



AGENDA
CHARTER TOWNSHIP OF MERIDIAN
TOWNSHIP BOARD – REGULAR MEETING
August 1, 2023 6:00 PM

1. CALL MEETING TO ORDER
2. PLEDGE OF ALLEGIANCE/INTRODUCTIONS
3. ROLL CALL
4. PRESENTATION
5. CITIZENS ADDRESS AGENDA ITEMS AND NON-AGENDA ITEMS
6. TOWNSHIP MANAGER REPORT
7. BOARD MEMBER REPORTS OF ACTIVITIES AND ANNOUNCEMENTS
8. APPROVAL OF AGENDA
9. CONSENT AGENDA
 - A. Communications
 - B. Minutes-July 11, 2023 Regular Township Board Meeting
 - C. Bills
 - D. 2nd Quarter Treasurer’s Report
10. QUESTIONS FOR THE ATTORNEY
11. HEARINGS
12. ACTION ITEMS
 - A. Municipal Employees’ Retirement System (MERS) Defined Contribution Administration
 - B. 2nd Quarter Budget Amendments
13. BOARD DISCUSSION ITEMS
 - A. Special Use Permit #23-012 –The W. Investment Holdings– 1614 West Grand River Avenue – Medical Marihuana Provisioning Center
 - B. Senior/Community Center
 - C. Meridian Township Renewable Energy Plan Overview
 - D. Listening Sessions Itinerary
14. COMMENTS FROM THE PUBLIC
15. OTHER MATTERS AND BOARD MEMBER COMMENTS
16. ADJOURNMENT

All comments limited to 3 minutes, unless prior approval for additional time for good cause is obtained from the Supervisor.
Appointment of Supervisor Pro Tem and/ or Temporary Clerk if necessary. Individuals with disabilities requiring auxiliary aids or services should contact the Meridian Township Board by contacting: Township Manager Frank L. Walsh, 5151 Marsh Road, Okemos, MI 48864 or 517.853.4258 - Ten Day Notice is Required.

Meeting Location: 5151 Marsh Road, Okemos, MI 48864 Township Hall
Providing a safe and welcoming, sustainable, prime community.



9.A

**CONSENT AGENDA
BOARD
COMMUNICATIONS
August 1st, 2023**



July 6, 2023

DIRECTV, LLC Annual Video Report for U-verse Video Service in Michigan

DIRECTV, LLC (“DIRECTV”) submits this Annual Video Report to the Michigan Public Service Commission (“MPSC” or “Commission”) and franchising entities in the State of Michigan as required by Michigan’s Uniform Video Services Local Franchise Act (2006 Public Act 480, as amended or “Video Act”).

On or about August 11, 2021, each of the 341 municipalities served by Michigan Bell Telephone Company (“AT&T Michigan”) were notified that their Uniform Video Local Franchise Agreement (“Agreement”) was transferred to DIRECTV and that AT&T retains a majority economic interest in DIRECTV, with TPG Capital holding a minority economic interest. DIRECTV is a separate, affiliate company and operates independently of AT&T. As required by the transfer process established by the Video Act, each local entity was provided with an Attachment 2 form to their Agreement.

DIRECTV will continue to meet the terms of those Agreements and of the Video Act, as it relates to the continued provision of the U-verse IP-enabled video service. As required under Sec. 9 (1) of the Video Act, DIRECTV does not deny access to service to any group of potential residential subscribers because of the race or income of the residents in the local area in which the group resides. Existing customers can continue to enjoy the same high-quality U-verse video service without the need for any additional action on their part.

U-verse TV includes:

- Access to live video programming and on-demand and interactive content
- Ability to access more than 242 National HD channels
- Ability to record up to 4 shows at once with Total Home DVR
- Ability to view programs via a subscriber’s smartphone or tablet
- Public, Educational, and Government (PEG) channels for communities who are providing or request to provide PEG programming
- Customer service via call centers and 24/7 online
- Online customer service and technical support is available at <https://www.att.com/support/topic/u-verse-tv/>



July 6, 2023

Lisa Felice
Executive Secretary
Michigan Public Service Commission
7109 W. Saginaw Hwy.
Lansing, Michigan 48917

Re: DIRECTV, LLC (DIRECTV) Annual Video Report

DIRECTV, LLC ("DIRECTV") hereby submits its Annual Video Report to the Michigan Public Service Commission and franchising entities under Michigan's Uniform Video Services Local Franchise Act (2006 Public Act 480, as amended, or "Video Act"). A copy of the report is being provided to the Clerk in each of the Michigan communities where DIRECTV has a local franchise agreement for U-verse video service. These are the same communities previously served by Michigan Bell Telephone Company ("AT&T Michigan").

We respectfully request the Commission to accept this report. Questions regarding this report can be directed to me as follows:

DIRECTV
Legal/External Affairs
2260 E. Imperial Hwy.
El Segundo, CA 90245
e-mail: scott.alexander@directv.com
telephone: (214) 202-3185

Sincerely,

A handwritten signature in black ink, appearing to read "Scott J. Alexander". The signature is fluid and cursive, written over a horizontal line.

Scott J. Alexander
Senior Director – External Affairs

Enclosure

cc: Ryan McAnany - MPSC



FOR IMMEDIATE RELEASE
July 7, 2023

CONTACT: Rick Grillo, Captain
517.853.4800 | grillo@meridian.mi.us

Meridian Township Police Investigate Motor Vehicle Crash

A motorist suffered fatal injuries

MERIDIAN TOWNSHIP, MI — On July 7, 2023 at approximately 8:17 am, Meridian Township Police were dispatched to Wild Cherry Drive and Zimmer Road in Williamstown Township for a crash involving a single vehicle.

The investigation showed a van had veered off the roadway and hit a tree. The driver, a 74 year-old male who was the only occupant of the vehicle, was pronounced deceased at the scene. The circumstances of the crash are still under investigation.

Meridian Township Police were assisted by the Williamston Police Department, Ingham Regional Crash Investigation Team and the Northeast Ingham Emergency Service Authority.

The investigation of this incident is ongoing. Anyone who has information regarding this incident is requested to contact the Meridian Township Police Department at 517.853.4800, or submit an anonymous tip through the Department's social media sites.

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The community of Meridian Township is in close proximity to the Michigan State Capitol and Michigan State University. The Township serves the community through exceptional services, beneficial amenities and an outstanding quality of life. It is a welcoming community that celebrates quality education, recreation and lifestyles.





**CHARTER TOWNSHIP OF MERIDIAN, INGHAM COUNTY
CORRIDOR IMPROVEMENT AUTHORITY MEETING
WEDNESDAY JULY 26, 2023
6:00 p.m. Central Fire Station**

**CHARTER TOWNSHIP OF MERIDIAN, INGHAM COUNTY
CORRIDOR IMPROVEMENT AUTHORITY MEETING
WEDNESDAY JULY 26, 2023 6:00 p.m.
Central Fire Station 5000 Okemos Road**

Notice is hereby given that the Chair of the Corridor Improvement Authority with support of two members of the Corridor Improvement Authority of the Charter Township of Meridian will cancel the regular meeting as stated in the adopted 2023 calendar of Jul 19, 2023. The Corridor Improvement Authority will reschedule their regular meeting to be held on Wednesday July 26, 2023 at 6:00 p.m. in the Meridian Central Fire Station, 5000 Okemos Road, Okemos, MI 48864 (phone 517-853-4568). This will be a regular procedural meeting of the Corridor Improvement Authority to discuss the continued support and creation of a Tax Increment Financing plan in preparation for redevelopment in the district.

Information may be examined at the Economic Development Department, 5151 Marsh Road, Okemos, Michigan 48864-1198, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. Written comments may be sent prior to the public meeting to Amber Clark Economic Development Director, Charter Township of Meridian, 5151 Marsh Road, Okemos, Michigan, 48864, or by email to Clark@meridian.mi.us.



FOR IMMEDIATE RELEASE
July 14, 2023

CONTACT: Frank L. Walsh, Township Manager
517.853.4254 | walsh@meridian.mi.us

Meridian Township Welcomes New Finance Director
Dante Ianni Selected to Lead the Finance Department



Meridian Township, MI – At the July 11 Township Board Meeting, Township Manager Frank L. Walsh announced the selection of Meridian Township’s new Finance Director, Dante Ianni.

“While over a dozen Michigan communities search for a qualified finance director, we are thrilled to land our top recruit,” stated Township Manager Frank L. Walsh. “Coupling his Juris Doctorate and certification as a CPA, Dante will bring an incredible legal and financial acumen to Meridian Township. Our community will be well served by Dante’s commitment of excellence.”

As a resident of Meridian Township, Ianni served on the Township’s Planning Commission for six years, taking on the position of Chair for his final two years. He also represented the community as a Trustee of the Okemos Education Foundation. Additionally, Ianni has served as a Grand Knight of St. Martha Parish Knights of Columbus Council 10006.

Dante holds four degrees: a Juris Doctor from the Michigan State University College of Law, a Master of Law from Western Michigan University Cooley Law School, a Bachelor of Arts in Political Science from the University of Michigan, and an Associate of Business in Accounting from Lansing Community College.

Before joining Meridian Township, Ianni worked as an Assurance Manager at Yeo & Yeo’s Lansing office. Prior to that, he spent eight years as an Assistant Auditor General for the Michigan Office of the Auditor General.

“I am honored to have the opportunity to serve my community as Meridian Township’s Finance Director. I have called Meridian Township home for most of my life, and this role will give me a chance to use my skills, knowledge, and experience to serve my neighbors,” stated Finance Director Dante Ianni.

Dante will begin his role as Meridian Township’s new Finance Director on Tuesday, August 15.

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FOR IMMEDIATE RELEASE
July 24, 2023

CONTACT: Frank L. Walsh, Township Manager
517.853.4254 | walsh@meridian.mi.us

Meridian Township Police Chief Announces Retirement *Ken Plaga Retires After 28 Years of Service*



Meridian Township, MI – Following 28 years of service in the Meridian Township Police Department, Chief Ken Plaga has announced his retirement.

“The most rewarding part of this job has been the connection to the community,” said Chief Plaga. “My proudest accomplishment is the relationships I’ve built between our department and the various residents, schools, and organizations I’ve had the pleasure of working with over the years.”

Chief Plaga began his career with Meridian Township on September 6, 1995, as a Public Safety Officer. During his time with the Township, he also held the positions of Detective (1998-1999), Patrol Sergeant (1999-2001), Training/Administrative Sergeant (2001-2005), Services Division Commander, Lieutenant (2005-2010), Uniform Division Commander, Lieutenant (2010-2016), and Assistant Chief of Police (2016-2018). In July of 2018, Plaga was named as the Police Chief for Meridian Township.

Prior to joining the Meridian Township Police Department, Chief Plaga earned a Bachelor of Arts in Criminal Justice from Michigan State University, as well as a Master of Public Administration from Western Michigan University. He is also a graduate of the FBI National Academy, Class 229 and Northwestern University’s School of Staff and Command, Class 229.

“We wish Ken well in his future endeavors and thank him for his service. Our process to select our new Chief will be transparent and involve several key stakeholders within Meridian Township,” stated Township Manager Frank L. Walsh.

Chief Plaga’s last day will be on Friday, August 25, 2023.

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CHARTER TOWNSHIP OF MERIDIAN, INGHAM COUNTY

LEGAL AD NOTICE: Planned Unit Development #23025

(The Greens)

Monday, August 16, 2023

CHARTER TOWNSHIP OF MERIDIAN
LEGAL NOTICE
Planned Unit Development #23025 (The Greens)
Public Hearing

Notice is hereby given that the Director of Community Development and Planning of the Charter Township of Meridian will hold a public hearing on Wednesday, August 16, 2023 at 2:00 p.m. in the Fire Station 91 Conference Room, located at 5000 Okemos Road, Okemos, to hear all persons interested in a Planned Unit Development (PUD) minor amendment request from ACD II, Inc. The request is for a minor amendment to the Greens at Walnut Hills planned unit development (PUD #86014) to combine lots 24 and 25. The subject site is zoned RAA (Single Family-Low Density).

Information may be examined at the Department of Community Planning and Development, 5151 Marsh Road, Okemos, Michigan 48864-1198 (phone 517-853-4560), between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. Written comments may be sent prior to the public hearing to Keith Chapman, Assistant Planner, Charter Township of Meridian, 5151 Marsh Road, Okemos, Michigan, 48864, or by email to chapman@meridian.mi.us.

Publish: Towne Courier
August 2, 2023

Deborah Guthrie
Township Clerk

1 Affidavit, please

LAKE LANSING PROPERTY OWNERS ASSOCIATION

July 5, 2023

From:

Kevin Schoen, Chairperson, Dam Committee
Lake Lansing Property Owners Association
6397 W. Reynolds
Haslett, MI 48840

To:

Patrick Lindeman
Ingham County Drain Commissioner
707 Buhl St.
Mason, MI 48854

RE: Lake Lansing Dam

Dear Ingham County Commissioners & Ingham County Drain Commissioner,

The previous dam inspection report(s) and most recently in 2022, indicated that the dam was in fair condition with a hazard potential as low. We understand that the most recent report indicated that the valve for the outlet pipe is not operable, the dock is falling apart and unsafe to walk on and thus needs to be removed or replaced, and needed repair of minor cracks and spalling in the dam itself. We understand that the repair estimates which were submitted for the previous grant application to the state of Michigan proposal was \$610,000 with legal expenses included.

Lake property owners have a shared interest to ensure that the dam and associated drainage around the lake occurs in an ecologically sound and beneficial manner to both the human users and the wildlife of the lake and that such maintenance or improvements are done in an economically efficient, sound, and properly shared manner.

Lake Lansing Property Owners Association (LLPOA) is a non-profit organization whose voluntary membership comprises the substantial majority of riparian property owners of Lake Lansing. In addition to the dam, Lake Lansing property owners have an interest in the lake and surrounding bodies of water, marshlands, and other interconnected bodies of water.

Since 1998, the Lake Lansing Watershed Management Special Assessment District has provided funds to manage and improve the quality of Lake Lansing including weed control and water

quality. The contributions by the riparian property owners and nearby property owners cover most of the operating expenses associated with the lake, with contributions from the County and Meridian Township governmental entities.

It is not uncommon that the property owners bear the brunt of the rescue and safety enforcement of less experienced boaters, ecological work, and garbage collection from detritus left by shore users and/or guest boaters. We feel that dam maintenance costs should be shared with all who benefit from the lake.

In addition to the riparian lake property owners, there are many other interested parties who benefit from Lake Lansing which include:

- Those living in the Lake Lansing watershed and in Ingham, Clinton, and Shiawassee Counties, who are common visitors to the lake and parks, and the boat launch.
- Those living in the drainage areas downstream of the Pine Lake Outlet Intercounty Drain.
- Local governmental entities, primarily Ingham County and Meridian Township, own the parks and other resources on the lake, in the watershed, and downstream.
- Michigan State University Boat and Water Ski Club.

The LLPOA requests that the drain commissioner's office and/or the county keep LLPOA informed of and involved with any further maintenance plans, engineering reports, grant or loan applications, or appropriation requests. This would include any change in scope or surrounding drainage district liability beyond simply addressing the dam maintenance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kevin Schoen', followed by a long horizontal line extending to the right.

Kevin Schoen, Chairperson, LLPOA, Dam Committee

CC:

Steven Carpenter, President, Lake Lansing Property Owners Association
All Lake Lansing residents via email and website
The Michigan State Senators & Representatives of Ingham County
US Congresswoman Elissa Slotkin
US Senators Debbie Stabenow and Gary Peters
Meridian Township Board of Trustees



**CONSENT AGENDA
PROPOSED BOARD MINUTES**

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PROPOSED MOTION:

- [1] **Move to approve and ratify the minutes of the Regular Meeting of June 11th, 2023 as submitted.**

ALTERNATE MOTION:

- [1] **Move to approve and ratify the minutes of the Regular Meeting of June 11th, 2023 with the following amendment(s):[insert amendments]**

CHARTER TOWNSHIP OF MERIDIAN
REGULAR MEETING TOWNSHIP BOARD 2023 -DRAFT
Marsh Road, Okemos MI 48864-1198
517.853.4000, Township Hall Room
TUESDAY, July 11th, 2023, 6:00 pm

PRESENT: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

ABSENT: None

STAFF: Director of Public Works and Deputy Township Manager Opsommer, Community Planning and Development Director Schmitt, IT Director Gebes, Communications Manager Diehl, Parks and Recreation Director Maisner, Chief of Police Plaga, Fire Chief Hamel, Human Resource Director Tithof, Land Stewardship Coordinator Campbell, Administrative Assistant to the Clerk Spurlock

1. CALL MEETING TO ORDER

Supervisor Jackson called the meeting to order at 6:00 pm.

2. PLEDGE OF ALLEGIANCE/INTRODUCTIONS

Supervisor Jackson led the Pledge of Allegiance.

3. ROLLCALL

Administrative Assistant to the Clerk Spurlock called the roll of the Board. All board members present.

4. PRESENTATION

- A. Moment of Silence – Retired Police Chief Dave Hall
- B. Introduction of New Full-Time Firefighter/EMT: Justin Jones
- C. Introduction of New Police Officers: Larry Vandermolen and Hayden Kling

5. CITIZENS ADDRESS AGENDA ITEMS AND NON-AGENDA ITEMS

Supervisor Jackson opened public comment at 6:07 PM.

NONE

Supervisor Jackson closed public comment at 6:07 PM.

6. TOWNSHIP MANAGER REPORT

Township Manager Frank Walsh spoke on:

- Township Hall renovation project
- Township "Welcome" signs

7. BOARD MEMBER REPORTS OF ACTIVITIES AND ANNOUNCEMENTS

Trustee Wilson

- Spoke on the Senior/Community Center Project

Treasurer Deschaine

- Spoke in remembrance of township citizen Carolyn Such
- Spoke on Celebrate Meridian
- Spoke on Woodward Way ribbon cutting
- Spoke on the open house for American House Meridian at Haslett Square

8. APPROVAL OF THE AGENDA

Trustee Wilson moved to approve the agenda as presented. Seconded by Trustee Wisinski.

VOICE VOTE:

YEAS: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

NAYS: None

Motion carried: 7-0

9. CONSENT AGENDA

Supervisor Jackson reviewed the Consent Agenda.

Trustee Hendrickson moved to approve the Consent Agenda with friendly amendments. Seconded by Clerk Guthrie.

ROLL CALL VOTE:

YEAS: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

NAYS: None

Motion carried: 7-0

10. QUESTIONS FOR THE ATTORNEY

A. NONE

11. HEARINGS

A. NONE

12. ACTION ITEMS

A. Ordinance 2022-19 – Marijuana Zoning Ordinance Updates – Final Adoption

Director Schmitt outlined the final adoption of Ordinance 2022-19 for action.

Trustee Wilson moved to adopt the resolution approving zoning amendment 2022-19 to amend the zoning ordinance of the Charter Township of Meridian to update the zoning standards for marijuana related businesses. Supported by Clerk Guthrie.

Trustee Wilson spoke in support of the ordinance.

Treasurer Deschaine inquired if there were any questions from the public since the notice had been published..

Director Schmitt stated that there were none.

Supervisor Jackson reiterated the case and called for a roll call vote.

ROLL CALL VOTE:

YEAS: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

NAYS: None

Motion carried: 7-0

B. Ordinance 2023-02 - Recreational Marijuana Licensing – Final Adoption

Director Schmitt outlined the final adoption of Ordinance 2022-02 for action.

Trustee Hendrickson moved to adopt the resolution approving ordinance 2023-02, an ordinance amending the code of the Charter Township of Meridian, Ingham County to rename Chapter 40 and repeal Article 3 of Chapter 40, and adding Article 4 to Chapter 40, which authorizes and permits recreational marijuana establishments. Supported by Trustee Wisinski.

Trustee Hendrickson spoke on the work that has gone into this ordinance.

ROLL CALL VOTE:

YEAS: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

NAYS: None

Motion carried: 7-0

C. Ordinance 2023-03 – Medical Marijuana Licensing Update – Final Adoption

Director Schmitt outlined the final adoption of Ordinance 2023-03 for action.

Treasurer Deschaine moved to adopt text amendment 2023-03, an ordinance amending the code of the Charter Township of Meridian, Ingham County to amend Chapter 40 Article 2 Commercial/Medical Marijuana Facilities. Supported by Clerk Guthrie.

Treasurer Deschaine spoke on the unity of the Board on this topic.

Clerk Guthrie mirrored Treasurer Deschaine’s remarks. She inquired if passed, will these ordinances be published and made legal, and will there be an appeal timing process.

Director Schmitt stated they are published and are effective immediately upon review. He also noted that in theory there is an appeal process, but for text amendments the Board typically has authority to change that.

Treasurer Deschaine spoke appreciation paragraph 22, which discusses unusual hardships.

Supervisor Jackson reiterated the case and called for a roll call vote.

ROLL CALL VOTE:

YEAS: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

NAYS: None

Motion carried: 7-0

D. Redevelopment Ready Communities Recertification – Housing Updates

Community Planning and Development Director Schmitt outlined the Redevelopment Ready Communities Recertification information for the Board.

Trustee Wilson moved to refer the topic of housing ordinance changes related to the Redevelopment Ready Communities recertification to the Planning Commission for input and public hearing on the draft zoning ordinance amendment. Supported by Trustee Wisinski.

Trustee Wilson spoke in support of the Redevelopment Ready Communities recertification.

Trustee Wisinski spoke in support of the Redevelopment Ready Communities recertification.

Trustee Hendrickson inquired if this provision would allow for a second-floor only, or if it would be second-floor or higher. He further spoke in support of the redevelopment ready community recertification.

Director Schmitt answered that this provision would be only for the second-floor, higher projects would go under the MUPUD process.

Treasurer Deschaine spoke in support of the Redevelopment Ready Communities recertification.

Clerk Guthrie spoke in support of smaller homes being accessible. She inquired how large the ADU can be on the lot.

Director Schmitt noted that these additions would have to meet underlying requirements of existing zoning ordinances, and they would be limited to 600 sq. ft. in the proposed ordinance.

Supervisor Jackson noted that it's important to highlight that the setbacks and distances between dwellings have to follow existing zoning standards. She further spoke in support of the Redevelopment Ready Communities recertification.

VOICE VOTE:

YEAS: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

NAYS: None

Motion carried: 7-0

E. Land Preservation Acquisition – Cornel/Sweetwood

Director Maisner introduced Land Stewardship Coordinator Emma Campbell. Land Stewardship Coordinator Campbell outlined the proposed acquisition to the board via a presentation.

Trustee Wisinski moved to approve the attached resolution to acquire parcel #26-202-001 consisting of 2.71 acres of environmentally valuable land for the land preservation program in the amount of \$62,000 plus or minus from the trust of Michael and Lisa Allen and authorize Township Manager Walsh and Clerk Guthrie to execute the purchase agreement on behalf of the township. Supported by Trustee Wilson.

Trustee Wisinski spoke in support of this acquisition.

Trustee Wilson spoke in support of this acquisition.

Treasurer Deschaine inquired whether there would be new trees planted on this site.

Land Stewardship Coordinator Campbell stated that there isn't a need to plant new saplings on this site as long as it is regulated properly.

Trustee Hendrickson inquired about the land preservation fund's current status.

Land Stewardship Coordinator Campbell stated that she believes that the fund is increasing. She further noted that they are contracting out more than ever before to assist with preservation.

Director Maisner noted that there is a \$4,000,000 fund specifically for acquisition that will be utilized instead of cutting into the annual fees of \$180,000.

Trustee Hendrickson stated he was inquiring about the fund's current status from an auditor's viewpoint, that if the mileage stopped immediately, there would still be funds available for preservation for years to come. He further noted that he understands that a large percentage of the current fund is set aside for acquisition, and not just preservation.

Clerk Guthrie spoke in support of this acquisition. She inquired if there would still be an acquisition request for the desired property connecting to parcel #26-202-001.

Land Stewardship Coordinator Campbell stated that they would be interested in reaching out again for this connecting parcel of land.

Treasurer Deschaine clarified the drop in mileage already for the preservation fund, going from 4/10^{ths} of a mil to 1/10th of a mil.

ROLL CALL VOTE:

YEAS: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

NAYS: None

Motion carried: 7-0

F. Recommended 2024 Budget Schedule

Township Manager Walsh presented the budget schedule to the board.

Trustee Wilson moved to approve the 2024 township budget schedule as presented. Supported by Treasure Deschaine.

Trustee Wilson spoke in support of this item.

Treasurer Deschaine inquired, given the staffing issue of losing the previous Finance Director, if this aggressive budget schedule could be met.

Township Manager Walsh stated that yes, this can be met.

Trustee Hendrickson inquired on the special meeting of September 26th, 2023. This date conflicted with one of the board's scheduled listening sessions.

Township Manager Walsh stated that this wouldn't be an issue as that special meeting has rarely been needed, and he was confident that would be the case this year as well.

Clerk Guthrie spoke in support of the staff and process for the 2024 budget proposal.

VOICE VOTE:

YEAS: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

NAYS: None

Motion carried: 7-0

Township Manager Walsh introduced the new Finance Director, Dante Ianni.

G. Maisner Retirement Consulting Agreement

Township Manager Walsh outlined the proposed agreement to the board.

Director Maisner spoke on the proposed agreement and gave her retirement speech.

Treasurer Deschaine moved to approve the proposed Maisner retirement consulting agreement between Meridian Township and Parks and Recreation Director Luann Maisner and authorize the township manager to sign the agreement. Supported by Trustee Wisinski.

Treasurer Deschaine spoke in support of this consulting agreement. He invited Parks Commissioner Amanda Lick to speak on Luann's retirement.

Trustee Sundland spoke in support of this consulting agreement and thanked Director Maisner for her service.

Trustee Hendrickson spoke in support of this consulting agreement and thanked Director Maisner for her service.

Trustee Wilson spoke in support of this consulting agreement and thanked Director Maisner for her service.

Trustee Wisinski spoke in support of this consulting agreement and thanked Director Maisner for her service.

Clerk Guthrie spoke in support of this consulting agreement and thanked Director Maisner for her service.

Supervisor Jackson spoke in support of this consulting agreement and thanked Director Maisner for her service.

ROLL CALL VOTE:

YEAS: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

NAYS: None

Motion carried: 7-0

13. BOARD DISCUSSION ITEMS

A. Municipal Employees' Retirement System (MERS) Defied Contribution Administration

Human Resource Director Abigail Tithof outlined the potential change in the township's retirement savings plan. She also introduced MERS Representative Leah Behnke.

Treasurer Deschaine spoke in support of the change.

Trustee Hendrickson inquired when we started our current plan administrator, and did that go out to bid.

Township Manager Walsh stated that it's been roughly three decades that we've had this plan.

Human Resource Director Tithof stated that this has not gone out to bid, as MERS is being used in other departments in the township.

MERS Representative Behnke further outlined the benefits of using MERS.

Treasurer Deschaine inquired on their fiduciary responsibilities.

MERS Representative Behnke answered that MERS is a private company, but they operate as a not-for-profit. They also go through a board, similar to the township board, and must always follow what's best for their investors, and their employees.

Clerk Guthrie requested more information on the current plan vs the proposed change before making a decision on this topic.

Trustee Wilson spoke in support of this change.

Township Manager Walsh responded to Clerk Guthrie's request by stating that he believes this is one of the few instances that it's an urgent enough topic to push forward.

Trustee Wisinski mirrored Trustee Hendrickson's comments, and thanked Trustee Wilson and Clerk Guthrie for their input.

Human Resource Director Tithof further explained why she believed that this was the right move for the township.

Trustee Sundland supported a bid for this issue.

Trustee Hendrickson further stated why he believes this should go to bid.

Township Manager Walsh stated that in his opinion, bidding this out will not get the township anywhere in this case, as there have been harmful results from the current plan that have directly impacted employees.

Clerk Guthrie reiterated her need for more information.

Township Manager Walsh stated that this will go to discussion and they will have more information during that time,

Treasurer Deschaine stated that while a bid would be nice, it can take multiple months to get to a final decision.

Trustee Wisinski inquired on the risks for funds from the current plan transferring to the new plan.

MERS Representative Benhke stated that that would be a seamless part of the process, and that they currently have a lot of plans transferring without issue.

Trustee Wilson supported making a decision now instead of making a bid.

ROLL CALL VOTE:

YEAS: Supervisor Jackson, Clerk Guthrie, Treasurer Deschaine, Trustees Hendrickson, Sundland, Wilson, Wisinski

NAYS: None

Motion carried: 7-0

14. COMMENTS FROM THE PUBLIC

Supervisor Jackson opened public remarks at 8:14 pm.

NONE

Supervisor Jackson closed public remarks at 8:14 pm.

15. OTHER MATTERS AND BOARD MEMBER COMMENTS

A. Trustee Hendrickson spoke on the distribution of board packets, and inquired if this could be changed to give the board more time to review the packet.

Clerk Guthrie stated that most of the time, the Clerk's Office is waiting on other departments and/or businesses to submit their packet pieces. She also stated that there are times that pieces come in after the deadline that cause the packet to go through multiple revisions.

Treasurer Deschaine noted that if we move the packet to Wednesday, it would be 6 days old by the time it would hit the meeting. He further stated that the board has Monday and most of Tuesday are set for questions on the packet.

Trustee Wisinski stated that they could make a hard deadline for material to be turned in for the packet, and anything submitted after would go to the next meeting.

Clerk Guthrie noted the statutory requirements for packet pieces that are turned in either on time or late.

IT Director Stephen Gebes stated that it has been done differently in the past, specifically there was a time when packets were put together on Tuesdays and sent out on Wednesdays, but there were issues involving comments coming in later than Wednesday that had to be added.

- B. Trustee Wisinski spoke on the upcoming Meridian Pride Festival on August 26th, 2023.
- C. Supervisor Jackson spoke on an internet high-speed tour that will be having a meeting on August 1st at the Okemos Event Center.

She also noted that the Tri-County Housing Summit is having a meeting on July 20th, 2023.

16. ADJOURNMENT

Trustee Wisinski moved to adjourn at 8:30pm. Supported by Trustee Wilson.

The meeting was adjourned at 8:30 pm.

PATRICIA JACKSON
TOWNSHIP SUPERVISOR

DEBORAH GUTHRIE
TOWNSHIP CLERK

07/26/2023 01:20 PM
 User: GRAHAM
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Vendor Name	Description	Amount	Check #
1. 242 COMMUNITY CHURCH	242 BUILDING LEASE - 7/17/23 TO 8/16/23	3,800.00	109876
2. A T & T	JUN 28 - JUL 27 2023 - BUSINESS FIBER INTERNET 321	195.25	109877
	JUL 5 - AUG 4 2023 - 3711 OKEMOS - FIBER INTERNET	158.99	109896
	JUN 7 - JUL 6 2023 - 2140 HASLETT - FIBER INTERNET	158.99	109896
	JUN 7 - JUL 6 2023 - 5147 MARSH - FIBER INTERNET	205.24	109896
	JUL 9 - AUG 8 2023 - 5000 OKEMOS - FIBER INTERNET	195.25	109896
	TOTAL	913.72	
3. ABLE CONCRETE	DEPOSIT: 13'X21' CONCRETE PAD HARDTOP GAZEBO PICKL	1,438.71	109903
4. ACROSS THE STREET PRODUCTIONS	16 BLUE CARD CE RENEWALS	1,700.00	109904
5. ALLGRAPHICS CORP	VOLUNTEER T SHIRTS CELEBRATE MERIDIAN FESTIVAL	755.00	109905
6. AT & T	JULY 7 - AUG 6 2023 - PRI TEL + 100 MB INT 831-001	1,219.65	109897
7. AT & T	JUN 2 - JUL 1 2023 - HVAC @THB 517.347.1710 201 4	49.91	109878
	JUN 2 - JUL 1 2023 - PSB FAX 517 347-4285 924 0	51.58	109878
	JUN 2 - JUL 1 2023 - THB HVAC 517 347.6021 564 8	397.78	109878
	JUN 2 - JUL 1 2023 - PSB FAX 517 347 6826 173 5	52.37	109878
	TOTAL	551.64	
8. AT & T MOBILITY	JUL 5 - AUG 4 2023 - DISPATCH NON-EMERGENCY - 2872	49.39	109898
	JUN 7 - JUL 6 2023 - FIRSTNET CELL SERVICE 2873120	867.81	109898
	TOTAL	917.20	
9. AT&T	JULY 2023 LEGACY TELEPHONE NUMBERS - 517.349.1200	32.99	109879
10. AUTO VALUE OF EAST LANSING	UNIT #95 - REPAIR PARTS	64.99	109906
	WIPER BLADES	120.90	109906
	UNIT #134 - REPAIR PARTS	224.25	109906
	UNIT #134 - REPAIR PARTS	118.96	109906
	UNIT #85 - REPAIR PARTS	84.34	109906
	UNIT #135 - REPAIR PARTS	19.19	109906
	AIR FILTER (NOTE: RETURNED WAITING FOR CREDIT)	48.39	109906
	STOCK REPAIR PARTS	19.19	109906
	SHOP SUPPLIES	31.98	109906
	FIRE DEPT STOCK - REPAIR PARTS	221.90	109906
	UNIT #135 REPAIR PARTS	195.98	109906
	UNIT #135 - POWER BRAKE BOOSTER	525.79	109906
	TOTAL	1,675.86	
11. BARKHAM & CO	JULY 2023 - BICYCLE/PEDESTRIAN PATHWAY MOWING	4,800.00	109907
12. BETTEN BAKER CADILLAC MICHIGAN II	2022 GMC CANYON - 1GTH5CEA8N1320692	31,794.00	109902
13. BLUE CROSS BLUE SHIELD OF MICHIGAN	8/1/23 - 8/31/23 PPO RETIREE HEALTH INSURANCE	1,861.14	109908
14. BODMAN PLC	LEGAL FEES FOR WEST WELCOME SIGN EASEMENT	582.00	109909
	LEGAL FEES FOR WEST WELCOME SIGN EASEMENT	2,958.00	109909
	TOTAL	3,540.00	
15. BOUNDTREE MEDICAL	ORDER #104599515 - MEDICAL SUPPLIES	5,333.36	109910
16. BOYNTON FIRE SAFETY SERVICE	6/29/2023 ANNUAL BACKFLOW INSPECTION RECERTIFICATI	65.00	109911
	4/28/2023 ANNUAL BACKFLOW INSPECTION RECERT	65.00	109911
	6/19/23 - FIRE EXTINGUISHERS VEHICLES - ANNUAL INS	1,310.00	109911
	TOTAL	1,440.00	

07/26/2023 01:20 PM
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17. BRD PRINTING, INC	2023 SUMMER & WINTER TAX BILL SHELLS	1,402.28	109912
	JOB #164919 - WINDOW & REGULAR ENVELOPES	323.38	109912
	JOB #164998 - WINDOW & REGULAR ENVELOPES	336.65	109912
	TOTAL	2,062.31	
18. BRIDGET CANNON	MILEAGE REIMBURSEMENT	27.51	109913
	MILEAGE REIMBURSEMENT	25.68	109913
	TOTAL	53.19	
19. BRIGHTLINE TECHNOLOGIES	JULY 2023 QUICKHELP SUBSCRIPTION	1,376.00	109914
	BRIGHTLINE HPE 36M - JULY 2023	2,975.00	109915
	2023 PALO ALTO FIREWALL SOLUTION	54,650.00	109914
	PHISHING EMAIL TRAINING	6,900.00	109914
	TOTAL	65,901.00	
20. BRYANT MARTIN	TRAVEL REIMB - AT SCENE TRAFFIC CRASH TRAINING	324.99	109916
21. BULL ENTERPRISES	JUNE 2023 JANITORIAL SERVICES TWP BLDGS	8,477.00	109917
22. CEDAR CREEK APARTMENTS	A. MCGEE - EMERGENCY RENT ASSISTANCE	500.00	109776
	M.JACKSON - EMERGENCY RENTAL ASSISTANCE	291.00	109880
	TOTAL	791.00	
23. CHARLES KING	CELEBRATE MERIDIAN FESTIVAL PERFORMANCE	1,000.00	109918
24. CINTAS CORPORATION #725	07/06/2023 - MECHANICS UNIFORMS	30.00	109919
	07/13/2023 - MECHANICS UNIFORMS	30.00	109919
	TOTAL	60.00	
25. CITY OF EAST LANSING	2ND QTR MEP REVENUE DUE TO EAST LANSING	59,710.10	109920
26. COMCAST	JUL 14 2023 TO AUG 13 2023 - HOM TV	461.31	109899
	AUG 1 TO AUG 31 2023 - INT+TV @THB	531.74	109921
	JUL 16 2023 TO AUG 15 2023 - TV + INET	161.85	109899
	JUL 20 TO AUG 19 2023 - FD 'FREE' DROP	10.76	109899
	JUL 19 TO AUG 18 2023 - SCADA INET	254.90	109921
	TOTAL	1,420.56	
27. CONSUMERS ENERGY	ACCT 1030 4647 4104 - A JONES/C SMITH - EMERGENCY	98.00	109900
28. CRYSTAL FLASH	ORDER #4585662 - MOTOR POOL - FLEET FUEL	11,931.65	109922
	ORDER #4585663 - MOTOR POOL - FLEET FUEL	2,447.85	109922
	TOTAL	14,379.50	
29. CSA SERVICE SOLUTIONS	PAYMENT FOR 2022 PARTS/SERVICE	169.37	109923
30. CUMMINS INC	SERV CENTER -6/15/2023 FULL PM GENERATOR MAINT	549.67	109924
31. DAN THOMAS LAWN SPRINKLER CO	LAWN SPRINKLER SERV - HIST VILLAGE BARNES HOUSE	355.75	109925
32. DBI	MISC FURNITURE/MONITOR ARMS - MUN BLDG RENO	48,692.26	109926
33. DEPARTMENT OF TREASURY	PATIENT-CENTERED OUTCOMES RESEARCH INSTITUTE FEE	1,044.75	109893
34. EDGEWOOD VILLAGE APARTMENTS	V.JORDAN - EMERGENCY RENT ASSISTANCE	372.54	109777

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35. FAHEY SCHULTZ BURZYCH RHODES PLC	FIRE DEPT - LEGAL FEES	960.00	109927
	COLLECTIVE BARGAINING - LEGAL FEES	264.00	109927
	MARIJUANA REG - LEGAL FEES	5,182.50	109927
	PUBLIC WORKS - LEGAL FEES	1,174.43	109927
	WINSLOW MOBILE HOMES - LEGAL FEES	720.00	109927
	BWL - LEGAL FEES	270.00	109927
	EYDE-SIERRA RIDGE - LEGAL FEES	6,379.90	109927
	COMMUNITY PLANNING & DEVELOPMENT - LEGAL FEES	1,132.38	109927
	FOIA/OMA - LEGAL FEES	1,043.25	109927
	PUBLIC WORKS - LEGAL FEES	479.64	109927
	TOWNSHIP BOARD - LEGAL FEES	69.55	109927
	CONTRACT REVIEWS - LEGAL FEES	625.95	109927
	AUTOZONE DEVELOPMENT - LEGAL FEES	355.00	109927
	HUMAN RESOURCES/LABOR - LEGAL FEES	2,399.23	109927
	TOTAL	21,055.83	
36. FD HAYES ELECTRIC	JOB #D015223 - GENERATOR RUNNING WHILE UTILITY IS	330.00	109929
37. FIRST COMMUNICATIONS	6/1/2023 - 6/30/2023 ANALOG TELEPHONE LINES-314221	162.91	109881
38. FORESIGHT GROUP	10 24"X36" CORO SIGNS FOR RECYCLING EVENT	147.00	109891
	WINDOW ENVELOPES FOR WATER BILLS	715.36	109891
	2 ENGRAVED NAME PLATES	46.00	109891
	TOTAL	908.36	
39. FRIEDLAND INDUSTRIES INC	2023 ANNUAL SPRING RECYCLING EVENT	465.49	109930
40. GENERAL CODE	ECODE360 ANNUAL MAINTENANCE	995.00	109931
41. GRANGER	2023 - SEASONAL TRASH SERVICE IN PARKS	466.20	109932
42. GREATER LANSING FOOD BANK	2022 TOWNSHIP PARTNERSHIP PAYMENT FOR THE GLFB GAR	5,000.00	109933
43. HASLETT COMMUNITY CHURCH	FINAL PAYMENT FOR 2022 GREEN GRANT	1,500.00	109934
44. HASLETT-OKEMOS ROTARY	3RD QTR 2023 ROTARY DUES - D GUTHRIE	150.00	109935
	3RD QTR 2023 ROTARY DUES - FRANK WALSH	150.00	109935
	3RD QTR 2023 DUES - M. HAMEL	150.00	109935
	2023 GRANGER SPONSOR FOR ANNUAL GOLF OUTING	2,500.00	109935
	TOTAL	2,950.00	
45. HAWORTH INC	ORDER #201382082 - FURNITURE MUNICIPAL BLDG RENO	53,507.58	109936
	ORDER #201382082 - FURNITURE MUNICIPAL BLDG RENO	11,664.30	109936
	ORDER #201382082 - FURNITURE MUNICIPAL BLDG RENO	13,057.08	109936
	TOTAL	78,228.96	
46. IDC CORPORATION	2023 LIFT STATION CONTROLS MAINT CENTRAL PARK	194.20	109937
47. INTEGRITY INTERIORS INC	RESURFACING MB FRONT COUNTER	28,836.00	109938
	RESURFACING MB FRONT COUNTER	3,204.00	109938
	TOTAL	32,040.00	
48. INTERSTATE BILLING SERVICE	ACCOUNT #367885 - REPAIRS TO UNIT 55	1,873.24	109778
49. JACK AKERS	TRAVEL REIMB - AT SCENE TRAFFIC CRASH TRAINING	194.50	109939
50. JEFFORY BROUGHTON	N. FIRE - S92 RADIO REPAIR MONITOR FUNCTION	125.00	109940
51. JESSEY M. ADAMS	PERFORMANCE ON 07/15/2023	200.00	109941
52. JOHNSON CONTROLS	SERV REQ #1-129753211582 - REPAIR 6/30/2023 INVEST	437.40	109942

07/26/2023 01:20 PM
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53. KENT COUNTY DEPT OF PUBLIC WORKS	INCINERATOR - CUST #M493	135.90	109943
54. LAFONTAINE AUTOMOTIVE GROUP	MOTOR POOL - POLICE - REPAIRS TO 670	2,316.20	109779
55. LANGUAGE LINE SERVICES	ACCT #9020508339 - JUNE 2023 INTERPRETATION SERVIC	99.32	109944
56. LANSING UNIFORM COMPANY	OFFICER NAME TAGS - K. CASADAY	20.00	109945
	UNIFORM ITEMS - L. RICO	119.90	109945
	TOTAL	139.90	
57. LARGE COMPANY INC	80%-90% PROGRESS PMT - MUN BLDG PAINTING	18,350.20	109892
	MUNICIPAL BUILDING PAINTING	965.80	109946
	TOTAL	19,316.00	
58. LAWN STAR GROUP LLC	JUNE 19 & 27 2023 AND JULY 5 2023 - GLENDALE - MOW	3,675.00	109947
59. LEAH KWAPIS	REFUND DUPLICATE RECEIPT - ARMBANDS KIDS AREA CELE	25.00	109948
60. LEXISNEXIS RISK DATA MGT LLC	06/01/2023 - 06/30/2023 - BILLING ID 1228701	200.00	109949
61. LOGICALIS	JUNE 2023 - IT HELP DESK SERVICE	3,345.00	109950
	JULY 2023 - CUST #MERCHA01 - IT HELP DESK SERVICE	3,345.00	109950
	TOTAL	6,690.00	
62. MACQUEEN EMERGENCY GROUP	2023 ANNUAL PM HURST TOOLS	1,802.00	109951
63. MADISON NATIONAL LIFE INS CO	AUG 2023 LIFE/DISABILITY INSURANCE	3,523.15	109882
64. MANAGED SPECIALTY SERVICES LLC	6 UNITS OF PEAT SORB	849.61	109952
65. MASTER MOWING	CODE ENFORCEMENT MOWING WORK	2,213.00	109883
66. MEDICAL MANAGEMENT SYSTEMS OF	JUNE 2023 AMBULANCE BILLING SERVICE	8,616.61	109884
67. MELISSA MASSIE	MILEAGE REIMBURSEMENT	12.06	109953
68. MERIDIAN TOWNSHIP DDA	2022 SETTLEMENT FUNDS DUE TO DDA	756.36	109954
69. MERIDIAN TOWNSHIP RETAINAGE	2023 ROADWAY IMPROVEMENTS CRUSHING AND HMA OVERLAY	34,330.51	109955
70. MICHIGAN ASSOCIATION OF PLANNING	ANNUAL GROUP MEMBERSHIP DUES 7.1.23 TO 6.30.24 MEM	725.00	109956
71. MICHIGAN DEPARTMENT OF TREASURY	2023 SALES TAX CELEBRATE MERIDIAN FESTIVAL BEER TE	265.50	109885
72. MICHIGAN RECYCLING COALITION	1/23/2023 - 1/23/2024 MEMBERSHIP RENEWAL NP-GOV TW	200.00	109957
73. MICHIGAN RECYCLING COALITION	2023 RECYCLE MI PARTNER RENEWAL	100.00	109958
74. MID-MICHIGAN CODE OFFICIALS ASSOC	2023 MEMBERSHIP J HECKAMAN, R RAU AND J HINES	180.00	109886
75. MIDWEST POWER EQUIPMENT	CHAINSAW OIL & MIXED OIL FOR EQUIPMENT	101.94	109959
	UNIT #96 - EXMARK MOWER DECK PARTS	370.55	109959
	TOTAL	472.49	
76. MY GREEN MICHIGAN LLC	JUNE 2023 COMPOST MARKETPLACE - CART SERVICE	82.00	109960
77. NORTHSIDE SERVICE	MOTOR POOL - FIRE - TOW BILL - AMBULANCE	129.60	109961
78. ODP BUSINESS SOLUTIONS LLC	MISC OFFICE SUPPLIES	40.58	109887
79. PEOPLEFACTS LLC	JUNE 2023 PRE-EMPLOYMENT CREDIT CHECKS	46.47	109962
80. PHOENIX SAFETY OUTFITTERS	STRUCTURAL FIREFIGHTER PANT (LEWIS)	1,496.63	109963

