the east, I'm even more concerned about the ability to get in and out of our subdivision and crashes from cars trying to turn every which way. The curb cuts from existing businesses are already too close together and every day it's a serious crash waiting to happen when someone is turning out of Northview headed west, someone is trying to turn north into Sparrow, someone else is trying to get out of Baryames, and others are racing trying to beat the light at the corner. I have witnessed and been party to many near-misses. Adding a car dealership so close to the intersection will add to an already bad situation.
 - c. We also are concerned about increased traffic in our neighborhood from customers test-driving vehicles through it. Too many cars speed through our neighborhood already. We should not be subjected to additional traffic from people who aren't familiar with the area or the vehicle they are driving testing out cars and not paying attention to their surroundings. The past decade has seen an increase in families living in our subdivision, and every day we are noticing more kids on foot and on bikes traveling through. They should not have their neighborhood streets turned into a test track.
- 6) **Poor drainage and flooding.** Okemos is prone to flooding. That is partly because we've paved the land where the water would have naturally soaked into. Our drain systems are already over-burdened and a car dealership will only contribute to those woes.

- 7) **Decreased property values.** Realtors always tell you Location, Location, Location. Where a house is located is important – and across the street from a large car dealership probably isn't the first location a family would choose when looking for a house or condo. It's not a business you frequent regularly, unlike a grocery store, pharmacy or restaurant. We were sold on our house because of its proximity to a grocery store, as well as how rural it was – there was nothing commercial to the east of us except the driving range, which is still rural because it's 99% green space. The land north and east was all zoned rural residential, which appealed greatly to us. Now it's been rezoned commercial and you want to add not one, but two car dealerships to the mix – businesses that isn't great for what was supposed to be a semi-rural family neighborhood. Our property value has finally recovered after the recession and I worry significantly that it will drop again if this proposal is approved.

While my husband and I object to this proposal and again, strongly urge you to reject it based on the concerns listed above, I assume it is likely a foregone conclusion that you will be approving it.

Therefore, the following items need to be considered and required as a condition of the special use permit:

- 1) Require Fox Nissan to shut off all their parking lot lights at night, especially since they close around 7 p.m. most evenings. For security reasons, the lights could be on a motion sensor so they only go on if tripped. For lights that are on during evening business hours, require the lights to be covered, dimmed and angled so light does not leave their property.
- 2) Require any maintenance facilities to be placed as far back from the road as possible to minimize sound. This includes any service bays, car wash, loading docks, etc. In addition, there should be requirements for bioswales or other measures to help filter the water runoff from this industrial space prior to it reaching the aquifer.
- 3) Do not allow any outside sound like a public address system, music or honking.
- 4) Require them to preserve as many of the existing mature trees as possible and design and construct their parking lot and buildings around the established trees instead of cutting them down and planting new tiny ones. Design the car layout to cluster cars together instead of a long straight line, allowing for as much green space as possible to be saved and incorporated. Require a significant greenspace berm between the road, sidewalk and any parking lot.
- 5) Require that no test drives be allowed in our neighborhood.

Again, overall we feel this project will be extremely detrimental to the environment, our property values, and quality of life. **We urge you to vote no** on this special use permit. Meridian Township was already special and continued approval of these types of permits is ruining that.

Jessi and Ari Adler
1580 Hillside Drive
Okemos, MI
517-230-9923
jessicawortley@gmail.com

Alice H. Cardy
4382 Oakwood Drive
Okemos, Michigan 48864
1-(517) ~~349-1772~~
204-5861

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NOV 14 2018

Date: Nov. 13, 2018

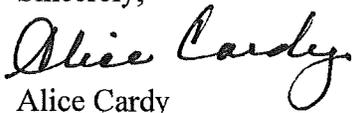
To: The Charter Township of Meridian
Planning Commission

Re: Special Use Permit #18081 (Lafontaine Automotive Group)

From: Alice Cardy
4382 Oakwood Dr.
Okemos, MI 48864

I attended the Nov. 5 meeting and would like to point out that no mention was made of the fact that LaFontaine intends to fill in the existing pond. Mr. Gary Laundroche, Corporate Facilities Manager for LaFontaine did mention this during the meeting held at Cecelia Kramer's home on Tues. Oct. 30. Maybe things have changed but I did want to bring this to the attention of the board.

Sincerely,


Alice Cardy

11-18-2018

FROM: **Carol M. Weaver**
4622 Seneca Dr.
Okemos, MI. 48864

TO: **Peter Menser**, Principal Planner
5151 Marsh Road
Okemos, MI. 48864

RE: **Special Use Permit #18111 (Fedewa Holdings)**

Dear Mr. Peter Menser,

At the age of 96 and being a bit immobile, I was not able to travel to the Meridian Township Hall to review the site plans for this new development, nor am I able to personally attend the public hearing for this issue on Monday, November 26, 2018. This letter will suffice in my absence.

As a resident of 4622 Seneca Dr. for the past 67 years, this is not the first time our family has had to deal with the property owners adjacent to our eastern property line. In 1999, the previous owner wanted to build a 16 unit complex and sought Special Use Permits and other variances in order to maximize their financial investment in that property. As usual, many business persons purchase property on speculation, while knowing the limitations of the current zoning codes, yet hope to push through their desired alterations. **Don't let this happen.**

In 1999 my now deceased husband, John S. Weaver, attended a planning commission meeting pertaining to a Special Use Permit #99041 (Bone) to discuss matters of concern. With this letter to you, I have included the minutes of that meeting in order to give you background information of our concerns then, which are probably still of similar concern now.

First Concern: Meridian Township has had a Comprehensive Development Plan in place for over 20 years which apparently allows a maximum of 14 units on the useful, construction area of this site. The previous owner wanted 16 units, **Fedewa** now wants 15 units – please adhere to the long-term Development Plan of 14 units. Also, please do not allow any additional variances which would allow a parking lot, building or structure, etc., to be built closer to their/our mutual property line.

Of Greater Concern: Please seek the advice and consent of the current Fire Chief. The Fire Chief during 1999 voiced concerns about the fire hydrant location or the possibility of needing additional fire hydrants. Of greater concern for the Fire Chief was the accessibility around the buildings and adequate turning radius and distance for the fire trucks and apparatus.

Privacy and Trespassing Concern: There is nothing more annoying than having lights from the adjacent commercial property shining into our backyard and eyes. Please plan the lighting of the building, parking lots and automobile headlights to preclude this problem.

Trespassing by people from the Chief Okemos Circle area has always been a problem, especially for our property at 4622 Seneca Dr. and the north side adjacent property of 4634 Seneca Dr. For whatever reason, people feel free to take a diagonal, short-cut walk from Chief Okemos Circle, to Seneca Dr., to Hamilton Rd. and back. We chase them away, but they return. It's not as simple as calling the police to stop this intrusive behavior. Construction of this apartment complex will only increase the accessibility and likelihood of more trespassers.

But there is a good solution to help alleviate the problem of both privacy and trespassing, and would also keep **Fedewa Holdings** in good standing with its neighbors: construct an 8ft. (or 10ft. if allowed), "no-see-through" fence along their entire west side property line, from the southernmost point to the northernmost property monument. Any suggestion from them of planting a screen of evergreen trees or bushes along the western property line would be an inadequate, if not useless remedy.

Thank you very much, Peter Menser, for your consideration on this matter.

Carol M. Weaver

Carol M. Weaver
4622 Seneca Dr.
Okemos, MI. 48864

Angie T. Truesdell RN 4635 Seneca Dr.
Louis Henkel 4590 Seneca Dr.
Dr. Alexandra Summit 4621 Seneca Dr.
Thomas Burnston 4642 Seneca Drive 2nd Fl.
Cheryl Langston 4598 Seneca Dr.
A. Fisher 4606 SENECA DR

CHARTER TOWNSHIP OF MERIDIAN
PLANNING COMMISSION REGULAR MEETING MINUTES
MARCH 22, 1999

PRESENT: Chair Hotaling, Commissioners Brixie, DeLong, Kebler, Ringlein, Sawdy, R. Smith, S. Smith

ABSENT: Commissioner Bonfiglio

STAFF: Mark Kieselbach, Rick Brown

Chair Hotaling called the regular meeting to order at 7:45 p.m.

APPROVAL OF AGENDA

Commissioner Sawdy asked to move New Business item #9A, SUP #98-94131 (VFW) to before Unfinished Business items thereby renumber #9A to #8.

MOVED BY COMMISSIONER SAWDY to approve the agenda as revised. Supported by Commissioner R. Smith. Voice vote. Motion passed 8-0.

PUBLIC REMARKS

John Weaver, 4622 Seneca Drive, referenced SUP #99041 and stated the following: the building should conform to the zoning requirements; the revised proposal calls for variances; the proposal does not meet the fire apparatus accessibility or parking area requirements; questioned the location of the dumpster; the proposed building is not consistent with the surrounding structures; and the proposal does not comply with the Comprehensive Development Plan. He asked that a proposal be presented in accordance with the Comprehensive Development Plan and for a brick wall to shield the adjacent properties from this site.

Glenn Huyck, 734 W. Grand River, #48, speaking on behalf of the VFW, asked for a few modifications to their SUP and referenced a letter indicating VFW is a very good neighbor.

Ric Balesky, 5465 W. Hidden Lake, referenced PUD #99014, and stated he has submitted a revised site plan and is available to answer questions.

Kathleen Kane, 2550 Bennett Road, referenced PUD #99014, and with respect to the statement on the responsibility of adjacent property owners to protect the habitat, three acres at the back of her property is a natural habitat with an enclosed pond. With respect to the statement on providing a buffer, she noted that three of the units are going to have her natural habitat as their view from their homes while her other seven acres are exposed to Bennett Road. The rezoning request is compromising her property values and there should be justification for requiring that a buffer be put in to protect the visible barrier between the two properties. She requested a line of

MORE →

Voice vote on the Motion as Amended. Motion passed 8-0.

UNFINISHED BUSINESS

- A. Special Use Permit #99041 (Bone), request to construct a 16 unit apartment building on Chief Okemos Circle, Okemos

Rick Brown summarized the proposed request, at which time it was opened for discussion.

Discussion:

Commissioner S. Smith stated the Commission does not understand the Fire Chief's concerns and with respect to screening, there is a condition to screen with evergreen trees along the western property line to protect the subdivision which he believes would be better than a wall.

MOVED BY COMMISSIONER S. SMITH to postpone this item for one week. Supported by Commissioner Sawdy.

Discussion:

Commissioner R. Smith voiced concern that the residents will have to attend a third meeting. He stated none of the complexes on Chief Okemos Circle have enough room to turn a fire truck around in and neither does some of the office buildings north of the site on Hamilton Road or east on Dobie Road. He believes the remaining variances could be resolved. When asked if they have an objection to coming back and being able to meet or eliminate most of the variances, Mr. Bone replied they would prefer not to have to come back again. Both of the radius and the distance are larger than the template provide regarding the fire trucks.

Commissioner R. Smith stated the original comment from the Fire Chief dealt with the north end of the building, where the parking went around the building. On the revised plan, this has been eliminated and the fire hydrant has been moved to the south end of the parking lot and it contains a turn around area. He asked if the plan complies with the Fire Chief's comments. Staff replied the Fire Chief reviewed the revised plan last week and he believes the concerns still stand. Commissioner Brixie stated the concern is that the trucks will have to back up 200 feet.

Voice vote. Motion passed 8-0.

CHARTER TOWNSHIP OF MERIDIAN
PLANNING COMMISSION WORK SESSION MINUTES
MARCH 22, 1999

PRESENT: Chair Hotaling, Commissioners Brixie, DeLong, Guy, Kebler, Sawdy, R. Smith, S. Smith, Ringlein (6:45 pm)

ABSENT: Commissioner Bonfiglio

STAFF: Mark Kieselbach, Rick Brown

Chair Hotaling called the work session to order at 6:35 p.m.

APPROVAL OF AGENDA

MOVED BY COMMISSIONER DELONG to approve the agenda. Supported by S. Smith. Voice vote. Motion passed 7-0.

DISCUSSION ITEMS

A. Regular Meeting Unfinished Business and New Business Items

1. Special Use Permit #99041 (Bone), request to construct a 16 unit apartment development located on Chief Okemos Circle west of Dobie Road.

Rick Brown summarized the major revisions to the site plan as outlined in Staff's memorandum dated March 18, 1999.

Discussion:

Commissioner S. Smith asked if the turn-around was a problem in the previous site plan. Staff replied yes. Commissioner S. Smith asked if some of the parking spaces could be deleted if necessary.

Chair Hotaling asked for the Fire Department's input on either site plan. Staff replied the second site plan does not provide adequate turning radius for fire apparatus and he believes there was similar concerns on the first plan.

Commissioner R. Smith asked if the Fire Chief stated he would like to drive the fire trucks into the parking lot. Staff replied yes.

When asked if it would be architecturally feasible to delete two units from the plan, Commissioner R. Smith replied yes, but it would not be very efficient with the cost of the stair towers and corridors. When asked about deleting four units, Chair Hotaling replied the common vestibule is for the eight units. Commissioner Brixie stated it would leave 12 units which is more than the other buildings in the circle.

Commissioner R. Smith asked the density in the Comprehensive Plan. Staff replied 3.5 to 8 dwelling units per acre and zoning would allow 14 units per acre. This plan is built at 11 units.

It was the consensus of the Commissioners to obtain the Fire Chief's comments regarding fire equipment access to the site, the location of the fire hydrant, and the possible need for additional fire hydrants. Staff will research the location of the dumpster, type of screening to be used and why the developer wants to use vinyl instead of brick for the building. The Commissioners indicated they liked the new plan because the lights would not be shined toward the neighbors.

2. Planned Unit Development #99014 (Dunn & Balesky), request to construct a condominium development on the north side of Bennett Road, in Section 28, Okemos

Environmental Commissioner Clos referred to their memorandum and their issues as outlined in numbers 1-6 with their greatest concern being for the specimen trees along the western edge, especially encroachment of the construction activity in the drip line. They asked for special attention toward the white oak behind units #42 and #43 which is a boundary tree. On the northern edge, toward the Okemos Square Subdivision, they are asking for an undisturbed corridor to protect the wildlife habitat values. Commissioner Clos stated in her conversations with Mr. Balesky, he has indicated that he seemed to want to preserve those habitat values recognizing they will be a real amenity. Commissioner R. Smith voiced concern with the responsibility of the other property owners who want to keep this property natural when they did not do that with their own property. Commissioner Clos replied the joint responsibility of the whole area was discussed during the site visits and she suggested doing public outreach into the subdivision.

Commissioner R. Smith voiced concern with the driveway and sidewalk to Unit #4 along the south property line.

Commissioner Kebler voiced concern with the number of single units on the plan and asked about reducing the radius of the turn-around to the north and combining some of the singles unit into double units.



To: Planning Commission

From: Peter Menser, Principal Planner

Justin Quagliata, Assistant Planner

Date: November 21, 2018

Re: Special Use Permit #18101 (Green Castle Properties, LLC), request to construct a 23,094 square foot new car dealership at 1614 and 1622 Grand River Avenue, and an adjacent parcel to the north recognized as Parcel I.D. #22-252-003.

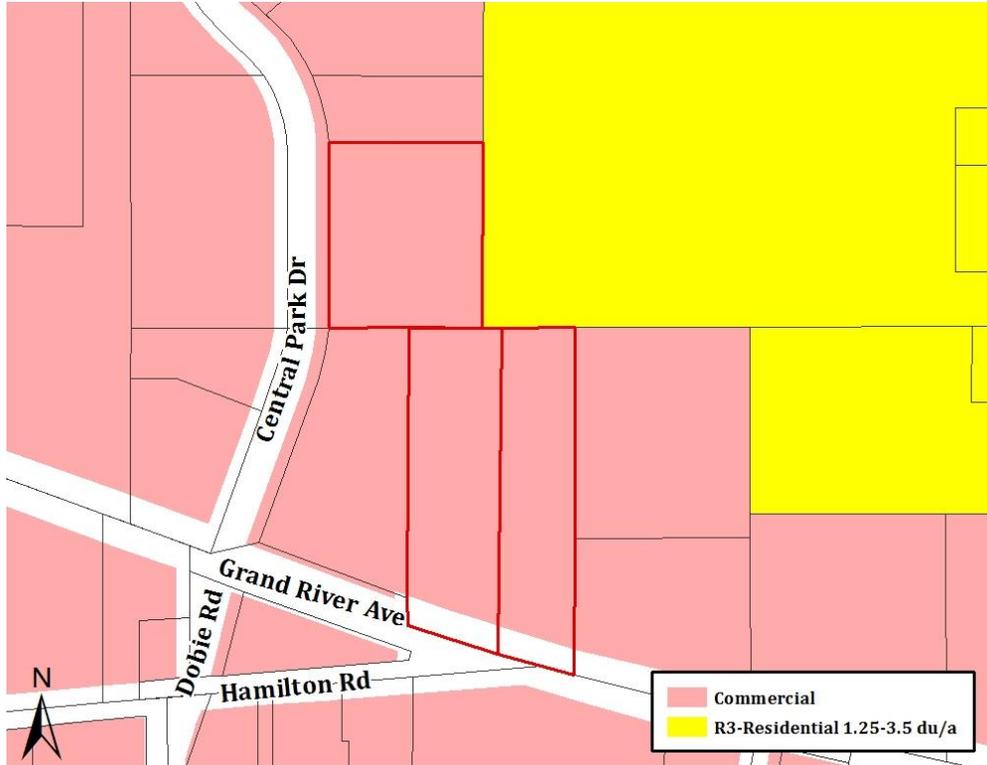
Green Castle Properties, LLC has requested a special use permit to construct a new car dealership on three parcels, two addressed as 1614 and 1622 Grand River Avenue, and an adjacent parcel to the north recognized as Parcel I.D. #22-252-003. The approximate 8.24 acre subject site is located on the north side of Grand River Avenue, east of Central Park Drive. 1614 Grand River Avenue is currently occupied by a 1,163 square foot single family house built in 1925, a 785 square foot detached garage, and a shed. 1622 Grand River Avenue is currently occupied by a 2,255 square foot single family house built in 1951, a shed, and a pool. Parcel I.D. #22-252-003 is currently occupied by a 3,576 square foot metal barn and a pool.

The proposed dealership will contain sales and service for Nissan automobiles. The proposed one-story structure contains 23,094 square feet of floor area.

Master Plan

The Future Land Use Map from the 2017 Master Plan designates the subject site in the Commercial category.

FUTURE LAND USE MAP

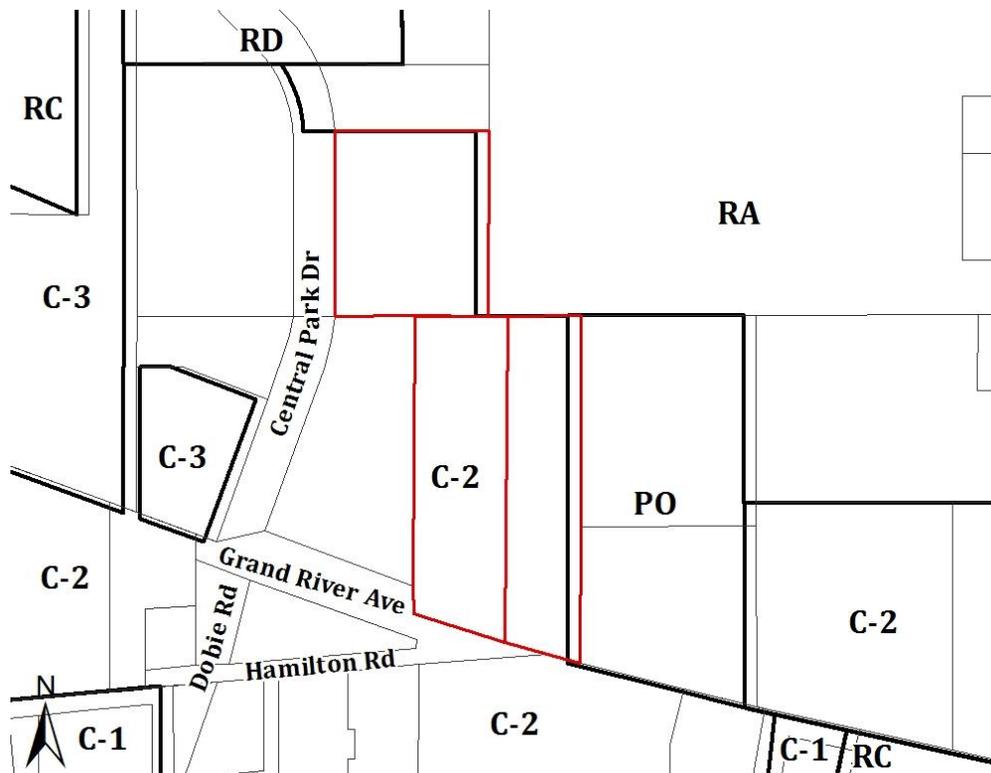


Zoning

The subject site (three parcels) is located in the C-2 (Commercial) zoning district, which requires a minimum of 100 feet of lot width and 4,000 square feet of lot area. All three parcels conform to the minimum lot area and lot width standards of the C-2 zoning district.

The proposed automobile dealership is an allowed use in the C-2 zoning district by special use permit. A zoning ordinance amendment (ZA #07160) adopted in January 2008 permitted new car dealerships to operate in the C-2 district, subject to special use permit approval. Prior to the zoning amendment new car dealerships were only permitted in the C-3 district. Section 86-404(e)(16)(1) requires a minimum lot size of four acres for new car dealerships. The three parcels which make up the subject site would need to be combined to meet this standard.

ZONING MAP



Physical Features

The topography of the site slopes from 871 feet above mean sea level near the southern edge of the property to a low point of 859 feet above mean sea level at the center of the site, and slopes to 868 feet above mean sea level in the northern portion of the site. The Flood Insurance Rate Map (FIRM) for Meridian Township indicates the property is not located in a floodplain. The site does not have any special designation on the Township Greenspace Plan.

Wetlands

Six wetlands are located on the subject property. A wetland delineation was conducted by the applicant's wetland consultant to determine the boundary, regulatory status, and size of the wetlands. The delineation was verified by the Township's wetland consultant in October of 2018. Wetland A on the submitted plans is 0.26 acre in size. Wetlands B, C, D, E, and F are all under 0.10 acre in size. Based on the submitted plans the applicant is not proposing any impacts to wetlands, and where applicable the 20 foot wetland setback is observed.

WETLANDS MAP



Streets and Traffic

The site fronts on both Grand River Avenue and Central Park Drive. Grand River Avenue is a four lane road with curb and gutter and a center turn lane classified as a Principal Arterial on the Street Setbacks and Service Drives Map in the zoning ordinance. Central Park Drive is a four lane road with curb and gutter classified as a Collector street. The most recent (2003) traffic count information from the Ingham County Road Department (ICRD) for Central Park Drive, between Newman Road and Grand River Avenue, showed a total of 12,557 vehicles in a 24 hour period. The most recent (2016) traffic count information from the Michigan Department of Transportation (MDOT) for Grand River Avenue, between Dobie Road and Cornell Road, showed a total of 15,980 vehicles in a 24 hour period.

A traffic assessment is required for new special uses which could generate between 50 to 99 directional trips during a peak hour of traffic. The applicant submitted a traffic impact study prepared by Traffic Engineering Associates, Inc. dated October 2018 that provides information on traffic generated by the proposed new car dealership. The study looks at existing, background (future traffic volumes without traffic generated by the proposed development), and future level of service (LOS) during the AM (7:45-8:45 a.m.) and PM (5:00-6:00 p.m.) peak hours at the following two intersections around the project site:

Special Use Permit #18101 (Green Castle Properties, LLC)
Planning Commission (November 26, 2018)
Page 5

- Grand River Avenue and Central Park Drive/Dobie Road
- Grand River Avenue and Hamilton Road

The traffic study notes existing traffic at the studied intersections all operate at an acceptable LOS (LOS D or better) during the AM and PM peak hours. The study shows background traffic at the studied intersections will operate at an acceptable level of service (LOS D or better) during AM and PM peak hours. Under future conditions, it is projected all movements will continue to operate at an acceptable level of service (LOS D or better).

The submitted traffic impact study contains a trip generation analysis which estimates future vehicle trips that could be generated by the proposed automobile dealership. The Institute of Transportation Engineers (ITE) trip generation rates for Automobile Sales (New) (Land Use Code 840) were selected to represent the dealership. The following table summarizes findings from the trip generation analysis.

Description	Size	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	
Automobile Sales (New)	24,500 sq. ft.	34	12	46	26	40	66	672

The findings of the traffic impact study show no recommendations to the existing road system based on the projected traffic volumes.

Utilities

Municipal water and sanitary sewer is available in the vicinity to serve the subject site. The location and capacity of utilities will be reviewed in detail during site plan review if the special use permit is approved.

Staff Analysis

The special use permit review criteria found in Section 86-126 of the Code of Ordinances should be used when evaluating the proposed special use permit. Section 86-404(e)(16) outlines the regulations pertaining to new car dealerships in the C-2 zoning district, which are as follows:

- Minimum lot size: four acres.
- Vehicle service and repair and used car sales shall be permitted ancillary uses to the principal new car sales use.
- Body shops shall not be a permitted ancillary use.



Parking

The Code of Ordinances requires one parking space for each 200 square feet of useable floor space of sales room, and one for each one vehicle displayed for sale. The submitted plan indicates 332 parking spaces are provided. The building contains approximately 6,755 square feet of sales room and associated customer access areas, therefore 34 parking spaces are required to serve the building.

C-2 zoned sites are allowed 70 percent impervious surface coverage. The submitted site plan indicates impervious surface coverage would be 46.6%.

Landscaping

The submitted site plan shows a 40 foot setback between the dealership and the adjacent residentially zoned property to the north and east. The Zoning Ordinance requires commercial uses to observe a 100 foot setback from any adjacent residential zoning district. The 100 foot setback can be reduced to 60 feet if appropriate screening is provided. The 60 foot setback cannot be reduced to 40 feet. The parking area at the north encroaches into the 60 foot setback, which would require a variance from the Zoning Board of Appeals.

If the Planning Commission decides to approve the special use permit request, staff recommends the following conditions:

- Vehicle service and repair and used car sales are permitted at the subject site only when ancillary to the principal new car sales use.
- Paint and/or automobile bodywork are prohibited uses at the subject site.
- The applicant shall combine the three subject parcels to meet the minimum four acre lot size requirement for new car dealerships.

If the project is approved by the Planning Commission, the applicant will be required to submit for Site Plan Review before work on the project can begin. Site Plan Review is a detailed staff-level analysis of the project which includes reviews of storm water, utilities, landscaping, grading, and other issues to ensure compliance with all applicable ordinances as well as confirmation of approvals from local agencies such as the Ingham County Drain Commissioner's Office and Road Department.

Planning Commission Options

The Planning Commission may approve, approve with conditions, or deny the special use permit. A resolution will be provided at a future meeting.



Special Use Permit #18101 (Green Castle Properties, LLC)
Planning Commission (November 26, 2018)
Page 7

Attachments

1. Special use permit application.
2. Traffic Impact Analysis prepared by Traffic Engineering Associates, Inc., dated October, 2018, and received by the Township on October 16, 2018.
3. Natural Features Assessment prepared by Marx Wetlands, dated September 24, and received by the Township on October 16, 2018.
4. Site plan prepared by Nederveld, dated October 16, 2018 (revision date November 8, 2018), and received by the Township on November 9, 2018.
5. Building elevations and floor plans prepared by Studio Detroit, dated October 12, 2018 and received by the Township on October 16, 2018.

G:\Community Planning & Development\Planning\SPECIAL USE PERMITS (SUP)\2018\SUP 18101 (Green Castle Properties, LLC)\SUP 18101.pc1.doc



**CHARTER TOWNSHIP OF MERIDIAN
DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT
5151 MARSH ROAD, OKEMOS, MI 48864
PLANNING DIVISION PHONE: (517) 853-4560, FAX: (517) 853-4095**

RECEIVED
OCT 16 2018

SPECIAL USE PERMIT APPLICATION

Before submitting this application for review, an applicant may meet with the Director of Community Planning and Development to discuss the requirements for a special use permit and/or submit a conceptual plan for review to have preliminary technical deficiencies addressed prior to submittal of the application. If the property or land use is located in the following zoning districts RD, RC, RCC, RN then the applicant must meet with the Planning Director to discuss technical difficulties before filing a formal application.

Part I

- A. Applicant DP Fox dba Green Castle Properties, LLC
 Address of Applicant 200 Ottawa NW, Suite 800, Grand Rapids, MI 49506 cschiefler@dpfox.com
 Telephone - Work 616-774-4044 Home _____ Fax _____ Email _____
 Interest in property (circle one): Owner _____ Tenant _____ Option _____ Other _____
 (Please attach a list of all persons with an ownership interest in the property.)
- B. Site address / location / parcel number 1614 & 1622 W. Grand River, Meridian Twp., MI
 Legal description (please attach if necessary) Attached
 Current zoning Commercial C-2
 Use for which permit is requested / project name New Auto Dealership - Fox Nissan
 Corresponding ordinance number Article IV, Division 3 86.404(e)(16) & Article II, Division 4
- C. Developer (if different than applicant) Same as applicant
 Address _____
 Telephone – Work _____ Home _____ Fax _____
- D. Architect, Engineer Planner or Surveyor responsible for design of project if different from applicant:
 Name Nederveld, Inc. - James Gorenflo, Project Manager
 Address 3037 Miller Rd., Ann Arbor, MI 48103
 Telephone – Work 734-929-6963 Home _____ Fax _____
- E. Acreage of all parcels in the project: Gross 8.67 Net _____
- F. Explain the project and development phases: New auto dealership; single phase development
- G. Total number of:
 Existing: structures 6 bedrooms 6 offices _____ parking spaces 8 carports _____ garages 2
 Proposed: structures 1 bedrooms 15 offices _____ parking spaces 332 carports _____ garages 1
- H. Square footage: existing buildings 9,757 proposed buildings 24,969 sf
 Usable Floor area: existing buildings _____ proposed buildings _____
- I. If employees will work on the site, state the number of full time and part time employees working per shift and hours of operation: 1 shift; 20 full time & 1 part time employees
- J. Existing Recreation: Type N/A Acreage _____
 Proposed Recreation: Type N/A Acreage _____
 Existing Open Space: Type Residential yard areas Acreage _____
 Proposed Open Space: Type T.B.D. Acreage _____

K. If Multiple Housing:
 Total acres of property N/A
 Acres in floodplain _____ Percent of total _____
 Acres in wetland (not in floodplain) _____ Percent of total _____
 Total dwelling units _____
 Dwelling unit mix: Number of single family detached: for Rent _____ Condo _____
 Number of duplexes: for Rent _____ Condo _____
 Number of townhouses: for Rent _____ Condo _____
 Number of garden style apartments: for Rent _____ Condo _____
 Number of other dwellings: for Rent _____ Condo _____

L. The following support materials must be submitted with the application:

1. Nonrefundable Fee.
2. Legal Description of the property.
3. Evidence of fee or other ownership of the property.
4. Site Plan containing the information listed in the attachment to this application.
5. Architectural sketches showing all sides and elevations of the proposed buildings or structures, including the project entrance, as they will appear upon completion. The sketches should be accompanied by material samples or a display board of the proposed exterior materials and colors.
6. A Traffic Study, prepared by a qualified traffic engineer, based on the most current edition of *Evaluating Traffic Impact Studies: A Recommended Practice for Michigan Communities*, published by the State Department of Transportation.
 - a. A traffic assessment will be required for the following:
 - 1) New special uses which could, or expansion or change of an existing special use where increase in intensity would, generate between 50 to 99 directional trips during a peak hour of traffic.
 - 2) All other special uses requiring a traffic assessment as specified in the Township Code of Ordinances, Chapter 86, Article IV, Division 2.
 - b. A traffic impact study will be required for the following:
 - 1) New special uses which would, or expansion or change of an existing special use where increase in intensity would, generate over 100 directional trips or more during a peak hour of traffic, or over 750 trips on an average day.
 - 2) All other special uses requiring a traffic assessment as specified in the Township Code of Ordinances, Chapter 86, Article IV, Division 2.
7. Natural features assessment which includes a written description of the anticipated impacts on the natural features at each phase and at project completion that contains the following:
 - a. An inventory of natural features proposed to be retained, removed, or modified. Natural features shall include, but are not limited to, wetlands, significant stands of trees or individual trees greater than 12 inches dbh, floodways, floodplains, waterbodies, identified groundwater vulnerable areas, slopes greater than 20 percent, ravines, and vegetative cover types with potential to sustain significant or endangered wildlife.
 - b. Description of the impacts on natural features.
 - c. Description of any proposed efforts to mitigate any negative impacts.

The natural features assessment may be waived by the Director of Community Planning and Development in certain circumstances.

- M. Any other information specified by the Director of Community Planning and Development which is deemed necessary to evaluate the application.
- N. In addition to the above requirements, for zoning districts, **RD, RC, RCC, RN, and CV** and **Group Housing Residential Developments** the following is required:
1. Existing and proposed contours of the property at two foot intervals based on United States Geological Survey (USGS) data.
 2. Preliminary engineering reports in accordance with the adopted Township water and sewer standards, together with a letter of review from the Township Engineer.
 3. Ten copies of a report on the intent and scope of the project including, but not limited to: Number, size, volume, and dimensions of buildings; number and size of living units; basis of calculations of floor area and density and required parking; number, size, and type of parking spaces; architectural sketches of proposed buildings.
 4. Seven copies of the project plans which the Township shall submit to local agencies for review and comments.
- O. In addition to the above requirements, a special use application in zoning district **RP** requires the following material as part of the site plan:
1. A description of the operations proposed in sufficient detail to indicate the effects of those operations in producing traffic congestion, noise, glare, air pollution, water pollution, fire hazards or safety hazards or the emission of any potentially harmful or obnoxious matter or radiation.
 2. Engineering and architectural plans for the treatment and disposal of sewerage and industrial waste tailings, or unusable by-products.
 3. Engineering and architectural plans for the handling of any excessive traffic congestion, noise, glare, air pollution, or the emission of any potentially harmful or obnoxious matter or radiation.
- P. In addition to the above requirements, a special use application for a use in the Floodway Fringe of zoning district **CV** requires the following:
1. A letter of approval from the State Department of Environmental Quality.
 2. A location map including existing topographic data at two-foot interval contours at a scale of one inch representing 100 feet.
 3. A map showing proposed grading and drainage plans including the location of all public drainage easements, the limits, extent, and elevations of the proposed fill, excavation, and occupation.
 4. A statement from the County Drain Commissioner, County Health Department, and Director of Public Works and Engineering indicating that they have reviewed and approved the proposal.
- Q. In addition to the above requirements, a special use application for a use in the Groundwater Recharge area or zoning district **CV** requires the following:
1. A location map including existing topographic data at two-foot interval contours.
 2. A map showing proposed grading and drainage plans including the location of all public drainage easements, the limits and extent of the proposed fill, excavation, and occupation.
 3. A statement from the County Drain Commissioner, County Health Department, and Director of Public Works and Engineering indicating that they have reviewed and approved the proposal.
- R. In addition to the above requirements, the Township Code of Ordinances, Article VI, should be reviewed for the following special uses: group housing residential developments, mobile home parks, nonresidential structures and uses in residential districts, planned community and regional shopping center developments, sand or gravel pits and quarries, sod farms, junk yards, sewage treatment and disposal installations, camps and clubs for outdoor sports and buildings greater than 25,000 square feet in gross floor area.

Part II

SUP REQUEST STANDARDS
Township Code of Ordinances, Section 86-126

Applications for Special Land Uses will be reviewed with the standards stated below. An application that complies with the standards stated in the Township Ordinance, conditions imposed pursuant to the Ordinance, other applicable Ordinances, and State and Federal statutes will be approved. Your responses to the questions below will assist the Planning Commission in its review of your application.

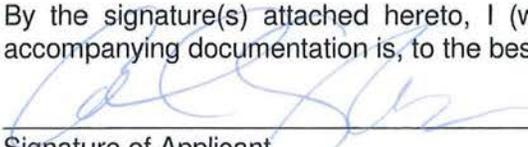
- (1) The project is consistent with the intent and purposes of this chapter.
- (2) The project is consistent with applicable land use policies contained in the Township's Master Plan of current adoption.
- (3) The project is designed, constructed, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and that such a use will not change the essential character of the same area.
- (4) The project will not adversely affect or be hazardous to existing neighboring uses.
- (5) The project will not be detrimental to the economic welfare of surrounding properties or the community.
- (6) The project is adequately served by public facilities, such as existing roads, schools, stormwater drainage, public safety, public transportation, and public recreation, or that the persons or agencies responsible for the establishment of the proposed use shall be able to provide any such service.
- (7) The project is adequately served by public sanitation facilities if so designed. If on-site sanitation facilities for sewage disposal, potable water supply, and storm water are proposed, they shall be properly designed and capable of handling the longterm needs of the proposed project.
- (8) The project will not involve uses, activities, processes, materials, and equipment and conditions of operation that will be detrimental to any persons, property, or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare, or odors.
- (9) The project will not directly or indirectly have a substantial adverse impact on the natural resources of the Township, including, but not limited to, prime agricultural soils, water recharge areas, lakes, rivers, streams, major forests, wetlands, and wildlife areas.

Part III

I (we) hereby grant permission for members of the Charter Township of Meridian's Boards and/or Commissions, Township staff member(s) and the Township's representatives or experts the right to enter onto the above described property (or as described in the attached information) in my (our) absence for the purpose of gathering information including but not limited to the taking and the use of photographs.

Yes No (Please check one)

By the signature(s) attached hereto, I (we) certify that the information provided within this application and accompanying documentation is, to the best of my (our) knowledge, true and accurate



Signature of Applicant

Oct. 15, 2018
Date

Colin Schiefler

Type/Print Name

Fee: \$740.00

Received by/Date:  10-16-16



TRAFFIC IMPACT STUDY

For The Proposed

Fox Nissan Dealership

Meridian Charter Township, Ingham County, MI

October, 2018

Prepared by:

**Traffic Engineering
Associates, Inc.**

PO Box 100 • Saranac, Michigan 48881
517/627-6028 FAX: 517/627-6040

Table of Contents

	Page
Executive Summary	I
Introduction	1
Project Description	2
Scope of Work	2
Aerial Site Map	3
Existing Conditions	4
Roadways & Intersections	5
Land Use	6
Existing Traffic Volumes	6
Level of Service Analysis for Existing Traffic	8
Background Conditions	10
Background Traffic Volumes – Growth Related	11
Background Traffic Volumes – Development Related	11
Level of Service Analysis for Background Traffic	13
Future Conditions	15
Site Traffic Generation	16
Site Traffic Distribution	18
Level of Service Analysis for Future Traffic	21
Significant Findings	23
Analysis for a Recommended Right Turn Treatment	24
Analysis for a Recommended Left Turn Treatment	24
Recommendations	24
Supplemental Information	25
Site Plan	
Vehicle Volume Counts	
MDOT Guidelines for Right-Turn Lanes and Tapers	
MDOT Guidelines for Left-Turn Lanes and Passing Flares	
LOS Computations	



List of Tables

Table	Title	Page
1	Level of Service (LOS) Summary – Existing Traffic	9
2	Level of Service (LOS) Summary – Background Traffic	14
3	Vehicle Trip Generation Summary – Proposed Fox Nissan Dealership Development	17
4	Level of Service (LOS) Summary –Future Traffic	22

List of Figures

Figure	Title	Page
1	Existing Traffic – Peak Hours	7
2	Background Growth Traffic – Peak Hours	12
3	Site Traffic – Peak Hours	19
4	Future Traffic – Peak Hours	20



EXECUTIVE SUMMARY

Traffic Engineering Associates, Inc. (TEA) conducted a traffic impact study for the proposed Fox Nissan Dealership development in Meridian Charter Township, Ingham County, Michigan. The purpose of this study is to determine the impact on the surrounding road system by the new traffic to be generated from this development. The Fox Nissan Dealership development will consist of an approximate 24,500 square foot car dealership.

The new development will be located on the north side of Grand River Avenue (M-43) east of Central Park Drive. There will be two (2) access points, one (1) onto Grand River Avenue (M-43) and one (1) onto Central Park Drive. The site is expected to open in the spring of 2020.

TEA, Inc. conducted vehicle turning movement counts during the midweek, of a non-holiday week in the month of September, 2018, at the intersections of Grand River Avenue (M-43) and Central Park Drive/ Dobie Road, and Grand River Avenue (M-43) and Hamilton Road. The existing weekday AM and PM peak hours are 7:45 – 8:45 AM and 5:00 – 6:00 PM. All existing turning movements at the studied intersections operate at an acceptable level of service (LOS D or better).

Background traffic represents future volumes without the traffic generated by the proposed Fox Nissan Dealership development. The target year for completion is the spring of 2020; therefore, a one and one-half (1.5) year growth rate was applied to the existing traffic volumes. It is anticipated that all movements at the studied intersections will operate at an acceptable level of service (LOS D or better) under background conditions.

The ITE trip generation rates for Automobile Sales (New) (Land Use Code 840), were selected as representing the 24,500 square foot dealership. It is projected that the proposed Fox Nissan Dealership will generate 46 vehicle trips in the AM peak hour, 66 vehicle trips in the PM peak hour, and 672 weekday trips. It is anticipated that all movements at the studied intersections will operate at an acceptable level of service (LOS D or better) under future conditions.

The findings of this study show that there are no recommendations to the existing road system.



INTRODUCTION



PROJECT DESCRIPTION

The purpose of this study is to determine the impact of traffic to be generated by the proposed Fox Nissan Dealership development in Meridian Charter Township, Ingham County, Michigan. The new development will consist of an approximate 24,500 square foot car dealership.

The Fox Nissan Dealership development will be located on the north side of Grand River Avenue (M-43) east of Central Park Drive. There will be two (2) access points, one (1) onto Grand River Avenue (M-43) and one (1) onto Central Park Drive. The site is expected to open in the spring of 2020.

SCOPE OF WORK

The scope of work contained in this report is as follows:

- Analysis of existing traffic conditions on the adjoining street system, including the following intersections;
 - Grand River Avenue (M-43) and Central Park Drive/ Dobie Road
 - Grand River Avenue (M-43) and Hamilton Road
- Analysis of background traffic conditions on the adjoining street system, which includes the above listed intersections, for the future year 2020 volumes without the proposed Fox Nissan Dealership development.
- Projection of future traffic volumes to be generated by the proposed Fox Nissan Dealership development for the future year.
- Analysis of the impact of future traffic for the proposed Fox Nissan Dealership development at the above listed intersections.
- Determination of what roadway and traffic control improvements, if any, will be needed to accommodate future traffic volumes for the proposed Fox Nissan Dealership development.





Aerial Site Map



EXISTING CONDITIONS



ROADWAYS AND INTERSECTIONS

Roadways

Grand River Avenue (M-43) is a five (5) lane east/west roadway with an exclusive center left turn lane. Grand River Avenue (M-43) has curb and gutter and sidewalks on both sides. The posted speed limit is 45 MPH. This roadway is under the jurisdiction of the Michigan Department of Transportation.

Central Park Drive is a four (4) lane north/south roadway. It is under the jurisdiction of the Ingham County Road Department. Central Park Drive has concrete curb and gutter and sidewalk on both sides of the road. The posted speed limit is 35 MPH.

Dobie Road is a three (3) lane north/south roadway with a center left turn lane. It is under the jurisdiction of the Ingham County Road Department. Dobie Road has concrete curb and gutter and sidewalk on both sides of the road. The posted speed limit is 35 MPH.

Hamilton Road is a four (4) lane east/west roadway and is under the jurisdiction of the Ingham County Road Department. Hamilton Road has concrete curb and gutter and sidewalks on both sides of the road. The posted speed limit is 35 MPH.

Intersections

Central Park Drive/Dobie Road and Grand River Avenue (M-43)

Grand River Avenue (M-43) has five (5) lanes; the east approach has one (1) exclusive left turn lane, one (1) thru lane, one (1) thru-right turn lane, and two (2) outbound lanes. The west approach on Grand River Avenue (M-43) has six (6) lanes; one (1) exclusive left turn lane, two (2) thru lanes, one (1) exclusive right turn lane, and two (2) outbound lanes. The north approach on Central Park Drive has five (5) lanes; one (1) exclusive left turn lane, one (1) thru lane, one (1) exclusive right turn lane, and two (2) outbound lanes. The south approach on Dobie Road has three (3) lanes; one (1) exclusive left turn lane, one (1) thru-right turn lane, and one (1) outbound lane. The intersection is controlled by a traffic signal. This intersection is under the jurisdiction of the Michigan Department of Transportation.

Hamilton Road and Grand River Avenue (M-43)

This is a "T" intersection with stop sign control on northbound Hamilton Road. The east approach on Grand River Avenue (M-43) has five (5) lanes; one (1) center left turn lane, two (2) thru lanes, and two (2) outbound lanes. The west approach on Grand River Avenue (M-43) has five (5) lanes; one (1) center left turn lane, one (1) thru lane, one (1) thru-right turn lane, and two (2) outbound lanes. Hamilton Road has two (2) lanes; one (1) inbound left-right turn lane, and one (1) outbound lane.



LAND USE

The proposed Fox Nissan Dealership will consist of a 24,500 square foot dealership. The proposed site has an existing building that is vacant. The surrounding land use includes various types of commercial uses such as retail, restaurant, and gas station.

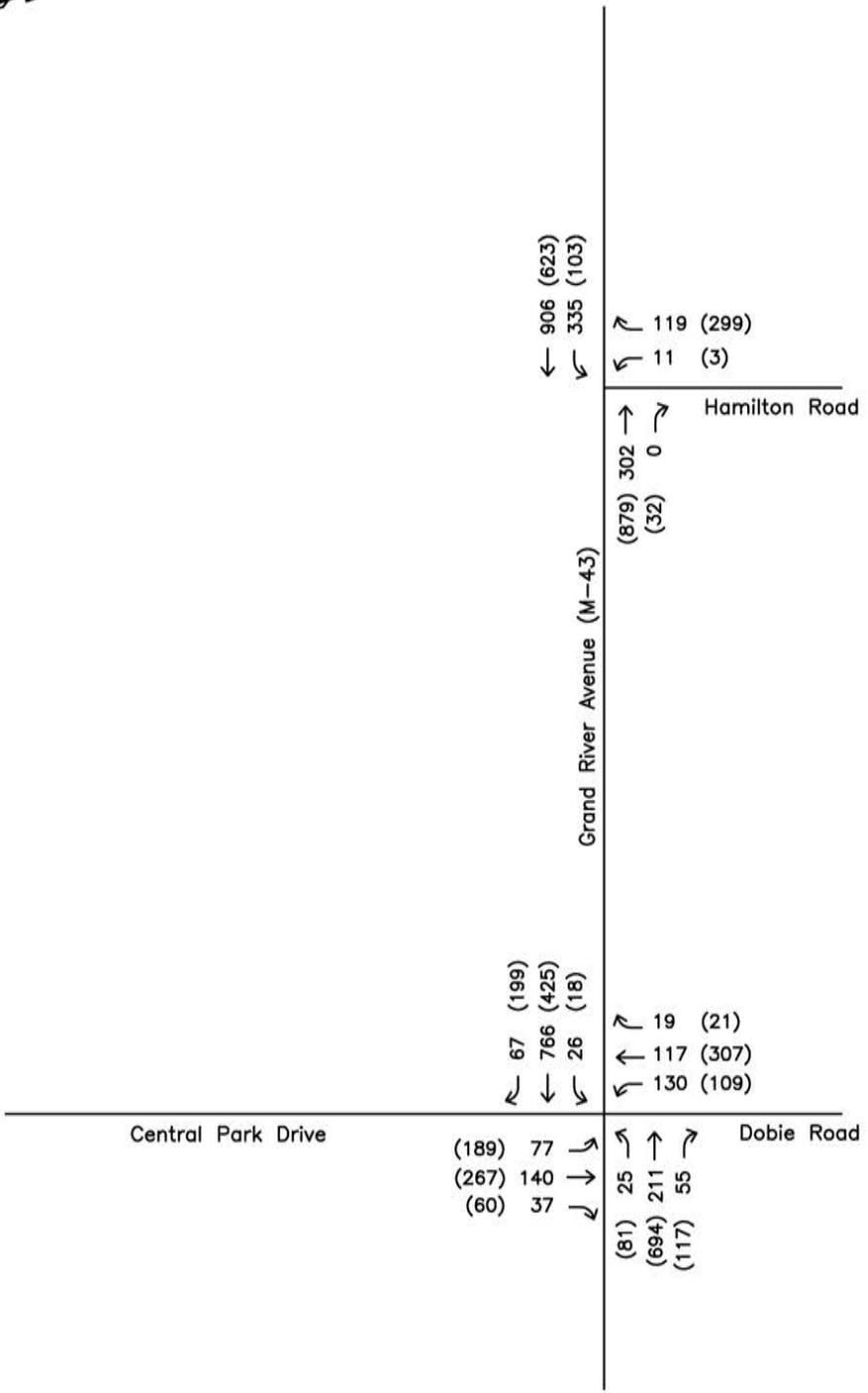
EXISTING TRAFFIC VOLUMES

TEA, Inc. conducted vehicle turning movement counts during the midweek, of a non-holiday week in the month of September, 2018 at the following locations:

- Grand River Avenue (M-43) and Central Park Drive/ Dobie Road
- Grand River Avenue (M-43) and Hamilton Road

The existing weekday AM and PM peak hours are 7:45 – 8:45 AM and 5:00 – 6:00 PM at the key locations, respectively. The existing volumes are illustrated in **Figure 1**.





TRAFFIC ENGINEERING ASSOCIATES, INC.
 PO Box 108881
 Saranac, MI 49881
 PHONE: (517) 627-6028

LEGEND
 XXX AM Pk Hr (7:45-8:45 AM) Volumes
 (XXX) PM Pk Hr (5:00-6:00 PM) Volumes

FIGURE 1: Existing Traffic - Peak Hours

DATE: October, 2018 SCALE: NTS

LEVEL OF SERVICE ANALYSIS FOR EXISTING TRAFFIC

The critical intersections defined for this study were analyzed according to the methodologies published in the most recent edition of the *Highway Capacity Manual*. The analysis determines the “Level of Service” of the intersections and is based on factors such as the number and types of lanes, signal timing, traffic volumes, pedestrian activity, etc. The level of service (LOS) is defined by average vehicle delay in seconds created by a traffic control device for a given traffic movement or intersection approach.

Level of Service	Delay per Vehicle (seconds)	
	Non-Signalized	Signalized
A	< 10	<10
B	10 to 15	10 to 20
C	15 to 25	20 to 35
D	25 to 35	35 to 55
E	35 to 50	55 to 80
F	> 50	> 80

Levels of Service are expressed in a range from “A” to “F,” with “A” being the highest LOS and “F” representing the lowest LOS. Level of service “D” is considered the minimum acceptable LOS in an urban area.

The above table shows the thresholds for Levels of Service “A” through “F” for non-signalized and signalized intersections, respectively.

All Level of Service computations contained in this report were based upon the Synchro software package which is approved by the Michigan Department of Transportation (MDOT). Delay per vehicle includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

The Level of Service analysis for existing traffic at the subject intersections during the peak hours is summarized in **Table 1**. All existing turning movements at the studied intersections operate at an acceptable level of service (LOS D or better).



**Table 1
Level of Service (LOS) Summary
Existing Traffic**

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Grand River Avenue (M-43) and Central Park Drive/ Dobie Road	EB Left	14.8	B	22.7	C
	EB Thru	7.9	A	16.4	B
	EB Right	7.7	A	13.5	B
	WB Left	8.7	A	19.8	B
	WB Thru-Right	12.0	B	17.2	B
	NB Left	24.3	C	18.2	B
	NB Thru-Right	18.9	B	14.5	B
	SB Left	22.2	C	22.9	C
	SB Thru	19.1	B	13.7	B
	SB Right	17.5	B	11.9	B
	Intersection	14.0	B	16.7	B
Grand River Avenue (M-43) and Hamilton Road	EB Thru-Right	0.0	A	0.0	A
	WB Left	9.3	A	11.0	B
	WB Thru	0.0	A	0.0	A
	NB Left-Right	15.2	C	25.4	D
	Intersection	3.5	A	4.9	A

Note: Delay = Average control delay per vehicle in seconds.
LOS = Level of Service



BACKGROUND CONDITIONS



BACKGROUND TRAFFIC VOLUMES – GROWTH RELATED

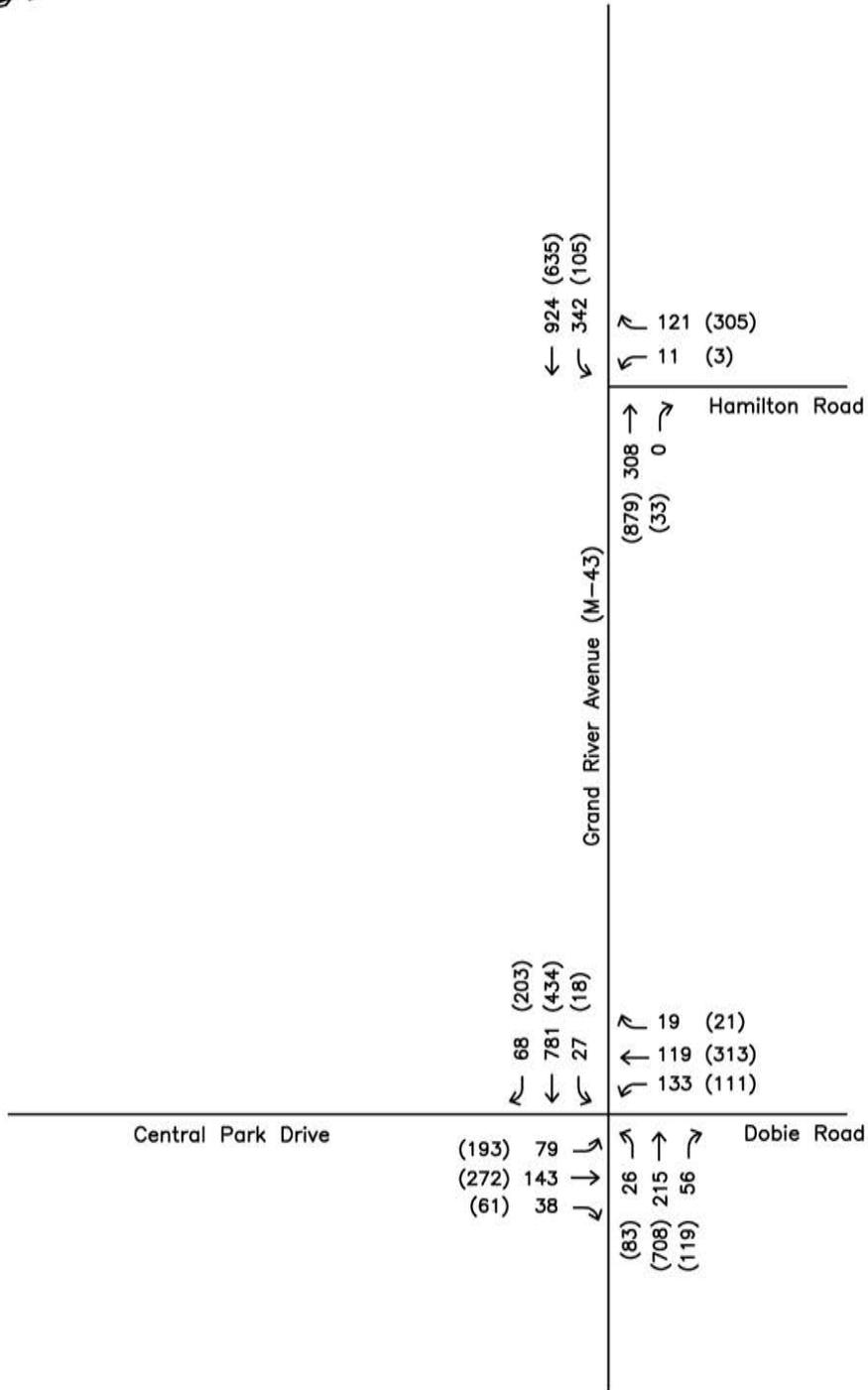
Background traffic represents future volumes without the traffic generated by the proposed Fox Nissan Dealership development. The target year for completion is the spring of 2020 (1.5 years).

According to the US Census Bureau, the exponential annual growth rate for the population of Meridian Charter Township from 2010 to 2017 was one point zero four percent (1.04%) over a seven (7) year period, and the exponential annual growth rate for the population of Ingham County was zero point four seven percent (0.47%) for the same time period. For the purposes of this study, a one percent (1.0%) growth rate was applied over one and one-half (1.5) years to the proposed completion date of spring of 2020. Background traffic growth volumes are illustrated in **Figure 2**.

BACKGROUND TRAFFIC VOLUMES – DEVELOPMENT RELATED

There were no new developments identified by the Meridian Charter Township Planning Department in the immediate area that would influence the background traffic for the proposed Fox Nissan Dealership development; therefore, no background developments were included in the study.





TRAFFIC ENGINEERING
ASSOCIATES, INC.
PO Box 106881
Sarasota, MI 48881
PHONE: (813) 627-6028



LEGEND
XXX AM Pk Hr (7:45-8:45 AM) Volumes
(XXX) PM Pk Hr (5:00-6:00 PM) Volumes

FIGURE 2: Background Traffic – Peak Hours

DATE: October, 2018 SCALE: NTS

LEVEL OF SERVICE ANALYSIS FOR BACKGROUND TRAFFIC

The level of service analysis for background 2020 traffic is summarized in **Table 2**. All existing roadway geometrics and traffic control devices were utilized for the background analysis. Under background conditions, it is anticipated that all movements at the studied intersections will continue to operate at an acceptable level of service (LOS D or better).



**Table 2
Level of Service (LOS) Summary
Background Traffic**

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Grand River Avenue (M-43) and Central Park Drive/ Dobie Road	EB Left	15.3	B	23.6	C
	EB Thru	8.0	A	16.9	B
	EB Right	7.8	A	13.8	B
	WB Left	8.9	A	20.4	C
	WB Thru-Right	12.3	B	17.8	B
	NB Left	24.2	C	18.1	B
	NB Thru-Right	18.7	B	14.3	B
	SB Left	22.1	C	23.2	C
	SB Thru	18.9	B	13.5	B
	SB Right	17.4	B	11.7	B
Intersection	14.1	B	17.0	B	
Grand River Avenue (M-43) and Hamilton Road	EB Thru-Right	0.0	A	0.0	A
	WB Left	9.4	A	11.2	B
	WB Thru	0.0	A	0.0	A
	NB Left-Right	15.7	C	27.0	D
	Intersection	3.5	A	5.2	A

Note: Delay = Average control delay per vehicle in seconds.
LOS = Level of Service



FUTURE CONDITIONS



SITE TRAFFIC GENERATION

The trip generation rates for the proposed Fox Nissan Dealership were derived from the ITE TRIP GENERATION MANUAL (10th edition). The ITE trip generation rates for Automobile Sales (New) (Land Use Code 840), were selected as representing the 24,500 square foot dealership. The ITE description of Automobile Sales (New) is as follows:

A new automobile sales dealership is typically located along a major arterial street characterized by abundant commercial development. The sale or leasing of new cars is the primary business at these facilities; however, automobile services, parts sales, and used car sales may also be available. Some dealerships also include leasing options, truck sales, and servicing.

It is projected that the proposed Fox Nissan Dealership will generate 46 vehicle trips in the AM peak hour, 66 vehicle trips in the PM peak hour, and 672 weekday trips. The projected traffic to be generated by the Fox Nissan Dealership is summarized in **Table 3**.



Table 3
Vehicle Trip Generation Summary
Fox Nissan Dealership Development

Land Use	Size	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	
Automobile Sales (New), Land Use Code 840	24,500 sq. ft.	34	12	46	26	40	66	672
Total Trips		34	12	46	26	40	66	672



SITE TRAFFIC DISTRIBUTION

Traffic distribution for the proposed Fox Nissan Dealership development was distributed based on the surrounding roadway patterns. Typically, a commercial development is a destination type of facility; therefore, the existing, entering traffic pattern on the roadway system during the morning and evening peak hours dictated the distribution of the proposed new site traffic for this study. The distribution for the commercial generated traffic is as follows.