07/26/2023 01:20 PM
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81. PLM LAKE & LAND MANAGEMENT	HERBICIDE & HARVESTING TREATMENT LAKE LANSING SAD	35,577.50	109964
82. PROGRESSIVE AE	PROFESSIONAL SERVICES THRU MAY 26, 2023	4,706.15	109966
	PROF SERVICES THRU JUNE 30 2023	2,449.77	109966
	TOTAL	7,155.92	
83. PRO-TECH MECHANICAL SERVICES	SERVICE CENTER - REPAIR LEAKING LINE ON BOILER	1,201.88	109965
	BUILDINGS - 2023 HVAC SERVICES	4,206.25	109965
	TOTAL	5,408.13	
84. QUALITY TIRE INC	MOTOR POOL - SCRAP TIRES RETURN FEE	29.00	109967
	DISPOSAL OF SCRAP TIRES	56.00	109967
	UNIT #70 - TIRES	287.40	109967
	TOTAL	372.40	
85. REDWOOD LANDSCAPING	JUNE 2023 TOWNSHIP MOWING	745.17	109968
86. RICHARD G VONTERSCH	JUNE 2023 - MUN BLDG LANDSCAPE MAINT	370.00	109969
87. RIETH-RILEY CONSTRUCTION CO INC	2023 ROADWAY IMPROVEMENTS CRUSHING AND HMA OVERLAY	643,349.60	109970
88. SPARROW OCCUPATIONAL	JUNE 2023 EMPLOYEE PHYSICALS	3,661.50	109971
89. ST MARTHA CONFERENCE OF	M.WHITBY - EMERGENCY RENTAL ASSISTANCE	480.50	109888
	J. LITTLE - REIMB EMERGENCY UTILITY ASSISTANCE	500.00	109901
	D&R MCCUNE - REIMB EMERGENCY ASSISTANCE	500.00	109901
	TOTAL	1,480.50	
90. ST THOMAS AQUINAS PARISH	L. MILLER - EMERGENCY UTILITY ASSISTANCE	307.54	109780
	L. SEAY - EMERGENCY RENT ASSISTANCE	500.00	109780
	B. MANNING - EMERGENCY UTILITY ASSISTANCE	420.43	109780
	G.KARYCIAK - EMERGENCY UTILITY ASSISTANCE	265.80	109889
	TOTAL	1,493.77	
91. STAPLES	CUST # DET 27066262 - OFFICE SUPPLIES	1,097.25	109972
92. STATE OF MICHIGAN	AT SCENE TRAFFIC CRASH INV COURSE - J.AKERS	800.00	109973
	AT SCENE TRAFFIC CRASH INV COURSE - B.MARTIN	800.00	109973
	TOTAL	1,600.00	
93. TEAM FINANCIAL GROUP	AUG 2023 - COPIER CONTRACT ACCT #40035014	2,499.47	109974
94. THE RAPID GROUP LLC	SERVICES THRU 6/30/2023	80.00	109890
95. THOMAS RICO	REIMB CANCELED PARK PAVILION RESERVATION	700.00	109975
96. TRI-COUNTY EM CONTROL AUTHORITY	BLS RED MEDICATION BAG FOR BLS UNITS	15.00	109976
97. UAS	PANERA OVERPAYMENT FOR FALSE ALARM	100.00	109977
98. VARIPRO BENEFIT ADMINISTRATORS	AUG 2023 MEDICARE SUPPLEMENT	13,874.28	109894
99. VERIZON CONNECT	6/1/2023 - 6/30/2023 - VEHICLE DATA UPLINK - MERIO	1,311.39	109895
100 WASTE MANAGEMENT	07/01/23-07/31/23 - GAYLORD C SMITH CT - CUST ID 2	225.39	109978
TOTAL - ALL VENDORS		1,223,918.51	

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1. A T & T	JUL 15 TO AUG 14 2023 - 2100 GAYLORD - FIBER INTER	195.25	
2. ACROSS THE STREET PRODUCTIONS	FIVE-DAY TRAIN THE TRAINER COURSE 9/11-9/15 (PENNE	4,500.00	
3. ANTHONY D THOMPSON	9/20/2023 - PERFORMANCE AT MARKETPLACE	500.00	
4. AT & T	JULY 2023 - ASE NET - THB - FS91 - 831.000.8214 21	3,763.02	
5. BARYAMES CLEANERS	6/17/23 TO 7/17/23 - POLICE UNIFORM CLEANING	407.20	
6. BOUNDTREE MEDICAL	ORDER #104604163 - MEDICAL SUPPLIES	23.79	
	ORDER #104630821 - MEDICAL SUPPLIES	1,327.69	
	TOTAL	1,351.48	
7. CGS SAFETY TRAINING INC	5/16/2023 - WORK ZONE SAFETY TRAINING	910.00	
8. COMCAST	JUL 29 2023 TO AUG 28 2023 - PSB 'FREE' DROP	32.28	
9. CORNELL WOODS ASSOCIATION INC	2023 GREEN GRANT CORNELL WOODS COMMON AREA HABITAT	1,500.00	
10. DANIELLE HUGHES	MCAO CLASS FEE REIMBURSEMENT	1,000.00	
11. DAWN BUCHBINDER	8/23/2023 - SUMMER CONCERT SERIES PERFORMANCE	650.00	
12. DON MIDDLEBROOK	8/30/2023 - MARKETPLACE PERFORMANCE	200.00	
13. FORESIGHT GROUP	OFFICE SIGN/DECAL FOR NEW TRAINING CHIEF	152.98	
14. GRANGER	ACCT 17334070 - MUN BLDG - RECYCLING DISPOSAL	80.52	
	ACCT #17349880 - GAYLORD C SMITH - RUBBISH & RECYC	31.49	
	1106100 TOWNHALL - 2706910 PUBLIC SAFETY - RUBBISH	130.68	
	ACCT 1106200 - GAYLORD C SMITH - RUBBISH DISPOSAL	320.31	
	ACCT 1106300 - S. FIRE - RUBBISH DISPOSAL	91.65	
	ACCT 2509750 - C. FIRE - RUBBISH DISPOSAL	107.32	
	TOTAL	761.97	
15. HAMMOND FARMS	3 YARDS PRO-SOIL	56.25	
	3 YARDS PRO-SOIL	56.25	
	3 YARDS PRO-SOIL	56.25	
	4 BALES STRAW	29.00	
	TOTAL	197.75	
16. HAWORTH INC	FURNITURE FOR MUNICIPAL BUILDING RENO	32,004.65	
	FURNITURE FOR MUNICIPAL BUILDING RENO	253.08	
	TOTAL	32,257.73	
17. INGHAM COUNTY TREASURER	PRIOR YEAR BOR MTT VALUE CHANGE ORDERS	5,201.07	
18. JOHNSON CONTROLS	REPAIR AND UPGRADE VAV PSB- INVESTIGATION AREA	3,158.00	
19. JOSEPH D WRIGHT	9/6/2023 MARKETPLACE PERFORMANCE	200.00	
20. JUSTIN DEASON	9/27/2023 MARKETPLACE PERFORMANCE	400.00	
21. KIMBALL MIDWEST	ORDER #524292MW - BOLTS AND WASHER STOCK	109.50	
22. LAFONTAINE AUTOMOTIVE GROUP	BRAKE PARTS FOR INTERCEPTORS	219.00	
	EXHAUST PARTS UNIT 684	604.32	
	TOTAL	823.32	
23. LANSING SANITARY SUPPLY INC	PARKS - CUSTODIAL SUPPLIES	530.42	

07/26/2023 02:10 PM
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24. LANSING UNIFORM COMPANY	FIRE UNIFORM PANTS - A CUMMINS	129.90	
25. LANSING WELDING INC	REPAIR MOWER WING ON UNIT 67	100.00	
26. LARGE COMPANY INC	BONUSES, OVERAGES FOR PAINTING AT MB	3,983.32	
27. LEAVITT & STARCK EXCAVATING INC	REMAINING WORK ON EXISTING CONTRACT: MSU TO LAKE L	33,663.26	
28. LEROY HARVEY	MILEAGE/PARKING FELLOWSHIP CATALYST LEADERSHIP CIR	82.33	
29. LOPEZ CONCRETE CONSTRUCTION	CONCRETE REPAIR CONTRACT 2023	31,181.85	
30. MAGNUM ELECTRONICS INC	MOTOROLA NKN6611 XP RSM REPL CABLE	906.70	
31. MANNIK AND SMITH	PROF SERVICES THRU JUNE 30 2023	85,337.29	
32. MI ASSOC OF CHIEFS OF POLICE	JOB POSTING-CHIEF OF POLICE	100.00	
33. MORRIES OKEMOS FORD	REPAIR PARTS UNIT 685	1,166.28	
	UNIT #28 - TIRE PRESSURE SENSORS	144.86	
	TOTAL	1,311.14	
34. OUTSHINER	PATROL CAR WASHES	800.00	
35. PIONEER MFG.CO/PIONEER ATHLETICS	ACCT ME9153 - FIELD DRAG FOR BASEBALL FIELDS	856.32	
36. PRO-TECH SECURITY SALES	2 BALLISTICS VESTS	1,951.00	
37. PURITY CYLINDER GASES INC	MEDICAL OXYGEN & RELATED FEES	127.72	
	MEDICAL OXYGEN & RELATED FEES (MINUS \$4.70 CREDIT)	614.07	
	TOTAL	741.79	
38. QUALITY TIRE INC	STOCK TIRES - FLEET	1,136.90	
	TIRES UNIT #91	182.30	
	MOTOR POOL - TIRES UNIT 135	518.36	
	TOTAL	1,837.56	
39. ROWERDINK AUTOMOTIVE PARTS	CUST #136620 - UNIT #135 REPAIR PARTS	139.37	
	CUST #136620 - STOCK REPAIR PARTS	246.03	
	ORDER 557590 - REF 1155991 RETURN FLEET REPAIR PAR	(105.00)	
	ORDER 547430 - STOCK FLEET REPAIR PARTS	330.16	
	ORDER 274520 - STOCK FLEET REPAIR PARTS	133.46	
	ORDER 551170 - BATTERY CORE RETURN	(14.00)	
	ORDER 206670 - STOCK FLEET REPAIR PARTS	80.69	
	ORDER 556590 - UNIT 77 - FLEET REPAIR PARTS	105.00	
	TOTAL	915.71	
40. SHAHEEN CHEVROLET INC	MOTOR POOL - FIRE -MEDIC 91 -REPAIR PARTS FROM DEE	1,268.03	
41. SMART HOMES INC	TOWN HALL ROOM AUDIO/VISUAL UPGRADES PROJECT - PRO	4,546.25	
42. SPARTAN FENCE	REPAIR/REPLACE FENCE PANELS W SIDE OKEMOS RD BY BR	1,875.00	
43. ST THOMAS AQUINAS PARISH	M.MARTINEZ - EMERGENCY RENTAL ASSISTANCE	750.00	109979
	D.KIRK - EMERGENCY RENTAL ASSISTANCE	500.00	109979
	TOTAL	1,250.00	
44. SUSAN LYNN WESTHOFF	8/23/2023 MARKETPLACE PERFORMANCE	400.00	
45. THE HARKNESS LAW FIRM PLLC	JULY 2023 PROSECUTION SERVICES	6,670.27	
46. ULINE	EVIDENCE BAGS	125.77	

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INVOICE APPROVAL BY INVOICE REPORT FOR CHARTER TOWNSHIP OF MERIDIAN
EXP CHECK RUN DATES 08/01/2023 - 08/01/2023
BOTH JOURNALIZED AND UNJOURNALIZED OPEN AND PAID
BANK CODE: GF - CHECK TYPE: PAPER CHECK

Vendor Name	Description	Amount	Check #
47. YEO & YEO	PREPARATION OF ANNUAL FORM F65 2022	1,040.00	
48. ZACHARIE SPURLOCK	MILEAGE REIMB 05/29/23 TO 6/30/23	88.29	
TOTAL - ALL VENDORS		239,963.75	

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INVOICE APPROVAL BY INVOICE REPORT FOR CHARTER TOWNSHIP OF MERIDIAN
 EXP CHECK RUN DATES 08/01/2023 - 08/01/2023
 BOTH JOURNALIZED AND UNJOURNALIZED OPEN AND PAID
 BANK CODE: PWHZ - CHECK TYPE: PAPER CHECK

Vendor Name	Description	Amount	Check #
1. CGS SAFETY TRAINING INC	5/16/2023 - WORK ZONE SAFETY TRAINING	1,365.00	
2. CUMMINS INC	CHAMPION WOODS LS - 6/19/23 - GENERATOR PM	373.77	
	EAST END LS - 6/19/2023 - GENERATOR PM	373.77	
	SHOALS - GENERATOR PM	914.85	
	SIERRA RIDGE LS - 6/27/2023 - GENERATOR PM	262.52	
	GAYLOR C SMITH TRAILER MT #1 - 6/27/23 - GENERATOR	416.17	
	WOOD VALLEY LS 6/26/23 - GENERATOR PM	270.45	
	TOWAR GARDENS LS - 6/16/2023 GENERATOR PM	262.52	
	WILDWOOD LS - 6/16/2023 -GENERATOR PM	262.52	
	GAYLOR C SMITH TRAILER MT #2 - 6/22/23 - GENERATOR	416.17	
	TOTAL	3,552.74	
3. D'DESTIN KAUFMANN	REIMB DRINKING WATEROPERATOR CERTIFICATION EXAM	70.00	
4. DS HUBER REAL ESTATE GROUP LLC	5166 PARK LAKE RD WATER/SEWER REFUND	63.90	
5. JACOB FLANNERY	EGLE DW TRAIN AND CERTIFY REIMBURSEMENT	70.00	
6. LEAVITT & STARCK EXCAVATING INC	LAKE DR/LEE ST WATER MAIN BREAK REPAIR 7-14-23	10,270.54	
7. LI, YUHUA	2591 LUPINE DR WATER/SEWER REFUND	101.85	
8. LOPEZ CONCRETE CONSTRUCTION	CONCRETE REPAIR CONTRACT 2023	21,333.79	
9. MATERIALS TESTING CONSULTANTS INC	PROF SERVICES FROM MAR 1 2023 TO JUNE 30 2023	7,750.00	
10. MERIDIAN TOWNSHIP RETAINAGE	2023 SANITARY SEWER REHABILITATION PROJECT	1,945.90	
	CONCRETE REPAIR CONTRACT 2023	4,862.14	
	TOTAL	6,808.04	
11. MITA	TIMBERLANE WATER MAIN REPL BID AD FOR 2023	75.00	
12. RYAN SCHANER	GIS CERTIFICATION INSTITUTE REIMBURSEMENT	95.00	
13. SUTCLIFE, ROBERT	5143 E BROOKFIELD WATER/SEWER REFUND	13.95	
14. VISU-SEWER	2023 SANITARY SEWER REHABILITATION PROJECT	17,513.10	
TOTAL - ALL VENDORS		69,082.91	

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INVOICE APPROVAL BY INVOICE REPORT FOR CHARTER TOWNSHIP OF MERIDIAN
EXP CHECK RUN DATES 07/25/2023 - 07/25/2023
BOTH JOURNALIZED AND UNJOURNALIZED OPEN AND PAID
BANK CODE: PWHRZ - CHECK TYPE: PAPER CHECK

Vendor Name	Description	Amount	Check #
1. BLACKBURN MFG CO	10,000 P451W PR LG 21 W	986.74	29390
2. CARL SCHLEGEL INC	6/7/2023 - TKT #1062673/1062674/1062675 - CLASS II	1,413.60	29391
3. ETNA SUPPLY COMPANY	WATER - 1" AND 2" HARD COPPER FOR CUSTOMER INSTALL	755.40	29392
4. FERGUSON WATERWORKS #3386	ORDER #00057458 - BRASS PARTS FOR 2 INCH METER SET	1,068.00	29393
5. GRAND TRUNK WESTERN RAILROAD CO	CUST #11524 - 2023 ANNUAL ESTIMATED SEWER CROSSING	100.00	29394
6. HYDROCORP	MAY 2023 - INSPECTION & REPORTING SERVICES	2,673.00	29395
7. IDC CORPORATION	2023 LIFT STATION CONTROLS MAINT THE MEADOWS	372.15	29396
8. INGHAM COUNTY REGISTER OF DEEDS	WATER EASEMENTS	60.00	29397
	MARY ELLEN SHEETS WATER EASMENT	30.00	29397
	TOTAL	90.00	
9. MADISON NATIONAL LIFE INS CO	AUG 2023 LIFE/DISABILITY INSURANCE	508.14	29388
10. MICHIGAN RURAL WATER ASSOC	2023-2024 MRWA MEMBERSHIP DUES FOR TOWNSHIP	960.00	29398
11. OWEN, WAYNE & JENNY	6090 PORTER AVE - REFUND OVER PAID ON UB BILL	1,647.20	29399
12. RIETH-RILEY CONSTRUCTION CO INC	2023 ROADWAY IMPROVEMENTS CRUSHING AND HMA OVERLAY	8,930.00	29400
13. SME	PROF SERV FROM MAY 8 2023 TO JUNE 4 2023	1,831.05	29401
14. WATERWORTH	MAR 2023 - FEB 2024 - UTILITY RATE ANALYSIS SOFTWA	4,990.00	29389
TOTAL - ALL VENDORS		26,325.28	

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INVOICE APPROVAL BY INVOICE REPORT FOR CHARTER TOWNSHIP OF MERIDIAN
EXP CHECK RUN DATES 07/25/2023 - 07/25/2023
BOTH JOURNALIZED AND UNJOURNALIZED OPEN AND PAID
BANK CODE: TA - CHECK TYPE: PAPER CHECK

Vendor Name	Description	Amount	Check #
1. A VITA NOVA	OVRPMT WINTER 2021 PROP TAXES	14.43	13417
2. FIRST NATIONAL BANK OF AMERICA	6100 COLUMBIA ST - SUMMER TAX OVERPAYMENT	273.00	13418
3. GUARDIAN TITLE AGENCY	2148 LONG LEAF TRAIL - 2023 SUM TAX REFUND	1,413.46	13419
4. GUPTA, SUBHASH C & SORLIE, JO ANNE	2073 BELWOOD DR - 2023 SUM TAX REFUND	827.90	13420
5. SCHAEADING, KYLE & KRISTINE	2186 CIDER MILL DR - 2023 SUM TAX REFUND	130.66	13421
6. STATE OF MICHIGAN	SOR FEES - MI3392600	30.00	13422
7. VOSS, JULIA & DANIEL	2413 BURCHAM DR - 2023 SUM TAX REFUND	660.94	13423
TOTAL - ALL VENDORS		3,350.39	

Credit Card Report 7/6/2023-7/25/2023

Posting Date	Merchant Name	Amount	Name
7/6/2023	GRAINGER	\$632.30	ROBERT MACKENZIE
7/6/2023	CITY OF LANSING, MI	\$0.97	ED BESONEN
7/7/2023	THE HOME DEPOT #2723	\$107.91	LAWRENCE BOBB
7/7/2023	THE HOME DEPOT #2723	\$20.91	LAWRENCE BOBB
7/7/2023	BARYAMES CLEANERS INC 05	\$24.60	MICHAEL HAMEL
7/7/2023	HEARST NEWSPAPERSMIDWEST	\$9.20	MICHELLE PRINZ
7/7/2023	WAL-MART #2866	\$17.12	CATHERINE ADAMS
7/7/2023	CITY OF LANSING, MI	\$1.65	ED BESONEN
7/10/2023	THE HOME DEPOT #2723	\$28.91	TYLER KENNEL
7/10/2023	GREAT WOLF LDG TRAVERS	\$94.35	ANDREW MCCREADY
7/10/2023	FSP*MICHIGAN AOHN	\$190.00	ANDREW MCCREADY
7/10/2023	COSTCO WHSE#1277	\$23.94	CHRISTOPHER JOHNSON
7/10/2023	MIDWEST POWER EQUIPMENT	\$9.48	AL DIAZ
7/10/2023	MEIJER # 025	\$9.99	MIKE DEVLIN
7/10/2023	APPLE.COM/BILL	(\$0.60)	STEPHEN GEBES
7/10/2023	APPLE.COM/BILL	\$10.59	STEPHEN GEBES
7/10/2023	AMZN MKTP US*NE0A06923	\$23.98	STEPHEN GEBES
7/10/2023	4ALLPROMOS	\$268.11	RICHARD GRILLO
7/10/2023	SP FUEGO GRILLS	\$125.00	RICHARD GRILLO
7/10/2023	THE HOME DEPOT #2723	\$24.94	LUANN MAISNER
7/10/2023	THE HOME DEPOT #2723	\$39.88	LUANN MAISNER
7/10/2023	(PC) 3986 ALL PHASE	\$149.39	KEITH HEWITT
7/10/2023	THE HOME DEPOT #2723	\$8.97	KEITH HEWITT
7/10/2023	AMZN MKTP US*S14TW2XN3	\$179.77	CATHERINE ADAMS
7/10/2023	AMZN MKTP US*GC9420E03	\$216.00	CATHERINE ADAMS
7/10/2023	TST* BUDDY'S PIZZA - OKEM	\$40.47	PHIL DESCHAIINE
7/10/2023	DRI*SIGNS	\$116.29	DANIEL OPSOMMER
7/10/2023	WAL-MART #2866	\$4.37	ALLISON GOODMAN
7/11/2023	COSTCO WHSE#1277	\$143.88	MIKE DEVLIN
7/11/2023	GRAINGER	\$193.05	ROBERT MACKENZIE
7/11/2023	AMZN MKTP US*2Y2K14FG3	\$19.70	MICHELLE PRINZ
7/11/2023	AMZN MKTP US*F58X94IY3 AM	\$183.52	CATHERINE ADAMS
7/11/2023	AMZN MKTP US*CF4X52R13	\$104.75	CATHERINE ADAMS
7/11/2023	AMAZON.COM*8E78K9533	\$96.15	CATHERINE ADAMS
7/11/2023	BESCO WATER TREATMENT IN	\$39.50	DANIEL OPSOMMER
7/11/2023	BESCO WATER TREATMENT IN	\$45.50	DANIEL OPSOMMER
7/12/2023	AC&E RENTALS INC	\$190.00	LAWRENCE BOBB
7/12/2023	OFFICEMAX/OFFICEDEPT#3379	\$20.58	ROBERT STACY
7/12/2023	DNH*GODADDY.COM	\$199.98	STEPHEN GEBES
7/12/2023	SQ *CHARLOTTE ELECTRIC MO	\$859.00	ROBERT MACKENZIE
7/12/2023	ETNA DISTRIBUTORS,LLC	(\$29.01)	KEITH HEWITT
7/12/2023	MERS OF MICHIGAN	\$510.00	MICHELLE PRINZ
7/12/2023	AMZN MKTP US*C16MS56C3	\$42.88	MICHELLE PRINZ
7/12/2023	SOLDAN S PET SUPPLIES	\$11.94	CATHERINE ADAMS
7/12/2023	CITY OF LANSING, MI	\$3.00	ED BESONEN
7/12/2023	BESCO WATER TREATMENT IN	\$29.50	DANIEL OPSOMMER
7/13/2023	THE HOME DEPOT #2723	\$18.66	KEITH HEWITT
7/13/2023	AMAZON.COM*TC6ZP5IE3 AMZN	\$69.98	MICHELLE PRINZ
7/13/2023	AMZN MKTP US*E298I3E53	\$15.99	MICHELLE PRINZ
7/13/2023	AMZN MKTP US*432QE5ND3	\$20.38	MICHELLE PRINZ
7/13/2023	AMZN MKTP US*VM72P5EK3	\$439.98	MICHELLE PRINZ
7/13/2023	CITY OF LANSING, MI	\$2.10	ED BESONEN

7/13/2023	THE HOME DEPOT #2723	\$107.02	DAVID LESTER
7/13/2023	GRAINGER	\$144.80	DANIEL OPSOMMER
7/14/2023	ASAP PRINTING	\$47.23	MICHAEL HAMEL
7/14/2023	THE HOME DEPOT #2723	\$15.76	THOMAS BAKER
7/14/2023	BARYAMES CLEANERS INC 12	\$54.92	MIKE DEVLIN
7/14/2023	DETROITNEWS.COM	\$11.99	MICHELLE PRINZ
7/14/2023	TOP HAT CRICKET FARM INC	\$26.89	CATHERINE ADAMS
7/14/2023	CITY OF LANSING, MI	\$0.97	ED BESONEN
7/14/2023	MEIJER # 025	\$40.20	ALLISON GOODMAN
7/17/2023	THE HOME DEPOT #2723	\$20.91	LAWRENCE BOBB
7/17/2023	THE HOME DEPOT 2723	\$399.22	TYLER KENNEL
7/17/2023	THE HOME DEPOT #2723	\$47.70	RYAN CAMPBELL
7/17/2023	CLEARY'S PUB	\$66.42	LUANN MAISNER
7/17/2023	QUALITY DAIRY 31280027	\$3.98	LUANN MAISNER
7/17/2023	QUALITY DAIRY 31280027	\$59.51	LUANN MAISNER
7/17/2023	THE HOME DEPOT 2723	\$329.00	KEITH HEWITT
7/17/2023	TRAVERSE CITY RECORD EAGL	\$17.99	MICHELLE PRINZ
7/17/2023	TITANHQ	\$300.00	DANIEL OPSOMMER
7/17/2023	BESCO WATER TREATMENT IN	\$29.50	DANIEL OPSOMMER
7/17/2023	BESCO WATER TREATMENT IN	\$23.00	DANIEL OPSOMMER
7/17/2023	SOLDAN S PET SUPPLIES	\$64.99	ALLISON GOODMAN
7/18/2023	BEST BUY 00004168	\$33.98	KYLE FOGG
7/18/2023	COMPLETE BATTERY SOURCE	\$12.48	AL DIAZ
7/18/2023	JIMMY JOHNS - 90055	(\$3.54)	LUANN MAISNER
7/18/2023	JIMMY JOHNS - 90055	(\$7.08)	LUANN MAISNER
7/18/2023	MERS OF MICHIGAN	\$255.00	MICHELLE PRINZ
7/18/2023	LANSINGSTATE JOURNAL	\$9.99	MICHELLE PRINZ
7/18/2023	FREEP.COM	\$14.99	MICHELLE PRINZ
7/18/2023	JIMMY JOHNS - 90055 - MOT	(\$3.54)	CATHERINE ADAMS
7/18/2023	PETSMART # 0724	\$45.48	CATHERINE ADAMS
7/18/2023	CITY OF LANSING, MI	\$1.65	ED BESONEN
7/19/2023	BEST BUY 00004168	\$35.97	LUANN MAISNER
7/19/2023	THE MINING JOURNAL	\$20.00	MICHELLE PRINZ
7/19/2023	AMAZON.COM*OL2JD9VV3 AMZN	\$21.99	MICHELLE PRINZ
7/19/2023	AMAZON.COM*D02FF7S93 AMZN	\$106.30	MICHELLE PRINZ
7/19/2023	AMZN MKTP US*D01SH1FC3 AM	\$11.99	MICHELLE PRINZ
7/19/2023	YOURMEMBERSHIP, INC.	\$249.00	MICHELLE PRINZ
7/19/2023	YOURMEMBERSHIP, INC.	\$150.00	MICHELLE PRINZ
7/19/2023	AMAZON.COM*N142B1JG3	\$11.26	MICHELLE PRINZ
7/19/2023	AMZN MKTP US*QD6M359N3	\$38.78	MICHELLE PRINZ
7/19/2023	AMAZON.COM*6T7DS32L3	\$7.20	MICHELLE PRINZ
7/19/2023	GANNETT NEWSRPR CN	\$9.99	MICHELLE PRINZ
7/19/2023	SOLDAN S PET SUPPLIES	\$11.94	CATHERINE ADAMS
7/19/2023	COVERT SCOUTING	\$32.99	ED BESONEN
7/19/2023	CITY OF LANSING, MI	\$1.42	ED BESONEN
7/19/2023	GARY AUSTIN ADVERTISING	\$742.00	BART CRANE
7/19/2023	MEIJER # 025	\$29.46	ALLISON GOODMAN
7/20/2023	THE HOME DEPOT #2723	\$40.86	LAWRENCE BOBB
7/20/2023	NORTHSIDE SERVICE	\$225.00	ROBERT STACY
7/20/2023	ZOOM.US 888-799-9666	\$449.85	STEPHEN GEBES
7/20/2023	4ALLPROMOS	\$400.00	RICHARD GRILLO
7/20/2023	OUTSHINER GRAND RIVER	\$200.00	ROBERT MACKENZIE
7/20/2023	CITY OF LANSING, MI	\$0.75	ED BESONEN
7/20/2023	THE HOME DEPOT #2723	\$24.68	DAVID LESTER
7/20/2023	TODOIST	\$36.00	PHIL DESCHAIINE

7/20/2023	AMZN MKTP US*JY5FC47I3	\$107.97	DANIEL OPSOMMER
7/21/2023	MEIJER # 025	\$2.29	MIKE DEVLIN
7/21/2023	AMZN MKTP US*8207M51K3	\$11.99	STEPHEN GEBES
7/21/2023	HARBOR FREIGHT TOOLS3459	\$139.96	KEITH HEWITT
7/21/2023	AMZN MKTP US*T93YN1KW3	\$2,849.97	DANIEL OPSOMMER
7/21/2023	THE HOME DEPOT #2723	\$27.96	DANIEL OPSOMMER
7/24/2023	JONES & BARTLETT LEARNING	\$308.85	MICHAEL HAMEL
7/24/2023	THE HOME DEPOT #2723	\$15.96	KYLE FOGG
7/24/2023	BAV INN LODGE-HOTEL	\$247.52	MICHELLE PRINZ
7/24/2023	MORNING STAR PUBLISHING	\$14.00	MICHELLE PRINZ
7/24/2023	AMZN MKTP US*6H6KN70Y3	\$167.84	MICHELLE PRINZ
7/25/2023	STATE OF MI EMS	\$25.00	MICHAEL HAMEL
7/25/2023	MICHIGAN MUNICIPAL LEAGUE	\$1,785.00	MICHELLE PRINZ
7/25/2023	CITY OF LANSING, MI	\$0.52	ED BESONEN
7/25/2023	COMCAST	\$165.08	BART CRANE

Total	\$16,508.25
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ACH Transactions

Date	Payee	Amount	Purpose
7/6/2023	Blue Care Network	\$ 20,948.67	Employee Health Insurance
7/7/2023	MERS	\$ 329,993.95	Employee Retirement
7/7/2023	Health Equity	\$ 22.65	Employee Health Savings
7/7/2023	Alerus	\$ 12,550.89	Payroll Deductions 07/14/2023
7/10/2023	Delta Dental	\$ 13,936.26	Employee Dental Insurance
7/11/2023	Invoice Cloud	\$ 1,636.55	Utility Transaction Fees
7/12/2023	MCT Utilities	\$ 777.37	Water/Sewer
7/12/2023	Blue Care Network	\$ 33,783.50	Employee Health Insurance
7/13/2023	Consumers Energy	\$ 45,641.79	Utilities
7/14/2023	Nationwide	\$ 7,313.00	Payroll Deductions 07/14/2023
7/14/2023	Various Financial Institutions	\$ 319,211.28	Direct Deposit 07/14/2023
7/14/2023	IRS	\$ 113,487.82	Payroll Taxes 07/14/2023
7/17/2023	ELAN	\$ 19,622.89	Credit Card Payment
7/17/2023	ICMA	\$ 45,549.01	Payroll Deductions 07/14/2023
7/18/2023	Health Equity	\$ 1,851.89	Employee Health Savings
7/19/2023	Blue Care Network	\$ 6,740.03	Employee Health Insurance
7/24/2023	MCT Utilities	\$ 318.52	Water/Sewer
	Total ACH Payments	\$ 973,386.07	

REIMBURSEMENT TO TOWNSHIP:

Date	Employee Name	Amount	Summary of Reimbursement	Transaction Reimbursed
7/10/2023	Frank Walsh	\$45.45	Sales Tax on Four Lunch Meetings transactions - Receipt #207355	\$2.25 - Lucky's - \$.82 Grand Traverse Pie Company - \$29.16 Watershed (Administrative Professionals Luncheon) and \$13.22 Looking Glass Brewery



To: Board Members

9-D

From: Phil Deschaine, Treasurer

Date: July 27, 2023

Re: Second Quarter 2023 Investment Report

Attached is the second quarter of 2023 Investment Report from the Treasurer's office. It lists the current fixed and non-fixed Meridian Township investments, transfers and the financial institutions that are holding Township investments.

Our Non-Fixed investments are reduced by 4.4 million from the first quarter's reports as we have moved money from the Michigan Class investment pool to our Horizon accounts to pay operating expenses and cover payroll for the Township.

On July 26 2023, the Federal Reserve Bank increased interest rates by 25 basis points, (one-quarter of a percent). Over the past 16 months the Fed has increased interest rates by 525 basis points (5.25%). These increases have allowed the Township to continue investing in short-term, safe investments that also have high yields. As a result, our interest earnings will very likely remain high for the rest of this year and for most of 2024.

06/30/2023

CURRENT INVESTMENTS

Treasurer's Office

Bank	Amount Fixed	Amount Non-Fixed	Total Investment
Horizon	\$ -	\$ 212,715.28	\$ 212,715.28
MBS	\$ 19,900,852.36	\$ -	\$ 19,900,852.36
MI Class	\$ -	\$ 30,232,169.71	\$ 30,232,169.71
MSU Federal CU	\$ 2,041,507.55	\$ 771,477.39	\$ 2,812,984.94
First Nat'l Bank of MI	\$ 3,075,906.60	\$ -	\$ 3,075,906.60
Commercial Bank	\$ 3,041,909.53	\$ -	\$ 3,041,909.53
Independent	\$ 3,000,000.00	\$ -	\$ 3,000,000.00
PNC	\$ -	\$ -	\$ -
Totals	\$ 31,060,176.04	\$ 31,216,362.38	\$ 62,276,538.42
% of total investment	50%	50%	100%

Each investment institution has received and signed the Meridian Charter Township Investment Policy and Agreement to Comply.

The signed agreement specifies that they are adhering to Public Act 20.

6/30/2023

CURRENT FIXED MATURITY INVESTMENTSTreasurer's
Office

Maturity	Fund	Investment	Principal	Purc Date	Int. Rate	Certificate
07/31/30	general fund	JP Morgan Chase (MBS)	90,000.00	07/31/20	1.200%	48128UHQ5
09/30/26	general fund	First Natl Bk Amer (MBS)	1,000,000.00	09/30/21	0.850%	32110YUJ2
05/01/30	general fund	FNMA (MBS)	1,946,467.00	04/27/22	1.895%	3140HYAD0
09/30/24	general fund	United States Treas (MBS)	961,410.00	09/13/22	2.125%	9128282Y5
09/30/25	general fund	United States Treas (MBS)	3,849,080.00	09/13/22	3.000%	9128285C0
08/15/27	general fund	United States Treas (MBS)	7,392,480.00	09/14/22	2.250%	9128282R0
			15,239,437.00			
05/01/30	land pres	FNMA (MBS)	135,406.40	05/01/22	1.895%	3140HYAD0
			135,406.40			
10/01/24	land pres res	FNMA (MBS)	849,968.96	07/30/19	2.470%	3138LK5L7
09/01/31	land pres res	FNMA (MBS)	846,040.00	10/28/19	2.305%	3140HVYK4
10/28/26	land pres res	Federal Home Ln (MBS)	500,000.00	12/01/21	1.150%	3130APGT6
12/30/24	land pres res	Federal Home Ln (MBS)	330,000.00	12/30/21	1.000%	3130AQA37
			2,526,008.96			
09/29/28	public works	First Natl Bk Amer (MBS)	2,000,000.00	9/23/2021	1.100%	32110YUG8
			2,000,000.00			
09/01/23	road imp	Commercial Bank	1,011,224.37	09/01/22	1.500%	3200101014
09/01/24	road imp	Commercial Bank	2,030,685.16	09/01/22	2.050%	3200101015
09/02/23	road imp	First National Bank of MI	1,022,315.77	09/02/22	2.650%	310029491
09/02/24	road imp	First National Bank of MI	1,026,581.64	09/02/22	3.150%	310029509
09/02/25	road imp	First National Bank of MI	1,027,009.19	09/02/22	3.200%	310029525
09/01/23	road imp	Independent Bank	2,000,000.00	09/01/22	1.900%	29203823404
09/01/24	road imp	Independent Bank	1,000,000.00	09/01/22	2.250%	29203823413
09/01/25	road imp	MSUFCU	2,041,507.55	09/01/22	2.510%	367213-C4
			11,159,323.68			
Total Fixed Investments \$			31,060,176.04			

CURRENT NON-FIXED MATURITY INVESTMENTS

PURCH. DATE	FUND	ACCOUNT NUMBER	INVESTMENT	PRINCIPAL	CURRENT RATE	INVESTMENT TYPE
08/01/02	GF	RMB-005463	MBS	\$ -	0.00%	money market
05/12/08	GF	0289-0001	MI Class	\$ 1,078,814.97	5.2602%	pooled funds
05/12/08	GF	0289-0003	MI Class	\$ 10,485,841.32	5.2602%	pooled funds
12/23/21	GF	0289-E001	MI Class Edge	\$ -	0.00%	pooled funds
05/20/09	GF	367213-06	MSU Fed. CU	\$ 5.00	0.00%	savings
05/28/09	GF	367213-26	MSU Fed. CU	\$ 771,472.39	3.00%	money market
Total				\$ 12,336,133.68		
08/01/02	LP	RMB-007923	MBS	\$ -	0.00%	money market
05/12/08	LP	0289-0006	MI Class	\$ 3,820,252.05	5.2602%	pooled funds
Total				\$ 3,820,252.05		
08/01/02	LP-R	RMB-008103	MBS	\$ -	0.00%	money market
01/16/09	LP-R	7602000113	Horizon	\$ 212,715.28	1.800%	money market
05/12/08	LP-R	0289-0008	MI Class	\$ 468,690.90	5.2602%	pooled funds
Total				\$ 681,406.18		
08/01/02	PM	RMB-008145	MBS	\$ -	0.00%	money market
09/30/08	PM	0289-0007	MI Class	\$ 1,526,719.95	5.2602%	pooled funds
Total				\$ 1,526,719.95		
5/17/2022	PW	0289-0002	MI Class	\$ 12,783.92	5.2602%	pooled fund
Total				\$ 12,783.92		
08/01/02	SF	RMB-007907	MBS	\$ -	0.00%	money market
05/27/22	SF	0289-0004	MI Class	\$ 6,226,772.10	5.2602%	pooled fund
Total				\$ 6,226,772.10		
12/01/09	PA	RMB-027657	MBS	\$ -	0.00%	money market
Total				\$ -		
02/08/13	TA	0289-0003	MI Class	\$ -	0.00%	pooled funds
Total				\$ -		
08/01/02	WF	RMB-007915	MBS	\$ -	0.00%	money market
05/22/09	WF	0289-0005	MI Class	\$ 2,075,437.61	5.2602%	pooled funds
Total				\$ 2,075,437.61		
03/09/17	BP	0289-0009	MI Class	\$ 2,036,305.75	5.2602%	pooled funds
Total				\$ 2,036,305.75		
03/09/17	RDS	0289-0010	MI Class	\$ 2,500,551.14	5.2602%	pooled funds
Total				\$ 2,500,551.14		
12/6/2019	RDIMP	RMB-039025	MBS	\$ -	0.00%	money market
Total				\$ -		
Total Non-Fixed Investments				\$ 31,216,362.38		
Total Fixed and Non-Fixed Investments				\$ 62,276,538.42		

FIXED MATURITY INVESTMENT TRANSACTIONS FOR APRIL - JUNE 2023

4/2/2023	ROAD DEBT IMPROVEMENT		
	Monthly interest received on 3 First National Bank of MI CDs	\$	7,769.48
4/10/2023	GENERAL FUND		
	Transferred funds from MI Class to Hoirzon checking	\$	3,000,000.00
4/30/2023	GENERAL FUND		
	Principal payment received on MBS agency funds	\$	3,753.15
4/30/2023	LAND PRESERVATION		
	Principal payment received on MBS agency fund	\$	261.09
4/30/2023	LAND PRESERVATION RESERVE		
	Principal payment received on MBS agency funds	\$	6,757.11
4/30/2023	PUBLIC WORKS		
	Principal payment received on MBS agency fund	\$	1,868.49
4/30/2023	ROAD DEBT IMPROVEMENT		
	Monthly interest received on MSU CD C4	\$	4,130.72
5/2/2023	ROAD DEBT IMPROVEMENT		
	Monthly interest received on 3 First National Bank of MI CDs	\$	7,537.84
5/31/2023	GENERAL FUND		
	Principal payment received on MBS agency funds	\$	5,052.63
5/31/2023	LAND PRESERVATION		
	Principal payment received on MBS agency funds	\$	252.67
5/31/2023	LAND PRESERVATION RESERVE		
	Principal payment received on MBS agency funds	\$	3,756.87
5/31/2023	PUBLIC WORKS		
	Principal payment received on MBS agency fund	\$	1,808.22
5/31/2023	ROAD DEBT IMPROVEMENT		
	Monthly interest received on MSU CD C4	\$	4,277.10

6/1/2023	ROAD DEBT IMPROVEMENT		
	Quarterly interest earned on 2 Commercial Bank CDs	\$	14,139.68
6/2/2023	ROAD DEBT IMPROVEMENT		
	Monthly interest received on 3 First National Bank of MI CDs	\$	7,808.80
6/21/2023	GENERAL FUND		
	Transferred funds from MI Class to Hoirzon checking	\$	1,700,000.00
6/23/2023	ROAD DEBT IMPROVEMENT		
	Transferred funds from MI Class to Horizon checking	\$	200,000.00
6/30/2023	GENERAL FUND		
	Principal payment received on MBS agency funds	\$	4,475.07
6/30/2023	LAND PRESERVATION		
	Principal payment received on MBS agency fund	\$	261.09
6/30/2023	LAND PRESERVATION RESERVE		
	Principal payment received on MBS agency funds	\$	5,532.11
6/30/2023	PUBLIC WORKS		
	Principal payment received on MBS agency fund	\$	1,868.49
6/30/2023	ROAD DEBT IMPROVEMENT		
	Monthly interest received on MSU CD C4	\$	4,147.84

NON FIXED INVESTMENT TRANSACTIONS FOR APRIL - JUNE 2023

4/30/2023	GENERAL FUND		
	Ach'd funds from MBS money market to Horizon Checking	\$	3,753.15
4/30/2023	LAND PRESERVATION		
	Ach'd funds from MBS money market to Horizon Checking	\$	261.09
4/30/2023	LAND PRESERVATION RESERVE		
	Ach'd funds from MBS money market to Horizon Checking	\$	6,757.11
4/30/2023	PUBLIC WORKS		
	Ach'd funds from MBS money market to Horizon Checking	\$	1,868.49

5/31/2023	GENERAL FUND		
	Ach'd funds from MBS money market to Horizon Checking	\$	5,052.63
5/31/2023	LAND PRESERVATION		
	Ach'd funds from MBS money market to Horizon Checking	\$	252.67
5/31/2023	LAND PRESERVATION RESERVE		
	Ach'd funds from MBS money market to Horizon Checking	\$	3,756.87
5/31/2023	PUBLIC WORKS		
	Ach'd funds from MBS money market to Horizon Checking	\$	1,808.22
6/30/2023	GENERAL FUND		
	Ach'd funds from MBS money market to Horizon Checking	\$	4,475.07
6/30/2023	LAND PRESERVATION		
	Ach'd funds from MBS money market to Horizon Checking	\$	261.09
6/30/2023	LAND PRESERVATION RESERVE		
	Ach'd funds from MBS money market to Horizon Checking	\$	5,532.11
6/30/2023	PUBLIC WORKS		
	Ach'd funds from MBS money market to Horizon Checking	\$	1,868.49



12 A



Meridian Township

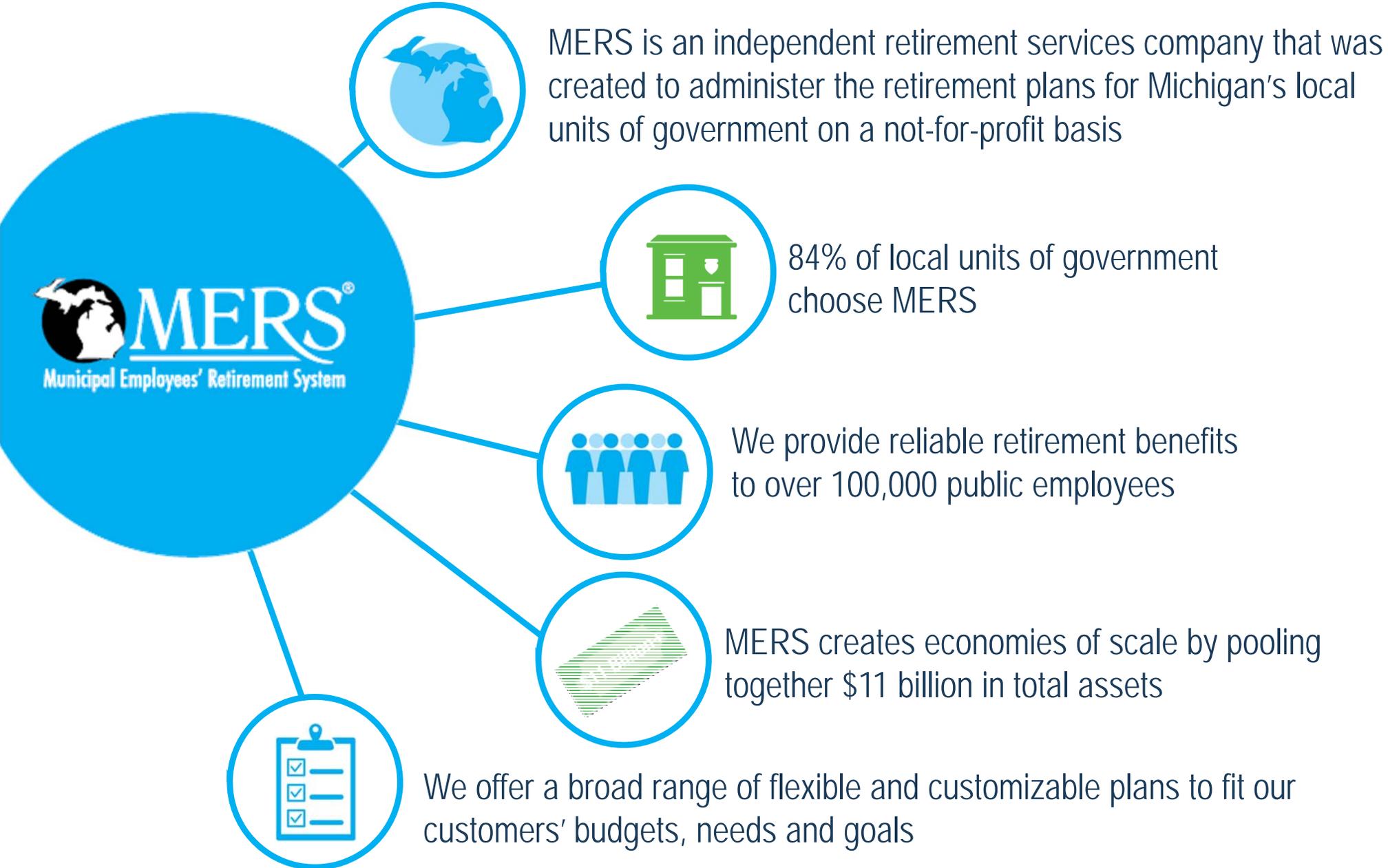
MERS 457 Program

Prepared: December 2019

Data: September 30, 2019



MERS of Michigan



An Independent Elected Board

- MERS is governed by an elected board that operates without compensation
- Our board is committed to accountability and transparency; holding the line on costs; and watching out for the best interest of our members
- MERS provides customers with peace of mind because the ***MERS Retirement Board takes on the sole fiduciary responsibility of their plan***



MERS Retirement Board

is responsible for administration of the system with fiduciary responsibility for the investment of assets and oversight.