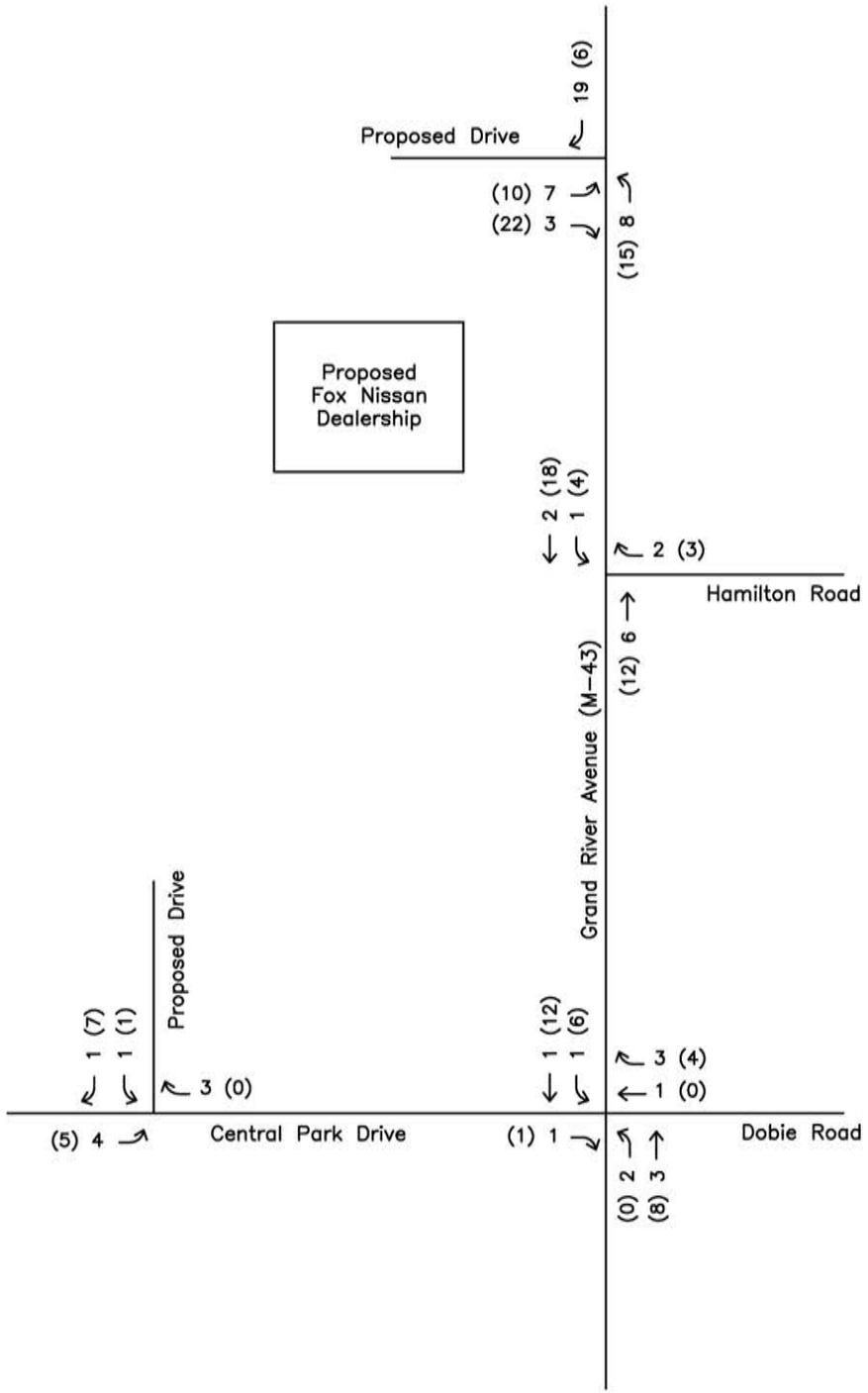
Direction of Approach and Departure	AM Peak Hour	PM Peak Hour
To/From the North on Central Park Drive	12%	18%
To/From the South on Dobie Road	12%	15%
To/From the East on Grand River Avenue (M-43)	57%	25%
To/From the West on Grand River Avenue (M-43)	13%	31%
To/From the South on Hamilton Road	6%	11%

Traffic was further distributed by driveway. Given the main entrance is on Grand River Avenue (M-43), and the volumes on Grand River Avenue (M-43) are higher than Central Park Drive, eighty percent (80%) of the traffic was distributed to that driveway location. The remaining twenty percent (20%) was distributed to the driveway on Central Park Drive.

The total estimated site generated traffic for the proposed Fox Nissan Dealership development during the AM and PM peak hours is illustrated in **Figure 3**.

Adding the project site traffic (Figure 3) to the background traffic (Figure 2) generates the total anticipated future traffic which is displayed in **Figure 4**.





 <p>TRAFFIC ENGINEERING ASSOCIATES, INC. PO Box 108881 Sarasota, MI 48881 PHONE: (817) 627-6028</p>	<p>LEGEND</p> <p>XXX AM Pk Hr (7:45-8:45 AM) Volumes (XXX) PM Pk Hr (5:00-6:00 PM) Volumes</p>	<p>FIGURE 3: Site Traffic – Peak Hours</p> <p>DATE: October, 2018 SCALE: NTS</p>
		<p>PAGE: 19</p>

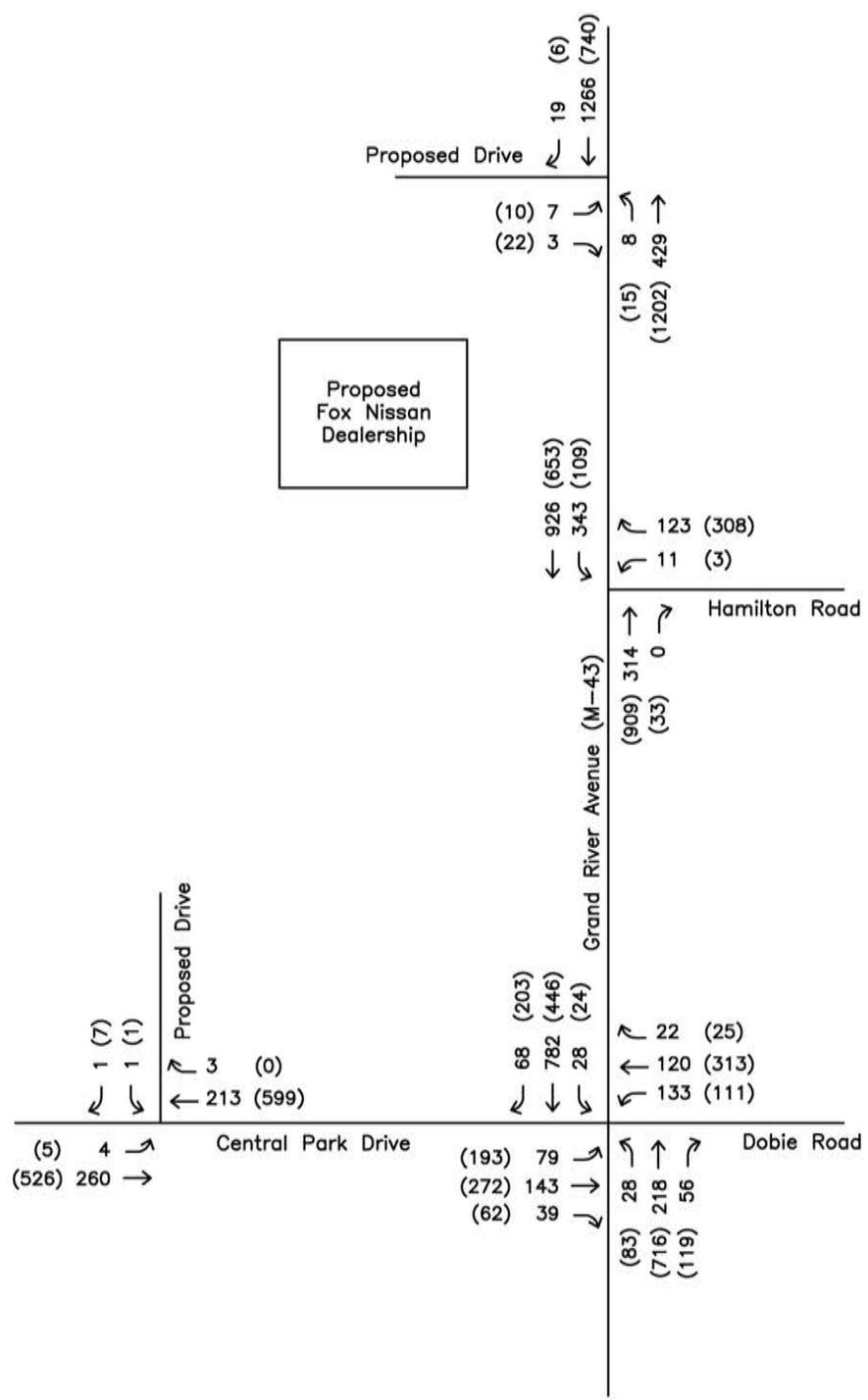


FIGURE 4: Future Traffic – Peak Hours

DATE: October, 2018 SCALE: NTS PAGE: 20

LEGEND

XXX AM Pk Hr (7:45–8:45 AM) Volumes
 (XXX) PM Pk Hr (5:00–6:00 PM) Volumes

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LEVEL OF SERVICE ANALYSIS FOR FUTURE TRAFFIC

The level of service analysis for future traffic is summarized in **Table 4**. Comparing future level of service conditions to background level of service conditions determines the impact on the surrounding road system that can be expected from the addition of new traffic generated from the Fox Nissan Dealership development.

All existing roadway geometrics and traffic control devices were used for the future analysis. The two (2) proposed new driveways were modeled with one (1) inbound lane and one (1) outbound lane. Under future conditions, it is projected that all movements at the studied intersections will continue to operate at an acceptable level of service (LOS D or better).



**Table 4
Level of Service (LOS) Summary
Future Traffic**

Location	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg. Delay	LOS	Avg. Delay	LOS
Grand River Avenue (M-43) and Central Park Drive/ Dobie Road	EB Left	15.5	B	24.1	C
	EB Thru	8.1	A	17.1	B
	EB Right	7.8	A	13.9	B
	WB Left	9.0	A	21.1	C
	WB Thru-Right	12.3	B	18.1	B
	NB Left	24.2	C	18.0	B
	NB Thru-Right	18.8	B	14.3	B
	SB Left	22.2	C	23.3	C
	SB Thru	18.9	B	13.5	B
	SB Right	17.4	B	11.6	B
Intersection	14.2	B	17.1	B	
Grand River Avenue (M-43) and Hamilton Road	EB Thru-Right	0.0	A	0.0	A
	WB Left	9.4	A	11.3	B
	WB Thru	0.0	A	0.0	A
	NB Left-Right	15.7	C	28.3	D
	Intersection	3.5	A	5.3	A
Grand River Avenue (M-43) and Proposed Drive	EB Left	13.4	B	9.5	A
	EB Thru	0.0	A	0.0	A
	WB Thru-Right	0.0	A	0.0	A
	SB Left-Right	25.9	D	14.4	B
	Intersection	0.2	A	0.3	A
Central Park Drive and Proposed Drive	WB Left-Right	9.8	A	11.0	B
	NB Thru-Right	0.0	A	0.0	A
	SB Left	7.7	A	8.8	A
	SB Thru	0.0	A	0.0	A
	Intersection	0.1	A	0.1	A

Note: Delay = Average control delay per vehicle in seconds.
LOS = Level of Service



SIGNIFICANT FINDINGS



ANALYSIS FOR A RECOMMENDED RIGHT TURN TREATMENT

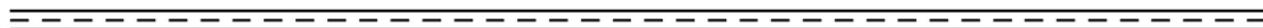
Using the MDOT Traffic and Safety “Geometric Design Guidance Document,” Traffic Volume Guidelines for Right-Turn Lanes and Tapers, the results show that the projected right turn volumes, during both the AM and PM peak hours, do not meet the criteria for a right turn lane or taper at either of the proposed driveways.

ANALYSIS FOR A RECOMMENDED LEFT-TURN TREATMENT

Grand River Avenue (M-43) currently has a two-way center left turn lane; however, Central Park Drive transitions to a four-lane cross section where the proposed driveway is located. Using MDOT Traffic and Safety “Geometric Design Guidance Document,” Traffic Volume Guidelines for Left-Turn Lanes and Passing Flares at Unsignalized Intersections, the results show that the projected left turn volumes, during both the AM and PM peak hour, do not meet the criteria for a left turn lane at the proposed driveway on Central Park Drive; therefore, extension of the two-way left turn lane north of the proposed driveway is not justified based on projected left turn volumes.

RECOMMENDATIONS

The findings of this study show that there are no recommendations to the existing road system based on projected volumes.



SUPPLEMENTAL INFORMATION



Supplemental Information

Site Plan

Vehicle Volume Counts

MDOT Guidelines for Right-Turn Lanes and Tapers

MDOT Guidelines for Left-Turn Lanes and Passing Flares

LOS Computations



NATURAL FEATURES ASSESSMENT

for the

**W. Grand River Avenue and Central Park Drive
Section 22, Meridian Township, Michigan**

Prepared for:

**Mr. Colin Schiefler
DP Fox dba Green Castle Properties, LLC
200 Ottawa Ave., NW #800
Grand Rapids, MI 49506**



MARX
WETLANDS
LLC

Prepared by:

Marx Wetlands, LLC

9/24/2018

TABLE OF CONTENTS

Section	Page
1.0 INTRODUCTION	1
2.0 SITE LOCATION AND PROJECT DESCRIPTION	1
3.0 METHODS	2
4.0 RESULTS, FINDINGS, AND DISCUSSION	2
4.1 Existing Structures, Materials, and Adjacent Land use.....	2
4.2 Topography	3
4.3 Vegetation.....	3
4.4 Significant Tree Inventory	7
4.5 Wetlands	7
4.6 Special Flood Hazard Area	9
4.7 Floodways	10
4.8 Water Bodies.....	10
4.9 Soils	10
4.10 Identified Areas of Groundwater Vulnerability	11
4.11 Slopes Greater than 20 Percent.....	11
4.12 Wildlife	11
5.0 CONCLUSIONS AND RECOMMENDATIONS	12

APPENDICES

- I. Figure 1: Site Location Map
- Figure 2: Aerial Imagery Map
- Figure 3: Presettlement Vegetation/MNFI ca. 1800 map
- Figure 4: Township Natural Features Map
- Figure 5: National Wetland Inventory Map
- Figure 6: Flood Insurance Rate Map
- Figure 7: County Soils Survey Map
- II. Vegetation Lists
- III. NFE's Tree Survey Results
- IV. Marx Wetlands Wetland Delineation Report (Dated September 24, 2018)

1.0 INTRODUCTION

Marx Wetlands, LLC (MW) was contracted by DP Fox dba Green Castle Properties, LLC to perform a natural features assessment for an approximately 9-acre Assessment Area consisting of three (3) parcels (#33-02-02-22-252-003, 33-02-02-22-401-003, and 33-02-02-22-426-001) for the above-referenced (“Site”). The Site is located on the east side of Central Park Drive on the north side of Grand River Avenue within Section 22 of Meridian Township (T4N, R1W) of Ingham County, Michigan.

As part of a Special Use Permit Application, the Charter Township of Meridian Department of Community Planning and Development requires a “Natural Features Assessment,” which is to include “a written description of the anticipated impacts on the natural features at each phase and at project completion that contains the following:

- a. An inventory of natural features proposed to be retained, removed, or modified. Natural features shall include, but are not limited to, wetlands, significant stands of trees or individual trees greater than 12 inches dbh, floodways, floodplains, water bodies, identified groundwater vulnerable areas, slopes greater than 20 percent, ravines, and vegetative cover types with potential to sustain significant or endangered wildlife.
- b. Description of the impacts on natural features.
- c. Description of any proposed efforts to mitigate any negative impacts.”

After obtaining site location information, MW conducted desktop information reviews, site assessments, a wetland determination and delineation, and information analysis to help address the Township’s natural features assessment requirements. In addition, a tree survey was conducted by Nowak & Fraus Engineers (NFE) and their tree survey results are included in this report as well.

2.0 SITE LOCATION AND PROJECT DESCRIPTION

The approximately 9-acre Site is located on the east side of Central Park Drive on the north side of Grand River Avenue within Section 22 of Meridian Township (T4N, R1W) of Ingham County, Michigan. Green Castle (Developer) is proposing to construct an approximately 25,000 square foot one-story Nissan car dealership building and associated parking and utility infrastructure. The proposed building and parking facilities on this parcel will be completed in one phase. Prior to site clearing and grading, soil erosion and sediment control measures will be installed and will be inspected and maintained during the construction project. All soil erosion and sedimentation control measures will be removed upon completion of construction and stabilization. Please refer to *Figure 1: Site Location Map* in **Appendix I**.

Based on review of aerial photographs and the on-site visits, the Site is largely vacant, undeveloped land consisting of areas of upland field, scrub-shrub, forest, mixed deciduous tree lines, and wetland. The Site also contains existing vacated houses, a barn, in-ground pool, and associated lawn, particularly in the central and southern portions of the Site. In addition, existing

driveways and mowed paths were also observed. The Site is situated within a largely commercial and residential region of Meridian Township, Michigan. The Site is bounded by undeveloped land to the north, commercial development/Central Park Drive to the west, W. Grand River Avenue to the south, and undeveloped land/commercial buildings to the east.

The topography of the Site is relatively flat, with a gradual lowering of grade toward eastern boundary. The southeastern portion of the Site contains an upland berm that appears to have been created associated with the off-site pond. The Site contains field vegetation, scattered trees and shrubs, and tree rows. Refer to the *Figure 2: Aerial Imagery Map* in **Appendix I**.

3.0 METHODS

MW conducted a desktop review for the Site using existing information and imagery, including the United States Geological Service (USGS) topographic map, aerial photographs, National Wetland Inventory (NWI) map, county soil survey map, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), and Meridian Township's Natural Features Map, which primarily includes wetlands and floodplains.

On September 17 & 18, 2018, MW conducted an on-site assessment and a wetland determination and delineation. The on-site assessment consisted of a site reconnaissance to evaluate the current and prior land use, conduct habitat type determination, habitat quality evaluation, wetland determination and delineation, wildlife observations, and floodplain or other special concern observations.

The wetland determination and delineation was performed in accordance with the Michigan Department of Environmental Quality Wetland Identification Manual (2001), the Northcentral-Northeast Manual to the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual. The wetland determination consisted of desktop review of available background documentation and mapping followed by two (2) site visits performed on September 17 & 18, 2018.

The findings from the desktop review, site assessment, and wetland delineation were combined to help interpret the Site's natural features and evaluate potential project impacts upon those natural features.

4.0 RESULTS, FINDINGS, AND DISCUSSION

4.1 Existing Structures, Materials, and Adjacent Land use

The Site contains existing vacated houses, a barn, an abandoned in-ground pool, and associated lawn, particularly in the central and southern portions of the Site. In addition, existing driveways and mowed paths were also observed. In addition, an overhead electric distribution line also transects the southeastern portions of the Site.

The Site is situated within a largely commercial and residential region of Meridian Township, Michigan. The Site is bounded by undeveloped land to the north, commercial

development/Central Park Drive to the west, W. Grand River Avenue to the south, and undeveloped land/commercial buildings to the east. Refer to *Figure 2: Aerial Imagery Map* in **Appendix I**.



Photograph 1. View of the vacant and undeveloped parcel (northernmost parcel #22-252-003)



Photograph 2. View of the southern boundary of the Site north along W. Grand River Avenue. (Residential parcels #22-401-003 & 22-426-001).

4.2 Topography

The Site is relatively flat ranging in elevation between approximately 860 to 870 feet above sea level (asl). Gradual sloping and local microtopographic relief was observed within the Site, particularly near wetland areas and along the eastern boundary adjacent to the off-site pond. An upland berm was observed along the eastern boundary of the Site, which appears to have been constructed to enclose the off-site pond. Refer to *Figure 1: Site Location Map* in **Appendix I**.

4.3 Vegetation

A vegetation assessment was conducted during the on-site visits to describe the dominant cover or community types observed throughout the Site. Based on review of aerial photographs and the on-site visits, the northern parcel of the Site is largely vacant, undeveloped land consisting of areas of upland field, scrub-shrub, mixed deciduous forest patches/tree lines, and wetland. In addition, the residential parcels also contain maintained lawn scattered with landscaped trees and shrubs.

MW found two distinct community types present on the Site; old field/lawn and scrub-shrub/forested/tree lines. Most of the Site contains old field/lawn, which is characterized by herbaceous vegetation, grasses, shrubs, and scattered trees or clusters of landscaped or planted trees near the existing residences. In addition, along the site's northern and western peripheries, upland tree lines or rows of planted trees were observed including: pines and spruces with scattered native hardwood trees. The descriptions of the two main cover types are described below:

Cover Type Descriptions

Open Fields/Lawn

Upland herbaceous species found in the open fields or lawn include orchard grass (*Dactylus glomerata*), common milkweed (*Asclepias syriaca*), white vervain, smooth brome (*Bromus inermis*), Japanese hedge-parsley (*Torilis japonica*), bluegrasses (*Poa pratensis* & *P. compressa*), timothy (*Phleum pratense*), mugwort (*Artemisia vulgaris*), common plantain (*Plantago major*), white vervain (*Verbena urticifolia*), Queen Anne's lace (*Daucus carota*), and thistles (*Cirsium arvense* and *C. vulgare*). In addition, scattered prairie remnant species were also observed such as little bluestem (*Schizachyrium scoparium*), broom-sedge (*Andropogon virginicus*), and goldenrods (*Solidago altissima* and *S. canadensis*), particularly in the northeast corner of the overall Site. Scattered trees and shrub species observed include: Norway maple (*Acer platanoides*), cottonwood (*Populus deltoides*), multi-flora rose (*Rosa multiflora*), autumn-olive (*Elaeagnus umbellata*), blackberry (*Rubus allegheniensis*), and black raspberry (*Rubus occidentalis*).

Scrub-shrub/Forested/Tree Lines

The upland, scrub-shrub and mixed deciduous forested areas, including the tree lines generally contain the following species: penn sedge (*Carex pennsylvanica*), orchard grass, white vervain, Virginia creeper (*Parthenocissus quinquefolia*), red pine (*Pinus resinosa*), Austrian pine (*Pinus nigra*), white pine (*Pinus strobus*), black locust (*Robinia pseudoacacia*), Scotch pine (*Pinus sylvestris*), white spruce (*Picea glauca*), blue spruce (*Picea pungens*), crabapple/apple (*Malus spp.*), black walnut (*Juglans nigra*), box-elder (*Acer negundo*), black cherry (*Prunus serotina*), cottonwood, scattered with sugar maple (*Acer saccharum*), silver maple (*Acer saccharinum*), oaks (*Quercus alba* and *Q. rubra*), basswood (*Tilia americana*), white mulberry (*Morus alba*), sycamore (*Platanus occidentalis*), American elm (*Ulmus americana*), trembling aspen (*Populus tremuloides*), and ash (*Fraxinus spp.*) trees. Common native and non-native shrub species include autumn-olive, dogwoods (*Cornus amomum* and *C. racemosa*), common buckthorn (*Rhamnus cathartica*), blackberry and black raspberry.

Vegetation Assessment

Several species associated with disturbed lands in the Great Lakes region were observed throughout these parcels. These include non-native species, invasive species, native species that are tolerant of human land uses, and native pioneer species that normally colonize land after activities are abandoned. Examples of these species present on the Site include Japanese hedge-parsley (non-native), mugwort, common plantain, orchard grass (non-native), autumn-olive (invasive), black locust, multiflora rose (invasive), tall goldenrod (weedy), white vervain (native but tolerant of human land uses), and cottonwood/trembling aspen (pioneer species, early successional species). The weedy aspect of the Site is likely due to possible previous agricultural land use or another site disturbance on-site or adjacent lands.

The Vegetation ca. 1800 map produced by the Michigan Natural Features Inventory (MNFI) shows the Site appears to be part of an extensive oak-hickory forest that once extended many miles northward from the Red Cedar River. Refer to *Figure 3: Pre-settlement Vegetation/MNFI ca. 1800*

map in **Appendix I**. Prior to extensive land clearing, these forests were found throughout Michigan in a wide range of site conditions; however, these forests generally prefer moist, well-drained, loamy soils. These forests often contained a wide variety of (non-oak/hickory) tree species, such as are red maple, bigtooth aspen, black cherry, white pine, basswood, white ash, sugar maple, green ash, American elm, and red pine. These forests were commonly cleared for agricultural production, and it is likely that most of the Site was cleared many decades ago for this purpose; notice the light (gray/tan) color indicating open land in the 1983 USGS Topographic map (refer to Figure 1 in **Appendix I**). However, as twentieth century commercial and residential development began to fill in lands between East Lansing and Okemos, the northernmost parcel of the Site was likely left idle due to the infeasibility of continuing agriculture on a small scale. As a result, the Site contains both native and non-native plants that are adept to recolonize. There is evidence that as this recolonization progressed the Site became brushier, particularly in the northern undeveloped/vacant parcel where autumn-olive and common buckthorn has formed thicket areas. The field/lawn habitat's low native mean Coefficient of Conservatism of 2.3 is an overall indicator that this Site was subject to possible disturbances in the past.

The mixed deciduous tree lines or patches are dominated by planted pines, native hardwood forest trees, and relatively weedy shrubs and groundcover plants. This assemblage includes both native and non-native species. Examples of the species present on the Site include planted red/Austrian pine, planted white pine, naturally established black walnut, non-native black locust (weedy), and non-native smooth brome, common buckthorn (invasive), and autumn-olive (invasive). The tree lines or forested patches are located primarily along Central Park Drive and W. Grand River Avenue, which would normally have been cleared for agriculture; however, it is likely that due to the adjacent commercial and residential development, these forested portions were kept to serve as screening, privacy or wind/noise barriers. The forested and tree lines also appear to contain remnant forest species, including scattered red oaks, maples, basswood, black cherry, cottonwood, and elm trees. The changes on this Site over the last two-hundred years have not left any true remnant forests, although there are some remaining native species, which are possibly descendent and/or residual from the original oak-hickory forest that likely occurred within this location.

Therefore, due to the possible previous disturbances of habitat fragmentation, full or partial prior clearing, surrounding commercial and residential development of the area, etc., the forested/scrub-shrub/tree lines also appear to contain a relatively weedy understory, rather than a native forest understory. The forested and tree line habitat's low native mean Coefficient of Conservatism of 2.7 is an overall indicator that this site was modified in the past but does retain some native remnant species. Refer to the *Vegetation Lists* in **Appendix II**.



Photograph 3. View of upland mixed deciduous forested patches, pine/spruce pines observed along the western boundary near Central Park Dr.



Photograph 4. View of mixed deciduous forested patches and open field observed primarily throughout the northernmost parcel.



Photograph 5. View of upland field and scrub-shrub areas.



Photograph 6. Tree line observed parcel boundary with both planted pines/spruce and remnant oak-hickory forest trees.



Photograph 7. View of existing house and associated lawn with both scattered landscaped and native trees.



Photograph 8. View of existing mowed path and open upland fields, scrub-shrub. An off-site forest is depicted in the background of this photograph.

Although the Developer intends to preserve as many trees as possible along the site boundaries, development of the Site will likely require clearing some existing vegetation. Most of the Site contains upland open fields, non-native shrubs, planted trees, and lawns associated with the existing houses; however, there are a few areas of wetlands and native trees. No formal mitigation for vegetation removal has been planned. Traditional landscape grass, shrub, and tree plantings are expected for this development; however, no formal landscaping plans are designed at this time. It is likely that much of the existing vegetation, particularly some of the large or remnant trees may be incorporated into the traditional landscaping to the maximum extent possible.

4.4 Significant Tree Inventory

Separate from the vegetation assessment conducted by MW, a tree survey was also conducted by Nowak & Fraus Engineers (NFE). The survey included trees considered “significant” or deserving special protection because of their size, relative rarity, or historical importance. During the inventory, trees with a diameter at breast height (DBH) (the standard measure for tree size) of 12 inches or greater were located on the Site and mapped. The trees were identified to species and their size recorded (**Appendix III**). Results of the inventory identified approximately 279 significant trees within the Site. Approximately 53% consisted of hardwood species and approximately 47% were softwood/conifer species. Of the 279 trees, approximately 10 trees were larger than or equal to 30 inches in diameter, the largest being a willow (*Salix spp.*) with a diameter of 48 inches. Thirty-three of the trees were between 20 and 30 inches and remaining 239 trees were between 8 and 20 inches DBH. Refer to *NFE’s Tree Survey Results* in **Appendix III**.

4.5 Wetlands

Marx Wetlands LLC conducted a wetland determination and delineation while on the Site. In accordance with the *Midwestern Interim Regional Supplement to the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual*, wetlands are defined by the presence of three basic parameters: 1) the presence of hydrophytic vegetation (plants adapted to living in saturated soils), 2) hydric soils (distinctive soil types that develop under saturated conditions), and 3) wetland hydrology (the presence of water at or near the surface for a specific period of time). The above parameters are virtually always inter-related and normally present in wetland systems. Marx Wetlands LLC identified six (6) wetlands (Wetlands A, B, C, D, E, and F) within the Site and/or along the site’s perimeters. No ponds or watercourses appear within the Site. Refer to the *Wetland Delineation Report* included with this report in **Appendix IV**.

Table 1. Wetland Inventory Table:		
Feature Name	Wetland Type	Regulatory Status
Wetland A	Emergent (Forested Edge)	Likely MDEQ and Township Non-Regulated; isolated and < 0.25 ac in size
Wetland B	Emergent (Forested Edge)	Likely MDEQ and Township Non-Regulated; isolated and < 0.25 ac in size
Wetland C	Emergent	Likely MDEQ and Township Non-Regulated; isolated and < 0.25 ac in size
Wetland D	Emergent	Likely MDEQ & Township regulated; within 500 feet of off-site pond.
Wetland E	Emergent/ (Forested edge)	Likely MDEQ & Township regulated; within 500 feet of off-site pond.
Wetland F	Emergent/ (Forested Edge)	Likely MDEQ & Township regulated; within 500 feet of off-site pond

Most of the on-site wetlands are emergent wetland type or contain a small forested edge of overhanging trees, particularly Wetlands A, B, E, and F. Wetlands C and D are small in field emergent wetlands. *Meridian Township Natural Features Map* (Figure 4 in **Appendix I**) depicts two (2) township mapped wetland areas in the northwest corner and along the southeastern boundary of the Site adjacent to the off-site pond. Wetlands A, B, E, and F generally correspond to those areas indicated by the Township's map. In addition, the National Wetland Inventory Map-NWI (Figure 5 in **Appendix I**) also indicates one wetland system along the southeastern boundary of the Site near the off-site pond, which appears to correspond to the on-site Wetlands E and F.

Regulations

State Regulations

Part 301, Inland Lakes and Streams, states that a feature is considered a regulated watercourse by the MDEQ if it possesses a defined bed, bank, and evidence of continued flow or a continued occurrence of water. Additionally, Part 301 states that if a pond with a surface area larger than five (5) acres should be considered regulated. Based on the site visit, no watercourses or ponds were observed on-site. However, there is an off-site pond east of parcel #33-02-02-22-426-001 that appears to have an open water area that is larger than 1 acre in size, which would be considered a "regulating" feature.

Part 303, Wetlands Protection, of the NREPA states that if a wetland is five acres in size or larger and/or connected to or located within 500 feet of a river, stream, lake, or pond, it is considered regulated by the MDEQ. Marx Wetlands, LLC has the professional opinion that both Wetlands A, B, and C are not likely regulated by the MDEQ because they appear less than 5 acres in size and isolated (i.e., not connected to or located within 500 feet of a regulating feature). However, Wetlands D, E, and F are likely within 500 feet of a regulating feature (i.e., off-site pond east of parcel #33-02-02-22-426-001). Therefore, Marx Wetlands LLC has the professional opinion that Wetlands D, E, and F appear to meet the requirements of Part 303, Wetlands Protection, of the NREPA; and therefore, are likely regulated by the MDEQ.

Local Regulations

In addition, Meridian Township's *Chapter 22 Environment, Article IV Wetland Protection*, states that protected wetlands include all wetlands subject to the regulation by the MDEQ as well as any wetlands two acres or more, in size, including the area of any contiguous inland lake, pond, river, or stream. Any wetlands less than two acres in size and not connected to a body of water may still be regulated, if it is determined that the protection of the area is important for the preservation of the state's natural resources. In addition, any wetlands, equal to or greater than one-quarter acre and equal to or less than two acres in size, which are not contiguous to any inland lake, stream, river or pond and are determined to be essential to the preservation of the natural resources of the Township (Meridian Township- Code 1974, § 105-3; Ord. No. 2002-02, 3-19-2002; Ord. No. 2003-11, 7-6-2003; Ord. No. 2011-04, 3-15-2011).

It is the professional opinion of Marx Wetlands LLC that Wetlands D, E, and F are also likely regulated by Meridian Township because they appear within 500 feet of a regulating feature (i.e., off-site pond). Wetlands A, B, and C appear to be isolated and/or less than 0.25 acres in size and may be considered non-regulated by the Township. However, Wetlands A & B may be protected under the Meridian Township's *Chapter 22 Environment, Article IV Wetland Protection*, if it is determined that the protection of these wetland areas is important for the preservation of the local natural resources.

Impact Assessment

The current site plan avoids the on-site wetlands and wetland buffers and minimizes native vegetation clearing to the maximum extent practicable. Therefore, it is the professional opinion of Marx Wetlands LLC that the current site plan is the most prudent and viable option for the development of the Site.

4.6 Special Flood Hazard Area

Flood Hazard Areas are those which are most likely to be inundated during flood events. Flood Hazard Areas are regulated by local, state, and federal regulations designed to reduce the damage to structures during floods. The regulations apply to areas within 100-year floodplains, which are defined by a one percent (1%) annual probability of flood occurrence. These areas are mapped by the Federal Emergency Management Agency (FEMA) on Flood Insurance Rate Maps, or FIRMs. These maps were developed using flow modeling and the existing USGS topographic maps. The modeling produces an elevation associated with 100-year flood events, and areas below these elevations are designated as the 100-year floodplains.

FEMA FIRMs for Ingham County were reviewed to determine if portions of the Site are mapped as floodplains, floodways, or other flood prone areas. These maps record the following data: 100-year (1% chance of annual flooding) and 500-year (0.2% annual chance of flooding) floodplains, the height of the base flood elevation, and the risk to premium areas developed across a floodplain. Based on FEMA FIRM Panels No. 26065C0158D (eff. 48/16/2018) and No. 26065C0156D, FEMA mapped 100-year and 500-year floodplains are not associated with the Site. Refer to *Figure 6: Flood Insurance Rate Map* in **Appendix I**.

Areas more than 1,500 feet further northeast of the Site associated with Pine Lake Outlet (tributary to Red Cedar River) are designated "A," "AE," or "X500" indicating risk areas of 100-year floodplain or lesser. If an area on the Site were within the floodplain, a permit would have to be obtained to allow construction within the floodplain, and the project designed to the flood proofing standards that would minimize the risk of flood damage.

FIRM maps can incorrectly show areas of 100-year floodplain. In such cases, a site's topography can be surveyed using modern techniques. When such studies show that the mapped floodplain is above the determined flood elevation or that the FIRM is otherwise inaccurate, this information can be sent to the National Flood Insurance Program to obtain a Letter of Map Amendment (LOMA) which officially changes the area included within the floodplain. It does not appear that this Site will require such additional work.

4.7 Floodways

A *floodway* is the portion of the floodplain that is required to carry and discharge flood waters during a flood event. They have more rapidly moving water during flood events. They include river channels, upper banks, and adjacent areas that effectively become part of the water transit process during a flood. The FIRM for Meridian Township shows that there are no floodway areas on the subject property. Again, areas more than 1,500 feet further northeast of the Site, associated with Pine Lake Outlet, are designated as floodways indicating their water transit role during flood events. No activities at the Site will have any impact upon these floodway areas, nor will these floodway areas have any impact on development at the Site.

Part 31, Water Resources Protection, of the NREPA regulated activities within the 100-year floodplain and floodway of a river, stream, or drain, and within the floodplain of any watercourse with an upstream drainage area of two square miles or larger. A Part 31 permit is required for construction within a regulated floodplain or floodway. Therefore, it is the professional opinion of Marx Wetlands that the Site does not appear to contain a MDEQ regulated 100-year floodplain or floodway.

4.8 Water Bodies

Streams, rivers, lakes, and many ponds are afforded legal protection under a combination of Township, county, state, and federal regulations pertaining to wetlands, flood prone areas, and water bodies. Any filling or alteration of these areas would typically require one or more permits from state agencies, county agencies, federal agencies, or Meridian Township.

There are no open water bodies located within the Site. This includes ponds, lakes, creeks, rivers, sloughs, or stormwater detention basins. However, there is an off-site pond east of parcel #33-02-02-22-426-001 that appears to have an open water area that is larger than 1 acre in size.

4.9 Soils

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, the soils contained within the Site have been mapped with five (5) soil types—Kibbie loam, 0 to 3 percent slopes (KbA), Spinks loamy sand, 0 to 6 percent slopes (SpB), Urban land-Capac-Colwood complex, 0 to 4 percent slopes (KpA), Houghton muck, 0 to 1 percent slopes (Hn), and Urban land-Marlette complex, 2 to 12 percent slopes (UtB). Refer to *Figure 7: County Soils Survey Map* in **Appendix I**.

Kibbie loam are primarily formed from loamy glaciofluvial deposits on lake plains. Spinks loamy sands are formed from morainal till and outwash plains. Urban land-Capac-Colwood complex are formed from loamy glaciofluvial deposits over silty clay loam in lake plains. Houghton mucks are typically formed in depression in moraines and outwash plains. Urban land-Marlette complex soils are formed from loamy till in end moraines. These soils range from very poorly drain to well drained with no likelihood to infrequent flooding or ponding. Houghton muck, Kibbie loam, Urban land-Capac-Colwood, and Urban land-Marlette complexes are classified as hydric or contain hydric inclusions. Hydric soils are conducive to the growth and regeneration of

hydrophytic vegetation by their ability to hold water for extended periods of time (USDA-NRCS 2010).

Site balancing, filling, and subsurface excavation activities will take place within the limits of disturbance which are contained primarily within the areas of these well drained soil types. The most suitable soils will be utilized on the Site during parking lot, driveway, and building construction. Soil erosion and sedimentation control (SESC) measures will be installed and maintained by the developer throughout the construction period, as required by the State of Michigan, Meridian Township, and the Ingham County Drain Commissioner, and will be removed once the entire Site has been stabilized. These measures will significantly reduce the possibility of soil erosion and the water transport of these soil materials, which could cause the degradation of areas receiving the Site's stormwater.

4.10 Identified Areas of Groundwater Vulnerability

Areas of groundwater vulnerability are those areas where the hydrologic and geologic surface and subsurface setting makes the groundwater more vulnerable to contamination than in other areas. Although the Site contains wetland areas, it is anticipated that the Site does not contain groundwater vulnerable or sensitive areas. In addition, all construction activity on the Site will be outside the bounds of the on-site wetlands and wetland buffers. Stormwater on the site will be collected and treated in accordance with local and state regulations designed to protect water quality and runoff volumes. Therefore, it is the professional opinion of Marx Wetlands LLC that the site development will not impact any sensitive areas identified for groundwater vulnerability because the current site plan avoids on-site wetlands and buffers.

4.11 Slopes Greater than 20 Percent

Slopes of greater than 20% are highly susceptible to soil erosion which can lead to sedimentation in other on and off-site areas such as ponds, streams and lakes. The Site does not appear to contain significant slopes steeper than 20%. Gradual sloping and local microtopographic relief was observed within the Site, particularly near wetland areas and along the eastern boundary adjacent to the off-site pond. The southern portions of the Site is locally somewhat hilly; however, slopes do not appear to exceed 20% grade.

The development project will follow structure and grading setbacks and requirements provided in Meridian Township ordinances. During construction, any slopes (if applicable) created by the project that are over 20% will be intentionally designed and stabilized with appropriate landscaping materials. Soil erosion and sedimentation measures will be placed and maintained in the areas necessary to control any erosion that may occur during construction.

4.12 Wildlife

Evidence of wildlife presence has been observed throughout the Site in the form of both direct and indirect observations, including sightings, tracks, and droppings, although the amount of animal usage is naturally limited by the size of the Site and the surrounding urbanized context. Evidence of common wildlife were observed within the Site, including white-tailed deer (*Odocoileus virginiana*), gray squirrels (*Sciurus carolinensis*), and raccoon (*Procyon lotor*). Squirrel

evidence was mainly near the forested and tree line areas. Deer usage appeared most concentrated near the northern boundary of the Site. Fresh deer and raccoon droppings were also observed. Cardinals (*Cardinalis cardinalis*) and blue jays (*Cyanocitta cristata*) were seen and heard during the on-site assessments.

It is highly likely that the Site also serves as foraging or resting ground for numerous other insects and birds, such as Monarch butterflies (*Danaus plexippus*), honeybees (*Apis mellifera*), robins (*Turdus migratorius*), mourning doves (*Zenaidura macroura*), and black-capped chickadees (*Poecile atricapillus*). Overall, the Site appears to contain species that can be considered urban or suburban wildlife, which are common across the Midwest. Urban and suburban wildlife are mainly generalists species that have wide tolerance in diet and behavioral flexibility. They are very unlike threatened and endangered species, which are almost all specialized and intolerant of numerous human disturbances or interferences.

The proposed site plan has been designed to minimize impacts to natural on-site features, wetlands, and habitat. Most of the on-site development is restricted to the residential parcels of the Site and wetlands, buffers, and on-site features have been avoided to the maximum extent practicable. Therefore, any declines in certain very abundant wildlife species should not be assumed to bear negative consequences. Wildlife will be displaced to a small degree by the proposed development; however, the undeveloped northernmost parcel will remain relatively intact after the development. It is anticipated that some of these common urban and suburban wildlife species will continue to use the Site post-construction.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The proposed Site was reviewed for remnant and existing natural resources and features. The approximately 9-acre Site consists of three (3) parcels (#33-02-02-22-252-003, 33-02-02-22-401-003, and 33-02-02-22-426-001), which contain vacant, undeveloped land and two existing single-family residences. The undeveloped land portions contain upland field, scrub-shrub, forest patches/mixed deciduous tree lines, and wetland. MW identified six (6) wetlands (Wetlands A, B, C, D, E, and F) within the Site and/or along the Site's perimeters. No ponds or watercourses appear within the Site. The Site also contains existing vacated houses, a barn, in-ground pool, and associated lawn, particularly in the central and southern portions of the Site. In addition, existing driveways and mowed paths were also observed. The Site is situated within a largely commercial and residential region of Meridian Township, Michigan. The Site is bounded by undeveloped land to the north, commercial development/Central Park Drive to the west, W. Grand River Avenue to the south, and undeveloped land/commercial buildings to the east.

Most of the on-site soils are upland sandy loams and loams with some hydric inclusions that formed under what was once an oak-hickory forest, which appear to be largely original to the Site. It is likely that this Site was once a small portion of that forest which covered many acres but was cleared for agriculture or development. Within the last few decades this Site has been surrounded by roads and growing commercial and residential development. Wildlife that appear to utilize the Site are common in urban and suburban landscapes. It is anticipated that their

populations will not be significantly affected by the development of this Site. Vegetation on the Site includes planted pines/spruces, native trees, and relatively common native and non-native groundcover species. The loss of vegetation due to development on the Site will occur, though the species lost are very unlikely to include any that are locally rare (i.e. rare county-wide) or state threatened and endangered. There are numerous trees on the Site which are in good condition, including both planted pines/spruces, landscaped and unplanted hardwood species.

The proposed development is largely positioned in the central and southern portions of the Site, primarily on the residential properties (1614 & 1622 W. Grand River Avenue). The northernmost parcel does not appear to be proposed for development, although some landscaping activities are expected. The only remaining natural heritage on this Site appears to be the original topography, soils, and some of the native vegetation clustered in the southeast corner and northern parcel of the overall Site.

The Developer's selection of the site plan included an analysis of alternative on-site layouts, while taking into consideration existing site conditions, specific project and site requirements, building requirements and setbacks, visibility and accessibility, safety, traffic flow into and out of the Site, and existing natural features. The commercialized land use, associated parking and utility infrastructure, and economic valuation has limited site design options; however, for this Site the primary likelihood of preserving natural resource values would be associated with minimal development on the northernmost parcel, avoidance of on-site wetlands and wetland buffers, and by incorporating some of the larger or native trees into the overall landscape design; and thereby, preserving them on the post-development landscape.

Therefore, through consideration of these factors and requirements, it has been determined that the preferred site plan is the most prudent and viable layout for the development of the proposed Site because it avoids the on-site wetlands and buffers and minimizes native vegetation clearing to the maximum extent practicable.

Thank you for the opportunity to provide this wetland determination. If you have any questions, please contact me at your convenience.

Sincerely,

Marx Wetlands, LLC



Bryana J. Guevara, CSWO (MI)
Environmental Scientist
ISA Certified Arborist #MI-4202A
Professional Wetland Scientist #2949

APPENDIX I

Figure 1: Site Location Map

Figure 2: Aerial Imagery Map

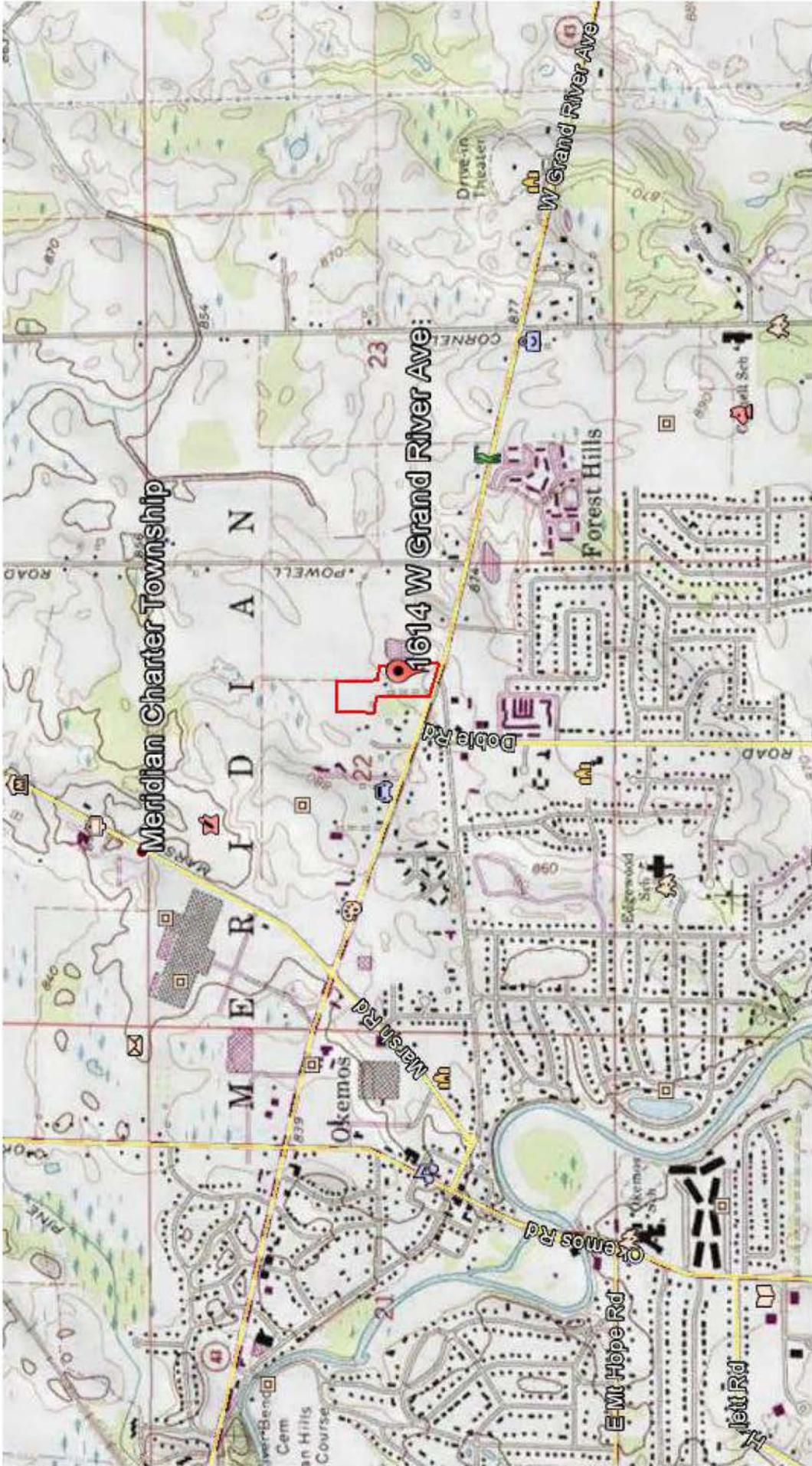
Figure 3: Presettlement Vegetation/MNFI ca. 1800 map

Figure 4: Township Natural Features Map

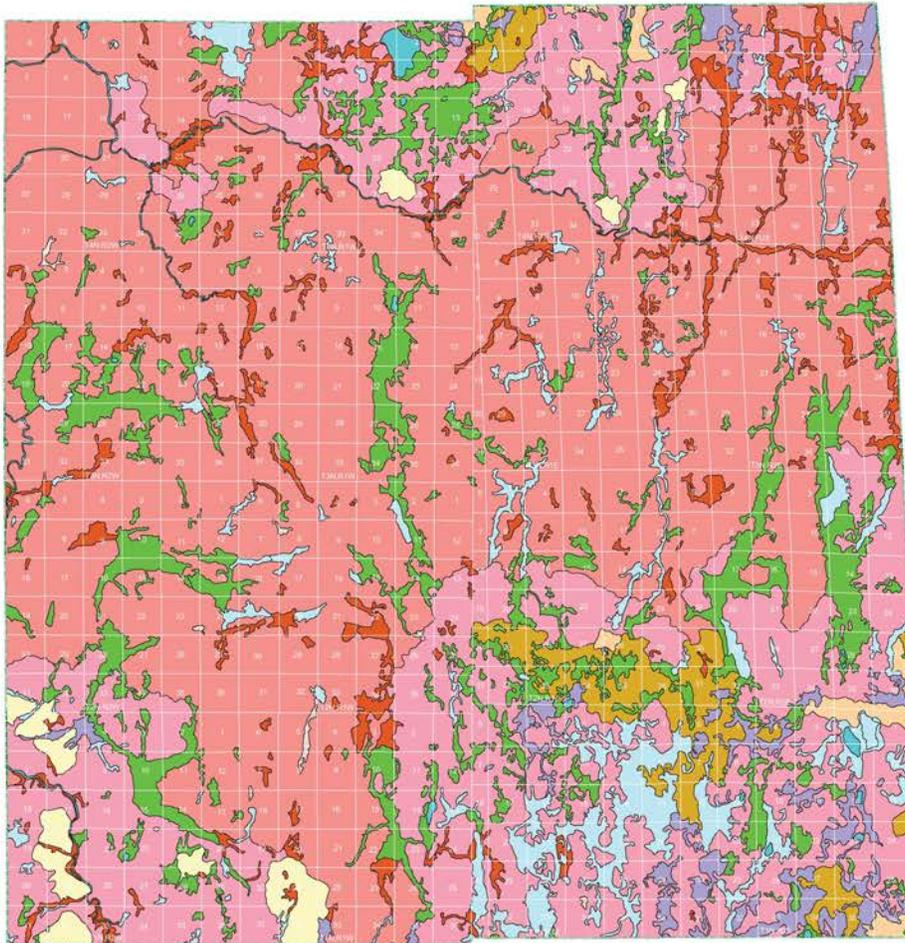
Figure 5: National Wetland Inventory Map

Figure 6: Flood Insurance Rate Map

Figure 7: County Soils Survey Map



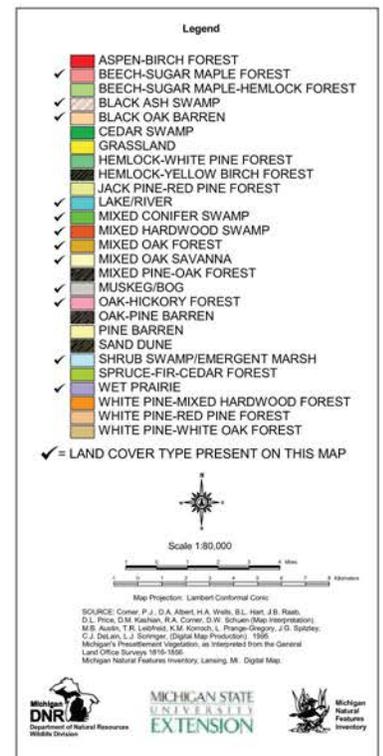


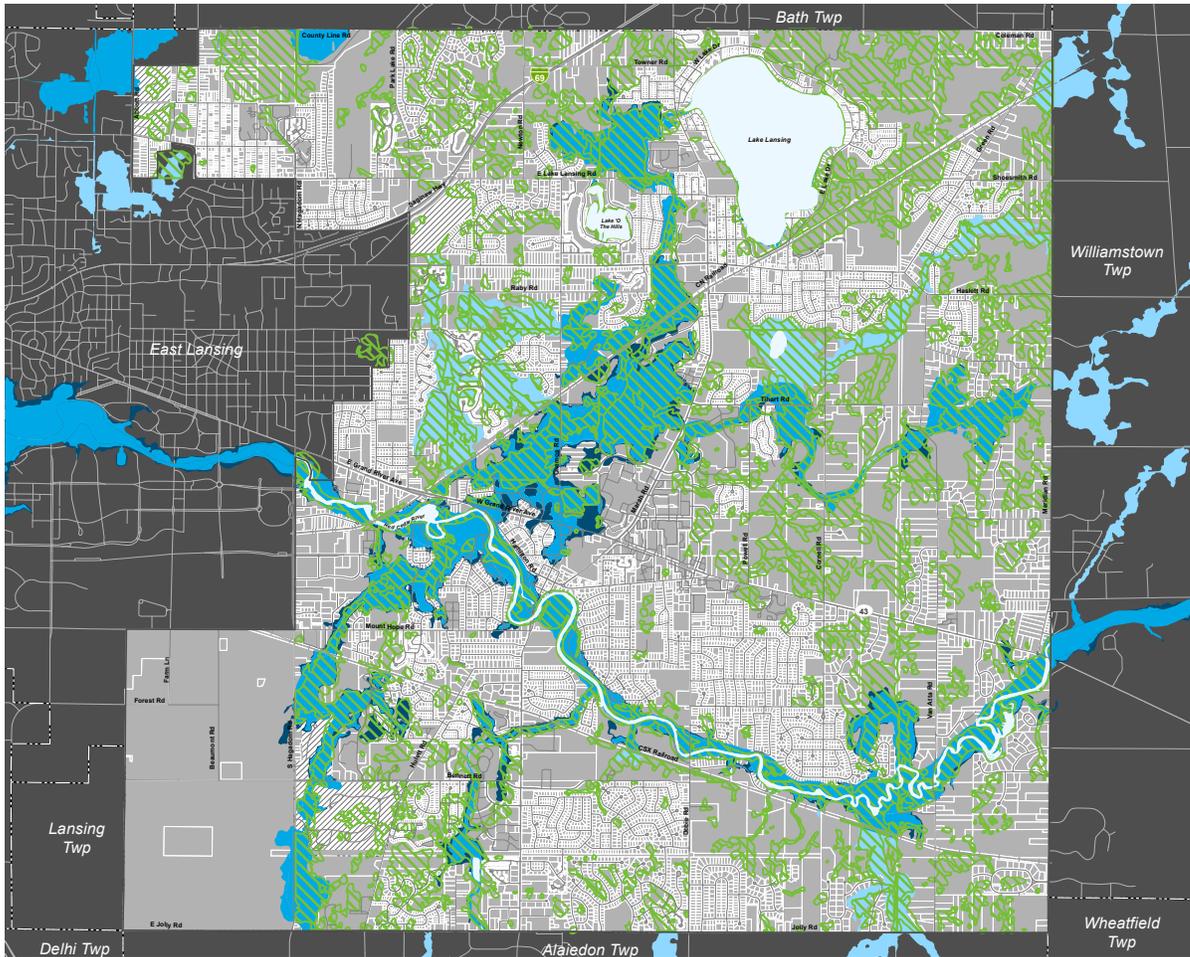


Vegetation circa 1800 of Ingham County, Michigan

An Interpretation of the General Land Office Surveys

By P. J. Corner and D. A. Albert
Michigan Natural Features Inventory
1997





MAP 11

Natural Features

Meridian Charter Township
Ingham County, Michigan

January 17, 2017

Wetlands

 Wetlands

Flood Hazard Areas

 No Base Flood Elevations Determined

 Base Flood Elevations Determined

 500-year Flood Plain

 Cooperative Agreement

0 2,000 4,000 FEET

MCKenna
ASSOCIATES

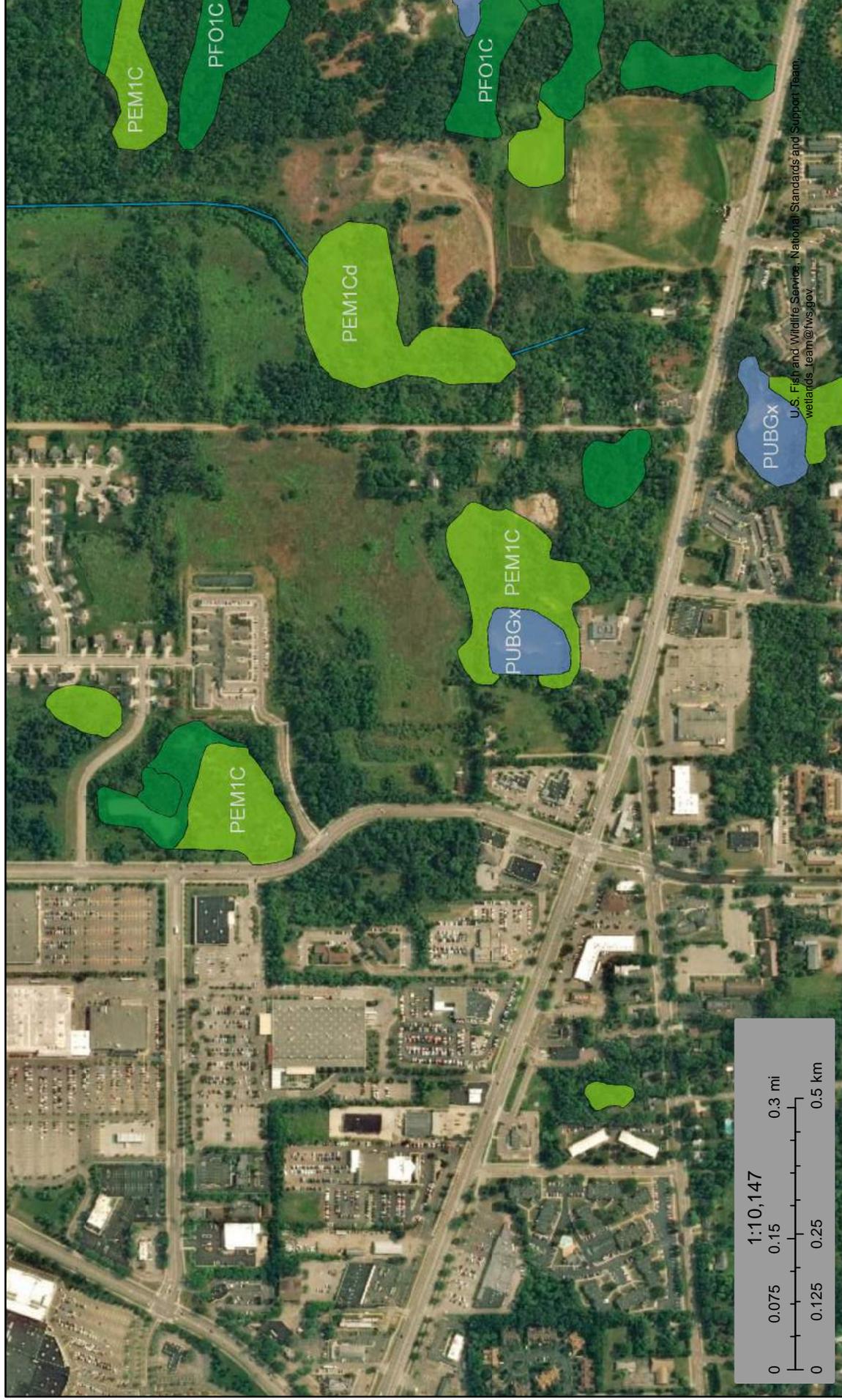
Map Feature Source: Meridian Charter Township, 2016



U.S. Fish and Wildlife Service

National Wetlands Inventory

W. Grand River and Central Park Dr



September 24, 2018

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Flood Hazard Layer FIRMette



42°43'15.37"N



84°24'45.94"W

USGS The National Map: Orthoimagery. Data refreshed October 2017.



42°42'48.93"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, A99
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- Area of Minimal Flood Hazard *Zone X*
- Effective LOMR
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped



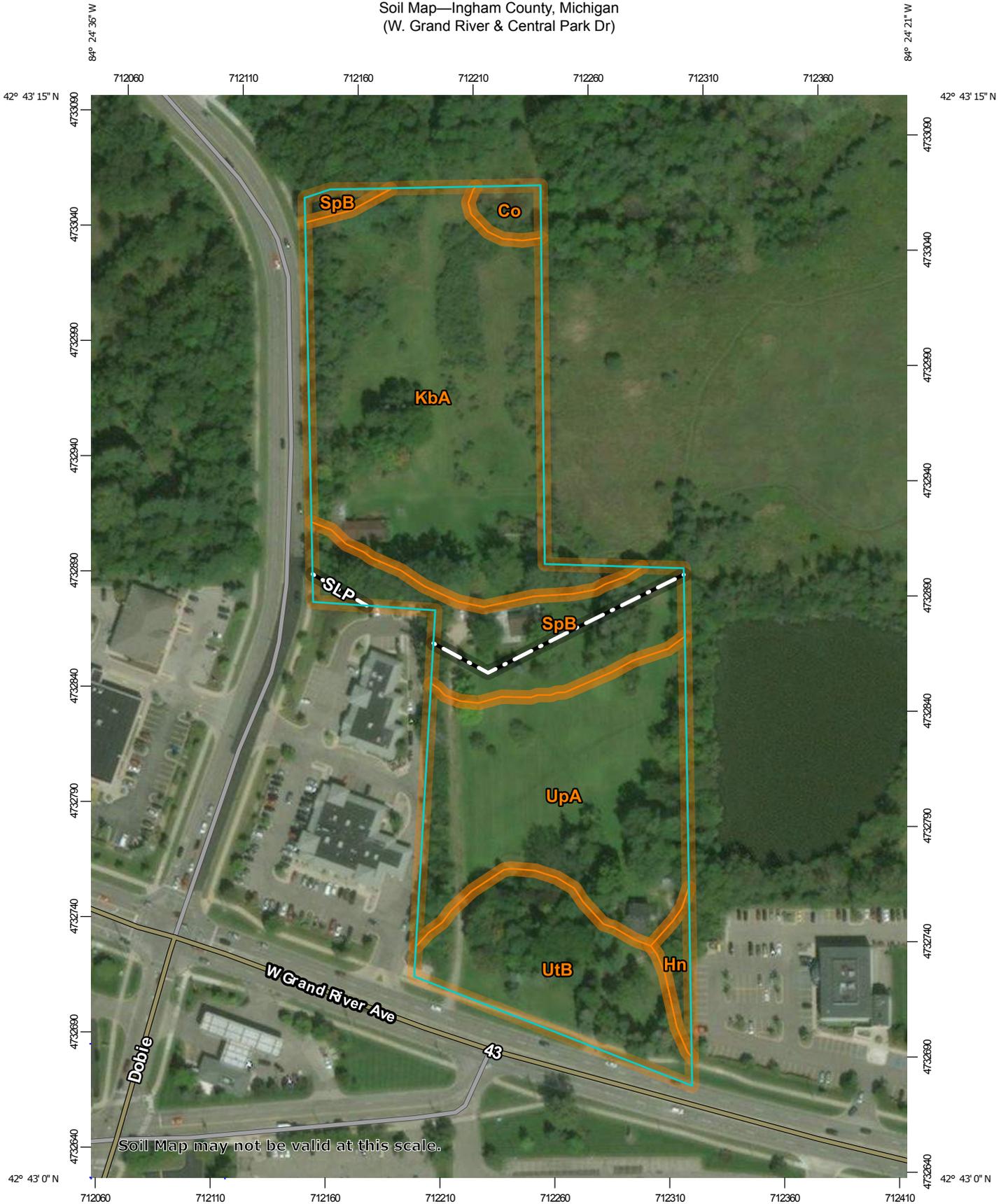
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

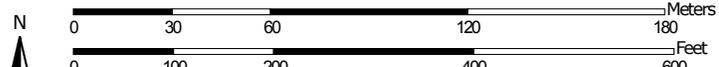
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/24/2018 at 7:05:29 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Soil Map—Ingham County, Michigan
(W. Grand River & Central Park Dr)



Map Scale: 1:2,290 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84



MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Soil Map Unit Polygons	 Stony Spot
 Soil Map Unit Lines	 Very Stony Spot
 Soil Map Unit Points	 Wet Spot
 Special Point Features	 Other
 Blowout	 Special Line Features
 Borrow Pit	Water Features
 Clay Spot	 Streams and Canals
 Closed Depression	Transportation
 Gravel Pit	 Rails
 Gravelly Spot	 Interstate Highways
 Landfill	 US Routes
 Lava Flow	 Major Roads
 Marsh or swamp	 Local Roads
 Mine or Quarry	Background
 Miscellaneous Water	 Aerial Photography
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ingham County, Michigan
Survey Area Data: Version 15, Oct 5, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

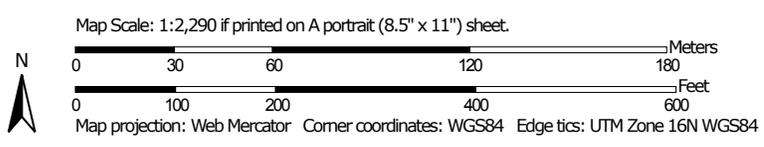
Date(s) aerial images were photographed: Jul 1, 2011—Mar 10, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

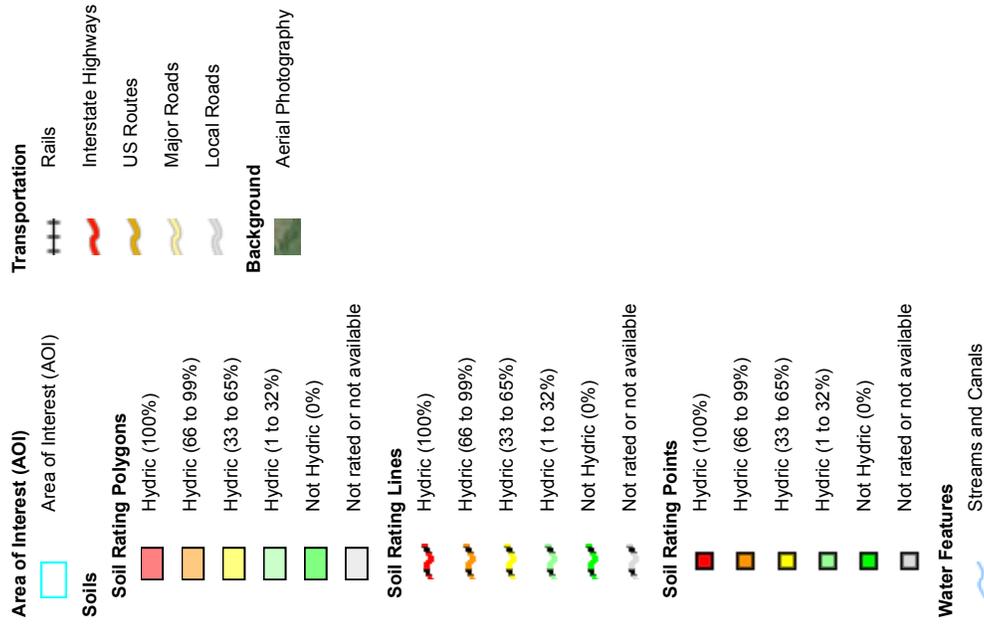
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Co	Colwood-Brookston loams	0.2	1.6%
Hn	Houghton muck, 0 to 1 percent slopes	0.1	1.4%
KbA	Kibbie loam, 0 to 3 percent slopes	4.1	40.9%
SpB	Spinks loamy sand, 0 to 6 percent slopes	1.4	14.3%
UpA	Urban land-Capac-Colwood complex, 0 to 4 percent slopes	2.7	27.1%
UtB	Urban land-Marlette complex, 2 to 12 percent slopes	1.5	14.7%
Totals for Area of Interest		10.1	100.0%

Hydric Rating by Map Unit—Ingham County, Michigan
(W. Grand River & Central Park Dr)



MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ingham County, Michigan
Survey Area Data: Version 15, Oct 5, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 1, 2011—Mar 10, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Co	Colwood-Brookston loams	80	0.2	1.6%
Hn	Houghton muck, 0 to 1 percent slopes	100	0.1	1.4%
KbA	Kibbie loam, 0 to 3 percent slopes	10	4.1	40.9%
SpB	Spinks loamy sand, 0 to 6 percent slopes	0	1.4	14.3%
UpA	Urban land-Capac-Colwood complex, 0 to 4 percent slopes	28	2.7	27.1%
UtB	Urban land-Marlette complex, 2 to 12 percent slopes	5	1.5	14.7%
Totals for Area of Interest			10.1	100.0%

APPENDIX II- VEGETATION LISTS

Table 1. Species list including scientific and common name, wetness indicator code (WET), wetness co-efficient (W), conservation co-efficient (C), nativity, habit, and occurrence of species identified at W. Grand River and Central Park Drive project site - Open Fields/Lawn with scattered shrubs and trees

Scientific Name	Common Name	WET	W	C	Native	Habit	Occurrence
<i>Acer saccharinum</i>	Silver Maple	FACW	-3	2	Yes	Tree	Infrequent
<i>Agrostis gigantea</i>	Redtop	FACW	-3	*	No	Herb	Common
<i>Andropogon virginicus</i>	Broom-sedge	FACU	3	4	Yes	Herb	Infrequent
<i>Arctium minus</i>	Burdock	UPL	5	*	No	Herb	Occasional
<i>Asclepias syriaca</i>	Common Milkweed	UPL	5	1	Yes	Herb	Infrequent
<i>Artemisia vulgaris</i>	Mugwort	UPL	6	*	No	Herb	Infrequent
<i>Bromus inermis</i>	Smooth Brome	UPL	5	*	No	Herb	Common
<i>Cirsium arvense</i>	Field Thistle	FACU	3	*	No	Herb	Occasional
<i>Cirsium vulgare</i>	Bull Thistle	FACU	3	*	No	Herb	Occasional
<i>Dactylis glomerata</i>	Orchard Grass	FACU	4	*	No	Herb	Common
<i>Daucus carota</i>	Queen Anne's Lace	UPL	5	*	No	Herb	Occasional
<i>Fallopia japonica</i>	Japanese knotweed	FACU	3	*	No	Herb	Infrequent
<i>Elaeagnus umbellata</i>	Autumn-olive	FACU	3	*	No	Shrub	Common
<i>Morus alba</i>	White Mulberry	FACU	3	*	No	Tree	Infrequent
<i>Plantago major</i>	Common Plantain	FACU	3	*	No	Herb	Occasional
<i>Phalaris arundinacea</i>	Reed Canary Grass	FACW	-3	0	Yes	Herb	Occasional
<i>Phleum pratense</i>	Timothy	FACU	3	*	No	Herb	Occasional
<i>Poa compress</i>	Canada bluegrass	FACU	3	*	No	Herb	Common
<i>Poa pratensis</i>	Kentucky bluegrass	FACU	3	*	No	Herb	Common
<i>Populus deltoides</i>	Cottonwood	FAC	0	1	Yes	Tree	Occasional
<i>Prunus serotina</i>	Black Cherry	FACU	3	2	Yes	Tree	Occasional
<i>Quercus alba</i>	White Oak	FACU	3	5	Yes	Tree	Occasional
<i>Quercus rubra</i>	Red Oak	FACU	3	5	Yes	Tree	Occasional
<i>Robinia pseudoacacia</i>	Black Locust	FACU	3	*	No	Tree	Occasional
<i>Rosa multiflora</i>	Multiflora Rose	FACU	3	*	No	Shrub	Occasional
<i>Rubus allegheniensis</i>	Blackberry	FACU	3	1	Yes	Herb	Occasional
<i>Rubus occidentalis</i>	Black Raspberry	UPL	5	1	Yes	Herb	Occasional
<i>Schizachyrium scoparium</i>	Little Bluestem	FACU	3	5	Yes	Herb	Infrequent
<i>Solidago altissima</i>	Tall Goldenrod	FACU	3	1	Yes	Herb	Occasional
<i>Solidago canadensis</i>	Canada Goldenrod	FACU	3	1	Yes	Herb	Common
<i>Torilis japonica</i>	Japanese hedge-parsley	FACU	4	*	No	Herb	Occasional
<i>Toxicodendron radicans</i>	Poison-Ivy	FAC	0	2	Yes	Vine	Common
<i>Verbena urticifolia</i>	White Vervain	FAC	0	4	Yes	Herb	Infrequent

Count = 33	Average Wetness Co-efficient =	2.63
	Average Conservation Co-efficient =	2.33

***Adventive or non-native species**

Table 2. Species list including scientific and common name, wetness indicator code (WET), wetness co-efficient (W), conservation co-efficient (C), nativity, habit, and occurrence of species identified at W. Grand River and Central Park Drive project site - Mixed Deciduous Forest Areas, Tree Lines

Scientific Name	Common Name	WET	W	C	Native	Habit	Occurrence
<i>Acer negundo</i>	Box-elder	FAC	0	0	Yes	Tree	Common
Sugar Maple	Sugar Maple	FACU	3	5	Yes	Tree	Occasional
<i>Acer saccharinum</i>	Silver Maple	FACW	-3	2	Yes	Tree	Infrequent
<i>Artemisia vulgaris</i>	Mugwort	UPL	6	*	No	Herb	Infrequent
<i>Bromus inermis</i>	Smooth Brome	UPL	5	*	No	Herb	Common
<i>Carex pensylvanica</i>	Penn Sedge	UPL	5	4	Yes	Herb	Common
<i>Cornus amomum</i>	Silky Dogwood	FACW	-3	2	Yes	Shrub	Occasional
<i>Cornus foemina/racemosa</i>	Gray Dogwood	FAC	0	1	Yes	Shrub	Occasional
<i>Dactylis glomerata</i>	Orchard Grass	FACU	4	*	No	Herb	Common
<i>Elaeagnus umbellata</i>	Autumn-olive	FACU	3	*	No	Shrub	Common
<i>Fraxinus pennsylvanica</i>	Green Ash	FACW	-3	2	Yes	Tree	Infrequent
<i>Malus</i> spp.	Crabapple/Apple	UPL	5	*	No	Tree	Occasional
<i>Parthenocissus quinquefolia</i>	Virginia creeper	FACU	3	5	Yes	Vine	Common
<i>Picea abies</i>	Norway Spruce	UPL	5	*	No	Tree	Infrequent
<i>Picea glauca</i>	White Spruce	FACU	3	3	Yes	Tree	Occasional
<i>Picea pungens</i>	Blue Spruce	FACU	3	*	No	Tree	Common
<i>Pinus nigra</i>	Austrian Pine	UPL	5	*	No	Tree	Common
<i>Pinus resinosa</i>	Red Pine	FACU	3	6	Yes	Tree	Common
<i>Pinus strobus</i>	White Pine	FACU	3	3	Yes	Tree	Common
<i>Pinus sylvestris</i>	Scotch Pine	FACU	3	*	No	Tree	Common
<i>Platanus occidentalis</i>	Sycamore	FACW	-3	7	Yes	Tree	Infrequent
<i>Populus deltoides</i>	Cottonwood	FAC	0	1	Yes	Tree	Occasional
<i>Populus tremuloides</i>	Trembling Aspen	FAC	0	1	Yes	Tree	Occasional
<i>Prunus serotina</i>	Black Cherry	FACU	3	2	Yes	Tree	Occasional
<i>Quercus rubra</i>	Red Oak	FACU	3	5	Yes	Tree	Occasional
<i>Rhamnus cathartica</i>	Common Buckthorn	FAC	0	*	No	Shrub	Occasional
<i>Robinia pseudoacacia</i>	Black Locust	FACU	3	*	No	Tree	Occasional
<i>Rosa multiflora</i>	Multiflora Rose	FACU	3	*	No	Shrub	Occasional
<i>Rubus allegheniensis</i>	Blackberry	FACU	3	1	Yes	Herb	Occasional
<i>Rubus occidentalis</i>	Black Raspberry	UPL	5	1	Yes	Herb	Occasional
<i>Solidago altissima</i>	Tall Goldenrod	FACU	3	1	Yes	Herb	Occasional
<i>Solidago canadensis</i>	Canada Goldenrod	FACU	3	1	Yes	Herb	Common
<i>Tilia americana</i>	American Basswood	FACU	3	5	Yes	Tree	Infrequent
<i>Toxicodendron radicans</i>	Poison-Ivy	FAC	0	2	Yes	Vine	Common
<i>Ulmus americana</i>	American Elm	FACW	-3	1	Yes	Tree	Occasional
<i>Verbena urticifolia</i>	White Vervain	FAC	0	4	Yes	Herb	Infrequent

Count = 36	Average Wetness Co-efficient =	2.03	
	Average Conservation Co-efficient =	2.71	

***adventive or non-native species**

APPENDIX III

Nowak & Fraus Engineers (NFE) Tree Survey Results

Tree Inventory List

Job Number: J987 TS
 Job Location: 1614 West Grand River, Meridian Twp., Okemos
 Client: LaFontaine
 Compiled by: NFE

Condition Description Notes:

Good - no observed structural defects*
 Fair - minor structural defects, marginal form, some insect activity noted*
 Poor - major structural defects, poor form, insect infested*

*Structural defects may include decayed wood, cracks, root problems, weak branch unions
 cankers, poor tree architecture, dead/failed branches due to various causes.

<u>Tree #</u>	<u>Botanical Name</u>	<u>Common Name</u>	<u>Dia.</u>	<u>Type</u>	<u>Other Dia.</u>	<u>Condition</u>	<u>Comments</u>
178	Malus spp.	Crabapple spp.	9	Twin	8	Good	
179	Pinus nigra	Austrian Pine	14			Dead	
180	Pinus sylvestris	Scotch Pine	12			Poor	Insect damage, extensive crown deadwood
181	Picea pungens	Colorado Blue Spruce	10			Poor	90% dead
182	Picea pungens	Colorado Blue Spruce	18			Poor	Unidentified needle disease
183	Picea pungens	Colorado Blue Spruce	13			Poor	Unidentified needle disease
184	Picea pungens	Colorado Blue Spruce	10			Poor	Unidentified needle disease
185	Pinus sylvestris	Scotch Pine	22			Fair	Trunk has been girdled by old fencing
186	Picea pungens	Colorado Blue Spruce	14			Fair	Unidentified needle disease
187	Picea pungens	Colorado Blue Spruce	9			Fair	Unidentified needle disease
188	Pinus sylvestris	Scotch Pine	14			Good	
189	Acer saccharum	Sugar Maple	15			Poor	40% dead
190	Pinus sylvestris	Scotch Pine	12			Good	
191	Picea pungens	Colorado Blue Spruce	8			Good	
192	Acer platanoides	Norway Maple	13			Fair	Declining, low vigor, small branch deadwood
193	Picea pungens	Colorado Blue Spruce	15			Fair	Unidentified needle disease
194	Pinus sylvestris	Scotch Pine	16			Fair	Unidentified needle disease
195	Picea pungens	Colorado Blue Spruce	22			Fair	Unidentified needle disease
196	Acer platanoides	Norway Maple	13			Good	
197	Acer platanoides	Norway Maple	19			Good	
198	Acer platanoides	Norway Maple	9			Good	
199	Pinus strobus	Eastern White Pine	17			Good	
200	Pinus strobus	Eastern White Pine	15			Dead	
201	Pinus strobus	Eastern White Pine	16			Good	
202	Pinus resinosa	Red Pine	18			Good	
203	Pinus strobus	Eastern White Pine	18			Good	
204	Pinus strobus	Eastern White Pine	26			Good	
205	Pinus strobus	Eastern White Pine	24			Poor	Trunk hollow detected
206	Acer platanoides	Norway Maple	21			Fair	Small basal trunk injury, wood exposed, some decay
207	Acer platanoides	Norway Maple	14			Good	
208	Juglans nigra	Black Walnut	22			Good	
209	Juglans nigra	Black Walnut	20			Good	
210	Acer negundo	Boxelder	15			Poor	Excessive trunk lean
211	Picea glauca	White Spruce	8			Poor	Unidentified needle disease
212	Pinus sylvestris	Scotch Pine	14			Fair	Being choked by grape vines
213	Pinus sylvestris	Scotch Pine	15			Poor	Being choked by vines
214	Pinus sylvestris	Scotch Pine	14			Fair	Being choked by vines
215	Pinus sylvestris	Scotch Pine	9			Dead	
216	Pinus sylvestris	Scotch Pine	8			Dead	
217	Ulmus americana	American Elm	10			Good	
218	Pinus sylvestris	Scotch Pine	15			Dead	
219	Acer saccharum	Sugar Maple	14			Fair	Basal trunk injury, wood exposed, some deadwood
220	Platanus occidentalis	Sycamore	26			Good	
221	Acer platanoides	Norway Maple	14			Good	
222	Betula populifolia	Gray Birch	13	Multiple	12, 11	Good	
223	Morus alba	White Mulberry	10			Good	
224	Ulmus americana	American Elm	17			Good	
225	Juglans nigra	Black Walnut	10			Good	
226	Juniperus virginiana	Eastern Red-cedar	8			Good	
227	Juniperus virginiana	Eastern Red-cedar	8			Good	
228	Juniperus virginiana	Eastern Red-cedar	8			Good	
229	Acer platanoides	Norway Maple	26			Poor	Extensive trunk decay
230	Acer platanoides	Norway Maple	15			Good	
231	Acer saccharinum	Silver Maple	30	Twin	8	Good	
232	Acer saccharinum	Silver Maple	30	Multiple	28, 10	Fair	Weak trunk union with included bark, decay suspected
233	Acer saccharinum	Silver Maple	30			Fair	Unbalanced crown, large bow in trunk
234	Acer platanoides	Norway Maple	20	Twin	17	Poor	Basal trunk decay
235	Malus spp.	Crabapple spp.	10	Multiple	6, 4	Good	
236	Salix spp.	Willow spp.	48	Twin	36	Poor	Poor structure
237	Morus alba	White Mulberry	8			Fair	
238	Acer negundo	Boxelder	26			Fair	Limb deadwood, weak branch attachments
239	Acer negundo	Boxelder	8			Poor	Excessive trunk lean
240	Acer negundo	Boxelder	9			Poor	Leaning & growing into cyclone fence
241	Acer negundo	Boxelder	18	Twin	15	Poor	Excessive trunk lean
242	Acer negundo	Boxelder	15			Poor	Excessive trunk lean
243	Picea abies	Norway Spruce	30			Good	
244	Acer negundo	Boxelder	10			Poor	Trunk decay, growing into fence, poor structure
245	Prunus avium	Sweet Black Cherry	9			Good	
246	Celtis occidentalis	Northern Hackberry	17			Good	

Condition Description Notes:

"Good" - no observed structural defects"

"Fair" - minor structural defects, marginal form, some insect activity noted"

"Poor" - major structural defects, poor form, insect infested"

*Structural defects may include decayed wood, cracks, root problems, weak branch unions
cankers, poor tree architecture, dead/failed branches due to various causes.

<u>Tree #</u>	<u>Botanical Name</u>	<u>Common Name</u>	<u>Dia.</u>	<u>Type</u>	<u>Other Dia.</u>	<u>Condition</u>	<u>Comments</u>
247	Rhamnus cathartica	Common Buckthorn	10			Fair	Poor structure, being choked by vines
248	Acer negundo	Boxelder	15			Fair	
249	Juglans nigra	Black Walnut	9			Good	
250	Acer negundo	Boxelder	9			Poor	Basal trunk decay, leaning, poor structure
251	Morus alba	White Mulberry	8	Twin	6	Poor	Weak trunk union, slime flux
252	Acer platanoides	Norway Maple	18			Good	
253	Acer platanoides	Norway Maple	20			Good	
254	Prunus serotina	Black Cherry	9			Good	
255	Prunus serotina	Black Cherry	28			Good	
256	Prunus avium	Sweet Black Cherry	11			Good	
257	Acer platanoides	Norway Maple	13			Good	
258	Acer platanoides	Norway Maple	15			Good	
259	Abies concolor	White Fir	16			Good	
260	Morus alba	White Mulberry	14			Poor	Basal trunk decay, 50% of tree is missing
261	Abies concolor	White Fir	18			Good	
262	Picea pungens	Colorado Blue Spruce	26			Good	
263	Abies concolor	White Fir	12			Good	
264	Pinus sylvestris	Scotch Pine	28	Twin	24	Good	
265	Abies concolor	White Fir	8			Good	
266	Abies concolor	White Fir	14			Good	
267	Abies concolor	White Fir	9			Good	
268	Pinus sylvestris	Scotch Pine	16	Multiple	13, 10	Poor	Insect damage, crown deadwood
269	Abies concolor	White Fir	14			Good	
270	Abies concolor	White Fir	16			Good	
271	Pinus sylvestris	Scotch Pine	18			Poor	90% dead
272	Abies concolor	White Fir	17			Good	
273	Abies concolor	White Fir	9			Good	
274	Pinus sylvestris	Scotch Pine	13			Poor	Limb deadwood, insect damage
275	Pseudotsuga menziesii	Douglas-fir	26			Good	
276	Pseudotsuga menziesii	Douglas-fir	14			Good	
277	Tilia americana	Basswood	8	Twin	6	Good	
278	Picea pungens	Colorado Blue Spruce	18			Good	
279	Acer saccharum	Sugar Maple	9			Good	
280	Malus spp.	Crabapple spp.	12			Fair	
281	Acer platanoides	Norway Maple	12			Good	
282	Gleditsia triacanthos	Honeylocust	20			Good	
283	Gleditsia triacanthos	Honeylocust	14			Good	
284	Acer saccharum	Sugar Maple	16			Good	
285	Ulmus americana	American Elm	14	Twin	9	Good	
286	Acer platanoides	Norway Maple	10			Good	
287	Juglans nigra	Black Walnut	11			Good	
288	Acer platanoides	Norway Maple	11	Multiple	9, 9, 8, 6	Poor	Large in-rolled trunk seam, extensive decay probable
289	Pseudotsuga menziesii	Douglas-fir	11			Dead	
290	Juniperus virginiana	Eastern Red-cedar	9			Fair	
291	Pseudotsuga menziesii	Douglas-fir	15			Good	
292	Juniperus virginiana	Eastern Red-cedar	9			Good	
293	Acer platanoides	Norway Maple	38			Poor	Some insect damage, basal trunk decay
294	Acer platanoides	Norway Maple	16			Good	
295	Juniperus virginiana	Eastern Red-cedar	9			Dead	
296	Juniperus virginiana	Eastern Red-cedar	9	Twin	8	Fair	
297	Juniperus virginiana	Eastern Red-cedar	14			Fair	
298	Juniperus virginiana	Eastern Red-cedar	15			Fair	
299	Malus spp.	Crabapple spp.	22			Poor	Extensive basal trunk decay
300	Picea pungens	Colorado Blue Spruce	14			Fair	Unidentified needle disease
301	Prunus serotina	Black Cherry	18			Good	
302	Pyrus spp.	Pear	15	Multiple		Good	
303	Pyrus spp.	Pear	15			Good	
304	Malus spp.	Crabapple spp.	8	Multiple		Fair	
305	Malus spp.	Crabapple spp.	9	Multiple		Fair	
306	Pseudotsuga menziesii	Douglas-fir	18			Good	
307	Abies concolor	White Fir	20			Good	
308	Acer saccharum	Sugar Maple	26			Fair	Declining
309	Picea pungens	Colorado Blue Spruce	12			Fair	Unidentified needle disease
310	Malus spp.	Crabapple spp.	15			Fair	
311	Picea pungens	Colorado Blue Spruce	15			Fair	
312	Picea glauca	White Spruce	14			Good	
313	Picea glauca	White Spruce	15			Good	
314	Pseudotsuga menziesii	Douglas-fir	16			Good	
315	Pseudotsuga menziesii	Douglas-fir	15			Good	
316	Pseudotsuga menziesii	Douglas-fir	14			Good	
317	Pseudotsuga menziesii	Douglas-fir	14			Good	
318	Pseudotsuga menziesii	Douglas-fir	16			Good	
319	Pseudotsuga menziesii	Douglas-fir	30			Good	
320	Acer negundo	Boxelder	16			Poor	Poor structure, large bow in trunk
321	Malus spp.	Crabapple spp.	14	Multiple		Fair	

Condition Description Notes:

"Good" - no observed structural defects"

"Fair" - minor structural defects, marginal form, some insect activity noted"

"Poor" - major structural defects, poor form, insect infested"

*Structural defects may include decayed wood, cracks, root problems, weak branch unions
cankers, poor tree architecture, dead/failed branches due to various causes.

<u>Tree #</u>	<u>Botanical Name</u>	<u>Common Name</u>	<u>Dia.</u>	<u>Type</u>	<u>Other Dia.</u>	<u>Condition</u>	<u>Comments</u>
322	Acer saccharinum	Silver Maple	41			Good	
323	Malus spp.	Crabapple spp.	18	Multiple		Fair	
324	Malus spp.	Crabapple spp.	13			Poor	Extensive trunk decay
325	Pinus strobus	Eastern White Pine	34			Fair	Trunk hollow detected
326	Pinus strobus	Eastern White Pine	18			Good	
327	Pinus strobus	Eastern White Pine	15			Good	
328	Pinus strobus	Eastern White Pine	26			Poor	In-rolled trunk seam, extensive basal trunk decay
329	Picea pungens	Colorado Blue Spruce	13			Good	
330	Gleditsia triacanthos	Honeylocust	24			Good	
331	Cercis canadensis	Redbud	16			Poor	Extensive trunk decay
332	Acer saccharum	Sugar Maple	18			Fair	Declining
333	Acer saccharum	Sugar Maple	20			Good	
334	Malus spp.	Crabapple spp.	9	Multiple		Poor	Insect damage, basal trunk decay
335	Acer platanoides	Norway Maple	12			Poor	Limb deadwood, dieback & decay
336	Juniperus virginiana	Eastern Red-cedar	14			Fair	
337	Juniperus virginiana	Eastern Red-cedar	11			Good	
338	Ulmus americana	American Elm	28			Good	
339	Pyrus spp.	Pear	11	Multiple	5, 3	Fair	
340	Pyrus spp.	Pear	10			Poor	Extensive trunk deadwood
341	Pyrus spp.	Pear	12	Twin	5	Fair	
342	Malus spp.	Crabapple spp.	14	Twin	10	Poor	
343	Acer platanoides	Norway Maple	8			Good	
344	Acer platanoides	Norway Maple	8			Good	
345	Acer platanoides	Norway Maple	9			Good	
346	Acer platanoides	Norway Maple	8			Good	
347	Acer platanoides	Norway Maple	8			Good	
348	Acer platanoides	Norway Maple	9			Good	
349	Picea pungens	Colorado Blue Spruce	22			Good	
350	Acer saccharum	Sugar Maple	12			Good	
351	Acer saccharum	Sugar Maple	12			Good	
352	Acer saccharum	Sugar Maple	14			Good	
353	Acer saccharum	Sugar Maple	8			Good	
354	Picea glauca	White Spruce	8			Fair	
355	Pseudotsuga menziesii	Douglas-fir	8			Fair	
356	Acer saccharum	Sugar Maple	12			Good	
357	Acer saccharum	Sugar Maple	14			Good	
358	Picea pungens	Colorado Blue Spruce	9			Fair	Unidentified needle disease
359	Picea pungens	Colorado Blue Spruce	14			Fair	Unidentified needle disease
360	Pseudotsuga menziesii	Douglas-fir	22			Poor	Terminal leader has failed
361	Acer saccharum	Sugar Maple	13			Good	
362	Acer saccharum	Sugar Maple	16			Good	
363	Acer saccharum	Sugar Maple	15			Good	
364	Liquidambar styraciflua	Sweetgum	11			Good	
365	Acer saccharum	Sugar Maple	11			Good	
366	Juglans nigra	Black Walnut	12			Good	
367	Acer platanoides	Norway Maple	11			Good	
368	Acer platanoides	Norway Maple	8			Fair	Small trunk injury, wood exposed, some decay
369	Gleditsia triacanthos	Honeylocust	12			Good	
370	Acer platanoides	Norway Maple	9			Good	
371	Platanus occidentalis	Sycamore	30			Good	
372	Acer platanoides	Norway Maple	28			Good	
373	Picea pungens	Colorado Blue Spruce	8			Fair	
374	Picea pungens	Colorado Blue Spruce	8			Dead	
375	Acer saccharum	Sugar Maple	13			Good	
376	Acer platanoides	Norway Maple	13			Good	
377	Picea pungens	Colorado Blue Spruce	9			Fair	
378	Acer platanoides	Norway Maple	9			Good	
379	Malus spp.	Crabapple spp.	9	Multiple		Fair	
380	Prunus avium	Sweet Black Cherry	9			Good	
381	Robinia pseudoacacia	Black Locust	12			Good	
382	Juglans nigra	Black Walnut	9			Good	
383	Juniperus virginiana	Eastern Red-cedar	13			Good	
384	Robinia pseudoacacia	Black Locust	15			Good	
385	Juniperus virginiana	Eastern Red-cedar	8			Good	
386	Juniperus virginiana	Eastern Red-cedar	14			Good	
387	Juniperus virginiana	Eastern Red-cedar	15			Good	
388	Juniperus virginiana	Eastern Red-cedar	13			Good	
389	Juniperus virginiana	Eastern Red-cedar	14	Twin	8	Good	
390	Juniperus virginiana	Eastern Red-cedar	13	Twin	9	Good	
391	Juniperus virginiana	Eastern Red-cedar	8	Multiple	7, 3	Good	
392	Juniperus virginiana	Eastern Red-cedar	11	Twin	10	Good	
393	Acer saccharum	Sugar Maple	16	Twin	11	Good	
394	Acer saccharum	Sugar Maple	18			Good	
395	Juglans nigra	Black Walnut	12			Good	
396	Celtis occidentalis	Northern Hackberry	8			Good	

Condition Description Notes:

Good - no observed structural defects*

Fair - minor structural defects, marginal form, some insect activity noted*

Poor - major structural defects, poor form, insect infested*

*Structural defects may include decayed wood, cracks, root problems, weak branch unions
cankers, poor tree architecture, dead/failed branches due to various causes.

<u>Tree #</u>	<u>Botanical Name</u>	<u>Common Name</u>	<u>Dia.</u>	<u>Type</u>	<u>Other Dia.</u>	<u>Condition</u>	<u>Comments</u>
397	Acer platanoides	Norway Maple	14	Twin	10	Fair	Weak trunk union, included bark, some decay
398	Acer negundo	Boxelder	12	Multiple	5, 3	Fair	
399	Acer saccharum	Sugar Maple	15			Good	
400	Acer saccharinum	Silver Maple	9	Multiple		Good	
401	Quercus bicolor	Swamp White Oak	8			Good	
402	Populus deltoides	Eastern Cottonwood	13			Good	
403	Populus deltoides	Eastern Cottonwood	9			Good	
404	Populus deltoides	Eastern Cottonwood	12			Good	
405	Populus deltoides	Eastern Cottonwood	16			Good	
406	Pinus sylvestris	Scotch Pine	10			Good	
407	Acer platanoides	Norway Maple	17			Poor	Large in-rolled trunk seam, decay
408	Acer saccharum	Sugar Maple	12			Good	
409	Acer saccharum	Sugar Maple	15			Good	
410	Acer saccharum	Sugar Maple	9			Good	
411	Acer saccharum	Sugar Maple	11			Good	
412	Acer saccharum	Sugar Maple	15			Good	
413	Acer saccharum	Sugar Maple	9			Good	
414	Acer saccharum	Sugar Maple	12			Good	
415	Acer saccharum	Sugar Maple	8			Poor	Extensive trunk decay
416	Gleditsia triacanthos	Honeylocust	20			Good	
417	Gleditsia triacanthos	Honeylocust	16			Good	
418	Gleditsia triacanthos	Honeylocust	12			Good	
419	Pseudotsuga menziesii	Douglas-fir	12			Good	
420	Picea pungens	Colorado Blue Spruce	8			Fair	
421	Picea pungens	Colorado Blue Spruce	9			Fair	
422	Pinus nigra	Austrian Pine	14			Good	
423	Acer saccharum	Sugar Maple	9			Good	
424	Acer saccharum	Sugar Maple	10			Good	
425	Pinus nigra	Austrian Pine	14			Good	
426	Pinus nigra	Austrian Pine	11			Good	
427	Pinus nigra	Austrian Pine	14	Multiple	12, 10	Good	
428	Pinus nigra	Austrian Pine	15	Multiple	13, 7	Good	
429	Picea pungens	Colorado Blue Spruce	9			Poor	Unidentified needle disease
430	Pinus nigra	Austrian Pine	10			Fair	Some diplodia disease
431	Pinus nigra	Austrian Pine	9			Fair	Some diplodia disease
432	Pinus nigra	Austrian Pine	9			Fair	Some diplodia disease
433	Pinus nigra	Austrian Pine	10	Twin	9	Fair	Some diplodia disease
434	Pinus nigra	Austrian Pine	11			Fair	Some diplodia disease
435	Pinus nigra	Austrian Pine	13			Fair	Some diplodia disease
436	Pinus nigra	Austrian Pine	13			Dead	
437	Pinus nigra	Austrian Pine	15			Poor	Some diplodia disease
438	Acer saccharinum	Silver Maple	24			Good	
439	Pinus nigra	Austrian Pine	15			Poor	Some diplodia disease
440	Pinus nigra	Austrian Pine	12			Poor	Some diplodia disease
441	Pinus sylvestris	Scotch Pine	28			Good	
442	Ulmus americana	American Elm	9			Good	
443	Pinus sylvestris	Scotch Pine	14			Good	
444	Acer saccharinum	Silver Maple	18			Good	
445	Pinus sylvestris	Scotch Pine	22			Fair	Insect damage
446	Pinus sylvestris	Scotch Pine	28			Good	
447	Acer saccharinum	Silver Maple	15	Multiple		Good	
448	Pinus sylvestris	Scotch Pine	16			Good	
449	Pinus sylvestris	Scotch Pine	15			Good	
450	Pinus sylvestris	Scotch Pine	16			Good	
451	Acer saccharinum	Silver Maple	8			Good	
452	Pinus sylvestris	Scotch Pine	28			Good	
453	Pinus sylvestris	Scotch Pine	18			Good	
454	Acer saccharinum	Silver Maple	11			Good	
455	Pinus sylvestris	Scotch Pine	15			Good	
456	Pinus sylvestris	Scotch Pine	13			Good	
457	Acer saccharinum	Silver Maple	9			Good	
458	Pinus sylvestris	Scotch Pine	14			Good	
459	Malus spp.	Crabapple spp.	9	Twin	8	Good	

APPENDIX IV

Marx Wetlands LLC Wetland Determination and Delineation Report (September 2018)



MARX
WETLANDS
LLC

September 24, 2018

Mr. Colin Schiefler
DP Fox dba Green Castle Properties, LLC
200 Ottawa Ave., NW #800
Grand Rapids, MI 49506

**Re: Wetland Delineation Report: Grand River Avenue & Central Park Dr.
(Approx. 9-acre Property)
Meridian Township, Ingham County, MI**

Mr. Schiefler:

Pursuant to your request, Marx Wetlands LLC conducted a wetland determination and delineation for an approximately 9-acre Assessment Area consisting of three (3) parcels (#33-02-02-22-252-003, 33-02-02-22-401-003, and 33-02-02-22-426-001) for the above-referenced ("Project Site"). The Site is located on the east side of Central Park Drive on the north side of Grand River Avenue within Section 22 of Meridian Township (T4N, R1W) of Ingham County, Michigan. The intent of this determination is to provide a report of the character of any wetland areas within the subject parcel and an opinion as to the possible jurisdiction of the Michigan Department of Environmental Quality (MDEQ) and/or local governments over wetland areas identified on-site.

The wetland determination was performed in accordance with the Michigan Department of Environmental Quality Wetland Identification Manual (2001), the Northcentral-Northeast Manual to the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual. The delineation of any wetland depends on three basic parameters. These parameters are: 1) the presence of hydrophytic vegetation (plants adapted to living in saturated soils), 2) hydric soils (distinctive soil types that develop under saturated conditions), and 3) wetland hydrology (the presence of water at or near the surface for a specific period of time). The above parameters are virtually always inter-related and present in wetland systems. The wetland determination consisted of desktop review of available background documentation and mapping followed by two (2) site visits performed on September 17 & 18, 2018. A review of the findings is provided below.

Site Characteristics

Based on review of aerial photographs and the on-site visits, the Site is largely vacant, undeveloped land consisting of areas of upland field, scrub-shrub, forest, mixed deciduous tree lines, and wetland. The Site also contains existing vacated houses, a barn, in-ground pool, and associated lawn, particularly in the central and southern portions of the Site. In addition, existing driveways and mowed paths were also observed. The Site is within a largely commercial and residential region of Meridian Township, Michigan. The Site is bounded by undeveloped land to the north, commercial development/Central Park Drive to the west, W. Grand River Avenue to the south, and undeveloped land/commercial buildings to the east.

3309 Platt Road
Ann Arbor, Michigan
Mobile: 734-478-8277
e-mail
bg.marxwetlands@gmail.com

Central Park Drive & W. Grand River Avenue
 Meridian Township, Ingham County, Michigan

Page 2 of 6

Cover Type Descriptions

Upland herbaceous species found in the open fields and much of the lawn areas include orchard grass (*Dactylus glomerata*), common milkweed (*Asclepias syriaca*), smooth brome (*Bromus inermis*), Japanese hedge-parsley (*Torilis japonica*), bluegrasses (*Poa pratensis* & *P. compressa*), timothy (*Phleum pratense*), Queen Anne’s lace (*Daucus carota*), and thistles (*Cirsium arvense* and *C. vulgare*). In addition, scattered prairie remnant species were also observed such as little bluestem (*Schizachyrium scoparium*), broom-sedge (*Andropogon virginicus*), and goldenrods (*Solidago altissima* and *S. canadensis*). Scattered trees and shrub species observed include: cottonwood (*Populus deltoides*), multi-flora rose (*Rosa multiflora*), autumn-olive (*Elaeagnus umbellata*), blackberry (*Rubus allegheniensis*), and black raspberry (*Rubus occidentalis*).

The upland, scrub-shrub and mixed deciduous forested areas, including the tree lines generally contain the following species: penn sedge (*Carex pennsylvanica*), orchard grass, white vervain (*Verbena urticifolia*), Virginia creeper (*Parthenocissus quinquefolia*), white pine (*Pinus strobus*), black locust (*Robinia pseudoacacia*), Scotch pine (*Pinus sylvestris*), white spruce (*Picea glauca*), blue spruce (*Picea pungens*), crabapple/apple (*Malus spp.*), maples (*Acer platanoides*, *A. saccharum*, and *Acer saccharinum*), oaks (*Quercus alba* and *Q. rubra*), black walnut (*Juglans nigra*), box-elder (*Acer negundo*), black cherry (*Prunus serotina*), cottonwood, scattered with basswood (*Tilia americana*), white mulberry (*Morus alba*), sycamore (*Platanus occidentalis*), American elm (*Ulmus americana*), trembling aspen (*Populus tremuloides*), and ash (*Fraxinus spp.*) trees. Common native and non-native shrub species include autumn-olive, dogwoods (*Cornus amomum* and *C. racemosa*), common buckthorn (*Rhamnus cathartica*), blackberry and black raspberry. The weedy aspect of the Site is likely due to possible previous agricultural land use or another site disturbance. Refer to the enclosed *Photographic Log*.

Wetland Determination & Delineation

Six (6) wetlands (Wetlands A, B, C, D, E, and F) were identified within the Site and/or along the site’s perimeters. No ponds or watercourses appear within the Site. Refer to the enclosed Wetland Sketch.

Feature Name	Wetland Type	Regulatory Status
Wetland A	Emergent (PEM)/Forested-PFO Edge	Likely MDEQ and Township Non-Regulated; isolated and < 0.25 ac in size
Wetland B	PEM/PFO edge	Likely MDEQ and Township Non-Regulated; isolated and < 0.25 ac in size
Wetland C	Emergent (PEM)	Likely MDEQ and Township Non-Regulated; isolated and < 0.25 ac in size
Wetland D	Emergent (PEM)	Likely MDEQ & Township regulated; within 500 feet of off-site pond.
Wetland E	Emergent/PFO edge	Likely MDEQ & Township regulated; within 500 feet of off-site pond.
Wetland F	Emergent/PFO edge	Likely MDEQ & Township regulated; within 500 feet of off-site pond

Central Park Drive & W. Grand River Avenue
Meridian Township, Ingham County, Michigan
Page 3 of 6

Wetlands

Wetlands A & B

Wetlands A & B are largely emergent wetlands with a minor forested component observed in the northwest portion of the Site (on parcel 33-02-02-22-252-003). Wetland A is contained entirely within the Site; however, Wetland B extends north off-site. Herbaceous vegetation within these wetlands include: reed canary grass (*Phalaris arundinacea*; FACW), softstem bulrush (*Schoenoplectus tabernaemontani*; OBL), grass-leaved goldenrod (*Euthamia graminifolia*; FACW), Indian-hemp (*Apocynum cannabinum*; FAC), calico American-aster (*Symphyotrichum lateriflorum*; FAC), soft-stemmed rush (*Juncus effusus*; OBL), and scattered sedges (*Carex lupulina*, *C. scoparia* and *C. vulpinoidea*; OBL-FACW). Woody vines include riverbank grape (*Vitis riparia*; FACW) and poison-ivy (*Toxicodendron radicans*; FAC); and shrub species include: black raspberry and dogwoods. Overhanging trees observed include silver maple (*Acer saccharinum*; FACW), white swamp oak (*Quercus bicolor*; FACW), elm (FACW) and cottonwood (FAC). Most of these species range in wetland indicator status from obligate (OBL) to facultative (FAC), indicating species that typically occur in wetlands. Wetland hydrology indicators observed include: microtopographic relief (i.e., hummocks), water-stained leaves, geomorphic position, and FAC Neutral Test. These wetlands appear to receive hydrology from precipitation, runoff from adjacent developed areas, and roadways, resulting in seasonally saturated to seasonally inundated water regimes. Refer to the enclosed *Wetland Sketch*.

Wetlands C & D

Wetlands C & D are primarily emergent wetlands observed in the northwest and north-central portion of the Site (on parcel 33-02-02-22-252-003). Wetland C extends north off-site and Wetland D is entirely within the site boundaries. Common herbaceous vegetation observed include: reed canary grass (FACW), grass-leaved goldenrod (FACW), redtop (*Agrostis gigantea*; FAC), softstem bulrush (OBL), Indian-hemp (FAC), paniced American-aster (*Symphyotrichum lanceolatum*; FACW), soft-stemmed rush (OBL), and sedges (*Carex normalis*, *C. scoparia*, and *C. vulpinoidea*). Wetland C also contained: wool grass (*Scirpus cyperinus*; OBL), rush (*Juncus biflorus*), and self-heal (*Prunella vulgaris*; FAC). The species range in wetland indicator status from obligate (OBL) to facultative (FAC), indicating species that typically occur in wetlands. Wetland hydrology indicators observed include microtopographic relief (i.e., hummocks), geomorphic position, and FAC Neutral Test. These wetlands appear to receive hydrology from precipitation, runoff from adjacent developed areas, and roadways, resulting in seasonally saturated to seasonally inundated water regimes. Refer to the enclosed *Wetland Sketch*.

Wetlands E & F

Wetlands E and F are primarily emergent wetlands with overhanging trees observed along the eastern boundary of the Site (on parcel #33-02-02-22-426-001). These wetlands continue slightly off-site; however, do appear to close at an

Central Park Drive & W. Grand River Avenue
Meridian Township, Ingham County, Michigan
Page 4 of 6

upland berm along the western edge of the pond (off-site). Dominant herbaceous vegetation observed include: reed canary grass (FACW) and redtop (FAC), scattered species include: calico American-aster (FAC) and ground-ivy (*Glechoma hederacea*; FACU). Overhanging trees and shrubs observed include box-elder (FAC), common buckthorn (FAC), black ash (*Fraxinus nigra*; FACW) saplings, and black willow (*Salix nigra*; FACW). Most of these species range in wetland indicator status from obligate (OBL) to facultative (FAC), indicating species that typically occur in wetlands. Wetland hydrology indicators observed include water-stained leaves, bare soil (sparsely vegetated concave surface in areas), geomorphic position, and FAC Neutral Test. These wetlands appear to receive hydrology from precipitation, runoff from adjacent developed areas, and roadways, resulting in seasonally saturated to seasonally inundated water regimes. Refer to the enclosed *Wetland Sketch*.

Regulations

Part 301, Inland Lakes and Streams, states that a feature is considered a regulated watercourse by the MDEQ if it possesses a defined bed, bank, and evidence of continued flow or a continued occurrence of water. Additionally, Part 301 states that if a pond with a surface area larger than five (5) acres should be considered regulated. Based on the site visit, no watercourses or ponds were observed on-site.

Part 303, Wetlands Protection, of the NREPA states that if a wetland is five acres in size or larger and/or connected to or located within 500 feet of a river, stream, lake, or pond, it is considered regulated by the MDEQ. Marx Wetlands, LLC has the professional opinion that both Wetlands A, B, and C are not likely regulated by the MDEQ because they appear less than 5 acres in size and isolated (i.e., not connected to or located within 500 feet of a regulating feature). However, Wetlands D, E, and F are likely within 500 feet of a regulating feature (i.e., off-site pond east of parcel #33-02-02-22-426-001). Therefore, Marx Wetlands LLC has the professional opinion that Wetlands D, E, and F appear to meet the requirements of Part 303, Wetlands Protection, of the NREPA.

In addition, Meridian Township (Township) has its own wetland protection ordinance. The township's Wetland Protection ordinance (Chapter 22, Article IV) states that wetlands are protected if they are:

- contiguous to any inland lake stream, river, or pond.
- Partially or entirely within 500 feet of the ordinary high-water mark of any inland lake, stream, river or pond.
- Two or more areas of wetland separated only by barriers, such as dikes, roads, berms or other similar features, if any of those wetlands are contiguous to an inland lake, stream, river or pond.

Central Park Drive & W. Grand River Avenue
Meridian Township, Ingham County, Michigan
Page 5 of 6

- larger than two acres, even if not contiguous to an inland lake, stream, river or pond.
- not contiguous to any inland lake, stream, river or pond, if the state department of environmental quality determines the protection of the wetland is essential to the preservation of the natural resources of the state from pollution, impairment or destruction.
- wetlands, equal to or greater than one-quarter acre and equal to or less than two acres in size, which are not contiguous to any inland lake, stream, river or pond and are determined to be essential to the preservation of the natural resources of the Township as provided in township code § 22-156. Code § 22-156 provides that a wetland is essential to the preservation of the township's natural resources if it fulfills any of ten criteria.

Therefore, it is the professional opinion of Marx Wetlands LLC that Wetlands D, E, and F are also likely regulated by Meridian Township because they appear within 500 feet of a regulating feature (i.e., pond). Wetlands A, B, and C appear to be isolated and/or less than 0.25 acres in size and may be considered non-regulated by the Township; however, Wetlands A & B may be protected under the Meridian Township's *Chapter 22 Environment, Article IV Wetland Protection*, if it is determined that the protection of these wetland areas is important for the preservation of the local natural resources. (Meridian Township- Code 1974, § 105-3; Ord. No. 2002-02, 3-19-2002; Ord. No. 2003-11, 7-6-2003; Ord. No. 2011-04, 3-15-2011).

It is important to note that the Meridian Township Board has a policy of no net loss of wetlands and impacts to wetlands may require wetland mitigation. A mitigation plan, if required, shall be approved as part of the wetland use permit decision.

A permit or approval is likely required by the Meridian Township for any proposed work (e.g., filling, dredging, construction, and draining and/or other development) that takes place within the boundaries of a regulated wetland. Most construction activities that take place outside of these boundaries do not require a wetland permit from the MDEQ or Meridian Township. Please note that the MDEQ and Township have the final authority on the extent of regulated wetlands, lakes, and streams in the State of Michigan and Meridian Township, respectively.

Please be advised the information provided in this report is a professional opinion. The ultimate decision on wetland boundary locations and jurisdiction thereof rests with the MDEQ or Township and, in some cases, the Federal government. Therefore, there may be adjustments to boundaries based upon review of a regulatory agency. An agency determination can vary, depending on various factors including, but not limited to, experience of the agency representative making the determination and the season of the year. In addition, the physical

September 24, 2018

Central Park Drive & W. Grand River Avenue
Meridian Township, Ingham County, Michigan
Page 6 of 6

characteristics of the site can change with time, depending on the weather, vegetation patterns, drainage, activities on adjacent parcels, or other events. Any of these factors can change the nature / extent of wetlands on the site.

Thank you for the opportunity to provide this wetland determination. If you have any questions, please contact me at your convenience.

Sincerely,



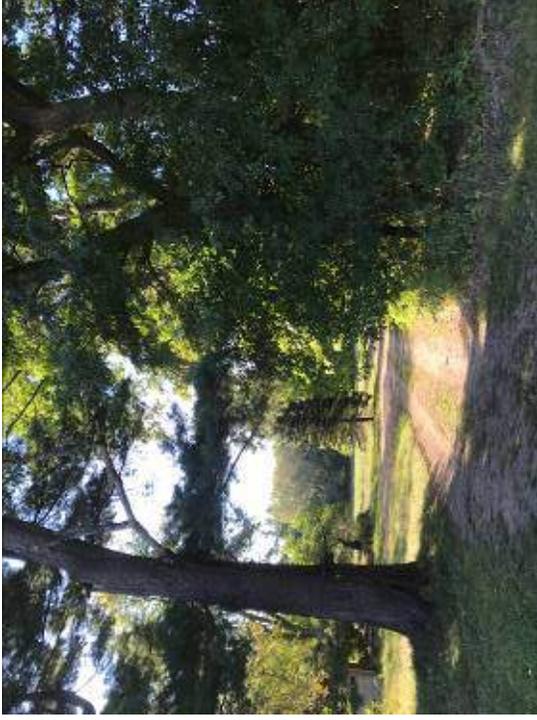
Marx Wetlands LLC

Bryana J. Guevara, PWS 2949
ISA Certified Arborist MI-4204A
Environmental Consultant

Enclosures:

- 1) Photographic Log
- 2) Wetland Sketch
- 3) USACE Wetland Determination Data Forms

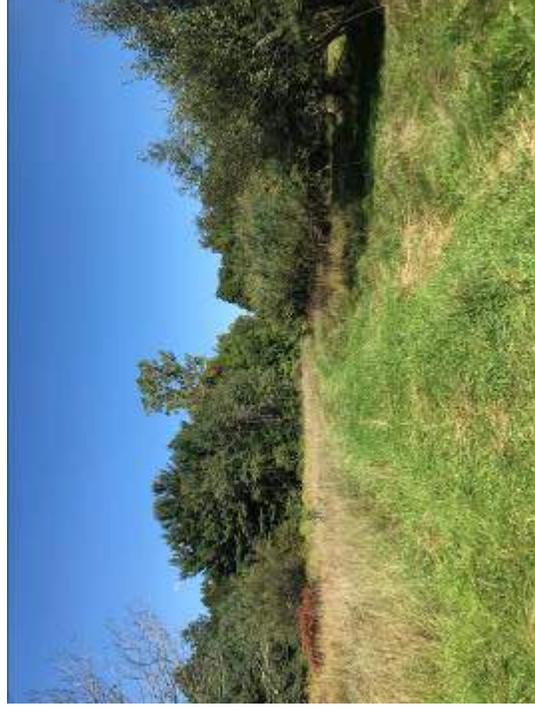
PHOTOGRAPHIC LOG



1) An east-facing view of existing dirt driveway.



2) A northeast-facing view of an upland old field with scattered shrubs and trees. In ground pool observed in background of this photograph.



3) View of existing mowed path observed in the western portion of the Site.



4) View of the undeveloped parcel consisting of primarily upland fields and mixed deciduous forest patches.

PHOTOGRAPHIC LOG



5) Another view of upland mixed deciduous forested patches observed in the Site.



6) A west-facing view of an existing barn and open field and grassy lawn areas. Upland tree lines were observed along the western boundary.



7) View of an existing, vacated house observed on the 1614 W. Grand River Avenue property.



8) Another view of the existing house and associated upland field and lawn observed in the south-central portion of the overall Site.

PHOTOGRAPHIC LOG



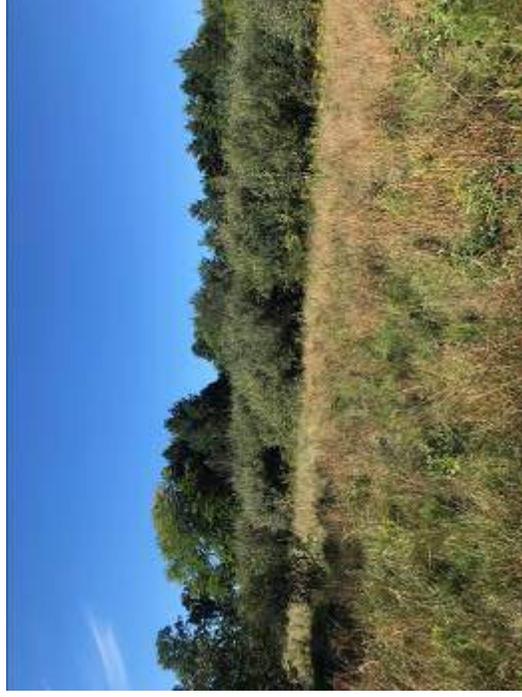
9) View of Wetland A, a largely emergent wetland with overhanging trees, observed within the northwestern portion of the Site.



10) A north-facing view of Wetland B, another emergent wetland with overhanging trees observed along the northern boundary of the Site.



11) View of an upland break that appears to separate Wetlands A & B in the northwest portion of the site.



12) A north-facing view of Wetland C, an emergent wetland in the northeast corner of the Site. Note upland shrubs (i.e. autumn-olive) in background of this photo.

PHOTOGRAPHIC LOG



13) View of Wetland D, an emergent wetland, observed in the northeast portion of the Site.



14) A north-facing view of Wetland E, an emergent wetland with overhanging trees, observed along the eastern boundary of the Site.



15) A south-facing view of Wetland F, an emergent wetland with overhanging trees, along the eastern site boundary.



16) An east-facing view of W. Grand River Avenue along the southern boundary of the Site.



- **Wetland A:** Flags A-1 close to A-20
- **Wetland B:** Flags B-1 continue to B-11 (open at property line-PL); continue B-15 close to B-1
- **Wetland C:** Flags C-1 open at PL; continue to C-10 open at PL
- **Wetland D:** Flags D-1 close to D-9
- **Wetland E:** Flags E-1 continue to E-7; (likely closes off-site)
- **Wetland F:** Flags F-1 continue to F-9; (likely closes off-site)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: W. Grand River Avenue/Central Park Drive City/County: Meridian Twp/Ingham Co. Sampling Date: 9/17/2018
 Applicant/Owner: DP Fox dba Green Castle Properties, LLC State: MI Sampling Point: A
 Investigator(s): B.Guevara; Marx Wetlands LLC Section, Township, Range: S22, T4N, R1W
 Landform (hillside, terrace, etc.): toeslope/depression Local relief (concave, convex, none): concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR L Lat: 42.71956 Long: -84.40849 Datum: WGS84
 Soil Map Unit Name: Kibbie loam, 0 to 3 percent slopes NWI classification: PEM/Minor (PFO) edge

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> x </u> No <u> </u> Hydric Soil Present? Yes <u> x </u> No <u> </u> Wetland Hydrology Present? Yes <u> x </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> x </u> No <u> </u> If yes, optional Wetland Site ID: <u>Wetland A</u>
Remarks: (Explain alternative procedures here or in a separate report.) Wetland system is observed in the northwest portion of the Site.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ <u> x </u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ <u> x </u> Microtopographic Relief (D4) ___ <u> X </u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u> </u> No <u> XX </u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u> XX </u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u> xx </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Wetland hydrology is typical for this wetland type during the driest period of the year.	

VEGETATION – Use scientific names of plants.

Sampling Point: A

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: <u>30-ft radius</u>)			
1. <u><i>Acer saccharinum</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
2. <u><i>Populus deltoides</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
3. <u><i>Ulmus americana</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>
4. <u><i>Quercus bicolor</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	<u>30</u>	=Total Cover	
Sapling/Shrub Stratum (Plot size: <u>15-ft radius</u>)			
1. <u><i>Fraxinus nigra</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2. <u><i>Cornus amomum</i></u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
3. <u><i>Rubus allegheniensis</i></u>	<u>10</u>	<u>No</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	<u>60</u>	=Total Cover	
Herb Stratum (Plot size: <u>5-ft radius</u>)			
1. <u><i>Phalaris arundinacea</i></u>	<u>45</u>	<u>Yes</u>	<u>FACW</u>
2. <u><i>Schoenoplectus tabernaemontani</i></u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
3. <u><i>Euthamia graminifolia</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
4. <u><i>Carex vulpinoidea</i></u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
5. <u><i>Apocynum cannabinum</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
6. <u><i>Symphytotrichum lateriflorum</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>
7. <u><i>Carex lupulina</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>
8. <u><i>Carex scoparia</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>
9. <u><i>Juncus effusus</i></u>	<u>5</u>	<u>No</u>	<u>OBL</u>
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	<u>105</u>	=Total Cover	
Woody Vine Stratum (Plot size: <u>30-ft radius</u>)			
1. <u><i>Toxicodendron radicans</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
2. <u><i>Vitis riparia</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	<u>20</u>	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 11 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>25</u>	x 1 = <u>25</u>
FACW species <u>120</u>	x 2 = <u>240</u>
FAC species <u>60</u>	x 3 = <u>180</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>215</u> (A)	<u>485</u> (B)
Prevalence Index = B/A = <u>2.26</u>	

Hydrophytic Vegetation Indicators:

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0¹

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: W. Grand River Avenue/Central Park Drive City/County: Meridian Twp/Ingham Co. Sampling Date: 9/17/2018
 Applicant/Owner: DP Fox dba Green Castle Properties, LLC State: MI Sampling Point: B
 Investigator(s): B.Guevara; Marx Wetlands LLC Section, Township, Range: S22, T4N, R1W
 Landform (hillside, terrace, etc.): toeslope/depression Local relief (concave, convex, none): concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR L Lat: 42.72033 Long: -84.40808 Datum: WGS84
 Soil Map Unit Name: Kibbie loam, 0 to 3 percent slopes NWI classification: PEM/Minor (PFO) edge

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> x </u> No <u> </u> Hydric Soil Present? Yes <u> x </u> No <u> </u> Wetland Hydrology Present? Yes <u> x </u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> x </u> No <u> </u> If yes, optional Wetland Site ID: <u>Wetland B</u>
Remarks: (Explain alternative procedures here or in a separate report.) Wetland system is observed in the northwest portion of the Site, along the northern boundary.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) <u>x</u> Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) <u>x</u> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>x</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) <u>x</u> Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u> </u> No <u> XX </u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u> XX </u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u> xx </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u> X </u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Wetland hydrology is typical for this wetland type during the driest period of the year.	