Plan Administration

MERS provides full service administration of our retirement plans



Fiduciary Responsibility

- With recent high-profile class action suits alleging violation of fiduciary duty, employers need to manage fiduciary risks
- When fiduciary breaches occur there can be:
 - Personal liability
 - Fines and penalties
 - Legal action
 - Plan disqualification
 - Higher operating expenses



MERS is the Fiduciary... So What?

- Providing fiduciary oversight means we aren't simply another third-party vendor
- Fiduciaries are subject to standards of conduct and must act on behalf of participants
- Responsibilities:
 - Adherence to plan document
 - Investment oversight
 - Ensure reasonable expenses

As the sole fiduciary, MERS provides our members with:



Oversight



Administration



Investment Monitoring



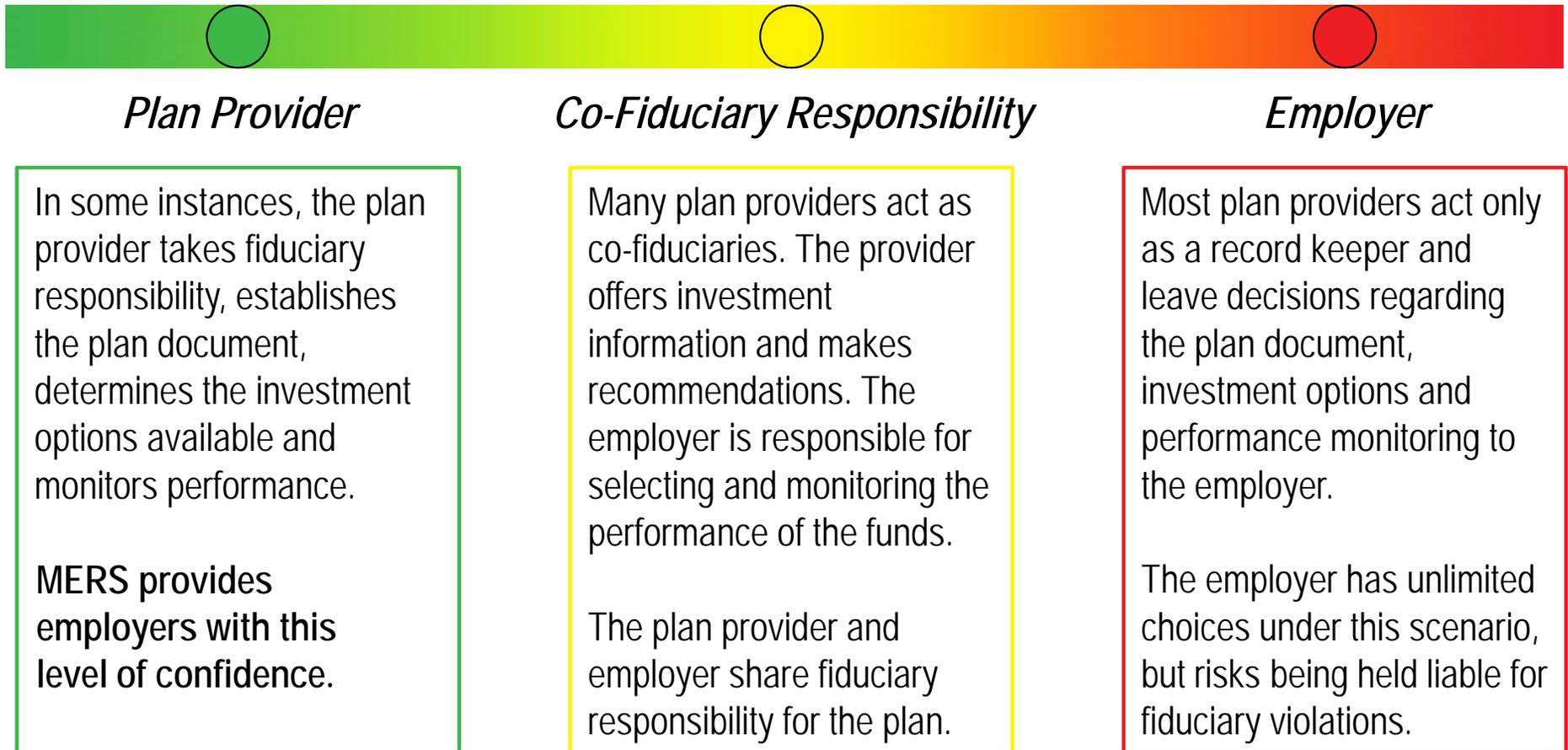
Low Plan Costs



Participant Education

Degrees of Fiduciary Responsibility

When it comes to the fiduciary responsibility for your retirement plan, not all plan providers assume the same degree of responsibility





MERS Investments

Is a Bigger Investment Menu Better?

Psychologists have concluded that an overload of options can paralyze people or push them into decisions that are against their own best interest.



When Less is Actually More

A study on shopping behavior experimented with jam displays. One table held 24 varieties of gourmet jam; the other held only 6 varieties. The large display attracted more interest, but people were 1/10th as likely to buy from the large display as from the small display.

The same principle of “less is more” was found to apply to participation rates in retirement programs. A large number of fund choices actually *discourages participation* amongst even well informed participants.^{1, 2}

¹ Mottola, Gary and Utkus, Stephen. “Can There Be Too Much Choice In a Retirement Savings Plan?” The Vanguard Center for Retirement Research, June 2003

² Schwartz, Barry. “More Isn’t Always Better.” Harvard Business Review, 01 June 2006. Web. 24 Feb. 2016

Simplified Investment Options

- Our streamlined investment menu is a sophisticated set of selections by our experienced investment professionals
- MERS performs the necessary research, due diligence and monitoring to ensure high-quality options
- MERS offers several fully diversified, professionally managed portfolios that provide access to funds not otherwise available with other providers
- Our pre-built portfolio funds use outside institutional investment managers that are selected and monitored by the MERS Office of Investments and Retirement Board

Investment Categories



“Do it for me”

Fully diversified target date funds that automatically adjust over time



“Help me do it”

Prebuilt portfolios that are monitored and rebalanced quarterly



“I’ll do it myself”

Self-Directed Brokerage Account to access funds outside of MERS

MERS Investment Menu Resources

Using research and best practices, MERS developed our investment information to assist investors of every experience level:

2019 MERS Investment Menu Summary

Performance and Fee Summary with Categories

Fund Name	Position of Assets	1yr	3yr	5yr	YTD	YTD Annual
MERS 2015 Retirement
MERS 2020 Retirement
MERS 2025 Retirement Strategy
MERS Capital Appreciation
MERS Established Market
MERS Established Market Fund
MERS Divd-Term
MERS Diversified Bond
MERS Mid-Cap Fund

Performance and Fee Summary with Categories



Overview Booklet with Glossary of Terms

MERS 2015 Retirement

MERS 2020 Retirement

MERS 2025 Retirement Strategy

MERS Capital Appreciation

MERS Established Market

MERS Established Market Fund

MERS Divd-Term

MERS Diversified Bond

MERS Mid-Cap Fund

Detailed Fund Sheets

Detailed Fund Sheets

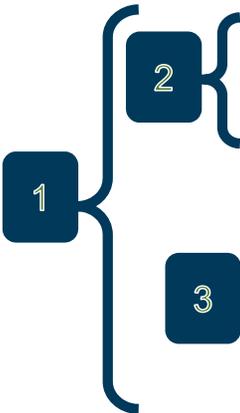
Straightforward Costs

Our members benefit from the economies of scale and low administrative costs that come with being part of a large pool of assets.

As of 6/30/2019, our asset-weighted average fund cost is just 0.41%.

- 1 MERS clearly discloses the fees charged for custodial, recordkeeping, operating and investment management costs, following the Department of Labor guidelines.
- 2 MERS charges the same administrative fees and recordkeeping costs on each of our professionally managed portfolios.
- 3 MERS reimburses all revenue sharing received from outside mutual funds directly to participants.

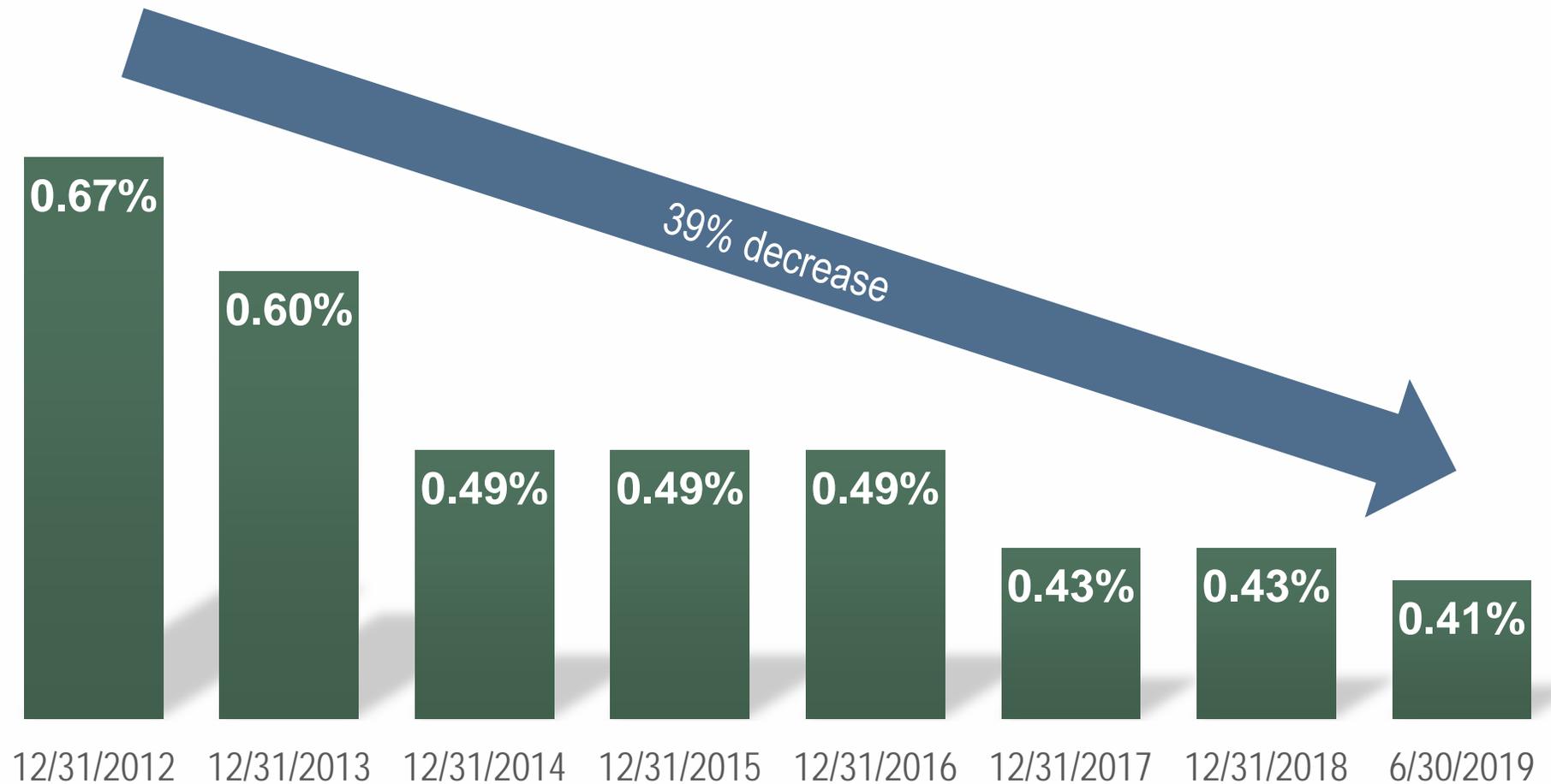
International Stock Index Fund (as of 6/30/2019)



1	2	MERS Operating Costs: Costs to run the day-to-day operations of the plan, which include legal, accounting, auditing, compliance, printing and overhead costs.	0.15%
		Custody and Recordkeeping Costs: Costs related to bookkeeping, settling trade activity, and holding assets in custody at a bank.	0.15%
	Investment Management Expense: All costs incurred in the overall management of the fund. The Investment Management Expense varies based on the level of assets. As assets increase, the Investment Management Expense is expected to decline.	0.09%	
	3	Fund Company Rebate: The Fund Company Rebate is a reimbursement from the fund company for services provided by our recordkeeper.	0.00%
	Total Annual Operating Expense: The Total Annual Operating Expense reduces the rate of return of the investment option. A Total Annual Operating Expense of 0.39% means that for every \$1,000 invested in the fund, a participant is charged \$3.90 in fees a year.		0.39%

A History of Cost Reduction

Asset-Weighted Average Fund Expense



The MERS asset-weighted average fund cost is determined by the percentage of assets participants invest in each fund offered on the MERS Defined Contribution Plan and MERS 457 Program Investment Menu.

457 Provider Comparison *ICMA-RC*

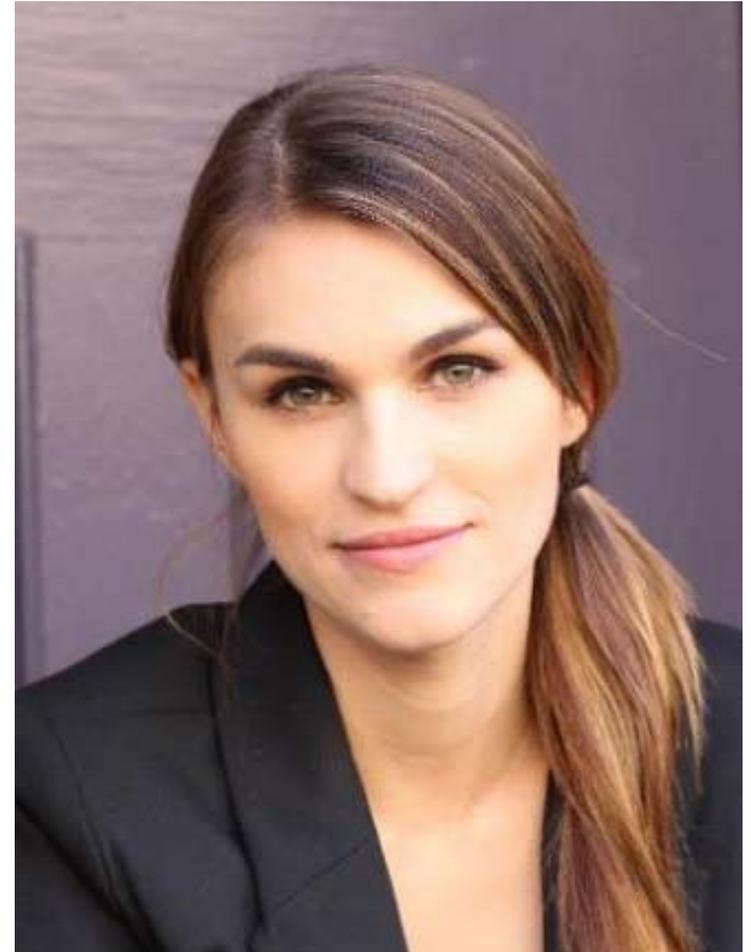
September 30, 2019 <i>(Appendix III)</i>	ICMA-RC	MERS	<i>Difference</i>
<i>Expense</i>			
Asset-Weighted Average Expense	0.68%	0.43%	-0.25%
<i>Total Impact (Performance, Less Fund Fees)</i>			
1-Year Asset-Weighted Average Performance	2.42%	2.46%	0.04%
3-Year Asset-Weighted Average Performance	8.11%	7.92%	-0.19%
5-Year Asset-Weighted Average Performance	6.32%	6.49%	0.17%

- 1) The Asset-Weighted Average is calculated by multiplying expense or performance by the percentage of assets held in each fund.
- 2) Meridian Township provided MERS with its ICMA-RC "Quarterly Financial Report" for 7/1/2019 – 9/30/2019, which provides information for the asset balance and performance of each fund.
- 3) The funds are mapped to the closest "like-style" asset class available on the MERS investment menu, as shown in the corresponding appendix.
- 4) 1, 3, and 5-Year Impact (Performance, Less Fund Fees) are used because several funds do not have longer performance history.
- 5) The fees reflected for ICMA-RC include each fund's "Net Expense Ratio" for ICMA-RC R1 share class, as provided to MERS by Meridian Township in its "Fund Performance Quarterly Report as of 9/30/2019." These fees are shown in Appendix I.
- 6) The fees reflected for MERS include all operating, custody, recordkeeping, and investment management expense charged by MERS as shown in Appendix II.
- 7) The asset-weighted averages shown above are not intended to show actual expense or performance experienced by the plan during the periods shown because the calculation does not account for plan activity (i.e. contributions, distributions, participant transfers between investment options) during the periods. The asset-weighted averages reflect a hypothetical illustration based on assets held in each investment option as reported at a specific point in time.

Why Fund Costs Matter *Hypothetical Example*

Meet Sara

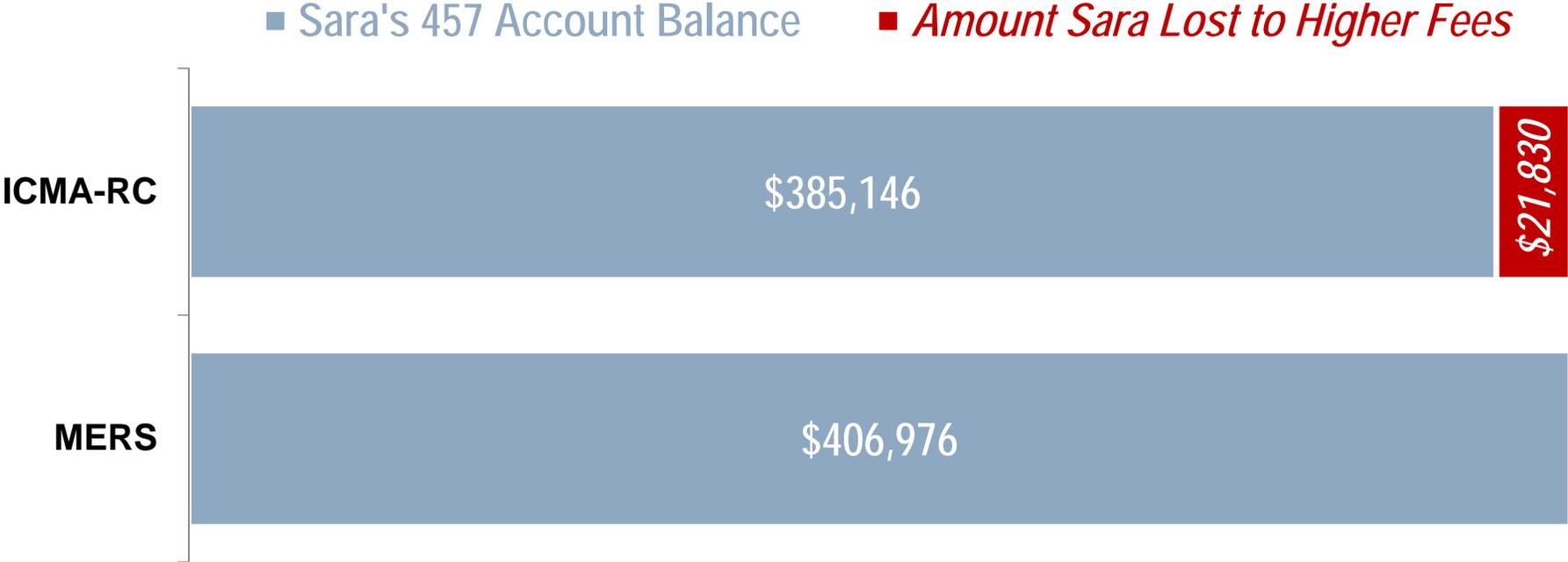
- Sara is 30 years old, currently makes \$48,000 a year, and anticipates a 2% annual salary increase
- Sara makes bi-weekly contributions of 5% of her salary into her 457 Program account
- Her 457 account currently has \$10,000
- She anticipates a 7% investment return *before factoring in the investment expenses*
- Sara plans to retire at age 62
 - She plans to receive her balance through equal monthly payments until age 90 (*28 years of payments*)
 - She anticipates a lower investment return of 5% during her retirement, before factoring in the investment expenses



Sara's Balance at Retirement *(Appendix IV)*

The below comparison shows the impact of higher costs during Sara's projected **accumulation phase**.

Investing with MERS would provide Sara with 6% more at retirement!

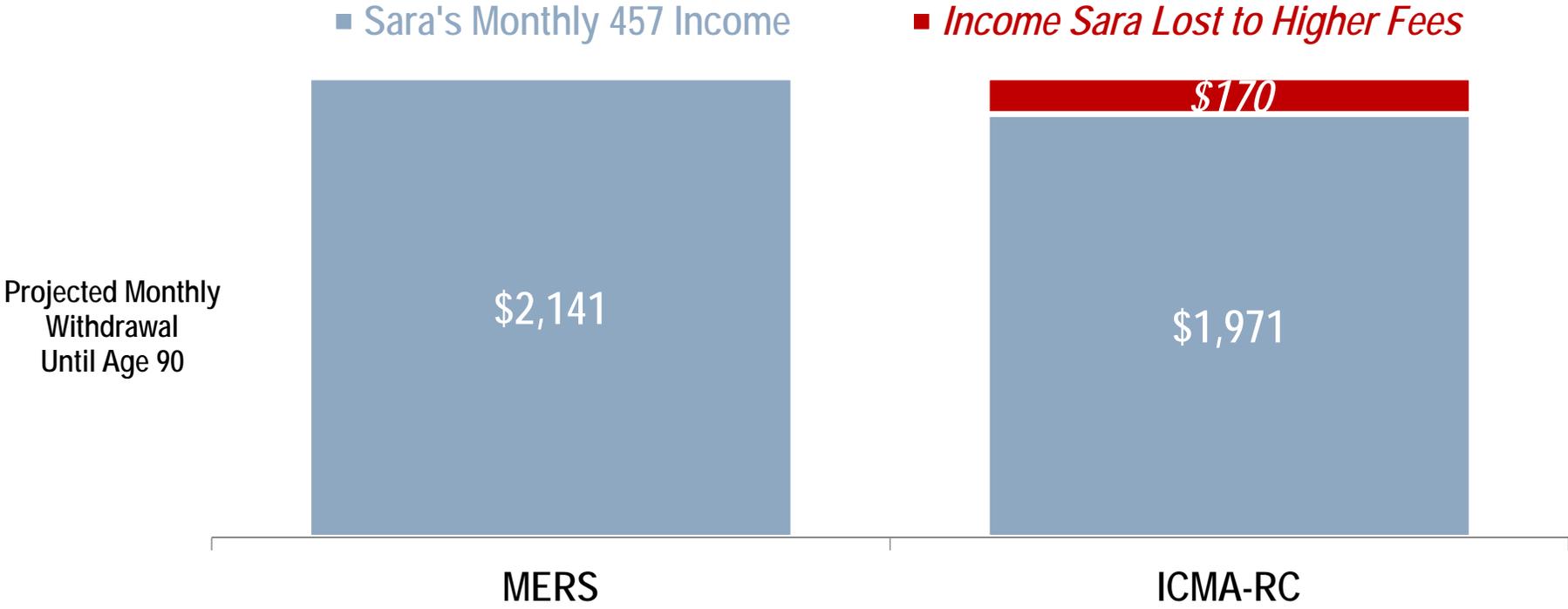


Provider Weighted Average Expenses: *ICMA-RC – 0.68%; and MERS – 0.43%*

Monthly Income in Retirement *(Appendix V)*

The below comparison shows the impact of higher costs during Sara's projected ***distribution phase***.

Investing with MERS would provide Sara 9% more monthly income in retirement!



Provider Weighted Average Expenses: ICMA-RC – 0.68%; and MERS – 0.43%



Participant Education and Resources

Retirement Readiness Reports

- Retirement readiness Snapshot Reports provide individual guidance at no additional cost to you or your employees
- Employees can then go online and create their Full Picture Report, a free interactive online tool that allows them to develop a comprehensive picture of their retirement readiness
- Using *Guidance Plus*, the report identifies an employee's risk tolerance and provides customized suggestions for improving their preparedness

Retirement Readiness Snapshot Reports



Consolidated Statements

- Consolidated statements show how participant directed accounts will work together to provide income in retirement
- Includes estimated monthly withdrawal at retirement

SAMPLE COMPANY INC.
ONE CORPORATE DRIVE
SAMPLE CITY US 54321

MERS
Member of the Retirement Group
CALL CENTER 800.767.MERS (6377)
WWW.MERSOFMICH.COM

JANE O SAMPLE
2 YOUR STREET
SAMPLE CITY US 54321

PERIOD
10.01
12.31

YOUR TOTAL ACCOUNT BALANCE
\$189,855.21

CURRENT ACCOUNT BALANCE
\$189,855.21

PROJECTED ACCOUNT BALANCE AT RETIREMENT
\$2,246,366.94

ESTIMATED MONTHLY WITHDRAWAL AT RETIREMENT
\$11,982.86

This is an estimate of the amount you may expect to withdraw from your account each month, beginning at retirement age and ending at age 90. This is a hypothetical illustration which may help you when planning for retirement and is not a guarantee of a future account balance or income. Your actual account balance and income at retirement will vary based upon a number of factors. We have used the following assumptions for this illustration:

- Your retirement age will be the latter of age 65 or one year from this statement date.
- Your current year annual contributions to your account are assumed to be the same as were made during the previous 12-month period, excluding rollovers. A 2.1% growth rate is applied to your contributions for each subsequent year until your assumed retirement age.
- Your rate of return to retirement is based on the application of a Monte Carlo analysis of your current investments (assuming a 50% probability of future performance).
- Your remaining account balance is assumed to have a 5% return each year in retirement until age 90.
- Account balances are not adjusted for inflation. The computed monthly income at retirement is assumed to grow at a 2.1% inflation rate each year in retirement.
- You will not borrow or withdraw from your account.
- The monthly withdrawals will deplete your entire account by age 90.

ACCOUNT SUMMARY

	DC ACCOUNT	457 ACCOUNT	NCSF ACCOUNT	IRA ACCOUNT
Beginning Balance on 1.1.18	\$XX,XXX,XXX.XX	\$XX,XXX,XXX.XX	\$XX,XXX,XXX.XX	\$XX,XXX,XXX.XX
Contributions	\$XX,XXX.XX	\$XX,XXX.XX	\$XX,XXX.XX	\$XX,XXX.XX
Gain/Loss	\$XX,XXX.XX	\$XX,XXX.XX	\$XX,XXX.XX	\$XX,XXX.XX
Distributions	\$XX,XXX.XX	\$XX,XXX.XX	\$XX,XXX.XX	\$XX,XXX.XX
Fees/Expenses	\$XX,XXX.XX	\$XX,XXX.XX	\$XX,XXX.XX	\$XX,XXX.XX
Other	\$XX,XXX.XX	\$XX,XXX.XX	\$XX,XXX.XX	\$XX,XXX.XX
Ending Balance on 12.31.2017	\$XX,XXX,XXX.XX	\$XX,XXX,XXX.XX	\$XX,XXX,XXX.XX	\$XX,XXX,XXX.XX
Your Personal Rate of Return				
This Period	X.XX%	X.XX%	X.XX%	X.XX%
Year To Date	X.XX%	X.XX%	X.XX%	X.XX%

SAMPLE COMPANY RETIREMENT SAVINGS PLAN

12.31.2017 | 1

Financial Wellness

- Financial wellness is a program or set of programs designed to improve employees' financial behavior and outcomes while also driving business impact
- MERS offers holistic support to employees so they can meet short-term needs while working toward long-range goals



Resources



One Click Away

- To keep up with trending information related to retirement follow us on Facebook, Twitter, LinkedIn and YouTube
- Our website provides helpful calculators and other retirement resources



Quick Bite Webinars

- Our webinar series delivers online education
- Participants can tune in live and ask questions or view recorded sessions from the library of topics any time



Pizza & Planning

- Free, local education for employees held after traditional work hours
- Hosted at various locations throughout the state



On-site education

- Group presentation can be held at your location during work hours or whenever is convenient for your employees
- Attend benefit fairs
- Meetings for all MERS programs



Benefits of Partnering with MERS

- ✓ Full fiduciary responsibility and plan compliance
- ✓ More options for 457 Participants
 - Traditional Pre-Tax Contributions (Taxable Distributions)
 - Roth After-Tax Contributions (Tax-Free Distributions)
 - Self-Directed Brokerage Accounts
- ✓ Customer service excellence
 - Participant education
 - Employer resources
 - MERS Regional Team
- ✓ Cost effective benefits
 - No cost to the employer
 - Low participant fees
- ✓ Participant Resources
 - Consolidated Statements
 - Guidance Plus
 - Retirement readiness



Appendices

Appendix I *ICMA-RC Fund Expenses*

ICMA-RC	
Fund	Net Expense Ratio
Milestone Ret Inc	1.21%
Milestone 2015	1.25%
Milestone 2020	1.27%
Milestone 2025	1.29%
Milestone 2030	1.31%
Milestone 2035	1.32%
Milestone 2040	1.34%
Milestone 2045	1.34%
Milestone 2050	1.34%
Milestone 2055*	1.34%
<i>Average Target Date Fund</i>	<i>1.30%</i>
MP Global Equity Gr	1.43%
MP Long-Term Gr	1.36%
MP Traditional Gr	1.34%
MP Conservative Gr	1.31%
Fidelity Puritan	1.08%
Retirement Income Adv	2.25%
<i>Average Portfolio Fund</i>	<i>1.46%</i>
Equity Income	1.25%
Invesco Diversified Div	1.11%
MFS Value*	1.13%
500 Stock Index	0.94%
Broad Mkt Index	0.94%
Growth & Income	1.17%
Parnassus Core Eq*	1.42%
Invs Opp Main Street	1.17%
Growth	1.30%

ICMA-RC	
Fund	Net Expense Ratio
Contrafund	1.37%
TRP Growth Stock	1.47%
Select Value	1.46%
Victory Syc Est Val*	1.17%
Aggr Opportunities	1.28%
AMG TS Mid Cap Gr	1.73%
Car Eagle MC Gr*	1.30%
LSV SC Val*	1.61%
M/S Co Index	0.94%
Discovery	1.33%
Inv Opp Discovery	1.39%
ClearBridge Intl Val*	1.46%
International	1.55%
Overseas Eq Index	0.99%
Diversified International	1.36%
Emrgng Mrkts*	1.73%
Nuveen RE Securities	1.57%
<i>Average Stock Fund</i>	<i>1.31%</i>
Plus Fund	1.35%
Cash Management	0.98%
Core Bond Index	0.94%
WA Core Plus Bond*	1.00%
Inflation Focused	1.16%
PIMCO High Yield	1.39%
<i>Average Fixed Income Fund</i>	<i>1.14%</i>
<i>Arithmetic Average - ALL Funds</i>	<i>1.31%</i>

*Denotes a fund that does not have a 1-Year, 3-Year, and/or a 5 Year performance, so the performance shown for that incomplete period is for the most similar fund on the ICMA-RC investment menu.

Appendix II *MERS Fund Expenses*

MERS Funds (as of 9/30/2019)					
Target Date Funds	Investment Management Expense¹	Fund Rebate²	Custody & Record-keeping Costs³	MERS Operating⁴	Total Annual Expense
2005 Retirement Strategy	0.10%	0.00%	0.13%	0.15%	0.38%
2010 Retirement Strategy	0.11%	0.00%	0.13%	0.15%	0.39%
2015 Retirement Strategy	0.11%	0.00%	0.13%	0.15%	0.39%
2020 Retirement Strategy	0.12%	0.00%	0.13%	0.15%	0.40%
2025 Retirement Strategy	0.12%	0.00%	0.13%	0.15%	0.40%
2030 Retirement Strategy	0.12%	0.00%	0.13%	0.15%	0.40%
2035 Retirement Strategy	0.12%	0.00%	0.13%	0.15%	0.40%
2040 Retirement Strategy	0.12%	0.00%	0.13%	0.15%	0.40%
2045 Retirement Strategy	0.12%	0.00%	0.13%	0.15%	0.40%
2050 Retirement Strategy	0.12%	0.00%	0.13%	0.15%	0.40%
2055 Retirement Strategy	0.12%	0.00%	0.13%	0.15%	0.40%
2060 Retirement Strategy	0.12%	0.00%	0.13%	0.15%	0.40%
Average Target Date Fund					0.40%
Target Risk/Balanced Funds					
MERS Global Stock Portfolio (100/0)	0.27%	0.00%	0.13%	0.15%	0.55%
MERS Capital Appreciation Portfolio (80/20)	0.22%	0.00%	0.13%	0.15%	0.50%
MERS Established Market Portfolio (60/40)	0.23%	0.00%	0.13%	0.15%	0.51%
MERS Total Market Portfolio	0.28%	0.00%	0.13%	0.15%	0.56%
MERS Balanced Income Portfolio (40/60)	0.25%	0.00%	0.13%	0.15%	0.53%
MERS Capital Preservation Portfolio (20/80)	0.23%	0.00%	0.13%	0.15%	0.51%
MERS Diversified Bond Portfolio (0/100)	0.27%	0.00%	0.13%	0.15%	0.55%
Average Asset Allocation Fund					0.53%

Appendix II *MERS Fund Expenses*

MERS Funds (as of 9/30/2019)					
Stock Funds	Investment Management Expense¹	Fund Rebate²	Custody & Record-keeping Costs³	MERS Operating⁴	Total Annual Expense
Large Cap Stock Index	0.05%	0.00%	0.13%	0.15%	0.33%
Mid Cap Stock Index	0.05%	0.00%	0.13%	0.15%	0.33%
Small Cap Stock Index	0.05%	0.00%	0.13%	0.15%	0.33%
International Stock Index	0.08%	0.00%	0.13%	0.15%	0.36%
Emerging Market Stock	0.29%	0.00%	0.13%	0.15%	0.57%
Real Estate Stock	0.88%	-0.45%	0.13%	0.15%	0.71%
Average Stock Fund					0.44%
Fixed Income Funds					
Stable Value	0.30%	0.00%	0.13%	0.15%	0.58%
Short-Term Income	0.05%	0.00%	0.13%	0.15%	0.33%
Bond Index	0.15%	0.00%	0.13%	0.15%	0.43%
High Yield Bond	0.59%	0.00%	0.13%	0.15%	0.87%
Average Fixed Income Fund					0.55%
<i>MERS Arithmetic Average of ALL Funds</i>					0.46%

¹Investment Management Expense: All costs incurred in the overall management of the fund. The Investment Management Expense varies based on the level of assets.

²Fund Company Rebate: The Fund Company Rebate is a reimbursement from the fund company for services provided by our recordkeeper.

³Custody and Recordkeeping Costs: Costs related to bookkeeping, settling trade activity, and holding assets in custody at a bank.

⁴MERS Operating Costs: Costs to run the day-to-day operations of the plan, which include legal, accounting, auditing, compliance, printing, and overhead costs.

Appendix III *ICMA-RC Asset-Weighted Calculation*

Fund	Plan Assets	% of Plan	Exp.	1 Yr	3 Yr	5 Yr	Wtd Exp	Wtd 1 Yr	Wtd 3 Yr	Wtd 5 Yr	MERS	Exp.	1 Yr	3 Yr	5 Yr	Wtd Exp	Wtd 1 Yr	Wtd 3 Yr	Wtd 5 Yr
Milestone Ret Inc	\$100,349	0.7%	0.66%	4.74%	4.72%	3.93%	0.00%	0.03%	0.03%	0.03%	2010 Retirement Strategy	0.39%	4.79%	4.82%	3.88%	0.00%	0.03%	0.03%	0.03%
Milestone 2015	\$870,123	5.9%	0.70%	4.03%	5.40%	4.46%	0.04%	0.23%	0.31%	0.26%	2015 Retirement Strategy	0.39%	4.27%	5.61%	4.46%	0.02%	0.25%	0.33%	0.26%
Milestone 2020	\$230,684	1.6%	0.72%	3.87%	6.05%	4.90%	0.01%	0.06%	0.09%	0.08%	2020 Retirement Strategy	0.40%	3.77%	6.30%	4.91%	0.01%	0.06%	0.10%	0.08%
Milestone 2025	\$57,759	0.4%	0.74%	3.16%	6.60%	5.27%	0.00%	0.01%	0.03%	0.02%	2025 Retirement Strategy	0.40%	3.19%	6.79%	5.29%	0.00%	0.01%	0.03%	0.02%
Milestone 2030	\$305,132	2.1%	0.76%	2.47%	7.13%	5.61%	0.02%	0.05%	0.15%	0.11%	2030 Retirement Strategy	0.40%	2.95%	7.46%	5.73%	0.01%	0.06%	0.15%	0.12%
Milestone 2035	\$77,299	0.5%	0.77%	1.95%	7.67%	5.96%	0.00%	0.01%	0.04%	0.03%	2035 Retirement Strategy	0.40%	2.44%	8.08%	6.10%	0.00%	0.01%	0.04%	0.03%
Milestone 2040	\$63,977	0.4%	0.79%	1.54%	8.26%	6.27%	0.00%	0.01%	0.04%	0.03%	2040 Retirement Strategy	0.40%	1.54%	8.56%	6.40%	0.00%	0.01%	0.04%	0.03%
Milestone 2045	\$4,468	0.0%	0.79%	1.17%	8.71%	6.48%	0.00%	0.00%	0.00%	0.00%	2045 Retirement Strategy	0.40%	0.97%	8.72%	6.50%	0.00%	0.00%	0.00%	0.00%
Milestone 2050	\$43,530	0.3%	0.79%	1.10%	8.76%	6.53%	0.00%	0.00%	0.03%	0.02%	2050 Retirement Strategy	0.40%	0.98%	8.72%	6.48%	0.00%	0.00%	0.03%	0.02%
Milestone 2055*	\$21,552	0.1%	0.79%	1.26%	8.73%	6.53%	0.00%	0.00%	0.01%	0.01%	2055 Retirement Strategy	0.40%	1.05%	8.72%	6.51%	0.00%	0.00%	0.01%	0.01%
MP Global Equity Gr	\$345,086	2.3%	0.88%	0.23%	8.92%	6.21%	0.02%	0.00%	0.21%	0.14%	MERS Gbl Stk Portfolio	0.55%	-2.46%	8.98%	7.35%	0.01%	-0.06%	0.21%	0.17%
MP Long-Term Gr	\$1,124,451	7.7%	0.81%	2.17%	8.41%	6.38%	0.06%	0.16%	0.63%	0.48%	MERS Cap Appr Portfolio	0.50%	-0.25%	8.33%	6.66%	0.04%	-0.02%	0.64%	0.51%
MP Traditional Gr	\$1,550,381	10.5%	0.79%	3.15%	7.11%	5.52%	0.08%	0.32%	0.74%	0.57%	MERS Est Mrkt Portfolio	0.51%	2.39%	7.19%	5.90%	0.05%	0.25%	0.76%	0.62%
MP Conservative Gr	\$647,972	4.4%	0.76%	4.15%	5.02%	4.07%	0.03%	0.18%	0.22%	0.17%	MERS Bal Inc Portfolio	0.53%	4.84%	5.72%	5.12%	0.02%	0.21%	0.25%	0.23%
Fidelity Puritan	\$955,453	6.5%	0.53%	0.87%	9.07%	7.33%	0.03%	0.05%	0.58%	0.47%	MERS Cap Appr Portfolio	0.50%	-0.25%	8.33%	6.66%	0.03%	-0.02%	0.54%	0.43%
Equity Income	\$333,670	2.3%	0.70%	-1.03%	7.82%	5.76%	0.02%	-0.03%	0.17%	0.13%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.01%	0.09%	0.30%	0.24%
Invesco Diversified Div	\$12,736	0.1%	0.56%	8.45%	7.86%	8.10%	0.00%	0.01%	0.01%	0.01%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.00%	0.00%	0.01%	0.01%
MFS Value*	\$45,197	0.3%	0.58%	7.40%	7.82%	5.76%	0.00%	0.02%	0.02%	0.02%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.00%	0.01%	0.04%	0.03%
500 Stock Index	\$280,261	1.9%	0.19%	4.13%	13.20%	10.65%	0.00%	0.08%	0.25%	0.20%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.01%	0.08%	0.25%	0.20%
Broad Mkt Index	\$1,274,323	8.7%	0.19%	2.85%	12.70%	10.31%	0.02%	0.24%	1.09%	0.88%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.03%	0.36%	1.13%	0.90%
Growth & Income	\$146,074	1.0%	0.62%	2.76%	12.67%	9.60%	0.01%	0.03%	0.12%	0.09%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.00%	0.04%	0.13%	0.10%
Parnassus Core Eq*	\$5,521	0.0%	0.87%	11.16%	13.51%	9.60%	0.00%	0.00%	0.01%	0.00%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.00%	0.00%	0.00%	0.00%
Invs Opp Main Street	\$43,269	0.3%	0.62%	5.68%	11.31%	9.54%	0.00%	0.02%	0.03%	0.03%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.00%	0.01%	0.04%	0.03%
Growth	\$1,404,183	9.6%	0.75%	1.65%	15.30%	11.03%	0.07%	0.15%	1.45%	1.04%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.03%	0.39%	1.25%	0.99%
TRP Growth Stock	\$109,463	0.7%	0.92%	1.82%	16.01%	12.73%	0.01%	0.01%	0.12%	0.09%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.00%	0.03%	0.10%	0.08%
Contrafund	\$414,587	2.8%	0.82%	-1.29%	14.88%	11.59%	0.02%	-0.04%	0.42%	0.32%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.01%	0.12%	0.37%	0.29%
Select Value	\$13,400	0.1%	0.91%	1.17%	7.10%	5.52%	0.00%	0.00%	0.01%	0.00%	Large Cap Stock Index	0.33%	4.12%	13.05%	10.41%	0.00%	0.00%	0.01%	0.01%
Overseas Eq Index	\$44,532	15.2%	0.99%	-1.84%	5.64%	2.46%	0.15%	-0.30%	0.84%	0.36%	International Stock Index	0.36%	-2.64%	5.92%	2.85%	0.05%	-0.40%	0.90%	0.43%
Nuveen RE Securities	\$41,379	14.2%	1.57%	17.92%	6.52%	9.13%	0.22%	2.52%	0.91%	1.28%	Real Estate Stock	0.71%	15.61%	6.84%	9.90%	0.10%	2.21%	0.97%	1.40%
Plus Fund	\$102,749	35.2%	1.35%	1.62%	1.44%	1.34%	0.47%	0.53%	0.47%	0.44%	Stable Value	0.58%	2.16%	1.98%	1.92%	0.20%	0.76%	0.70%	0.68%
WA Core Plus Bond*	\$6,344	2.2%	1.00%	11.14%	3.94%	2.36%	0.02%	0.24%	0.08%	0.05%	Bond Index	0.43%	9.99%	2.40%	2.85%	0.01%	0.22%	0.05%	0.06%
Inflation Focused	\$9,937	3.4%	1.16%	5.90%	1.29%	1.46%	0.04%	0.20%	0.04%	0.05%	MERS Div Bond Portfolio	0.55%	9.43%	2.84%	3.11%	0.02%	0.32%	0.10%	0.11%
PIMCO High Yield	\$12,177	4.2%	1.39%	6.65%	4.94%	4.52%	0.06%	0.27%	0.20%	0.18%	High Yield Bond	0.87%	6.98%	5.38%	5.00%	0.04%	0.29%	0.22%	0.21%

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Appendix III *ICMA-RC Asset-Weighted Calculation*

Fund	Plan Assets	% of Plan	Exp.	1 Yr	3 Yr	5 Yr	Wtd Exp	Wtd 1 Yr	Wtd 3 Yr	Wtd 5 Yr	MERS	Exp.	1 Yr	3 Yr	5 Yr	Wtd Exp	Wtd 1 Yr	Wtd 3 Yr	Wtd 5 Yr	
<i>Continued from previous page</i>																				
Victory Syc Est Val*	\$19,043	0.1%	0.62%	3.09%	7.10%	5.52%	0.00%	0.00%	0.01%	0.01%	Mid Cap Stock Index	0.33%	-2.61%	9.17%	8.66%	0.00%	0.00%	0.01%	0.01%	
Aggr Opportunities	\$472,385	3.2%	0.73%	2.64%	12.87%	9.46%	0.02%	0.08%	0.41%	0.30%	Mid Cap Stock Index	0.33%	-2.61%	9.17%	8.66%	0.01%	-0.08%	0.29%	0.28%	
AMG TS Mid Cap Gr	\$41,788	0.3%	1.18%	7.48%	14.19%	10.57%	0.00%	0.02%	0.04%	0.03%	Mid Cap Stock Index	0.33%	-2.61%	9.17%	8.66%	0.00%	-0.01%	0.03%	0.02%	
Car Eagle MC Gr*	\$25,301	0.2%	0.75%	1.25%	14.19%	10.57%	0.00%	0.00%	0.02%	0.02%	Mid Cap Stock Index	0.33%	-2.61%	9.17%	8.66%	0.00%	0.00%	0.02%	0.01%	
M/S Co Index	\$89,226	0.6%	0.19%	-4.05%	9.43%	8.50%	0.00%	-0.03%	0.06%	0.05%	Mid Cap Stock Index	0.33%	-2.61%	9.17%	8.66%	0.00%	-0.02%	0.06%	0.05%	
Discovery	\$53,103	0.4%	0.78%	-5.23%	10.43%	8.37%	0.00%	-0.02%	0.04%	0.03%	Small Cap Stock Index	0.33%	-8.95%	9.35%	9.72%	0.00%	-0.03%	0.03%	0.04%	
Inv Opp Discovery	\$140,924	1.0%	0.84%	-0.92%	15.91%	12.59%	0.01%	-0.01%	0.15%	0.12%	Small Cap Stock Index	0.33%	-8.95%	9.35%	9.72%	0.00%	-0.09%	0.09%	0.09%	
ClearBridge Intl Val*	\$9,296	0.1%	0.91%	-1.14%	6.43%	3.23%	0.00%	0.00%	0.00%	0.00%	International Stock Index	0.36%	-2.64%	5.92%	2.85%	0.00%	0.00%	0.00%	0.00%	
International	\$273,418	1.9%	1.00%	-1.74%	5.74%	3.51%	0.02%	-0.02%	0.10%	0.06%	International Stock Index	0.36%	-2.64%	5.92%	2.85%	0.01%	-0.05%	0.11%	0.05%	
Overseas Eq Index	\$15,281	0.1%	0.24%	-1.14%	6.43%	3.23%	0.00%	0.00%	0.01%	0.00%	International Stock Index	0.36%	-2.64%	5.92%	2.85%	0.00%	0.00%	0.01%	0.00%	
Diversified International	\$66,608	0.5%	0.81%	1.21%	6.43%	4.44%	0.00%	0.00%	0.03%	0.02%	International Stock Index	0.36%	-2.64%	5.92%	2.85%	0.00%	-0.01%	0.03%	0.01%	
Nuveen RE Securities	\$31,446	0.2%	1.02%	18.59%	7.10%	9.76%	0.00%	0.04%	0.01%	0.02%	Real Estate Stock	0.71%	15.61%	6.84%	9.90%	0.00%	0.03%	0.01%	0.02%	
Plus Fund	\$2,316,063	15.8%	0.80%	2.18%	1.99%	1.90%	0.13%	0.32%	0.29%	0.28%	Stable Value	0.58%	2.16%	1.98%	1.92%	0.09%	0.34%	0.31%	0.30%	
Cash Management	\$14,154	0.1%	0.44%	1.96%	1.15%	0.69%	0.00%	0.00%	0.00%	0.00%	Short-Term Income	0.33%	3.80%	1.48%	1.02%	0.00%	0.00%	0.00%	0.00%	
Core Bond Index	\$432,844	2.9%	0.19%	10.04%	2.67%	3.14%	0.01%	0.29%	0.08%	0.09%	Bond Index	0.43%	9.99%	2.40%	2.85%	0.01%	0.29%	0.07%	0.08%	
WA Core Plus Bond*	\$108,271	0.7%	0.45%	11.73%	4.49%	3.14%	0.00%	0.09%	0.03%	0.02%	MERS Div Bond Portfolio	0.55%	9.43%	2.84%	3.11%	0.00%	0.07%	0.02%	0.02%	
Inflation Focused	\$60,292	0.4%	0.61%	6.51%	1.86%	2.02%	0.00%	0.03%	0.01%	0.01%	MERS Div Bond Portfolio	0.55%	9.43%	2.84%	3.11%	0.00%	0.04%	0.01%	0.01%	
PIMCO High Yield	\$46,018	0.3%	0.84%	7.32%	5.54%	5.14%	0.00%	0.02%	0.02%	0.02%	High Yield Bond	0.87%	6.98%	5.38%	5.00%	0.00%	0.02%	0.02%	0.02%	
Plan Totals	\$14,696,359	100.0%					0.68%	2.42%	8.11%	6.32%	MERS Totals					0.43%	2.46%	7.92%	6.49%	
																Difference in Weighted Averages	-0.25%	0.04%	-0.19%	0.17%