VEGETATION – Use scientific names of plants.

Sampling Point: B

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30-ft radius</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 9 </u> (A) Total Number of Dominant Species Across All Strata: <u> 10 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 90.0% </u> (A/B) Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u> 35 </u></td> <td>x 1 = <u> 35 </u></td> </tr> <tr> <td>FACW species <u> 85 </u></td> <td>x 2 = <u> 170 </u></td> </tr> <tr> <td>FAC species <u> 40 </u></td> <td>x 3 = <u> 120 </u></td> </tr> <tr> <td>FACU species <u> 5 </u></td> <td>x 4 = <u> 20 </u></td> </tr> <tr> <td>UPL species <u> 5 </u></td> <td>x 5 = <u> 25 </u></td> </tr> <tr> <td>Column Totals: <u> 170 </u></td> <td>(A) <u> 370 </u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u> 2.18 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 35 </u>	x 1 = <u> 35 </u>	FACW species <u> 85 </u>	x 2 = <u> 170 </u>	FAC species <u> 40 </u>	x 3 = <u> 120 </u>	FACU species <u> 5 </u>	x 4 = <u> 20 </u>	UPL species <u> 5 </u>	x 5 = <u> 25 </u>	Column Totals: <u> 170 </u>	(A) <u> 370 </u> (B)	Prevalence Index = B/A = <u> 2.18 </u>	
Total % Cover of:	Multiply by:																			
OBL species <u> 35 </u>	x 1 = <u> 35 </u>																			
FACW species <u> 85 </u>	x 2 = <u> 170 </u>																			
FAC species <u> 40 </u>	x 3 = <u> 120 </u>																			
FACU species <u> 5 </u>	x 4 = <u> 20 </u>																			
UPL species <u> 5 </u>	x 5 = <u> 25 </u>																			
Column Totals: <u> 170 </u>	(A) <u> 370 </u> (B)																			
Prevalence Index = B/A = <u> 2.18 </u>																				
1. <u><i>Acer saccharinum</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u><i>Populus deltoides</i></u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Ulmus americana</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
4. <u><i>Quercus bicolor</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
5. <u><i>Populus tremuloides</i></u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
6. _____																				
7. _____																				
	<u>35</u>	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15-ft radius</u>)																				
1. <u><i>Fraxinus nigra</i></u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u><i>Cornus amomum</i></u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Rubus allegheniensis</i></u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>25</u>	=Total Cover																		
Herb Stratum (Plot size: <u>5-ft radius</u>)																				
1. <u><i>Phalaris arundinacea</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u><i>Schoenoplectus tabernaemontani</i></u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
3. <u><i>Euthamia graminifolia</i></u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u><i>Carex vulpinoidea</i></u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
5. <u><i>Apocynum cannabinum</i></u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
6. <u><i>Symphytotrichum lateriflorum</i></u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
7. <u><i>Carex lupulina</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
8. <u><i>Carex scoparia</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
9. <u><i>Juncus effusus</i></u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>																	
10. _____																				
11. _____																				
12. _____																				
	<u>100</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>30-ft radius</u>)																				
1. <u><i>Toxicodendron radicans</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u><i>Vitis riparia</i></u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
3. _____																				
4. _____																				
	<u>10</u>	=Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic Vegetation Indicators:
 Rapid Test for Hydrophytic Vegetation
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: W. Grand River Avenue/Central Park Drive City/County: Meridian Twp/Ingham Co. Sampling Date: 9/17/2018
 Applicant/Owner: DP Fox dba Green Castle Properties, LLC State: MI Sampling Point: C
 Investigator(s): B.Guevara; Marx Wetlands LLC Section, Township, Range: S22, T4N, R1W
 Landform (hillside, terrace, etc.): toeslope/depression Local relief (concave, convex, none): concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR L Lat: 42.720321 Long: -84.40785 Datum: WSG84
 Soil Map Unit Name: Kibbie loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>x</u> No <u> </u> Hydric Soil Present? Yes <u>x</u> No <u> </u> Wetland Hydrology Present? Yes <u>x</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>x</u> No <u> </u> If yes, optional Wetland Site ID: <u>Wetland C</u>
Remarks: (Explain alternative procedures here or in a separate report.) Wetland system is observed in the northeast corner of the Site.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ <u>x</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ <u>x</u> Microtopographic Relief (D4) ___ <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u> </u> No <u>XX</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>XX</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>xx</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Wetland hydrology is typical for this wetland type during the driest period of the year.	

VEGETATION – Use scientific names of plants.

Sampling Point: C

<u>Tree Stratum</u> (Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	=Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15-ft radius</u>)			
1. <u>Fraxinus nigra</u>	10	Yes	FACW
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	10 =Total Cover		
<u>Herb Stratum</u> (Plot size: <u>5-ft radius</u>)			
1. <u>Juncus effusus</u>	20	Yes	OBL
2. <u>Schoenoplectus tabernaemontani</u>	20	Yes	OBL
3. <u>Euthamia graminifolia</u>	15	No	FACW
4. <u>Carex vulpinoidea</u>	20	Yes	OBL
5. <u>Apocynum cannabinum</u>	15	No	FAC
6. <u>Symphyotrichum lanceolatum</u>	10	No	FACW
7. <u>Scirpus cyperinus</u>	5	No	OBL
8. <u>Prunella vulgaris</u>	5	No	FAC
9. <u>Agrostis gigantea</u>	20	Yes	FAC
10. <u>Carex scoparia</u>	5	No	FACW
11. <u>Carex normalis</u>	5	No	FACW
12. _____	_____	_____	_____
	140 =Total Cover		
<u>Woody Vine Stratum</u> (Plot size: <u>30-ft radius</u>)			
1. <u>Toxicodendron radicans</u>	5	Yes	FAC
2. <u>Vitis riparia</u>	5	Yes	FACW
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	10 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u> 65 </u>	x 1 = <u> 65 </u>
FACW species <u> 50 </u>	x 2 = <u> 100 </u>
FAC species <u> 45 </u>	x 3 = <u> 135 </u>
FACU species <u> 0 </u>	x 4 = <u> 0 </u>
UPL species <u> 0 </u>	x 5 = <u> 0 </u>
Column Totals: <u> 160 </u> (A)	<u> 300 </u> (B)
Prevalence Index = B/A = <u> 1.88 </u>	

Hydrophytic Vegetation Indicators:

 Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0¹

 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

VEGETATION – Use scientific names of plants.

Sampling Point: E

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30-ft radius</u>)				<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u> 6 </u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u> 6 </u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 100.0% </u> (A/B)</p> <p>Prevalence Index worksheet:</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u> 100 </u></td> <td>x 1 = <u> 100 </u></td> </tr> <tr> <td>FACW species <u> 60 </u></td> <td>x 2 = <u> 120 </u></td> </tr> <tr> <td>FAC species <u> 20 </u></td> <td>x 3 = <u> 60 </u></td> </tr> <tr> <td>FACU species <u> 0 </u></td> <td>x 4 = <u> 0 </u></td> </tr> <tr> <td>UPL species <u> 0 </u></td> <td>x 5 = <u> 0 </u></td> </tr> <tr> <td>Column Totals: <u> 180 </u></td> <td>(A) <u> 280 </u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u> 1.56 </u></td> </tr> </table> <p>Hydrophytic Vegetation Indicators:</p> <p><u> </u> Rapid Test for Hydrophytic Vegetation</p> <p><input checked="" type="checkbox"/> Dominance Test is >50%</p> <p><input checked="" type="checkbox"/> Prevalence Index is ≤3.0¹</p> <p><u> </u> Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p><u> </u> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p><small>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small></p> <p>Definitions of Vegetation Strata:</p> <p>Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.</p> <p>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p>Woody vines – All woody vines greater than 3.28 ft in height.</p> <p>Hydrophytic Vegetation Present? Yes <u> X </u> No <u> </u></p>	Total % Cover of:	Multiply by:	OBL species <u> 100 </u>	x 1 = <u> 100 </u>	FACW species <u> 60 </u>	x 2 = <u> 120 </u>	FAC species <u> 20 </u>	x 3 = <u> 60 </u>	FACU species <u> 0 </u>	x 4 = <u> 0 </u>	UPL species <u> 0 </u>	x 5 = <u> 0 </u>	Column Totals: <u> 180 </u>	(A) <u> 280 </u> (B)	Prevalence Index = B/A = <u> 1.56 </u>	
Total % Cover of:	Multiply by:																			
OBL species <u> 100 </u>	x 1 = <u> 100 </u>																			
FACW species <u> 60 </u>	x 2 = <u> 120 </u>																			
FAC species <u> 20 </u>	x 3 = <u> 60 </u>																			
FACU species <u> 0 </u>	x 4 = <u> 0 </u>																			
UPL species <u> 0 </u>	x 5 = <u> 0 </u>																			
Column Totals: <u> 180 </u>	(A) <u> 280 </u> (B)																			
Prevalence Index = B/A = <u> 1.56 </u>																				
1. <u><i>Acer negundo</i></u>	<u>35</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u><i>Salix nigra</i></u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>50</u>	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15-ft radius</u>)																				
1. <u><i>Fraxinus nigra</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u><i>Rhamnus cathartica</i></u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>25</u>	=Total Cover																		
Herb Stratum (Plot size: <u>5-ft radius</u>)																				
1. <u><i>Phalaris arundinacea</i></u>	<u>65</u>	<u>Yes</u>	<u>OBL</u>																	
2. <u><i>Agrostis gigantea</i></u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
3. <u><i>Glechoma hederoma</i></u>	<u>15</u>	<u>No</u>	<u>FACW</u>																	
4. <u><i>Symphyotrichum lateriflorum</i></u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>100</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>30-ft radius</u>)																				
1. <u><i>Toxicodendron radicans</i></u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
2. _____																				
3. _____																				
4. _____																				
	<u>5</u>	=Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: W. Grand River Avenue/Central Park Drive City/County: Meridian Twp/Ingham Co. Sampling Date: 9/17/2018
 Applicant/Owner: DP Fox dba Green Castle Properties, LLC State: MI Sampling Point: D
 Investigator(s): B.Guevara; Marx Wetlands LLC Section, Township, Range: S22, T4N, R1W
 Landform (hillside, terrace, etc.): lowland Local relief (concave, convex, none): concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR L Lat: 42.7195 Long: -84.40798 Datum: WSG84
 Soil Map Unit Name: Kibbie loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>x</u> No <u> </u> Hydric Soil Present? Yes <u>x</u> No <u> </u> Wetland Hydrology Present? Yes <u>x</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>x</u> No <u> </u> If yes, optional Wetland Site ID: <u>Wetland D</u>
Remarks: (Explain alternative procedures here or in a separate report.) Wetland system is observed in the northeast/north-central portion of the Site.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u> </u> No <u>XX</u> Depth (inches): <u> </u> Water Table Present? Yes <u> </u> No <u>XX</u> Depth (inches): <u> </u> Saturation Present? Yes <u> </u> No <u>xx</u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Wetland hydrology is typical for this wetland type during the driest period of the year.	

VEGETATION – Use scientific names of plants.

Sampling Point: D

<u>Tree Stratum</u> (Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	=Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15-ft radius</u>)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	=Total Cover		
<u>Herb Stratum</u> (Plot size: <u>5-ft radius</u>)			
1. <u>Juncus effusus</u>	15	Yes	OBL
2. <u>Schoenoplectus tabernaemontani</u>	15	Yes	OBL
3. <u>Euthamia graminifolia</u>	15	Yes	FACW
4. <u>Carex vulpinoidea</u>	10	No	OBL
5. <u>Rumex crispus</u>	15	Yes	FAC
6. <u>Symphyotrichum lateriflorum</u>	25	Yes	FACW
7. <u>Agrostis gigantea</u>	30	Yes	OBL
8. <u>Carex scoparia</u>	10	No	FAC
9. <u>Carex normalis</u>	10	No	FAC
10. <u>Phalaris arundinacea</u>	10	No	FACW
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	155 =Total Cover		
<u>Woody Vine Stratum</u> (Plot size: <u>30-ft radius</u>)			
1. <u>Toxicodendron radicans</u>	5	Yes	FAC
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	5 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u> 70 </u>	x 1 = <u> 70 </u>
FACW species <u> 50 </u>	x 2 = <u> 100 </u>
FAC species <u> 40 </u>	x 3 = <u> 120 </u>
FACU species <u> 0 </u>	x 4 = <u> 0 </u>
UPL species <u> 0 </u>	x 5 = <u> 0 </u>
Column Totals: <u> 160 </u> (A)	<u> 290 </u> (B)
Prevalence Index = B/A = <u> 1.81 </u>	

Hydrophytic Vegetation Indicators:

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0¹

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

FOX NISSAN

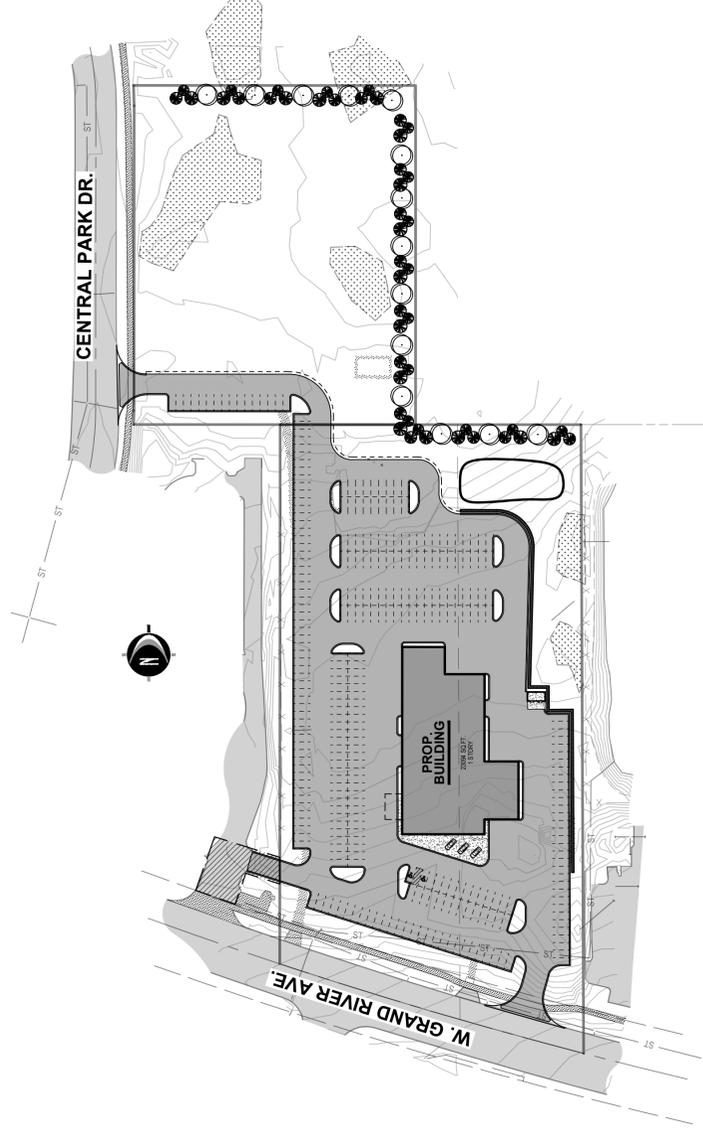
AUTOMOTIVE DEALERSHIP SPECIAL USE PERMIT APPLICATION

DESIGN TEAM CONTACTS

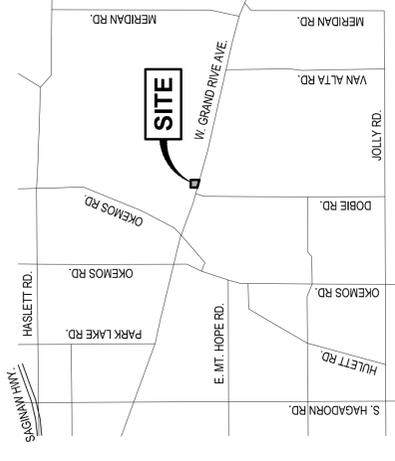
APPLICANT
GREEN CASTLE PROPERTIES, LLC
SUITE 800-200 OTTAWA AVENUE NW
GRAND RAPIDS, MI 49503
ATTN: COLIN SCHEFLER

ENGINEERS/SURVEYOR
NEDEVELD, INC.
202 MILLER RD.
ANN ARBOR, MI 48103
P: 734.926.6963
ATTN: JAMES GORENFLO, ASLA

ARCHITECT
STUDIO DETROIT
2111 WOODWARD AVE. STE 1001
DETROIT, MI 48201
P: 386.747.9717
ATTN: PETER PENTECU



PLAN VIEW
SCALE: 1" = 80'



LOCATION MAP

NOT TO SCALE



SHEET INDEX

CIVIL PLANS	C-100
COVER SHEET	C-201
EXISTING SITE CONDITIONS PLAN	C-202
EXISTING CONDITIONS & REMOVAL PLAN	C-203
EXISTING CONDITIONS & REMOVAL PLAN	C-205
DETAILED SITE PLAN	C-206
DETAILS SHEET	C-300
ARCHITECTURAL PLANS	A-1.0
COMPOSITE FLOOR PLAN	A2.1
EXTERIOR ELEVATIONS	A2.2

SITE DATA

1. SITE AREA: GROSS AREA (INCLUDING PUBLIC ROAD R.O.W.): 8.66 ACRES
NET AREA (EXCLUDING PUBLIC ROAD R.O.W.): 8.24 ACRES
2. EXISTING ZONING: C-2 COMMERCIAL
3. SETBACKS:

- GRAND RIVER (ARTERIAL): 100 FT. FROM **E**. RD.
- CENTRAL PARK DRIVE (COLLECTOR): 85 FT. FROM **E**. RD
- REAR SETBACK: 15 FT.*
- SIDE SETBACK: 15 FT.*
- * 100 FT. SETBACK FROM RESIDENTIAL DISTRICT, OR 60 FT. SETBACK WITH DOUBLE ROW OF INTERLOCKING TREES.
- 4. MAX. BLDG. HT.: 35 FT.
- 5. 70% MAX. BUILDING COVERAGE
- 6. BUILDING AREA: 24,000± SF
- 7. PARKING REQUIREMENTS:
AUTOMOTIVE SALES
REQUIRED PARKING: 1 SP. FOR 200 SF OF SALES AREA PLUS 1 SPACE FOR EACH DISPLAY VEHICLE.

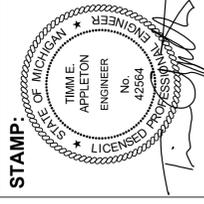
PROPOSED PARKING:
TOTAL SPACES: 332 SPACES PROVIDED
INCLUDING 2 BARRIER FREE SPACES

LEGAL DESCRIPTION

M20-21, 22, 23 PART OF NE 1/4 OF SEC 22, T4N R14W DESS. AS COM AT E 1/4 COR OF SEC 22 - S86°57'40"V ALN S 1/4 OF NE 1/4, 131.97 FT TO POB - S80°57'40"V ALN S D S 1/4, 331.06 FT TO LN OF CENTRAL PARK DR - ALN S D E LN FOLLOWING 3 COURSES: NEY 16.71 FT ON CURVE TO LEFT, RAD OF 395 FT, CHD BRG N 01° 12' 44"E, N 359.29 FT & NWLY 23.97 FT ON CURVE TO LEFT, RAD OF 395 FT, CHD BRG N 01° 44' 19"W - N89° 57' 40"E 331.17 FT - S00° 02' 20"E 399.95 FT TO POB 3.035± AIL SPLIT ON 02/21/2011 FROM 33-02-02-251-008, 33-02-02-251-009
M22-22 COM AT PT 208.34 FT W OF E 1/4 POST OF SEC - W 206 FT - S 748 FT TO CEN OF US-16 HWY - ELY ALONG CEN OF SAID HWY 206 FT - N TO BEG ON SE 1/4 OF SEC 22 - 14N R14W - 3 A
M22-21 COM AT PT 1123.34 FT W OF E 1/4 POST OF SEC 22 - W 145 FT - S TO CEN OF US-16 HWY - ELY ALONG CEN OF SAID HWY TO PT DUE S OF BEG - N TO BEG ON SE 1/4 OF SEC 22, T4N R14W - 2, 425± A.

FOX NISSAN Cover Sheet

1614 & 1622 W. Grand River Avenue
Part of the Southeast Quarter of Section 22, T4N, R14W,
Meridian Township, Ingham County, Michigan



PROJECT NO:
18400890

SHEET NO:
C-100

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GRAND RAPIDS
HOLLAND
INDIANAPOLIS
ST. LOUIS

PREPARED FOR:
Green Castle Properties, LLC
Attn: Colin Scheffler
Suits 800-200 Ottawa Avenue NW
Grand Rapids, MI 49503

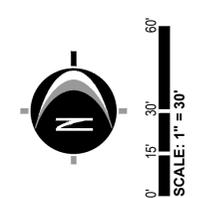
REVISIONS:

Title: Submitted for Review	V. Date: 10.16.18
Drawn: TA	Checked: TAUG
Title: Revised per Title Comments	V. Date: 11.08.18
Drawn: TA	Checked: TAUG



LEGAL DESCRIPTION
 M22.21 COM AT PT 1123.34 FT W OF E 1/4 POST OF SEC 22, W 145 FT - S TO GEN OF US-16 HWY - ELY ALONG GEN OF SAID HWY TO PT DUE S OF BEG - N TO BEG ON SE 1/4 OF SEC 22, 7IN R/W - 2.425 A.

REMOVAL / DEMOLITION NOTES
 1 REMOVE EXISTING CONCRETE DRIVE
 2 REMOVE EXISTING GRAVEL DRIVE
 3 REMOVE EXISTING HOUSE/GARAGESHED
 4 REMOVE EX. WALL
 5 REMOVE EXISTING POOL/PATIO
 6 REMOVE EXISTING WALL
 7 REMOVE EXISTING FENCE



LEGEND

□	Air Conditioner
□	Benchmark
□	Catch Basin - Round
□	Catch Basin - Square
□	Concrete
□	Curb Inlet
□	Electric Manhole
□	Electric Meter
□	Electric Meter
□	Flag
□	Gas Meter
□	Gas Meter
□	Gas Valve
□	Hydrant
□	Light Pole
□	Manhole
□	Phone Riser
□	Stop Box
□	Sign
□	Sanitary Sewer Manhole
□	Stormwater Manhole
□	Stormwater Manhole
□	Telephone Manhole
□	Transformer
□	Utility Pole
□	Underground Gas Marker
□	Water Meter
□	Water Valve
□	Water Valve
□	Water TV
□	Water TV
□	Electric
□	Overhead Electric
□	Underground Electric
□	Gas
□	Overhead Gas
□	Sanitary
□	Storm
□	Telephone
□	Underground Telephone
□	Watermain
□	Fence
□	Guard Rail
□	Zoning setback
□	Tree
□	Ex. Grade Contour
□	Asphalt
□	Concrete
□	Gravel
□	Building

PREPARED FOR:
 Green Castle Properties, LLC
 Attn: Colin Scheffer
 Suite 800 - 200 Ottawa Avenue NW
 Grand Rapids, MI 49503

REVISIONS:
 1. Check/Mark for Review
 2. Check/Mark for Review
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 4. Check/Mark for Review
 5. Check/Mark for Review
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CAUTION
 EXIST. 2" GAS MAIN

CAUTION
 EXIST. 10" GAS MAIN

BENCHMARK
 mdot horiz. control disc 32202
 ELEVATION 889.26
 NAVD 88 DATUM

BENCHMARK
 ARROW ON HORIZONTAL
 ELEVATION 871.12
 NAVD 88 DATUM



FOX NISSAN
 Existing Conditions & Removal Plan
 1614 & 1622 W. Grand River Avenue
 PART OF THE SOUTHEAST 1/4 OF SECTION 22, T4N, R17W,
 MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN



PROJECT NO: 18400890
SHEET NO: C-202



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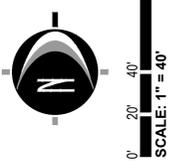
INDIANAPOLIS

ST. LOUIS

PREPARED FOR:
Green Castle Properties, LLC
Attn: Colin Schieller
Suits 800-200 Ottawa Avenue NW
Grand Rapids, MI 49503

REVISIONS:

Title: Submitted for Review	V. Date: 10.16.18
Drawn: TA	Checked: TAUG
Title: Revised per Twp. Comments	V. Date: 11.08.18
Drawn: TA	Checked: TAUG



LEGEND



GENERAL NOTES

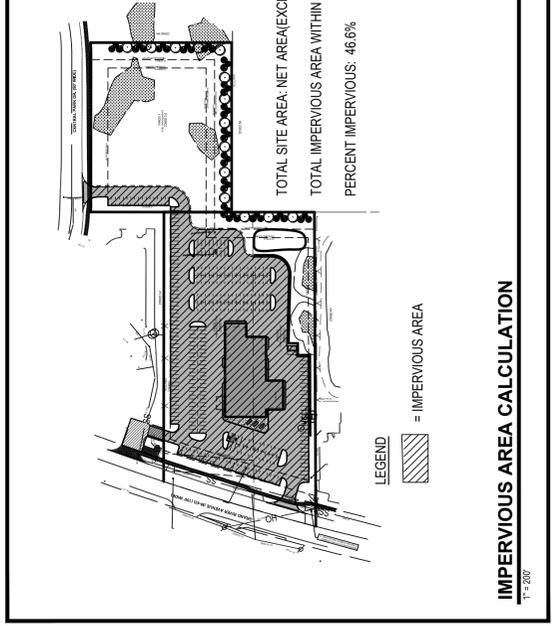
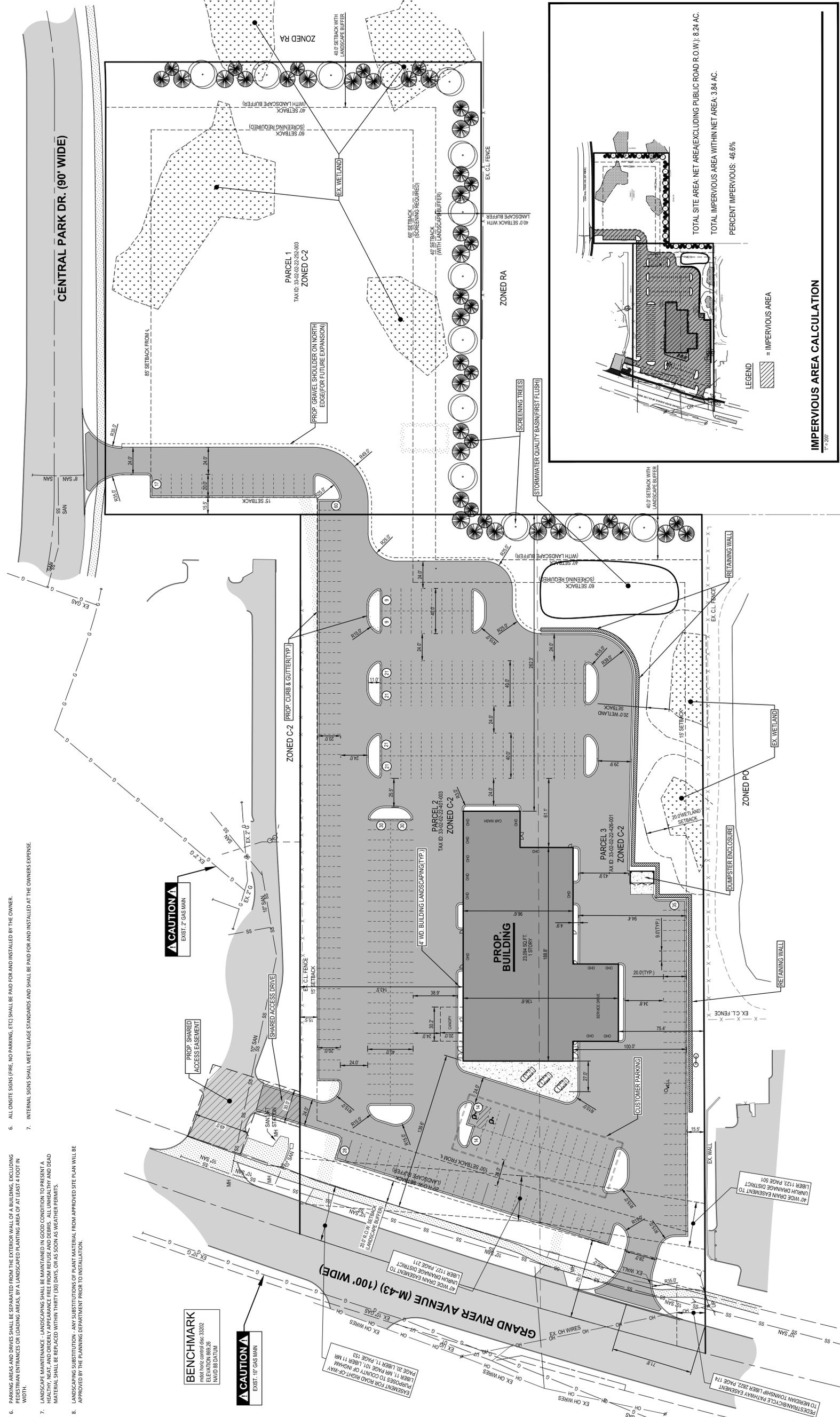
1. ALL DIMENSIONS TO CURB LINE ARE TO THE FACE OF CURB.
2. ALL WORK WITHIN GRAND RIVER AVENUE R.O.W. WILL REQUIRE A PERMIT FROM M.D.O.T.
3. ALL WORK WITHIN CENTRAL PARK DRIVE R.O.W. WILL REQUIRE A PERMIT FROM MERIDIAN TOWNSHIP.
4. ALL TRAFFIC CONTROL SHALL BE PER THE LATEST EDITION OF THE MUTCD.

GENERAL DESCRIPTIVE NOTES

1. THIS PROJECT PROPOSES TO CONSTRUCT A 25,000 GSF FACILITY TO BE OPERATED AS A NISSAN AUTOMOTIVE DEALERSHIP. USES INCLUDE THE SALES AND SERVICE OF NEW AND USED VEHICLES, AND RETAIL PARTS.
2. USE STATEMENT: FOX NISSAN
3. PROPOSED USE: AUTOMOTIVE RETAIL SALES AND SERVICE.
4. ALL ABOVE GROUND, BUILDING, AND ROOF-MOUNTED MECHANICAL EQUIPMENT AND UTILITIES SHALL BE SCREENED WHERE PRACTICAL. IF LOCATIONS ARE UNKNOWN, FUTURE LOCATIONS AND LANDSCAPE SCREENING WILL BE REVIEWED AND APPROVED BY BOTH THE BUILDING AND PLANNING DEPARTMENTS PRIOR TO INSTALLATION.
5. LIGHTING: ALL FIXTURES SHALL BE LED AND HAVE FULL CUT-OFF LENSES AND BE DIRECTED DOWNWARD AWAY FROM ROADWAYS AND ADJACENT PROPERTIES WHERE REQUIRED.
6. BUSINESS SIGNS AND SIGNS ARE APPROVED AS PART OF THIS SITE PLAN APPROVAL AND PRIOR TO ERECTING A SIGN, AN APPLICATION AND APPROPRIATE SUBMISSIONS SHALL BE MADE TO THE BUILDING DEPARTMENT FOR REVIEW, APPROVAL AND ISSUANCE OF A SIGN PERMIT.
7. ALL ON-SITE SIGNS (FIRE, NO PARKING, ETC) SHALL BE PAID FOR AND INSTALLED BY THE OWNER.
8. INTERNAL SIGNS SHALL MEET VILLAGE STANDARDS AND SHALL BE PAID FOR AND INSTALLED AT THE OWNERS EXPENSE.

LANDSCAPING NOTES

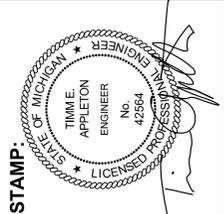
1. STREET TREES ARE REQUIRED ALONG ALL PRINCIPAL AND ARTERIAL ROADS PER 86-367.
2. A MINIMUM 10 FOOT LANDSCAPE BUFFER AND A 4 FOOT VERTICAL SCREEN SHALL BE PROVIDED ALONG ALL PROPOSED PROPOSED PARKING LOTS (WITH 50 OR MORE VEHICLE CAPACITY) ADJACENT TO RESIDENTIALLY ZONED LAND. VERTICAL SCREEN SHALL CONSIST OF MASONRY WALL, PLANT MATERIAL OR LANDSCAPED EARTH BERM.
3. A MINIMUM 15 FOOT GREENBELT SHALL BE PROVIDED ALONG ALL PROPOSED PARKING LOTS ADJACENT TO COMMERCIALLY ZONED LAND.
4. A MINIMUM 20 FOOT GREENBELT AND A 3 FOOT VERTICAL SCREEN SHALL BE PROVIDED ALONG ALL PROPOSED PROPOSED PARKING LOTS (WITH 50 OR MORE VEHICLE CAPACITY) ADJACENT TO RESIDENTIALLY ZONED LAND. VERTICAL SCREEN SHALL CONSIST OF MASONRY WALL, PLANT MATERIAL OR LANDSCAPED EARTH BERM.
5. LANDSCAPED AREAS SHALL BE PROVIDED THROUGHOUT THE PARKING AREA IN THE AMOUNT OF 200 SF PER EVERY TEN (10) PARKING SPACES (REQUIRED PERIMETER LANDSCAPING DOES NOT APPLY TO AREA A). MINIMUM OF TWO (2) CANOPY TREES SHALL BE PROVIDED FOR EVERY TEN (10) PARKING SPACES. 332 PARKING SPACES / 10' x 34' x 200 SF = 6,800 SF LANDSCAPING REQ'D. 332 PARKING SPACES / 10' x 34' x 2' = 68 CANOPY TREES REQ'D.
6. PARKING AREAS AND DRIVES SHALL BE SEPARATED FROM THE EXTERIOR WALL OF A BUILDING, EXCLUDING PEDESTRIAN ENTRANCES OR LOADING AREAS, BY A LANDSCAPED PLANTING AREA OF AT LEAST 4 FOOT IN WIDTH.
7. LANDSCAPE MAINTENANCE: LANDSCAPING SHALL BE MAINTAINED IN GOOD CONDITION TO PRESENT A HEALTHY, NEAT, AND ORDERLY APPEARANCE FREE FROM REFUSE AND DEBRIS. ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN THIRTY (30) DAYS, OR AS SOON AS WEATHER PERMITS.
8. LANDSCAPING SUBSTITUTION: ANY SUBSTITUTIONS OF PLANT MATERIAL FROM APPROVED SITE PLAN WILL BE APPROVED BY THE PLANNING DEPARTMENT PRIOR TO INSTALLATION.



FOX NISSAN

Dimensional Site Plan

1614 & 1622 W. Grand River Avenue
Par of the Southeast Quarter of Section 22, T4N, R1W,
Meridian Township, Ingham County, Michigan



PROJECT NO:
18400890

SHEET NO:
C-205

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CLIENT
DP FOX VENTURES LLC
200 OTTAWA AVE NW
SUITE 800
GRAND RAPIDS, MI 49503

PROJECT
FOX NISSAN
PROPOSED NEW FACILITY
1614 GRAND RIVER AVE.
OKEMOS, MI

JOB NO.
1841

SHEET
COMPOSITE FLOOR PLAN

SHEET NO.

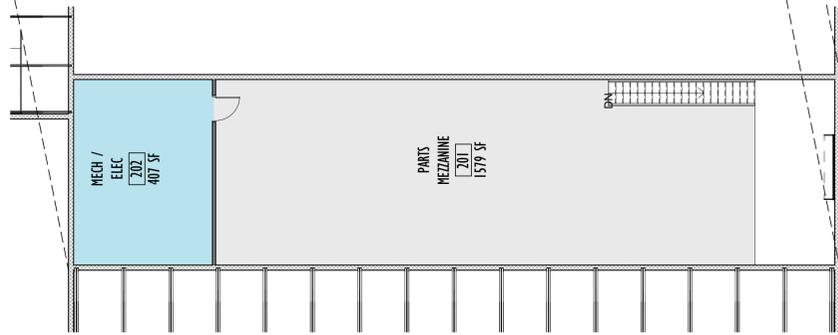
A1.0

DEPARTMENT	LEVEL	AREA (NSF)
CUSTOMER LOUNGE	FINISH FIRST FLOOR	1166 SF
NEW VEHICLE DELIVERY	FINISH FIRST FLOOR	1186 SF
PARTS	FINISH FIRST FLOOR	590 SF
PARTS	FINISH FIRST FLOOR	1042 SF
PARTS OTHER	MEZZANINE	1579 SF
SALES OFFICE	FINISH FIRST FLOOR	918 SF
SALES OTHER	FINISH FIRST FLOOR	1148 SF
SALES OTHER	FINISH FIRST FLOOR	1632 SF
SERVICE OTHER	PIT	407 SF
SERVICE OTHER	FINISH FIRST FLOOR	1533 SF
SERVICE RECEPTION	FINISH FIRST FLOOR	2842 SF
SERVICE SHOP	FINISH FIRST FLOOR	3298 SF
SHOWROOM	FINISH FIRST FLOOR	6851 SF
TOTAL (NSF)		2809 SF
BUILDING FOOTPRINT		24242 SF
PARTS MEZZANINE		1579 SF
TOTAL BUILDING AREA (GSF)		27139 SF

- DEALERSHIP ZONES**
- SHOWROOM
 - SALES OFFICE
 - SALES OTHER
 - CUSTOMER LOUNGE
 - NEW VEHICLE DELIVERY
 - SERVICE RECEPTION
 - SERVICE SHOP
 - SERVICE OTHER
 - PARTS
 - PARTS OTHER



COMPOSITE FIRST FLOOR PLAN
3/32" = 1/4"



MEZZANINE PLAN
3/32" = 1/4"

EXTERIOR MATERIALS	
MATERIAL	FINISH
ACM-1	ALUMINUM COMPOSITE PANEL ALPOLIC - BSX SILVER METALLIC, RAIN SCREEN
ACM-2	ALUMINUM COMPOSITE PANEL ILLUMINATED RED FIBER GLASS, MATCH ALPOLIC - VALFON 10742 RED
ACM-3	ALUMINUM COMPOSITE PANEL ALPOLIC - NSG NISSAN GRAY; RAIN SCREEN
SF-1	KAWNEER 1800UT SYSTEM 1; POWDER COAT (PC-2, RAL 7024 GRAPHITE GRAY)
GL-2	EXTERIOR GLAZING GLASS: 1" CLEAR INSULATED, SOLARBAN LOW-E 70XL
CMU-1	CONCRETE MASONRY UNIT COLOR: INTEGRALLY COLORED, OR PAINT EP-5
EP-1	EXTERIOR PAINT COLOR: SHERWIN WILLIAMS #SW2632 COLONIAL REVIVAL GRAY
EP-5	EXTERIOR PAINT COLOR: SHERWIN WILLIAMS #SW7076 CYBERSPACE
CF-1	CAP FLASH COLOR: MATCH ACM-1

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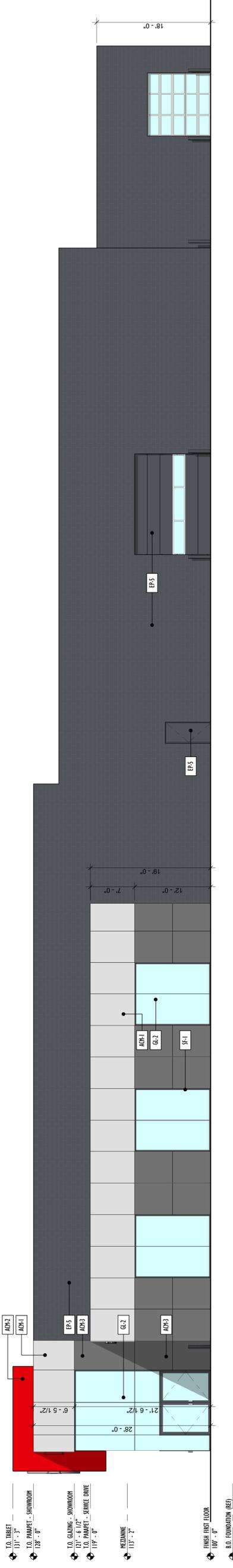
CLIENT
DP FOX VENTURES LLC
200 OTTAWA AVE NW
SUITE 800
GRAND RAPIDS, MI 49503

PROJECT
FOX NISSAN
PROPOSED NEW FACILITY
1614 GRAND RIVER AVE.
OKEMOS, MI

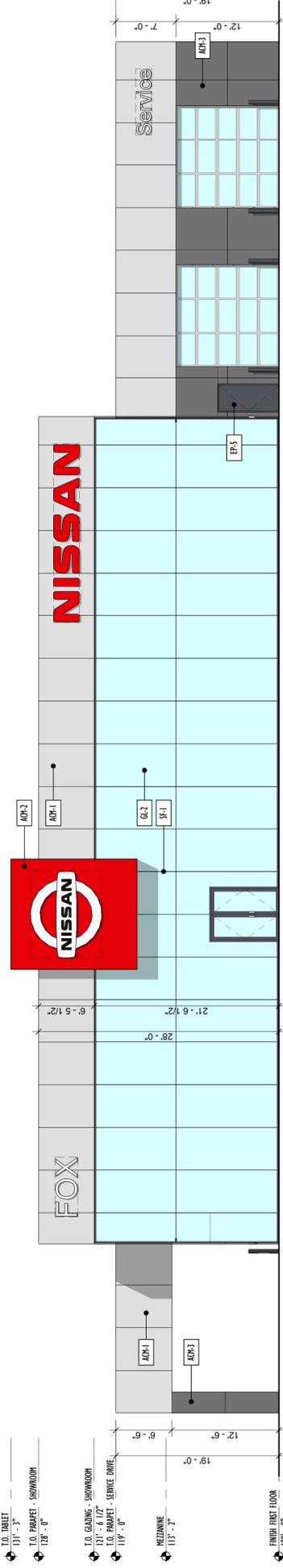
JOB NO.
1841

SHEET
EXTERIOR ELEVATIONS

SHEET NO.
A2.1



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



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

EXTERIOR MATERIALS	
MATERIAL	FINISH
ACM-1	ALUMINUM COMPOSITE PANEL ALPOLIC - BSX SILVER METALLIC, RAIN SCREEN
ACM-2	ALUMINUM COMPOSITE PANEL ILLUMINATED RED FIBER GLASS, MATCH ALPOLIC - VALFELON 10742 RED
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CF-1	CAP FLASH COLOR: MATCH ACM-1

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DO NOT SCALE DRAWINGS
ISSUED 10.17.18 SJP
FILE
DRAWN PMP
CHECKED SJB
SEAL

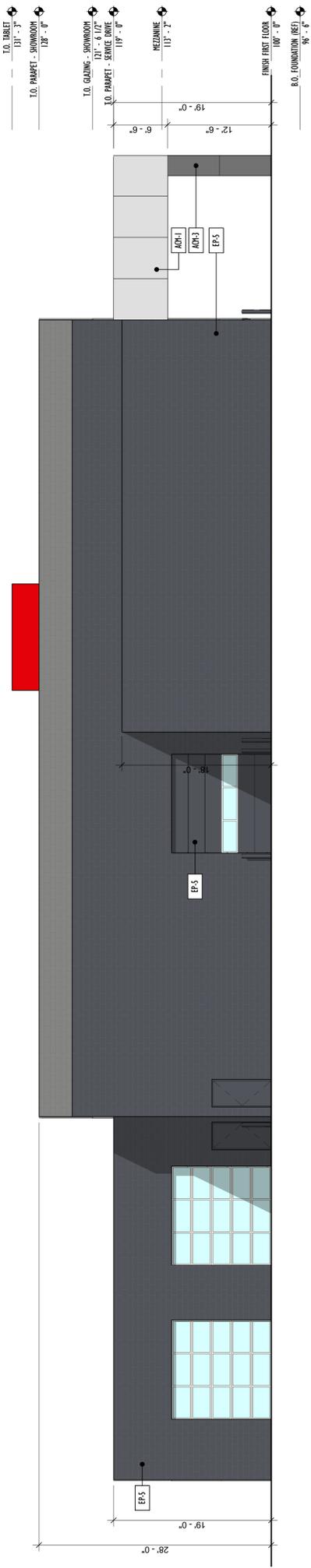
CLIENT
DP FOX VENTURES LLC
200 OTTAWA AVE NW
SUITE 800
GRAND RAPIDS, MI 49503

PROJECT
FOX NISSAN
PROPOSED NEW FACILITY
1614 GRAND RIVER AVE.
OKEMOS, MI

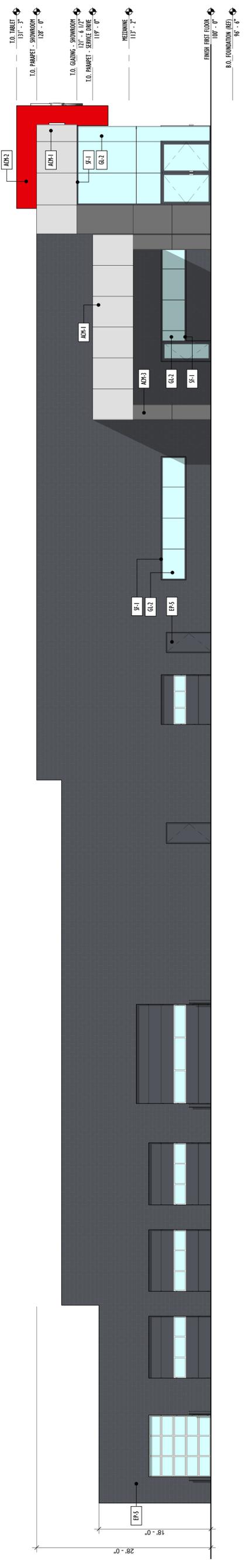
JOB NO.
1841

SHEET
EXTERIOR ELEVATIONS

SHEET NO.
A2.2



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



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



To: Planning Commission

From: Peter Menser, Principal Planner

Justin Quagliata, Assistant Planner

Date: November 20, 2018

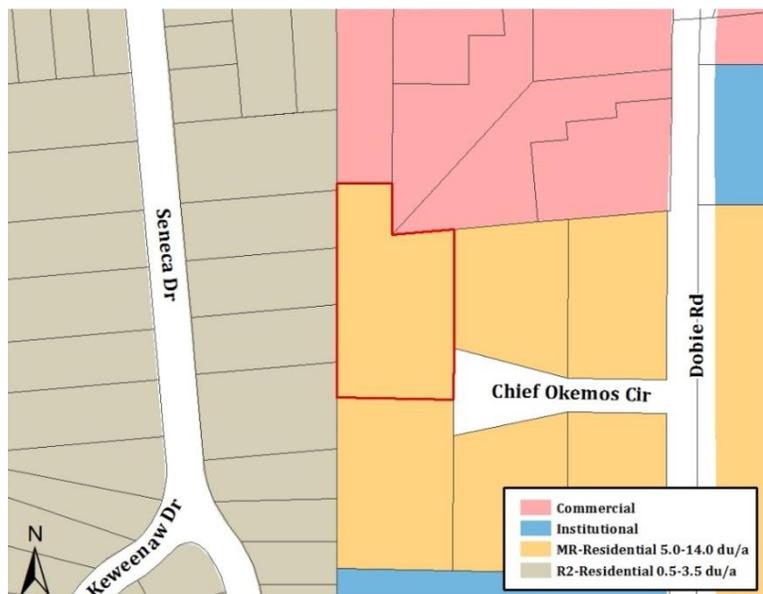
Re: Special Use Permit #18111 (Fedewa Holdings), construct a 15-unit townhouse complex comprised of two buildings totaling 21,735 square feet at 1730 Chief Okemos Circle.

Fedewa Holdings has requested a special use permit to construct a 15-unit townhouse complex comprised of two buildings totaling approximately 21,735 square feet at 1730 Chief Okemos Circle. The 1.52 acre subject site is zoned RC (Multiple Family, maximum 14 units per acre). One of the buildings would contain nine, 1,615 square foot units each consisting of three bedrooms and 2-1/2 bathrooms, an attached 2-car garage, and decks in the rear. The second building would contain six, 1,200 square foot units each consisting of two bedrooms and 2-1/2 bathrooms, an attached 2-car garage, and decks in the rear. Each building would be two-stories and would not contain basements.

Master Plan

The Future Land Use Map from the 2017 Master Plan designates the subject site in the MR-Residential 5.0 – 14.0 dwelling units per acre category.

FUTURE LAND USE MAP

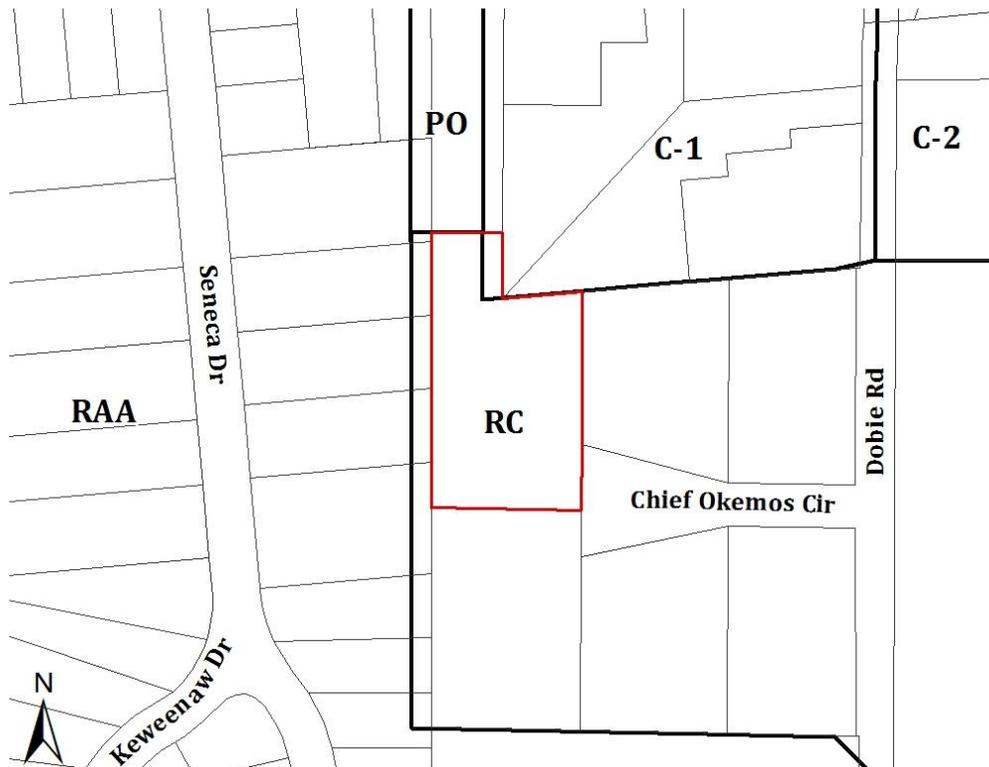


Zoning

The subject site is zoned RC (Multiple Family, maximum 14 units per acre). With 80 feet of lot frontage on Chief Okemos Circle and 1.52 acres (66,019 square feet) in lot area, the site does not meet the minimum 100 foot lot width standard of the RC zoning district. The Zoning Board of Appeals granted a variance from the minimum lot width requirement in 1989 (ZBA #89-05-24-2). The variance continues to be valid as the configuration of the lot has not changed since the initial variance approval. The following table illustrates the minimum lot width and lot area requirements for the RC zoning district.

Zoning District	Lot Width (feet)	Lot Area (square feet)
RC (Multiple Family)	100	11,000 for two families, no minimum for multiple family

ZONING MAP



Physical Features

The site is currently undeveloped and is generally level, with elevations ranging from 878 feet above mean sea level near the northeastern corner of the site and gradually rising to 884 feet above mean seal level near the northwest property line. Vegetation mainly consists of overgrown brush. The applicant submitted a tree survey which depicts trees greater than 12 inches in diameter on the property.

The Township Wetland Map and the Flood Insurance Rate Map indicate neither wetlands nor floodplain are present on or near the site. The site has no special designation on the Township Greenspace Plan.

Streets and Traffic

The site fronts on Chief Okemos Circle, which is a two lane public road with curb and gutter classified as a Local Street on the Street Setbacks and Service Drives Map in the zoning ordinance. The Ingham County Road Department (ICRD) does not have traffic count information for Chief Okemos Circle.

The applicant submitted a trip generation analysis which estimates future vehicle trips that could be generated by the proposed townhouse complex. The Institute of Transportation Engineers (ITE) trip generation rates for Multifamily Housing (Low-Rise) (Land Use Code 220) were selected to represent the proposed development. The following table summarizes findings from the submitted trip generation analysis.

Description	Size	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	
Multifamily Housing (Low-Rise), Code 220	15 Units	2	6	8	7	4	11	110

A traffic assessment is required for new special uses which could generate between 50 and 99 directional trips during a peak hour of traffic. A peak hour of traffic is the hour of highest volume of traffic entering and exiting the site during the a.m. or p.m. hours. A traffic impact study is required for new special uses which would generate over 100 directional trips during a peak hour of traffic, or over 750 trips on an average day. An average day is the average 24-hour total of all vehicle trips counted to and from a study site from Monday through Friday. Based on the projected traffic volumes neither a traffic assessment nor traffic impact study is required.

CATA bus service is available approximately one-tenth mile east of the site at the intersection of Chief Okemos Circle and Dobie Road. Route 22/23 travels to Meridian Mall, Meijer, and the Michigan State University campus.

Public Utilities

Municipal water and sanitary sewer are available to serve the subject site. The location and capacity of utilities will be reviewed in detail during site plan review if the special use permit is approved.



Staff Analysis

The applicant is requesting a special use permit to construct a 15-unit townhouse complex comprised of two buildings. All multiple family housing projects with more than two units must receive special use permit approval from the Planning Commission. Special use permits for multiple family housing are evaluated using the nine general special use permit criteria listed in Section 86-126 of the Zoning Ordinance and specific standards for multiple family projects found in Section 86-376.

The RC zoning district allows a maximum density of 14 dwelling units per acre. The applicant is proposing fifteen units; with density of 9.9 dwelling unit per acre, the project is consistent with the maximum permitted for the 1.52 acre site. Compliance with design standards listed in Section 86-376(g) of the zoning ordinance are shown on the following chart.

Design Objective	Standard	Proposed
Minimum lot width	100 feet	80 feet (1989 variance)
Maximum building coverage	35%	17.8%
Minimum open space	35%	65.5%
Front yard setback	25 feet	19 feet
Side yard setback	15 feet	25 feet
Rear yard setback	40 feet	40 feet
Distance from a single-family zoning district boundary	50 feet	40 feet
Minimum distance between buildings (when widest dimensions face each other)	60 feet	75 feet
Maximum building height	35 feet	32 feet
Maximum building dimension	200 feet	156 feet in length (east bldg.) 226 feet in length (west bldg.)

Zoning Ordinance Section 86-367 (Street Setbacks and Services Drives Map) states the front yard setback on local streets is 25 feet from the street right-of-way line. The submitted site plan shows decks on the east building encroaching six feet into the front yard setback, therefore a variance from the Zoning Board of Appeals is required.

Zoning Ordinance Section 86-376(g)(4)(e) states multiple-family buildings containing three or more units must be setback a minimum of 50 feet from any single-family residential zoning district boundary. The submitted site plan depicts the west building is located 40 feet from the adjacent single-family zoning district boundary to the west, therefore a 10 foot variance from the Zoning Board of Appeals is required.



**Special Use Permit #18111 (Fedewa Holdings)
Planning Commission (November 26, 2018)
Page 5**

Zoning Ordinance Section 86-376(4)(f)(7)(iii) states no single building or connected building may exceed 200 feet in any one dimension, and that all buildings shall be arranged to permit emergency vehicle access, by some practical means, to all sides. The submitted site plan indicates the west building is 226 feet in length, therefore a 26 foot variance from the Zoning Board of Appeals is required.

Zoning Ordinance Section 86-756(10) states where a parking area adjoins a residential district a landscaped buffer at least 20 feet wide must be provided between the parking area and the adjoining property. As proposed the future expansion capacity parking would, if constructed, be located 15 feet from the residential zoning district to the south, therefore a 5 foot variance from the Zoning Board of Appeals is required. Additionally, a dumpster located in a parking area is subject to parking area setbacks. As depicted on the submitted site plan, the dumpster is located 15 feet from the residential zoning district to the south. A variance from the Zoning Board of Appeals would be required if the dumpster is not located at least 20 feet from the south property line.

The submitted building elevations indicate vinyl siding is the primary building material with accents of rough-split vinyl shakes, and cultured stone surrounding garage doors. Asphalt shingles would cover the roof.

If the project is approved by the Planning Commission, the applicant will be required to submit for Site Plan Review before work on the project can begin. Site Plan Review is a detailed staff-level analysis of the project which includes reviews of storm water, utilities, landscaping, grading, and other issues to ensure compliance with all applicable ordinances as well as confirmation of approvals from local agencies such as the Ingham County Drain Commissioner's Office and Road Department. As a condition of special use permit approval, the Planning Commission may require landscaping around buildings and in open spaces to appropriately screen surrounding properties.

Planning Commission Options

The Planning Commission may approve, approve with conditions, or deny the special use permit. A resolution will be provided at a future meeting.

Attachments

1. Special use permit application.
2. Trip generation analysis prepared by Traffic Engineering Associates, Inc., dated October 18, 2018, and received by the Township on October 30, 2018.
3. Site plan prepared by BRS Engineering, dated August 20, 2018 (revision date November 1, 2018), and received by the Township on October 30, 2018.
4. Building elevations prepared by Jerry Fedewa Homes Inc., dated October 26, 2018, and received by the Township on October 30, 2018.

G:\Community Planning & Development\Planning\SPECIAL USE PERMITS (SUP)\2018\SUP 18111 (Fedewa Holdings)\SUP 18111.pc1.doc



**CHARTER TOWNSHIP OF MERIDIAN
DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT
5151 MARSH ROAD, OKEMOS, MI 48864
PLANNING DIVISION PHONE: (517) 853-4560, FAX: (517) 853-4095**

SPECIAL USE PERMIT APPLICATION

Before submitting this application for review, an applicant may meet with the Director of Community Planning and Development to discuss the requirements for a special use permit and/or submit a conceptual plan for review to have preliminary technical deficiencies addressed prior to submittal of the application. If the property or land use is located in the following zoning districts RD, RC, RCC, RN then the applicant must meet with the Planning Director to discuss technical difficulties before filing a formal application.

Part I

- A. Applicant Fedewa Holdings
Address of Applicant 5570 Okemos Rd. East Lansing, MI 48823
Telephone - Work (517) 339-0020 Home _____ Fax (517) 339-4022 Email fedewagr@gmail.com
Interest in property (circle one): Owner Tenant Option Other
(Please attach a list of all persons with an ownership interest in the property.)
- B. Site address / location / parcel number 1730 Chief Okemos Circle, Okemos MI. 48864 33-02-02-22-451-001
Legal description (please attach if necessary) MP 6869 LOT 4 CHIEF OKEMOS SUBDIVISION.
Current zoning RC
Use for which permit is requested / project name Multi Family Project/ Chief Okemos Circle
Corresponding ordinance number 86-376 (g)
- C. Developer (if different than applicant) G.S Fedewa Builders
Address 5570 Okemos Rd. East Lansing, MI 48823
Telephone – Work (517) 339-0020 Home _____ Fax (517) 339-4022
- D. Architect, Engineer Planner or Surveyor responsible for design of project if different from applicant:
Name Brett Stockhill
Address _____
Telephone – Work (517)719-5094 Home _____ Fax _____
- E. Acreage of all parcels in the project: Gross 1.52 Net 1.52
- F. Explain the project and development phases: Build 15 multi family units in a single phase.
- G. Total number of:
Existing: structures N/A bedrooms _____ offices _____ parking spaces _____ carports _____ garages _____
Proposed: structures 2 bedrooms 39 offices _____ parking spaces 60 carports _____ garages 15
- H. Square footage: existing buildings N/A proposed buildings 1,615 sq ft. and 1,200 sq.ft.
Usable Floor area: existing buildings _____ proposed buildings 1,615 sq ft. and 1,200 sq.ft.
- I. If employees will work on the site, state the number of full time and part time employees working per shift and hours of operation:
- J. Existing Recreation: Type Vacant Land Acreage 1.52
Proposed Recreation: Type Open Green Space Acreage 1
Existing Open Space: Type Vacant Land Acreage 1.52
Proposed Open Space: Type Open Green Space Acreage 1

K. If Multiple Housing:

Total acres of property 1.52

Acres in floodplain 0 Percent of total 0%

Acres in wetland (not in floodplain) 0 Percent of total 0%

Total dwelling units 15

Dwelling unit mix:

Number of single family detached:	for Rent	_____	Condo	_____
Number of duplexes:	for Rent	_____	Condo	_____
Number of townhouses:	for Rent	<u>15</u>	Condo	_____
Number of garden style apartments:	for Rent	_____	Condo	_____
Number of other dwellings:	for Rent	_____	Condo	_____

L. The following support materials must be submitted with the application:

1. Nonrefundable Fee.
2. Legal Description of the property.
3. Evidence of fee or other ownership of the property.
4. Site Plan containing the information listed in the attachment to this application.
5. Architectural sketches showing all sides and elevations of the proposed buildings or structures, including the project entrance, as they will appear upon completion. The sketches should be accompanied by material samples or a display board of the proposed exterior materials and colors.
6. A Traffic Study, prepared by a qualified traffic engineer, based on the most current edition of *Evaluating Traffic Impact Studies: A Recommended Practice for Michigan Communities*, published by the State Department of Transportation.
 - a. A traffic assessment will be required for the following:
 - 1) New special uses which could, or expansion or change of an existing special use where increase in intensity would, generate between 50 to 99 directional trips during a peak hour of traffic.
 - 2) All other special uses requiring a traffic assessment as specified in the Township Code of Ordinances, Chapter 86, Article IV, Division 2.
 - b. A traffic impact study will be required for the following:
 - 1) New special uses which would, or expansion or change of an existing special use where increase in intensity would, generate over 100 directional trips or more during a peak hour of traffic, or over 750 trips on an average day.
 - 2) All other special uses requiring a traffic assessment as specified in the Township Code of Ordinances, Chapter 86, Article IV, Division 2.
7. Natural features assessment which includes a written description of the anticipated impacts on the natural features at each phase and at project completion that contains the following:
 - a. An inventory of natural features proposed to be retained, removed, or modified. Natural features shall include, but are not limited to, wetlands, significant stands of trees or individual trees greater than 12 inches dbh, floodways, floodplains, waterbodies, identified groundwater vulnerable areas, slopes greater than 20 percent, ravines, and vegetative cover types with potential to sustain significant or endangered wildlife.
 - b. Description of the impacts on natural features.
 - c. Description of any proposed efforts to mitigate any negative impacts.

The natural features assessment may be waived by the Director of Community Planning and Development in certain circumstances.

- M. Any other information specified by the Director of Community Planning and Development which is deemed necessary to evaluate the application.
- N. In addition to the above requirements, for zoning districts, **RD, RC, RCC, RN, and CV** and **Group Housing Residential Developments** the following is required:
1. Existing and proposed contours of the property at two foot intervals based on United States Geological Survey (USGS) data.
 2. Preliminary engineering reports in accordance with the adopted Township water and sewer standards, together with a letter of review from the Township Engineer.
 3. Ten copies of a report on the intent and scope of the project including, but not limited to: Number, size, volume, and dimensions of buildings; number and size of living units; basis of calculations of floor area and density and required parking; number, size, and type of parking spaces; architectural sketches of proposed buildings.
 4. Seven copies of the project plans which the Township shall submit to local agencies for review and comments.
- O. In addition to the above requirements, a special use application in zoning district **RP** requires the following material as part of the site plan:
1. A description of the operations proposed in sufficient detail to indicate the effects of those operations in producing traffic congestion, noise, glare, air pollution, water pollution, fire hazards or safety hazards or the emission of any potentially harmful or obnoxious matter or radiation.
 2. Engineering and architectural plans for the treatment and disposal of sewerage and industrial waste tailings, or unusable by-products.
 3. Engineering and architectural plans for the handling of any excessive traffic congestion, noise, glare, air pollution, or the emission of any potentially harmful or obnoxious matter or radiation.
- P. In addition to the above requirements, a special use application for a use in the Floodway Fringe of zoning district **CV** requires the following:
1. A letter of approval from the State Department of Environmental Quality.
 2. A location map including existing topographic data at two-foot interval contours at a scale of one inch representing 100 feet.
 3. A map showing proposed grading and drainage plans including the location of all public drainage easements, the limits, extent, and elevations of the proposed fill, excavation, and occupation.
 4. A statement from the County Drain Commissioner, County Health Department, and Director of Public Works and Engineering indicating that they have reviewed and approved the proposal.
- Q. In addition to the above requirements, a special use application for a use in the Groundwater Recharge area or zoning district **CV** requires the following:
1. A location map including existing topographic data at two-foot interval contours.
 2. A map showing proposed grading and drainage plans including the location of all public drainage easements, the limits and extent of the proposed fill, excavation, and occupation.
 3. A statement from the County Drain Commissioner, County Health Department, and Director of Public Works and Engineering indicating that they have reviewed and approved the proposal.
- R. In addition to the above requirements, the Township Code of Ordinances, Article VI, should be reviewed for the following special uses: group housing residential developments, mobile home parks, nonresidential structures and uses in residential districts, planned community and regional shopping center developments, sand or gravel pits and quarries, sod farms, junk yards, sewage treatment and disposal installations, camps and clubs for outdoor sports and buildings greater than 25,000 square feet in gross floor area.

Part II

SUP REQUEST STANDARDS
Township Code of Ordinances, Section 86-126

Applications for Special Land Uses will be reviewed with the standards stated below. An application that complies with the standards stated in the Township Ordinance, conditions imposed pursuant to the Ordinance, other applicable Ordinances, and State and Federal statutes will be approved. Your responses to the questions below will assist the Planning Commission in its review of your application.

- (1) The project is consistent with the intent and purposes of this chapter.
(2) The project is consistent with applicable land use policies contained in the Township's Master Plan of current adoption.
(3) The project is designed, constructed, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and that such a use will not change the essential character of the same area.
(4) The project will not adversely affect or be hazardous to existing neighboring usesThe Proposed project has several
(5) The project will not be detrimental to the economic welfare of surrounding properties or the community.
(6) The project is adequately served by public facilities, such as existing roads, schools, stormwater drainage, public safety, public transportation, and public recreation, or that the persons or agencies responsible for the establishment of the proposed use shall be able to provide any such service. The proposed
(7) The project is adequately served by public sanitation facilities if so designed. If on-site sanitation facilities for sewage disposal, potable water supply, and storm water are proposed, they shall be properly designed and capable of handling the longterm needs of the proposed project. The project is adequately
(8) The project will not involve uses, activities, processes, materials, and equipment and conditions of operation that will be detrimental to any persons, property, or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare, or odors.
(9) The project will not directly or indirectly have a substantial adverse impact on the natural resources of the Township, including, but not limited to, prime agricultural soils, water recharge areas, lakes, rivers, streams, major forests, wetlands, and wildlife areas.

Part III

I (we) hereby grant permission for members of the Charter Township of Meridian's Boards and/or Commissions, Township staff member(s) and the Township's representatives or experts the right to enter onto the above described property (or as described in the attached information) in my (our) absence for the purpose of gathering information including but not limited to the taking and the use of photographs.

[X] Yes [] No (Please check one)

By the signature(s) attached hereto, I (we) certify that the information provided within this application and accompanying documentation is, to the best of my (our) knowledge, true and accurate

Signature of Applicant

10/26/2018
Date

Jerry Fedewa
Type/Print Name

Fee: \$500.00

Received by/Date:

Jerry Fedewa
Jerry Fedewa Homes Inc.
5570 Okemos Road
East Lansing, MI 48823

**Traffic Engineering
Associates, Inc.**
517/627-6028 FAX: 517/627-6040
PO Box 100
Saranac, Michigan 48881

October 18, 2018

Dear Mr. Fedewa:

Traffic Engineering Associates, Inc. (TEA) conducted a trip generation analysis to determine the approximate future vehicle trips which could be generated by the proposed residential development located on Chief Okemos Circle in Meridian Charter Township, Ingham County, Michigan.

PROJECT DESCRIPTION

The proposed residential development will have 15 townhouse units on approximately 1.5 acres with one (1) proposed driveway location on Chief Okemos Circle. The purpose of this study is to provide a trip generation for the proposed new residential development.

TRAFFIC ANALYSIS

For this analysis, trip generation rates were derived from the ITE TRIP GENERATION MANUAL (10th edition). The ITE trip generation rates for Multifamily Housing (Low-Rise) (Land Use Code 220), were selected as representing the 15 townhouse units. The ITE description of Multifamily Housing (Low-Rise) is as follows:

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors).

It is projected that the proposed residential development will generate 8 vehicle trips during the AM peak hour, 11 vehicle trips during the PM peak hour, and a weekday total of 110 vehicle trips.

Vehicle Trip Generation Summary

Description	Size	AM Peak Hour			PM Peak Hour			Weekday
		In	Out	Total	In	Out	Total	
Multifamily Housing (Low-Rise), Code 220	15 Units	2	6	8	7	4	11	110

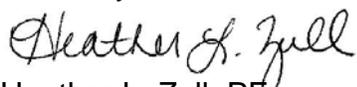


FINDINGS

In accordance with the guidelines set forth in "Evaluating Traffic Impact Studies, A Recommended Practice for Michigan Communities," sponsored by the Tri-County Regional Planning Commission and the Michigan Department of Transportation, if a proposed site is expected to generate at least 100 directional trips during the peak hour or at least 750 trips during an average day, a traffic impact statement is required. If the traffic generated by the site is expected to be between 50 and 99 directional trips during a peak hour, a traffic impact assessment shall be required. Using the Meridian Charter Township traffic impact guidelines, neither a traffic assessment nor traffic impact statement would be required for this development based on projected volumes.

If you have any questions, please write or call.

Sincerely,

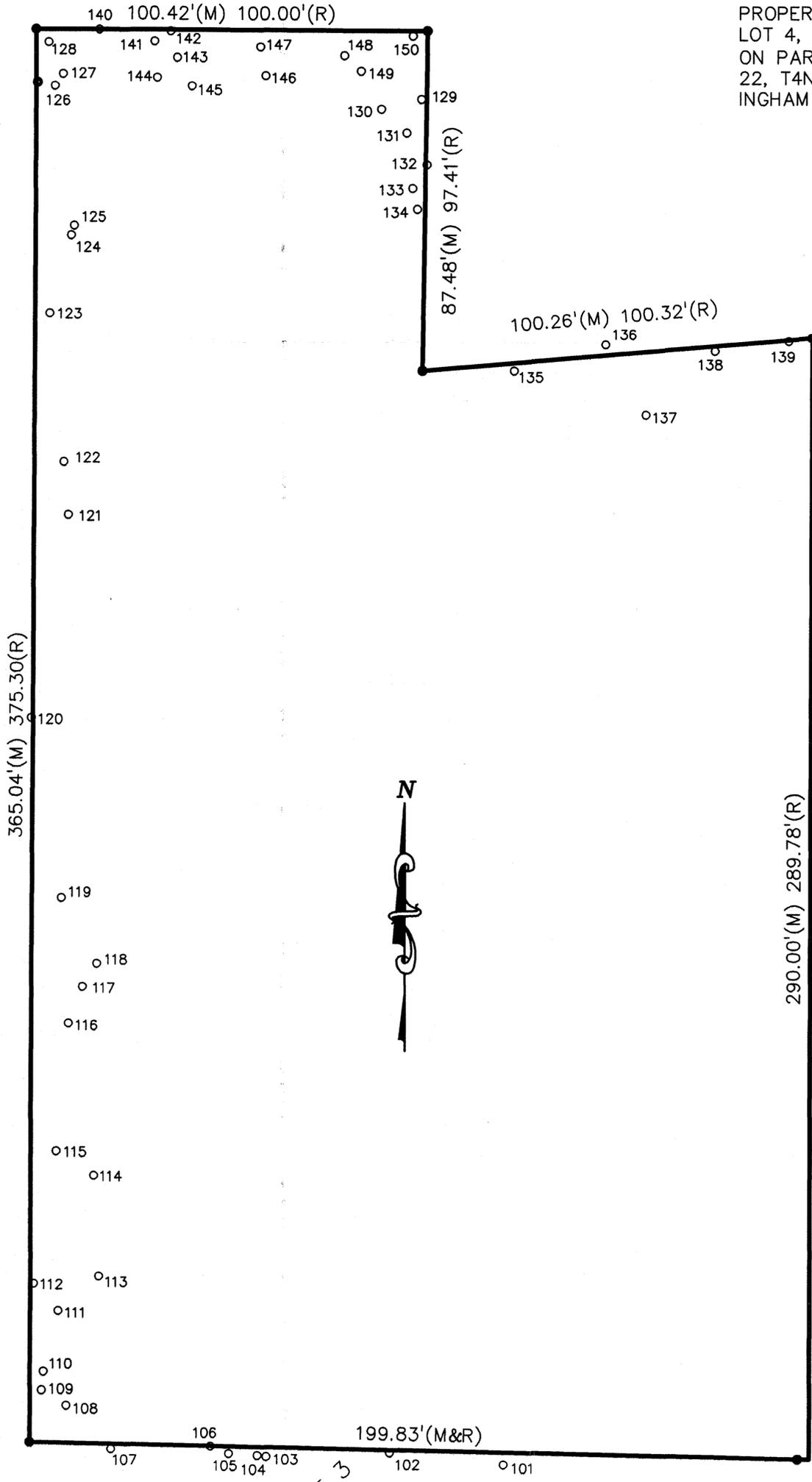


Heather L. Zull, PE



TREE SURVEY

PROPERTY DESCRIPTION:
 LOT 4, CHIEF OKEMOS, A SUBDIVISION
 ON PART OF THE SE 1/4 OF SECTION
 22, T4N, R1W, MERIDIAN TWP.,
 INGHAM COUNTY, MICHIGAN.



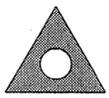
TREE NO.	TRUNK DIA.	SPECIES
100	28mpl	(MAPLE)
101	20box	(BOXELDER)
102	14cher	(CHERRY)
103	16ctwd	(COTTONWOOD)
104	16ctwd	
105	10cher	
106	16ctwd	
107	10wal	(WALNUT)
108	16cher	
109	10cher	
110	08cher	
111	08cher	
112	26hack	(HACKBERRY)
113	20cher	
114	14cher	
115	10hack	
116	12cher	
117	16mpl	
118	14cher	
119	18cher	
120	14hick	(HICKORY)
121	10hack	
122	14hack	
123	16cher	
124	08oak	
125	24oak	
126	10hack	
127	10cher	
128	12cher	
129	06elm	
130	16oak	
131	08oak	
132	14elm	
133	14oak-2	(2 STEMS)
134	08cher	
135	16cher	
136	14spr	
137	14wal	
138	14spr	(SPRUCE)
139	18spr	
140	06elm	
141	12cher	
142	10cher	
143	06apple	
144	06cher	
145	10elm	
146	12oak	
147	12oak	
148	14oak-2	
149	06apple	
150	06apple	

THIS IS NOT A BOUNDARY SURVEY.

Terry L. Wiegman, P.S. No. 39100
 (Authorized Agent)

LEGEND

- - Tree Location
- - Tree No.
- - Fnd. Cor. (as noted)
- - Line Not To Scale
- R - Record Measurement
- M - Field Measurement



BENCHMARK SURVEYING, LLC

9851 MISSAUKEE LANE, HASLETT, MI 48840
 (517) 230-1865 * tw@benchmarksurveying.us

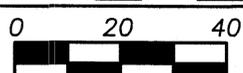
For: G.S. FEDEWA BUILDERS, INC.

Location: 1730 CHIEF OKEMOS CIRCLE
 OKEMOS, MI

Drawn by: TW

Dwg. No. 18-062TREES

Sheet 1 of 1



SCALE: 1" = 40'

Date:

TW

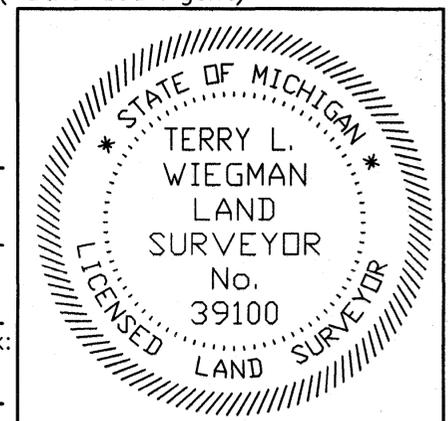
Field work by:

11/3/18

Date of field work:

18-062

Proj. No.



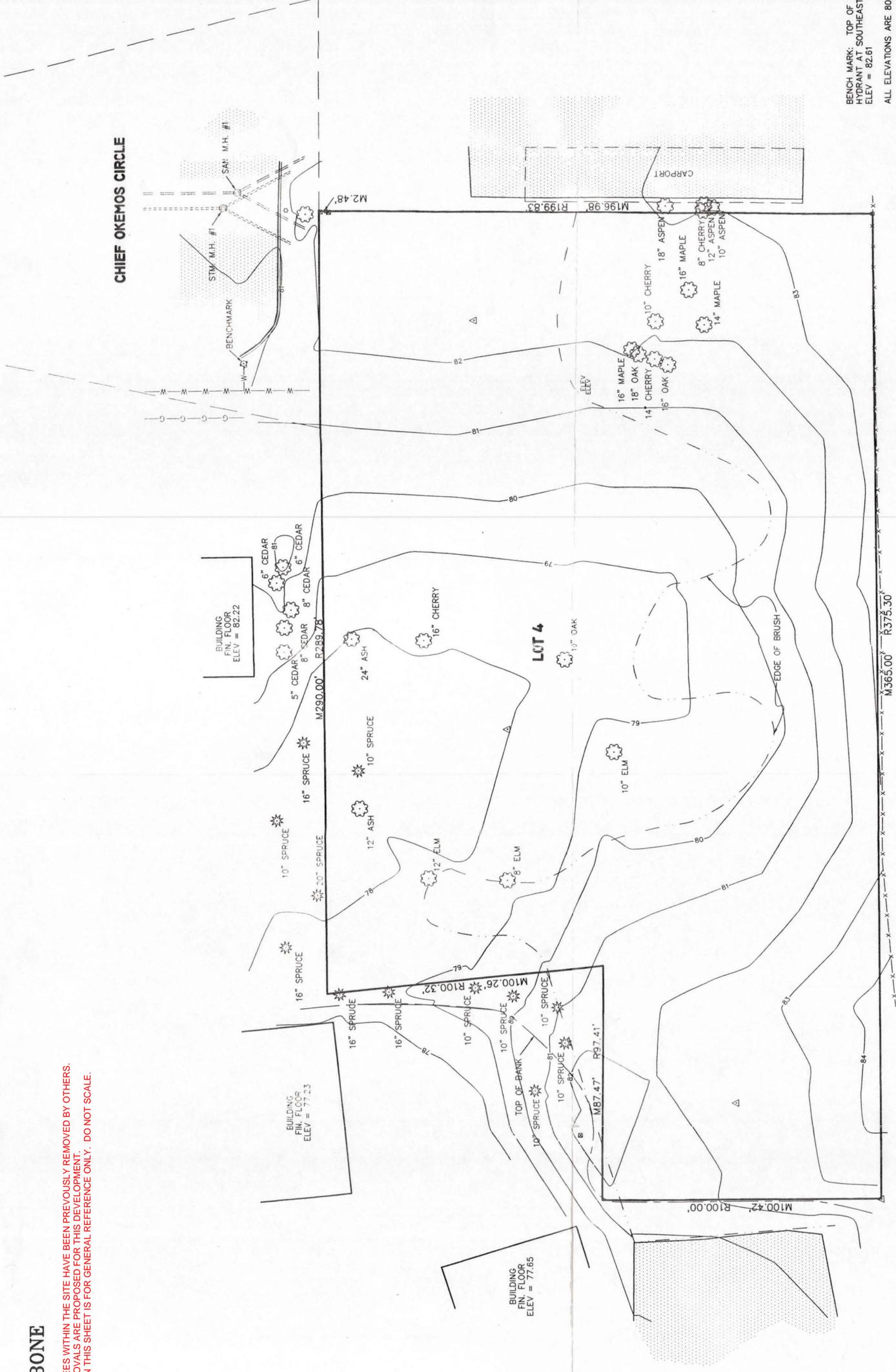
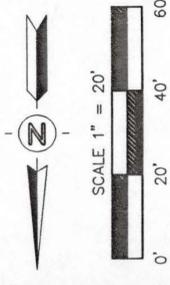
© Copyright 2014

TOPOGRAPHICAL SURVEY

FOR: **MIKE BONE**

BRSE NOTE: ALL TREES WITHIN THE SITE HAVE BEEN PREVIOUSLY REMOVED BY OTHERS.
NO ADDITIONAL REMOVALS ARE PROPOSED FOR THIS DEVELOPMENT.
ALL INFORMATION ON THIS SHEET IS FOR GENERAL REFERENCE ONLY. DO NOT SCALE.

CHIEF OKEMOS CIRCLE



SANITARY MANHOLE #1
 TOC = 81.44
 8\"/>

STORM MANHOLE #1
 TOC = 81.44
 12\"/>

LEGEND	
	DEED LINE
	FENCE
	ASPHALT
	EXISTING SPOT ELEVATION
	EXISTING CONTOUR ELEVATION
	TOP OF BANK
	EDGE OF BRUSH
	SANITARY SEWER
	STORM SEWER
	SANITARY MANHOLE
	DRAINAGE MANHOLE
	FIRE HYDRANT
	LIGHT POLE
	UTILITY PEDESTAL
	DICUCUOUS TREE
	CONIFEROUS TREE
	WATER LINE
	GAS LINE
	ROAD RIGHT OF WAY

BENCH MARK: TOP OF BIG ARM OF FIRE HYDRANT AT SOUTHEAST CORNER OF LOT 4
 ELEV = 82.61

ALL ELEVATIONS ARE 800 FEET PLUS

LEGAL DESCRIPTION: PART OF THE SOUTHEAST 1/4 OF SECTION 22, T4N, R1W, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN.

THIS PLAN WAS MADE AT THE DIRECTION OF THE PARTIES NAMED HEREON AND IS INTENDED SOLELY FOR THEIR IMMEDIATE USE. NO SURVEY HAS BEEN MADE AND NO PROPERTY LINES WERE MONUMENTED, UNLESS OTHERWISE SPECIFICALLY NOTED, AND NO DIMENSIONS ARE INTENDED FOR USE IN ESTABLISHING PROPERTY LINES.



ALL DIMENSIONS ARE IN FEET AND DECIMALS THEREOF

KEBS INC.

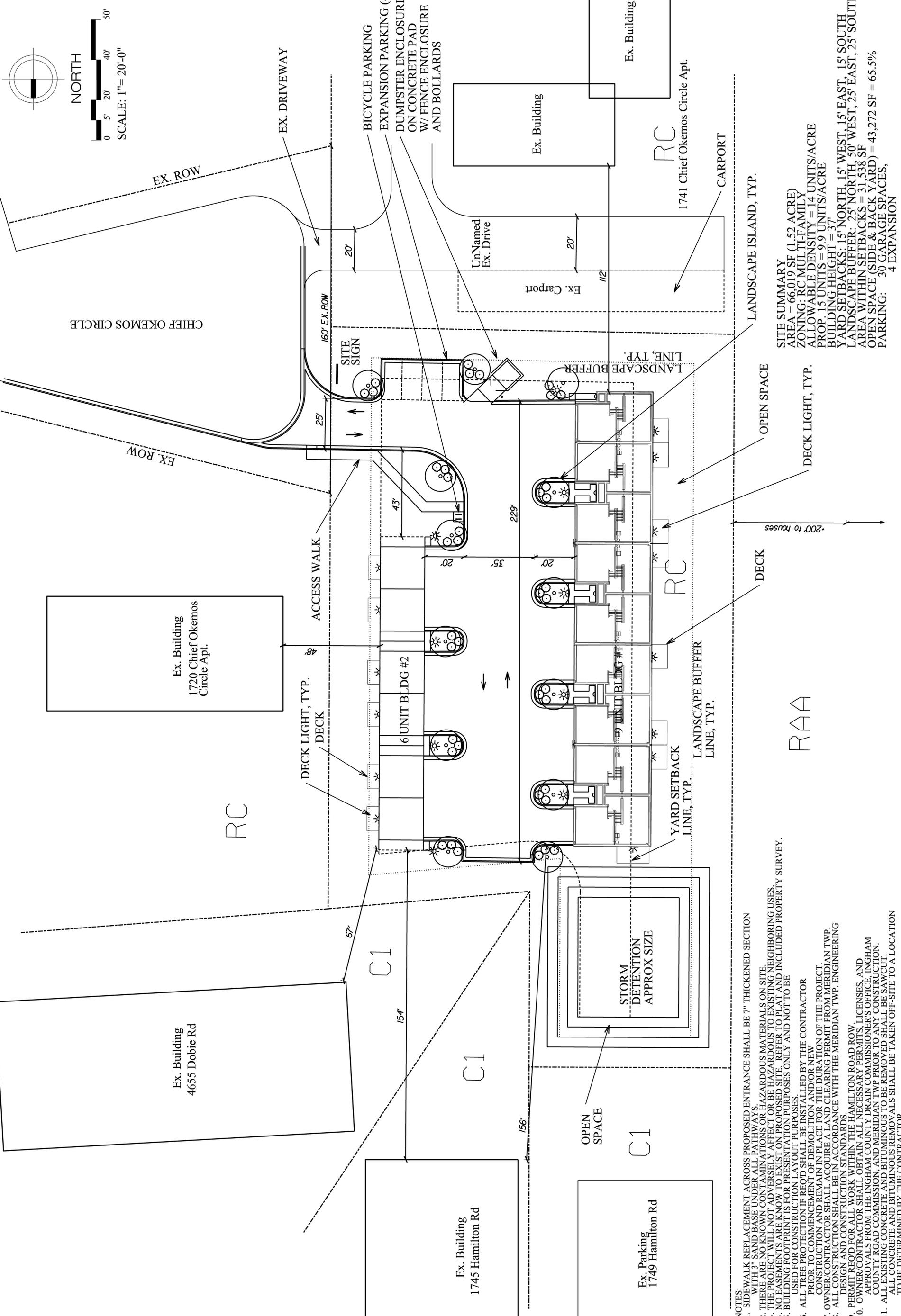
KYES ENGINEERING - BRYAN LAND SURVEYS
 6019 Marsh Road
 Hazellet, Michigan 48840
 Ph. (517) 339-1014

DRAWN BY: EKB
 FIELD WORK BY: RF
 SECTION: 22, T4N, R1W
 JOB NUMBER: 98-T-58321
 SHEET: 1 OF 1

Signature
 LARRY A. BRYAN
 PROFESSIONAL SURVEYOR NO. 25832

C0100

NO.	BY	DATE	REVISIONS
1	BRS	11/01/18	ISSUE FOR REVIEW
2			REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS



SITE SUMMARY
 AREA = 66,019 SF (1.52 ACRE)
 ZONING: RC MULTI-FAMILY
 ALLOWABLE DENSITY = 14 UNITS/ACRE
 PROP. 15 UNITS = 9.9 UNITS/ACRE
 BUILDING HEIGHT = 37'
 YARD SETBACKS: 15' NORTH, 15' WEST, 15' EAST, 15' SOUTH
 LANDSCAPE BUFFER: 25' NORTH, 50' WEST, 25' EAST, 25' SOUTH
 AREA WITHIN SETBACKS = 31,538 SF
 OPEN SPACE (SIDE & BACK YARD) = 43,272 SF = 65.5%
 PARKING: 30 GARAGE SPACES,
 4 EXPANSION

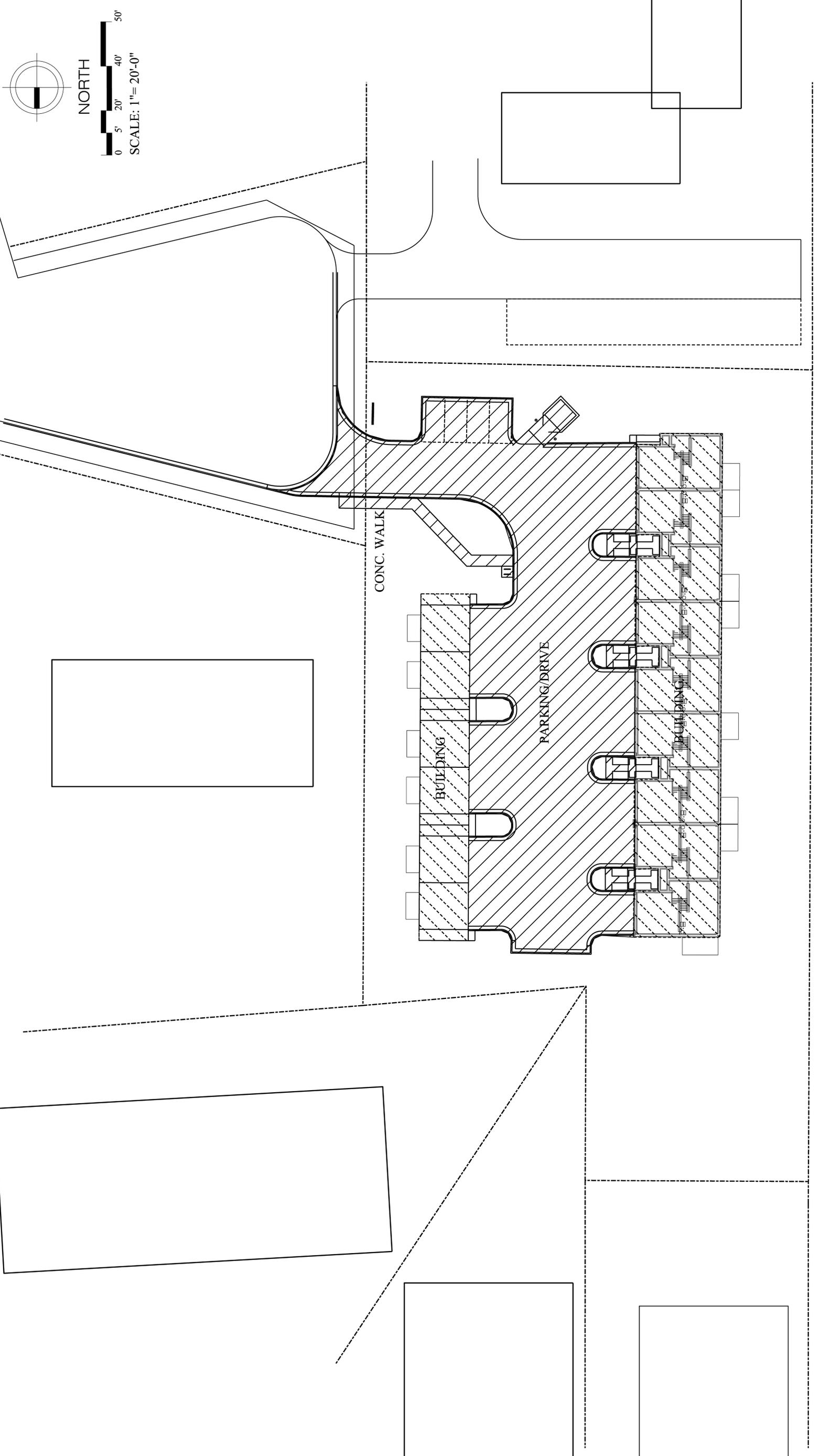
RAA

- NOTES:**
1. SIDEWALK REPLACEMENT ACROSS PROPOSED ENTRANCE SHALL BE 7" THICKENED SECTION WITH 3" SAND BASE UNDER ALL PATHWAYS.
 2. THERE ARE NO KNOWN CONTAMINATIONS OR HAZARDOUS MATERIALS ON SITE.
 3. THE PROJECT WILL NOT ADVERSELY AFFECT OR BE HAZARDOUS TO EXISTING NEIGHBORING USES.
 4. NO EASEMENTS ARE KNOWN TO EXIST ON PROPOSED SITE. REFER TO PLAT AND INCLUDED PROPERTY SURVEY.
 5. BUILDING FOOTPRINT IS FOR PRESENTATION PURPOSES ONLY AND NOT TO BE USED FOR CONSTRUCTION LAYOUT PURPOSES.
 6. ALL TREE PROTECTION IF REQ'D SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF DEMOLITION AND/OR NEW CONSTRUCTION AND REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.
 7. OWNER/CONTRACTOR SHALL ACQUIRE A LAND CLEARING PERMIT FROM MERIDIAN TWP.
 8. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MERIDIAN TWP. ENGINEERING DESIGN AND CONSTRUCTION STANDARDS.
 9. PERMIT REQ'D FOR ALL WORK WITHIN THE HAMILTON ROAD ROW.
 10. OWNER/CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, LICENSES, AND APPROVALS FROM THE INGHAM COUNTY DRAIN COMMISSIONER'S OFFICE, INGHAM COUNTY ROAD COMMISSION, AND MERIDIAN TWP PRIOR TO ANY CONSTRUCTION.
 11. ALL EXISTING CONCRETE AND BITUMINOUS TO BE REMOVED SHALL BE SAWCUT. ALL CONCRETE AND BITUMINOUS REMOVALS SHALL BE TAKEN OFF-SITE TO A LOCATION TO BE DETERMINED BY THE CONTRACTOR.

NO.	REVISIONS	BY	DATE
1	ISSUE FOR REVIEW	BRS	11/07/18
	REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS		

CHIEF OKEMOS CIRCLE TOWNHOMES
 15 UNITS, 2 BUILDING
 1730 CHIEF OKEMOS CIRCLE
 OKEMOS, INGHAM COUNTY, MI

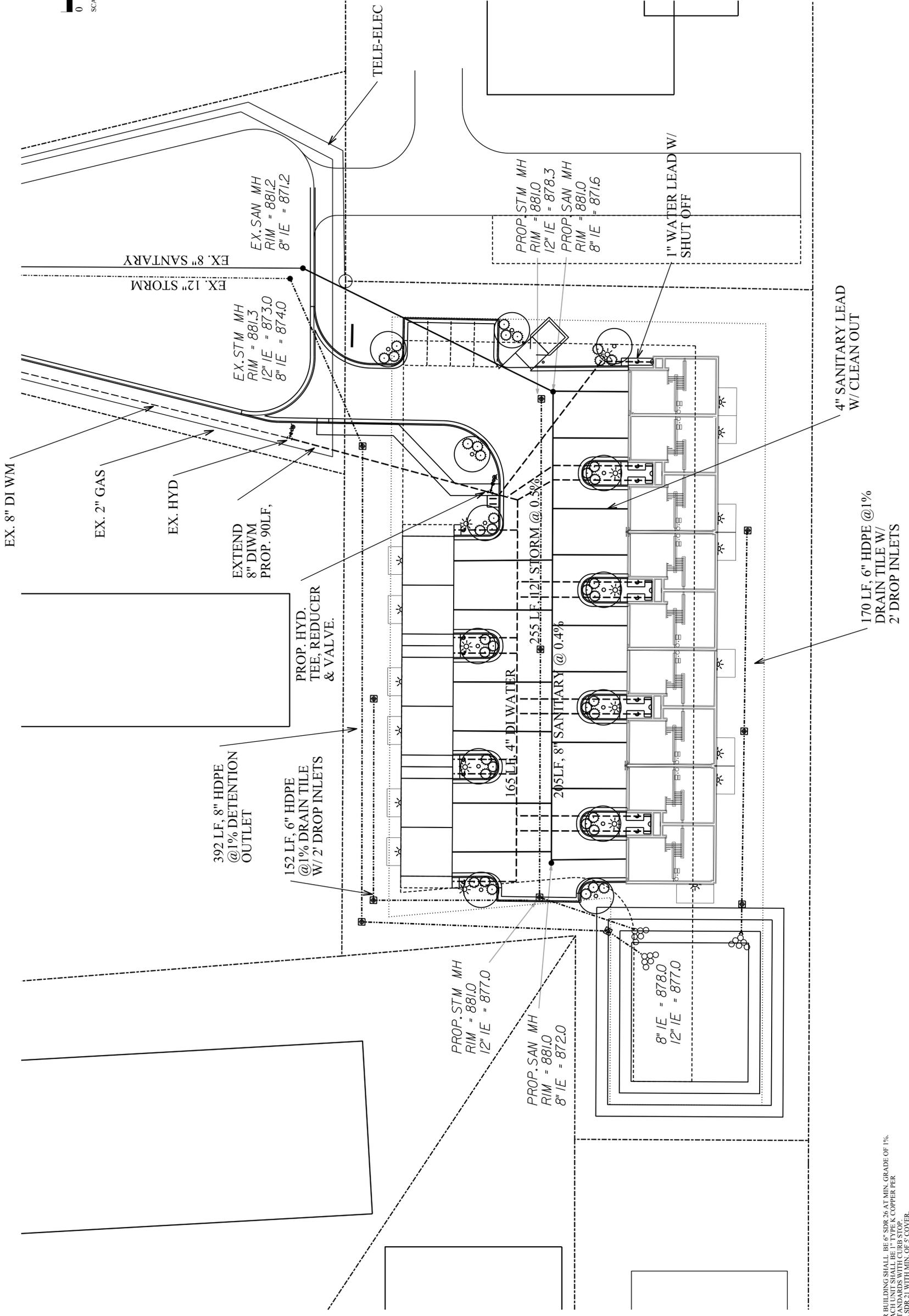
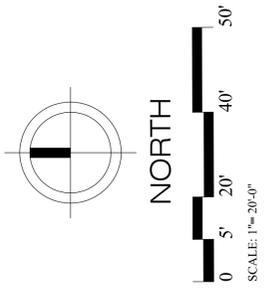
PROJECT NO.	DATE
BRS	8/20/18
DRAWN BY	DATE
BRS	8/20/18
CHECKED BY	DATE
BRS	8/20/18
DATE FILED	EDIT
SCALE	DRAWING
1" = 20'	
PROJECT	PLAT SCALE
0001	



TOTAL SITE (NOT INCLUDING AREA IN ROW) = 66,019 SF
 EXISTING PVIOUS = 66,019 SF
 BUILDING 1 = 8,295 SF = 12.6%
 BUILDING 2 = 3,432 SF = 5.2%
 PARKING/WALKS = 14,337 SF = 21.7%
 PVIOUS AREA = 35,375 SF = 53.6%

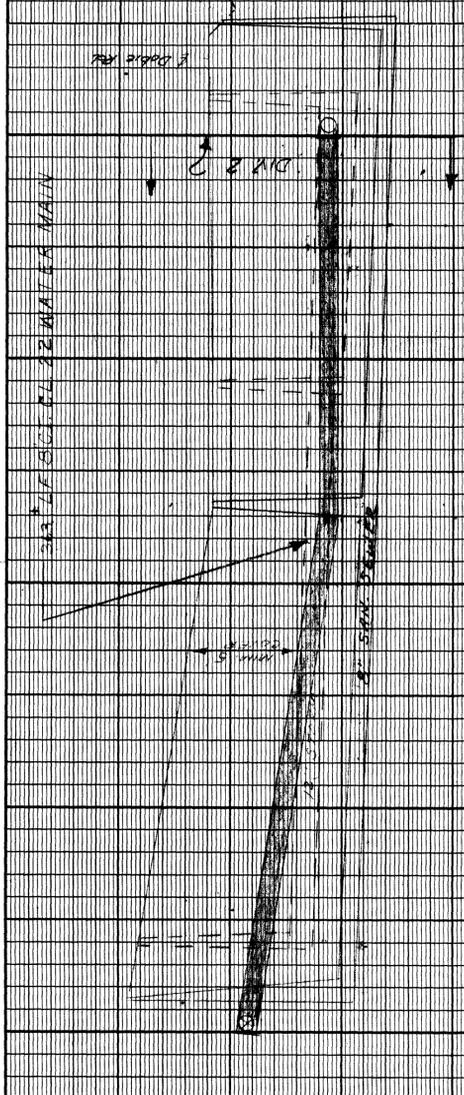
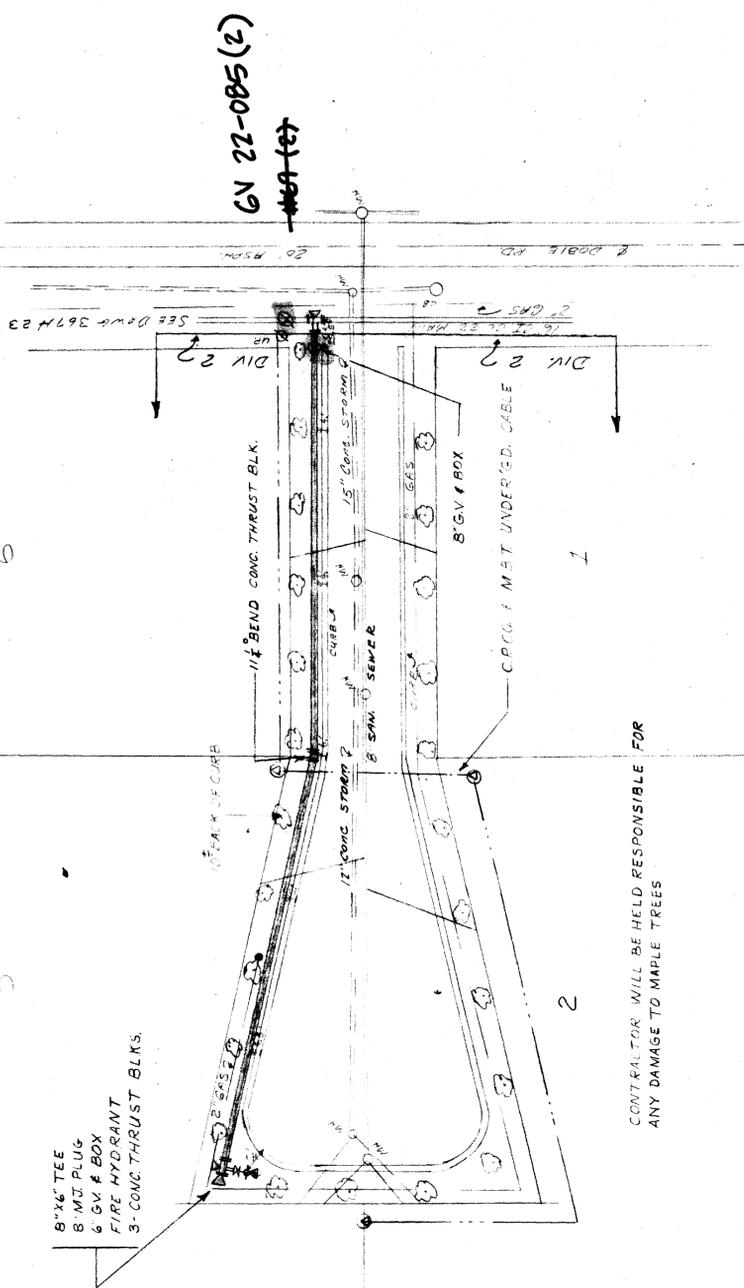
NO.	REVISIONS	BY	DATE
1	ISSUE FOR REVIEW	BRS	11/07/18
2	REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS		

PROJECT NO.	DATE
0001	8/20/18



- NOTES:
- SANITARY LEAD FOR BUILDING SHALL BE 6" SDR 26 AT MIN. GRADE OF 1%.
 - WATER LEAD FOR EACH UNIT SHALL BE 1" TYPE K COPPER PER LOCAL CODES.
 - WATER MAIN SHALL BE 12" SDR 35 PER LOCAL CODES.
 - SEPARATION BETWEEN WATER AND SANITARY MAINS SHALL BE 18" MIN. VERTICAL, 10" MIN. HORIZONTAL.
 - WATER MAIN TAP AND FIRE HYDRANT ASSEMBLY SHALL BE PER MICHIGAN DEPARTMENT OF NATURAL RESOURCES.
 - ALL PERMITS SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
 - THERE ARE NO KNOWN CONTAMINATIONS OR HAZARDOUS MATERIALS ON SITE.
 - ALL STORM PIPE SHALL BE PER ICDC AND MDOH STANDARDS AND SPECIFICATIONS.
 - STORM SEWER IN CHIEF OKEMOS ROAD IS LOCATED WITHIN A KNOWN COUNTY DRAINAGE DISTRICT.
 - BUILDING FOOTPRINT IS FOR PRESENTATION PURPOSES ONLY AND NOT TO BE CONSIDERED AS A FINAL DESIGN.
 - ALL TREE PROTECTION SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF DEMOLITION AND/OR NEW CONSTRUCTION AND REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.

2011



CHARTER TOWNSHIP OF MERIDIAN
 INGHAM COUNTY, MICHIGAN
 WATER SYSTEM

CHIEF OKEMOS PLAT

AYRES, LEWIS, NORRIS & MAY
 CONSULTING ENGINEERS
 ANN ARBOR, MICHIGAN

1" = 40' HOR
 SCALE: 1" = 4'-0" VER

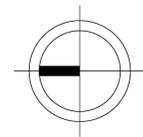
DECEMBER 1965

REV.	DATE	BY	DESCRIPTION
REV. 1	12/30/65	AS-BUILT	ORIGINAL ISSUE
REV. 2			

DRAWN BY: PH
 CHECKED BY:

367H24-2

C0403



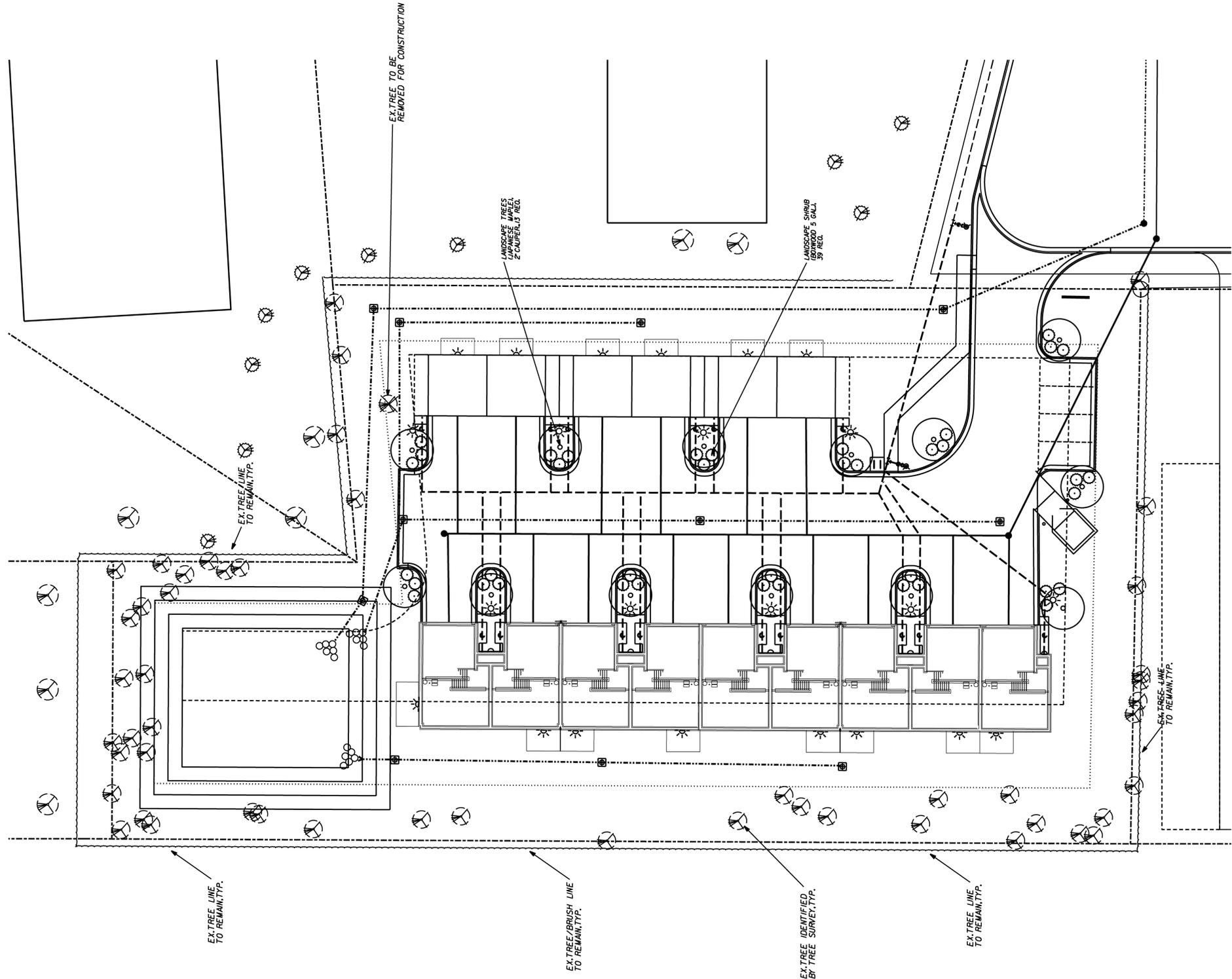
NORTH

SCALE: 1"=20'-0"

NOTES

- 1) CONTRACTOR SHALL VERIFY ALL EXISTING & PROPOSED UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
- 2) CONTRACTOR IS RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR OF UTILITIES ENCOUNTERED DURING CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT.
- 3) CONTRACTOR IS TO STAKE PLANTINGS PRIOR TO PLACEMENT AND OBTAIN APPROVAL FROM LANDSCAPE ARCHITECT.
- 4) AAN (AMERICAN ASSOCIATION OF NURSERMAN) STANDARDS FOR NURSERY STOCK AND PLANTING PROCEDURES SHALL APPLY.
- 5) ALL SHRUBS SHALL BE INSTALLED WITH TRIANGULAR SPACING UNLESS OTHERWISE NOTED.
- 6) PLANTING SOIL MIXTURE SHALL BE PREPARED ON-SITE BY MIXING THREE PARTS OF TOPSOIL TO ONE PART EXISTING SITE SOILS TO ONE PART PEAT. ADDING 5 POUNDS OF SUPERPHOSPHATE FERTILIZER TO EACH CUBIC YARD OF MIXTURE.
- 7) ALL PLANTING BEDS TO BE SHREDDED BARK MULCH UNLESS OTHERWISE NOTED.
- 8) PLANT BEDS THROUGHOUT ARE EDGED WITH PLASTIC EDGING, TYPE TO BE APPROVED BY THE OWNER.
- 9) LANDSCAPE FABRIC SHALL BE DUPON TYPAR *3207 OR APPROVED EQUIVALENT.
- 10) SHREDDED MULCH SHALL BE 100% WOOD FIBER - SUBMIT SAMPLE TO LANDSCAPE ARCHITECT BEFORE PLACEMENT.
- 11) ALL CANOPY TREES MUST HAVE A MINIMUM CALIPER OF 2 INCHES.
- 12) TREES PLANTED WITHIN LWNV AREAS ARE TO BE SURROUNDED BY 4' DIAMETER CIRCLE OF BARK MULCH.
- 13) GRASS SEED MIX TO BE PER OWNER SPECIFICATION.
- 14) PLANTINGS REQUIRED ARE SHOWN OTHER PLANTINGS WILL BE ADDED TO LANDSCAPING AS REQUIRED BY OWNER.
- 15) THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS FOR A PERIOD OF ONE YEAR COMMENCING AT THE DATE OF FINAL ACCEPTANCE BY OWNER.
- 16) SEE LANDSCAPE DETAILS SHEET FOR INSTALLATION OF PLANTING MATERIALS.
- 17) ALL DEAD WOOD SHALL BE REMOVED FROM TREES TO BE SAVED DURING CONSTRUCTION.

SITE HAS BEEN PREVIOUSLY CLEARED BY OTHERS.
 TREES AROUND PERIMETER SHALL BE PROTECTED AND RETAINED.
 PERIMETER TREES SHOWN ARE ESTIMATED BASED ON AERIAL.
 TREE INVENTORY HAS NOT BEEN CONDUCTED.



BRS ENGINEERING
 1821 Stoneleigh Drive
 Lansing, MI 48910
 Phone: (517) 719-5094
 brsengineering@comcast.net

BRSE

GS FEDEWA BUILDERS
 5570 OKEMOS ROAD
 EAST LANSING, INGHAM COUNTY, MI
 PHONE: 517-339-0020

SLUP

NO.	REVISIONS	BY	DATE
1	ISSUE FOR REVIEW	BRS	11/20/18
2			
3			
4	REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS		

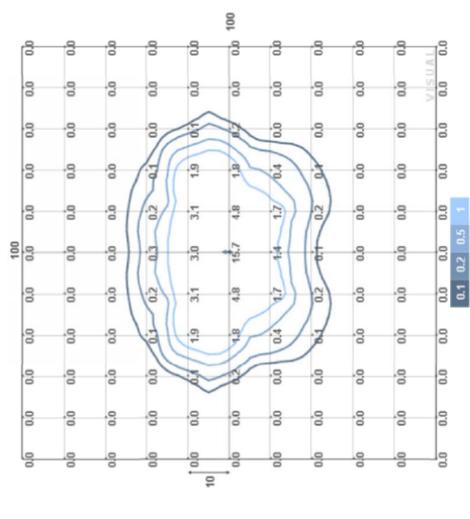
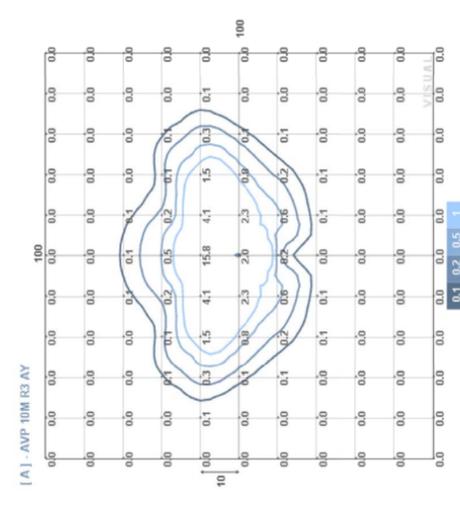
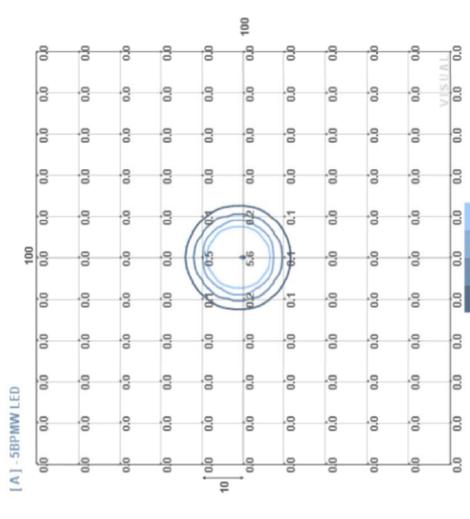
CHIEF OKEMOS CIRCLE TOWNHOMES
 15-UNITS, 2 BUILDING
 1730 CHIEF OKEMOS CIRCLE
 OKEMOS, INGHAM COUNTY, MI

LANDSCAPE PLAN

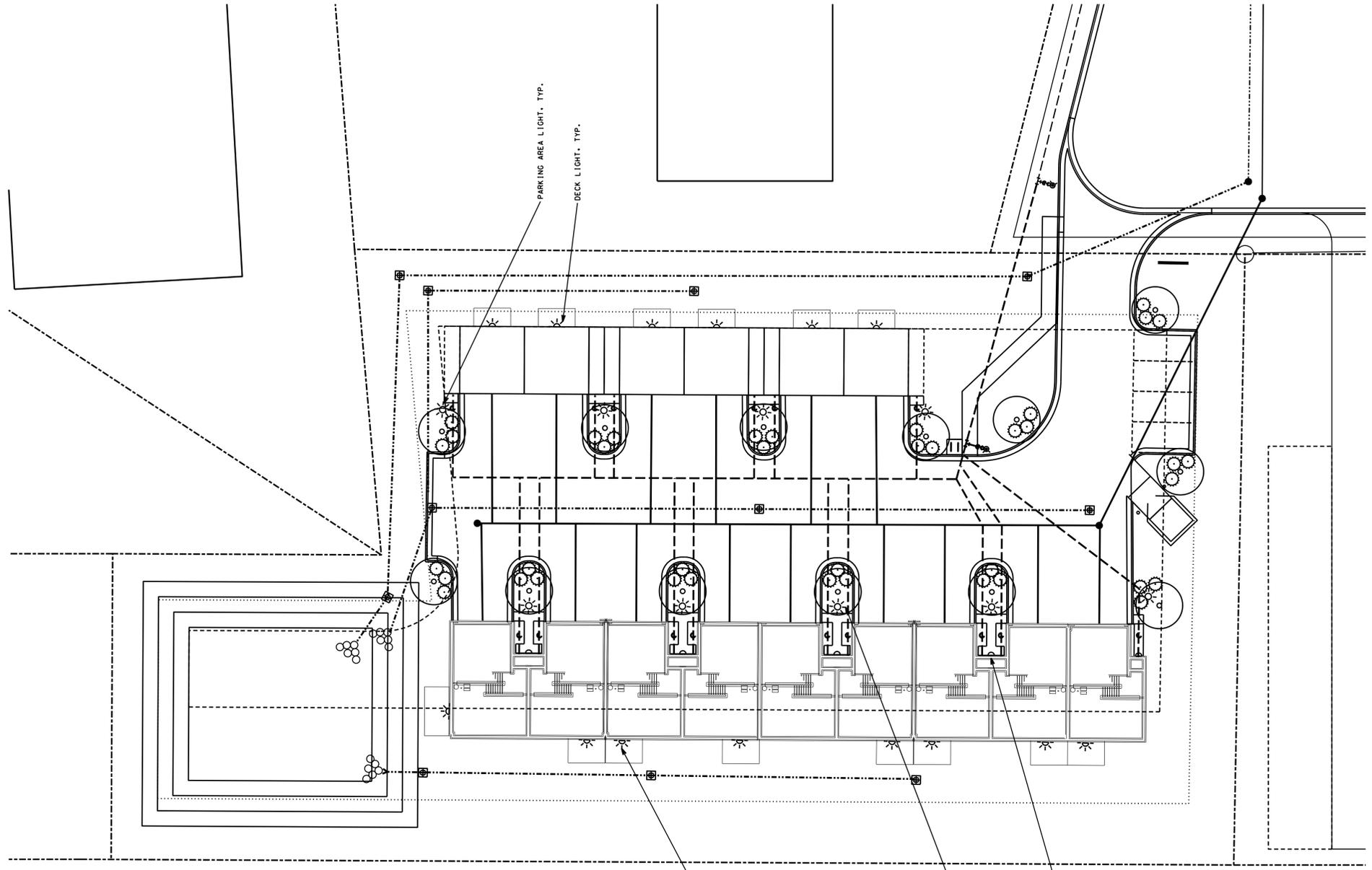
PROJECT NO.	DATE
BRS	8/20/18
DRAWN BY	DATE
	8/20/18
CHECKED BY	DATE
	8/20/18
DATE FILED	EDIT
SCALE	DRAWING
1"=20'	
PROJECT	0001
PRODUCT	0001

C5.0
 SHEET NO.

3 WORKING DAYS BEFORE YOU DIG
 CALL MISS DIG
 1-800-482-7171 (TOLL FREE)
 For the location of underground utilities



THE ABOVE CUTS SHOW THE LIMITATION OF LIGHT COMPLETE SITE PHOTOMETRICS WILL BE PROVIDED ON FINAL PLANS.