Appendix IV *Sara's Retirement Account Growth Illustration*

Sara's Details		Assumptions	ICMA-RC	MERS
Current Salary	\$48,000	Market Return	7.00%	7.00%
Salary Growth Rate	2%	Fund Expense	0.68%	0.43%
457 Contribution Rate	5%	Net Return	6.32%	6.57%

Age	Salary	457 Contr.	ICMA-RC			MERS		
			Start	Growth	End	Start	Growth	End
30	\$48,000	\$2,400	\$10,000	\$726	\$13,126	\$10,000	\$756	\$13,156
31	\$48,960	\$2,448	\$13,126	\$931	\$16,505	\$13,156	\$971	\$16,575
32	\$49,939	\$2,497	\$16,505	\$1,153	\$20,155	\$16,575	\$1,205	\$20,276
33	\$50,938	\$2,547	\$20,155	\$1,392	\$24,094	\$20,276	\$1,457	\$24,280
34	\$51,957	\$2,598	\$24,094	\$1,650	\$28,342	\$24,280	\$1,730	\$28,608
35	\$52,996	\$2,650	\$28,342	\$1,929	\$32,921	\$28,608	\$2,026	\$33,284
36	\$54,056	\$2,703	\$32,921	\$2,229	\$37,852	\$33,284	\$2,344	\$38,331
37	\$55,137	\$2,757	\$37,852	\$2,552	\$43,161	\$38,331	\$2,688	\$43,776
38	\$56,240	\$2,812	\$43,161	\$2,899	\$48,872	\$43,776	\$3,059	\$49,648
39	\$57,364	\$2,868	\$48,872	\$3,273	\$55,014	\$49,648	\$3,459	\$55,975
40	\$58,512	\$2,926	\$55,014	\$3,675	\$61,615	\$55,975	\$3,890	\$62,791
41	\$59,682	\$2,984	\$61,615	\$4,107	\$68,706	\$62,791	\$4,355	\$70,130
42	\$60,876	\$3,044	\$68,706	\$4,571	\$76,321	\$70,130	\$4,854	\$78,028
43	\$62,093	\$3,105	\$76,321	\$5,069	\$84,495	\$78,028	\$5,392	\$86,524
44	\$63,335	\$3,167	\$84,495	\$5,604	\$93,265	\$86,524	\$5,970	\$95,661
45	\$64,602	\$3,230	\$93,265	\$6,177	\$102,672	\$95,661	\$6,592	\$105,483
46	\$65,894	\$3,295	\$102,672	\$6,792	\$112,759	\$105,483	\$7,260	\$116,037
47	\$67,212	\$3,361	\$112,759	\$7,451	\$123,571	\$116,037	\$7,978	\$127,376
48	\$68,556	\$3,428	\$123,571	\$8,158	\$135,156	\$127,376	\$8,749	\$139,552
49	\$69,927	\$3,496	\$135,156	\$8,915	\$147,568	\$139,552	\$9,577	\$152,625
50	\$71,325	\$3,566	\$147,568	\$9,726	\$160,860	\$152,625	\$10,466	\$166,657
51	\$72,752	\$3,638	\$160,860	\$10,594	\$175,091	\$166,657	\$11,420	\$181,714
52	\$74,207	\$3,710	\$175,091	\$11,524	\$190,325	\$181,714	\$12,443	\$197,868
53	\$75,691	\$3,785	\$190,325	\$12,518	\$206,628	\$197,868	\$13,541	\$215,193
54	\$77,205	\$3,860	\$206,628	\$13,583	\$224,072	\$215,193	\$14,718	\$233,772
55	\$78,749	\$3,937	\$224,072	\$14,722	\$242,731	\$233,772	\$15,981	\$253,690
56	\$80,324	\$4,016	\$242,731	\$15,940	\$262,688	\$253,690	\$17,334	\$275,041
57	\$81,931	\$4,097	\$262,688	\$17,243	\$284,027	\$275,041	\$18,785	\$297,922
58	\$83,569	\$4,178	\$284,027	\$18,636	\$306,842	\$297,922	\$20,339	\$322,439
59	\$85,241	\$4,262	\$306,842	\$20,125	\$331,229	\$322,439	\$22,005	\$348,706
60	\$86,945	\$4,347	\$331,229	\$21,717	\$357,294	\$348,706	\$23,789	\$376,842
61	\$88,684	\$4,434	\$357,294	\$23,418	\$385,146	\$376,842	\$25,700	\$406,976

Appendix V *Sara's Retirement Distribution Calculation*

Sara's Distribution Illustration		
Assumptions	ICMA-RC	MERS
Balance at Retirement (PV)	\$385,146	\$406,976
Balance after Retirement (FV)	\$0	\$0
<i>Equal Monthly Payment (PMT)</i>	<i>\$1,971</i>	<i>\$2,141</i>
Years of Payments	28	28
Total Monthly Payments (N)	336	336
Market Return	5.00%	5.00%
Average Fee	0.68%	0.43%
<i>Net Investment Return (Rate)</i>	<i>4.32%</i>	<i>4.57%</i>
Annual Income	\$23,649	\$25,692
Total of All Payments	\$662,166	\$719,368

Calculation uses the Time Value of Money (TVM), where PV=Payment; FV=Future Value; PMT=Payment; N=Number of Periods; ip=Interest Rate per period, and k=1 if payment made at the end of period, or 1+ip if made at the beginning:

$$PMT = \left(PV + \frac{FV}{(1+ip)^N} \right) \times \frac{-ip}{k}$$

Municipal Employees' Retirement System of Michigan
1134 Municipal Way • Lansing, MI 48917
800.767.6377 (MERS) • www.mersofmich.com

This publication contains a summary description of MERS benefits, policies or procedures. MERS has made every effort to ensure that the information provided is accurate and up to date as of the date of publication. Where the publication conflicts with the relevant Plan Document, the Plan Document controls. MERS, as a governmental plan, is exempted by federal and state law from registration with the SEC. However, it employs registered investment advisors to manage the trust fund in compliance with Michigan Public Employee Retirement System Investment Act. Past performance is not a guarantee of future returns. Please make independent investment decisions carefully and seek the assistance of independent experts when appropriate.



EMPLOYEE RESOURCES

myMERS Online Account Access

- With myMERS online, employees have 24/7 access to their MERS plans, as well as calculators and other tools to help them personalize their finances.

MERS Service Center

- Available weekdays by phone at 800.767.MERS (6377).

Education

- We partner with our municipalities to offer participant education on-site and at different times and locations throughout the year.

WHO WE ARE

MERS is a public nonprofit organization that partners with municipalities and their employees all across the state to offer customized, sustainable retirement solutions. We understand the needs of our members, because our sole focus is serving you and your employees.



Municipal Employees' Retirement System of Michigan

1134 Municipal Way • Lansing, MI 48917

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FORM 4866 20160919

MERS HEALTH CARE SAVINGS PROGRAM

THE FLEXIBLE, AFFORDABLE ANSWER TO RISING HEALTH CARE COSTS



IS YOUR MUNICIPALITY PREPARED FOR RISING HEALTH CARE COSTS?

A recent study found that 311 of Michigan's municipalities have \$12.7 billion in unfunded health care liability for their retirees. The MERS Health Care Savings Program supplements or replaces retiree health care, lowering your municipality's long-term liability of Other Post Employment Benefits (OPEB).

HOW IT WORKS



The MERS Health Care Savings Program (HCSP) is an innovative way to help employees prepare for post-employment medical expenses – without adding any employer health care liability.

The program offers participants and their eligible beneficiaries an invested, tax-free medical savings account to use for qualified post-employment medical expenses. A feature unique to the MERS program is that the account can be inherited by a named non-dependent beneficiary to use on a taxable basis for their medical expenses.

The MERS Health Care Savings Program offers several ways to provide other post-employment benefits (OPEB), *without* adding OPEB liability.

HCSP can be used to:

- Begin offering your employees a post-employment health care benefit
- Supplement your current retiree health care plan
- Fill the gap of closed retiree health care plans

The MERS Health Care Savings Program offers your employees a variety of benefits after they leave employment.

Some of these benefits include:

- The ability to use their account to pay for qualified medical expenses, including insurance premiums
- The choice to allow spouses, dependent children and named beneficiaries to use the account
- Convenient reimbursement options available by mail, online or by using the mySourceCard debit card

ARE YOUR EMPLOYEES PREPARED FOR RISING HEALTH CARE COSTS?



By the year 2050, life expectancy is expected to increase to 89-93 years for women and to 83-86 for men. Studies show health care costs rank second only to food for retiree expenses, and can erode an individual's retirement savings without proper planning.

GET STARTED

Schedule a consultation with your Benefit Plan Advisor to learn more about the MERS Health Care Savings Program. Contact us at 800.767.6377 or visit www.mersofmich.com.

Resolution Adopting the MERS Defined Contribution Plan



1134 Municipal Way Lansing, MI 48917 | 800.767.MERS (6377) | Fax 517.703.9711

www.mersofmich.com

This Resolution is entered into under the provisions of 1996 PA 220 and the Municipal Employees' Retirement System of Michigan ("MERS") Plan Document, as each may be amended.

WHEREAS, the participating entity desires to adopt the MERS Defined Contribution Plan for its designated employees;

WHEREAS, the participating entity has furnished MERS with required data regarding each eligible employee and retiree;

WHEREAS, as a condition of MERS membership, and pursuant to the MERS Retirement Board's power as plan administrator and trustee under Plan Document Section 71 and MCL 38.1536, as each may be amended, it is appropriate and necessary to enter into a binding agreement providing for the administration of the Defined Contribution Plan, the reporting of wages, and the payment of the required contributions of a participating entity and withholding of employee contributions; now, therefore,

IT IS HEREBY RESOLVED:

On behalf of the participating entity, the governing body of

_____ adopts the MERS Defined Contribution Plan in accordance with Plan Section 4 for its eligible employees as described in the MERS Defined Contribution Adoption Agreement, subject to the MERS Plan Document and as authorized by 1996 PA 220, as both may be amended;

I hereby certify that the above is a true copy of the Defined Contribution Resolution adopted at the official meeting held by the governing body of this municipality:

Dated: _____, 20____. _____
(Signature of Authorized Official)

Printed name: _____
(Authorized Official - printed)

This Resolution shall have no legal effect under the MERS Plan Document until a certified copy of this adopting Resolution is filed with MERS, MERS determines that all necessary requirements under the Plan Document, the Adoption Agreement, and this Resolution have been met, and MERS certifies the Resolution below.

Received and Approved by the Municipal Employees' Retirement System of Michigan:

Dated: _____, 20____. _____
(Signature of Authorized MERS Representative)

MERS Defined Contribution Plan Adoption Agreement



1134 Municipal Way Lansing, MI 48917 | 800.767.MERS (6377) | Fax 517.703.9711

www.mersofmich.com

The Employer, a participating municipality or court within the state of Michigan that has adopted MERS coverage, hereby establishes the following Defined Contribution Plan provided by MERS of Michigan, as authorized by 1996 PA 220 in accordance with the MERS Plan Document.

I. Employer Name _____ **Municipality #:** _____

Division name _____

Note: This division should reflect how you currently define employees who are eligible to participate, for example, All full-time Employees, New hires after 1/1/2019, etc.

II. Effective Date

Check one:

A. If this is the **initial** Adoption Agreement for this group, the effective date shall be the first day of _____, 20__.

This municipality or division is new to MERS, so vesting credit prior to the **initial** MERS effective date by each eligible employee shall be credited as follows (choose one):

Vesting credit from date of hire No vesting credit

This division is for new hires, rehires, and transfers of current Defined Benefit* division # _____ and/or current Hybrid division # _____

For divisions that are closing or freezing with or without conversion, the Employer must complete the Addendum for Plan Freeze, Closure and Conversions

B. If this is an **amendment** of an existing Adoption Agreement (existing division number _____), the effective date shall be the first day of _____, 20__.

Note: You only need to mark **changes** to your plan throughout the remainder of this Agreement.

C. If this is to **separate employees from an existing Defined Contribution division** (existing division number(s) _____) into a new division, the effective date shall be the first day of _____, 20__.

D. If this is to **merge division(s)** _____ into division(s) _____, the effective date shall be the first of _____, 20__.

E. If this is an amendment to close Defined Benefit division(s) # _____ or Hybrid division(s) _____ with new hires, rehires, and transfers going into existing Defined Contribution division # _____, the effective date shall be _____ (month/year).

Note: Closing this Defined Benefit or Hybrid division(s) will change future invoices to a flat dollar amount instead of a percentage of payroll, as provided in your most recent annual actuarial valuation.

(The amount may be adjusted for any benefit modifications that may have taken place since then).

MERS Defined Contribution Plan Adoption Agreement

III. Plan Eligibility

Only those employees eligible for MERS membership may participate in the MERS Defined Contribution Plan. If an employee classification is **included** in the plan, then employees that meet this definition are required to participate in the plan and earn time toward vesting. All eligible employees must be reported to MERS and earn time toward vesting. Some excluded classifications require additional information below. Please describe the specific classifications that are eligible for MERS within this division:

(For example: e.g., Full-time employees, Clerical staff, Union Employees participating in XXXX union)

This Division includes **public safety employees**: Yes No

To further define eligibility (select all that apply):

Employee Classification	Included	Excluded	Not Employed
Temporary Employees: Those who will work for the municipality fewer than _____ months in total	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part-Time Employees: Those who regularly work fewer than _____ per _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seasonal Employees: Those who are employed for tasks that occur at specific times of the year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Voter-Elected Officials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appointed Officials: An official appointed to a voter-elected office	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contract Employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	
Other 2: _____	<input type="checkbox"/>	<input type="checkbox"/>	

Probationary Periods (select one):

- Contributions will begin after the probationary period has been satisfied. Probationary periods are allowed in one-month increments, no longer than 12 months. During this probationary period, contributions will not be reported and service toward vesting will begin when probationary period has ended.

The probationary period will be _____ month(s).

Comments:

- Contributions will begin with the employee's date of hire (no Probationary Period). Effective with the date of hire, wages and any associated contributions must be submitted to MERS.

MERS Defined Contribution Plan Adoption Agreement

IV. Provisions

1. Leaves of Absence

Regardless of whether an employee is earning a wage while on the following types of leave:

- Third-party wages are not used in determining contributions for periods of leave.
- Vesting under elapsed time continues to accrue even if wages are not earned and contributions are zero.

Note: Employers who determine vesting based on an “hours-reported” method, should report actual worked hours for the month where there was a leave.

Types of leave include:

- Short Term and Long Term Disability
- Workers Compensation
- Unpaid Family Medical Leave Act (FMLA)

Leaves of absence due to military service are governed by the federal *Uniformed Services Employment and Reemployment Rights Act of 1994 (USERRA)*, IRC 414(u), effective January 1, 2007, IRC 401(a)(37). Military reporting requires historical wage and contribution reporting for Defined Contribution as applicable.

2. Definition of Compensation

The Definition of Compensation selected must be used when determining both employer and employee contributions. Employers may include wage information along with employee and employer contributions when submitting wage/contribution reports to MERS.

Select your Definition of Compensation:

- Base Wages Box 1 Wages of W-2 Gross Wages
 Custom Definition

Click here to view details of Base, Box 1, and Gross Wages

(To customize your definition, please complete the [Custom Definition of Compensation Addendum](#).)

3. Forfeiture

A forfeiture occurs when a participant separates from employment prior to meeting the associated elapsed time (or hours reported) to receive vesting. The percentage of his/her employer contribution account balance that has not vested as of the date of termination will forfeit after 12 consecutive months following the termination date reported by the employer, or earlier, if the System distributes the participant’s vested portion. MERS will utilize any available forfeiture balance as an automatic funding source applied to reported employer contributions at the time of reporting.

4. Vesting

Vesting will be credited using (check one):

- Elapsed time method – Employees will be credited with one vesting year for each 12 months of continuous employment from the date of hire.
- Hours reported method – Employees will be credited with one vesting year for each calendar year in which _____ hours are worked

MERS Defined Contribution Plan Adoption Agreement

Vesting schedule will be (check one):

- Immediate
- Cliff vesting (fully vested after a specified number of years, not to exceed 15 years) will be ___ years.
- Graded Vesting (the % of vesting acquired after employment for the designated number of years, not to exceed 10 years; or, where full vesting is attained between 10 and 20 years, graded vesting must commence no later than 3 years of service)

% Vested	Years of Service

In the event of disability or death, an employee’s (or his/her beneficiary’s) entire employer contribution account shall be 100% vested, to the extent that the balance of such account has not previously been forfeited.

Normal Retirement Age (presumed to be age 60 unless otherwise specified) _____

If an employee is still employed with the municipality at the age specified here, their entire employer contribution balance will become 100% vested regardless of years of service.

5. Contributions

a. **Contributions will be submitted** (check one):

Contributions will be remitted according to Employer’s “Payroll Period” which represents the actual period amounts are withheld from participant paychecks, or within the month during which amounts are withheld.

- Weekly
- Bi-Weekly (every other week)
- Semi-Monthly (twice each month)
- Monthly

b. **Employer Contributions**

Required Employee Contributions and Employer Contributions are outlined using associated [Contribution Addendum for MERS Defined Contribution \(MD-073\)](#).

c. Post-tax voluntary employee contributions are allowable into a Defined Contribution account subject to Section 415(c) limitations of the Internal Revenue Code.

6. **Loans:** shall be permitted shall not be permitted

If Loans are elected, please refer to the [Defined Contribution & 457 Loan Addendum](#).

7. **Rollovers** from qualified plans are permitted and the plan will account separately for pre-tax and post-tax contributions and earnings thereon.

V. Appointing MERS as the Plan Administrator

The Employer hereby agrees to the provisions of this *MERS Defined Contribution Plan Adoption Agreement* and appoints MERS as the Plan Administrator pursuant to the terms and conditions of the Plan. The Employer also agrees that in the event of any conflict between the MERS Plan Document and the MERS Defined Contribution Plan Adoption Agreement, the provisions of the Plan Document control.

MERS Defined Contribution Plan Adoption Agreement

VI. Modification of the terms of the Adoption Agreement

If the Employer desires to amend any of its elections contained in this Adoption Agreement, including attachments, the Governing Body or Chief Judge, by resolution or official action accepted by MERS, must adopt a new Adoption Agreement. The amendment of this Agreement is not effective until approved by MERS.

VII. Enforcement

1. The Employer acknowledges that the Michigan Constitution of 1963, Article 9, Section 24, provides that accrued financial benefits arising under a public Employer's retirement plan are a contractual obligation of the Employer that may not be diminished or impaired.
2. The Employer agrees that, pursuant to the Michigan Constitution, its obligations to pay required contributions are contractual obligations to its employees and to MERS and may be enforced in a court of competent jurisdiction;
3. The Employer acknowledges that employee contributions (if any) and employer contributions must be submitted in accordance with the *MERS Reporting and Contribution Enforcement Policy*, the terms of which are incorporated herein by reference;
4. The Employer acknowledges that late or missed contributions will be required to be made up, including any applicable gains, pursuant to the Internal Revenue Code;
5. Should the Employer fail to make its required contribution(s) when due, MERS may implement any applicable interest charges and penalties pursuant to the *MERS Reporting and Contribution Enforcement Policy* and Plan Document Section 79, and take any appropriate legal action, including but not limited to filing a lawsuit and reporting the entity to the Treasurer of the State of Michigan in accordance with MCL 141.1544(d), Section 44 of PA 436 of 2012, as may be amended.
6. It is expressly agreed and understood as an integral and non-severable part of this Agreement that Section 43 of the Plan Document shall not apply to this Agreement and its administration or interpretation. In the event any alteration of the terms or conditions of this Agreement is made or occurs, under Section 43 or other plan provision or law, MERS and the Retirement Board, as sole trustee and fiduciary of the MERS plan and its trust reserves, and whose authority is non-delegable, shall have no obligation or duty to administer (or to have administered) the MERS Defined Contribution Plan, to authorize the transfer of any defined benefit assets to the MERS Defined Contribution Plan, or to continue administration by MERS or any third-party administrator of the MERS Defined Contribution Plan.

VIII. Execution

Authorized Designee of Governing Body of Municipality or Chief Judge of Court

The foregoing Adoption Agreement is hereby approved by _____ on
the ____ day of _____, 20____. (Name of Approving Employer)

Authorized signature: _____

Title: _____

Received and Approved by the Municipal Employees' Retirement System of Michigan

Dated: _____, 20____ Signature: _____
(Authorized MERS Signatory)

Contribution Addendum for MERS Defined Contribution (and DC portion of Hybrid)



1134 Municipal Way Lansing, MI 48917 | 800.767.2308 | Fax 517.703.9711

www.mersofmich.com

This is an Addendum to the Adoption Agreement completed by _____
Name of Participating Employer

for the following:

Employee Group Name

Division Code: _____

The Addendum accompanies the MERS 401(a) Defined Contribution (DC) Adoption Agreement. Please complete this addendum for each contribution structure associated with the covered employee group.

Section 1: Matching Contributions

The Participating Employer will make matching contributions into the DC Plan based on
(CHECK ALL THAT APPLY):

- Employee's MERS 457 program election
- Employee's non-MERS 457 program election
- Employee's one-time election of MERS Defined Contribution required employee contributions
- Other _____

For each payroll period in which Employee contributions described in Section 1 are made, the Participating Employer will contribute _____% of the Employee contribution amount.

For example, if an Employer elects a 50% match, then for every 1% the participant defers to the Program, the Employer will contribute 0.5% to the Program.

Employer Cap: The Employer elects the following matching contribution cap:

- Percentage Cap:** In no event will matching contributions made on behalf of a participant exceed _____% of the participant's IRS Section 401(a)(17) includable compensation as defined by the Employers' Adoption Agreement. Match cannot exceed 100% of participant's income.
- Flat Dollar Cap:** In no event will matching contributions made on behalf of a participant exceed a flat dollar amount equal to \$_____ per _____.

Contribution Addendum for MERS Defined Contribution (and DC portion of Hybrid)



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Section 2: Required DC Contributions

Select one:

- Employees are required to contribute per pay period: _____ (specify \$ or %)
- Range from _____ to _____ (specify \$ or %) per pay period
- Choice of contribution amounts per pay period:

Employee Contribution (\$ or %)	Employer Contribution (\$ or %)

The Employer designates _____ (specify \$ or %) as the default contribution

Federal law requires employees only be offered a contribution choice at the time of first eligibility. Therefore, the default will apply when an eligible employee fails to make an election prior to the first payroll reporting in which they qualified for the plan, and those employees who are transferred, rehired, or previously covered under a non-MERS plan.

Direct Required Employee Contributions: Pre-tax After-tax

Section 3: Non-Matching Contributions

The Employer hereby elects to make contributions to the participants' accounts without regard to a participant's contribution amount (check all that apply):

- Annual:** A one-time annual contribution of \$ _____ or _____% of compensation per participant.
- Pay Period:** \$ _____ or _____% of compensation per participant for each payroll period.
- One time:** \$ _____.

MERS Uniform 457 Supplemental Retirement Program Resolution



1134 Municipal Way Lansing, MI 48917 | 800.767.2308 | Fax 517.703.9711

www.mersofmich.com

This Resolution, together with the MERS 457(b) Supplemental Retirement Program Plan Document and the MERS 457 Supplemental Retirement Program Participation Agreement and any Addendum thereto, constitute the entire MERS 457 Deferred Compensation Plan Document.

WHEREAS, the Municipal Employees Retirement Act of 1984 (the “Act”), MCL 38.1536(2)(a) (MERS Plan Document (Section 71) authorizes the Municipal Employees’ Retirement Board (the “Board”) to “establish additional programs including but not limited to defined benefit, defined contribution, ancillary benefits, health and welfare benefits, and other postemployment benefit programs,” and on November 8, 2011, the Board adopted the MERS 457 Deferred Compensation Plan.

WHEREAS, this Uniform Resolution has been approved by the Board under the authority of Section 71, and the Board has authorized the MERS 457 Deferred Compensation Plan, which shall not be implemented unless in strict compliance with the terms and conditions of this Resolution.

WHEREAS, the Participating Employer, a participating “municipality” (as defined in the Act; MCL 38.1502b(2); Plan Document Section 2) or participating “court” (circuit, district or probate court as defined in the Act, MCL 38.1502a(4) – (6); Plan Document Section 2) within the State of Michigan has determined that in the interest of attracting and retaining qualified employees, it wishes to offer a deferred compensation plan;

WHEREAS, the Participating Employer has also determined that it wishes to encourage employees’ saving for retirement by offering salary reduction contributions;

WHEREAS, the Participating Employer has reviewed the MERS 457 Supplemental Retirement Program (“Plan”);

WHEREAS, the Participating Employer wishes to participate in the Plan to provide certain benefits to its employees, reduce overall administrative costs, and afford attractive investment opportunities;

WHEREAS, the Participating Employer is an Employer as defined in the Plan;

WHEREAS, concurrent with this Resolution, and as a continuing obligation, this Governing Body has completed and approved, and submitted to MERS and the Board documents necessary for adoption and implementation of the Plan; and

WHEREAS, the Governing Body for and on behalf of the Participating Employer is authorized by law to adopt this Resolution approving the Participation Agreement on behalf of the Participating Employer. In the event any alteration of the terms or conditions stated in this Resolution is made or occurs, it is expressly recognized that MERS and the Retirement Board, as sole trustee and fiduciary of the Plan and its trust reserves, and whose authority is nondelegable, shall have no obligation or duty to continue to administer (or to have administered) the MERS 457 Supplemental Retirement Program for the Participating Employer.

MERS Uniform 457 Supplemental Retirement Program Resolution

NOW, THEREFORE, BE IT RESOLVED that the Governing Body adopts the MERS 457 Supplemental Retirement Program as provided below.

- I. The Participating Employer adopts the Plan for its Employees.
- II. The Participating Employer hereby adopts the terms of the Participation Agreement, which is attached hereto and made a part of this Resolution. The Participation Agreement sets forth the Employees to be covered by the Plan, the benefits to be provided by the Participating Employer under the Plan, and any conditions imposed by the Participating Employer with respect to, but not inconsistent with, the Plan. The Participating Employer reserves the right to amend its elections under the Participation Agreement, so long as the amendment is not inconsistent with the Plan or the Internal Revenue Code or other applicable law and is approved by the Board.
- III. The Participating Employer shall abide by the terms of the Plan, including amendments to the Plan made by the Board, all investment, administrative, and other service agreements of the Plan and the Trust, and all applicable provisions of the Internal Revenue Code and other applicable law.
- IV. The Participating Employer acknowledges that the Board is only responsible for the Plan and any other plans of the Employer administered by MERS and that the Board has no responsibility for other employee benefit plans maintained by the Employer that are not part of MERS.
- V. The Participating Employer accepts the administrative services to be provided by MERS and any services provided by a Service Manager as delegated by the Board. The Participating Employer acknowledges that fees will be imposed with respect to the services provided and that such fees may be deducted from the Participants' accounts.
- VI. The Participating Employer acknowledges that the Plan contains provisions for involuntary Plan termination.
- VII. The Participating Employer acknowledges that all assets held in connection with the Plan, including all contributions to the Plan, all property and rights acquired or purchased with such amounts and all income attributable to such amounts, property or rights shall be held in trust for the exclusive benefit of Participants and their Beneficiaries under the Plan. No part of the assets and income of the Plan shall be used for, or diverted to, purposes other than for the exclusive benefit of Participants and their Beneficiaries and for defraying reasonable expenses of the Plan. All amounts of compensation deferred pursuant to the Plan, all property and rights acquired or purchased with such amounts and all income attributable to such amounts, property or rights held as part of the Plan, shall be transferred to the Board to be held, managed, invested and distributed as part of the Trust Fund in accordance with the provisions of the Plan. All contributions to the Plan must be transferred by the Participating Employer to the Trust Fund. All benefits under the Plan shall be distributed solely from the Trust Fund pursuant to the Plan.

MERS Uniform 457 Supplemental Retirement Program Resolution

- VIII. This Resolution and the Participation Agreement shall be submitted to the Board for its approval. The Board shall determine whether the Resolution complies with the Plan, and, if it does, shall provide appropriate forms to the Participating Employer to implement participation in the Plan. The Board may refuse to approve a Participation Agreement by an Employer that does not possess State statutory authority to participate in the Plan. The Governing Body hereby acknowledges that it is responsible to assure that this Resolution and the Participation Agreement are adopted and executed in accordance with the requirements of applicable law.

BE IT FINALLY RESOLVED: This Resolution shall have no legal effect under the Plan until a certified copy of this adopting Resolution is filed with MERS, and MERS determines that all necessary requirements under the 457 Supplemental Retirement Program Plan and Trust, the Participation Agreement, and this Resolution have been met. All dates for implementation of the Plan shall be determined by MERS from the date of filing with MERS of this Resolution in proper form and content. Upon MERS determination that all necessary documents have been submitted to MERS, MERS shall record its formal approval upon this Resolution, and return a copy to the Employer.

In the event an amendatory Resolution or other action by the municipality is required, such Resolution or action shall be deemed effective as of the date of the initial Resolution or action where concurred by this Governing Body and MERS (and a third-party administrator, if applicable and necessary). The terms and conditions of this Resolution supersede and stand in place of any prior resolution, and its terms are controlling.

I hereby certify that the above is a true copy of a Resolution adopted at the official meeting held on

_____, 20____. _____
(Signature of authorized official)

Printed name: _____ Position title: _____
(Authorized Official - printed) (Authorized Official - position)

Municipality name: _____

Received and Approved by the Municipal Employees' Retirement System of Michigan

Dated: _____, 20____ _____
(Authorized MERS signatory)

MERS 457 Participation Agreement



1134 Municipal Way Lansing, MI 48917 | 800.767.2308 | Fax 517.703.9707

www.mersofmich.com

The Employer, a participating municipality or participating court within the state of Michigan, hereby agrees to adopt and administer the MERS 457 Program provided by the Municipal Employees' Retirement System of Michigan, in accordance with the MERS Plan Document, as both may be amended, subject to the terms and conditions herein.

I. Employer Name: _____
(Name of municipality or court)

Municipality Number: _____ **Division Number (if amendment):** _____

II. Effective Date: The MERS 457(b) Program will be effective as follows (choose one):

- Original Adoption.** The MERS 457(b) Program will be effective _____,
(Month and year)
with respect to contributions upon approval by the Program Administrator.
 - To establish a new plan or replace current 457 carrier with the MERS 457 Program.
 - To add the MERS 457 Program in addition to: _____
(Other plan provider)

VERY IMPORTANT: All eligible programs of a Participating Employer are considered to be a single plan for purposes of compliance with Code Section 457(b). Thus, if a Participating Employer has more than one eligible 457 (or additional investment options under a 457(b) arrangement with more than one vendor), the Participating Employer is responsible for ensuring that all of its arrangements, treated as a single program, comply with the 457(b) requirements. In order to fulfill its responsibility for monitoring coordination of multiple programs, the Participating Employer must carefully review the Master Plan Document provisions.

- Amendment and Restatement.** The amended and restated MERS 457(b) Program will be effective _____,
(Month and year)
with respect to contributions upon approval by the Program Administrator. *Please note:* You only need to mark **changes** to your plan throughout the remainder of this Agreement.

III. Eligible Employees: Only Employees as defined in the Program may be covered by the Participation Agreement. Subject to other conditions in the Program, this Agreement, and Addendum (if applicable), the following Employees are eligible to participate in the Program:

IV. Contributions will be submitted (check one):

Contributions will be remitted according to Employer's "Payroll Period" which represents the actual period amounts are withheld from participant paychecks, or within the month during which amounts are withheld.

- Weekly
- Bi-Weekly (every other week)
- Semi-Monthly (twice each month)
- Monthly

Definition of Compensation

The Definition of Compensation selected must be used when determining both employer and employee contributions. Employers may include wage information along with employee and employer contributions when submitting wage/contribution reports to MERS.

Select your Definition of Compensation:

Base Wages Box 1 Wages of W-2 Gross Wages

Custom Definition

(To customize your definition, please complete the [Custom Definition of Compensation Addendum](#).)

Click here to view details of Base, Box 1, and Gross Wages

V. Roth Deferral Contributions: shall be permitted shall not be permitted

If Roth Deferral Contributions are elected, the Program will allow Roth rollover contributions from other designated Roth 457(b), 401(k), or 403(b) Plans. Roth in-plan rollovers will also be allowed. Roth in-plan rollovers allow a participant who has reached 70½ or who has incurred a severance from employment to elect to have all or a portion of his or her pre-tax contribution account directly rolled into a designated Roth rollover account under the plan if the amount would otherwise be permitted to be distributed as an eligible rollover distribution. Any amounts that are rolled to the Roth rollover account are considered to be irrevocable and may not be rolled back to the pre-tax account.

MERS 457 Participation Agreement

VI. Loans: shall be permitted shall not be permitted

If Loans are elected, please refer to the [Defined Contribution & 457 Loan Addendum](#).

VII. Automatic Enrollment: shall be permitted shall not be permitted

If selected, please complete and attach the [457 Eligible Automatic Contribution Arrangement \(EACA\) Addendum](#).

VIII. Employer Contributions: shall be permitted shall not be permitted

If selected, please complete and attach the [457 Employer Contribution Addendum](#).

IX. Modification of the Terms of the Participation Agreement

If the employer desires to amend any of its elections contained in the Participation Agreement, including attachments/addendums, the Governing Body or Chief Judge, by resolution or official action accepted by MERS, must adopt a new Participation Agreement. The amendment of the new agreement is not effective until approved by MERS.

X. Enforcement

1. This Participation Agreement, including attachments/addendums may be terminated only in accordance with the Master Plan Document
2. The Employer hereby agrees to the provisions of the *MERS 457 Supplemental Retirement Program and Trust Master Plan Document*.
3. The employer hereby acknowledges it understands that failure to properly fill out this Participation Agreement may result in the ineligibility of the program.

XI. Execution

Authorized Designee of Governing Body of Municipality or Chief Judge of Court

The foregoing Participation Agreement is hereby approved by _____
(Name of Approving Employer)
on the ____ day of _____, 20____.

Authorized signature: _____

Title: _____

Received and Approved by the Municipal Employees' Retirement System of Michigan

Dated: _____, 20____ Signature: _____
(Authorized MERS Signatory)

MERS Health Care Savings Program Participation Agreement



1134 Municipal Way Lansing, MI 48917 | 800.767.2308 | Fax 517.703.9707

www.mersofmich.com

I. PARTICIPATING EMPLOYER

Employer Name: _____
(Name of municipality or court)

Municipality Number: _____ **Division Number:** _____

II. EFFECTIVE DATE

1. If this is the initial Participation Agreement relating to the MERS Health Care Savings Program for this covered group, the effective date of the program here adopted shall be:

(Date)

2. If this is an amendment and restatement of an existing Participation Agreement relating to the MERS Health Care Savings Program for this covered group, the effective date of this amendment and restatement shall be effective: _____

(Date)

Note: You only need to mark *changes* to your plan throughout the remainder of this Agreement.

III. COVERED EMPLOYEE GROUPS

A participating Employer may cover all of its employee groups, bargaining units, or personnel/employee classifications ("Covered Group") in the same Health Care Savings Program plan.

Contributions shall be made on the same basis within each Covered Group according to the associated [HCSP Contribution Addendum](#), remitted as directed by the Program Administrator.

This agreement encompasses the following group(s):

(Name/s of HCSP covered group/s)

Note: To maintain the tax-favored status of the employer's Health Care Savings Program and to comply with federal law, the Employer may not provide coverage or benefit levels to highly-compensated employees that are not provided to non highly-compensated employees.

IV. ELIGIBLE EMPLOYEES

Only Employees of a "municipality" may be covered by the Health Care Savings Program Participation Agreement. Independent contractors may not participate in the Health Care Savings Program.

The Employer shall provide MERS with the name, address, Social Security Number, and date of birth for each Eligible Employee, as defined by the Participation Agreement.

V. EMPLOYER CONTRIBUTIONS TO THE HEALTH CARE SAVINGS PROGRAM

The Participating Employer hereby elects to make contributions to the Trust. Contributions shall be made on the same basis within each Covered Group specified in this agreement, and remitted to MERS as directed by the employer, to be credited to the individual accounts of Eligible Employees according to the associated [Contribution Addendum](#).

MERS Health Care Savings Program Participation Agreement

IX. STATE LAW

To the extent not preempted by federal law, this agreement shall be interpreted in accordance with Michigan law.

X. TERMINATION OF THE PARTICIPATION AGREEMENT

This Participation Agreement may be terminated only in accordance with the Trust Agreement.

XI. EXECUTION BY GOVERNING BODY OF MUNICIPALITY

The foregoing Participation Agreement is hereby adopted and approved on the ____ day of _____, 20____ at the official meeting held by _____.
(Name of approving employer)

Authorized Signature: _____

Name: _____

Title: _____

Received and Approved by the Municipal Employees' Retirement System of Michigan

Dated: _____, 20____

(Authorized MERS signatory)

MERS Retiree Health Funding Vehicle Uniform Resolution



1134 Municipal Way Lansing, MI 48917 | 800.767.6377 | Fax 517.703.9707

www.mersofmich.com

WHEREAS, Section 36(2)(a) of the Municipal Employees' Retirement Act ("MERA"), 1984 PA 427, MCL 38.1536(2)(a), authorizes the Municipal Employees' Retirement Board ("Board") to establish additional programs;

WHEREAS, the Board has authorized MERS' establishment of a retiree health funding vehicle ("RHFV"), which a participating municipality or court, or another eligible public employer that constitutes a "municipality" under Section 2b(2) of MERA, MCL 38.1502b(2) ("Eligible Employer"), may adopt.

WHEREAS, the Board has established a governmental trust ("Trust") under Section 115 of the Internal Revenue Code ("Code") to hold the assets of the RHFV, which Trust shall be administered under the discretion of the Board as fiduciary, directly by (or through a combination of) MERS or MERS' duly-appointed agent ("Program Administrator") (as defined in the MERS HCSP and RHFV Plan Document), and is tax-exempt under Section 115 as confirmed by MERS' Private Letter Ruling from the Internal Revenue Service dated January 13, 2004;

WHEREAS, the Public Employee Health Care Fund Investment Act, 1999 PA 149, MCL 38.1211 et seq. ("PA 149") allows a public corporation to create a public employee health care fund, and provides for its administration, investment, and management, in order to accumulate funds to provide for the funding of health benefits for retirees and beneficiaries;

WHEREAS, a MERS RHFV health care trust fund created under PA 149 constitutes a governmental trust established by an Eligible Employer under Code Section 115; provided that the PA 149 trust does not accept assets from any defined benefit health account established under Code Section 401(h);

WHEREAS, the Board is an investment fiduciary of the Trust under PA 149 and the Public Employee Retirement System Investment Act ("PERSIA"), 1965 PA 314, MCL 38.1132 et seq., and is responsible for the custody of assets in the Trust, as well as the establishment and monitoring of the investment options that comprise the investment menu among which a Participating Employer may select one or more for the investment of its RHFV assets;

WHEREAS, each Participating Employer is also a fiduciary of its assets in the RHFV under PA 149, and is responsible for the allocation of its assets by use of the investment options offered within the RHFV investment menu, establishment of an investment policy for its RHFV assets, and compliance with PERSIA.

WHEREAS, adoption of this MERS Retiree Health Funding Vehicle Uniform Resolution ("Uniform Resolution") by the Eligible Employer is necessary and required in order that the benefits available under the RHFV may be extended to the Eligible Employer; and

WHEREAS, the RHFV shall not be implemented with respect to any Participating Employer unless in strict compliance with the terms and conditions of this Uniform Resolution, the HCSP and RHFV Plan Document, and the Trust Agreement.

NOW, THEREFORE, BE IT RESOLVED that the governing body of

_____, _____,
(Participating employer) (Participating employer number)

adopts the MERS Retiree Health Funding Vehicle as provided below,

with an effective date of: _____
(MM/DD/YYYY)

for the following covered employees: _____
(List covered employee groups)

MERS Retiree Health Funding Vehicle Uniform Resolution

I. MERS RETIREE HEALTH FUNDING VEHICLE

CONTRIBUTIONS shall be made only by the Participating Employer, remitted to MERS by the Participating Employer, and credited to the Participating Employer's account as a bookkeeping entry within the Trust for the RHFV. As this RHFV account is funded solely by the Participating Employer on a cash or actuarial basis as determined by the Participating Employer, there is no requirement for an agreement establishing the schedule of contributions. Amounts in a Participating Employer's RHFV account shall be used to provide or subsidize the provision of health insurance for Eligible Retirees or their beneficiaries, to provide health benefits as defined by Code Section 213 and are excludable from income under Code Sections 105 and 106 as amended from time to time.

INVESTMENT of funds accumulated and held in the Trust shall be held in a separate reserve and invested on a pooled basis by MERS subject to PERSIA, Section 39 of MERA, MCL 38.1539, the Trust Agreement, and PA 149.

If the Participating Employer does not choose an investment option within the RHFV investment menu for its RHFV Account assets, the Participating Employer's assets will be placed in the Program's default investment option as provided for in the Trust Agreement, which assets MERS shall manage as sole fiduciary.

If the Participating Employer elects its own investment allocation within the RHFV investment menu, the Participating Employer shall be the sole fiduciary responsible for the asset allocation of its RHFV assets, in accordance with PERSIA, as required by PA 149.

THE PARTICIPATING EMPLOYER shall abide by the terms of the RHFV, including the MERS HCSP and RHFV Plan Document, Trust Agreement (both the Plan Document and Trust Agreement as may be amended by MERS from time to time), all investment, administration, and service agreements, and all applicable provisions of the Code, PERSIA, PA 149 and other law. It is affirmed that no assets from any defined benefit health account established under Code Section 401(h) shall be transferred to, or accepted by MERS.

DISTRIBUTIONS for allowable expenses require a Participating Employer to complete the applicable form approved by MERS. The Program Administrator shall establish any procedures necessary to process distribution requests and transfer funds within the period set by the Program Administrator.

II. IMPLEMENTATION DIRECTIONS

- (A) The governing body of the Participating Employer desires that all assets placed in its RHFV Account (as a sub-fund of the pooled Trust) be administered by MERS with respect to maintaining appropriate custody of the assets, and the establishment and monitoring of investment options included in the RHFV investment menu. The governing body of the Participating Employer may select its own investment allocation among the RHFV investment menu options, and shall do so in compliance with PERSIA, PA 149, all applicable provisions of the Code and other applicable law, as a co-fiduciary of its RHFV Account. If the Participating Employer does not make any selection within the RHFV investment menu for the investment of its Account assets, the Participating Employer's assets will be placed in the default investment option (as provided in the Trust Agreement), and MERS shall assume full fiduciary responsibility for those assets.

All assumptions, including the rate of investment return used in any other post-employment benefit ("OPEB") valuation, are the responsibility of the Participating Employer.

- (B) Initial investment option elections and allocations within the MERS investment menu made by the Participating Employer, as well as subsequent changes, may be made by the Participating Employer in the manner approved by MERS and submitted to the Program Administrator.

MERS Retiree Health Funding Vehicle Uniform Resolution

- (C) All monies in the RHFV (and any earnings thereon, positive or negative) shall be held and invested for the sole purpose of paying health care benefits for the exclusive benefit of Eligible Employees who shall constitute “qualified persons” who have retired or separated from employment with the Participating Employer or their beneficiaries, and for any Program administration expenses. RHFV monies shall not be used for any other purpose and shall not be distributed to the State.
- (D) Participation in and any coverage under the RHFV shall not constitute nor be construed to constitute an “accrued financial benefit” under Article 9, Section 24 of the Michigan Constitution of 1963, nor shall any contribution method for Participating Employer funding other than “pay as you go” cash funding be required or imposed, and all benefits, rights, and obligations conferred by or arising under the RHFV shall be as provided under this Uniform Resolution, and the RHFV Plan Document and Trust Agreement, both as amended from time to time.
- (E) The Participating Employer will determine who constitutes an “Eligible Employee” to receive retiree health care benefits subsidized under its RHFV Account. The Participating Employer will provide proof of liability for retiree health care benefits by way of a collective bargaining agreement and/or personnel policy, OPEB valuation, or most recent and active contract with its health insurer.
- (F) The Participating Employer will designate in writing an employer contact person who may request distributions of fund monies for the benefit of the Eligible Employees, and receive necessary reports, notices, etc., using a method approved by MERS.
- (G) The Participating Employer acknowledges its responsibility to create and comply with an investment policy with respect to its RHFV Account assets, as required by PA 149.
- (H) It is expressly agreed and understood as an integral and nonseverable part, extension or continuation of coverage under this Uniform Resolution, that this Uniform Resolution, the HCSP and RHFV Plan Document, the Trust Agreement, or any administration or interpretation thereto, shall not be amended by any collective bargaining agreement or similar agreement between the Participating Employer and its employees and/or their union(s).

III. TERMINATION OF PARTICIPATION

Termination of participation in the RHFV may occur for any of the reasons provided for in the HCSP and RHFV Plan Document and Trust Agreement. The Program Administrator shall determine what documentation is necessary to demonstrate termination in such circumstances. After receipt of such documentation, and approval of the termination, the Program Administrator shall supply the Participating Employer with any additional necessary forms to complete the termination.

IV. EFFECTIVE DATE OF THIS RHFV UNIFORM RESOLUTION

This Uniform Resolution shall have no legal effect until an executed copy is filed with MERS, and MERS determines that all necessary requirements under the HCSP and RHFV Plan Document, PA 149, this Uniform Resolution, the Trust Agreement, and other applicable laws, have been met. Upon MERS’ determination that all necessary documents have been completed and submitted, MERS shall execute this Uniform Resolution and return a copy to the Participating Employer’s designated contact person.

In the event an amendatory resolution or other action by the Participating Employer is required by MERS, such resolution or action may be deemed effective as of the date of this Uniform Resolution or such action, if agreed to in writing by all of the parties, including, the Program Administrator, if necessary. The terms and conditions of this Uniform Resolution supersede any prior resolution, and its terms are controlling on the parties.

MERS Retiree Health Funding Vehicle Uniform Resolution

This MERS Retiree Health Funding Vehicle Uniform Resolution is hereby adopted and approved on the _____ day of _____, 20____, by the governing body of

(Participating Employer)

Authorized Signature: _____

Name: _____

Title: _____

Received and approved by the Municipal Employees' Retirement System of Michigan

on the _____ day of _____, 20____,

Authorized Signature: _____

Name: _____

Title: _____

Contribution Addendum for MERS Defined Contribution (and DC portion of Hybrid)



1134 Municipal Way Lansing, MI 48917 | 800.767.2308 | Fax 517.703.9711

www.mersofmich.com

This is an Addendum to the Adoption Agreement completed by _____
Name of Participating Employer

for the following:

Employee Group Name

Division Code: _____

The Addendum accompanies the MERS 401(a) Defined Contribution (DC) Adoption Agreement. Please complete this addendum for each contribution structure associated with the covered employee group.

Section 1: Matching Contributions

The Participating Employer will make matching contributions into the DC Plan based on
(CHECK ALL THAT APPLY):

- Employee's MERS 457 program election
- Employee's non-MERS 457 program election
- Employee's one-time election of MERS Defined Contribution required employee contributions
- Other _____

For each payroll period in which Employee contributions described in Section 1 are made, the Participating Employer will contribute _____% of the Employee contribution amount.

For example, if an Employer elects a 50% match, then for every 1% the participant defers to the Program, the Employer will contribute 0.5% to the Program.

Employer Cap: The Employer elects the following matching contribution cap:

- Percentage Cap:** In no event will matching contributions made on behalf of a participant exceed _____% of the participant's IRS Section 401(a)(17) includable compensation as defined by the Employers' Adoption Agreement. Match cannot exceed 100% of participant's income.
- Flat Dollar Cap:** In no event will matching contributions made on behalf of a participant exceed a flat dollar amount equal to \$_____ per _____.

Contribution Addendum for MERS Defined Contribution (and DC portion of Hybrid)



1134 Municipal Way Lansing, MI 48917 | 800.767.2308 | Fax 517.703.9711

www.mersofmich.com

Section 2: Required DC Contributions

Select one:

- Employees are required to contribute per pay period: _____ (specify \$ or %)
- Range from _____ to _____ (specify \$ or %) per pay period
- Choice of contribution amounts per pay period:

Employee Contribution (\$ or %)	Employer Contribution (\$ or %)

The Employer designates _____ (specify \$ or %) as the default contribution

Federal law requires employees only be offered a contribution choice at the time of first eligibility. Therefore, the default will apply when an eligible employee fails to make an election prior to the first payroll reporting in which they qualified for the plan, and those employees who are transferred, rehired, or previously covered under a non-MERS plan.

Direct Required Employee Contributions: Pre-tax After-tax

Section 3: Non-Matching Contributions

The Employer hereby elects to make contributions to the participants' accounts without regard to a participant's contribution amount (check all that apply):

- Annual:** A one-time annual contribution of \$ _____ or _____% of compensation per participant.
- Pay Period:** \$ _____ or _____% of compensation per participant for each payroll period.
- One time:** \$ _____.

Contribution Addendum for MERS Defined Contribution (and DC portion of Hybrid)



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for the following:

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Contribution Addendum for MERS Defined Contribution (and DC portion of Hybrid)



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- Range from _____ to _____ (specify \$ or %) per pay period
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Employee Contribution (\$ or %)	Employer Contribution (\$ or %)

The Employer designates _____ (specify \$ or %) as the default contribution

Federal law requires employees only be offered a contribution choice at the time of first eligibility. Therefore, the default will apply when an eligible employee fails to make an election prior to the first payroll reporting in which they qualified for the plan, and those employees who are transferred, rehired, or previously covered under a non-MERS plan.

Direct Required Employee Contributions: Pre-tax After-tax

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The Employer hereby elects to make contributions to the participants' accounts without regard to a participant's contribution amount (check all that apply):

- Annual:** A one-time annual contribution of \$ _____ or _____% of compensation per participant.
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Contribution Addendum for MERS Defined Contribution (and DC portion of Hybrid)



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(CHECK ALL THAT APPLY):

- Employee's MERS 457 program election
- Employee's non-MERS 457 program election
- Employee's one-time election of MERS Defined Contribution required employee contributions
- Other _____

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Section 2: Required DC Contributions

Select one:

- Employees are required to contribute per pay period: _____ (specify \$ or %)
- Range from _____ to _____ (specify \$ or %) per pay period
- Choice of contribution amounts per pay period:

Employee Contribution (\$ or %)	Employer Contribution (\$ or %)

The Employer designates _____ (specify \$ or %) as the default contribution

Federal law requires employees only be offered a contribution choice at the time of first eligibility. Therefore, the default will apply when an eligible employee fails to make an election prior to the first payroll reporting in which they qualified for the plan, and those employees who are transferred, rehired, or previously covered under a non-MERS plan.

Direct Required Employee Contributions: Pre-tax After-tax

Section 3: Non-Matching Contributions

The Employer hereby elects to make contributions to the participants' accounts without regard to a participant's contribution amount (check all that apply):

- Annual:** A one-time annual contribution of \$ _____ or _____% of compensation per participant.
- Pay Period:** \$ _____ or _____% of compensation per participant for each payroll period.
- One time:** \$ _____.



To: Board Members
From: Bernadette Blonde
Interim Finance Director
Date: August 1st 2023
Re: 2nd Quarter Budget Amendments

The 2nd quarter 2023 budget amendments are detailed in the attached document. These amendments result from revenue and expenditures that were unknown during the original budget process.

Amendments to the 2023 General Fund include revenue adjustments for property tax collections, LCSA (Local Community Stabilization Authority Act), street light assessments, federal grant revenue and cost recovery from the fire department totaling an increase of \$732,284. Expenditure adjustments include invoices that came in higher than anticipated, reduction of the assessing department temporary salaries, fees of online tax payments, replacement of equipment and uniform requirements in the fire department totaling an increase of \$34,804.

The projected Fund Balance for the General Fund is as follows:

Fund Balance at December 31, 2022 per audit		\$15,269,906
Original budgeted use of Fund Balance 2023	(\$1,593,591)	
1 st quarter budget amendments	(\$5,999,795)*	
2 nd quarter budget amendments	<u>\$ 697,480</u>	
Projected use of Fund Balance	<u>(\$6,895,906)</u>	
Projected Fund Balance at December 31, 2023		<u>\$8,374,000</u>
Fund Balance/Average Monthly Expenditures		7.43

Amendments to the Special Revenue Funds consist of an increase of property tax and LCSA revenues, an adjustment to accommodate new lease and license payments for pathways.

Amendments to the Debt Service Funds consist an increase of property tax, LCSA and interest revenues.

Amendments to the Enterprise Funds consist of an increase in interest revenues.

*This includes the transfer out of funds to create the Pension Stabilization Fund (2,000,000) and the Capital Project Fund (3,500,000)

The following motion is proposed:

MOVE TO APPROVE THE 2ND QUARTER 2023 BUDGET AMENDMENTS WITH AN INCREASE IN BUDGETED FUND BALANCE FOR THE GENERAL FUND IN THE AMOUNT OF \$697,480 WHICH PROJECTS A USE OF FUND BALANCE OF \$6,895,906. BASED ON 2022 RESULTS, THE PROJECTED FUND BALANCE AT DECEMBER 31, 2023 WILL BE \$8,374,000.

Attachment:

1. 2nd Quarter 2023 Budget Amendments

Second Quarter Budget Amendments
2023 Budget
Charter Township of Meridian

Department	Amount	Explanation	Account
GENERAL FUND			
Revenue			
Current Property Taxes	167,279	Higher than anticipated	101-000.000-402.000
Police Millage 98/04	27,332	Higher than anticipated	101-000.000-404.030
Fire Millage 98/04	26,366	Higher than anticipated	101-000.000-405.050
Police/Fire Millage - 18	56,808	Higher than anticipated	101-000.000-405.080
Community Services Millage	2,705	Higher than anticipated	101-000.000-409.000
Street Lights	15,489	Slight increase in special assessment roll	101-000.000-428.000
Grant Revenue - Federal	57,891	Public Assistant Grant, EFLEA Grant	101-000.000-502.000
Local Community Stabilization Share	8,000	Higher than anticipated	101-000.000-573.000
Local Revenue Sharing Agreements	34,214	Higher than anticipated	101-000.000-582.000
Interest	300,000	Higher Interest Rates	101-000.000-665.000
Reimbursements - Fire	38,200	Cost Recovery from Consumers & Alaidon Township	101-000.000-676.030
Total Revenues	732,284		
Expenditures			
Administrative Services - PCOR Federal Fee	95	Higher than Anticipated	101-170.173-708.000
Accounting -Overtime	200	Celebrate Meridian Overtime	101-170.191-706.000
Accounting - Audit	1,600	Implementation of new lease standard GASB 87	101-170.191-807.000
Assessing - Salaries-Temporary	(9,900)	No summer interns due to the renovations	101-170.243-701.080
Treasurer - Contractual Services	4,500	Invoice Cloud Fee for online payments	101-170.253-820.000
Elections - Aug Election	1,092	Prior year Invoice paid in the current year	101-170.262-728.002
Elections - Nov Election	1,204	Prior year invoice paid in the current year	101-170.262-728.003
Admin & HR - Actuarial Services	7,125	Higher than anticipated	101-170.270-809.000
Fire Department - Special Equipment	8,200	Equipment replacement needed	101-300.336-726.000
Fire Department - Uniforms	9,000	New Employees from previous & current year and Promotions	101-300.336-760.000
Fire Department - Office Equipment/Furniture	5,000	Replacement of chairs in all Fire stations	101-300.336-980.000
Community Activities - Community Promotion	4,800	Prior year invoice paid in current year	101-750.775-880.000
Community Activities-Community Promotion-Health & Safety Expo	1,510	New Health Safety Expo Event - Not budgeted	101-750.775-880.100
Associations and Authorities-Mlchigan Townships Association	378	Higher than anticipated	101-750.800-825.060
Total Expenditures	34,804		
Net to Fund Balance	697,480		
SPECIAL REVENUE FUNDS			
Park Millage			
Revenues			
Park Millage	26,064	Higher than Anticipated	208-000.000-405.030
Local Community Stabilization Share	1,492	Higher than Anticipated	208-000.000-573.000
Total Revenues	27,556		
Net from Fund Balance	27,556		
Pedestrian Bike path Millage			
Revenues			
Bike Path Collections	15,363	Higher than anticipated	216-000.000-403.000
Local community Stabilization Share	746	Higher than anticipated	216-000.000-573.000
Total Revenues	16,109		
Expenditures			
Licenses	5,000	New lease and license payments for pathways	216-440.450-727.000
Total Expenditures	5,000		
Net from Fund Balance	11,109		

Land Preservation Millage

Revenues

Land Preservation Millage	5,546	Higher than anticipated	217-000.000-408.000
Local Community Stabilization Share	225	Higher than anticipated	217-000.000-573.000
Total Revenues	5,771		
Net from Fund Balance	5,771		

Senior Center Millage

Revenues

Community Service Millage	4,443	Higher than anticipated	223-000.000-409.000
Local Community Stabilization Share	893	Higher than anticipated	223-000.000-573.000
Total Revenues	5,336		
Net from Fund Balance	5,336		

Cata Millage

Revenues

Cata Millage	6,873	Higher than anticipated	288-000.000-407.000
Local Community Stabilization Share	447	Higher than anticipated	288-000.000-573.000
Total Revenues	7,320		
Net from Fund Balance	7,320		

DEBT SERVICE FUND

Roads Debt Retirement Fund

Revenues

Road Debt Millage Collection	88,755	Higher than anticipated	310-000.000-405.090
Local Community Stabilization Share	10,656	Higher than anticipated	310-000.000-573.000
Interest	30,000	Higher interest rates	310-000.000-665.000
Total Revenues	129,411		
Net to Fund Balance	129,411		

Fire Station Debt Service Fund

Revenues

Fire Station Millage Collection	9,222	Higher than anticipated	372-000.000-405.070
Local Community Stabilization Share	164	Higher than anticipated	372-000.000-573.000
Total Revenues	9,386		
Net to Fund Balance	9,386		

Enterprise Funds

Sewer Fund

Revenue

Interest	95,000	Higher than anticipated	590-000.000-665.000
Total Revenue	95,000		
Net from Fund Balance	95,000		

Water Fund

Revenues

Interest	90,000	Higher than anticipated	591-000.000-665.000
Total Revenue	90,000		
Net from Fund Balance	90,000		



13.A

To: Township Board

From: Timothy R. Schmitt, *AICP*, Director of Community Planning and Development

Date: July 27, 2023

Re: Special Use Permit #23-012 – The W. Investment Holdings – 1614 W. Grand River Avenue – Medical Marijuana Provisioning Center

The W. Investment Holdings has requested special use permit approval to construct an approximately 4,000 square foot medical marijuana provisioning center at 1614 Grand River Avenue. The 2.41-acre site is located on the north side of Grand River Avenue, east of Central Park Drive and zoned C-2, Commercial. The site was in the original overlay area for potential medical marijuana licenses and is still in the amended overlay districts that were recently approved by the Township Board.

The Planning Commission held a public hearing on the proposal at its meeting on June 12, 2023 and voted to recommend approval to the Township Board at their June 26th meeting. The application under consideration is identical to the Special Use Permit that was approved by the Township Board on April 14, 2020 and the applicant is proposing to build the same project that was previously approved.

Staff memorandums outlining the SUP request and minutes from the Planning Commission meetings at which the request was discussed are attached for the Board’s review.

Township Board Options

The Township Board may approve or deny the proposed special use permit proposal. If the Board amends the proposal, the request may be referred back to the Planning Commission for a recommendation. A resolution will be provided at a future meeting.

Attachments

1. Application Information
2. Staff memorandums dated June 8, 2023 and June 23, 2023
3. Planning Commission resolution recommending approval
4. Planning Commission minutes dated June 12, 2023 (public hearing) and June 26, 2023 (decision)

**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 The W. Investment Holdings - Ammar W. Alkhafji
 Address of Applicant 29580 Northwestern Highway
 Telephone - Work 248.559.5555 Home _____ Fax _____ Email ammar@investorsgroup.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 1614 W. Grand River / 33-02-22-426-001 / Parcel 3
 Legal description (please attach if necessary) Attached
 Current zoning C2 - Commercial District
 Use for which permit is requested / project name Commercial
 Corresponding ordinance number _____
- C. Developer (if different than applicant) Same as above
 Address _____
 Telephone – Work _____ Home _____ Fax _____
- D. Architect, Engineer Planner or Surveyor responsible for design of project if different from applicant:
 Name Nowak and Fraus Engineers Rogvov Architects
 Address 46777 Woodward, Pontiac, MI 48342 32500 Telegraph, Bingham Farms, MI 48025
 Telephone – Work 248.332.7931 Home _____ ~~Fax~~ Tel. 248.540.7700
- E. Acreage of all parcels in the project: Gross 2.40 Net _____
- F. Explain the project and development phases:
- G. Total number of:
 Existing: structures 1 bedrooms unknown offices N/A parking spaces N/A carports N/A garages 1
 Proposed: structures 1 bedrooms N/A offices N/A parking spaces 53 carports N/A garages N/A
- H. Square footage: existing buildings 2,161 proposed buildings 4,000
 Usable Floor area: existing buildings 2,161 proposed buildings 4,000
- 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: It is expected that there will be 3 employees on site. Hours of operation is anticipated to be from 8 am to 7 pm
- J. Existing Recreation: Type N/A Acreage _____
 Proposed Recreation: Type N/ Acreage _____
 Existing Open Space: Type Residential Lawn Acreage 2.28
 Proposed Open Space: Type Commercial Lawn Acreage 1.60

- 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

3/23/23

Date

AMMAR ALKHAFAJI

Type/Print Name

Fee: _____

Received by/Date: _____



CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

LEGAL DESCRIPTION

PARCEL 3

The East 145 feet of the following description: Beginning at a point 1123.75 feet West of the East quarter post of Section 22, Town 4 North, Range 1 West, thence West 351 feet, thence South 748 feet to the center of Grand River Road, thence Easterly along center of said road 351 feet; thence North 746 feet to beginning, Meridian Township, Ingham County, Michigan.

Address: 1614 W. Grand River Avenue
Tax ID No.: 33-02-02-22-426-001

NOWAK & FRAUS ENGINEERS

46777 WOODWARD AVENUE
PONTIAC, MI 48342-5032

WWW.NOWAKFRAUS.COM

VOICE: 248.332.7931
FAX: 248.332.8257



CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

March 15, 2023

Meridian Township
5151 Marsh Road
Okemos, Michigan 48864

Attention: **Department of Community Planning and Development**

Regarding: **Parcel 3 – 1614 W. Grand River 33-02-22-426-001**
Special Land Use

To All:

The W. Investment Holdings – Ammar W. Alkhafaji desires to construct a retail business on the referenced parcel/property. Parcel 3 is 2.20 acres of a larger property that will be developed in the future by the Owner listed above. The proposed retail is planned to be a 4,000 square foot building with a total 34 parking spaces.

1. The site noted above is zoned C-2 Commercial District. The minimum lot area is 4,000 square feet. The lot/ parcel 3 is 2.40 acres. The lot width is 144 feet. The proposal meets the setback requirements.

The proposed use is a provisioning center. At the suggestion of the Township and in accordance with Section 86-404 the applicant is submitting this project for a special use.

2. The Township Master Plan identifies the subject parcel zoned as commercial use. The proposed use as a provisioning center will be harmonious with the surrounding properties. The property to the east of this project is a medical office. The property to the west of the site is commercial. Long term plans are to develop Parcel 2 as a commercial retail site. The provisioning center is consistent with applicable land use policies contained in the Township's Master Plan of current adoption as our property has been chosen via the township's "lottery" for District 5.
3. As provided on the attached plans, the propose development fits seamlessly on the site and has been designed to meet the standards of the Meridian Township Zoning Ordinance. As indicated above the proposed development will be harmonious with the surrounding properties and will serve as a transition between the medical office to the east and the commercial operation to the west. The hours of operation will conform with the township's requirement and will not exceed what is allowed by the township. All precautionary measures will be taken in regard to the security of the operation along with the wellbeing of the community and surrounding vicinity. Building will be constructed following all Township and Michigan building code standards. The design will be appropriate with the existing general vicinity and its intended character and will not change the essential character of that area.
4. The proposed development will be a transition between the surrounding properties and will be harmonious with those properties. It will **not** adversely affect or be hazardous to existing neighboring uses. Our facility will include an odor plan including a carbon filtration system to make sure there is no

NOWAK & FRAUS ENGINEERS

46777 WOODWARD AVENUE
PONTIAC, MI 48342-5032

WWW.NOWAKFRAUS.COM

VOICE: 248.332.7931
FAX: 248.332.8257

smell giving a negative effect to our neighbors and surrounding community. We will also be having full security on the property during business hours to ensure safety to our clientele and the community at large.

5. It is anticipated that the proposed provisioning center will slightly increase the amount of commercial activity in this area. The provisioning center will be replacing existing an existing residential property. It is likely that the patrons for this project will also utilize the other nearby properties. This project will **not** be detrimental to the economic welfare of surrounding properties and community, and in fact will have a positive effect to the economic welfare of surrounding properties and community.
6. The subject parcel has frontage onto West Grand River Avenue. Pedestrian access currently exists along Grand River Avenue. Public utilities such as sewer, water and storm water are available to the site.
7. The site is served by public water and sanitary sewer services. All of which will be properly designed to fit this project and will be adequately capable of handling all long term needs for the proposed project.
8. The proposed project will not involve any uses or activities, processes, materials, equipment or conditions that will be detrimental to any persons, property or general welfare through the excessive generation of traffic, noise, smoke, fumes, glare or odor. A traffic generation report along with traffic study is provided to show support of that. We have also provided an odor plan in the provisioning center application to show all preventative measures of eliminating odor to surrounding area. There will be no conduct in the place of business to create excessive noise, smoke or fumes. All lighting of the property will be conforming to townships ordinance.
9. The proposed provisioning center project will not directly or indirectly have an adverse impact on the natural resources of the Township, the agricultural soils, water recharge areas, lakes, rivers, streams, major forests, wetlands and wildlife areas.

The proposed project is located within the existing commercial area of the Township.

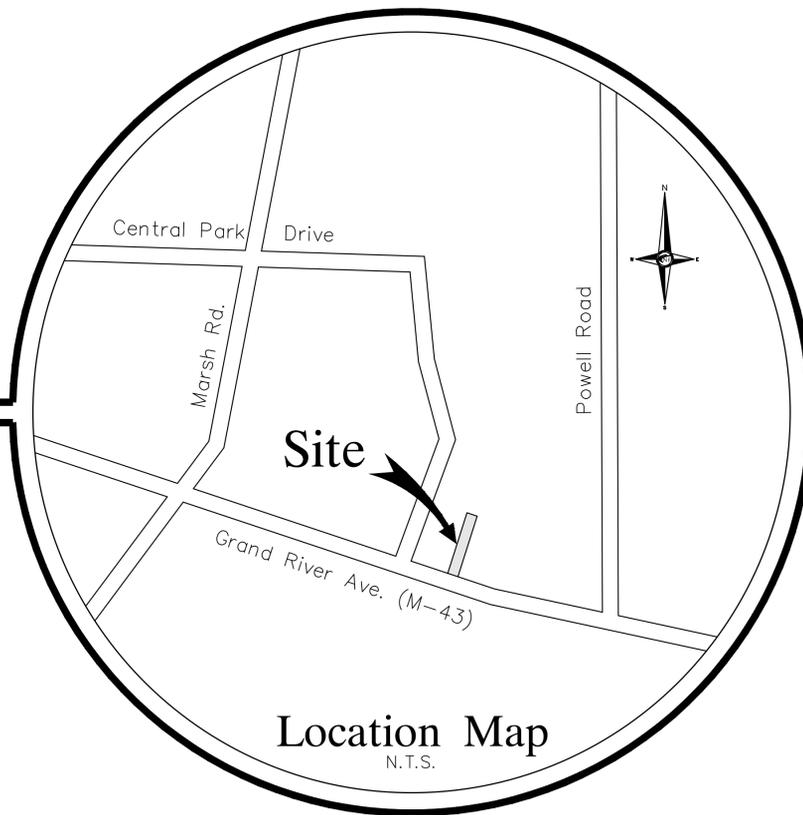
Please call us if there are any questions pertaining to the above.

Respectfully,
Nowak and Fraus Engineers

Michael D. Peterson, P.E.

Meridian Township,
Ingham County, Michigan
SITE PLAN PACKAGE

Prepared For:
W Investment Holdings



REVISIONS: 2020-01-24 Revise per Meridian Township
--

Owner

W INVESTMENT HOLDINGS
29580 NORTHWESTERN HWY.
SUITE 100,
SOUTHFIELD, MI 48034
CONTACT: AMMAR W. ALKHAFAJI
PHONE: (248) 559-5555

Architect

ROGVOY ARCHITECTS
32500 TELEGRAPH ROAD
SUITE 250
BINGHAM FARMS, MICHIGAN 48025
CONTACT: MARK DRANE
PHONE: (248) 540-7700

Civil Engineer

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVENUE
PONTIAC, MICHIGAN 48342
CONTACT:
MR. JEFFREY J. HUHTA, P.E., P.S.
PHONE: (248) 332-7931
EMAIL: JHUHTA@NFE-ENGR.COM

Landscape Architect

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVENUE
PONTIAC, MICHIGAN 48342
CONTACT:
MR. GEORGE A. OSTROWSKI, R.L.A.
PHONE: (248) 332-7931
EMAIL: GOSTROWSKI@NFE-ENGR.COM

SHEET INDEX

C0	COVER SHEET
C1	BOUNDARY/TOPOGRAPHIC/TREE SURVEY - SOUTH
C2	BOUNDARY/TOPOGRAPHIC/TREE SURVEY - NORTH
C3	TREE SURVEY
C4	SITE PLAN
C5	DEMOLITION PLAN
L1	TREE PRESERVATION PLAN
L2	LANDSCAPE PLAN

Project Name:

**1614 W. Grand River
Proposed Provisioning Center**

LEGAL DESCRIPTION (PARCEL 3 PER RECORDS)

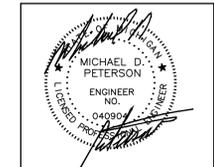
Address: 1622 W. Grand River Avenue
Tax ID No.: 33-02-02-22-401-003

PARCEL 3

The East 145 feet of the following description: Beginning at a point 1123.75 feet West of the East quarter post of Section 22, Town 4 North, Range 1 West, thence West 351 feet, thence South 748 feet to the center of Grand River Road, thence Easterly along center of said road 351 feet; thence North 746 feet to beginning, Meridian Township, Ingham County, Michigan.

Address: 1614 W. Grand River Avenue
Tax ID No.: 33-02-02-22-426-001

NFE JOB # J987-02



CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

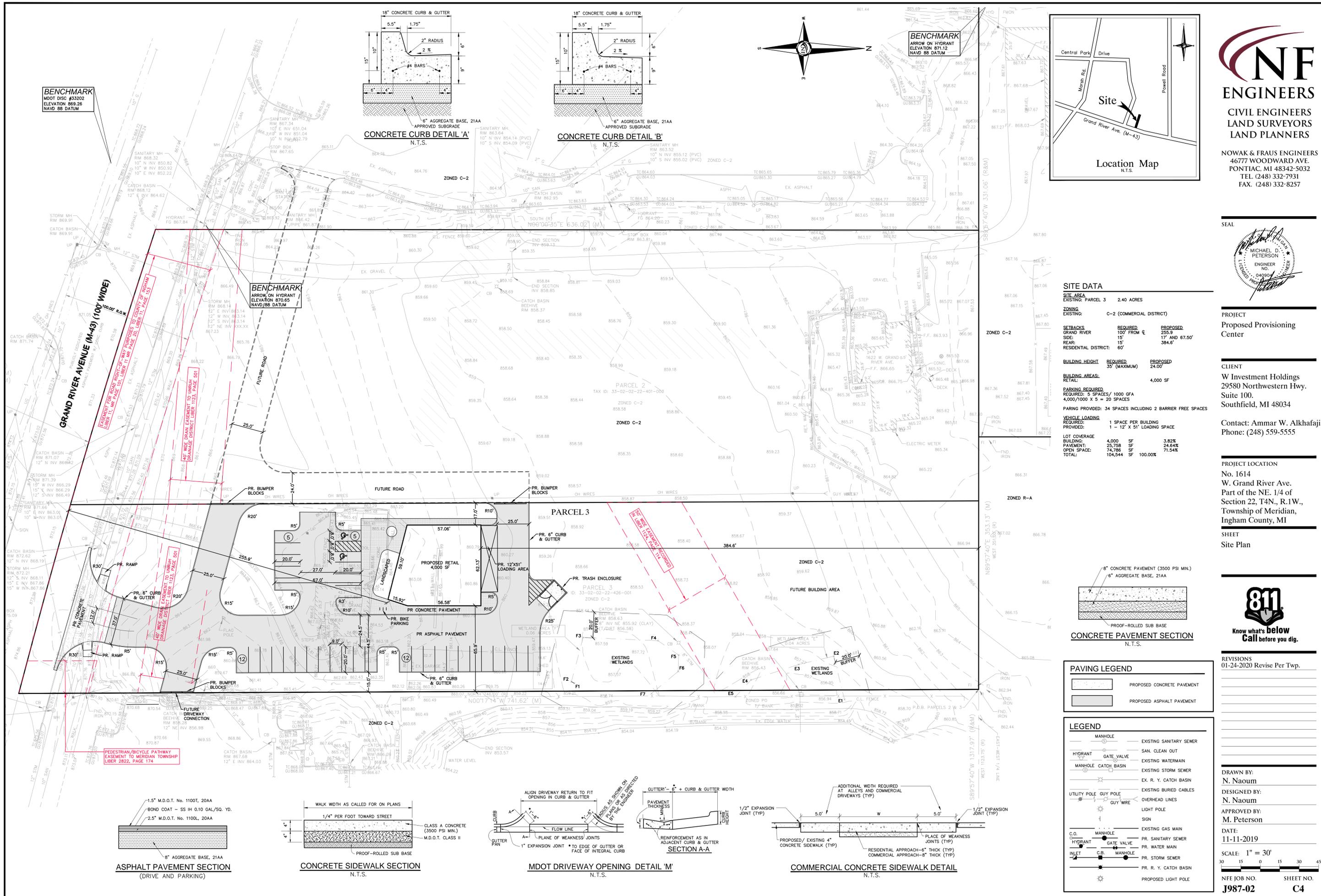
NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257

Tree Inventory List
 Job Number: J987 TS
 Job Location: 1614 West Grand River, Meridian Twp., Okemos
 Client: LaFontaine

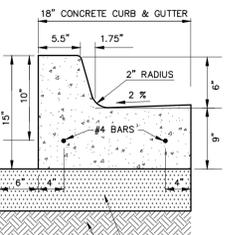
Condition Description Notes:
 "Good" - no observed structural defects
 "Fair" - minor structural defects, marginal form, some insect activity noted
 "Poor" - major structural defects, poor form, insect infested

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

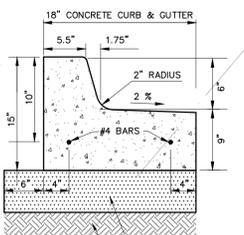
Tree #	Botanical Name	Common Name	Dia.	Type	Other Dia.	Condition	Comments
178	Malus spp.	Crabapple spp.	9	Twin	8	Good	
179	Pinus nigra	Austrian Pine	14			Dead	
180	Pinus sylvestris	Scotch Pine	12			Poor	Insect damage, extensive crown deadwood
181	Picea pungens	Colorado Blue Spruce	10			Poor	90% dead
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	14			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	18			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	Acer platanoides	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 decay
220	Platanus occidentalis	Sycamore	26			Good	
221	Acer platanoides	Norway Maple	14	Multiple	12, 11	Good	
222	Betula populifolia	Gray Birch	13			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	Weak trunk union with included bark, decay suspected
232	Acer saccharinum	Silver Maple	30	Multiple	28, 10	Fair	Unbalanced crown, large bow in trunk
233	Acer saccharinum	Silver Maple	30			Fair	Basal trunk decay
234	Acer platanoides	Norway Maple	20	Twin	17	Poor	
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	6			Fair	
238	Acer negundo	Boxelder	8			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	
247	Rhamnus cataracta	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	6	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	Pinus spp.	Pear	15	Multiple		Good	
303	Pinus 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	
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			Good	
332	Acer saccharum	Sugar Maple	18			Fair	Extensive trunk decay
333	Acer saccharum	Sugar Maple	20			Good	Declining
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	Pinus spp.	Pear	11	Multiple	5, 3	Fair	
340	Pinus spp.	Pear	10			Poor	Extensive trunk deadwood
341	Pinus 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	12			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					



BENCHMARK
 MDOT DISC #33202
 ELEVATION 869.26
 NAVD 88 DATUM



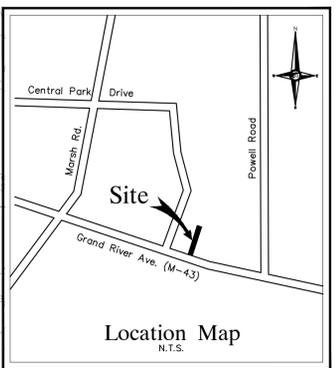
CONCRETE CURB DETAIL 'A'
N.T.S.



CONCRETE CURB DETAIL 'B'
N.T.S.



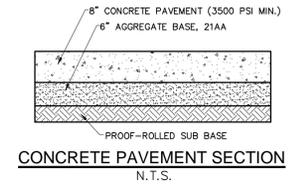
BENCHMARK
 ARROW ON HYDRANT
 ELEVATION 871.12
 NAVD 88 DATUM



Location Map
N.T.S.

SITE DATA

SITE AREA	EXISTING: PARCEL 3	2.40 ACRES
ZONING	EXISTING:	C-2 (COMMERCIAL DISTRICT)
SETBACKS	REQUIRED	PROPOSED
GRAND RIVER	100' FROM E	255.9'
SIDE	15'	17' AND 67.50'
REAR	15'	384.6'
RESIDENTIAL DISTRICT	60'	
BUILDING HEIGHT	REQUIRED	PROPOSED
RETAIL	35' (MAXIMUM)	24.00'
BUILDING AREAS:		4,000 SF
PARKING REQUIRED:	REQUIRED: 5 SPACES/ 1000 GFA	
	4,000/1000 X 5 = 20 SPACES	
PARKING PROVIDED:	34 SPACES INCLUDING 2 BARRIER FREE SPACES	
VEHICLE LOADING	REQUIRED:	1 SPACE PER BUILDING
PROVIDED:	1 - 12' X 51' LOADING SPACE	
LOT COVERAGE	4,000 SF	3.82%
BUILDING:	25,768 SF	24.64%
PAVEMENT:	74,786 SF	71.54%
OPEN SPACE:	104,544 SF	100.00%
TOTAL:		

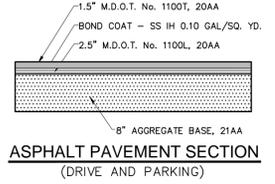


PAVING LEGEND

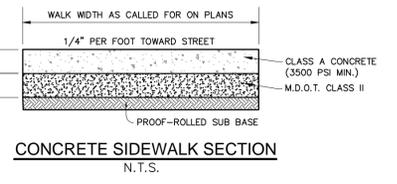
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[Symbol]	PROPOSED ASPHALT PAVEMENT

LEGEND

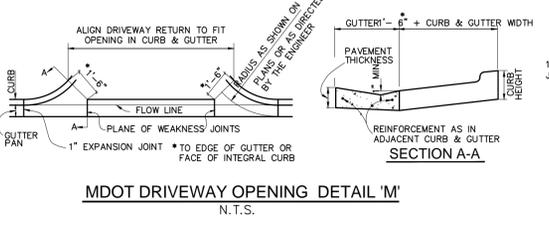
[Symbol]	MANHOLE	EXISTING SANITARY SEWER
[Symbol]	HYDRANT	SAN. CLEAN OUT
[Symbol]	GATE VALVE	EXISTING WATERMAIN
[Symbol]	MANHOLE	EXISTING STORM SEWER
[Symbol]	CATCH BASIN	EX. R. Y. CATCH BASIN
[Symbol]	UTILITY POLE	EXISTING BURIED CABLES
[Symbol]	GUY POLE	OVERHEAD LINES
[Symbol]	GUY WIRE	LIGHT POLE
[Symbol]	SIGN	EXISTING GAS MAIN
[Symbol]	C.O.	PR. SANITARY SEWER
[Symbol]	MANHOLE	PR. WATER MAIN
[Symbol]	HYDRANT	PR. STORM SEWER
[Symbol]	GATE VALVE	PR. R. Y. CATCH BASIN
[Symbol]	C.B.	PROPOSED LIGHT POLE
[Symbol]	INLET	
[Symbol]	MANHOLE	



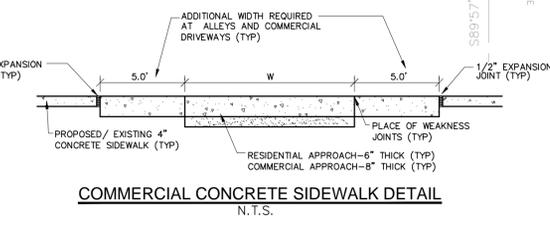
ASPHALT PAVEMENT SECTION
(DRIVE AND PARKING)



CONCRETE SIDEWALK SECTION
N.T.S.



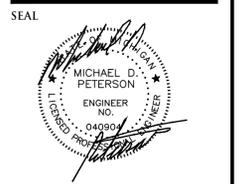
MDOT DRIVEWAY INTEGRAL DETAIL 'M'
N.T.S.



COMMERCIAL CONCRETE SIDEWALK DETAIL
N.T.S.



NOWAK & FRAUS ENGINEERS
 46777 WOODWARD AVE.
 PONTIAC, MI 48342-5032
 TEL. (248) 332-7931
 FAX. (248) 332-8257



PROJECT
 Proposed Provisioning
 Center

CLIENT
 W Investment Holdings
 29580 Northwestern Hwy.
 Suite 100.
 Southfield, MI 48034

Contact: Ammar W. Alkhafaji
 Phone: (248) 559-5555

PROJECT LOCATION
 No. 1614
 W. Grand River Ave.
 Part of the NE 1/4 of
 Section 22, T4N., R.1W.,
 Township of Meridian,
 Ingham County, MI

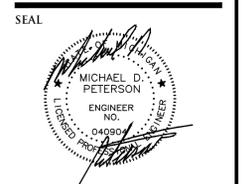
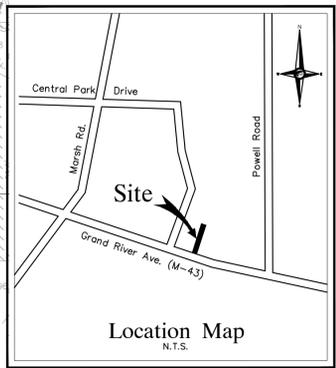
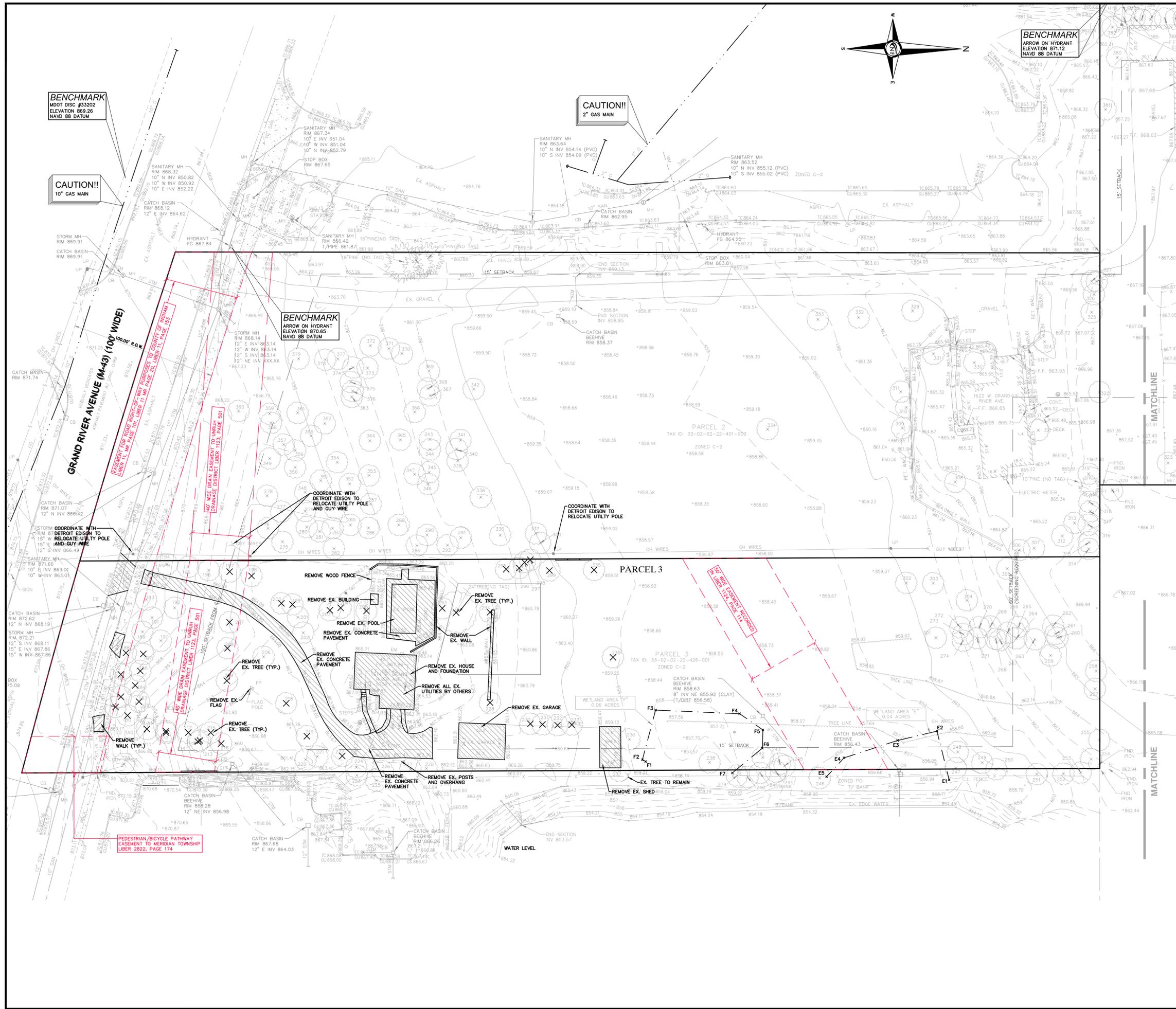
SHEET
 Site Plan



REVISIONS
 01-24-2020 Revise Per Twp.

DRAWN BY:
 N. Naoum
DESIGNED BY:
 N. Naoum
APPROVED BY:
 M. Peterson
DATE:
 11-11-2019

SCALE: 1" = 30'
 30 15 0 15 30 45
NFE JOB NO. **SHEET NO.**
1987-02 **C4**



PROJECT
 Proposed Provisioning Center

CLIENT
 W Investment Holdings
 29580 Northwestern Hwy.
 Suite 100.
 Southfield, MI 48034

Contact: Ammar W. Alkhafaji
 Phone: (248) 559-5555

PROJECT LOCATION
 No. 1614
 W. Grand River Ave.
 Part of the NE. 1/4 of
 Section 22, T4N., R.1W.,
 Township of Meridian,
 Ingham County, MI

SHEET
 Demolition Plan



TOPOGRAPHIC SURVEY NOTES

ALL ELEVATIONS ARE EXISTING ELEVATIONS, UNLESS OTHERWISE NOTED.
 UTILITY LOCATIONS WERE OBTAINED FROM MUNICIPAL OFFICIALS AND RECORDS OF UTILITY COMPANIES, AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, OR EXACTNESS OF LOCATION.
 THIS SURVEY MAY NOT SHOW ALL EASEMENTS OF RECORD UNLESS AN UPDATED TITLE POLICY IS FURNISHED TO THE SURVEYOR BY THE OWNER.