DECK LIGHT: OWP2

SCALE: 1"=20'-0"

[A] - WSR LED 1 10A700/40K SR4 MVOLT

Manufacturer	Lithonia Lighting
Lamp Lumens	1943
Lamp Quantity	8
Light Loss Factor	1
Input Power	24.2
Max Illuminance	1015

PARKING AREA LIGHT: AVP

[A] - AVP 10M R3 AY

Manufacturer	American Electric
Lamp Lumens	9000
Lamp Quantity	1
Light Loss Factor	1
Input Power	16
Max Illuminance	1200

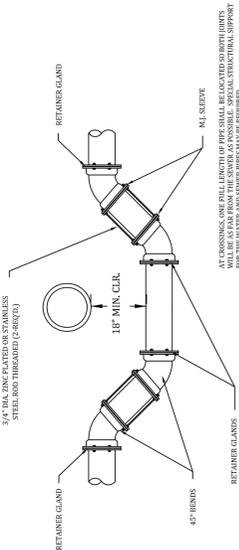
ENTRANCE LIGHT: 5BPMMW

[A] - 5BPMMW LED

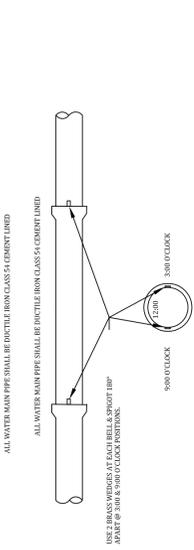
Manufacturer	Lithonia Lighting
Lamp Lumens	639
Lamp Quantity	8
Light Loss Factor	1
Input Power	11.2
Max Illuminance	238

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Cutoff Class	Lamp	Number Lamps	File Name	Lumens per Lamp	Light Loss Factor	Wattage	Lumens	
Deck	WSR	14	Lithonia Lighting	WSR LED1 10A700/40K SR4 MVOLT	ARCHITECTURAL WALL sconce	Full	10 LED-40K	1	WSR_LED_1_10A700_40K_SR4_MVOLT.rvs	1950	1	24	27300	
Parking Area	AVP	9	American Electric	AVP-10M-R3-AY	AVP SERIES 100W/MHTYPE 3 MED-REACTORFP	Semi	100W CLEAR CERAMIC MH	1	AVP_10M_R3_AY.rvs	9000	1	100	81000	
Entrance Way	5BPMMW	5	Lithonia Lighting	5BPMMW-LED	5" 3000K 620 Lumens 120W Matte White LED Module: BDCM	Full	3000K LED	1	5BPMMW_LED.rvs	639	1	11.16	3195	
													Total =	111495

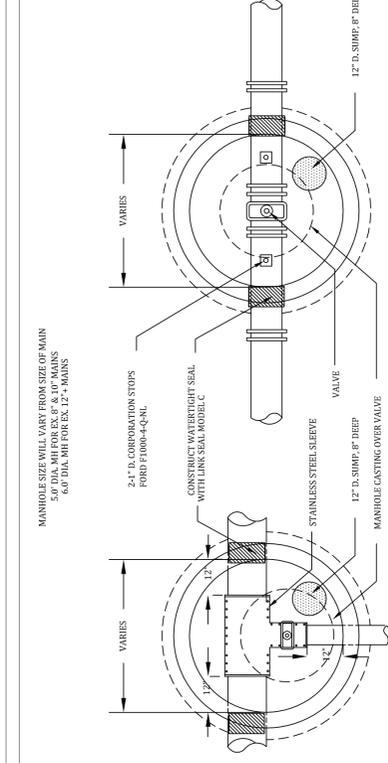
Lumens Calculation SF	AC	
Site:	6019	1.51539
Building:	12084	0.27736
Net:	53937	1.23822
Allowed (50,000/FAC):		27738
Proposed:		111495



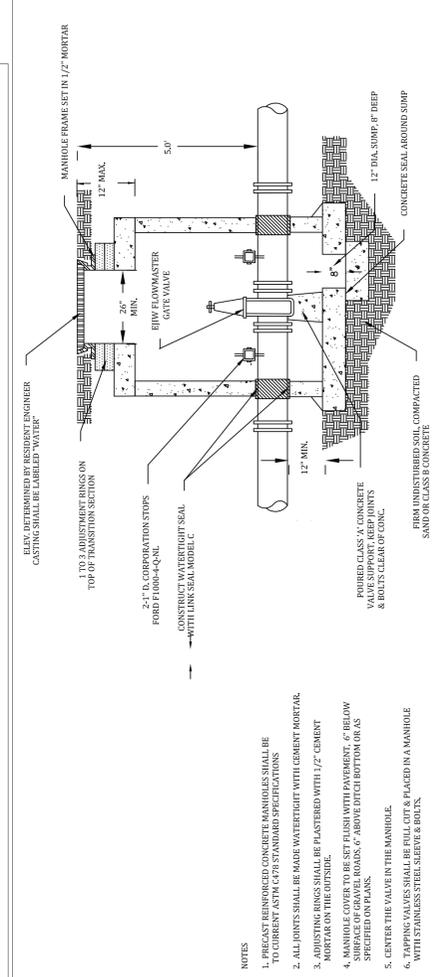
LOWERING WATER MAIN CROSS SECTION
ALL WATER MAIN PIPE SHALL BE DUCTILE IRON CLASS 54 CEMENT LINED



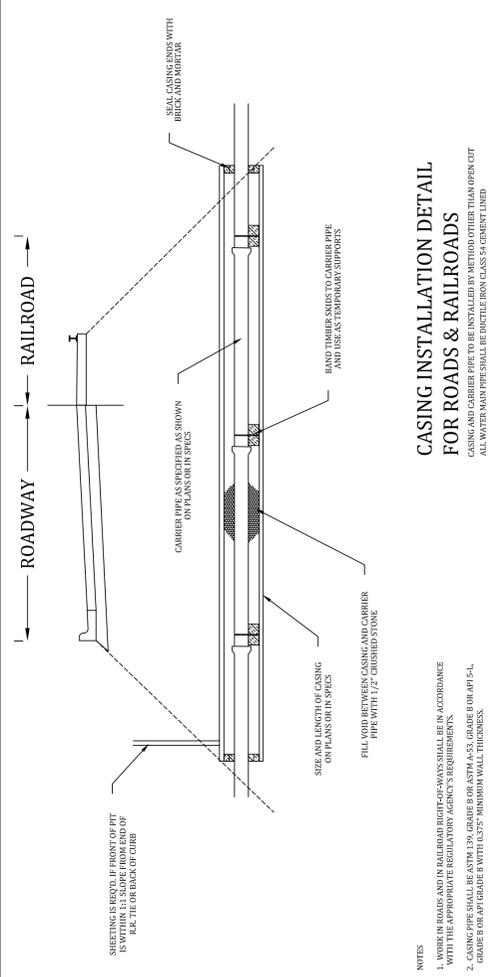
WATER MAIN JOINT DETAILS



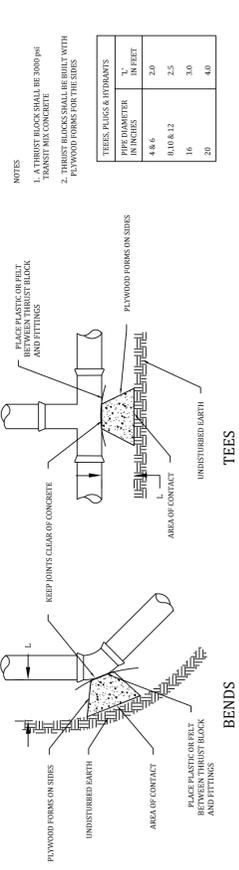
TAPPING VALVE PLAN VIEW



TYPICAL IN-LINE VALVE MANHOLE CROSS SECTION

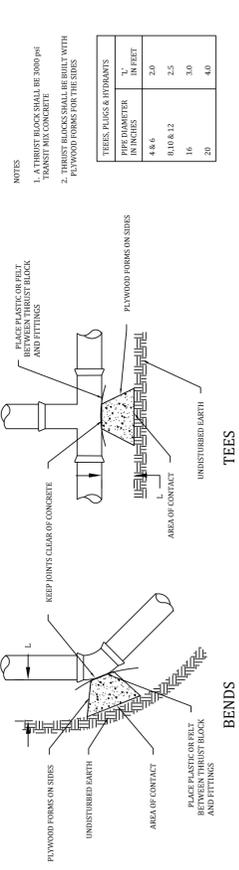


CASING INSTALLATION DETAIL FOR ROADS & RAILROADS

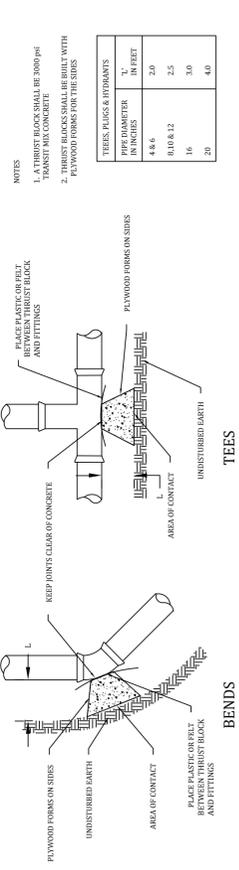


THRUST BLOCK PLAN VIEWS

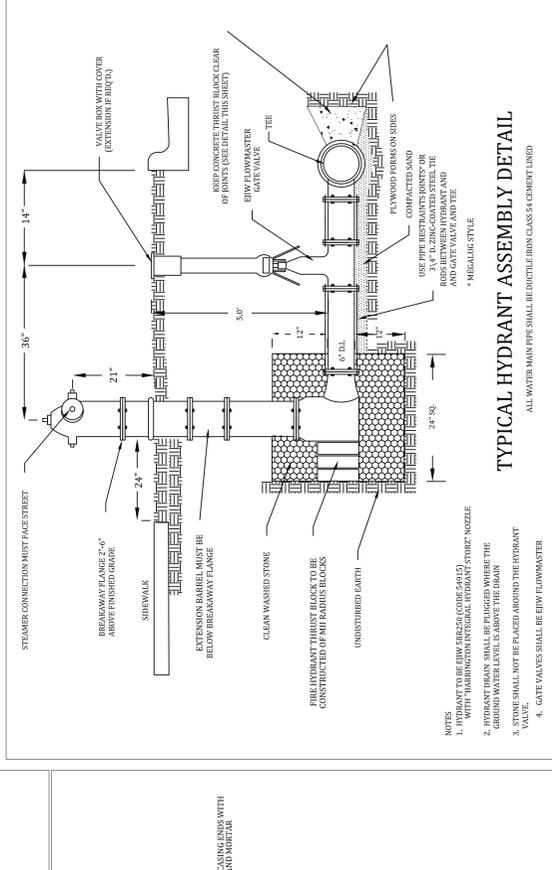
PIPE SIZE	THRUST FORCE (LBS)	SOIL	SAFE BEARING LOAD (LBS/SQ. FT.)
4"	1,900	MOCK, PEAT & ETC.	0
6"	4,250	SOFT CLAY	1,000
8"	7,500	SAND	2,000
10"	12,000	SAND AND GRAVEL	3,000
12"	16,070	SAND AND GRAVEL CEMENTED W/CLAY	4,000
16"	30,100	HARD COMPACTED CLAY	5,000



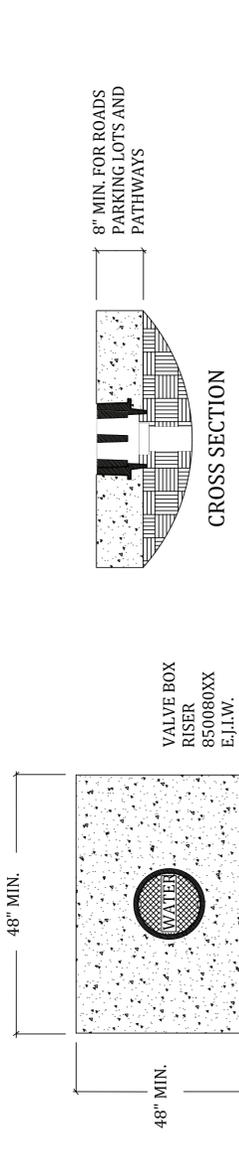
BOLLARDS AROUND FIRE HYDRANT



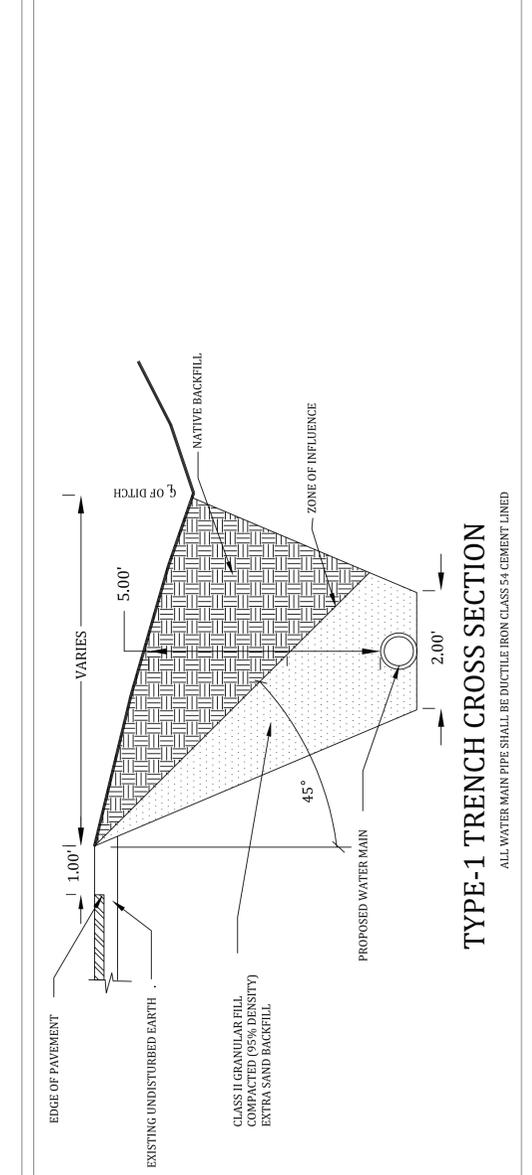
ALTERNATE LAYOUT FOR CONFINED AREAS



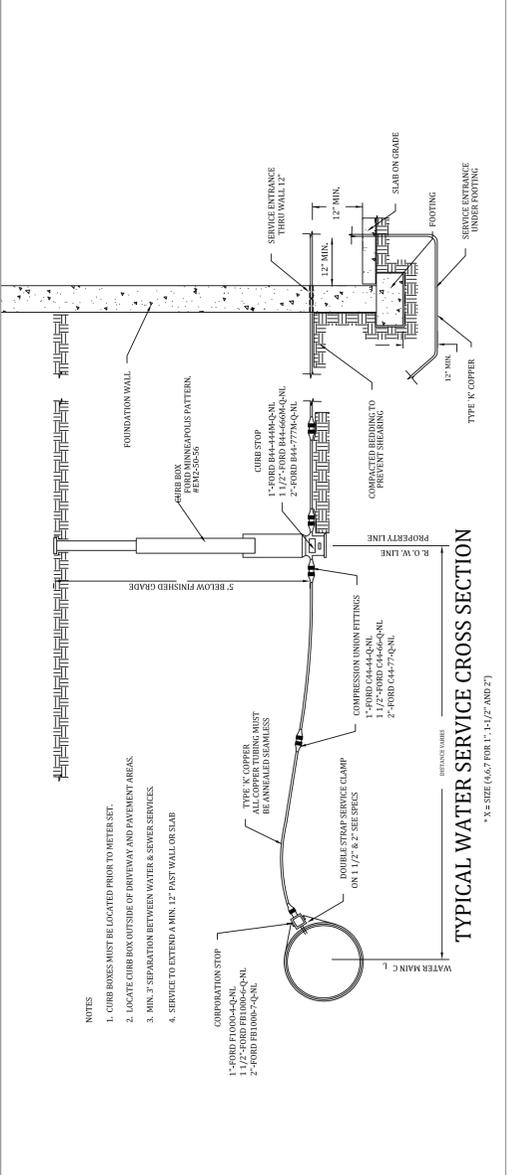
TYPICAL HYDRANT ASSEMBLY DETAIL



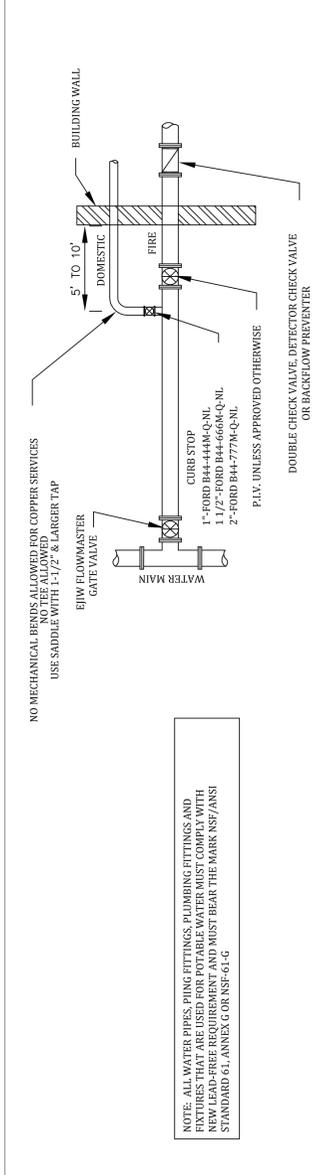
VALVES & CURB STOP BOXES IN CONCRETE



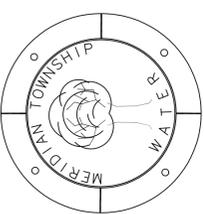
TYPE-1 TRENCH CROSS SECTION



TYPICAL WATER SERVICE CROSS SECTION



FIRE PROTECTION VALVING PLAN VIEW

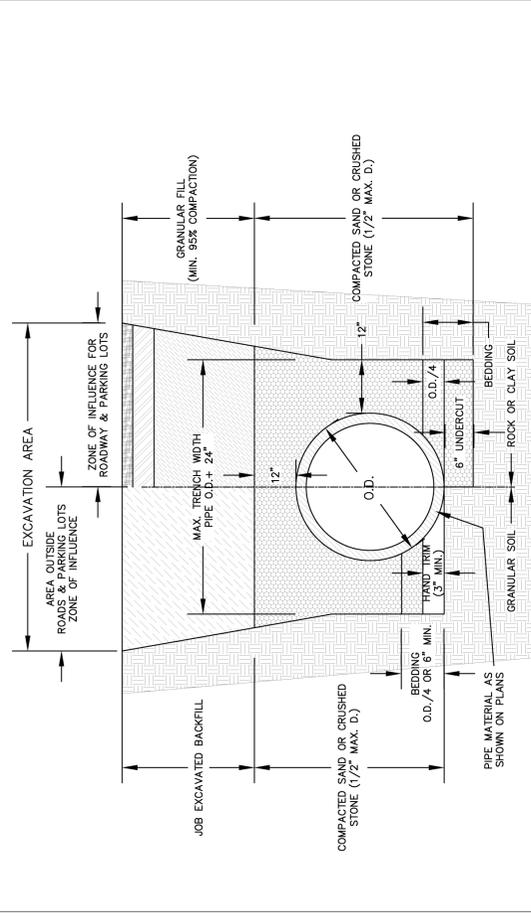
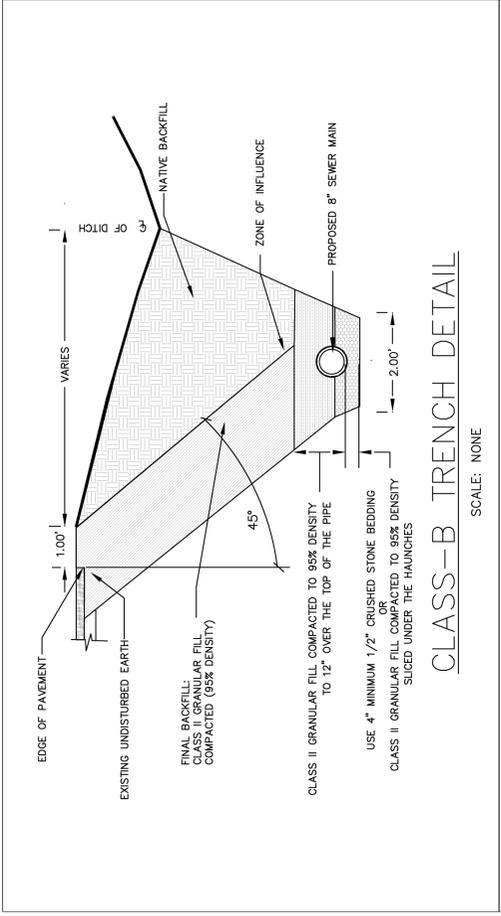


Meridian Charter Township
Ingham County, Michigan
PUBLIC WORKS DEPARTMENT

STANDARD DETAILS FOR WATER SYSTEM

REVISIONS:	BY:	DATE:	DESCRIPTION:
1	JG	1/13/07	ADD FIRE HYDRANT BOLLARDS
2	JG	3/31/09	CLARIFY CURB STOP MODELS
3	JG	1/12/10	P.L.V. CLARIFICATION
4	JG	10/22/12	WATER SERVICE SIZE & MAKE CLARIFICATIONS
5	JG	6/13/14	CURB BOX MANUFACTURER AND MODEL TYPE
6	JG	10/13/17	WATER CROSSING NOTE - FULL LENGTH PIPE

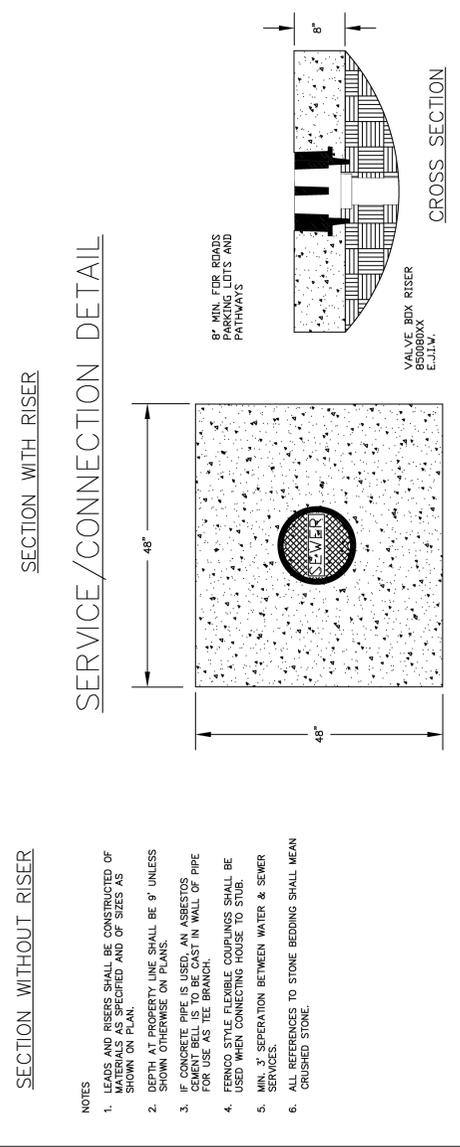
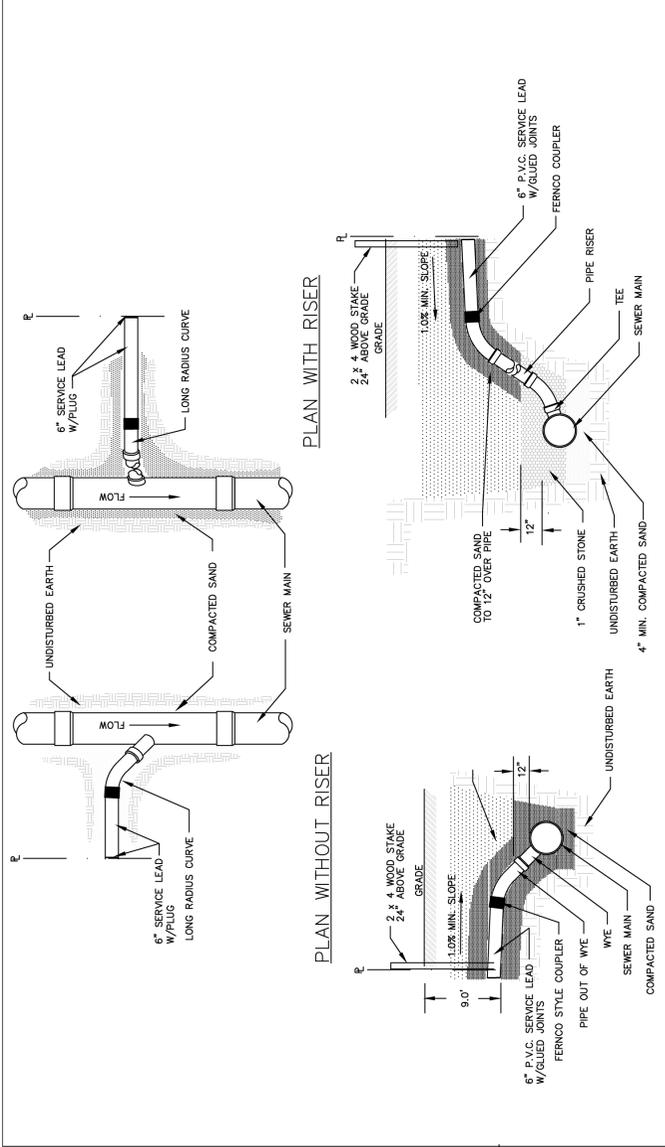
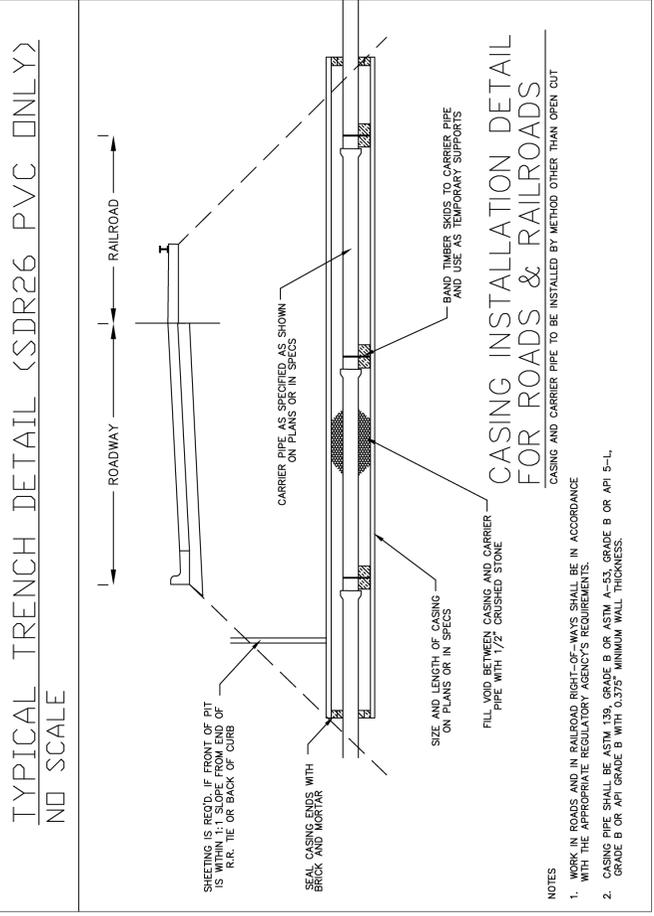
SCALE: 1" = 40' HOR.
SHEET 6 of 12
DRAWN BY: _____ CHECKED BY: _____



THE PVC (SDR-26) PIPE MATERIAL SHALL CONFORM TO ASTM D 2241, WITH BELL AND SPIGOT JOINTS IN ACCORDANCE WITH ASTM F 477.

PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D 2321. PIPE SHALL BE MARKED TO PROVIDE ASTM DESIGNATIONS, SDR NUMBER, MANUFACTURERS NAME AND PIPE DIAMETER.

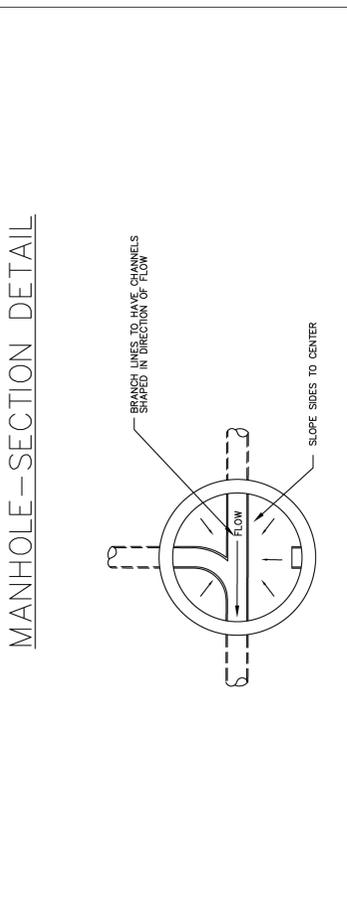
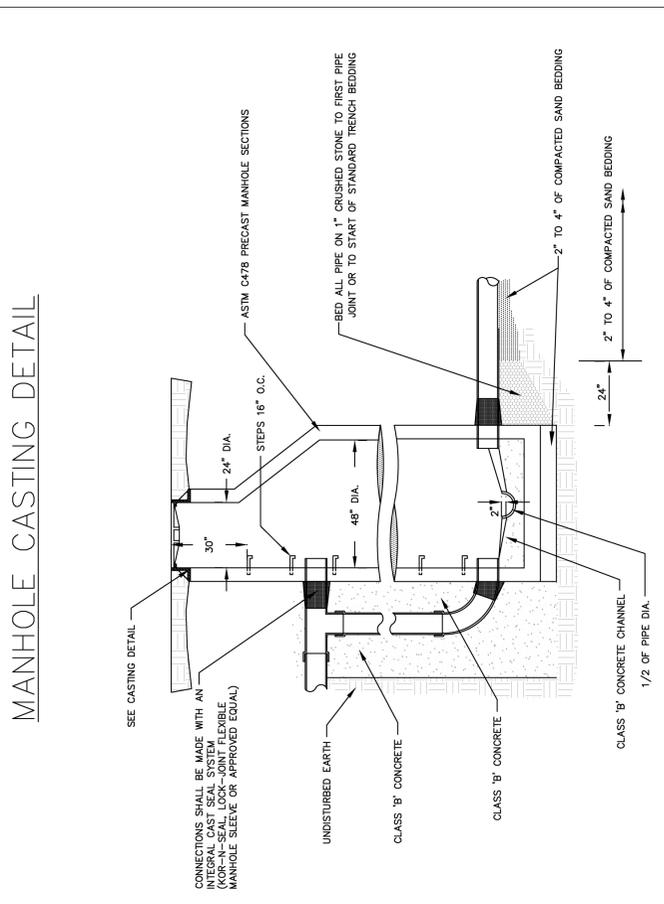
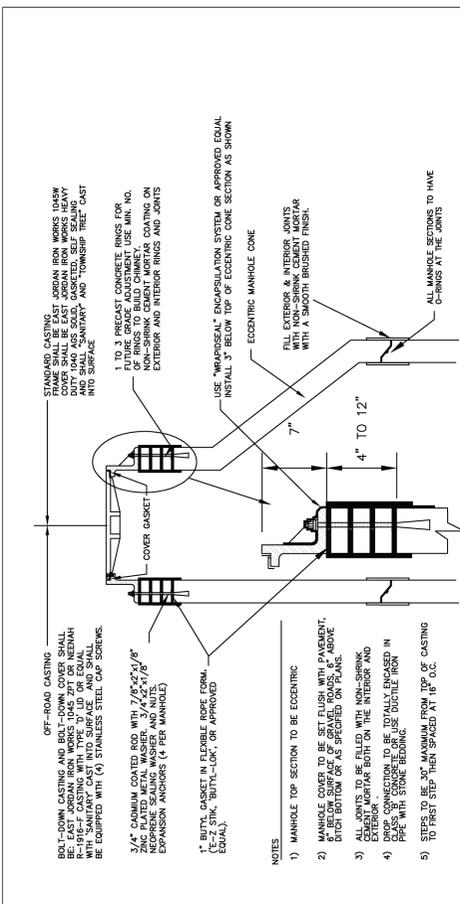
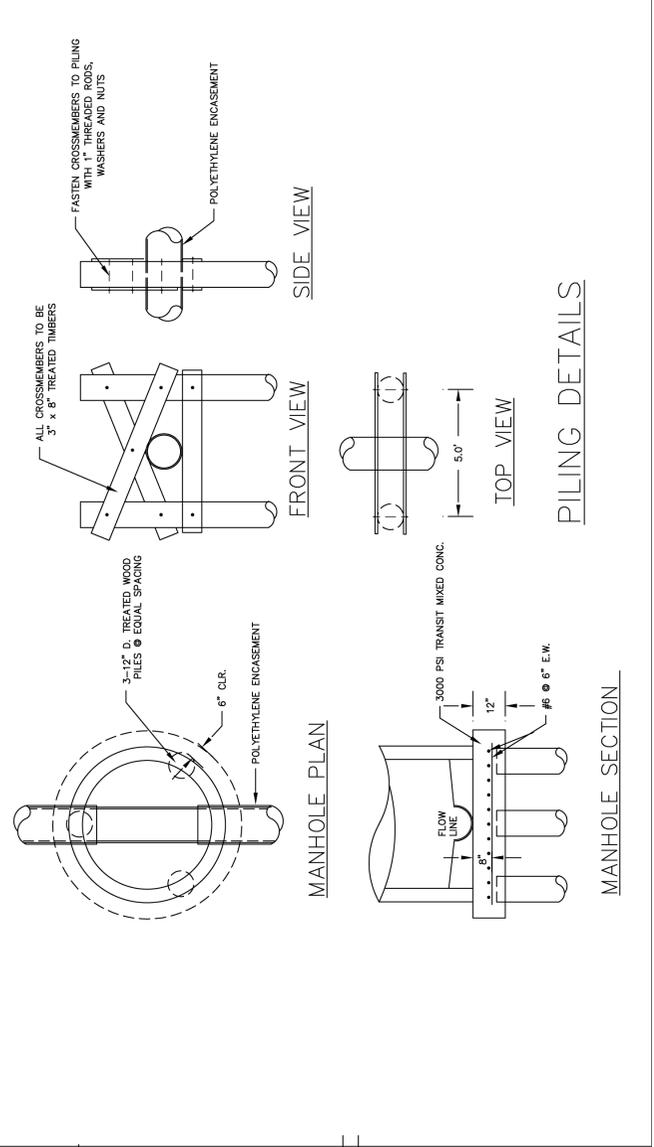
THE CONTRACTOR SHALL TEST THE MAIN FOR DEFLECTION BY PULLING A MANDREL THROUGH THE SEWER AFTER ALL BACKFILL HAS BEEN PLACED AND COMPACTED OVER THE PIPE. THE MAXIMUM ALLOWABLE DEFLECTION SHALL NOT EXCEED 5% OF THE PIPE'S INSIDE DIAMETER. THE CONTRACTOR SHALL MARK THE MANDREL TO CORRELATE TO THE OUTSIDE DIAMETER OF THE PIPE. LESS THAN 5% OF THE INITIAL TEST SHALL BE PERFORMED AT LEAST 30 DAYS AFTER PIPE INSTALLATION. A SECOND TEST SHALL BE PERFORMED AFTER 10 MONTHS OF PIPE INSTALLATION.



- NOTES**
- LEADS AND RISERS SHALL BE CONSTRUCTED OF MATERIALS AS SPECIFIED AND OF SIZES AS SHOWN ON PLAN.
 - DEPTH AT PROPERTY LINE SHALL BE 9" UNLESS SHOWN OTHERWISE ON PLANS.
 - IF CONCRETE PIPE IS USED, AN ASBESTOS FOR USE AS TEE BRANCH.
 - FERROCO STYLE FLEXIBLE COUPLERS SHALL BE USED WHEN CONNECTING HOUSE TO STUB.
 - MIN. 3" SEPARATION BETWEEN WATER & SEWER SERVICES.
 - ALL REFERENCES TO STONE BEDDING SHALL MEAN CRUSHED STONE.

CLEANOUT BOXES IN CONCRETE

PLAN
48" x 48" x 48" VALVE BOX RISER
8" MIN. FOR ROADWAYS
8" MIN. FOR ALLEYS AND PATHWAYS



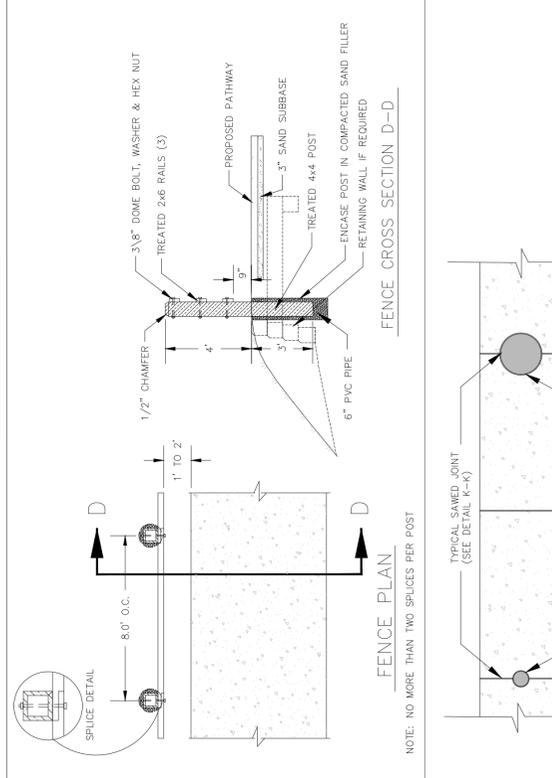
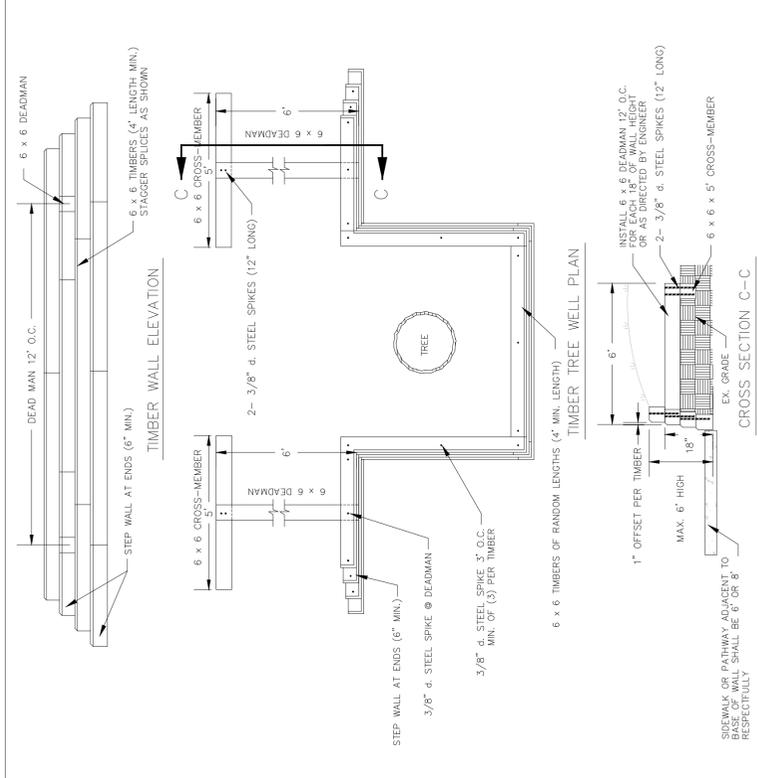
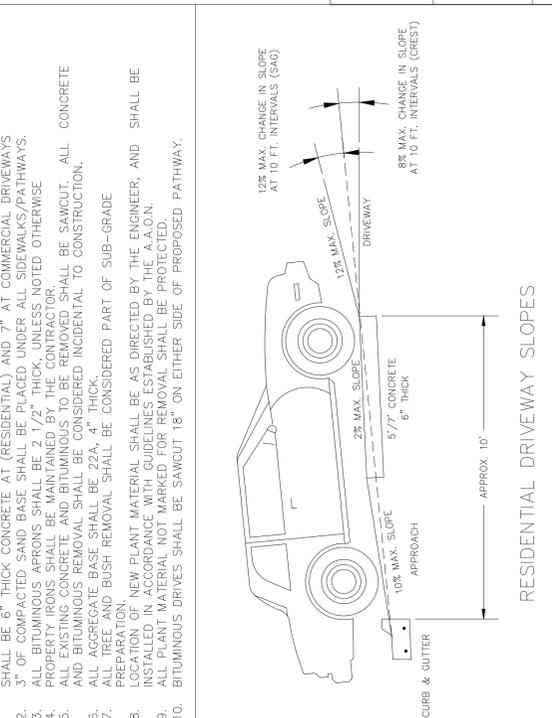
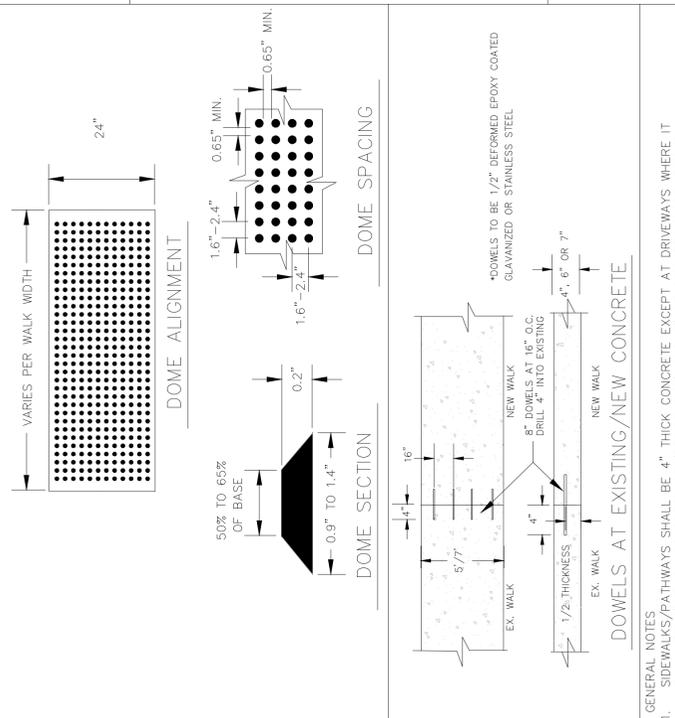
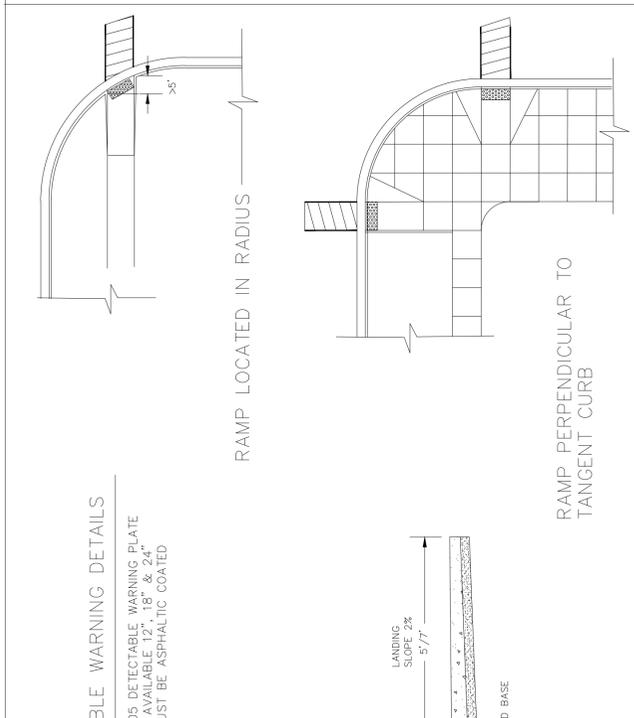
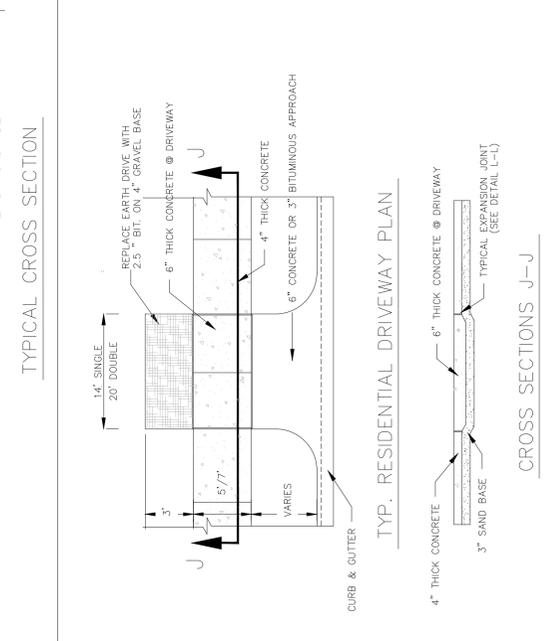
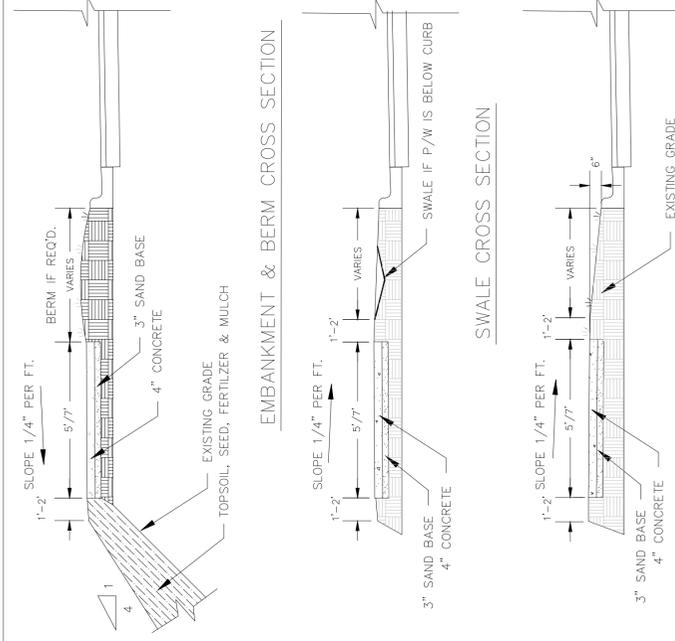
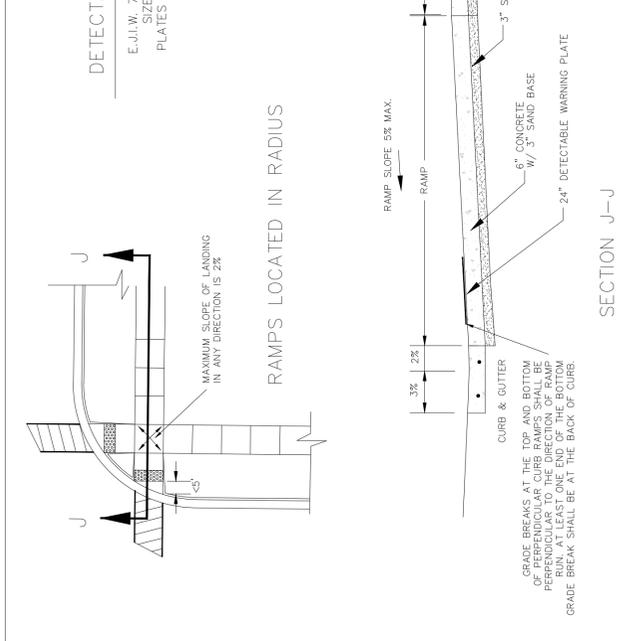
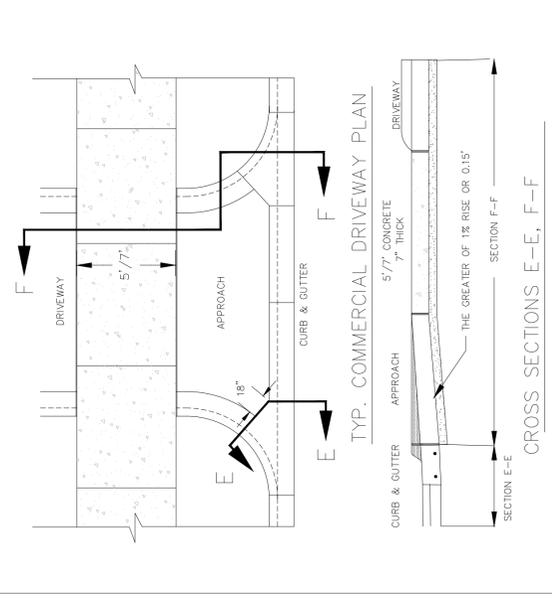
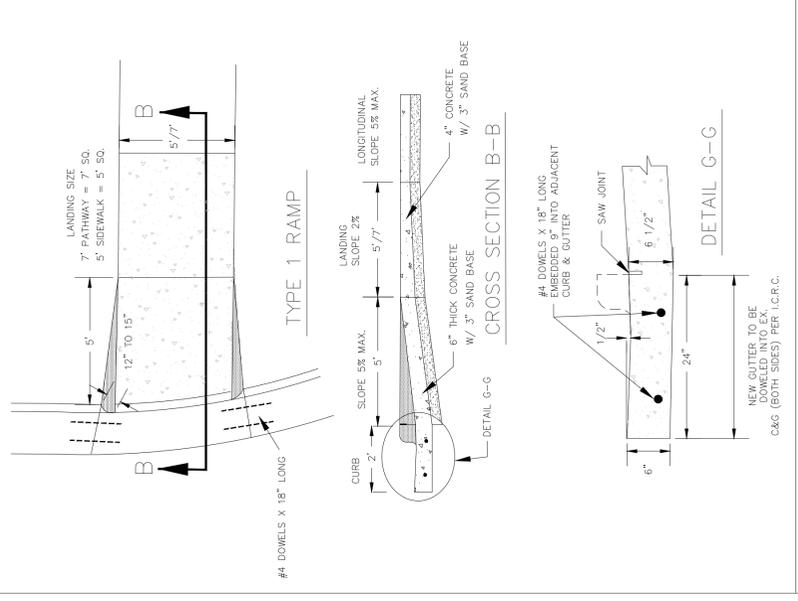
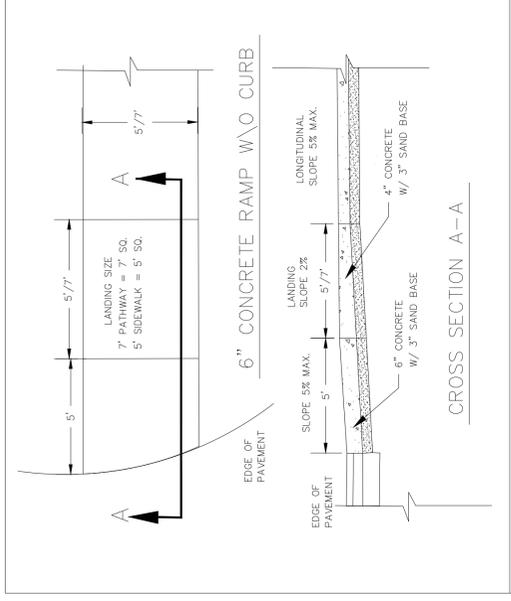
Meridian Charter Township
Ingham county, michigan
PUBLIC WORKS DEPARTMENT
STANDARD DETAILS
FOR SANITARY SYSTEM

REVISIONS:

DATE	BY:	COMMENT:
4/96	JG	COMPUTER GENERATED
7/2/99	JG	ADD BOLTS TO CASTING DETAIL
1/13/00	JG	ADD SDR 26 DETAIL
5/12/08	JG	ADD "WRAP/SEAL" & NON-SHRINK GROUT TO MANHOLE/CASTING DETAIL
7/31/12	JG	CLARIFIED CRUSHED STONE
5/15/15	JG	ADD CLEANOUT BOX IN CONCRETE

SCALE: NONE
SHEET 9 OF 11 SANDETAL.DWG

DRAWN BY: MK 3/83 CHECKED BY: JB 3/83



REVISIONS:

DATE	BY:	COMMENTS:
4/30/03	JG	ADD REBAR TO CURB & GUTTER
8/1/05	JG	CLARIFY RAMP DETAILS
12/20/06	JG	FENCE POST IN PVC PIPE W/SAND
12/29/08	JG	RAMPS W/ DETECTABLE WARNING PLATES
8/14/09	NN	LANDING CROSS SECTIONS
3/18/16	JG	ADJEL DETAIL FOR NEW/EX. CONCRETE

Meridian Charter Township
Ingham County, Michigan
ENGINEERING DEPARTMENT

5' SIDEWALK & 7' PATHWAY
DETAIL SHEET
LARGER PLANS AVAILABLE

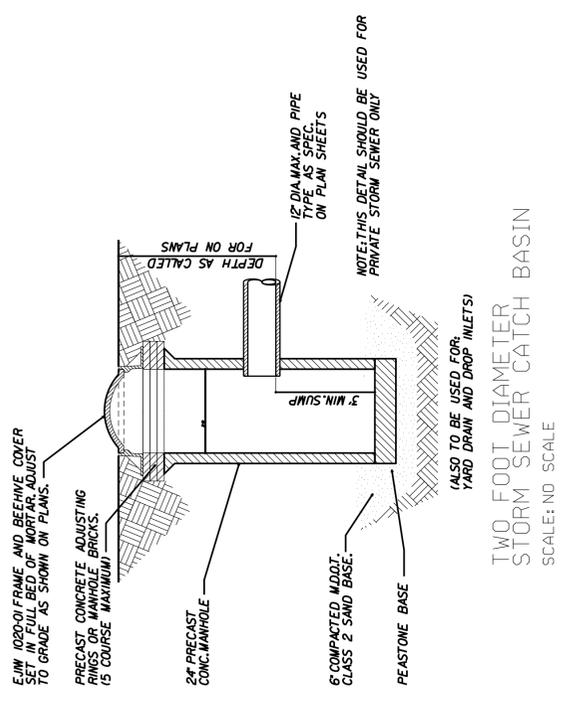
DRAWN BY: JG 08/01/05 CHECKED BY: YI 08/01/05

SCALE: NONE

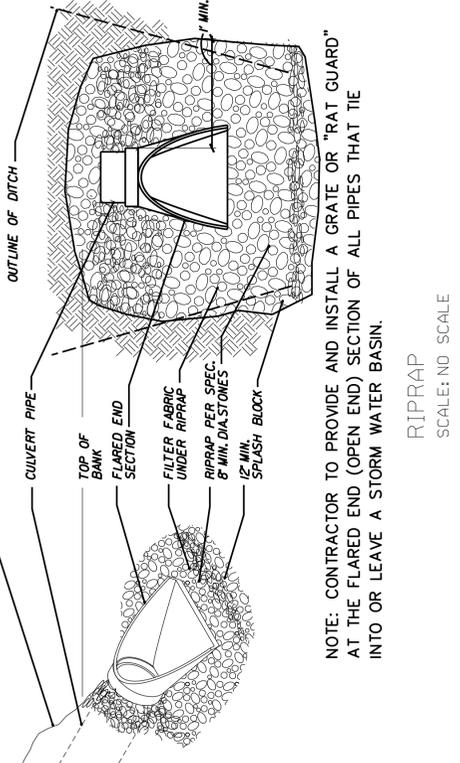
SHEET 3 OF 4 PATDETAL.DWG

NO.	1	2
BY	BMS	BMS
DATE	6/20/16	
REVISIONS	ISSUE FOR REVIEW	RECORD DRAWING
	BMS	BMS
	6/20/16	

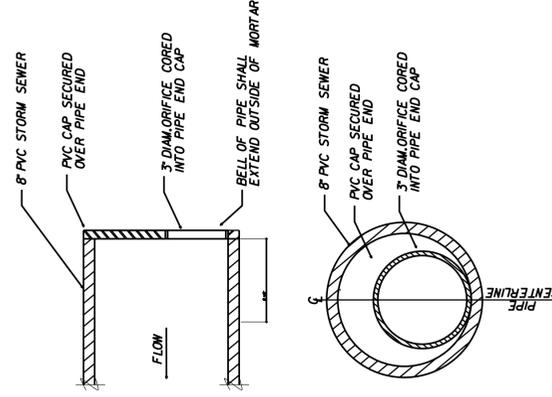
PROJECT NO.	0001
DATE	8/20/18
DRAWN BY	BRSE
CHECKED BY	BRSE
DATE	8/20/18
SCALE	1" = 30"



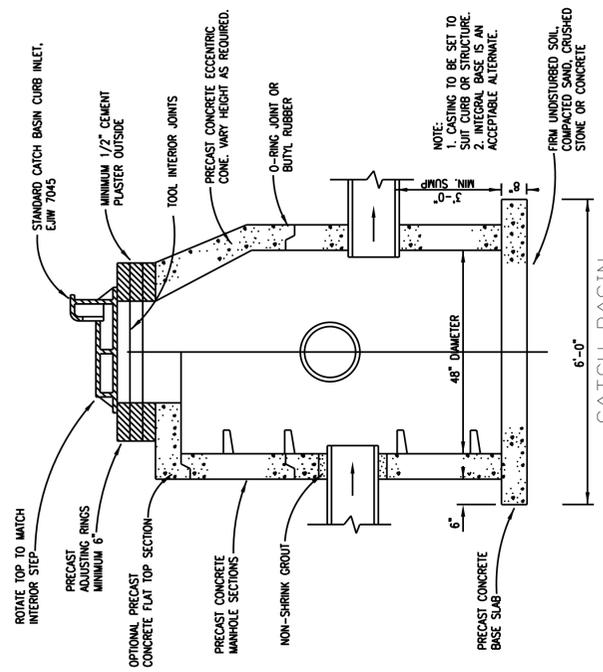
TWO FOOT DIAMETER STORM SEWER CATCH BASIN
 SCALE: NO. SCALE



RIPRAP
 SCALE: NO. SCALE

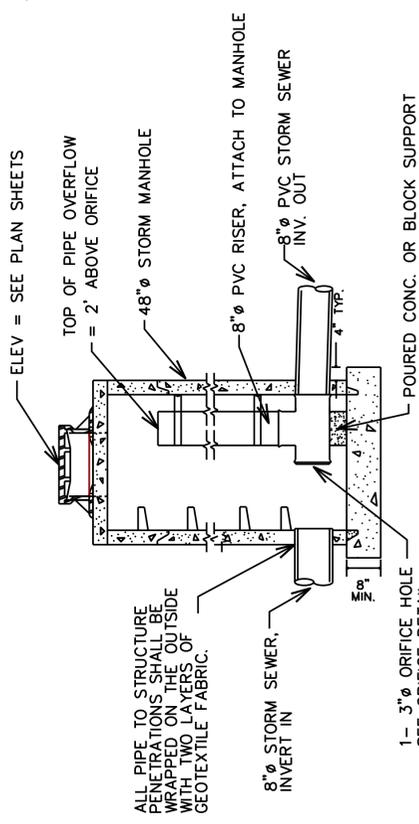


ORIFICE DETAIL
 SCALE: NO. SCALE

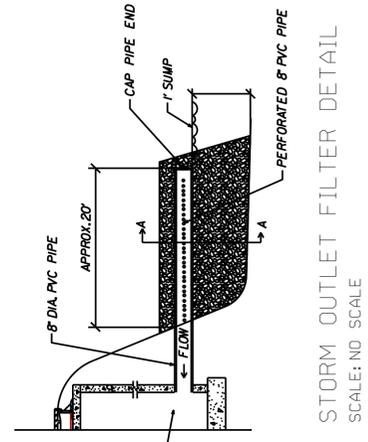


CATCH BASIN
 SCALE: NO. SCALE

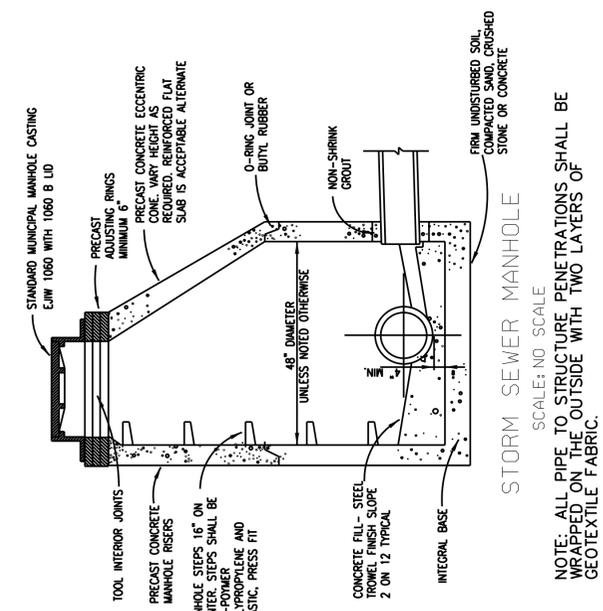
NOTE: ALL PIPE TO STRUCTURE PENETRATIONS SHALL BE WRAPPED ON THE OUTSIDE WITH TWO LAYERS OF GEOTEXTILE FABRIC.
 ALL OPENINGS TO MANHOLES OR CATCH BASINS MADE IN THE FIELD MUST BE CORE DRILLED AND VERIFIED BY ICDC INSPECTOR.



STORM OUTLET STRUCTURE DETAIL
 SCALE: NO. SCALE



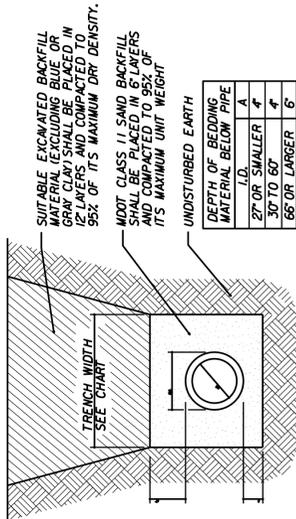
STORM OUTLET FILTER DETAIL
 SCALE: NO. SCALE



STORM SEWER MANHOLE
 SCALE: NO. SCALE

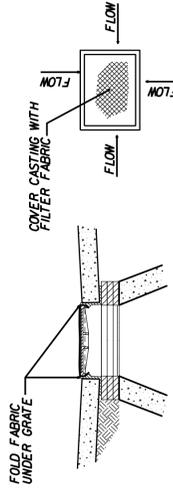
NOTE: ALL PIPE TO STRUCTURE PENETRATIONS SHALL BE WRAPPED ON THE OUTSIDE WITH TWO LAYERS OF GEOTEXTILE FABRIC.
 ALL OPENINGS TO MANHOLES OR CATCH BASINS MADE IN THE FIELD MUST BE CORE DRILLED AND VERIFIED BY ICDC INSPECTOR.

PIPE MATERIAL	TRENCH WIDTH MINIMUM	TRENCH WIDTH MAXIMUM
RCP	0.0 - 24"	0.0 - 24"
PVC	0.0 - 24"	0.0 - 36"
DIP	0.0 - 12"	0.0 - 24"



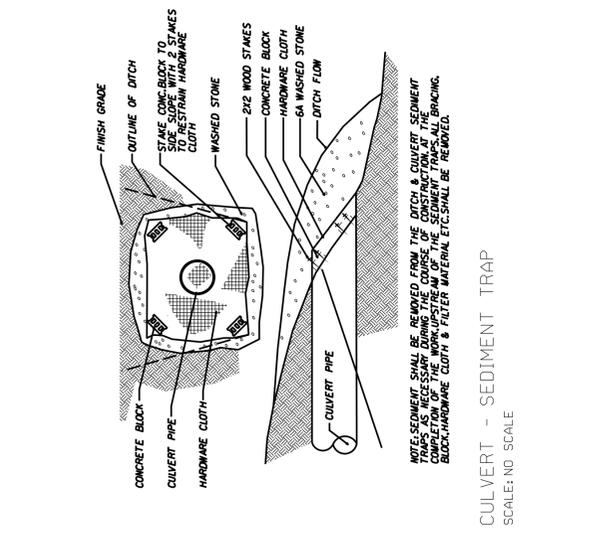
EXCAVATED MATERIAL BACKFILL
 (FOR USE IN NON-PAVEMENT AREAS)

PIPE BEDDING AND BACKFILL DETAIL
 SCALE: NO. SCALE



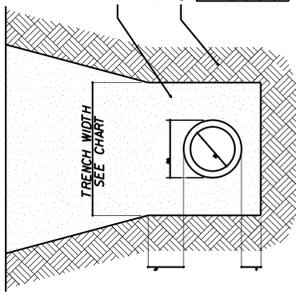
NOTE: 1. CLEAN FILTER WHEN FLOW BECOMES RESTRICTED.
 2. FILTER FABRIC SHALL BE OF THE FOLLOWING OR AN APPROVED EQUIVALENT:
 A) AIRMAF (NON-WOVEN) - CELANESE FIBERS MARKETING CO.
 B) POLYFILTER X (WOVEN) - CARTHAZE MILLS
 C) TYPAR (NON-WOVEN) - DUPONT COMPANY
 D) OR APPROVED EQUAL.
 3. ALL MANHOLES, CATCH BASINS, AND CURB INLETS TO BE PROTECTED WITH THE FILTER FABRIC INLET FILTER SHOWN ABOVE.
 4. REGULAR MAINTENANCE OF FILTERS SHALL BE PER SCHEDULE SET FORTH IN SOIL EROSION CONTROL PERMITS.

FILTER FABRIC INLET FILTER
 SCALE: NO. SCALE



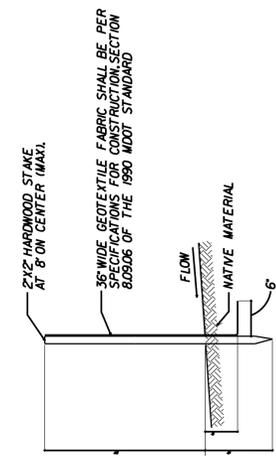
CULVERT - SEDIMENT TRAP
 SCALE: NO. SCALE

PIPE MATERIAL	TRENCH WIDTH MINIMUM	TRENCH WIDTH MAXIMUM
RCP	0.0 - 24"	0.0 - 24"
PVC	0.0 - 24"	0.0 - 36"
DIP	0.0 - 12"	0.0 - 24"



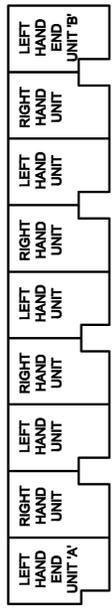
COMPACTED SAND BACKFILL
 (FOR USE UNDER PAVEMENT AREAS)

PIPE BEDDING AND BACKFILL DETAIL
 SCALE: NO. SCALE

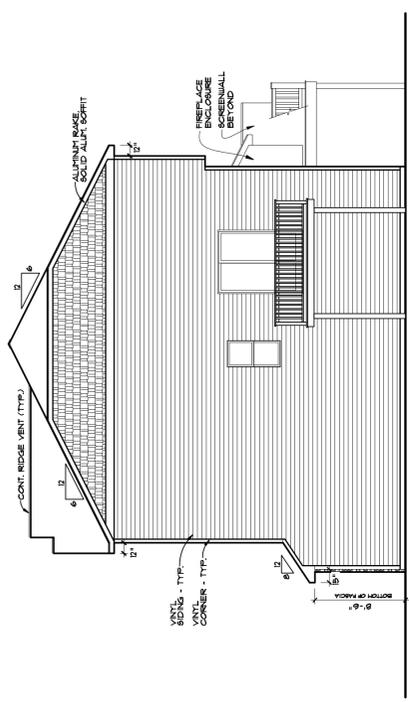


REGULAR MAINTENANCE OF FILTERS SHALL BE PER SCHEDULE SET FORTH IN SOIL EROSION CONTROL PERMITS.

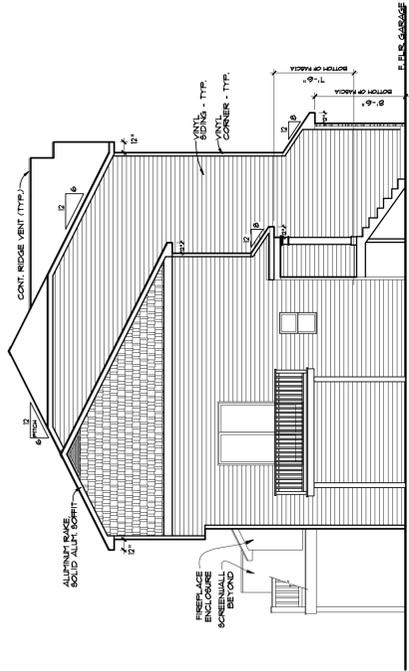
SILT FENCE
 SCALE: NO. SCALE



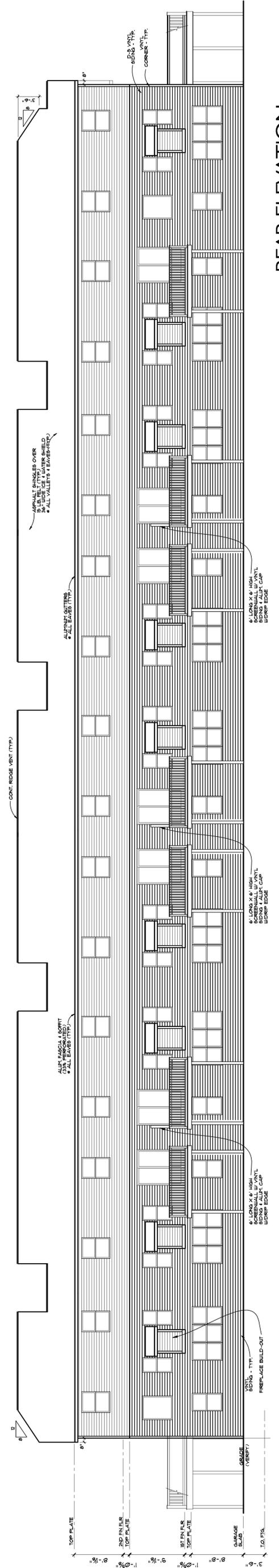
BUILDING KEY PLAN



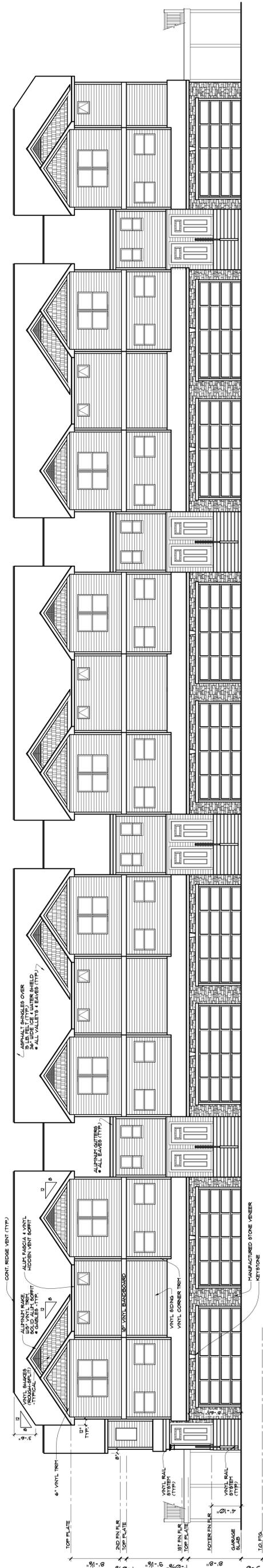
LEFT SIDE ELEVATION
1/8" = 1'-0"



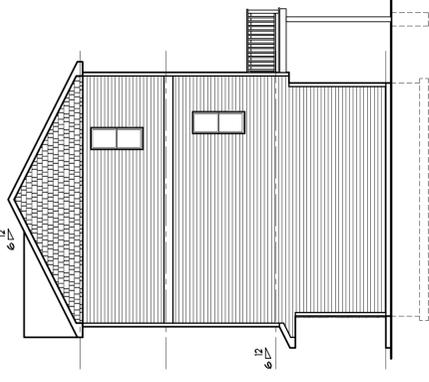
RIGHT SIDE ELEVATION
1/8" = 1'-0"



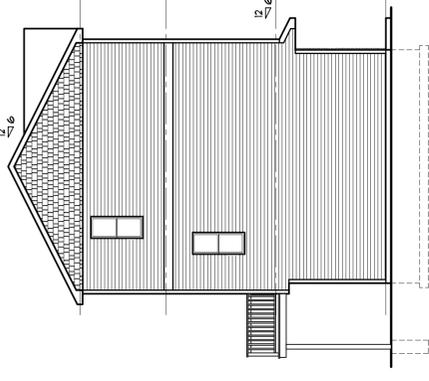
REAR ELEVATION
1/8" = 1'-0"



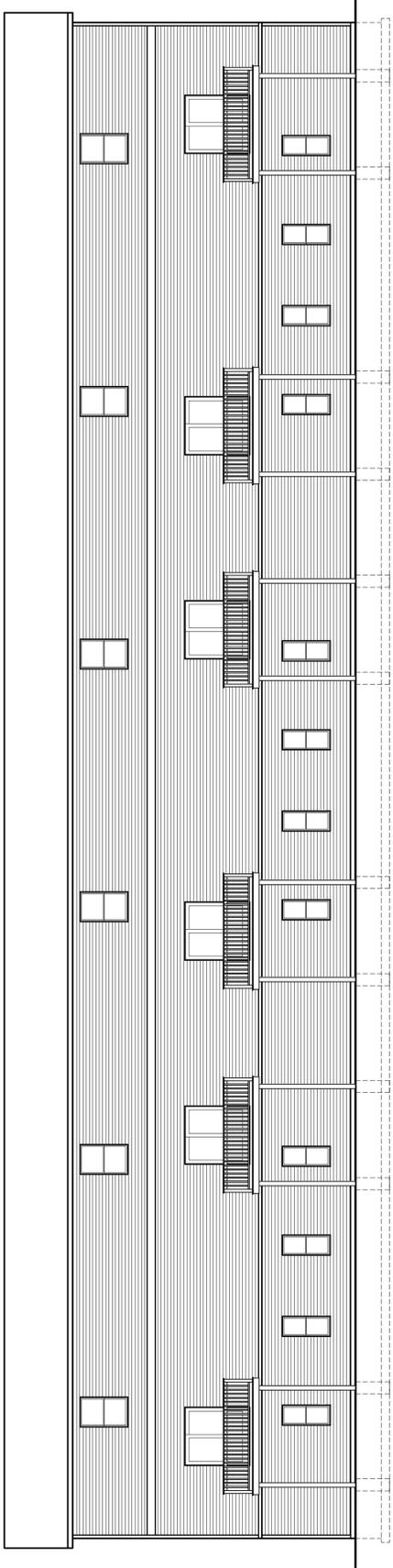
FRONT ELEVATION
1/8" = 1'-0"



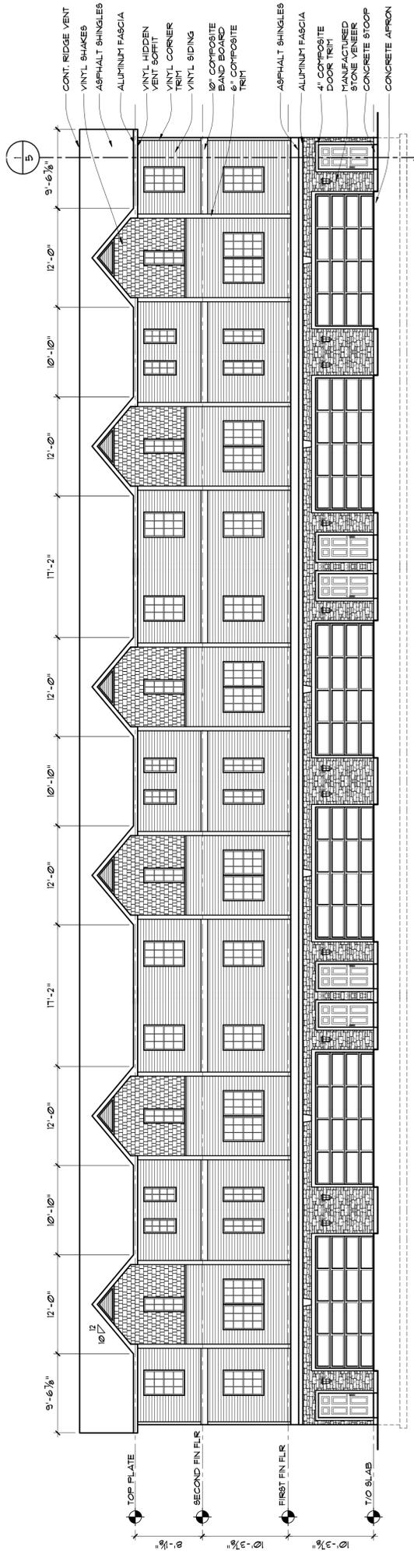
SIDE ELEVATION
 1/8" = 1'-0"



SIDE ELEVATION
 1/8" = 1'-0"



REAR ELEVATION
 1/8" = 1'-0"



FRONT ELEVATION
 1/8" = 1'-0"



To: Planning Commission

From: Peter Menser, Principal Planner

Date: November 20, 2018

Re: Mixed Use Planned Unit Development #18044 (Newton Pointe, LLC),
construct Newton Park mixed use project at the southeast corner of Saginaw
Highway and Newton Road.

The public hearing for MUPUD #18044 was held at the November 5, 2018 Planning Commission meeting. In response to comments made at the public hearing several changes were made to the site plan for the project, which are detailed in an attached letter from the applicant. To inform the discussion on the setback of buildings along the southern property line, staff has attached the approved preliminary plat for the adjacent 99 lot Sierra Ridge Estates development.

Waiver requests

The following is an updated list of waivers the applicant is requesting from the requirements of the underlying C-2 (Commercial) zoning district:

Front yard setback (Saginaw Highway): A 100 foot front yard setback from the centerline along Saginaw Highway is required. At its closet point the proposed mixed use building is located 75.5 feet from the centerline of Saginaw Highway. A waiver of 24.50 feet is requested for the front yard building setback.

Front yard setback (Newton Road): The required setback is 25 feet from the Newton Road street right-of-way line. At its closest point the proposed mixed use building is located 0.5 feet from the street right-of-way. A waiver of 24.50 feet is requested for the front yard building setback.

Setback from residential zoning district (south): In the C-2 zoning district no structure is permitted within 100 feet of any residential zoning district boundary line. As proposed, Building B15 (a single family home) is located 29.49 feet from the RAA (Single Family) property to the south, therefore a waiver of 70.51 feet (a decrease of 9.49 feet from the previous site plan) is requested for the setback from the residential zoning district boundary.

Setback from residential zoning district (east): Buildings C5, C6, and C7 (10-unit apartment buildings) are located 20 feet from the RR (Rural Residential) property to the east, therefore a waiver of 80 feet is requested for the setback from the residential zoning district boundary.

Parking: 637 parking spaces are required for the project based on the number of residential units, commercial space in the mixed use building, and the allowed reduction granted for bicycle parking. 410 parking spaces are proposed by the applicant (a decrease of four spaces from the previous site plan). A waiver of 227 parking spaces is requested.

Mixed Use Planned Unit Development #18044 (Newton Pointe, LLC)
Planning Commission (November 26, 2018)
Page 2

Parking lot setback (adjacent to residential zoning district): Where a parking area with a capacity of 50 or more vehicles, or its associated internal access or service drives, adjoins a residential district a landscaped buffer at least 40 feet wide must be provided between the parking area and the adjoining property line. At its closest point the parking lot on the west side of the property is located 10 feet from the RAA zoning district line. A waiver of 30 feet is requested for the parking lot setback from a residential zoning district.

Parking lot setback (adjacent to residential zoning district): Where a parking area adjoins a public street a landscaped buffer at least 20 feet wide must be provided between the parking area and the adjacent right-of-way. At its closest point the parking area on the south side of the mixed use building is located 1.5 feet from the Newton Road right-of-way. A waiver of 18.5 feet is requested for the parking lot setback from a public street.

Wall signs: The submitted building elevations show seven, seven square foot wall signs located on the front elevation (street side) of the mixed use building and eight, seven square foot wall signs on the rear elevation (parking lot side) of the mixed use building. As proposed, the eight wall signs on the rear building elevation would not be permitted without a waiver, as each business is permitted one wall sign.

Freestanding signs: The submitted plans show three 68.3 square foot (8' 4" tall) monument signs proposed on the property, one on the south side of the driveway at Newton Road, and two along Saginaw Highway. Freestanding signs are generally not permitted in a MUPUD. Exceptions for freestanding signs of the monument type may be permitted when a building is located a minimum of 15 feet from the right-of-way (ROW) line with the resulting yard set aside for permanent public open space. The mixed use building is set back approximately 0.5 feet from the Newton Road ROW and approximately 5 feet from the Saginaw Highway ROW. A waiver is required for the installation of the three freestanding signs.

Wetland setback: All structures and grading activities are required to be located at least 20 feet (Wetland B) or 40 feet (Wetland A) from the delineated boundary of a wetland. As indicated on the list of waivers submitted by the applicant, walking paths would extend into the wetland setback at numerous locations around both Wetlands A and B. A waiver is requested for the encroachment of the walking paths into the water features setback.

At its last meeting the Planning Commission agreed to consider a resolution to recommend approval of the proposed MUPUD at its next meeting on November 26, 2018, subject to the requested changes to the site plan as discussed at the meeting.

Planning Commission Options

The Planning Commission may recommend approval, approval with conditions, or denial of the proposed MUPUD. The Planning Commission is required to make a recommendation on the MUPUD within 60 days of the date of the public hearing on November 5, 2018. A resolution to recommend approval of the MUPUD to the Township Board is provided.

- **Motion to adopt the resolution recommending approval of Mixed Use Planned Unit Development #18044.**

Attachments

1. Resolution to recommend approval.
2. Letter from Chuck Holman dated November 19, 2018 and received by the Township on November 19, 2018.
3. Revised site plans prepared by Kebs, Inc. dated November 22, 2017 (Revision Date November 19, 2018) and received by the Township on November 19, 2018.
4. Detailed setback diagrams received by the Township on November 19, 2018.
5. Detailed site amenities plan prepared by Luke Landscape dated November 15, 2018 and received by the Township on November 19, 2018.
6. Detailed landscape plans received by the Township on November 19, 2018.
7. Approved Preliminary Plat for Sierra Ridge Estates.

G:\Community Planning & Development\Planning\MIXED USE PLANNED UNIT DEVELOPMENTS (MUPUD)\2018\MUPUD 18044 (Newton Pointe LLC) Newton Park\MUPUD 18044.pc2.docx

RESOLUTION TO RECOMMEND APPROVAL

**Mixed Use Planned Unit Development #18044
(Newton Pointe, LLC)**

At a regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at the Meridian Municipal Building, in said Township on the 26th day of November, 2018, at 7:00 p.m., Local Time.

PRESENT: _____

ABSENT: _____

The following resolution was offered by _____ and supported by _____.

WHEREAS, Newton Pointe, LLC has submitted a request to establish a mixed use planned unit development (MUPUD) identified as Newton Park on 23.95 acres located at 6276 Newton Road and a property recognized as Parcel I.D. #04-252-005; and

WHEREAS, the proposed mixed use planned unit development includes the construction of a new 86,468 square foot mixed use building with 85 multiple family dwelling units and 19,367 square feet of commercial space, 10, 10-unit multiple family buildings, six, four-unit single family attached buildings, nine single family dwellings, and a 4,778 square foot clubhouse; and

WHEREAS, 19,367 square feet of commercial space, 238,719 square feet of residential space, and a total of 218 dwelling units are proposed in the project; and

WHEREAS, the Planning Commission held a public hearing at its regular meeting on November 5, 2018, and has reviewed staff material forwarded under cover memorandums dated October 31, 2018 and November 20, 2018; and

WHEREAS, the subject site is appropriately zoned C-2 (Commercial), which allows for a mixed use planned unit development; and

WHEREAS, the mixed use planned unit development meets the conditions established in Rezoning #06050 for site layout, residential density, and land use; and

WHEREAS, the proposed mixed use planned unit development has been designed to be harmonious and appropriate with the existing and potential future uses surrounding the site; and

WHEREAS, the proposed mixed use planned unit development meets the minimum MUPUD design standards as outlined in Section 86-440(f) of the Code of Ordinances; and

WHEREAS, the requested waivers for building setbacks, parking lot setbacks, number of parking spaces, signage, and water feature setbacks are appropriate and necessary to facilitate development of the property consistent with the intent of the MUPUD ordinance; and

**Resolution to Recommend Approval
MUPUD #18044 (Newton Pointe, LLC)
Page 2**

WHEREAS, the number and type of amenities provided in the mixed use planned unit development are consistent with the requirements, guidelines, and criteria stated in Section 86-440(e) of the Code of Ordinances; and

WHEREAS, municipal water is available in the vicinity of the project site and sanitary sewer is available for extension to serve the subject site; and

WHEREAS, the proposed mixed use planned unit development is consistent with Objective A of Goal 1 of the 2017 Master Plan to maintain a community of desirable, attractive residential neighborhoods; and

WHEREAS, the proposed mixed use planned unit development is consistent with Objective B of Goal 1 of the 2017 Master Plan to ensure new residential developments meet high standards of visual attractiveness, health and safety, and environmental sensitivity.

NOW THEREFORE, BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN hereby recommends approval of Mixed Use Planned Unit Development #18044, subject to the following conditions.

1. Approval is in accordance with the site plan prepared by prepared by Kebs, Inc. dated November 22, 2017 (Revision Date November 19, 2018) and received by the Township on November 19, 2018.
2. Approval is in accordance with the architectural renderings, floor plans, building elevations, and sign plan prepared by The Peabody Group dated September 17, 2018 and received by the Township October 5, 2018.
3. Approval is in accordance with the landscape plan and amenities plan prepared by Luke Landscape dated September 18, 2018 and received by the Township on October 5, 2018.
4. Approval of the mixed use planned unit development is contingent on the approval of Special Use Permit #18091.
5. Approval of the mixed use planned unit development is contingent on the approval of Wetland Use Permit #18-03, unless the plan is amended to alleviate the need for a wetland use permit.
6. Approval is subject to the conditions established in Rezoning #06050.
7. The waivers requested for building setbacks, parking lot setbacks, number of parking spaces, signage, and water feature setbacks are recommended for approval as depicted on the submitted site plan prepared by Kebs, Inc. dated November 22, 2017 (Revision Date November 19, 2018) and received by the Township on November 19, 2018 as well as the waivers identified by staff and outlined in a memorandum dated November 20, 2018.
8. Approval is subject to the applicant obtaining all necessary permits, licenses, and approvals from the Ingham County Road Department, Michigan Department of Transportation, Ingham County Drain Commissioner, Michigan Department of Environmental Quality, and the Township, as applicable. Copies of all permits and approval letters shall be submitted to the Department of Community Planning and Development.

**Resolution to Recommend Approval
MUPUD #18044 (Newton Pointe, LLC)**

Page 3

9. The utility, grading, and storm drainage plans for the site are subject to the approval of the Director of Public Works and Engineering and Ingham County Drain Commissioner and shall be completed in accordance with the Township Engineering Design and Construction Standards.
10. No grading or land clearing shall take place on the site until the site plan has been approved by the Director of Community Planning and Development and grading and soil erosion and sedimentation control (SESC) permits have been issued for the project.
11. All utility service distribution lines shall be installed underground.
12. Any future building additions or revisions to the site layout will require amendments to Mixed Use Planned Unit Development #18044 and Special Use Permit #18091.
13. The final design of the trash and recycling facilities and related enclosures shall be subject to the approval of the Director of Community Planning and Development.
14. Site accessories such as railings, benches, exterior lighting fixtures, and bicycle racks shall be of commercial quality and complement the building design. Final design and location shall be subject to the approval of the Director of Community Planning and Development.
15. Landscaping shall comply with the provisions of the Code of Ordinances, including the standards outlined in Section 86-440(f)(4) and other applicable sections of the Ordinance pertaining to landscaping.
16. Site and building lighting shall comply with Article VII of Chapter 38 of the Code of Ordinances and shall be subject to the approval of the Director of Community Planning and Development.
17. The applicant shall combine the two subject parcels into one parcel.
18. The applicant shall construct the required 10 foot wide pathway along the Saginaw Highway frontage and the required seven foot pathway along the Newton Road frontage of the properties included in the development. The pathways shall be designed and constructed in accordance with Township Engineering Design and Construction Standards. The design and location of the pathway shall be subject to the approval of the Director of Public Works and Engineering.
19. All mechanical, heating, ventilation, air conditioning, and similar systems shall be screened from view by an opaque structure or landscape materials (if at street level) selected to complement the building. Such screening is subject to the approval by the Director of Community Planning and Development.

ADOPTED: YEAS: _____

NAYS: _____

STATE OF MICHIGAN)

) ss

COUNTY OF INGHAM)

**Resolution to Recommend Approval
MUPUD #18044 (Newton Pointe, LLC)
Page 4**

I, the undersigned, the duly qualified and acting Chair of the Planning Commission of the Charter Township Meridian, Ingham County, Michigan, DO HEREBY CERTIFY that the foregoing is a true and a complete copy of a resolution adopted at a regular meeting of the Planning Commission on the 26th day of November, 2018.

Dante Ianni
Planning Commission Chair

G:\Community Planning & Development\Planning\MIXED USE PLANNED UNIT DEVELOPMENTS (MUPUD)\2018\MUPUD 18044 (Newton Pointe LLC) Newton Park\MUPUD 18044 resolution PC approval.docx



November 19, 2018

Mr. Mark Kieselbach
Community Planning & Development Director
Meridian Township
5151 Marsh Road
Okemos, MI 48864

Re: **Newton Park**
6276 Newton Road
MUPUD Application

Dear Mr. Kieselbach,
Newton Pointe, LLC is pleased to submit the MUPUD Resubmittal Package for the referenced project.

The Meridian Township Planning Commission held a Public Hearing on this proposed development on November 5, 2018. While there appeared to be unanimous support for the project, the commissioners raised several concerns. This resubmittal is intended to address most of these concerns. Several revised drawings are included –

- **Site Plan**
- **Utility Plan**
- **Storm Water Management Plan**
- **Open Space Plan**
- **Building Setback at M78 - Updated Plan**
- **Building Setback at M78 - Original Plan**
- **Building Setback at Single Family Homes - Updated Plan**
- **Building Setback at Single Family Homes - Original Plan**
- **Landscaping Plan**
- **Site Amenities Plan**
- **Colored Site Amenities Plan**
- **M78 Tree Berm Plan**
- **Single Family Tree Berm Plan**
- **Townhome Tree Berm Plan**
- **Clubhouse Tree Berm Plan**

We have highlighted and responded to the concerns we believe the commissioners noted in their review of this development.



M-78 Traffic

It is true that speed limits on M-78 are higher than one we see in a more residential setting. As it turns out, MDOT will be closing off the Newton Road and Towner Road intersections on M-78 in 2019. They are incorporating "Michigan Left Turn Lanes" to facilitate traffic in this area. We are happy to join adjacent property owners and Meridian Township in any effort with MDOT to accommodate pedestrian traffic at Newton Road intersection.

At the request of MDOT, Newton Park has revised the M-78 western entrance to "entry only". Newton Park traffic will not be able to exit from this entrance. Again, at the request of MDOT, the M-78 eastern entrance is relocated 200 feet +/- to the east.

Traffic Study

Concerns were raised about the actual traffic that should be expected at the Newton Road entrance. The changes made to our entrances on M-78 will also change the amount of traffic at the Newton Road entrance. We have requested our traffic engineer to update their report based on the changed conditions.

Building Setback @ M-78

In response to concerns raised about the building setbacks at M-78, we have revised the site plan to increase this setback 15%. In addition, we have added a landscaping berm and trees to further isolate the buildings from M-78.

Building Setback @ Single-Family Homes (One Story)

In response to concerns raised about the building setbacks at the single-family homes, we have revised the site plan to increase this setback 47%. In addition, we have added a landscaping berm and trees to further isolate the one story single-family homes from the adjacent development.

Public Amenities

The commissioners encouraged the incorporation of public amenities. We have included a colored site amenities plan in this resubmittal. It shows the following public amenities –

- Wetland Walking Path with public access from several locations
- Public Access Pocket Park
- Public Access Dog Park
- Public Access Walkway Connector to Towner Road Township Park

We look forward to the next Planning Commission meeting on November 26, 2018.

Thank you,

A handwritten signature in blue ink, appearing to read 'Chuck Holman', is written over a horizontal line.

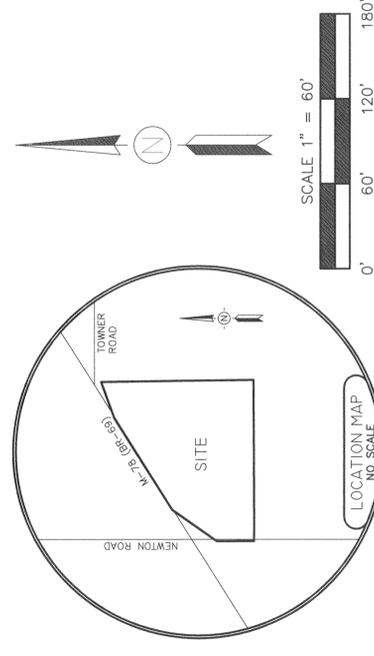
Chuck Holman

DTN Management, VP Construction & Development

MUPUD PLAN Newton Park MUPUD MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

CLIENT:
DTN MANAGEMENT COMPANT
2502 LAKE LANSING RD. STE C
NEWTON, MI 48840
PH: (517) 371-5300
FAX: (517) 371-5356

ENGINEER/SURVEYOR:
KEBS, INC.
2116 HASLETT RD.
NEWTON, MI 48840
PH: (517) 339-1014
FAX: (517) 339-8047



LEGAL DESCRIPTION:
(As provided)
TAX ID: 33-02-02-04-252-004
S 88 DEG 13' 47" E ALONG E-W 1/4 LINE OF SEC. 4 1079.47 FT TO PT. OF BEG. N 01 DEG 24' 18" E 1196.35 FT TO PT. ON SLY COM. AT CEN. OF SEC. 4, S 88 DEG 13' 47" E ALONG E-W 1/4 LINE OF SEC. 4 1079.47 FT TO PT. OF BEG. N 01 DEG 24' 18" E 1196.35 FT TO PT. ON SLY COM. AT CEN. OF SEC. 4, S 88 DEG 13' 47" E ALONG E-W 1/4 LINE TO PT. OF BEG. SEC. 4, 1/4 N 1/4 RW.
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DENSITY CALCULATIONS
AREA "A" = 65 UNITS
BLDG. = 10 UNITS/ACRE (GROSS AREA)
100,000 S.F. / 10 UNITS = 10,000 S.F./UNIT
AREA "B" = 24 UNITS
BLDG. = 10 UNITS/ACRE (GROSS AREA)
100,000 S.F. / 10 UNITS = 10,000 S.F./UNIT
AREA "C" = 33 UNITS
BLDG. = 10 UNITS/ACRE (GROSS AREA)
100,000 S.F. / 10 UNITS = 10,000 S.F./UNIT
TOTAL UNITS ALLOWED = 122 UNITS

MAXIMUM ALLOWED UNITS ENTIRE PROJECT = 10 UNITS/ACRE (GROSS AREA)
GROSS AREA = 1,137,021 S.F. = 26.11 AC.
EXISTING RIGHT OF WAY NEWTON & TOWER ROADS (100' WIDE)
PROPOSED RIGHT OF WAY NEWTON & TOWER ROADS (100' WIDE)
NET AREA 1,043,357 S.F. = 23.85 AC.
23.85 X 10 = 238.5 UNITS ALLOWED

217 TOTAL UNITS PROPOSED
MAXIMUM ALLOWED UNITS ENTIRE PROJECT = 10 UNITS/ACRE (GROSS AREA)
GROSS AREA = 1,137,021 S.F. = 26.11 AC.
EXISTING RIGHT OF WAY NEWTON & TOWER ROADS (100' WIDE)
PROPOSED RIGHT OF WAY NEWTON & TOWER ROADS (100' WIDE)
NET AREA 1,043,357 S.F. = 23.85 AC.
23.85 X 10 = 238.5 UNITS ALLOWED

BUILDING INFORMATION:
AREA A
BLDG. A - FIRST FLOOR COMMERCIAL = 13,280 S.F.
BLDG. B - CLUBHOUSE = 4,778 S.F.
BLDG. C - CLUBHOUSE = 1,586 S.F.
RESIDENTIAL = 65,873 S.F.
TOTAL = 85,517 S.F.
AREA B
BLDG. B - CLUBHOUSE = 4,778 S.F.
BLDG. C - CLUBHOUSE = 1,586 S.F.
RESIDENTIAL = 65,873 S.F.
TOTAL = 72,237 S.F.
AREA C
BLDG. C - CLUBHOUSE = 1,586 S.F.
RESIDENTIAL = 65,873 S.F.
TOTAL = 67,289 S.F.
TOTAL ENTIRE PROJECT = 114,636 S.F.
TOTAL BLDG. COVERAGE = 264,684 S.F.
TOTAL BLDG. COVERAGE = 164,802 S.F.
164,802 / 1,043,357 = 15.80% BLDG. COVERAGE

SECTION	REQUIREMENT	REASON	WAIVER REQUESTED	COMPARISON TO EX. NO. COMPARISONS
86-404 (6)(3)	RESIDENTIAL ZONED PROPERTY	RESIDENTIAL ZONED PROPERTY	70.51' WAIVER SETBACK 28.40'	NO COMPARISONS
86-755	637 PARKING SPACES REQUIRED	410 PROPOSED SPACES	227 SPACE WAIVER	
86-367	25' BLDG. SETBACK FROM R.O.W.	NEWTON RD. PROP. BLDG. SETBACK 0.5'	24.5' WAIVER	
86-367	100' BLDG. SETBACK FROM C/L	SAGINAW HWY. PROP. BLDG. SETBACK 75.5'	24.5' WAIVER	
86-756 (10)	40' PARKING SETBACK FROM RESIDENTIAL ZONED PROPERTY	PROP. PARKING SETBACK 10'	30' WAIVER	
86-756 (11)	20' PARKING SETBACK FROM ROAD RIGHT-OF-WAY	1.5'	18.5' WAIVER	
86-471(6)(1)	SETBACK FROM WETLAND	PROPOSED WALKING TRAIL IN SETBACKS (SEE AMENITY PLAN)	VARIES	

PERVIOUS/IMPERVIOUS CALCULATIONS:
TOTAL SITE AREA = 1,043,357 S.F.
TOTAL IMPERVIOUS AREA SHOWN ON OPEN SPACE PLAN = 370,306 S.F. = 35.68%
TOTAL IMPERVIOUS AREA = 671,051 S.F. = 64.32%
MAX. IMPERVIOUS AREA ALLOWED 70%

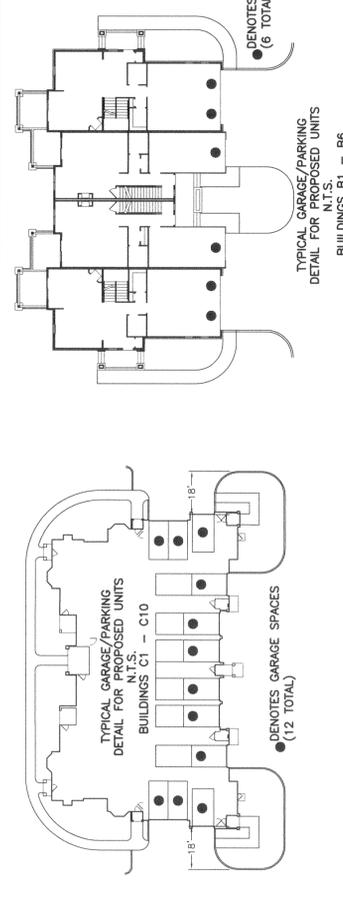
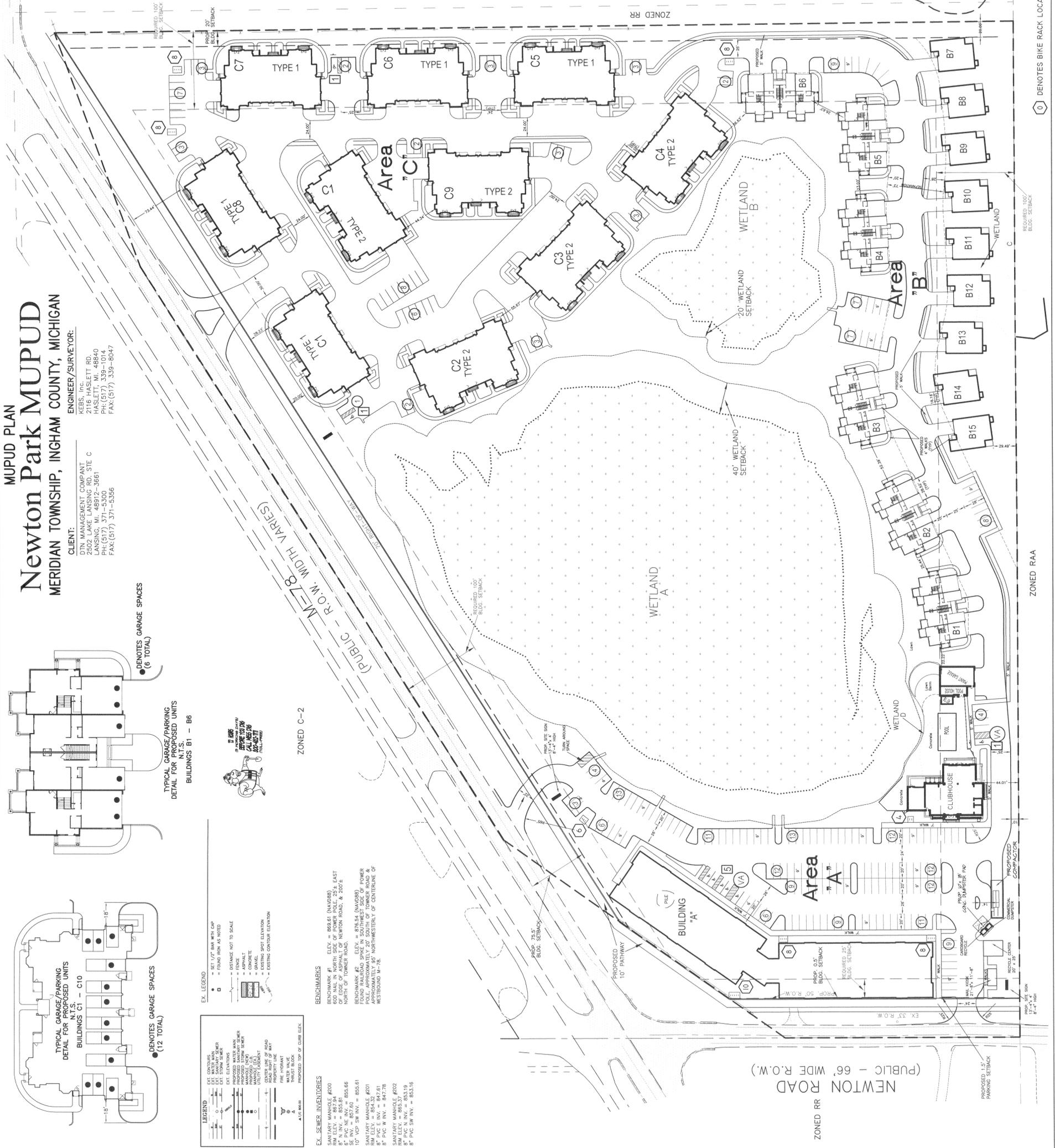
REVISIONS

1	12-26-17	INITIAL MUPUD CONCEPT PLAN
2	10-5-18	MUPUD CONCEPT PLAN
3	11-18-18	MUPUD CONCEPT PLAN
4	11-18-18	PG. REVIEW

KEBS, INC. BRYAN LAND SURVEYS
2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517-339-1014 FAX. 517-339-8047
Marshall Office
Ph. 269-781-9800

Newton Park MUPUD
OVERALL PLAN

DESIGNER: JMK
PROJECT MGR: JMK
SCALE: 1" = 60'
DATE: 11-22-17
SHEET 1 OF 4
AUTHORIZED BY: JMK
JOB #: 92227
DTN MANAGEMENT COMPANT



LEGEND

- EXT. CONTOURS
- EXT. BOUNDARY SURVEY
- EXT. ELEVATIONS
- PROPOSED WATER MAIN
- PROPOSED STORM SEWER
- PROPOSED GAS
- PROPOSED UTILITY EASMENT
- PROPERTY LINE
- ROAD RIGHT OF WAY
- WATER WALK
- THREAT BLOCK
- PROPOSED TOP OF CURB ELEV.

EX. LEGEND

- EXT. CONTOURS
- EXT. BOUNDARY SURVEY
- EXT. ELEVATIONS
- PROPOSED WATER MAIN
- PROPOSED STORM SEWER
- PROPOSED GAS
- PROPOSED UTILITY EASMENT
- PROPERTY LINE
- ROAD RIGHT OF WAY
- WATER WALK
- THREAT BLOCK
- PROPOSED TOP OF CURB ELEV.

BENCHMARKS

BENCHMARK # 6200 (NAVD83) ELEV. = 866.81 (NAVD83) EAST OF EDGE OF ASPHALT OF NEWTON ROAD, 4' 20.15' NORTH OF TOWER ROAD.
BENCHMARK # 6201 (NAVD83) ELEV. = 876.54 (NAVD83) PIONEER POLE, APPROXIMATELY 20' SOUTH OF TOWER ROAD & APPROXIMATELY 95' NORTHWESTERLY OF CENTERLINE OF HIGHWAY M-76.

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WAIVER REQUESTS

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PERVIOUS/IMPERVIOUS CALCULATIONS:
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TOTAL IMPERVIOUS AREA = 671,051 S.F. = 64.32%
MAX. IMPERVIOUS AREA ALLOWED 70%

SHEET INDEX

- OVERALL PLAN
- STORMWATER MANAGEMENT PLAN
- OPENSPACE PLAN
- LANDSCAPE AND AMENITY PLAN (BY OTHERS)
- LIGHTING PLAN (BY OTHERS)

1 DENOTES NUMBER OF P/F SPACES
(A) DENOTES VAN ACCESS P/F SPACES
(U) DENOTES PROPOSED NUMBER OF 9' x 20' PARKING SPACES

LEGEND

- EXT. CONTOURS
- EXT. BOUNDARY SURVEY
- EXT. ELEVATIONS
- PROPOSED WATER MAIN
- PROPOSED STORM SEWER
- PROPOSED GAS
- PROPOSED UTILITY EASMENT
- PROPERTY LINE
- ROAD RIGHT OF WAY
- WATER WALK
- THREAT BLOCK
- PROPOSED TOP OF CURB ELEV.

EX. LEGEND

- EXT. CONTOURS
- EXT. BOUNDARY SURVEY
- EXT. ELEVATIONS
- PROPOSED WATER MAIN
- PROPOSED STORM SEWER
- PROPOSED GAS
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6 DENOTES BIKE RACK LOCATIONS & NUMBER OF BIKES

MUPUD PLAN

Newton Park MUPUD

MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

LEGEND

- EX. CONTIGUOUS
- EX. WATER MAIN
- EX. STORM SEWER
- PROPOSED WATER MAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY MANHOLE
- PROPOSED UTILITY ELEVATION
- PROPOSED CURB ELEVATION
- PROPOSED PROPERTY LINE
- PROPOSED WATER WALK
- PROPOSED THURST BLOCK
- PROPOSED TOP OF CURB ELEV.

EX. LEGEND

- SET 1/2" BAR WITH CAP
- FOUND SIGN AS NOTED
- DISTANCE NOT TO SCALE
- UTILITY POLE
- LIGHT POLE
- STY POLE
- CONCRETE
- GRAVEL
- SPOT ELEVATION
- EXISTING CONTOUR ELEVATION
- OVERHEAD WIRES
- POST

BENCHMARKS

BENCHMARK #1 ELEV. = 868.61 (NAVD83) EAST OF EDGE OF ASPHALT OF NEWTON ROAD, 4, 2015

BENCHMARK #2 ELEV. = 876.54 (NAVD83) PARK POLE APPROXIMATELY 20' SOUTH OF TOWER ROAD APPROXIMATELY 95' NORTHWESTERLY OF CENTERLINE OF WESTBOUND W-78.

BENCHMARK #3 ELEV. = 865.66 (NAVD83) 10' N/S SW INV. = 855.81

BENCHMARK #4 ELEV. = 854.32 (NAVD83) 8' PAC SW INV. = 847.78

BENCHMARK #5 ELEV. = 855.37 (NAVD83) 8' PAC SW INV. = 853.16

SIZE AND SECTION

SECTION	LENGTH (L) (FT)	WIDTH (W) (FT)	ESTIMATED QUANTITY (CY)	ESTIMATED QUANTITY (CY) (VOL.)
1	12.7	8	5	4.4
2	13.5	11	6	6.6
3	14.3	13	9	12.0
4	15.1	15	11	15.6
5	15.9	17	13	19.2
6	16.7	19	15	22.8
7	17.5	21	17	26.4
8	18.3	23	19	30.0
9	19.1	25	21	33.6
10	19.9	27	23	37.2
11	20.7	29	25	40.8
12	21.5	31	27	44.4
13	22.3	33	29	48.0
14	23.1	35	31	51.6
15	23.9	37	33	55.2
16	24.7	39	35	58.8
17	25.5	41	37	62.4
18	26.3	43	39	66.0
19	27.1	45	41	69.6
20	27.9	47	43	73.2
21	28.7	49	45	76.8
22	29.5	51	47	80.4
23	30.3	53	49	84.0
24	31.1	55	51	87.6
25	31.9	57	53	91.2
26	32.7	59	55	94.8
27	33.5	61	57	98.4
28	34.3	63	59	102.0
29	35.1	65	61	105.6
30	35.9	67	63	109.2
31	36.7	69	65	112.8
32	37.5	71	67	116.4
33	38.3	73	69	120.0
34	39.1	75	71	123.6
35	39.9	77	73	127.2
36	40.7	79	75	130.8
37	41.5	81	77	134.4
38	42.3	83	79	138.0
39	43.1	85	81	141.6
40	43.9	87	83	145.2
41	44.7	89	85	148.8
42	45.5	91	87	152.4
43	46.3	93	89	156.0
44	47.1	95	91	159.6
45	47.9	97	93	163.2
46	48.7	99	95	166.8
47	49.5	101	97	170.4
48	50.3	103	99	174.0
49	51.1	105	101	177.6
50	51.9	107	103	181.2
51	52.7	109	105	184.8
52	53.5	111	107	188.4
53	54.3	113	109	192.0
54	55.1	115	111	195.6
55	55.9	117	113	199.2
56	56.7	119	115	202.8
57	57.5	121	117	206.4
58	58.3	123	119	210.0
59	59.1	125	121	213.6
60	59.9	127	123	217.2
61	60.7	129	125	220.8
62	61.5	131	127	224.4
63	62.3	133	129	228.0
64	63.1	135	131	231.6
65	63.9	137	133	235.2
66	64.7	139	135	238.8
67	65.5	141	137	242.4
68	66.3	143	139	246.0
69	67.1	145	141	249.6
70	67.9	147	143	253.2
71	68.7	149	145	256.8
72	69.5	151	147	260.4
73	70.3	153	149	264.0
74	71.1	155	151	267.6
75	71.9	157	153	271.2
76	72.7	159	155	274.8
77	73.5	161	157	278.4
78	74.3	163	159	282.0
79	75.1	165	161	285.6
80	75.9	167	163	289.2
81	76.7	169	165	292.8
82	77.5	171	167	296.4
83	78.3	173	169	300.0
84	79.1	175	171	303.6
85	79.9	177	173	307.2
86	80.7	179	175	310.8
87	81.5	181	177	314.4
88	82.3	183	179	318.0
89	83.1	185	181	321.6
90	83.9	187	183	325.2
91	84.7	189	185	328.8
92	85.5	191	187	332.4
93	86.3	193	189	336.0
94	87.1	195	191	339.6
95	87.9	197	193	343.2
96	88.7	199	195	346.8
97	89.5	201	197	350.4
98	90.3	203	199	354.0
99	91.1	205	201	357.6
100	91.9	207	203	361.2



SCALE 1" = 60'

0' 60' 120' 180'



SPILLWAY ELEV. T.B.D.

EDGE OF SCOUR HOLE & PERIMETER OF SEDIMENT FOREBAY

CROSS SECTION A-A

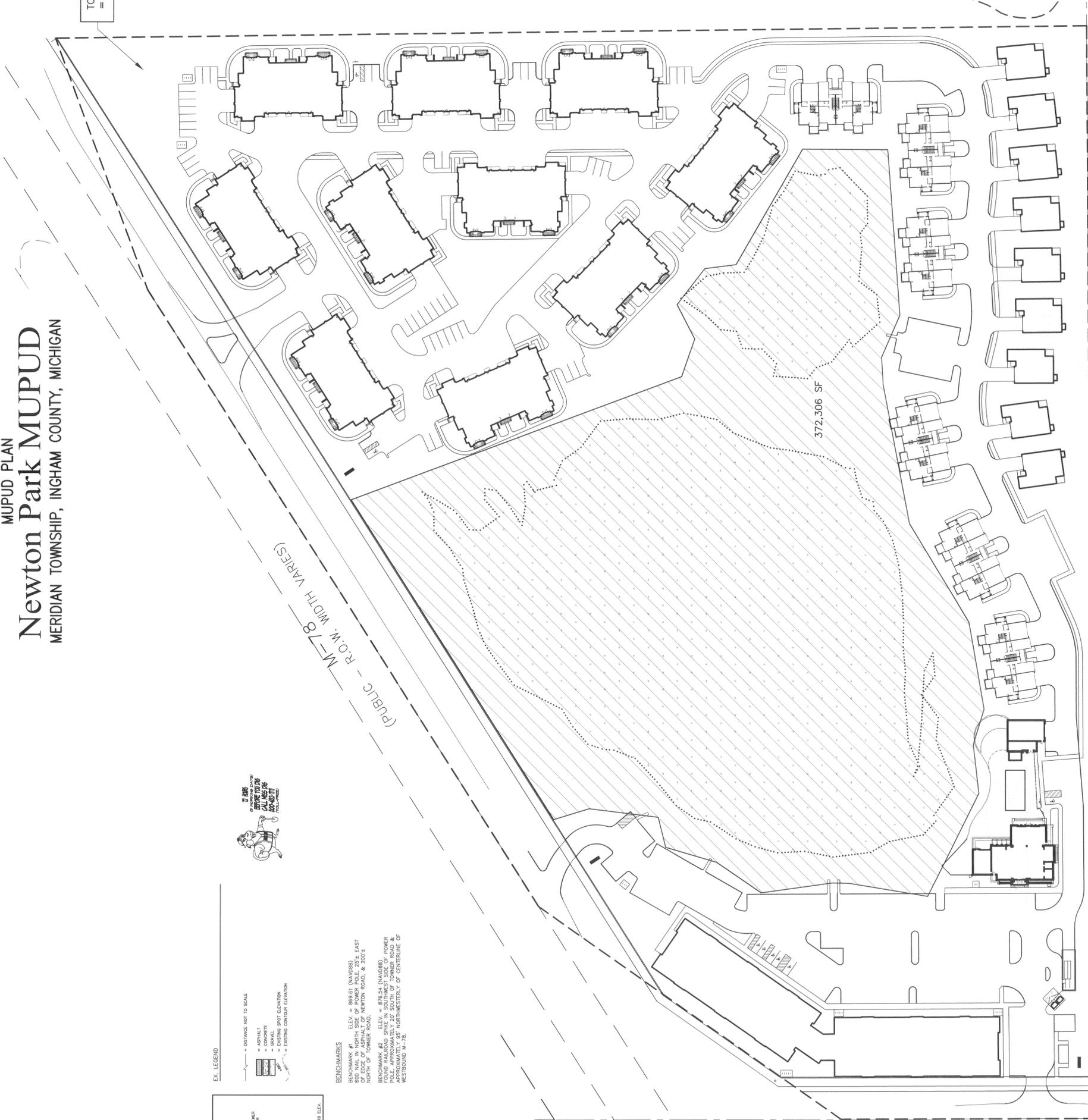
FABRIC FILTER

RIPRAP (6"-12" DIA.)

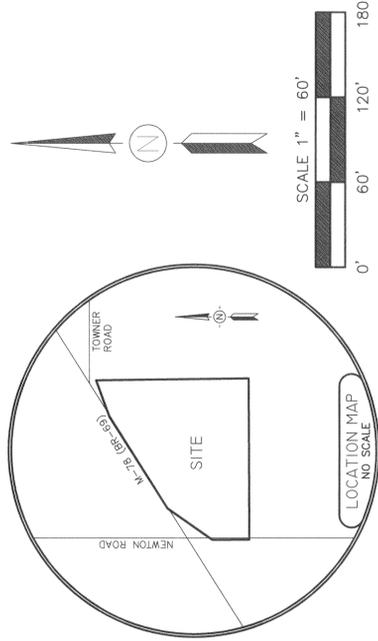
SEE PLAN FOR WIDTH



MUPUD PLAN
Newton Park MUPUD
 MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN



TO =



PERVIOUS/IMPERVIOUS CALCULATIONS:
 TOTAL SITE AREA = 1,043,357 S.F.
 TOTAL PERVIOUS AREA = 372,306 S.F. = 35.68%
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 MAX. IMPERVIOUS AREA ALLOWED 70%

LEGEND

- EXT. CONTOURS
- EXT. SANITARY SEWER
- EXT. WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED C&G
- UTILITY ELEVATION
- PROPERTY LINE
- ROAD RIGHT OF WAY
- WATER WALK
- WATER BLOCK
- THIRST BLOCK
- PROPOSED TOP OF CURB ELEV.

EX. LEGEND

- DISTANCE NOT TO SCALE
- ASPHALT
- CONCRETE
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR ELEVATION

BENCHMARKS

BENCHMARK #1 (NAVD83) ELEV. = 869.61
 POSITION: EAST OF EDGE OF ASPHALT OF NEWTON ROAD, & 200'± NORTH OF TOWER ROAD.

BENCHMARK #2 (NAVD83) ELEV. = 876.54
 POLE, APPROXIMATELY 20' SOUTH OF TOWER ROAD & APPROXIMATELY 95' NORTHWESTERLY OF CENTERLINE OF HIGHWAY M-78.

EX. SEWER INVENTORIES

SANITARY MANHOLE #200
 8" N. INV. = 855.81
 5" P.C. N.E. INV. = 855.66
 10" VOP SW INV. = 855.61

SANITARY MANHOLE #201
 RIM ELEV. = 854.32
 5" P.C. W. INV. = 847.78

SANITARY MANHOLE #202
 RIM ELEV. = 865.37
 5" P.C. SW INV. = 853.16

NEWTON ROAD (PUBLIC - 66' WIDE R.O.W.)