LEGEND	
	EXISTING SANITARY SEWER
	EXISTING SAN. CLEAN OUT
	EXISTING WATER MAIN
	EXISTING STORM SEWER
	EX. R. Y. CATCH BASIN
	EXISTING BURIED CABLES
	OVERHEAD LINES
	LIGHT POLE
	SIGN
	EXISTING GAS MAIN
	EXISTING UTILITY TO BE REMOVED
	EXISTING UTILITY TO BE ABANDONED
	INDICATES EXISTING TREE TO BE REMOVED
	INDICATES AREAS OF PAVEMENT, BUILDINGS, ETC. TO BE REMOVED

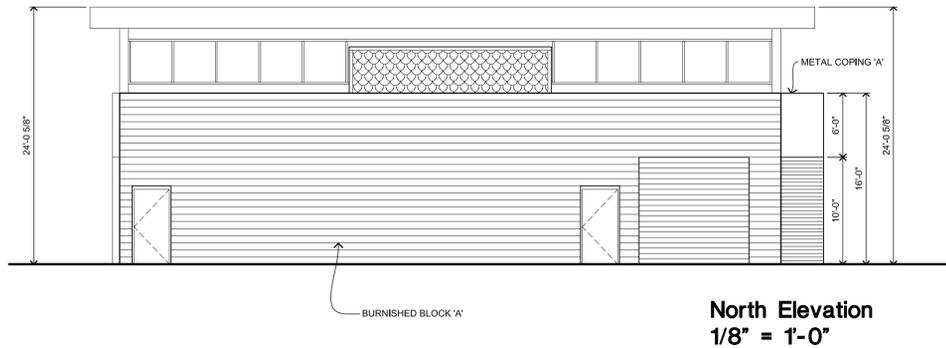
DRAWN BY:
 N. Naoum
 DESIGNED BY:
 N. Naoum
 APPROVED BY:
 M. Peterson
 DATE:
 11-11-2019
 SCALE: 1" = 30'

 NFE JOB NO. **J987-02** SHEET NO. **C5**

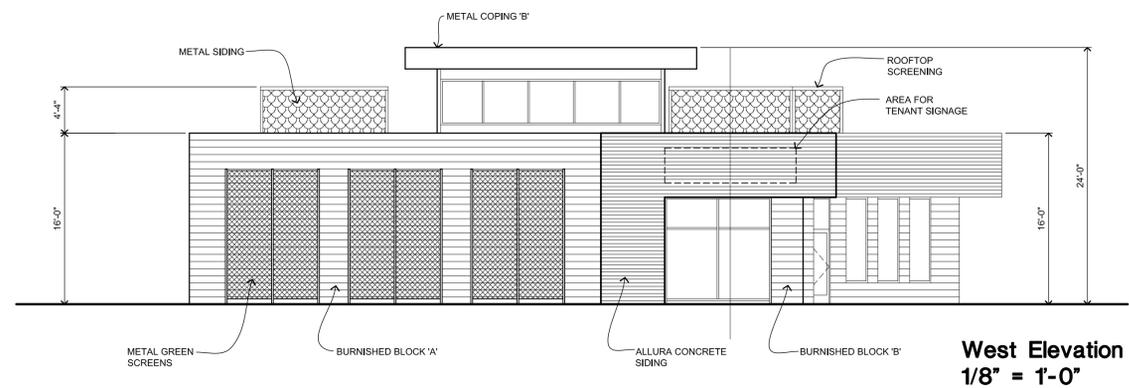
project:

Proposed for
Commercial Development

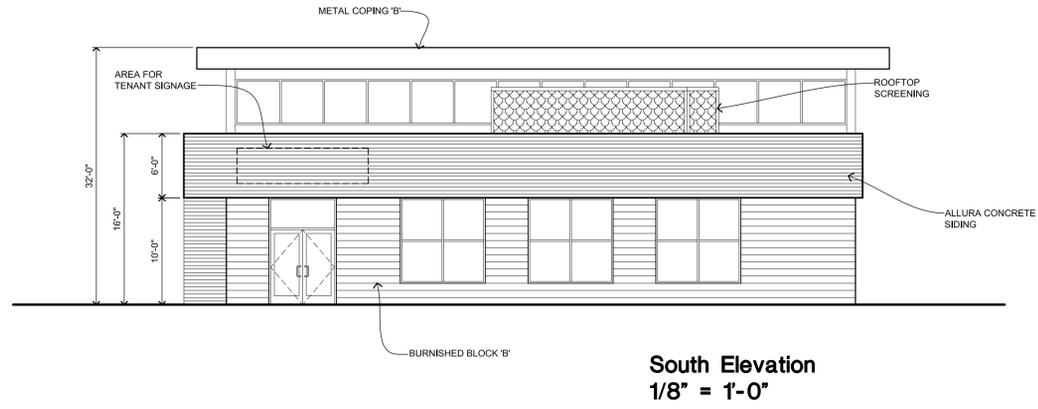
Grand River Ave.
 Meridian, MI



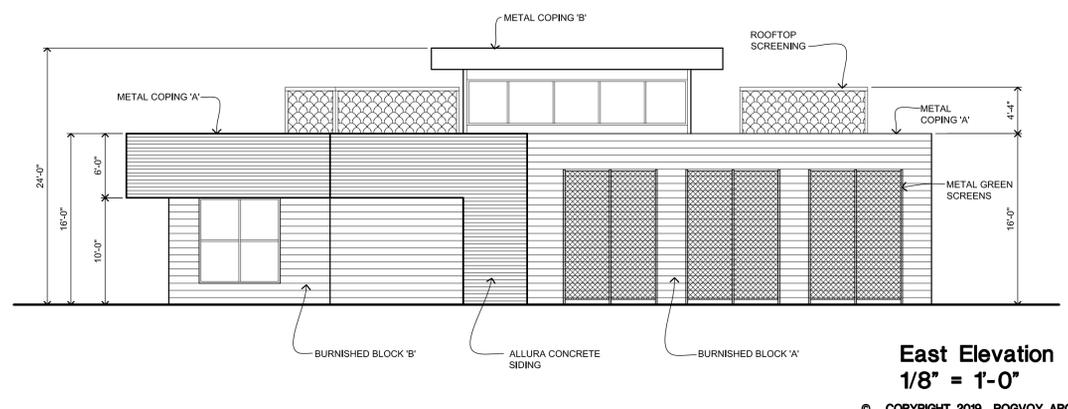
North Elevation
 1/8" = 1'-0"



West Elevation
 1/8" = 1'-0"



South Elevation
 1/8" = 1'-0"



East Elevation
 1/8" = 1'-0"



32600 TELEGRAPH ROAD
 SUITE 250
 BINGHAM FARMS, MICHIGAN
 48025-2404
 PH 248.540.7700 FX 248.540.2710
 www.rogvoy.com

drawing:

**Conceptual
 Floor Plan**

DO NOT SCALE DRAWING

issue date: 02 AUG. 2019
 drawn: BDB
 checked: MD
 approved: MD

file number: **19030**

sheet:

ELEV

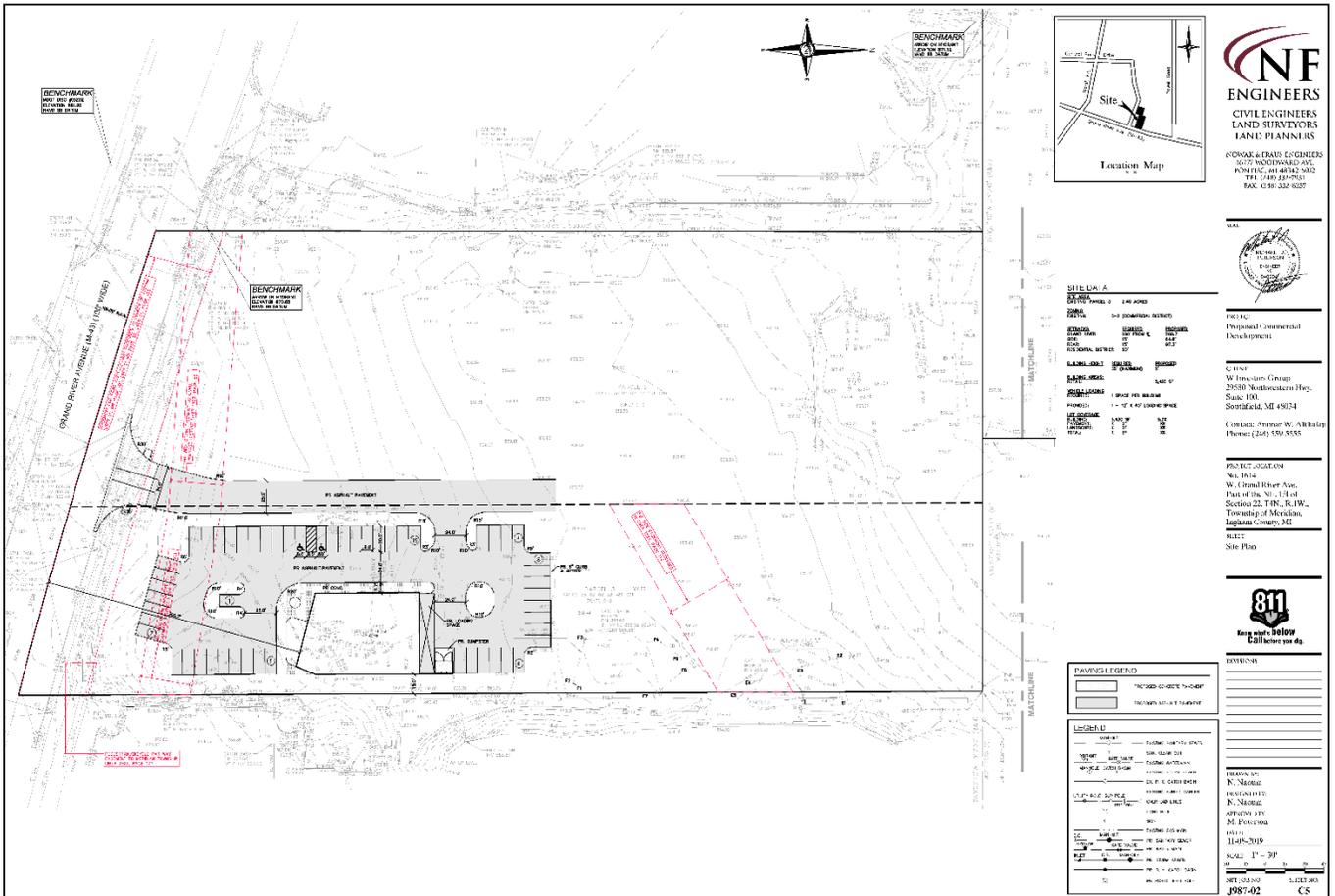
March 15, 2023

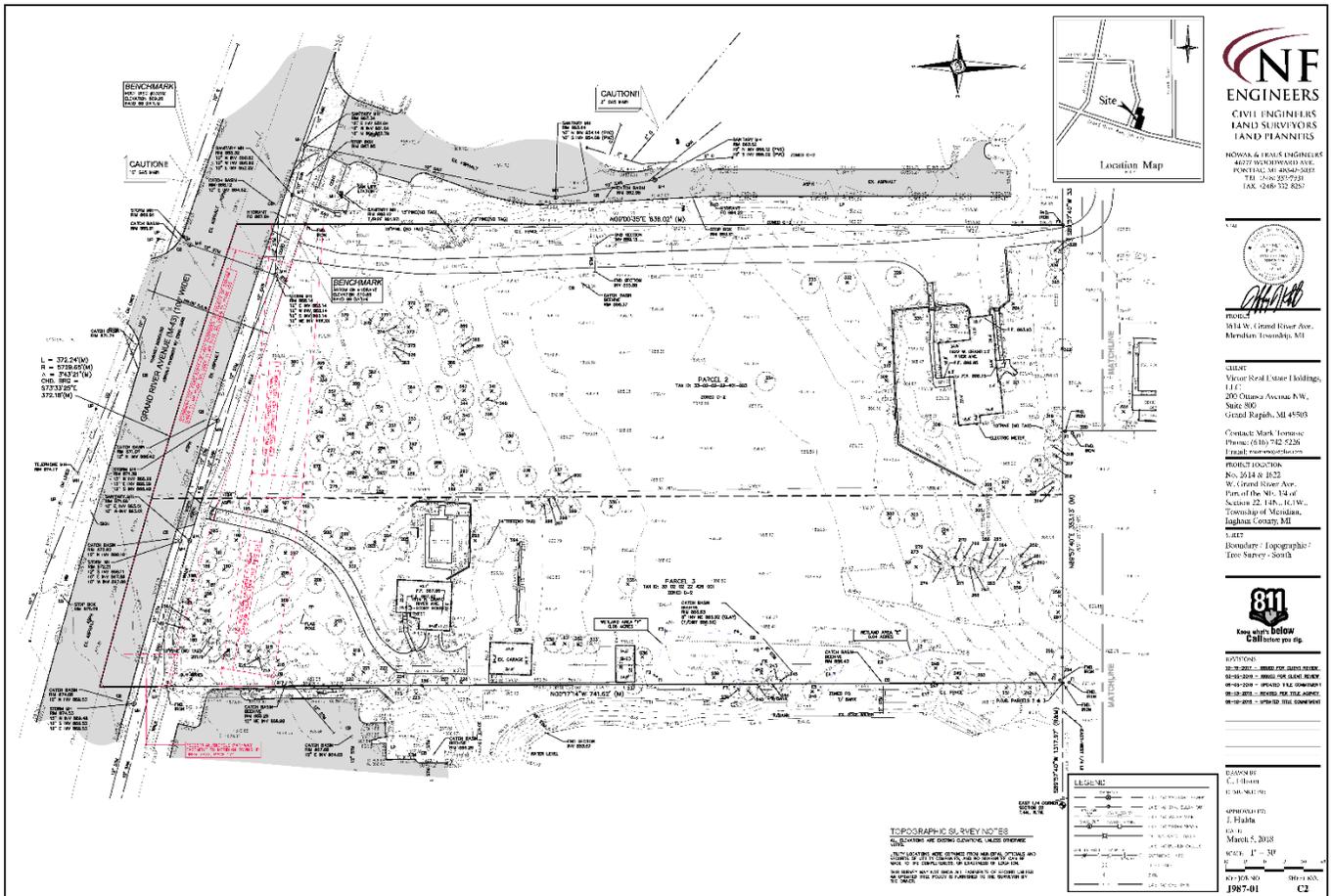
Natural Features Assessment
 1614 Grand River Ave. - Meridian Township

The site is located at 1614 Grand River Avenue in Meridian Township. The proposed project will be on what is designated as parcel 3. Parcel 3 is 2.4 acres in size. The proposed project will be part of a larger project that will be developed in the future.

Access for the site will be from Grand River Avenue and is proposed to be a 3-lane ingress/egress.

The site is zoned C-2 – Commercial District. The owners are proposed to place a dispensary on the site.

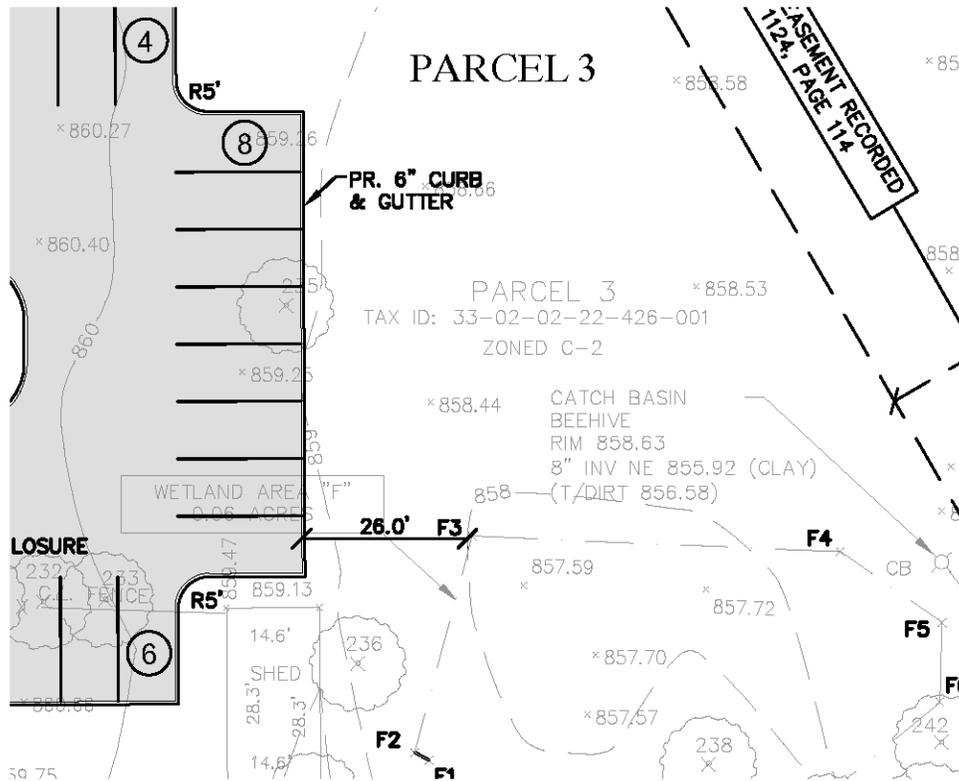




NFE has done work on this site under previous projects. As part of that work, NFE did an extensive topographic, tree and wetland survey. Based on the proposed improvement currently being developed, 50 trees will be removed. Those trees, their condition, etc., are detailed on the accompanying plans in the tree survey. The trees removed will be replaced in accordance with the accompanying landscape plan.

Floodways will not be impacted and are not applicable to this project. Floodplains, water bodies identified groundwater vulnerable areas, slopes greater than 20%, ravines and vegetative cover types with potential to sustain significant or endanger wildlife are none existent on this parcel.

The closest wetland to this site which was designated as Wetland Area "F" (0.06 acres) is more than 25 feet away from the proposed improvement.



As stated above, the impact on natural feature will be the removal of trees to accommodate the proposed improvement, depicted above. The plans show the plantings proposed for the proposed improvement. In accordance with the ordinance the negative removal of trees will be mitigated with new plantings. The plans also show that tree protective fencing will be place to protect those trees and areas that are not designated to be removed.

MEMO

VIA EMAIL Dominic@bacallgroupllc.com

To: W. Investment Holdings, LLC

From: Jacob Swanson, PE
Fleis & VandenBrink Engineering

Date: April 27, 2023

Re: 1614 W. Grand River Avenue – Provisioning Center Development
Resubmission, April 2023
Traffic Volume & Trip Generation Comparisons

1 INTRODUCTION

This memorandum presents the results of the traffic volume comparison and trip generation analysis for the proposed provisioning center site, located at 1614 W. Grand River Avenue, in Meridian Township, Michigan. Fleis & VandenBrink (F&V) previously completed a Traffic Impact Study (TIS) for the proposed development, dated January 21, 2020. Since this study was completed, the site plan has been revised and the traffic volumes utilized in the study were over five (5) years old at this time. Therefore, the Township has requested a comparison of the 2018 traffic volumes utilized in the TIS to the available current traffic volume data and a comparison between the trip generation calculations associated with the previous TIS and the currently proposed development plans for this site.

The scope of the study was developed based on Fleis & VandenBrink’s (F&V) understanding of the development program, accepted traffic engineering practice, information provided by Meridian Township, and methodologies published by the Institute of Transportation Engineers (ITE).

2 TRAFFIC VOLUME COMPARISON

The previous 2020 TIS utilized turning movement count data that was collected by Traffic Engineering Associates (TEA) in 2018. Therefore, a comparison with current traffic volume data was evaluated, in order to verify the accuracy of the previous analyses. The MDOT Transportation Data Management System (TDMS) was utilized to review historical traffic volume data and Average Annual Daily Traffic (AADT) volume information along the study roadways of Grand River Avenue and Dobie Road / Central Park Drive. The results of the comparison are summarized in **Table 1**.

Table 1: Traffic Volume (AADT) Comparison

Year	Grand River (At Dobie Rd.)	Dobie Road / Central Park (At Grand River Ave.)	Grand River (E. of Hamilton Rd.)	Average
2018	0%	0%	0%	0%
2019	-4%	0%	-1%	-2%
2020	-20%	-15%	-20%	-18%
2021	+14%	+14%	+5%	11%
2022	+1%	0%	+1%	1%
Difference (2018 - 2022)	-9%	-1%	-15%	-8%

The results of the comparison indicates that the historical AADT (vpd) data has been decreasing on the adjacent roadways since 2018. Therefore, the 2018 TEA turning movement counts that were utilized in the original 2020 TIS are expected to provide a conservative analysis of the current 2023 conditions.

27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

3 TRIP GENERATION ANALYSIS

The number of weekday peak hour (AM and PM) and daily vehicle trips that would be generated by the proposed development was forecast based on data published by ITE in the *Trip Generation, 11th Edition*. It should be noted that the trip generation analysis completed for this site in the F&V 2020 TIS utilized the ITE *Trip Generation, 10th Edition*. No changes to the previous trip generation calculations were made for this comparison. The site trip generation forecast is summarized in **Table 2**.

Table 2: Site Trip Generation Comparison

Scenario	Land Use	ITE Code	Size	Unit	Average Daily Traffic (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
						In	Out	Total	In	Out	Total
Previous Site Plan (1/21/2020 TIS)	Marijuana Dispensary*	882	5,430	SF	1,372	32	25	57	60	59	119
Current Site Plan (2023)	Marijuana Dispensary	882	4,000	SF	844	22	20	42	38	38	76
Difference					-528	-10	-5	-15	-22	-21	-43

* ITE Trip Generation 10th Edition

4 CONCLUSIONS

- The results of the traffic volume comparison indicates that the historical AADT (vpd) data has been decreasing since 2018. Therefore, the turning movement counts that were utilized in the original 2020 TIS are expected to provide a conservative analysis of the current 2023 conditions.
- The trip generation comparison indicates that the currently proposed site plan will generate **less trips** than the trip generation projections utilized for the previous 2020 TIS, based on the reduced building size and the updated ITE rates and equations.
- The results of this comparison show that trip generation and the traffic volumes in 2023 are *less* than the analysis that was performed in 2020.
 - Therefore, the proposed development is expected to have less of an impact to the adjacent roadway network than evaluated in the 2020 TIS.

Any questions related to this memorandum, study, analysis, and results should be addressed to Fleis & VandenBrink.



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Michigan.

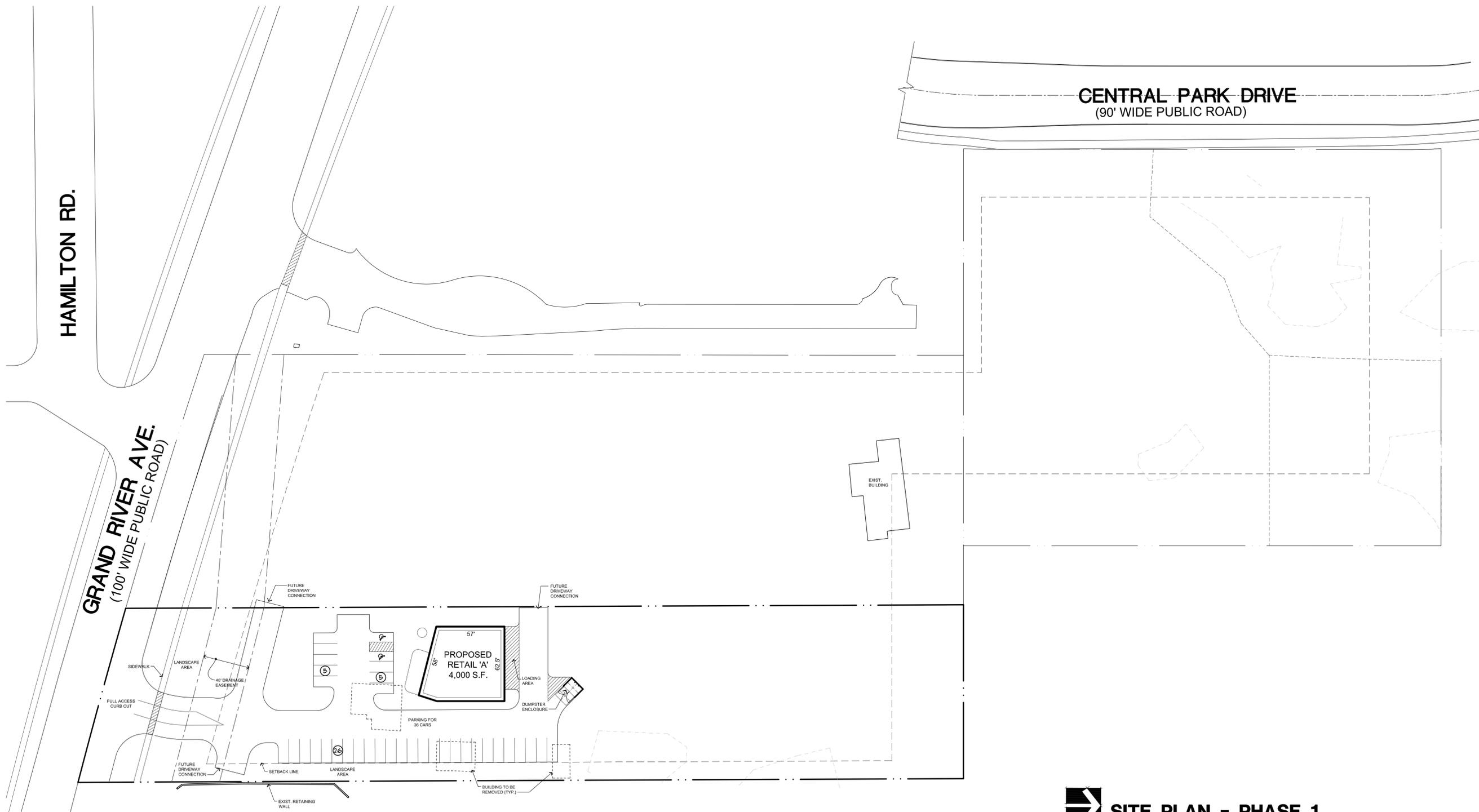
Attached: Proposed Site Plan
 2020 Traffic Impact Study

JJS2:jmk

LAND/ BUILDING/ PARKING DATA :	
PHASE 1	
LAND DATA :	
OVERALL LAND AREA :	2.4 ACRES
BUILDING DATA :	
PROPOSED RETAIL 'A' :	4,000 S.F.
PARKING REQUIRED : 20 SPACES	
RETAIL :	
5 SPACES/ 1,000 GFA	
(4,000/ 1000 = 4 X 5 = 20 SPACES)	
PARKING PROVIDED : 36 SPACES	

issued for:
 OWNER REVIEW: 17 OCTOBER 2019
 OWNER REVIEW: 21 OCTOBER 2019
 OWNER REVIEW: 23 OCTOBER 2019
 OWNER REVIEW: 28 OCTOBER 2019
 OWNER REVIEW: 31 OCTOBER 2019
 OWNER REVIEW: 15 JAN. 2020
 OWNER REVIEW: 17 JAN. 2020
 OWNER REVIEW: 22 JAN. 2020

project:



Proposed for
Commercial Development
 Grand River Ave.
 Meridian Twp., MI



32500 TELEGRAPH ROAD
 SUITE 250
 BINGHAM FARMS, MICHIGAN
 48025-2404
 PH 248.540.7700 FX 248.540.2710
 www.rogvooy.com

drawing:
Conceptual Site Plan Phase 1
 DO NOT SCALE DRAWING
 issue date: 02 AUG. 2019
 drawn: KS/KL
 checked: MD
 approved: MD

file number: 19030
 sheet:

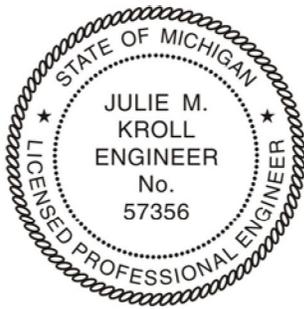
 **SITE PLAN - PHASE 1**
 SCALE: 1"=40'-0"

SP-1A

PROPOSED PROVISION CENTER TRAFFIC IMPACT STUDY

MERIDIAN TOWNSHIP, MICHIGAN

JANUARY 21, 2020



Julie M. Kroll

Digitally signed by Julie M.
Kroll
Date: 2020.01.21 16:52:39
-05'00'

PREPARED FOR:

W INVESTMENT HOLDINGS, LLC
29580 NORTHWESTERN HWY, SUITE 1000
SOUTHFIELD, MI 48034

PREPARED BY:



27725 STANSBURY BLVD., SUITE 195
FARMINGTON HILLS, MI 48834

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This document is provided by Fleis & VandenBrink Engineering, Inc. for informational purposes only. No changes or revisions may be made to the information presented in the document without the express consent of Fleis & VandenBrink Engineering, Inc. The information contained in this document is as accurate and complete as reasonably possible. Should you find any errors or inconsistencies, we would be grateful if you could bring them to our attention.

The opinions, findings, and conclusions expressed herein are those of Fleis & VandenBrink Engineering, Inc. and do not necessarily reflect the official views or policy of the Meridian Township, or the Michigan Department of Transportation (MDOT), which makes no warranty, either implied or expressed, for the information contained in this document; neither does it assume legal liability or responsibility for the accuracy, completeness or usefulness of this information. Any products, manufacturers or trademarks referenced in this document are used solely for reference purposes.

Agency Review	Date	Comments



TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
EXISTING OPERATIONS	1
<i>Grand River Ave. & Central Park Drive.....</i>	<i>1</i>
<i>Grand River Ave. & Hamilton Road</i>	<i>2</i>
FUTURE CONDITIONS.....	2
<i>Grand River Ave. & Central Park Drive.....</i>	<i>2</i>
<i>Grand River Ave. & Hamilton Road</i>	<i>2</i>
<i>Grand River Ave. & Site Drive.....</i>	<i>2</i>
ACCESS MANAGEMENT	2
RECOMMENDATIONS.....	2
1 INTRODUCTION.....	3
2 BACKGROUND DATA.....	6
2.1 EXISTING ROAD NETWORK.....	6
2.2 EXISTING TRAFFIC VOLUMES.....	6
3 ANALYSIS	6
3.1 EXISTING CONDITIONS	6
<i>Grand River Ave. & Central Park Drive.....</i>	<i>9</i>
3.2 EXISTING IMPROVEMENTS	9
3.3 BACKGROUND CONDITIONS.....	10
3.4 SITE TRIP GENERATION	10
3.5 SITE TRAFFIC ASSIGNMENT.....	10
3.6 FUTURE CONDITIONS.....	13
<i>Grand River Ave. & Central Park Drive.....</i>	<i>14</i>
3.7 FUTURE IMPROVEMENTS.....	14
3.8 ACCESS MANAGEMENT	14
3.8.1 <i>Grand River Ave. (M-43) Corridor Access Management</i>	<i>14</i>
3.8.2 <i>MDOT Right-Turn Lane Analysis</i>	<i>15</i>
3.8.3 <i>Intersection Sight Distance Analysis.....</i>	<i>15</i>
4 CONCLUSIONS.....	16
5 RECOMMENDATIONS.....	17

LIST OF TABLES

TABLE 1: EXISTING INTERSECTION OPERATIONS	9
TABLE 2: EXISTING INTERSECTION OPERATIONS-WITH IMPROVEMENTS	10
TABLE 3: SITE TRIP GENERATION	10
TABLE 4: SITE TRIP DISTRIBUTION.....	10
TABLE 5: FUTURE INTERSECTION OPERATIONS	13
TABLE 6: FUTURE INTERSECTION OPERATIONS WITH IMPROVEMENTS	14
TABLE 7: INTERSECTION/ DRIVEWAY SPACING SUMMARY	14
TABLE 8: INTERSECTION/ DRIVEWAY SPACING SUMMARY-ALTERNATIVE MINIMUMS	15

LIST OF FIGURES

FIGURE E1: SITE LOCATION 1

FIGURE 1: SITE LOCATION 4

FIGURE 2: LANE USE AND TRAFFIC CONTROL 7

FIGURE 3: EXISTING TRAFFIC VOLUMES 8

FIGURE 4: SITE-GENERATED TRAFFIC VOLUMES..... 11

FIGURE 5: FUTURE TRAFFIC VOLUMES 12

FIGURE 6: ACCESS MANAGEMENT INTERSECTION SPACING..... 15

FIGURE 7: INTERSECTION SIGHT DISTANCE 16

LIST OF APPENDICES

- A. BACKGROUND INFORMATION
- B. EXISTING TRAFFIC CONDITIONS
- C. FUTURE TRAFFIC CONDITIONS
- D. WARRANT SUMMARIES

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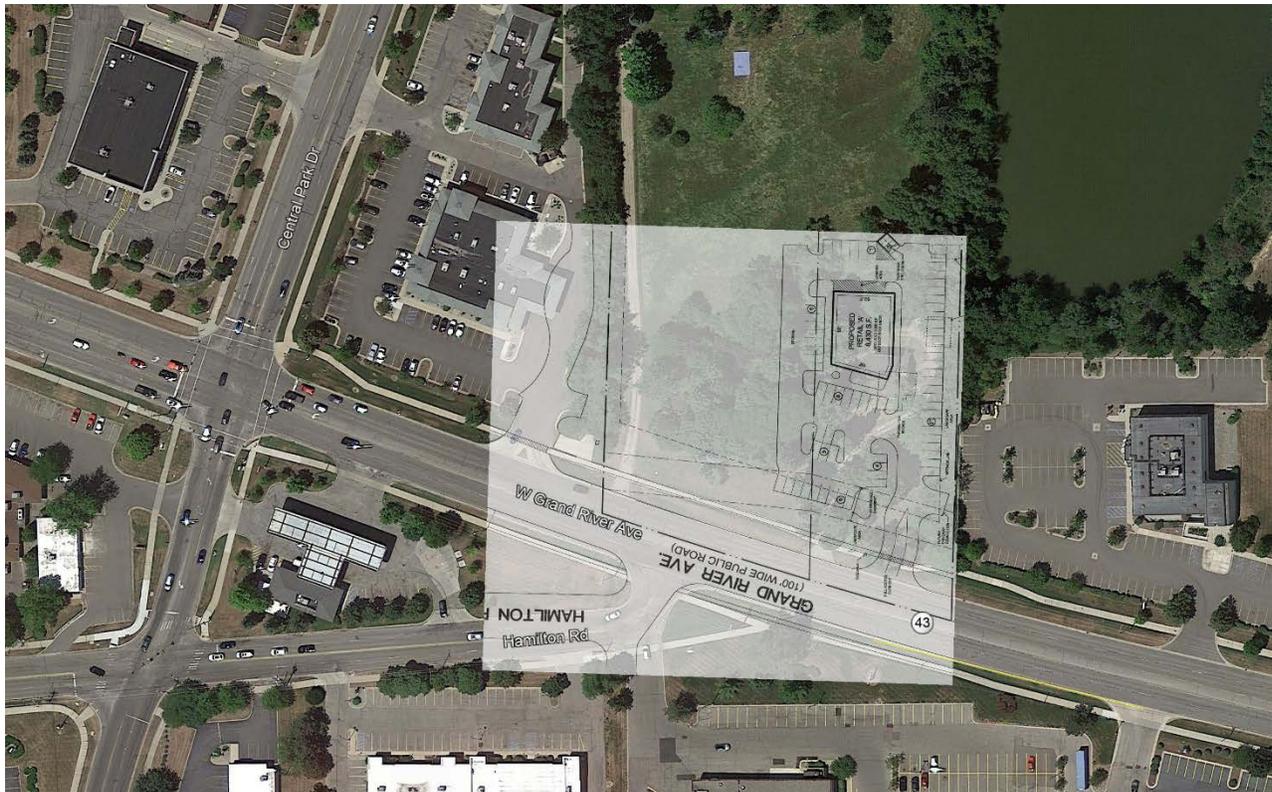
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EXECUTIVE SUMMARY

This report presents the results of a Traffic Impact Study (TIS) for the proposed provision center development in Meridian Township, Michigan. The project site is located generally in the northeast quadrant of W. Grand River Avenue and Central Park Avenue, adjacent to the north side of W. Grand River Avenue, opposite the intersection with Hamilton Road, as shown on **Figure E1**. The proposed development includes a 5,430 SF marijuana dispensary with site access to be provided via one site driveway to W. Grand River Ave. The Michigan Department of Transportation (MDOT) has jurisdiction over W. Grand River Ave. (M-43).

FIGURE E1: SITE LOCATION



This TIA has been completed at the request of Meridian Township to identify the impacts (if any) of the proposed development on the proposed site access point and the permitting of the site access. The scope of the study was developed based on Fleis & VandenBrink's (F&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practice, methodologies published by the Institute of Transportation Engineers (ITE) and the requirements of Meridian Township. Additionally, F&V obtained input regarding the scope of work from Meridian Township Planning Department. In accordance with Township Ordinance, a Traffic Impact Study (TIS) is required for site plan approval.

EXISTING OPERATIONS

The existing conditions analysis included the evaluation of the existing 2020 operations at the study intersections. The results of the existing conditions analysis are summarized below.

Grand River Ave. & Central Park Drive

- During the AM peak hour, the intersection operates well, with an acceptable LOS and queue lengths for all approaches and movements.
- During the PM peak hour, the southbound left-turns on Central Park Drive operate at a LOS E, with excessive queue lengths that extend beyond the existing left-turn lane and impact the southbound through traffic on Central Park Drive.

- In order to improve the existing operations at this intersection mitigation measures were investigated, including signal timing changes and operations.
 - Signal timing optimization **is** recommended.
 - Left-turn phasing *is not* recommended.
- With the signal timing optimization at this intersection the operations improve to acceptable LOS and significantly reduce queue length.

Grand River Ave. & Hamilton Road

- During the both the AM and PM peak hours the intersection operates well, with an acceptable LOS and queue lengths for all approaches and movements.

FUTURE CONDITIONS

The future conditions analysis included the evaluation of the future 2020 operations with the addition of the proposed development traffic at the study intersections. The results of the future conditions analysis are summarized below.

Grand River Ave. & Central Park Drive

- During the AM peak hour the intersection operates well, with acceptable LOS and queue lengths for all approaches and movements.
- During the PM peak hour the southbound left-turns on Central Park Drive operate at a LOS E, with excessive queue lengths that extend beyond the existing left-turn lane and impact the southbound through traffic on Central Park Drive.
 - With the signal timing optimization at this intersection the operations improve to an acceptable LOS and significantly reduce queue length.

Grand River Ave. & Hamilton Road

- During the both the AM and PM peak hours the intersection operates well, with an acceptable LOS and queue lengths for all approaches and movements.

Grand River Ave. & Site Drive

- During both the AM and PM peak hours the intersection operates well, at a LOS B/C during the peak periods with queue lengths of 1-2 vehicles.

ACCESS MANAGEMENT

1. The proposed site driveway meets Grand River Ave. (M-43) Corridor Access Management criterion, provided the exceptions are granted by the Township and MDOT for the following driveways:
 - Tom's Driveway
 - Speedway Driveway
 - Sparrow Driveway
2. There is an existing center left-turn lane adjacent to the site; therefore, only the MDOT right-turn lane criteria was evaluated for the proposed site drive intersection. The results of the analysis show that a right-turn lane or taper is not required.
3. The results of the intersection sight distance analysis show that there will be adequate intersection sight distance at the proposed site driveway on Grand River Ave.

RECOMMENDATIONS

The recommendations of this TIS are as follows:

- MDOT should investigate signal timing optimization at the Grand River & Central Park Drive intersection to improve existing and future PM peak hour operations.

1 INTRODUCTION

This report presents the results of a Traffic Impact Study (TIS) for the proposed provision center development in Meridian Township, Michigan. The project site is located generally in the northeast quadrant of W. Grand River Avenue and Central Park Avenue, adjacent to the north side of W. Grand River Avenue, opposite the intersection with Hamilton Road, as shown on **Figure 1**. The proposed development includes a 5,430 SF marijuana dispensary with site access to be provided via one site driveway to W. Grand River Ave. The Michigan Department of Transportation (MDOT) has jurisdiction over W. Grand River Ave. (M-43).

This TIA has been completed at the request of Meridian Township to identify the impacts (if any) of the proposed development on the proposed site access point and the permitting of the site access. The scope of the study was developed based on Fleis & VandenBrink's (F&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practice, methodologies published by the Institute of Transportation Engineers (ITE) and the requirements of Meridian Township. Additionally, F&V obtained input regarding the scope of work from Meridian Township Planning Department. In accordance with Township Ordinance, a Traffic Impact Study (TIS) is required for site plan approval.

The purpose of this study is to identify the traffic related impacts, if any, of the proposed development project on the adjacent road network. Specific tasks undertaken for this study include the following:

1. Study Area

- a. Provide a description of the study area including surrounding land uses, intersection and roadway geometries, speed limits, functional classifications and traffic volume data (where available). In addition, a study area site map showing the site location and the study intersections will also be provided.

2. Proposed Land Use

- a. Obtain and review the proposed site plan which includes the proposed land uses, densities, and desired site access locations. A description of the current and proposed land use will be accompanied with a complete project site plan (with buildings identified as to proposed use). A schedule for construction of the development will also be provided.

3. Existing Conditions

- a. Provide an analysis of the traffic-related impacts of the proposed development at the following study intersections:
 - Grand River Ave. & Central Park Drive/Dobie Road
 - Grand River Ave. & Hamilton Road
 - Grand River Ave. & Proposed Site Drive
- b. Obtain existing AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak period turning movement counts at the study intersections from Meridian Township for use in this study.
- c. Identify the Existing AM and PM peak hour traffic volumes at the study intersections based on turning movement count data provided.
- d. Calculate the **Existing** vehicle delays, LOS, and vehicle queues at the study intersections during the AM and PM. The analysis will be performed at each of the study intersections. Intersection analysis shall include LOS determination for all approaches and movements. The LOS will be based on the procedures outlined in the HCM 6th Edition, the latest edition of Transportation Research Board's Highway Capacity Manual.
- e. Identify improvements (if any) for the study road network that would be required to accommodate the existing traffic volumes.

4. Future Background Growth

- a. If the planned completion date for the project or the last phase of the project is beyond one year of the study, an estimate of background traffic growth for the adjacent street network will be made and included in the analysis.
- b. Calculate the future background traffic volumes based on an appropriate traffic growth determined from local or statewide data to the project build-out year and/or any applicable background developments in the vicinity of this project as identified by Meridian Township.

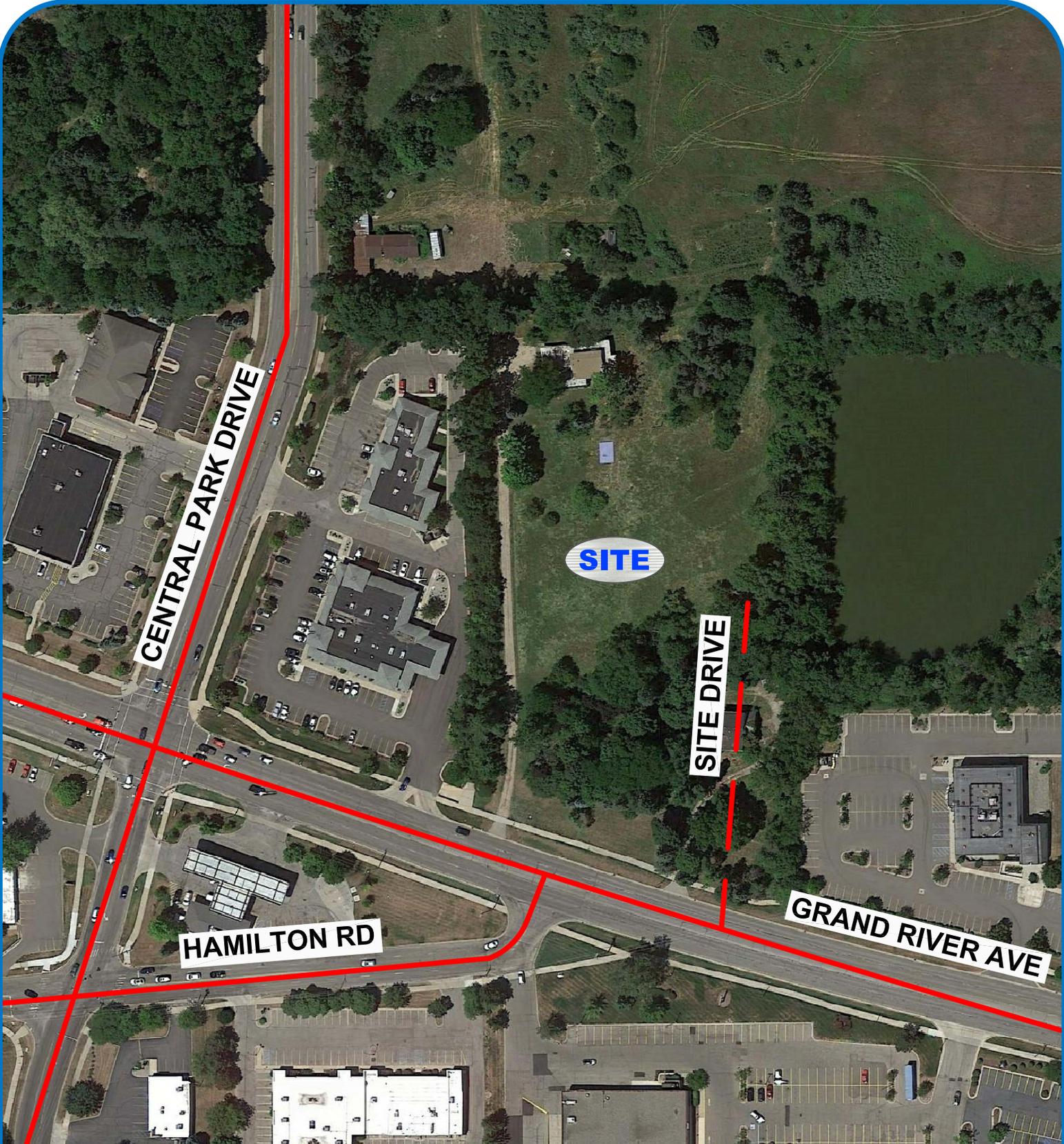


FIGURE 1 SITE LOCATION MAP

PROPOSED PROVISIONING CENTER
MERIDIAN TOWNSHIP, MI

LEGEND

 SITE LOCATION



5. Background Conditions (No Build)

- a. Calculate the **Background (without the proposed development)** vehicle delays, LOS, and vehicle queues at the study intersections during the AM and PM peak periods. Intersection analysis shall include LOS determination for all approaches and movements. The LOS will be based on the procedures outlined in the HCM 6th Edition, the latest edition of Transportation Research Board's Highway Capacity Manual.
- b. Any state, local, or private transportation improvement projects in the project study area that will be underway in the build-out year and traffic that is generated by other proposed developments in the study area will be included as background conditions.
- c. Identify improvements (if any) for the study road network that would be required to accommodate the background traffic volumes.

6. Trip Generation

- a. Forecast the number of AM and PM peak hour trips that would be generated by the proposed development based on data published by the Institute of Transportation Engineers (ITE) in *Trip Generation, 10th Edition*.
- b. A table will be provided in the report outlining the categories and quantities of land uses, with the corresponding trip generation rates or equations, and the resulting number of trips.

7. Trip Distribution and Traffic Assignment

- a. Assign the trips that would be generated by the proposed development to the adjacent road network based on existing traffic patterns. The distribution of the estimated trip generation to the adjacent street network and nearby intersections shall be included in the report and the basis will be explained. The distribution percentages with the corresponding volumes will be provided in a graphical format.
- b. Combine the site-generated traffic assignments with the background traffic forecasts to establish the Future AM and PM peak hour traffic volumes.

8. Future Conditions

- a. Calculate the **Future (with the proposed development)** vehicle delays, LOS, and vehicle queues at the study intersections. Intersection analysis shall include LOS determination for all approaches and movements. The LOS will be based on the procedures outlined in the HCM 6th Edition, the latest edition of Transportation Research Board's Highway Capacity Manual.
- b. Identify improvements (if any) for the study road network that would be required to accommodate the future traffic volumes.

9. Access Management

- a. Evaluate the Meridian Township Access Management criteria for the proposed site driveway on Grand River Ave., including adjacent driveway locations, opposite driveway locations, the location and spacing of the proposed site access in relation to the existing adjacent driveway and intersections.
- b. Evaluate the proposed intersection sight distance at the proposed site driveway intersection on Grand River Ave.

The scope of this study was developed based on Fleis & VandenBrink's (F&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practice and information published by the Institute of Transportation Engineers (ITE). In addition, Meridian Township provided input regarding the scope of work for this study. The study analyses were completed using Synchro/SimTraffic (Version 10). Sources of data for this study included Traffic Engineering Associates (TEA) and information provided by Meridian Township, MDOT and ITE. All background information is provided in **Appendix A**.

2 BACKGROUND DATA

2.1 EXISTING ROAD NETWORK

Vehicle transportation for the proposed development is provided via Grand River Avenue located adjacent to the south side of the project site location. The lane use and traffic control at the study intersections are shown on **Figure 2** and the study roadways are further described below. For the purpose of this study, all minor streets and driveways are assumed to have an operating speed of 25 miles per hour (mph).

Grand River Avenue (M-43) runs generally in the east and west directions with a posted speed limit of 45 mph. Grand River Ave. is under the jurisdiction of MDOT and is classified a *Minor Arterial* adjacent to the proposed project site. The study segment has an AADT of approximately 13,250 vehicles per day (MDOT 2019). Grand River has a typical five-lane cross section in the vicinity of the site location, with two lanes in each direction and a center left-turn lane. The intersection with Central Park Drive is signalized, the intersection with Hamilton Road is unsignalized.

2.2 EXISTING TRAFFIC VOLUMES

The existing weekday turning movement count data used in this study were obtained from Meridian Township. TEA performed a traffic impact study in the vicinity of this project in 2018 and turning movement count data was collected at the study intersections for that project. The turning movement count data collected in 2018 was compared to the weekday traffic volume data obtained from the MDOT Traffic Data Management System (TDMS). This data included 24-hour traffic volume data collected on March 11-12, 2019 and recorded in 15-minute intervals. This data was used as a baseline to determine if a background growth rate was necessary to calculate the existing 2020 traffic volume for use in this study. The results of this comparison showed that the 2018 traffic volumes were essentially equal to the 2019 traffic volumes; therefore, no background growth was applied to the 2018 traffic volumes to establish the existing 2020 traffic conditions without the proposed development. The 2018 data were used as a baseline to establish the current 2020 peak hour traffic volumes for the analysis of existing traffic conditions. During collection of the turning movement counts, pedestrian data and commercial truck percentages were recorded and used in the traffic analysis. Peak Hour Factors (PHFs) were also calculated for each study intersection approach.