REVISIONS

10-25-17	REVISED MUPUD CONCEPT PLAN
10-5-18	MUPUD
11-15-18	WAPUD
11-15-18	PC REVIEW

DESIGNER: JMK
PROJECT MGR: JMK
APPROVED BY: JMK

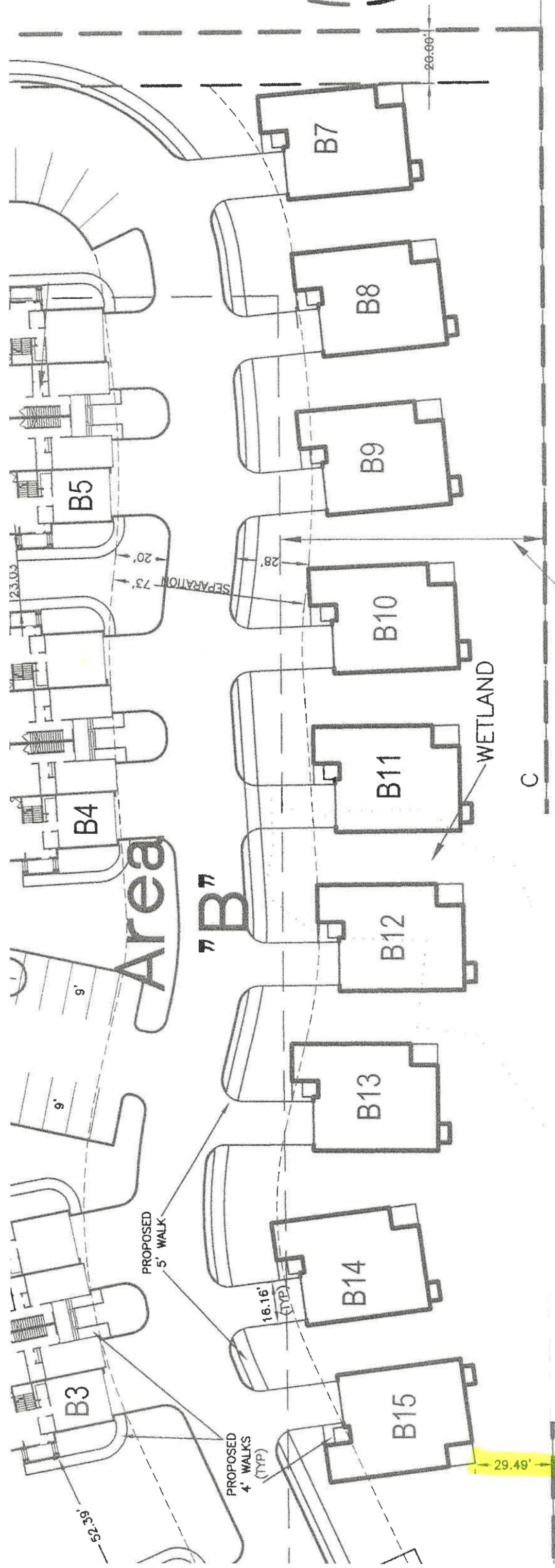
SCALE: 1" = 60'
DATE: 11-22-17

AUTHORIZED BY: JMK
JOB #: 4
SHEET: 4 OF 4
DTN MANAGEMENT COMPANY: 92227

KEBS, INC. KYES ENGINEERING
 BRYAN LAND SURVEYS
 2116 HASSETT ROAD, HASSETT, MI 48840
 PH. 517-339-1014 FAX. 517-339-8047
 Marshall, Office
 Ph. 268-781-9800

Newton Park MUPUD

UPDATED PLAN



NEWTON PARK – BUILDING SETBACK @ SINGLE FAMILY HOMES (ONE STORY)

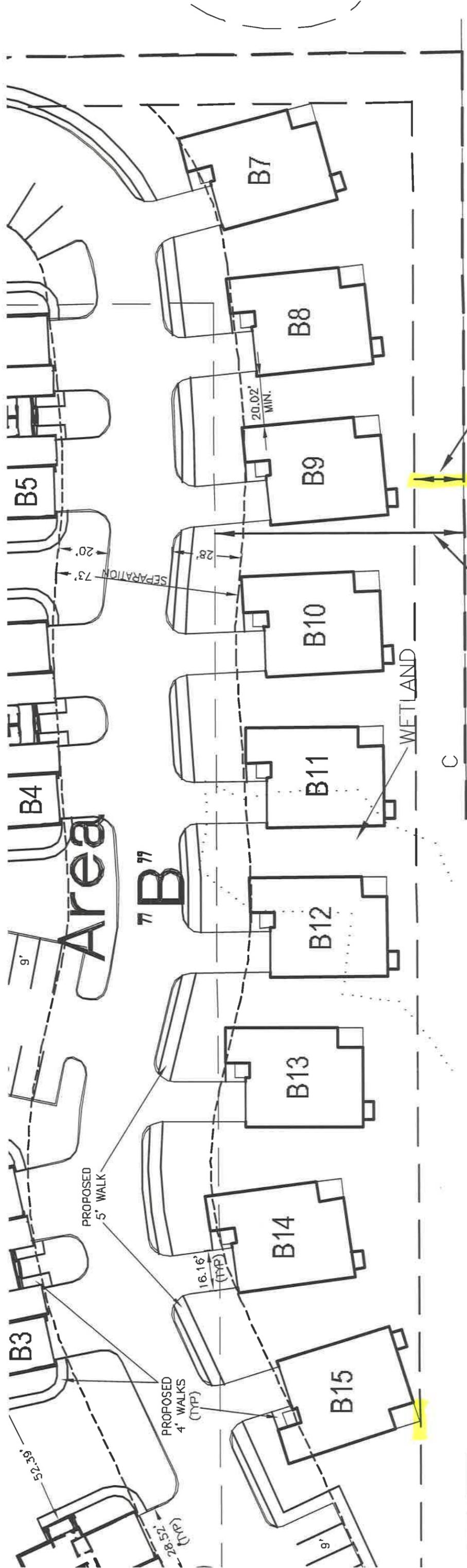
ORIGINAL PLAN

- PROPERTY LINE TO CLOSEST HOME – 20.00 FEET

UPDATED PLAN

- PROPERTY LINE TO CLOSEST HOME – 29.44 FEET

ORIGINAL PLAN



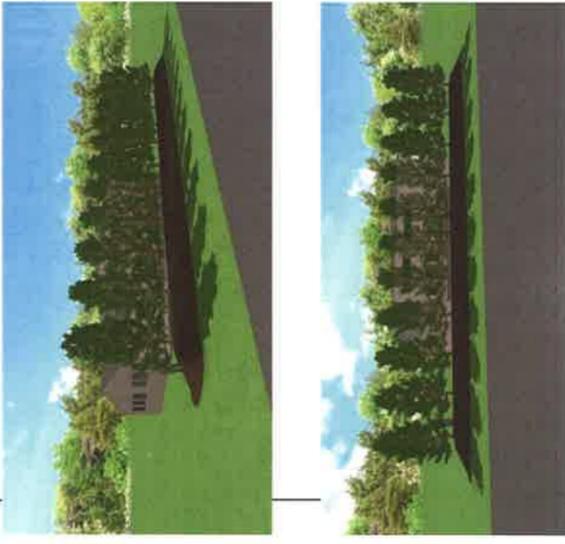
NEWTON PARK – BUILDING SETBACK @ SINGLE FAMILY HOMES (ONE STORY)

ORIGINAL PLAN

- PROPERTY LINE TO CLOSEST HOME – 20.00 FEET

UPDATED PLAN

- PROPERTY LINE TO CLOSEST HOME – 29.44 FEET



TOTAL SITE AREA
• (243,357 SF)

DOG PARK (PUBLIC ACCESS)
REQUIRED BY LOCAL REGULATIONS

BERM W/ TREES

HEADLIGHT SCREENING

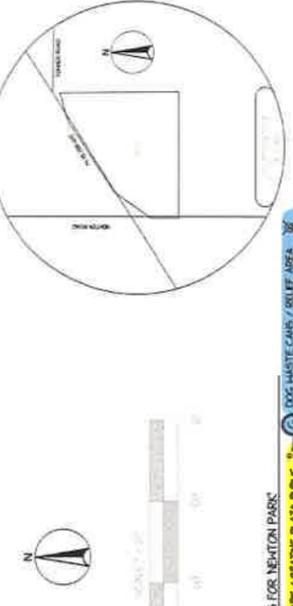
PUBLIC ACCESS TO PATHWAY

WALKWAY AROUND PERIMETER

POCKET PARK (OPEN TO PUBLIC)

PUBLIC ACCESS TO PATHWAY

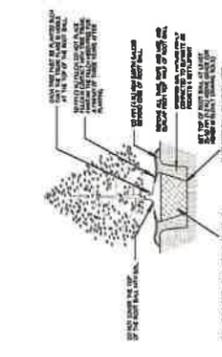
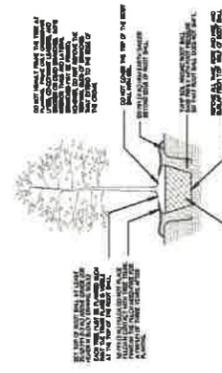
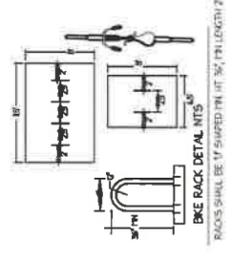
WALKWAY CONNECTOR TO TOWNER ROAD PARK (PUBLIC ACCESS TO PATHWAY)



- SITE UTILITIES FOR NEWTON PARK**
- 1 POCKET PARK / SEATING PLAZA PUBLIC
 - 2 UNCOVERED BIKE RACKS TYP.
 - 3 CLUBHOUSE
 - 4 BIKE RACKS
 - 5 BIKE RACKS
 - 6 BIKE RACKS
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 - 99 BIKE RACKS
 - 100 BIKE RACKS

- SITE TREES**
- 1 AUTUMN BLAZE MAPLE
 - 2 CLEVELAND SELECT PEAR
 - 3 SERBIAN SPRUCE
 - 4 HONEY LOCUST
 - 5 SARGENT CRAB
 - 6 ARBORVITAE

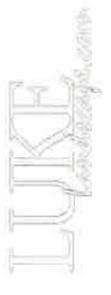
- SITE KEY**
- 1 POCKET PARK / SEATING PLAZA PUBLIC
 - 2 UNCOVERED BIKE RACKS TYP.
 - 3 BIASED GARDEN AREA
 - 4 DOG WASTE CANS / RELIEF AREA
 - 5 TRASH CAN RECEPTAL

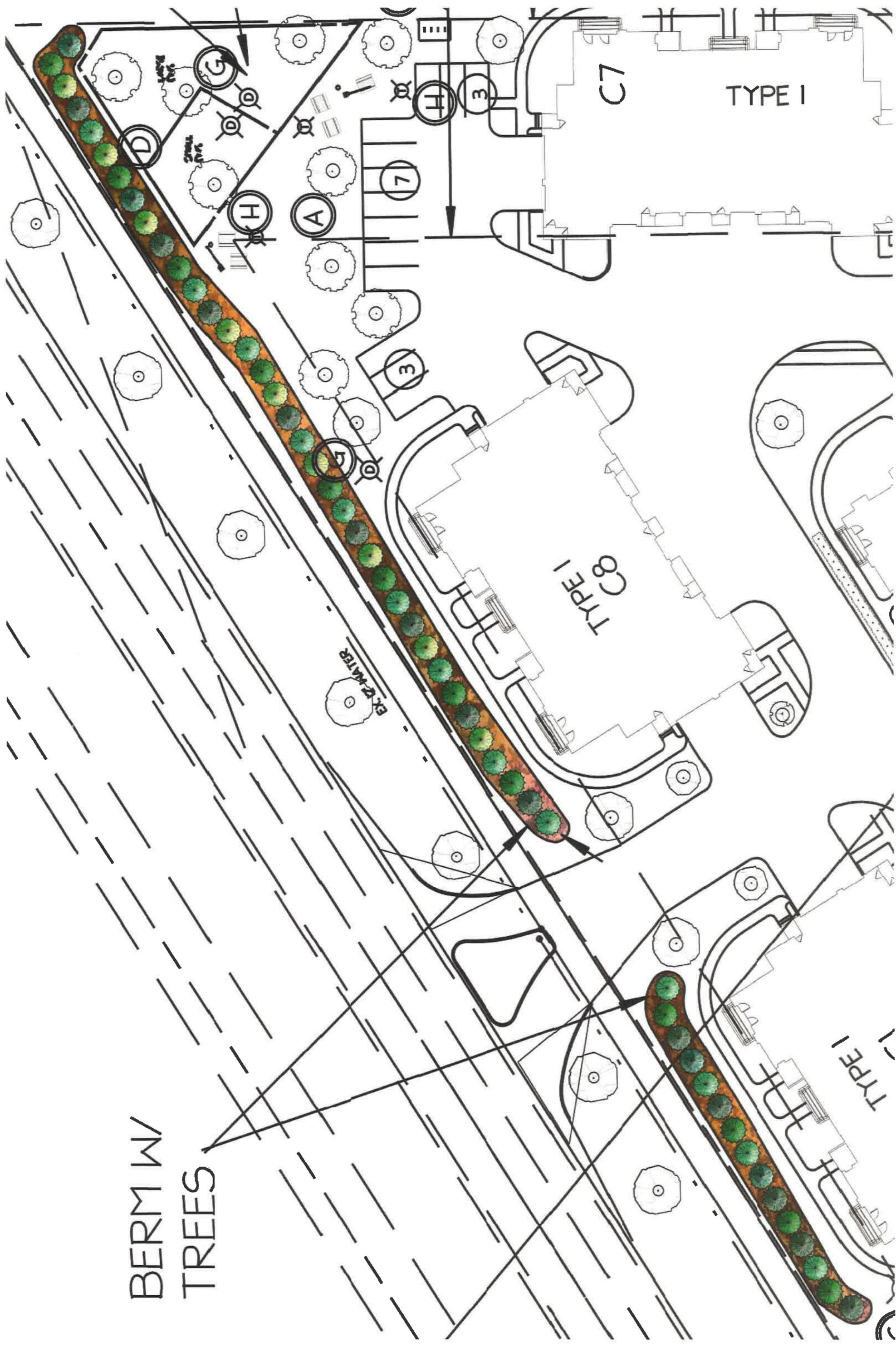


NEWTON PARK
DTM MANAGEMENT
HASLETT, MI

1-60
1-15-18
1-1 BRESSERS
R. LUKE

5
3





BERM W/
TREES

TYPE I

C7

C8
TYPE I

TYPE I

EX-WATER

A

H

G

D

7

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3

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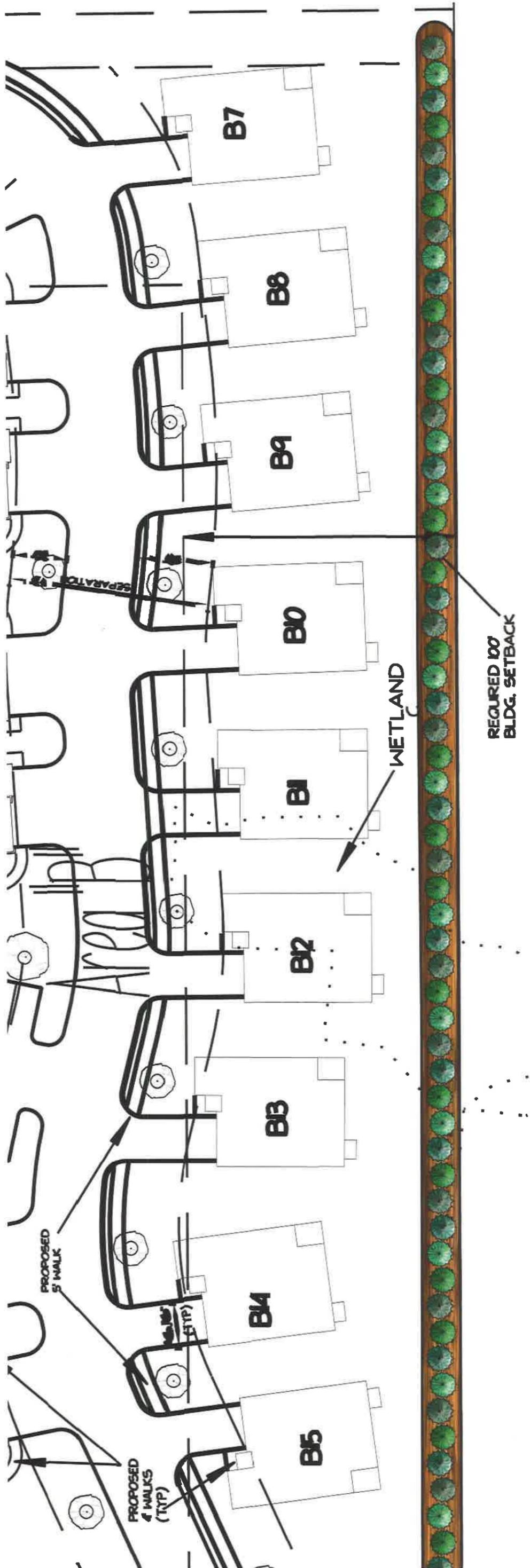
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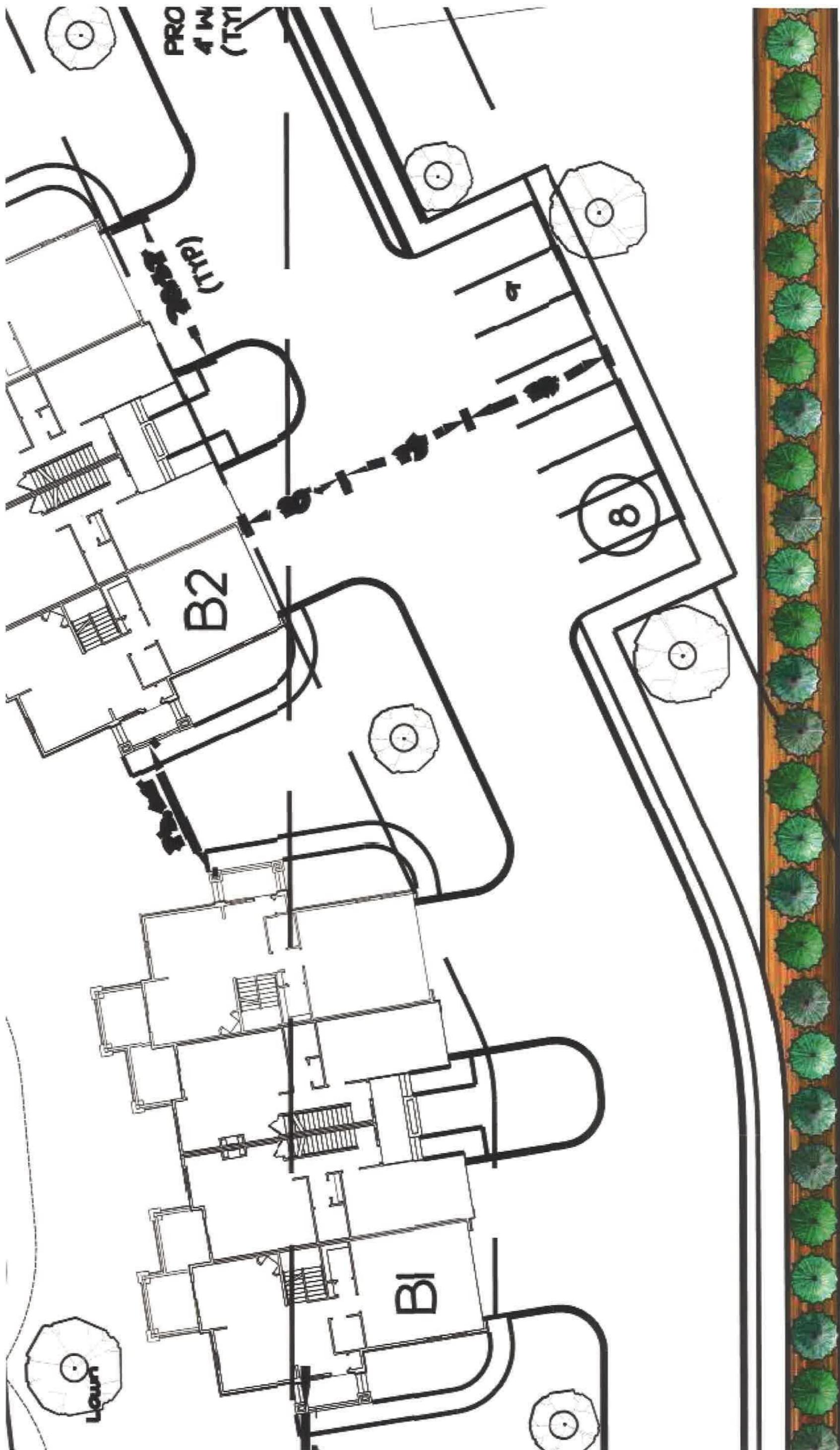
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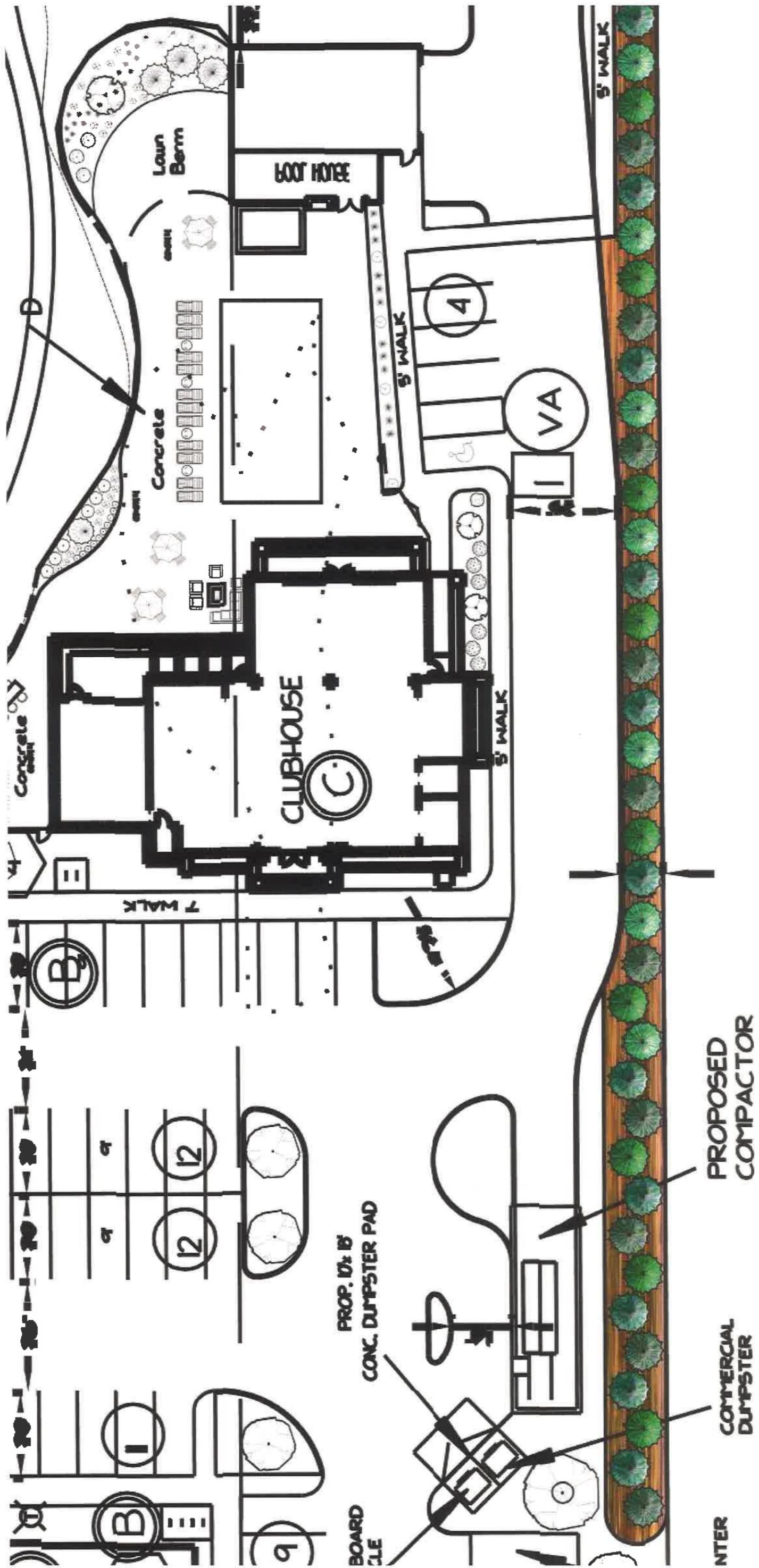
3

3

Small Tree

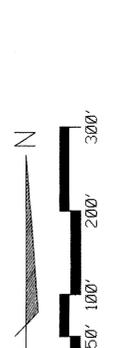
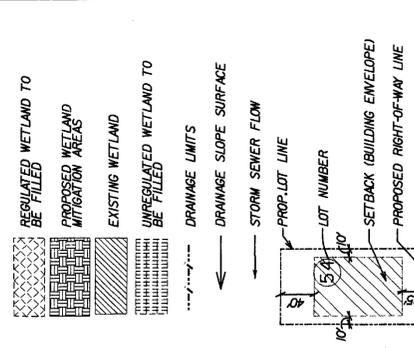






LEGEND

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING RIGHT-OF-WAY LINE
- PROPOSED RIGHT-OF-WAY LINE
- EXISTING SETBACK LINE
- PROPOSED SETBACK LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- EXISTING SANITARY SEWER LINE
- PROPOSED SANITARY SEWER LINE
- EXISTING WATERMAIN
- PROPOSED WATERMAIN
- EXISTING STORM SEWER LINE
- PROPOSED STORM SEWER LINE
- EXISTING ROUND CATCHBASIN
- PROPOSED ROUND CATCHBASIN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATERMANN
- PROPOSED FIRE VALVE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED ROUND CATCHBASIN
- PROPOSED SQUARE CATCHBASIN
- PROPOSED MANHOLE
- EXISTING CONTOUR TO REMAIN
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION (TOP OF CURB)
- PROPOSED SPOT ELEVATION (BOTTOM OF CURB)
- PROPOSED SPOT ELEVATION
- PROPOSED SILT FENCE (547)
- RIP RAP 1/2 SQUARE YDS/PER W/GEOTEXTILES
- PROPOSED STORM SEWER FES
- ROAD CENTERLINE
- WETLAND SETBACK
- FLOODPLAIN
- WETLAND BOUNDARY
- PROPOSED UTILITY EASEMENT



OWNER	ENGINEERS
G.S. FEDEWA BUILDERS, INC. 5570 OKEMOS ROAD EAST LANSING, MI 48823 PH. (517) 338-0020	GOVE ASSOCIATES, INC. 821 E. KALAMAZOO ST. SUITE E LANSING, MI 48912 PH. (517) 485-0555
DATE	PAGE #
8/25/02	6
8/22/02	5
6/25/02	4
6/25/02	3
8/16/02	2
6/25/02	1
CONSTRUCTION PHASES	
6/25/02	6
6/25/02	5
6/25/02	4
6/25/02	3
6/25/02	2
6/25/02	1
SHEET NUMBER	
4 OF 6	
JOB NUMBER	
N16400-01	

OWNER

SIERRA RIDGE ESTATES
FOR
G.S. FEDEWA BUILDERS, INC.
5570 OKEMOS ROAD
EAST LANSING, MI 48823
(917) 388-0020

ENGINEERS

GOVE ASSOCIATES, INC.
821 E. KALAMAZOO ST.
SUITE E
LANSING, MI 48912
PH. (517) 485-0555

PROJECT INFORMATION

MERIDIAN CHARTER TOWNSHIP
INGHAM COUNTY, MICHIGAN
PRELIMINARY SITE PLAN W/TOPO

DATE

8/25/02

PAGE #

6

CONSTRUCTION PHASES

6/25/02

6/25/02

6/25/02

6/25/02

6/25/02

6/25/02

SHEET NUMBER

4 OF 6

JOB NUMBER

N16400-01

DRAWN BY: AMK 6/20/02

CHECKED BY: AJR

GOVE ASSOCIATES, INC.
821 E. KALAMAZOO STREET
LANSING, MICHIGAN
(517) 485-0555

ARCHITECTS
ENGINEERS
PLANNERS
SURVEYORS

ARCHITECTS

AMK 09/21/02

AMK 02/28/03

AMK 03/05/03

AMK 04/11/03

PRELIMINARY REVISIONS - PER OWNER

AMK 02/20/02 6

PRELIMINARY REVISIONS - PER MERIDIAN TWP

AMK 07/31/02 9

PRELIMINARY REVISIONS - PER DRAIN COMMISSIONER

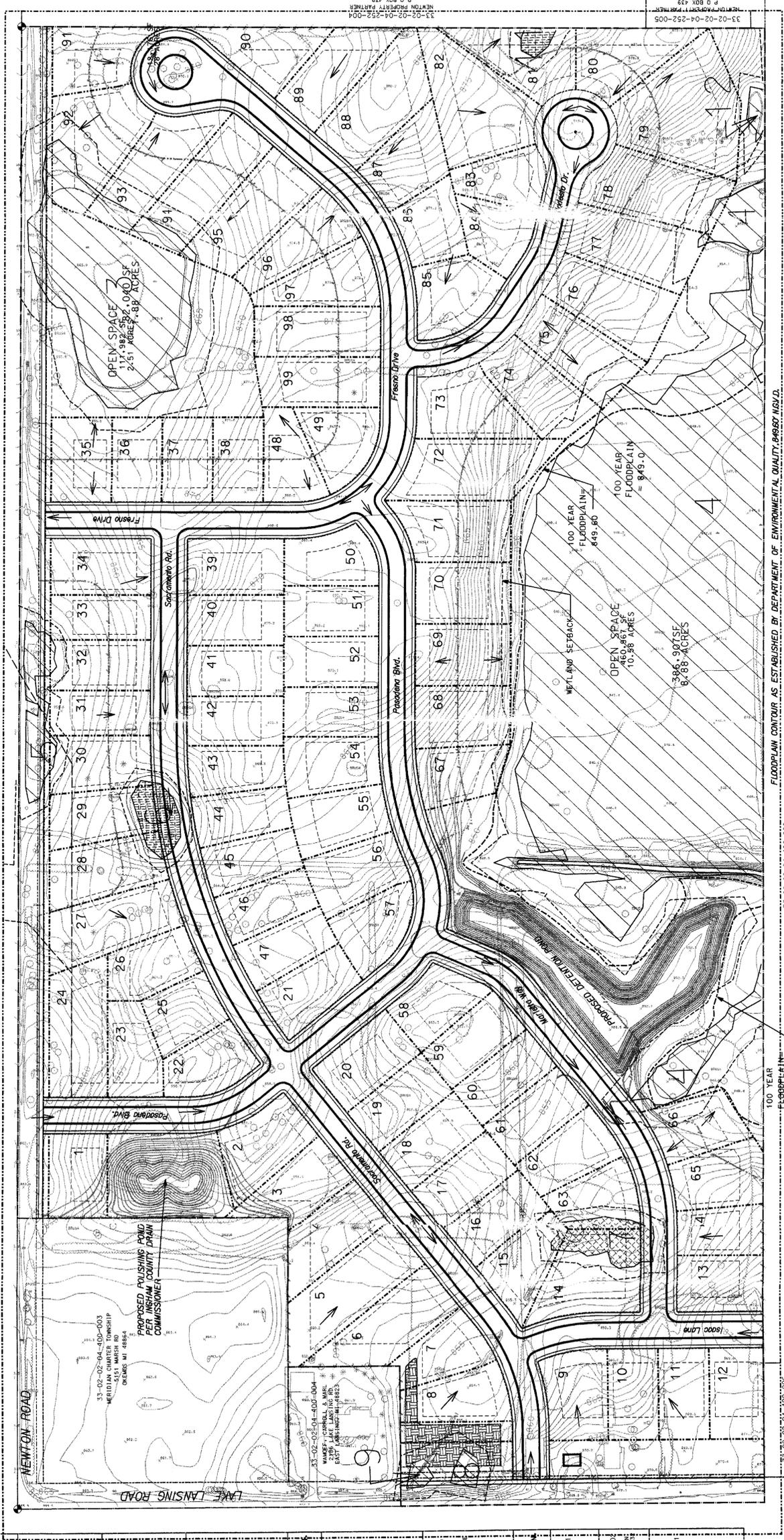
AMK 07/19/02 5

REVISIONS TO WETLAND LINE TYPE

REVISIONS TO NOTES

REVISIONS TO NOTES

AMK 07/19/02 5



FLOODPLAIN CONTOUR AS ESTABLISHED BY DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) NOV. 0.

100 YEAR FLOODPLAIN 849.60

WETLANDS LOCATION & SIZE PROVIDED BY:

VITAL RESOURCES CONSULTING
ENVIRONMENTAL DIVISION OF ATLES, INC.
PAUL 120 NORTH THIRD STREET
WEST BRANCH, MI 48661
(989) 345-5030

AERIAL SURVEY BY:
AERCON PHOTOGRAMMETRIC SERVICES
500 SOUTH MAIN AVE.
P.O. BOX 515
LAKE ODESSA, MI 48849-0515
TX. (888) 347-1670

GROUND CONTROL BY:
LAPHAM ASSOCIATES
2300 NORTH GRAND RIVER AVE.
WEST BRANCH, MI 48661
TX. (989) 345-5030

BENCHMARK INFORMATION BY:
FRED WHITE ENGINEERS COMPANY
2300 NORTH GRAND RIVER AVE.
LANSING, MI 48906
TX. (517) 321-7111

BENCHMARK INFORMATION

NOT TO SCALE

CENTER OF SECTION 4.7-M.
RW TOP OF IRON 868.54

ROAD

NEWTON

SPIKE IN NORTH SIDE OF UTILITY POLE 864.65

SPIKE IN NORTH SIDE OF ROAD 868.58

NOTE:
ELEVATIONS ARE REFERENCED TO
43 DATUM. ON EAST CORNER OF
FIRE HYDRANT, NORTHWEST CORNER
OF LAKE LANSING AND NEWTON ROADS
ELEVATION: 867.93 (NGVD 29)

- 33-02-02-04-327-008
JEROME WINDMILLS CORP
C/O 1545 SHERWOOD
EAST LANSING, MI 48823
- 33-02-02-04-327-005
IMMOBILIA INC
3838 M-39
DUNDRAVE, MI 48821
- 33-02-02-04-327-006
SEAN M. HENRY A
2727 W. HENRY
EAST LANSING, MI 48823
- 33-02-02-04-327-007
IMMOBILIA INC
3838 M-39
DUNDRAVE, MI 48821
- 33-02-02-04-328-001
WILCO MGMT
2727 W. HENRY
EAST LANSING, MI 48823
- 33-02-02-04-376-008
EVE CONSTRUCTION CO
6 BIRCH AVE
EAST LANSING, MI 48823
- 33-02-02-04-376-007
EVE CONSTRUCTION CO
6 BIRCH AVE
EAST LANSING, MI 48823
- 33-02-02-04-376-009
M. G. GURIN & ANGELA M
6025 REPTON RD
EAST LANSING, MI 48823
- 33-02-02-09-121-002
INGMARINE V. MICHEL
RESIDENTIAL BUILDING
EAST LANSING, MI 48823
- 33-02-02-09-201-003
THE SLEEPY HOLLOW LANE
RESIDENTIAL BUILDING
EAST LANSING, MI 48823
- 33-02-02-09-202-001
MARRIOTT TRUST, RUTH L
EART, MI 48821
- 33-02-02-09-202-009
KOWALSKI, JERRI
5984 E SLEEPY HOLLOW LANE
EAST LANSING, MI 48823
- 33-02-02-09-203-001
TROY TOWN
BAYVIEW, MI 48828
- 33-02-02-09-203-002
TODD J. HASTINGS MALL LLC
CHARLOTTE, NC 28217-0118
- 33-02-02-09-203-011
CAPITAL VENTURES, INC
LANSING, MI 48812





To: Planning Commission

From: Peter Menser, Principal Planner

Date: November 20, 2018

Re: Special Use Permit #18091 (Newton Pointe, LLC), construct a group of buildings greater than 25,000 square feet in size at 6276 Newton Road and an adjacent property to the east recognized as Tax I.D. #04-252-005.

The public hearing for Special Use Permit #18091 was held at the November 5, 2018 Planning Commission meeting. The special use permit is being processed concurrently with Mixed Use Planned Unit Development #18044.

At the public hearing the Planning Commission agreed to consider a resolution to recommend approval of the special use permit at its next meeting on November 26, 2018, subject to the requested changes to the site plan for Mixed Use Planned Unit Development #18044 as discussed at the meeting.

Planning Commission Options

The Planning Commission may recommend approval, approval with conditions, or denial of the proposed special use permit. A resolution to recommend approval of the special use permit to the Township Board is provided.

- **Motion to adopt the resolution recommending approval of Special Use Permit #18091.**

Attachment

1. Resolution to recommend approval.

G:\Community Planning & Development\Planning\SPECIAL USE PERMITS (SUP)\2018\SUP 18091 (Newton Pointe LLC) Newton Park\SUP 18091.pc2.docx

RESOLUTION TO RECOMMEND APPROVAL

**Special Use Permit #18091
(Newton Pointe, LLC)**

At a regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at the Meridian Municipal Building, in said Township on the 26th day of November, 2018, at 7:00 p.m., Local Time.

PRESENT: _____

ABSENT: _____

The following resolution was offered by _____ and supported by _____.

WHEREAS, Newton Pointe, LLC has submitted a request to construct a project identified as Newton Park on 23.95 acres located at 6276 Newton Road and a property recognized as Parcel I.D. #04-252-005; and

WHEREAS, the proposed project includes the construction of construction of a new 86,468 square foot mixed use building with 85 multiple family dwelling units and 19,367 square feet of commercial space, 10, 10-unit multiple family buildings, six, four-unit single family attached buildings, nine single family dwellings, and a 4,778 square foot clubhouse; and

WHEREAS, 19,367 square feet of commercial space, 238,719 square feet of residential space, and a total of 218 dwelling units are proposed in the project; and

WHEREAS, a special use permit is required for constructing a group of buildings totaling more than 25,000 square feet in gross floor area; and

WHEREAS, the Planning Commission held a public hearing at its regular meeting on November 5, 2018, and has reviewed staff material forwarded under cover memorandums dated October 31, 2018 and November 20, 2018; and

WHEREAS, the subject site is appropriately zoned C-2 (Commercial), which permits the construction of buildings greater than 25,000 square feet in floor area by special use permit; and

WHEREAS, the proposed project meets the conditions established in Rezoning #06050 for site layout, residential density, and land use; and

WHEREAS, the proposed project is consistent with the general standards for granting a special use permit found in Section 86-126 of the Code of Ordinances; and

WHEREAS, municipal water is available in the vicinity of the project site and sanitary sewer is available for extension to serve the subject site.



To: Planning Commission

From: Peter Menser, Principal Planner

Justin Quagliata, Assistant Planner

Date: November 20, 2018

Re: Commission Review #18133 (Meridian Township), Section 61 review of the location, character, and extent for a 40 acre Land Preservation purchase of a parcel recognized as Parcel I.D. #06-226-001, located east of and adjacent to the northern portion of the Towar Woods Land Preserve.

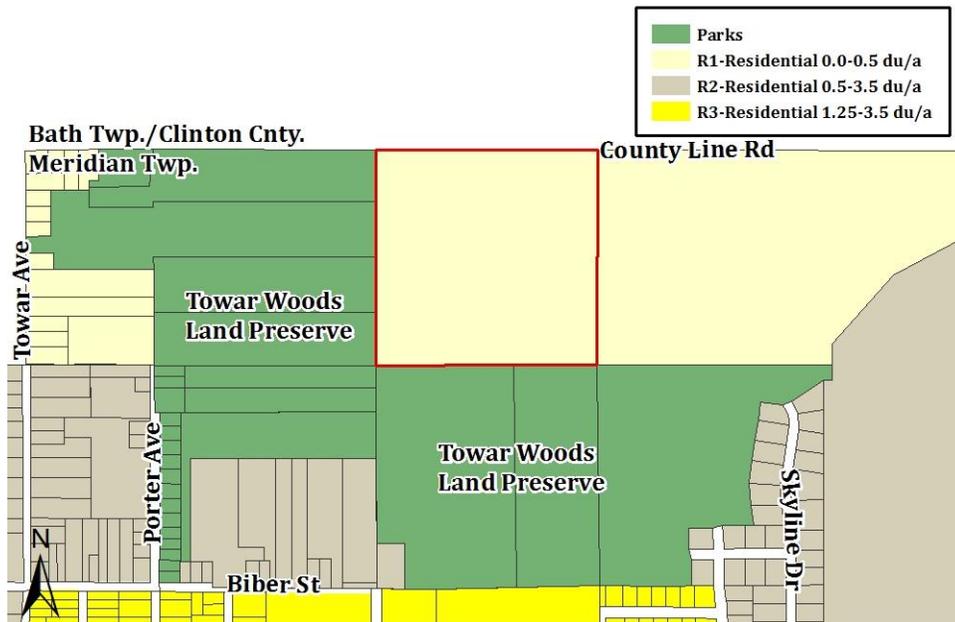
The Land Preservation Advisory Board recommends the purchase of an approximately 40 acre parcel recognized as Parcel I.D. #06-226-001, located east of and adjacent to the northern portion of the Towar Woods Land Preserve. At its meeting on October 16, 2018 the Township Board referred this case to the Planning Commission to review the location, character, and extent of the property.

Section 61 of the Michigan Planning Enabling Act (the "MPEA," Public Act 33 of 2008) requires Planning Commission review and approval of the location, character, and extent for the construction/purchase of new public streets, parks, open space, buildings, and other public facilities. This process is called a Section 61 Review. The MPEA does not require a public hearing for Section 61 Reviews.

Master Plan

The Future Land Use Map from the 2017 Master Plan designates the subject site in the R1-Residential 0.0-0.5 dwelling units per acre category.

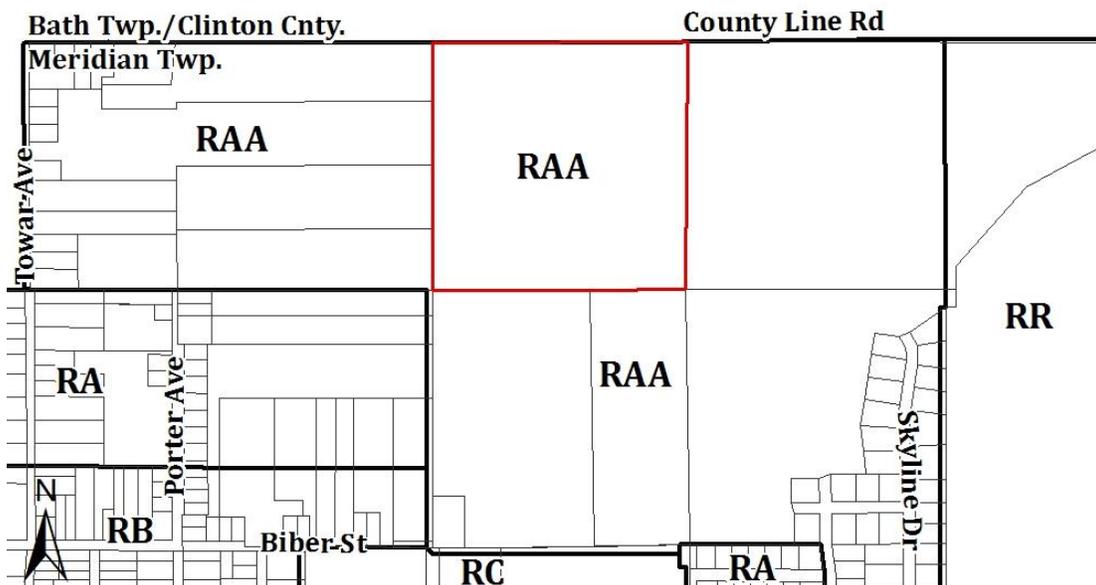
FUTURE LAND USE MAP



Zoning

The site is zoned RAA (Single Family-Low Density).

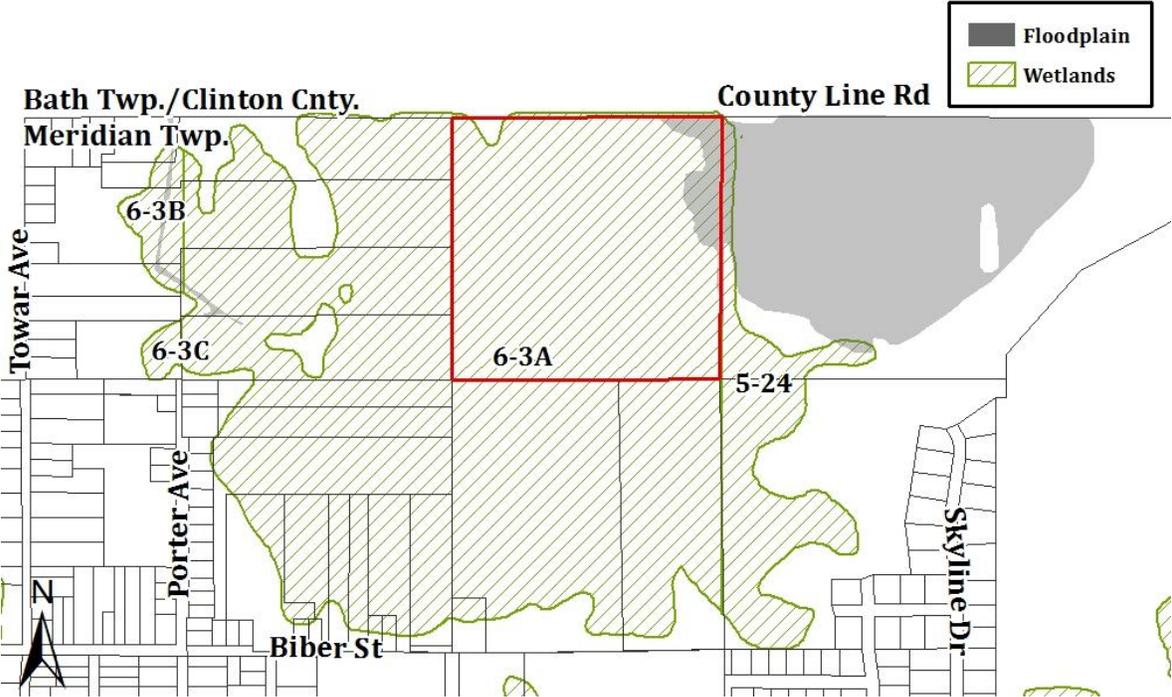
ZONING MAP



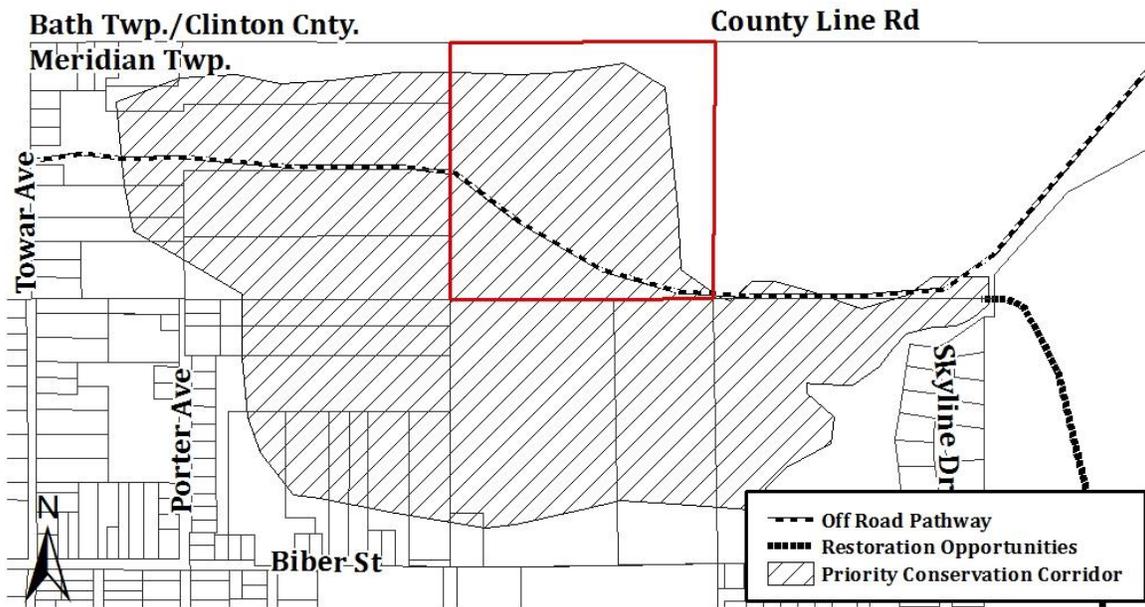
Physical Features

According to the submitted application the property is completely forested. The Flood Insurance Rate Map (FIRM) for Meridian Township indicates floodplain is limited to the northeast corner of the site. The Township Wetland Map shows the entire property is located in a wetland.

WETLANDS AND FLOODPLAIN MAP



GREENSPACE PLAN



The Township Greenspace Plan shows an off road pathway and Priority Conservation Corridor (PCC) on the property. A PCC is a network of ecologically significant open spaces.

Staff Analysis

The Township Board referred the purchase of the 40 acre site to the Planning Commission for a Section 61 Review. Section 61 of the MPEA requires Planning Commission review and approval of the location, character, and extent for the construction/purchase of new public streets, parks, open space, buildings, and other public facilities. **Location** refers to the site's placement in the Township and its surroundings; the property proposed for purchase is located east of and adjacent to the northern portion of the Towar Woods Land Preserve. **Character** includes the site's distinguishing features; the site is forested with hardwood trees. **Extent** includes the dimensions of the site which is approximately 40 acres in size.

The project is consistent with Goal 2 of the 2017 Master Plan to preserve open space and natural areas.

Planning Commission Options

The Planning Commission may approve or deny the commission review. A resolution to approve is attached.

- **Move to adopt the resolution to approve Commission Review #18133.**

Attachments

1. Resolution to approve.
2. Commission Review application.
3. Memo from Jane Greenway, dated October 19, 2018.
4. Land Preservation property map.
5. Submitted property map.

G:\Community Planning & Development\Planning\COMMISSION REVIEWS (CR)\2018\18133 (Meridian Township)\CR 18133.pc1.doc



RESOLUTION TO APPROVE

**Commission Review #18133
Meridian Township
Land Preservation Purchase
Approx. 40 acres, Parcel I.D. #06-226-001**

RESOLUTION

At a regular meeting of the Planning Commission of the Charter Township of Meridian, Ingham County, Michigan, held at the Meridian Municipal Building, in said Township on the 26th day of November 2018, at 7:00 p.m., Local Time.

PRESENT: _____

ABSENT: _____

The following resolution was offered by Commissioner _____ and supported by Commissioner _____.

WHEREAS, Section 61 (MCL 125.3861) of the Michigan Planning Enabling Act states, "A street; square, park, playground, public way, ground, or other open space; or public building or other structure shall not be constructed or authorized for construction in an area covered by a municipal master plan unless the location, character, and extent of the street, public way, open space, structure, or utility have been submitted to the planning commission by the legislative body."; and

WHEREAS, at its September 12, 2018 meeting the Land Preservation Advisory Board recommended the purchase of an approximately 40 acre parcel recognized as Parcel I.D. #06-226-001, located east of and adjacent to the northern portion of the Towar Woods Land Preserve; and

WHEREAS, the Township Board referred the case to the Planning Commission at its October 16, 2018 meeting to review the location, character, and extent of the property; and

WHEREAS, the Planning Commission discussed the proposed property acquisition at its November 26, 2018 meeting and reviewed the staff material provided under a cover memorandum dated November 20, 2018; and

WHEREAS, the property is valuable for its environmental assets including forested areas with hardwood trees; and

WHEREAS, the property will be acquired through the use of the Land Preservation millage funds; and

WHEREAS, purchase of the property is consistent with Goal 2 of the 2017 Master Plan to preserve open space and natural areas.

NOW THEREFORE, BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN approves the location, character, and extent of an approximately 40 acre parcel of land recognized as Parcel I.D. #06-226-001, located east of and adjacent to the northern portion of the Towar Woods Land Preserve.

**Resolution to Approve
CR #18133 (Meridian Township)
Page 2**

ADOPTED: YEAS: _____

NAYS: _____

STATE OF MICHIGAN)

) ss

COUNTY OF INGHAM)

I, the undersigned, the duly qualified and acting Chair of the Planning Commission of the Township of Meridian, Ingham County, Michigan, DO HEREBY CERTIFY that the foregoing is a true and a complete copy of a resolution adopted at a regular meeting of the Planning Commission on the 26th day of November 2018.

Dante Ianni
Planning Commission Chair

**CHARTER TOWNSHIP OF MERIDIAN
DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT
5151 MARSH ROAD, OKEMOS, MI 48864
PHONE: (517) 853-4560, FAX: (517) 853-4095**

**COMMISSION REVIEW:
AMENDMENT TO MASTER PLAN APPLICATION
(Municipal Planning Act, MCL 125.31, Section 9)**

- A. Applicant Charter Township of Meridian
Address of Applicant 5151 Marsh Road
Okemos MI 48864
Telephone: Work 517-853-4610 Home n/a
Fax 517-853-4099 Email greenway@meridian.mi.us
- B. Jurisdiction having authority (if different than applicant) n/a
Address _____
Telephone _____ Fax _____ Email address _____
Please provide the name of the board, commission or body having jurisdiction for the authorization of financing of the public way, ground, space, building, structure or utility.
- C. Applicant's Representative, Architect, Engineer or Planner responsible for request:
Name / Contact Person Jane Greenway
Address same as above
Telephone: Work 517-853-4610 Home _____
Fax _____ Email greenway@meridian.mi.us
- D. Site location/address: Adjacent to the northern portion of the Towar Woods Land Preserve; east of Towar Ave., East Lansing, MI 48823

Zoning Classification(s) Rural Residential

Parcel number(s) 33-02-02-06-226-001

- E. I (we) hereby grant permission for members of the Charter Township of Meridian's Boards and/or Commissions, Township staff member(s) and the Township's representatives or experts the right to enter onto the above described property (or as described in the attached information) in my (our) absence for the purpose of gathering information including but not limited to the taking and the use of photographs.

x Yes No (Please check one)—Permission granted with Land Preservation Application

By the signature(s) attached hereto, I (we) certify that the information provided within this application and accompanying documentation is, to the best of my (our) knowledge, true and accurate.

Jane Greenway _____ 10-19-2018
Signature of Applicant Date

Jane L. Greenway
Type/Print Name

Fee: _____ Received by/Date: _____

Date application submitted: _____ Date application deemed complete: _____ Date of last day for decision: _____

**This form should be included with the COMMISSION REVIEW APPLICATION.
Explain your position on the lines below, and attach supporting information.**

REASONS FOR MODIFYING THE MASTER PLAN

Please explain your request to modify the Township's Master Plan for construction or authorization of a street, public utility, park, public way, ground, open space or other public building or structure on the following lines:

Supports Township Goal #2 – Preserve Open Space and Natural Areas

Supports the Township Greenspace Plan

The location, character and extent of your request will be evaluated in accordance with the responses you provide to Questions 1-12.

1. How will the request if approved be consistent with current development trends in the Township?

The acquisition of this parcel will preserve open space in the Township and support the Township Greenspace plan.

2. How does the request further the Township Master Plan goals to:
 - Preserve and strengthen existing and future residential neighborhoods
 - Preserve open space and natural areas
 - Maintain the viability of Meridian Township businesses
 - Maintain and expand a diverse park system
 - Maintain essential public services
 - Provide and support an efficient, safe and environmentally sensitive multi-modal transportation system
 - Maintain and enhance the Township's growth management program

This acquisition will preserve the area in perpetuity. Providing/protecting open space is essential for protecting the natural features of our community. The land will be protected from development, but at the same time provide an attraction for planned growth in the future.

3. Is the request supported by surveys or studies of the present conditions and future needs of the Township? If yes, please attach a copy of the survey and/or study.

It is supported by Township Board Goal #2 to preserve open space and natural areas in the Township. Strategy 1 under section A of this goal includes the public purchase of land.

4. How does the request promote the health, safety and general welfare of the Township public?

It adds to an area of greenspace near a residentially developed area of the Township (the Towar Gardens neighborhood).

5. How does the request promote the best use of time, effort and resources in the development of the Township?

Land preservation parcels are purchased through the use of the Land Preservation Millage Funds.

6. How does the request promote wise and efficient expenditures of Township Public funds?

The Land Preservation Advisory Board has deemed that the acquisition of this parcel is a wise expenditure of the Land Preservation Program funds because it is a 100% forested, large parcel that borders the current Towar Woods Preserve on two sides thus providing a valuable buffer.

7. How does the request impact traffic in the Township?

N/A

8. How does the request impact the public's safety from fire and other dangers in the Township?

N/A

9. How does the request impact the light and air in the Township?

Forested areas improve air quality.

10. How does the request impact the population distribution in the Township?

N/A

11. How does the request promote good public design and arrangement in the Township?

The parcel will increase the size of the current Towar Woods Preserve adding an additional 40 acres of 100% forested land for community members' enjoyment of nature that is otherwise landlocked and inaccessible.

12. How does the request impact public utilities and other public services in the Township?

N/A



To: Planning Commission

From: Jane Greenway
Jane Greenway, Senior Parks and Land Management Coordinator

Date: October 19, 2018

Re: Section 61 Review – Proposed Land Preservation purchase

The Land Preservation Advisory Board (LPAB) is currently considering the purchase of a 40 acre property within the Township. This property is known as the “Malcangi property.”

Section 61 of the Michigan Planning Enabling Act (the “MPEA,” Public Act 33 of 2008) requires Planning Commission review and approval of the location, character, and extent for the construction/purchase of new public streets, parks, open space, buildings, and other public facilities. This process is called a Section 61 Review.

The Township Board voted at their October 16, 2018 meeting to forward a request to the Planning Commission for review.

Property interest:

- Malcangi – East Lansing, MI 48823
- Adjacent to the northern portion of the Towar Woods Land Preserve
- Parcel number 33-02-02-06-226-001
- Area: 40 acres
- Provides a large, contiguous buffer to an area that is already protected (Towar Woods Land Preserve)
- 100% forested property
- Almost entirely wetland (except for northwest corner)

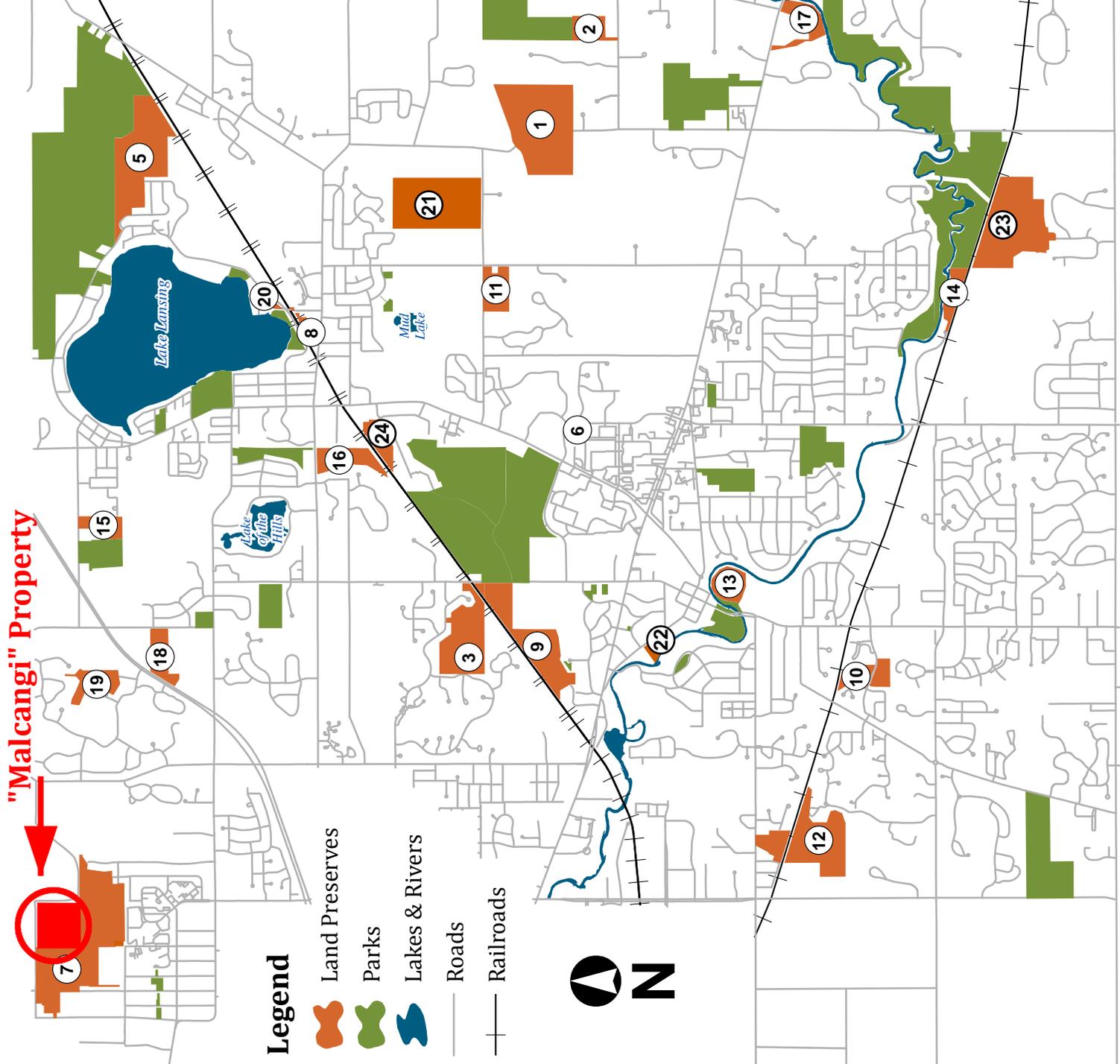
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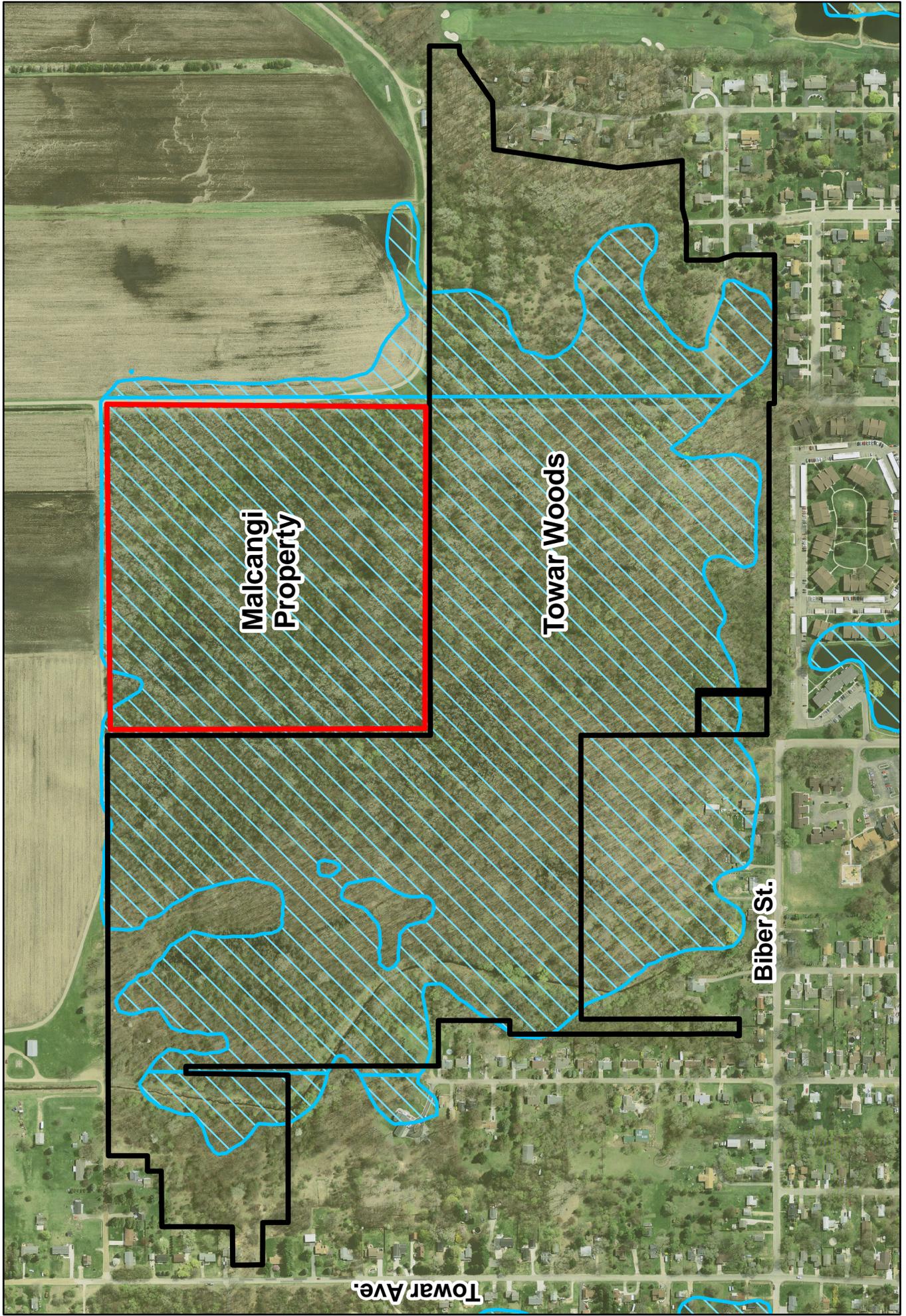
1. Land Preservation property map.
2. Map of proposed acquisition in relation to the Towar Woods Preserve.



Land Preservation Map

- 1 Davis/Foster Preserve
- 2 Foster-Crouse Preserve
- 3 Hubbel Preserve
- 4 Kuzma Preserve
- 5 Lake Lansing North Preserve
- 6 Newman Equities Preserve
- 7 Towar Woods Preserve
- 8 Lake Lansing South Preserve
- 9 Central Meridain Uplands
- 10 Sower Woods Preserve
- 11 Tihart/Cornell Wetlands
- 12 Southwest Meridian Uplands
- 13 Sumbal Preserve
- 14 Red Cedar Glen Preserve
- 15 Townner Wetland Preserve
- 16 Meridian Central Wetlands
- 17 Red Cedar River East Preserve
- 18 Forest Grove Preserve
- 19 North Ridge Preserve
- 20 Tank Wetland
- 21 Tihart Preserve
- 22 Mandenberg Woods
- 23 Ponderosa Preserve
- 24 Nemoke Preserve





Legend

-  Land Preserve
-  Wetland