The peak hour volumes for each intersection were utilized for this study and the volumes were balanced upward through the study network, and through volumes were carried along the main study roadways. The peak hour traffic volumes were identified to occur between 7:45 AM to 8:45 AM and 5:00 PM to 6:00 PM. The traffic volume data are included in **Appendix A** and the existing peak hour traffic volumes used in the analysis are summarized on **Figure 3**.

3 ANALYSIS

3.1 EXISTING CONDITIONS

The existing AM and PM peak hour vehicle delays and Levels of Service (LOS) were calculated at the study intersection using Synchro traffic analysis software. The results of the analysis of existing conditions were based on the existing lane use and traffic control shown on **Figure 2**, the existing traffic volumes shown on **Figure 3**, and the methodologies presented in the Highway Capacity Manual 6th Edition (HCM6).

Descriptions of LOS "A" through "F" as defined in the HCM, are provided in **Appendix B** for signalized and unsignalized intersections. Typically, LOS D is considered acceptable, with LOS A representing minimal delay, and LOS F indicating failing conditions. The results of the analysis of existing conditions are presented in **Appendix B** and are summarized in **Table 1**. Microsimulations were also conducted at the study intersections using SimTraffic to further evaluate the network performance.

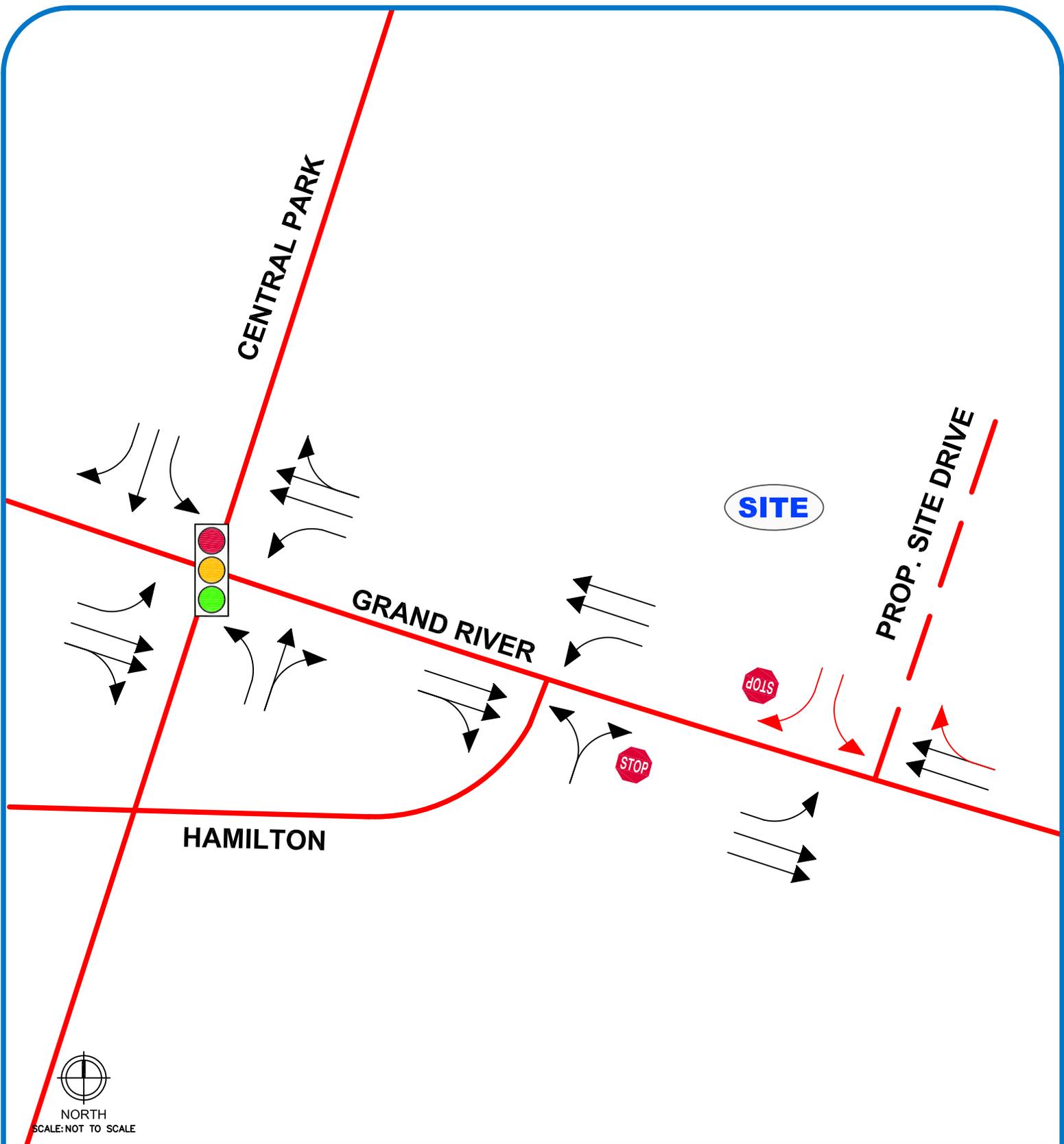


FIGURE 2
LANE USE AND TRAFFIC CONTROL
 PROPOSED PROVISIONING CENTER
 MERIDIAN TOWNSHIP, MI

LEGEND

-  ROADS
-  LANE USE
-  PROPOSED LANE USE
-  UNSIGNALIZED INTERSECTION
-  SIGNALIZED INTERSECTION

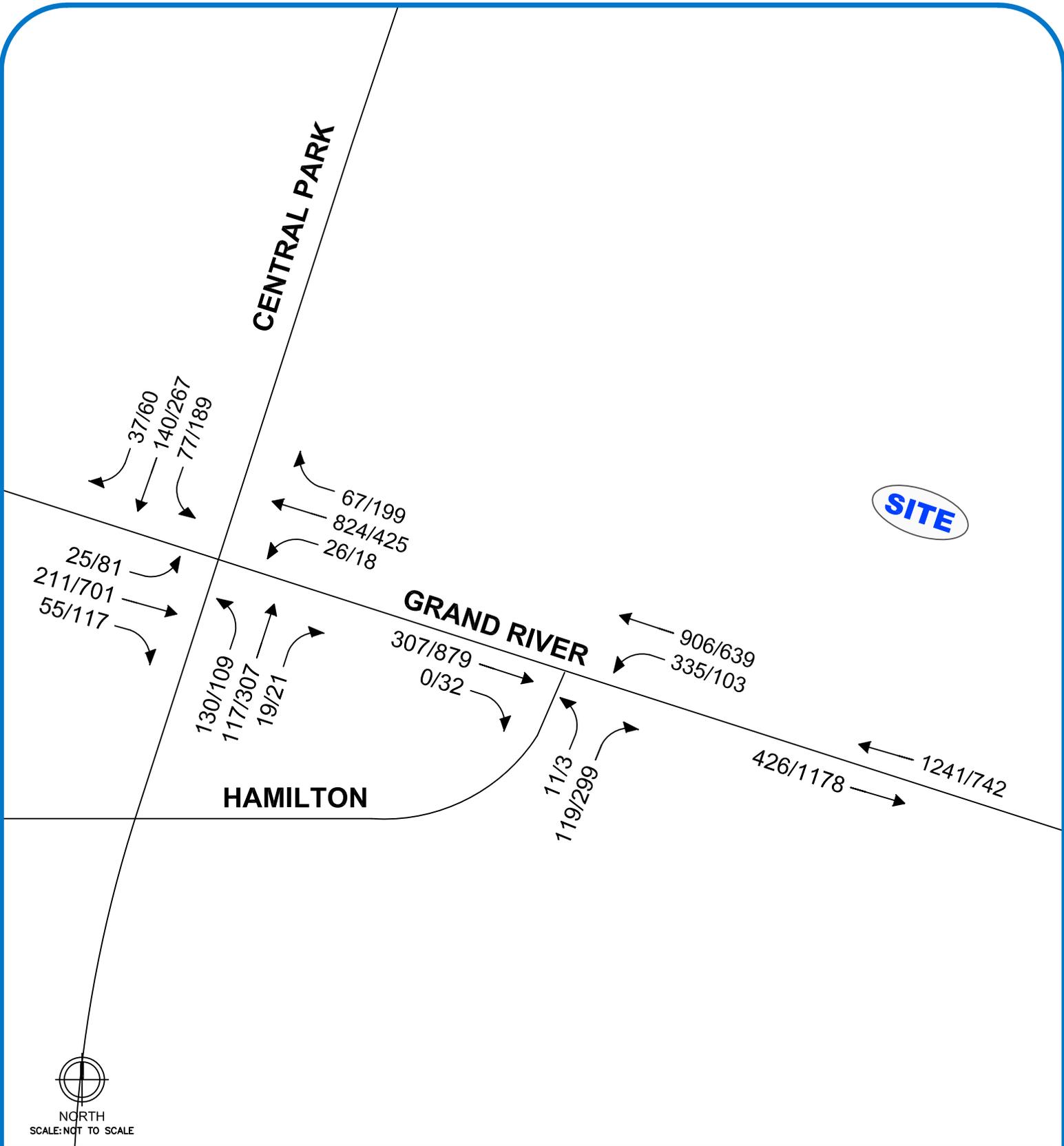


FIGURE 3
EXISTING TRAFFIC
VOLUMES
PROPOSED PROVISIONING CENTER
MERIDIAN TOWNSHIP, MI



LEGEND
ROADS
TRAFFIC VOLUMES (AM/PM)

Table 1: Existing Intersection Operations

Intersection	Control	Approach	Existing Conditions								
			AM Peak				PM Peak				
			Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	
1	Grand River Ave. & Central Park/Dobie	Signalized	NBL	43.6	D	94	170	36.1	D	70	137
			NBTR	32.6	C	65	126	28.8	C	140	240
			SBL	38.6	D	49	95	55.9	E	326	503
			SBT	32.9	C	67	123	27.0	C	441	991
			SBR	30.1	C	17	43	23.3	C	131	647
			EBL	15.8	B	17	48	20.4	C	45	92
			EBT	8.0	A	37	82	14.7	B	95	149
			EBR	7.8	A	8	28	12.6	B	21	53
			WBL	8.9	A	11	42	18.5	B	11	34
			WBTR	11.7	B	125	214	14.8	B	97	162
			Overall	18.4	B			22.4	C		
2	Grand River Ave. & Hamilton Road	STOP (Minor Street)	NB	9.0	A	43	72	26.2	D	67	98
			WBL	9.4	A	40	73	11.1	B	34	76

The results of the existing conditions analysis show that all approaches and movements at the study intersections are currently operating acceptably at a LOS D or better, with the exception of the following:

Grand River Ave. & Central Park Drive

- During the PM peak hour, the southbound left-turns on Central Park Drive operate at a LOS E, with excessive queue lengths that extend beyond the existing left-turn lane and impact the southbound through traffic on Central Park Drive.

3.2 EXISTING IMPROVEMENTS

In order to improve the existing operations at this intersection mitigation measures were investigated, including signal timing changes and operations. The signal timing changes evaluated include optimizing the existing splits, and the amount of green time allocated for N/S and E/W movements. The operations evaluation included a review of the MDOT left-turn phasing calculations to determine if permissive/protected left-turn phasing should be added to the signal operations.

Signal Timing Changes

The signal currently operates during the PM peak hour with the 100 sec cycle length and 60(E/W)/40(N/S) splits. The 40 seconds does not provide adequate time to accommodate the existing southbound left-turn volume on the Central Park Drive approach. Therefore, the splits were optimized to provide 46(E/W)/54(N/S). The results of this change in signal timing are summarized below in **Table 2** and show significant improvement in the existing operations and reductions in queue lengths on the southbound approach. Furthermore, these changes in signal timing did not impact the operations on Grand River Ave.

Left-Turn Phasing

The MDOT left-turn phasing analysis spreadsheet was used to evaluate the existing left-turn volumes at this intersection to determine if separate left-turn phasing should be provided. The results of the analysis are attached and show that permissive/protected left-turns are warranted only on the SB Central Park Drive approach during the PM peak hour. Therefore, left-turn phasing is not recommended at this intersection to mitigate existing left-turn delays.



Table 2: Existing Intersection Operations-With Improvements

Intersection	Control	Approach	PM Peak Period												
			Existing Conditions				Existing with Improvements				Difference				
			Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	
1	Grand River Ave. & Central Park/Dobie	Signalized	NBL	36.1	D	70	137	30.5	C	62	118	-5.6	D to C	-8	-19
			NBTR	28.8	C	140	240	24.2	C	127	223	-4.6	n/c	-13	-17
			SBL	55.9	E	326	503	39.3	D	119	200	-16.6	E to D	-207	-303
			SBT	27.0	C	441	991	23.0	C	106	186	-4.0	n/c	-335	-805
			SBR	23.3	C	131	647	20.0	B	20	42	-3.3	C to B	-111	-605
			EBL	20.4	C	45	92	25.0	C	47	101	4.6	n/c	2	9
			EBT	14.7	B	95	149	18.0	B	125	199	3.3	n/c	30	50
			EBR	12.6	B	21	53	15.4	B	19	46	2.8	n/c	-2	-7
			WBL	18.5	B	11	34	22.6	C	15	40	4.1	B to C	4	6
			WBTR	14.8	B	97	162	18.3	B	112	183	3.5	n/c	15	21
			Overall	22.4	C			21.8	C			-0.6	n/c		

3.3 BACKGROUND CONDITIONS

Since the proposed development is anticipated to be constructed and completed within the next year, existing conditions were assumed equal to background (no build) conditions with a project buildout year of 2020.

3.4 SITE TRIP GENERATION

The number of Weekday AM and PM peak hour and daily vehicle trips that would be generated by the proposed development was forecast based on data published by ITE in the *Trip Generation Manual, 10th Edition*. The site trip generation forecast is summarized in **Table 3**.

Table 3: Site Trip Generation

Land Use	ITE Code	Amount	Units	Average Daily Traffic (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					In	Out	Total	In	Out	Total
Marijuana Dispensary	882	5,430	SF	1,372	32	25	57	60	59	119

3.5 SITE TRAFFIC ASSIGNMENT

The vehicular trips that would be generated by the proposed development were assigned to the study roads based on existing peak hour traffic patterns in the adjacent roadway network, the proposed site access points, and the methodologies published by ITE. To determine trip distribution using the adjacent street traffic, it was assumed that the development land uses are trip generators; therefore, the global trip generation is based on trips entering the study network and traveling to the development. The ITE trip distribution methodology also assumes that new trips will return to their direction of origin. The resulting site trip distributions used in the analysis are summarized in **Table 4**.

Table 4: Site Trip Distribution

To / From	Via	AM	PM
West	Grand River Ave.	13%	31%
East	Grand River Ave.	57%	25%
South/West	Hamilton Rd./Dobie Rd.	18%	26%
North	Central Park Drive	12%	18%
Total		100%	100%

The vehicular traffic volumes shown in **Table 3** were distributed to the roadway network according to the distribution shown in **Table 4**. The site generated trips are shown on **Figure 4** and were added to the future existing traffic volumes shown on **Figure 2** to calculate the future peak hour traffic volumes with the proposed development, as shown on **Figure 5**.

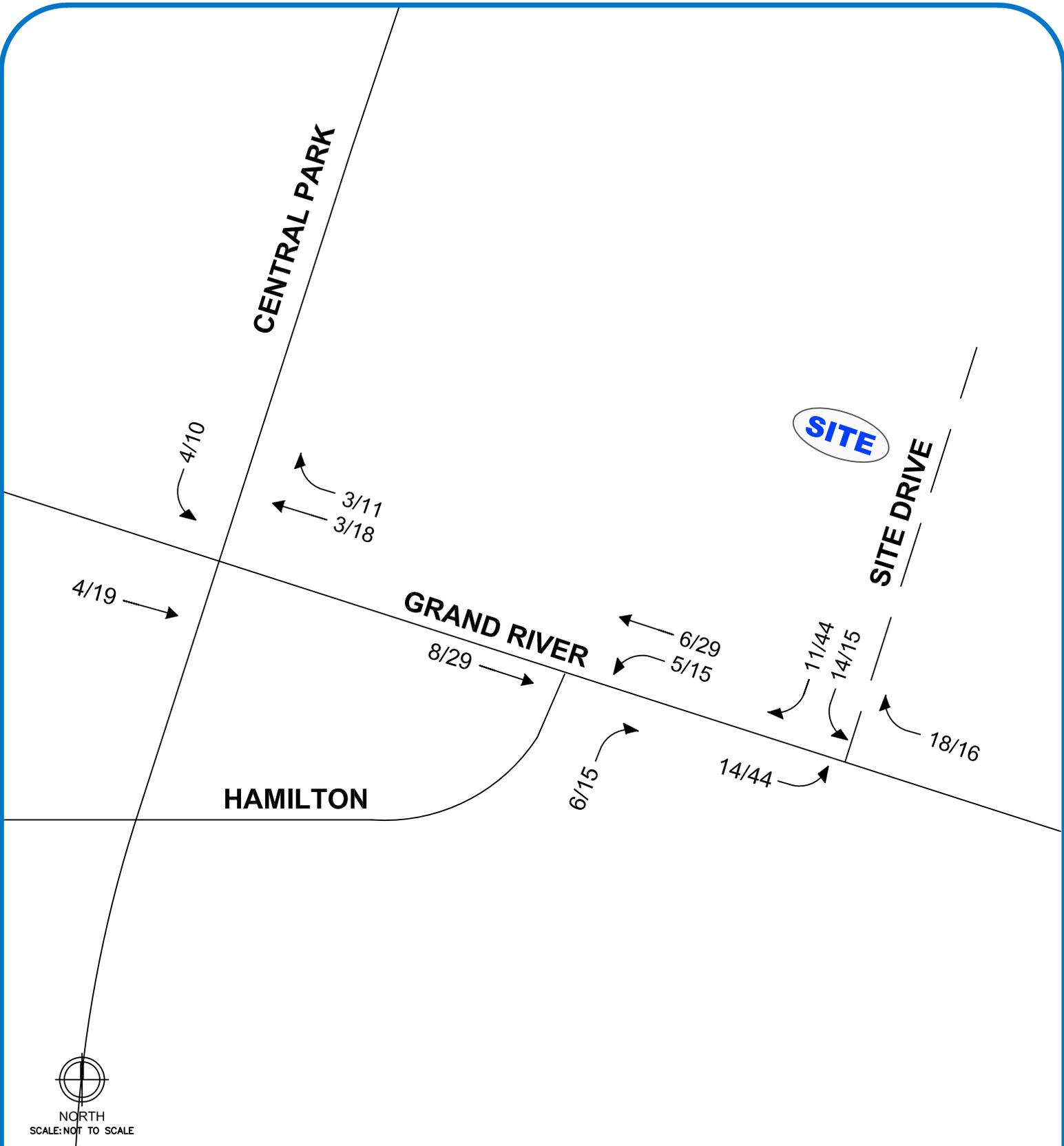


FIGURE 4
SITE-GENERATED
TRAFFIC VOLUMES
 PROPOSED PROVISIONING CENTER
 MERIDIAN TOWNSHIP, MI



LEGEND	
	ROADS
	TRAFFIC VOLUMES (AM/PM)

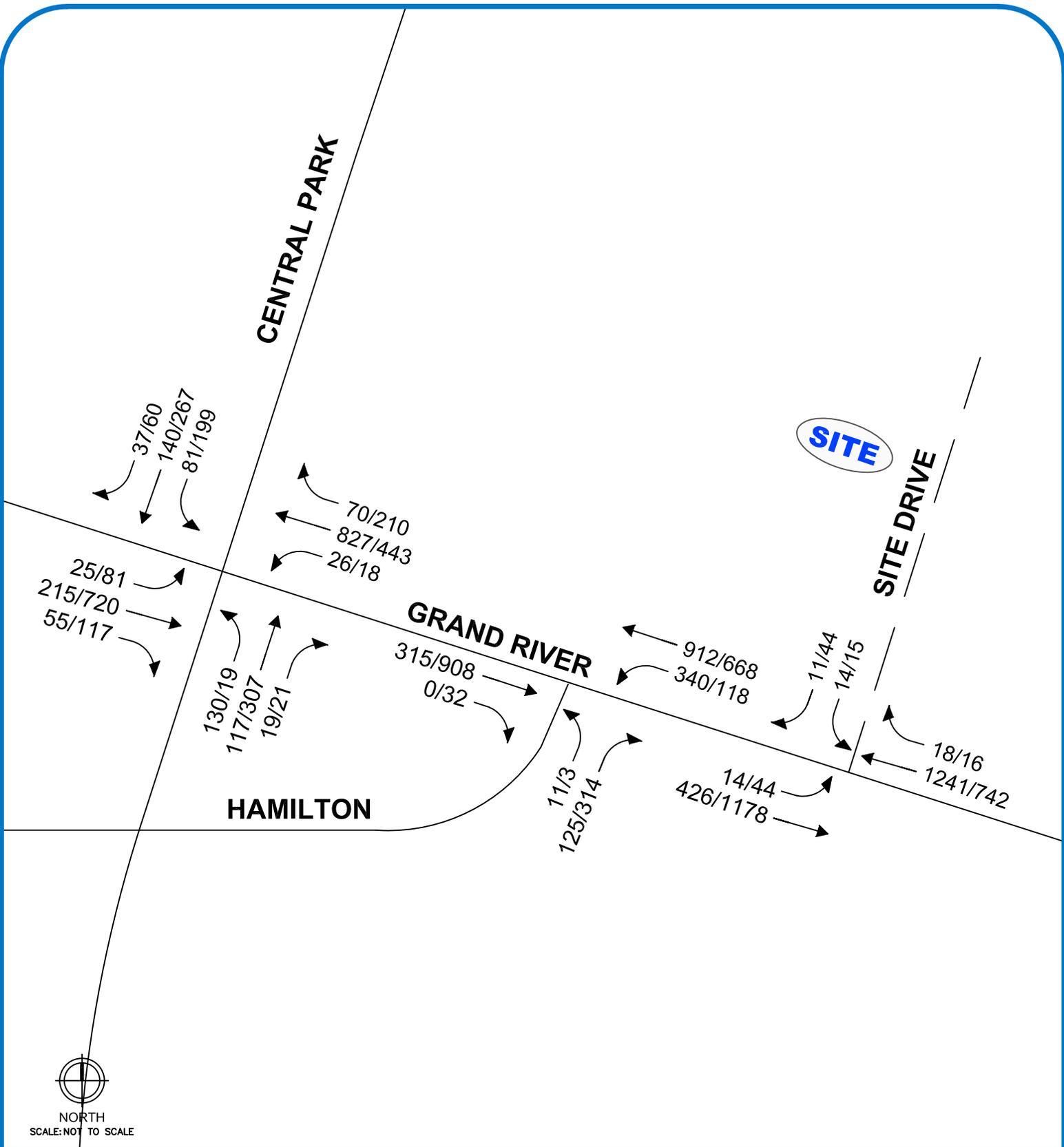


FIGURE 5
FUTURE TRAFFIC
VOLUMES
 PROPOSED PROVISIONING CENTER
 MERIDIAN TOWNSHIP, MI

LEGEND

- ROADS
- TRAFFIC VOLUMES (AM/PM)

3.6 FUTURE CONDITIONS

The future peak hour vehicle delays and LOS **with the proposed development** were calculated based on the existing lane use and traffic control shown on **Figure 2**, the proposed site access plan, the future traffic volumes shown on **Figure 5**, and the methodologies presented in the HCM6. The results of the future conditions analysis are presented in **Appendix C** and are summarized in **Table 5**.

Table 5: Future Intersection Operations

Intersection	Control	Approach	AM Peak Period												
			Existing Conditions				Future Conditions				Difference				
			Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	
1	Grand River Ave. & Central Park Drive/Dobie Road	Signalized	NBL	43.6	D	94	170	43.6	D	82	139	0.0	n/c	-12	-31
			NBTR	32.6	C	65	126	32.6	C	67	129	0.0	n/c	2	3
			SBL	38.6	D	49	95	38.9	D	52	101	0.3	n/c	3	6
			SBT	32.9	C	67	123	32.9	C	67	120	0.0	n/c	0	-3
			SBR	30.1	C	17	43	30.1	C	17	44	0.0	n/c	0	1
			EBL	15.8	B	17	48	15.9	B	16	50	0.1	n/c	-1	2
			EBT	8.0	A	37	82	8.0	A	36	74	0.0	n/c	-1	-8
			EBR	7.8	A	8	28	7.8	A	15	24	0.0	n/c	7	-4
			WBL	8.9	A	11	42	8.9	A	12	36	0.0	n/c	1	-6
			WBTR	11.7	B	125	214	11.7	B	126	210	0.0	n/c	1	-4
		Overall	18.4	B			18.4	B			0.0	n/c			
2	Grand River Ave. & Hamilton Road	STOP (Minor Street)	NB	9.0	A	43	72	9.3	A	42	71	0.3	n/c	-1	-1
			WBL	9.4	A	40	73	9.5	A	41	71	0.1	n/c	1	-2
3	Grand River Ave. & Site Drive	STOP (Minor Street)	SBL					28.7	D	15	42	28.7	D	15	42
			SBR					14.5	B	10	33	14.5	B	10	33
			EBL					12.5	B	9	32	12.5	B	9	32
Intersection	Control	Approach	PM Peak Period												
			Existing Conditions				Future Conditions				Difference				
			Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	Delay (s/veh)	LOS	Avg. Queue (ft)	95th% Queue (ft)	
1	Grand River Ave. & Central Park/Dobie	Signalized	NBL	36.1	D	70	137	36.1	D	62	124	0.0	n/c	-8	-13
			NBTR	28.8	C	140	240	28.8	C	153	258	0.0	n/c	13	18
			SBL	55.9	E	326	503	60.3	E	380	528	4.4	n/c	54	25
			SBT	27.0	C	441	991	27.0	C	695	1276	0.0	n/c	254	285
			SBR	23.3	C	131	647	23.3	C	360	1138	0.0	n/c	229	491
			EBL	20.4	C	45	92	21.0	C	39	84	0.6	n/c	-6	-8
			EBT	14.7	B	95	149	14.9	B	102	159	0.2	n/c	7	10
			EBR	12.6	B	21	53	12.6	B	17	47	0.0	n/c	-4	-6
			WBL	18.5	B	11	34	18.8	B	13	37	0.3	n/c	2	3
			WBTR	14.8	B	97	162	15.2	B	98	164	0.4	n/c	1	2
		Overall	22.4	C			22.8	C			0.4	n/c			
2	Grand River Ave. & Hamilton Road	STOP (Minor Street)	NB	26.2	D	67	98	30.1	D	70	100	3.9	n/c	3	2
			WBL	11.1	B	34	76	11.5	B	42	81	0.4	n/c	8	5
3	Grand River Ave. & Site Drive	STOP (Minor Street)	SBL					22.4	C	13	38	22.4	C	13	38
			SBR					11.6	B	25	53	11.6	B	25	53
			EBL					9.7	A	19	47	9.7	A	19	47

Note: Slight variations (+/-) in the vehicle queuing from existing and future conditions are due to the multiple iterations included in the SimTraffic modeling of the network. Approaches/movements with significant increases in queue lengths were further evaluated for mitigation measures as summarized in Section 3.7.

The results of the future conditions analysis show that all approaches and movements at the study intersections are expected to operate in a manner similar to existing conditions, operating acceptably at a LOS D or better, with the exception of the following:

Grand River Ave. & Central Park Drive

- During the PM peak hour, the southbound left-turns on Central Park Drive will continue to operate at a LOS E, with excessive queue lengths that extend beyond the existing left-turn lane and impact the southbound through traffic on Central Park Drive.

3.7 FUTURE IMPROVEMENTS

In order to improve traffic operations to a LOS D or better for all approaches and movements at the study intersections under future conditions **with the proposed development**, mitigation measures were investigated. The results of the analyses are summarized in **Table 6** and summarized below.

- Signal timing optimization was evaluated for Grand River Ave. & Central Park Drive and found to adequately mitigate the impact of the proposed development and improve the existing operations.

Table 6: Future Intersection Operations with Improvements

Intersection	Control	Approach	PM Peak Period											
			Future Conditions				Future with Improvements				Difference			
			Delay (s/veh)	LOS	Avg. Queue	95th% Queue	Delay (s/veh)	LOS	Avg. Queue	95th% Queue	Delay (s/veh)	LOS	Avg. Queue	95th% Queue
1 Grand River Ave. & Central Park/Dobie	Signalized	NBL	36.1	D	62	124	29.7	C	60	122	-6.4	D to C	-2	-2
		NBTR	28.8	C	153	258	23.6	C	119	206	-5.2	n/c	-34	-52
		SBL	60.3	E	380	528	39.1	D	125	207	-21.2	E to D	-255	-321
		SBT	27.0	C	695	1276	22.4	C	105	189	-4.6	n/c	-590	-1087
		SBR	23.3	C	360	1138	19.5	B	17	41	-3.8	C to B	-343	-1097
		EBL	21.0	C	39	84	26.5	C	48	100	5.5	n/c	9	16
		EBT	14.9	B	102	159	18.7	B	126	192	3.8	n/c	24	33
		EBR	12.6	B	17	47	15.8	B	20	45	3.2	n/c	3	-2
		WBL	18.8	B	13	37	23.6	C	14	43	4.8	B to C	1	6
		WBTR	15.2	B	98	164	19.0	B	119	191	3.8	n/c	21	27
		Overall	22.8	C			22.1	C			-0.7	n/c		

3.8 ACCESS MANAGEMENT

3.8.1 Grand River Ave. (M-43) Corridor Access Management

Meridian Township, in coordination with MDOT, has developed access management criteria for use in evaluating proposed site access driveways along this corridor. The access management criteria for the proposed site driveway location are summarized in **Table 7** and shown on **Figure 6**.

Table 7: Intersection/ Driveway Spacing Summary

Adjacent Driveways/ Intersections	Same Side/Opposite	Distance	Meridian Twp. Rec.	Meets Req.
Speedway	Opposite	550	630	NO
Bank of America	Same Side	400	350	YES
Hamilton Road	Opposite-Intersection	225	200	YES
Sparrow (1600 Grand River)	Same Side	317	350	NO
Tom's	Opposite	286	630	YES*

* With exception granted by Meridian Township Planning (minimum 150 ft for non-conflicting left-turns)

In accordance with MDOT guidelines, in the event that a particular parcel lacks sufficient frontage to maintain adequate spacing, the Region/TSC Traffic and Safety and Utility and Permit Engineers have the following options:

1. Choose the next lowest spacing. For example, on 30 mph roadway requiring 185 ft spacing, the distance may be reduced to no less than 130 ft which is the spacing from 25 mph speed.

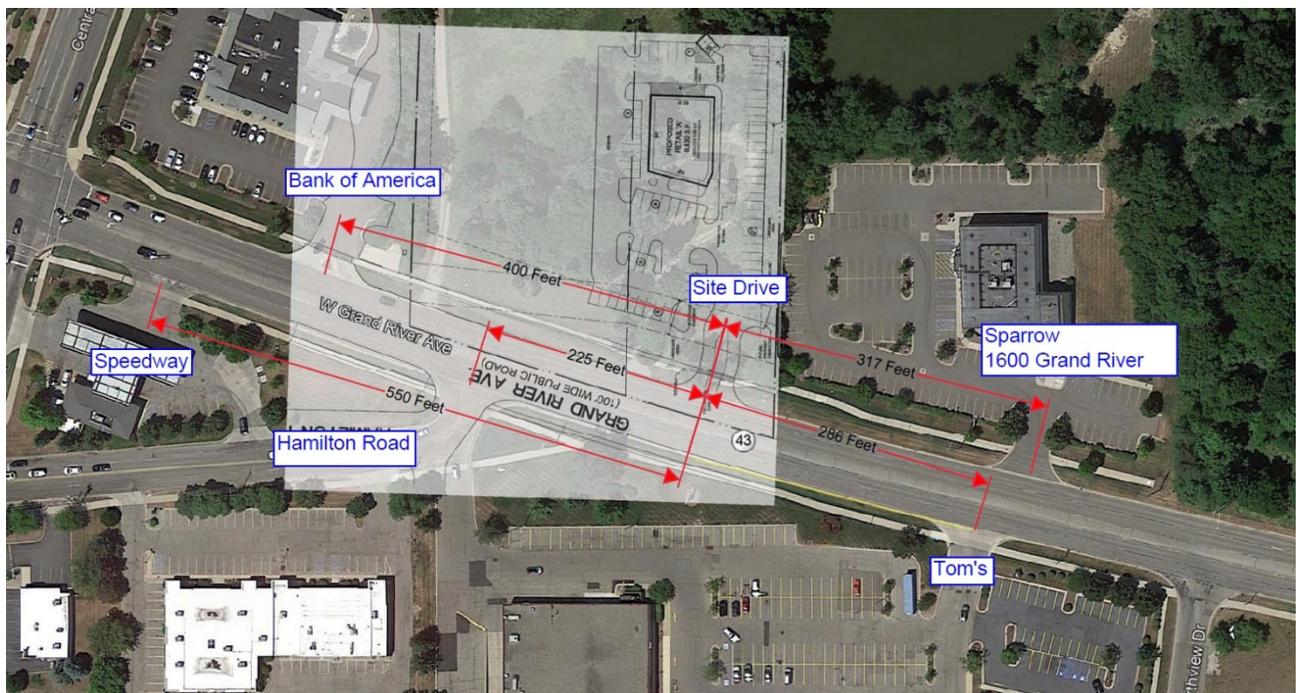
The next lowest speed was reviewed at the locations that do not meet the minimum spacing requirements. The results of this analysis are summarized in **Table 8** and show that the spacing requirements are still not met at these locations.

Table 8: Intersection/ Driveway Spacing Summary-Alternative Minimums

Adjacent Driveways/ Intersections	Adjacent/Opposite	Distance	Meridian Twp. Rec.	Meets Req.
Speedway	Opposite	550	525	YES
Sparrow (1600 Grand River)	Same Side	317	300	YES

By using the next lowest speed category, all of the driveways and intersections will meet access management spacing criteria. Therefore, none of the further criterion was necessary for consideration for this site driveway.

FIGURE 6: ACCESS MANAGEMENT INTERSECTION SPACING



3.8.2 MDOT Right-Turn Lane Analysis

The MDOT Geometric Design Guidance Sections 1.1.4 (formerly MDOT Traffic & Safety Notes 604A) was utilized in order to determine if a right-turn lane or taper is required at the proposed site driveway. The results of the analysis are provided in **Appendix D** and indicate the following:

- A right-turn radius only is recommended for the proposed Site Drive. No additional right-turn treatment is required.

3.8.3 Intersection Sight Distance Analysis

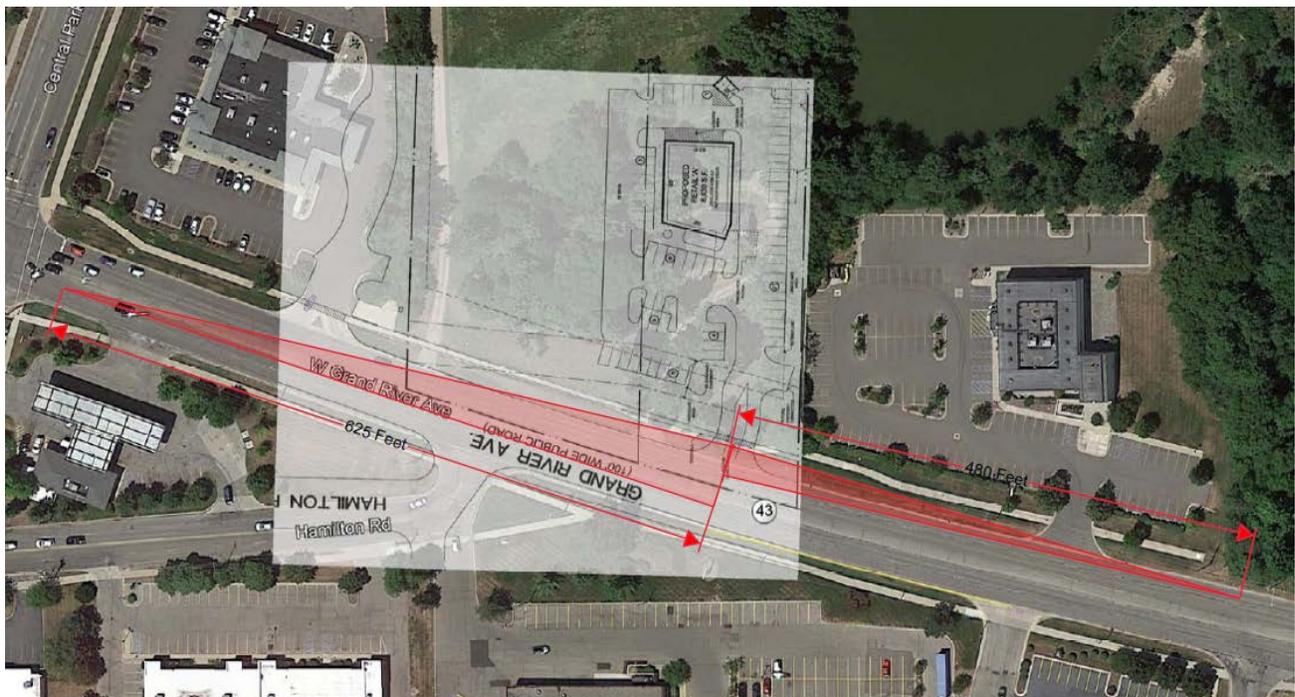
The intersection sight distance was reviewed at the proposed Grand River Ave. & Site Drive intersection. According to *Section 9.5 – Intersection Sight Distance* of the AASHTO design manual *A Policy on Geometric Design of Highways and Streets, 7th Edition (2018)*, an intersection sight distance of 625 feet is required for a left turn from a complete stop and a sight distance of 480 feet is required for a right turn from a stopped position at the study intersection based on the existing 45 mph speed limit (50 mph design speed).

The AASHTO manual states that the “vertex (decision point) of the departure sight triangle on the minor road should be 14.5 ft from the edge of the major-road traveled way”. This gives an accurate depiction of driver

behavior when making a turn from a minor roadway. The results of the sight distance analysis show that there is adequate sight distance at the proposed intersection location. In addition, this section of Grand River Ave. has very little grade change and vertical distance is not a concern at this location. The intersection sight distance measurements are shown on **Figure 7**.

The results of the intersection sight distance analysis show that there will be adequate intersection sight distance at the proposed site driveway on Grand River Ave. There is the potential for vehicles queued on EB Grand River Ave. at the signalized intersection at Central Park Drive to block the view for egress left-turns; however, based on the vehicle queuing analysis (both with and without recommended signal timing improvements) the peak vehicle queues on this approach will not extend into the sight distance area as shown on **Figure 7**.

FIGURE 7: INTERSECTION SIGHT DISTANCE



4 CONCLUSIONS

The conclusions of this Traffic Impact Study are as follows:

1. The results of the existing conditions analysis show that all approaches and movements at the study intersections are currently operating acceptably at a LOS D or better, with the exception of the Grand River Ave. & Central Park Drive. During the PM peak hour, the southbound left-turns on Central Park Drive operate at a LOS E, with excessive queue lengths that extend beyond the existing left-turn lane and impact the southbound through traffic on Central Park Drive.
2. In order to improve the existing operations at this intersection, mitigation measures were investigated, including signal timing changes and operations.
 - a. Signal timing optimization **is** recommended.
 - b. Left-turn phasing *is not* recommended.
3. With the addition of site generated traffic volumes, the Grand River Ave. & Central Park Drive intersection is expected to operate similar to existing conditions, with both increased delays and vehicle queue lengths on the southbound approach.
4. In order to improve the future operations at the Grand River Ave. & Central Park Drive intersection, signal timing optimization is recommended.

5. The proposed site driveway is expected to operate well, at LOS B/C during the peak periods with queue lengths of 1-2 vehicles.
6. The proposed site driveway meets Grand River Ave. (M-43) Corridor Access Management criterion, provided the following exceptions are granted by the Township and MDOT.
 - a. The Tom's driveway is located opposite the proposed site driveway, approximately 286 feet to the east. The requirement is 630 feet; however, "The Director of Community Planning and Development may reduce this to no less than 150 feet where the offsets are aligned to not create left-turn conflict¹", as they are in this location.
 - b. The Speedway driveway is located opposite the proposed site driveway, approximately 550 feet to the west. The requirement is 630 feet; however, in accordance with MDOT guidelines, in the event that a particular parcel lacks sufficient frontage to maintain adequate spacing, the Region/TSC Traffic and Safety and Utility and Permit Engineers may reduce this and choose the next lowest spacing. The next lowest spacing would be for a design speed of 45 mph, with a spacing criteria of 525 feet. Therefore, the driveway spacing would meet the spacing requirement.
 - c. The Sparrow driveway is located on the same side as the proposed site driveway, approximately 317 feet to the east. The requirement is 350 feet; again due to limited frontage, the next lowest spacing is 300 feet. Therefore, the driveway spacing would meet the spacing requirement.
7. There is an existing center left-turn lane adjacent to the site; therefore, only the MDOT right-turn lane criteria was evaluated for the proposed site drive intersection. The results of the analysis show that a right-turn lane or taper is not required.
8. The results of the intersection sight distance analysis show that there will be adequate intersection sight distance at the proposed site driveway on Grand River Ave.

5 RECOMMENDATIONS

The recommendations of this TIS are as follows:

- MDOT should investigate signal timing optimization at the Grand River & Central Park Drive intersection to improve PM peak hour operations.

¹ Ord. No. 2004-06, 9-5-2004, (e) (8)

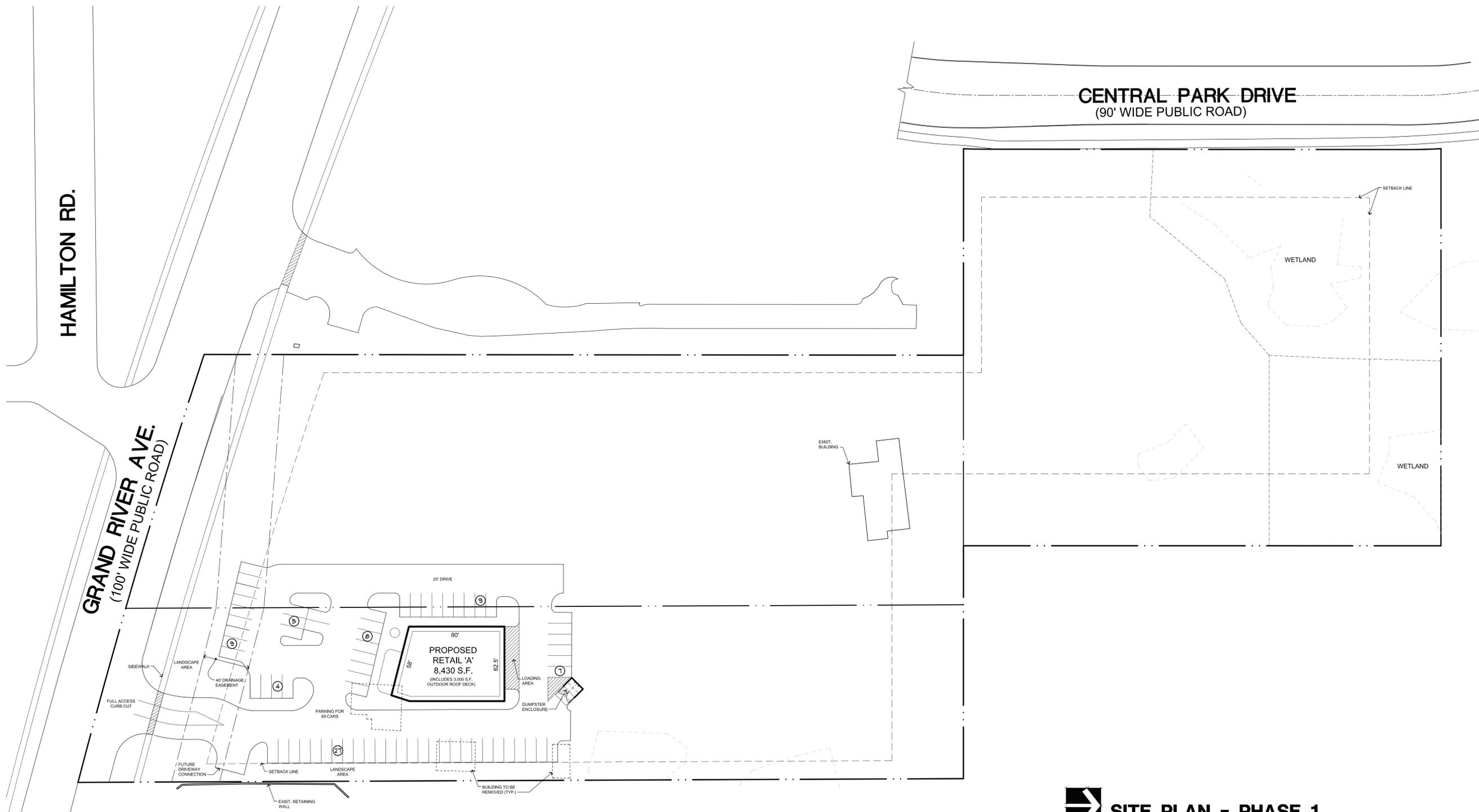
Appendix A

BACKGROUND INFORMATION

LAND/ BUILDING/ PARKING DATA :	
PHASE 1	
LAND DATA :	
OVERALL LAND AREA :	8.67 ACRES
BUILDING DATA :	
PROPOSED RETAIL 'A' :	5,430 S.F.
OUTDOOR ROOF DECK :	3,000 S.F.
TOTAL BUILDING AREA :	8,430 S.F.
PARKING REQUIRED :	42 SPACES
RETAIL :	42 SPACES
5 SPACES/ 1,000 GFA	
(8,430/ 1000 = 8.43 X 5 = 42 SPACES)	
PARKING PROVIDED :	69 SPACES

issued for:
 OWNER REVIEW: 17 OCTOBER 2019
 OWNER REVIEW: 21 OCTOBER 2019
 OWNER REVIEW: 23 OCTOBER 2019
 OWNER REVIEW: 28 OCTOBER 2019
 OWNER REVIEW: 31 OCTOBER 2019
 OWNER REVIEW: 15 JAN. 2020

project:



Proposed for
Commercial Development
 Grand River Ave.
 Meridian Twp., MI

ROGVOY
 ARCHITECTS

32500 TELEGRAPH ROAD
 SUITE 250
 BINGHAM FARMS, MICHIGAN
 48025-2404

PH 248.540.7700 FX 248.540.2710
 www.rogvoy.com

drawing:
**Conceptual
 Site Plan
 Phase 1**

DO NOT SCALE DRAWING

issue date: 02 AUG. 2019
 drawn: KS/KL
 checked: MD
 approved: MD

file number: **19030**
 sheet:

SITE PLAN - PHASE 1
 SCALE: 1"=40'-0"

SP-1A

Traffic Engineering Associates, Inc.

PO Box 100
Saranac, MI 48881
517-627-6028

Location: Grand River & Central Park Dr
County/City: Meridian Twp
Weather: Sunny
Counted By: DES & JJ

File Name : Grand River & Central Park - AM
Site Code : 09201801
Start Date : 9/20/2018
Page No : 1

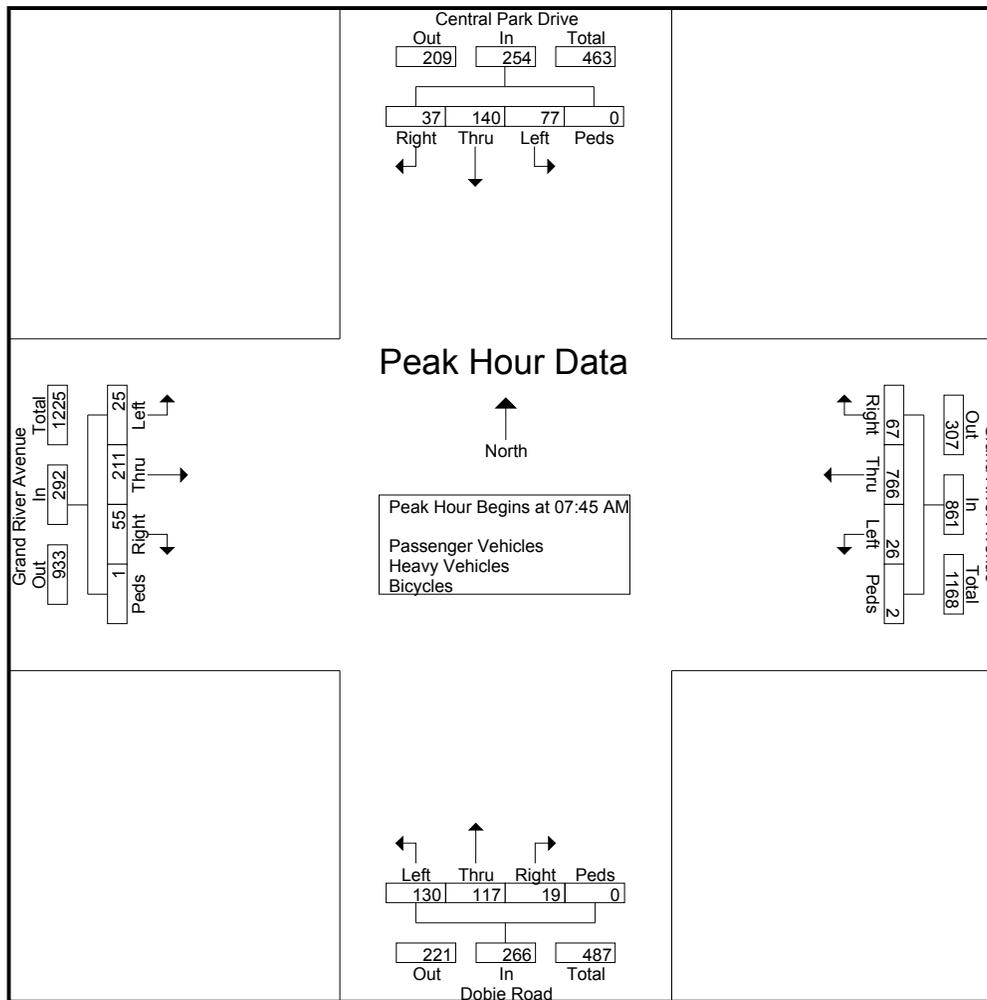
Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

Start Time	Central Park Drive From North					Grand River Avenue From East					Dobie Road From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	9	11	3	0	23	6	102	5	0	113	15	24	4	0	43	3	31	7	0	41	220
07:15 AM	10	20	4	0	34	8	166	13	0	187	20	11	0	0	31	4	35	7	0	46	298
07:30 AM	5	31	5	0	41	8	199	17	1	225	33	13	8	0	54	2	51	9	0	62	382
07:45 AM	17	31	7	0	55	3	233	13	0	249	32	33	8	0	73	11	57	9	0	77	454
Total	41	93	19	0	153	25	700	48	1	774	100	81	20	0	201	20	174	32	0	226	1354
08:00 AM	18	32	6	0	56	7	178	21	1	207	31	32	2	0	65	6	49	15	1	71	399
08:15 AM	19	37	10	0	66	12	166	13	1	192	33	31	5	0	69	5	58	22	0	85	412
08:30 AM	23	40	14	0	77	4	189	20	0	213	34	21	4	0	59	3	47	9	0	59	408
08:45 AM	14	28	8	0	50	7	143	30	0	180	37	52	3	0	92	13	56	13	0	82	404
Total	74	137	38	0	249	30	676	84	2	792	135	136	14	0	285	27	210	59	1	297	1623
Grand Total	115	230	57	0	402	55	1376	132	3	1566	235	217	34	0	486	47	384	91	1	523	2977
Apprch %	28.6	57.2	14.2	0		3.5	87.9	8.4	0.2		48.4	44.7	7	0		9	73.4	17.4	0.2		
Total %	3.9	7.7	1.9	0	13.5	1.8	46.2	4.4	0.1	52.6	7.9	7.3	1.1	0	16.3	1.6	12.9	3.1	0	17.6	
Passenger Vehicles	111	229	57	0	397	55	1367	130	3	1555	230	212	32	0	474	46	355	83	1	485	2911
% Passenger Vehicles	96.5	99.6	100	0	98.8	100	99.3	98.5	100	99.3	97.9	97.7	94.1	0	97.5	97.9	92.4	91.2	100	92.7	97.8
Heavy Vehicles	4	1	0	0	5	0	9	2	0	11	5	5	2	0	12	1	29	8	0	38	66
% Heavy Vehicles	3.5	0.4	0	0	1.2	0	0.7	1.5	0	0.7	2.1	2.3	5.9	0	2.5	2.1	7.6	8.8	0	7.3	2.2
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Central Park Drive From North					Grand River Avenue From East					Dobie Road From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	17	31	7	0	55	3	233	13	0	249	32	33	8	0	73	11	57	9	0	77	454
08:00 AM	18	32	6	0	56	7	178	21	1	207	31	32	2	0	65	6	49	15	1	71	399
08:15 AM	19	37	10	0	66	12	166	13	1	192	33	31	5	0	69	5	58	22	0	85	412
08:30 AM	23	40	14	0	77	4	189	20	0	213	34	21	4	0	59	3	47	9	0	59	408
Total Volume	77	140	37	0	254	26	766	67	2	861	130	117	19	0	266	25	211	55	1	292	1673
% App. Total	30.3	55.1	14.6	0		3	89	7.8	0.2		48.9	44	7.1	0		8.6	72.3	18.8	0.3		
PHF	.837	.875	.661	.000	.825	.542	.822	.798	.500	.864	.956	.886	.594	.000	.911	.568	.909	.625	.250	.859	.921

Location: Grand River & Central Park Dr
 County/City: Meridian Twp
 Weather: Sunny
 Counted By: DES & JJ

File Name : Grand River & Central Park - AM
 Site Code : 09201801
 Start Date : 9/20/2018
 Page No : 2



Traffic Engineering Associates, Inc.

PO Box 100
Saranac, MI 48881
517-627-6028

Location: Grand River & Central Park Dr
County/City: Meridian Twp.
Weather: Sunny
Counted By: DES & JJ

File Name : Grand River & Central Park - PM
Site Code : 09201801
Start Date : 9/20/2018
Page No : 1

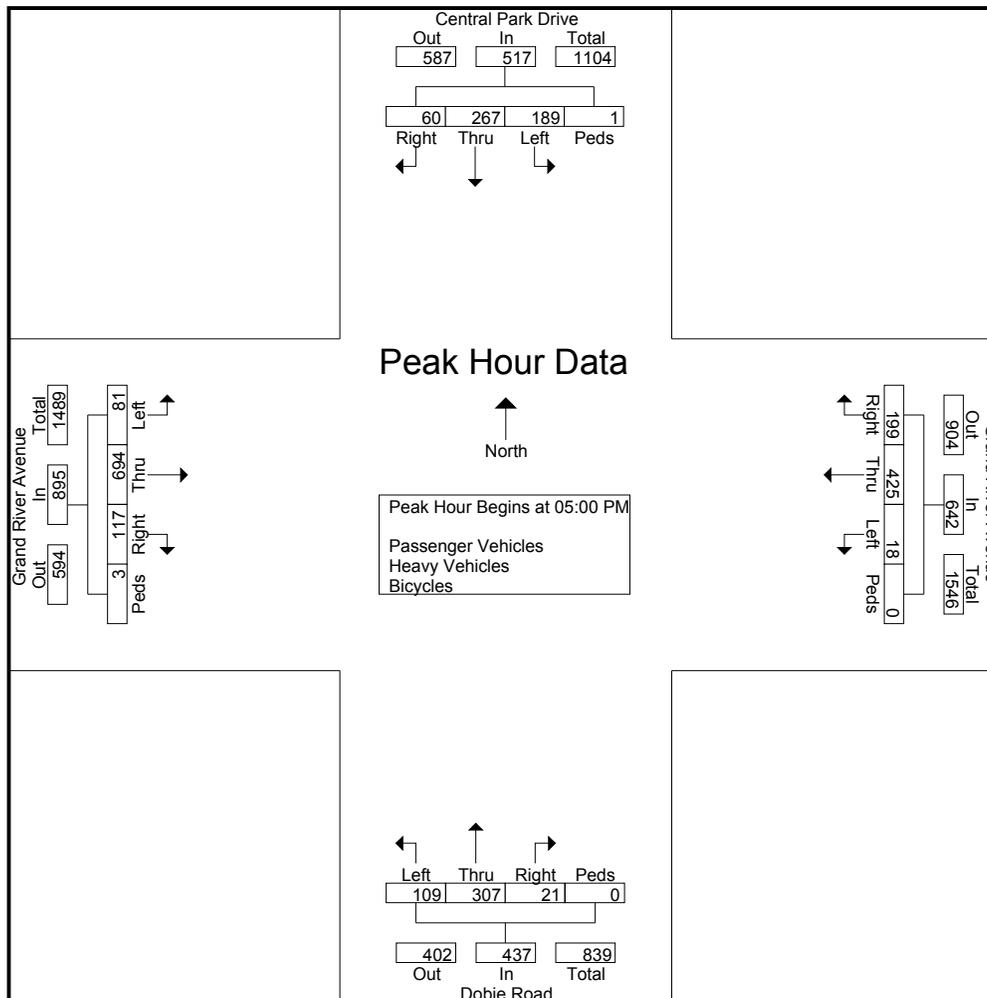
Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

Start Time	Central Park Drive From North					Grand River Avenue From East					Dobie Road From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
04:00 PM	53	32	18	0	103	4	96	38	0	138	16	56	7	0	79	19	123	16	0	158	478
04:15 PM	44	55	16	0	115	6	91	29	0	126	22	72	2	0	96	13	126	20	0	159	496
04:30 PM	42	61	17	0	120	3	97	29	0	129	21	78	5	0	104	12	143	20	1	176	529
04:45 PM	46	60	16	0	122	12	100	42	1	155	20	68	4	0	92	23	161	21	0	205	574
Total	185	208	67	0	460	25	384	138	1	548	79	274	18	0	371	67	553	77	1	698	2077
05:00 PM	53	73	10	0	136	6	90	63	0	159	29	68	5	0	102	15	163	23	1	202	599
05:15 PM	51	75	15	0	141	5	107	47	0	159	18	81	5	0	104	20	185	31	1	237	641
05:30 PM	38	66	15	0	119	1	117	35	0	153	30	74	9	0	113	20	176	35	0	231	616
05:45 PM	47	53	20	1	121	6	111	54	0	171	32	84	2	0	118	26	170	28	1	225	635
Total	189	267	60	1	517	18	425	199	0	642	109	307	21	0	437	81	694	117	3	895	2491
Grand Total	374	475	127	1	977	43	809	337	1	1190	188	581	39	0	808	148	1247	194	4	1593	4568
Apprch %	38.3	48.6	13	0.1		3.6	68	28.3	0.1		23.3	71.9	4.8	0		9.3	78.3	12.2	0.3		
Total %	8.2	10.4	2.8	0	21.4	0.9	17.7	7.4	0	26.1	4.1	12.7	0.9	0	17.7	3.2	27.3	4.2	0.1	34.9	
Passenger Vehicles	372	474	127	1	974	43	805	335	1	1184	183	578	39	0	800	147	1231	191	4	1573	4531
% Passenger Vehicles	99.5	99.8	100	100	99.7	100	99.5	99.4	100	99.5	97.3	99.5	100	0	99	99.3	98.7	98.5	100	98.7	99.2
Heavy Vehicles	2	1	0	0	3	0	4	2	0	6	5	3	0	0	8	1	16	3	0	20	37
% Heavy Vehicles	0.5	0.2	0	0	0.3	0	0.5	0.6	0	0.5	2.7	0.5	0	0	1	0.7	1.3	1.5	0	1.3	0.8
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	Central Park Drive From North					Grand River Avenue From East					Dobie Road From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	53	73	10	0	136	6	90	63	0	159	29	68	5	0	102	15	163	23	1	202	599
05:15 PM	51	75	15	0	141	5	107	47	0	159	18	81	5	0	104	20	185	31	1	237	641
05:30 PM	38	66	15	0	119	1	117	35	0	153	30	74	9	0	113	20	176	35	0	231	616
05:45 PM	47	53	20	1	121	6	111	54	0	171	32	84	2	0	118	26	170	28	1	225	635
Total Volume	189	267	60	1	517	18	425	199	0	642	109	307	21	0	437	81	694	117	3	895	2491
% App. Total	36.6	51.6	11.6	0.2		2.8	66.2	31	0		24.9	70.3	4.8	0		9.1	77.5	13.1	0.3		
PHF	.892	.890	.750	.250	.917	.750	.908	.790	.000	.939	.852	.914	.583	.000	.926	.779	.938	.836	.750	.944	.972

Location: Grand River & Central Park Dr
 County/City: Meridian Twp.
 Weather: Sunny
 Counted By: DES & JJ

File Name : Grand River & Central Park - PM
 Site Code : 09201801
 Start Date : 9/20/2018
 Page No : 2



Traffic Engineering Associates, Inc.

PO Box 100
Saranac, MI 48881
517-627-6028

Location: Grand River & Hamilton Rd.
County/City: Meridian Twp.
Weather: Sunny
Counted By: JJ

File Name : Grand River & Hamilton - AM
Site Code : 09181802
Start Date : 9/18/2018
Page No : 1

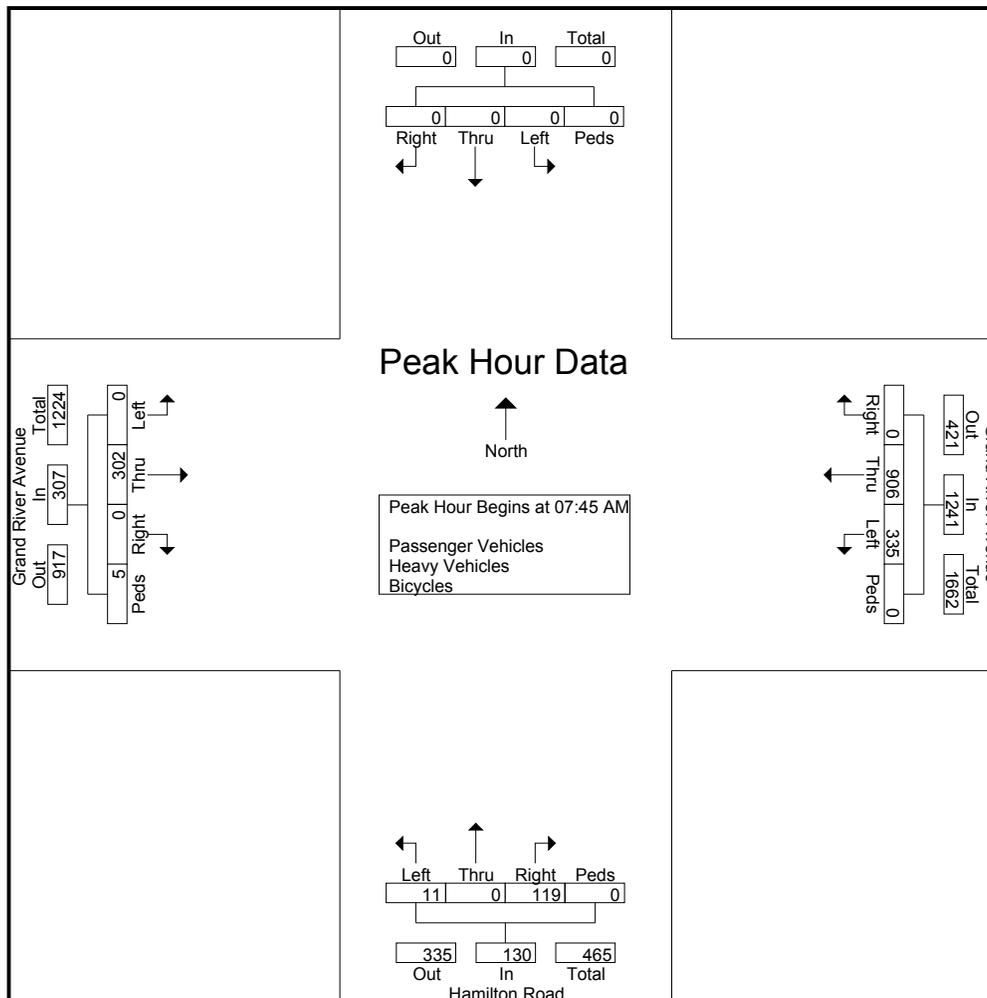
Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

Start Time	From North					Grand River Avenue From East					Hamilton Road From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	0	0	41	121	0	0	162	3	0	10	0	13	0	42	3	0	45	220
07:15 AM	0	0	0	0	0	78	197	0	0	275	4	0	14	0	18	0	40	0	0	40	333
07:30 AM	0	0	0	0	0	89	270	0	0	359	4	0	28	0	32	0	74	0	2	76	467
07:45 AM	0	0	0	0	0	103	255	0	0	358	5	0	50	0	55	0	84	0	0	84	497
Total	0	0	0	0	0	311	843	0	0	1154	16	0	102	0	118	0	240	3	2	245	1517
08:00 AM	0	0	0	0	0	78	223	0	0	301	2	0	18	0	20	0	57	0	0	57	378
08:15 AM	0	0	0	0	0	71	227	0	0	298	1	0	20	0	21	0	80	0	1	81	400
08:30 AM	0	0	0	0	0	83	201	0	0	284	3	0	31	0	34	0	81	0	4	85	403
08:45 AM	0	0	0	0	0	69	219	0	0	288	3	0	28	0	31	0	75	1	2	78	397
Total	0	0	0	0	0	301	870	0	0	1171	9	0	97	0	106	0	293	1	7	301	1578
Grand Total	0	0	0	0	0	612	1713	0	0	2325	25	0	199	0	224	0	533	4	9	546	3095
Apprch %	0	0	0	0	0	26.3	73.7	0	0		11.2	0	88.8	0		0	97.6	0.7	1.6		
Total %	0	0	0	0	0	19.8	55.3	0	0	75.1	0.8	0	6.4	0	7.2	0	17.2	0.1	0.3	17.6	
Passenger Vehicles	0	0	0	0	0	601	1669	0	0	2270	23	0	191	0	214	0	506	4	9	519	3003
% Passenger Vehicles	0	0	0	0	0	98.2	97.4	0	0	97.6	92	0	96	0	95.5	0	94.9	100	100	95.1	97
Heavy Vehicles	0	0	0	0	0	11	44	0	0	55	2	0	8	0	10	0	27	0	0	27	92
% Heavy Vehicles	0	0	0	0	0	1.8	2.6	0	0	2.4	8	0	4	0	4.5	0	5.1	0	0	4.9	3
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	From North					Grand River Avenue From East					Hamilton Road From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	103	255	0	0	358	5	0	50	0	55	0	84	0	0	84	497
08:00 AM	0	0	0	0	0	78	223	0	0	301	2	0	18	0	20	0	57	0	0	57	378
08:15 AM	0	0	0	0	0	71	227	0	0	298	1	0	20	0	21	0	80	0	1	81	400
08:30 AM	0	0	0	0	0	83	201	0	0	284	3	0	31	0	34	0	81	0	4	85	403
Total Volume	0	0	0	0	0	335	906	0	0	1241	11	0	119	0	130	0	302	0	5	307	1678
% App. Total	0	0	0	0	0	27	73	0	0		8.5	0	91.5	0		0	98.4	0	1.6		
PHF	.000	.000	.000	.000	.000	.813	.888	.000	.000	.867	.550	.000	.595	.000	.591	.000	.899	.000	.313	.903	.844

Location: Grand River & Hamilton Rd.
 County/City: Meridian Twp.
 Weather: Sunny
 Counted By: JJ

File Name : Grand River & Hamilton - AM
 Site Code : 09181802
 Start Date : 9/18/2018
 Page No : 2



Traffic Engineering Associates, Inc.

PO Box 100
Saranac, MI 48881
517-627-6028

Location: Grand River & Hamilton Rd.
County/City: Meridian Twp.
Weather: Sunny
Counted By: JJ

File Name : Grand River & Hamilton - PM
Site Code : 09181802
Start Date : 9/18/2018
Page No : 1

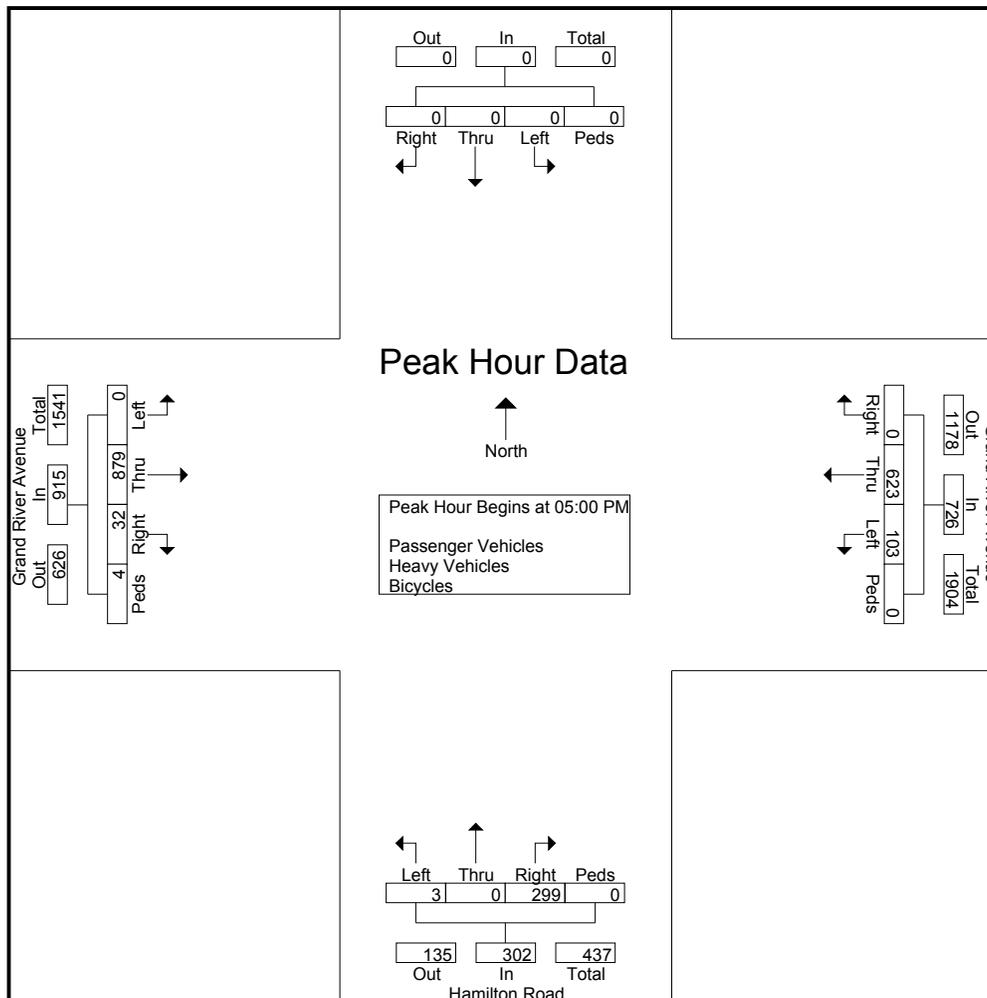
Groups Printed- Passenger Vehicles - Heavy Vehicles - Bicycles

Start Time	From North					Grand River Avenue From East					Hamilton Road From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
04:00 PM	0	0	0	0	0	37	153	0	0	190	0	0	56	0	56	0	166	3	2	171	417
04:15 PM	0	0	0	0	0	32	129	0	0	161	0	0	67	0	67	0	178	6	0	184	412
04:30 PM	0	0	0	0	0	28	144	0	0	172	11	0	67	0	78	0	188	10	2	200	450
04:45 PM	0	0	0	0	0	46	173	0	0	219	0	0	48	0	48	0	196	6	0	202	469
Total	0	0	0	0	0	143	599	0	0	742	11	0	238	0	249	0	728	25	4	757	1748
05:00 PM	0	0	0	0	0	16	153	0	0	169	0	0	89	0	89	0	203	16	3	222	480
05:15 PM	0	0	0	0	0	29	142	0	0	171	0	0	61	0	61	0	233	9	1	243	475
05:30 PM	0	0	0	0	0	26	164	0	0	190	2	0	80	0	82	0	228	4	0	232	504
05:45 PM	0	0	0	0	0	32	164	0	0	196	1	0	69	0	70	0	215	3	0	218	484
Total	0	0	0	0	0	103	623	0	0	726	3	0	299	0	302	0	879	32	4	915	1943
Grand Total	0	0	0	0	0	246	1222	0	0	1468	14	0	537	0	551	0	1607	57	8	1672	3691
Apprch %	0	0	0	0	0	16.8	83.2	0	0	0	2.5	0	97.5	0	0	0	96.1	3.4	0.5	0	0
Total %	0	0	0	0	0	6.7	33.1	0	0	39.8	0.4	0	14.5	0	14.9	0	43.5	1.5	0.2	45.3	0
Passenger Vehicles	0	0	0	0	0	238	1197	0	0	1435	14	0	528	0	542	0	1583	57	8	1648	3625
% Passenger Vehicles	0	0	0	0	0	96.7	98	0	0	97.8	100	0	98.3	0	98.4	0	98.5	100	100	98.6	98.2
Heavy Vehicles	0	0	0	0	0	8	25	0	0	33	0	0	9	0	9	0	24	0	0	24	66
% Heavy Vehicles	0	0	0	0	0	3.3	2	0	0	2.2	0	0	1.7	0	1.6	0	1.5	0	0	1.4	1.8
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	From North					Grand River Avenue From East					Hamilton Road From South					Grand River Avenue From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	16	153	0	0	169	0	0	89	0	89	0	203	16	3	222	480
05:15 PM	0	0	0	0	0	29	142	0	0	171	0	0	61	0	61	0	233	9	1	243	475
05:30 PM	0	0	0	0	0	26	164	0	0	190	2	0	80	0	82	0	228	4	0	232	504
05:45 PM	0	0	0	0	0	32	164	0	0	196	1	0	69	0	70	0	215	3	0	218	484
Total Volume	0	0	0	0	0	103	623	0	0	726	3	0	299	0	302	0	879	32	4	915	1943
% App. Total	0	0	0	0	0	14.2	85.8	0	0	0	1	0	99	0	0	0	96.1	3.5	0.4	0	0
PHF	.000	.000	.000	.000	.000	.805	.950	.000	.000	.926	.375	.000	.840	.000	.848	.000	.943	.500	.333	.941	.964

Location: Grand River & Hamilton Rd.
County/City: Meridian Twp.
Weather: Sunny
Counted By: JJ

File Name : Grand River & Hamilton - PM
Site Code : 09181802
Start Date : 9/18/2018
Page No : 2



TRAFFIC SIGNAL TIMING PERMIT

APPROACH	PHASE	1	2	3	4	5	6	7	8		TIMING INSTALLED																																									
MINIMUM GREEN PASSAGE											REMARKS																																									
MAXIMUM NO. 1																																																				
MAXIMUM NO. 2																																																				
YELLOW CHANGE																																																				
RED CLEARANCE																																																				
WALK																																																				
PEDESTRIAN CLEARANCE																																																				
EXTENDED PED. CLEARANCE																																																				
REST IN WALK																																																				
INITIALIZATION																																																				
NON-ACT RESPONSE																																																				
VEHICLE RECALL																																																				
PEDESTRIAN RECALL																																																				
NON-LOCK MEMORY																																																				
DUAL ENTRY																																																				
	CYCLE									O1	O2	O3	PREPARED BY:	DATE:																																						
DIAL	SPLIT												FLASH HOURS:																																							
DIAL	SPLIT												<input type="text"/> to <input type="text"/>	DAILY <input type="checkbox"/> NONE <input type="checkbox"/>																																						
DIAL	SPLIT												<input type="text"/>																																							
DIAL	SPLIT												NIGHT FLASH:																																							
DIAL	SPLIT												FY =	FR =																																						
DIAL	SPLIT												CONFLICT FLASH:																																							
	MODE												FY =	FR =																																						
<p><u>PHASE</u></p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p>											<p>CONTROLLER TYPE:</p> <p><input type="checkbox"/> EPAC</p> <p><input type="checkbox"/> Other:</p> <p>PRE-EMPT <input type="checkbox"/></p> <p>COUNTDOWN PEDS <input type="checkbox"/></p>																																									
<p>OVERLAPS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Overlap Phase</th> <th>Load Bays</th> <th>Phases Overlapped</th> <th>T.G. (s)</th> <th>Y (s)</th> <th>R (s)</th> <th>-G/Y</th> <th>+GRN</th> </tr> </thead> <tbody> <tr> <td>=</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>=</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>=</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>=</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>											Overlap Phase	Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN	=								=								=								=								<p>LOCATION:</p> <p>CITY/TWP:</p> <p>COUNTY :</p> <p>MILE POINT</p> <p>CONTROL SECTION-SPOT #</p>	
Overlap Phase	Load Bays	Phases Overlapped	T.G. (s)	Y (s)	R (s)	-G/Y	+GRN																																													
=																																																				
=																																																				
=																																																				
=																																																				
<p>Job # (If Applicable):</p>																																																				

ADVANCED TIMING PARAMETERS FORM

SYSTEM INFORMATION	LEFT-TURN PHASING						RING AND BARRIER STRUCTURE													
Controller Type: <input type="checkbox"/> EPAC <input type="checkbox"/> Other:	Phase # / Description	<i>Permissive-Protected</i>			<i>Protected-Only</i>			B1			B2			B3			B4			
		Lead	Lag	Split	Lead	Lag	R1													
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R2												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R3												
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R4												
System Type: <input type="checkbox"/> Closed Loop <input type="checkbox"/> Stand By <input type="checkbox"/> Group 1 <input type="checkbox"/> Group 2 Address: <input type="checkbox"/> TBC <input type="checkbox"/> TBC/GPS <input type="checkbox"/> None <input type="checkbox"/> Other:	VEHICULAR AND PEDESTRIAN DETECTION												DISAPPEARING LEGEND CASE SIGNS							
	Approach	<i>Vehicular Detection</i>						<i>Pedestrian Detection</i>												
		Movements and Call Delay (s)			Type			Push-Button Crossing Locations												
	Left	Thru	Right	Loop	Video	Other														
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>														
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>															
ADDITIONAL DIAL SPLIT DATA												COORDINATION DATA								
PHASE			1	2	3	4	5	6	7	8	O1	O2	O3	Operation Mode						
DIAL	SPLIT	CYCLE												Coordination Mode						
DIAL	SPLIT	CYCLE												Maximum Mode						
DIAL	SPLIT	CYCLE												Correction Mode						
DIAL	SPLIT	CYCLE												Offset Mode						
DIAL	SPLIT	CYCLE												Force Mode						
DIAL	SPLIT	CYCLE												Max Dwell						
DIAL	SPLIT	CYCLE												Yield Period						
If Phone Drop, Phone #						ADDITIONAL OVERLAP DATA														
												<i>Load Bays</i>	<i>Phases Overlapped</i>		T.G. (s)	Y (s)	R (s)	-G/Y	+GRN	
												=								
												=								
												=								
If Slave, Master Location:						PREPARED BY: _____ DATE: _____						LOCATION: _____								
						Master Spot # : _____						<input type="checkbox"/> MDOT <input type="checkbox"/> County <input type="checkbox"/> City <input type="checkbox"/> Consultant						CONTROL SECTION-SPOT # _____		

PREEMPTION INFORMATION FORM

Preemption Description:																Preempt System Data												
Preempt # =	Time (s)	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16										
SEL Ped Cl		Vehicle	Track																<input type="checkbox"/> Locking <input type="checkbox"/> Non-Locking	Ring	1	2	3	4				
SEL Yellow			Dwell																	MIN								
SEL Red Cl			Cycle																		GRN/WLK (s)							
TRACK Green		Ped	Exit																Delay (s) Extend (s) Duration (s) Max Call (s)	Priority	PE/FL	PE1/2	PE2/3	PE3/4	PE4/5	PE5/6		
TRACK Ped Cl			Track																	Status								
TRACK Yellow			Dwell																		REMARKS :							
TRACK Red CL		Cycle																										
DWELL Green		Overlap Vehicle	Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Lockout (s)								
RET Ped Cl			Track																									Link PE #
RET Yellow			Dwell																									
RET Red Cl		Cycle																										
Preemption Description:																												
Preempt # =	Time (s)	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16										
SEL Ped Cl		Vehicle	Track																<input type="checkbox"/> Locking <input type="checkbox"/> Non-Locking									
SEL Yellow			Dwell																									
SEL Red Cl			Cycle																									
TRACK Green		Ped	Exit																Delay (s) Extend (s) Duration (s) Max Call (s)									
TRACK Ped Cl			Track																									
TRACK Yellow			Dwell																									
TRACK Red CL		Cycle																										
DWELL Green		Overlap Vehicle	Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Lockout (s)								
RET Ped Cl			Track																		Link PE #							
RET Yellow			Dwell																									
RET Red Cl		Cycle																										
Preemption Description:																												
Preempt # =	Time (s)	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16										
SEL Ped Cl		Vehicle	Track																<input type="checkbox"/> Locking <input type="checkbox"/> Non-Locking									
SEL Yellow			Dwell																									
SEL Red Cl			Cycle																									
TRACK Green		Ped	Exit																Delay (s) Extend (s) Duration (s) Max Call (s)									
TRACK Ped Cl			Track																									
TRACK Yellow			Dwell																									
TRACK Red CL		Cycle																										
DWELL Green		Overlap Vehicle	Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Lockout (s)								
RET Ped Cl			Track																		Link PE #							
RET Yellow			Dwell																									
RET Red Cl		Cycle																										
Preemption Description:																												
Preempt # =	Time (s)	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16										
SEL Ped Cl		Vehicle	Track																<input type="checkbox"/> Locking <input type="checkbox"/> Non-Locking									
SEL Yellow			Dwell																									
SEL Red Cl			Cycle																									
TRACK Green		Ped	Exit																Delay (s) Extend (s) Duration (s) Max Call (s)									
TRACK Ped Cl			Track																									
TRACK Yellow			Dwell																									
TRACK Red CL		Cycle																										
DWELL Green		Overlap Vehicle	Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Lockout (s)								
RET Ped Cl			Track																		Link PE #							
RET Yellow			Dwell																									
RET Red Cl		Cycle																										

PREPARED BY: _____ DATE: _____

LOCATION: _____

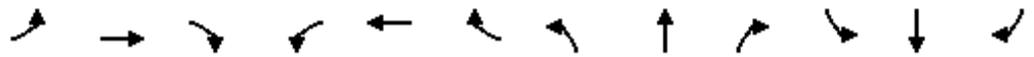
CONTROL SECTION-SPOT # _____

Appendix B

EXISTING TRAFFIC CONDITIONS

HCM 6th Signalized Intersection Summary
 1: Dobie Road/Central Park Drive & Grand River Ave

Existing Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	211	55	26	824	67	130	117	19	77	140	37
Future Volume (veh/h)	25	211	55	26	824	67	130	117	19	77	140	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1885	1885	1885	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	29	245	64	30	958	78	143	129	21	93	169	45
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.91	0.91	0.91	0.83	0.83	0.83
Percent Heavy Veh, %	7	7	7	1	1	1	3	3	3	1	1	1
Cap, veh/h	314	2105	938	705	2069	168	262	372	61	284	451	382
Arrive On Green	0.62	0.62	0.62	0.62	0.62	0.62	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	523	3413	1520	1078	3354	273	1158	1557	253	1247	1885	1598
Grp Volume(v), veh/h	29	245	64	30	512	524	143	0	150	93	169	45
Grp Sat Flow(s),veh/h/ln	523	1706	1520	1078	1791	1836	1158	0	1810	1247	1885	1598
Q Serve(g_s), s	3.1	3.0	1.7	1.2	15.3	15.3	11.8	0.0	6.9	6.7	7.5	2.2
Cycle Q Clear(g_c), s	18.5	3.0	1.7	4.1	15.3	15.3	19.3	0.0	6.9	13.6	7.5	2.2
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	314	2105	938	705	1105	1132	262	0	433	284	451	382
V/C Ratio(X)	0.09	0.12	0.07	0.04	0.46	0.46	0.55	0.00	0.35	0.33	0.37	0.12
Avail Cap(c_a), veh/h	314	2105	938	705	1105	1132	487	0	784	526	816	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	7.9	7.7	8.8	10.3	10.3	39.9	0.0	31.6	37.2	31.8	29.8
Incr Delay (d2), s/veh	0.6	0.1	0.1	0.1	1.4	1.4	3.7	0.0	1.0	1.4	1.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	0.5	0.3	5.5	5.6	3.5	0.0	3.1	2.1	3.5	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	8.0	7.8	8.9	11.7	11.6	43.6	0.0	32.6	38.6	32.9	30.1
LnGrp LOS	B	A	A	A	B	B	D	A	C	D	C	C
Approach Vol, veh/h		338			1066			293			307	
Approach Delay, s/veh		8.6			11.6			38.0			34.2	
Approach LOS		A			B			D			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		69.4		30.6		69.4		30.6				
Change Period (Y+Rc), s		7.7		* 6.7		7.7		* 6.7				
Max Green Setting (Gmax), s		42.3		* 43		42.3		* 43				
Max Q Clear Time (g_c+I1), s		0.0		15.6		0.0		21.3				
Green Ext Time (p_c), s		0.0		2.9		0.0		2.6				

Intersection Summary

HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
2: Hamilton Road & Grand River Ave

Existing Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↗	
Traffic Vol, veh/h	307	0	335	906	11	119
Future Vol, veh/h	307	0	335	906	11	119
Conflicting Peds, #/hr	0	5	5	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	87	87	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	341	0	385	1041	18	198

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	346	0	1637	176
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	1291	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1210	-	91	837
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	222	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1204	-	62	833
Mov Cap-2 Maneuver	-	-	-	-	-407	-
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	222	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1122	-	-	1204	-
HCM Lane V/C Ratio	0.193	-	-	0.32	-
HCM Control Delay (s)	9	-	-	9.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	1.4	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th Signalized Intersection Summary
 1: Dobie Road/Central Park Drive & Grand River Ave

Existing Conditions
 PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	701	117	18	425	199	109	307	21	189	267	60
Future Volume (veh/h)	81	701	117	18	425	199	109	307	21	189	267	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	86	746	124	19	452	212	117	330	23	205	290	65
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	396	1972	877	332	1306	607	299	611	43	267	666	564
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	777	3770	1677	641	2497	1161	1034	1833	128	1044	2000	1693
Grp Volume(v), veh/h	86	746	124	19	340	324	117	0	353	205	290	65
Grp Sat Flow(s),veh/h/ln	777	1885	1677	641	1885	1773	1034	0	1961	1044	2000	1693
Q Serve(g_s), s	7.3	11.8	3.8	1.8	10.5	10.7	10.0	0.0	14.6	18.7	11.3	2.7
Cycle Q Clear(g_c), s	17.9	11.8	3.8	13.6	10.5	10.7	21.3	0.0	14.6	33.3	11.3	2.7
Prop In Lane	1.00		1.00	1.00		0.66	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	396	1972	877	332	986	927	299	0	653	267	666	564
V/C Ratio(X)	0.22	0.38	0.14	0.06	0.35	0.35	0.39	0.00	0.54	0.77	0.44	0.12
Avail Cap(c_a), veh/h	396	1972	877	332	986	927	299	0	653	267	666	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.1	14.2	12.3	18.2	13.9	13.9	34.3	0.0	27.1	41.1	26.0	23.1
Incr Delay (d2), s/veh	1.3	0.6	0.3	0.3	1.0	1.0	1.8	0.0	1.6	14.7	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.6	1.4	0.3	4.3	4.1	2.6	0.0	6.9	6.1	5.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	14.7	12.6	18.5	14.8	15.0	36.1	0.0	28.8	55.9	27.0	23.3
LnGrp LOS	C	B	B	B	B	B	D	A	C	E	C	C
Approach Vol, veh/h		956			683			470			560	
Approach Delay, s/veh		15.0			15.0			30.6			37.1	
Approach LOS		B			B			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.0		40.0		60.0		40.0				
Change Period (Y+Rc), s		7.7		* 6.7		7.7		* 6.7				
Max Green Setting (Gmax), s		52.3		* 33		52.3		* 33				
Max Q Clear Time (g_c+I1), s		0.0		35.3		0.0		23.3				
Green Ext Time (p_c), s		0.0		0.0		0.0		3.2				

Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
2: Hamilton Road & Grand River Ave

Existing Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	879	32	103	639	3	299
Future Vol, veh/h	879	32	103	639	3	299
Conflicting Peds, #/hr	0	4	4	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	93	93	85	85
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	935	34	111	687	4	352

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	973	0	1522 489
Stage 1	-	-	-	-	956 -
Stage 2	-	-	-	-	566 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	704	-	109 525
Stage 1	-	-	-	-	334 -
Stage 2	-	-	-	-	532 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	701	-	91 523
Mov Cap-2 Maneuver	-	-	-	-	193 -
Stage 1	-	-	-	-	280 -
Stage 2	-	-	-	-	532 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	26.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	514	-	-	701	-
HCM Lane V/C Ratio	0.691	-	-	0.158	-
HCM Control Delay (s)	26.2	-	-	11.1	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	5.3	-	-	0.6	-

Intersection: 1: Dobie Road/Central Park Drive & Grand River Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	62	102	90	50	61	240	237	204	152	130	153	54
Average Queue (ft)	17	37	18	8	11	114	125	94	65	49	67	17
95th Queue (ft)	48	82	54	28	42	206	214	170	126	95	123	43
Link Distance (ft)		2046	2046			398	398	522	522		1029	1029
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500			250	500					400		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 2: Hamilton Road & Grand River Ave

Movement	WB	NB	B7
Directions Served	L	LR	T
Maximum Queue (ft)	96	82	50
Average Queue (ft)	40	43	3
95th Queue (ft)	73	72	25
Link Distance (ft)		15	400
Upstream Blk Time (%)		17	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	500		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Dobie Road/Central Park Drive & Grand River Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	113	169	167	74	39	153	201	154	272	424	866	644
Average Queue (ft)	45	95	86	21	11	79	97	70	140	326	441	131
95th Queue (ft)	92	149	147	53	34	130	162	137	240	503	991	647
Link Distance (ft)		2046	2046			398	398	522	522		1029	1029
Upstream Blk Time (%)											8	3
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	500			250	500					400		
Storage Blk Time (%)										31	7	
Queuing Penalty (veh)										83	14	

Intersection: 2: Hamilton Road & Grand River Ave

Movement	EB	WB	NB	B7
Directions Served	TR	L	LR	T
Maximum Queue (ft)	9	99	97	144
Average Queue (ft)	0	34	67	17
95th Queue (ft)	4	76	98	71
Link Distance (ft)	398		15	400
Upstream Blk Time (%)			37	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)		500		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	22
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	15
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 96

HCM 6th Signalized Intersection Summary
 1: Dobie Road/Central Park Drive & Grand River Ave

Existing Conditions with Improvements

PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	701	117	18	425	199	109	307	21	189	267	60
Future Volume (veh/h)	81	701	117	18	425	199	109	307	21	189	267	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	86	746	124	19	452	212	117	330	23	205	290	65
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	349	1785	794	292	1182	550	359	701	49	330	765	648
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	777	3770	1676	641	2496	1161	1034	1833	128	1044	2000	1694
Grp Volume(v), veh/h	86	746	124	19	340	324	117	0	353	205	290	65
Grp Sat Flow(s),veh/h/ln	777	1885	1676	641	1885	1773	1034	0	1961	1044	2000	1694
Q Serve(g_s), s	8.0	13.0	4.2	2.0	11.6	11.8	9.2	0.0	13.6	18.4	10.5	2.5
Cycle Q Clear(g_c), s	19.8	13.0	4.2	15.0	11.6	11.8	19.7	0.0	13.6	32.0	10.5	2.5
Prop In Lane	1.00		1.00	1.00		0.66	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	349	1785	794	292	893	839	359	0	750	330	765	648
V/C Ratio(X)	0.25	0.42	0.16	0.06	0.38	0.39	0.33	0.00	0.47	0.62	0.38	0.10
Avail Cap(c_a), veh/h	349	1785	794	292	893	839	453	0	928	424	946	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	17.3	15.0	22.2	16.9	17.0	29.4	0.0	23.2	35.3	22.3	19.8
Incr Delay (d2), s/veh	1.7	0.7	0.4	0.4	1.2	1.3	1.1	0.0	1.0	4.0	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.3	1.6	0.3	4.9	4.7	2.3	0.0	6.3	4.9	4.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	18.0	15.4	22.6	18.2	18.3	30.5	0.0	24.2	39.3	23.0	20.0
LnGrp LOS	C	B	B	C	B	B	C	A	C	D	C	B
Approach Vol, veh/h		956			683			470			560	
Approach Delay, s/veh		18.3			18.3			25.8			28.6	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.0		45.0		55.0		45.0				
Change Period (Y+Rc), s		7.7		* 6.7		7.7		* 6.7				
Max Green Setting (Gmax), s		38.3		* 47		38.3		* 47				
Max Q Clear Time (g_c+I1), s		0.0		34.0		0.0		21.7				
Green Ext Time (p_c), s		0.0		4.3		0.0		5.3				

Intersection Summary

HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection: 1: Dobie Road/Central Park Drive & Grand River Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	133	217	223	73	48	166	200	137	265	215	224	51
Average Queue (ft)	47	125	119	19	15	92	112	62	127	119	106	20
95th Queue (ft)	101	195	199	46	40	148	183	118	223	200	186	42
Link Distance (ft)		2046	2046			398	398	522	522		1029	1029
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500			250	500					400		
Storage Blk Time (%)	0											
Queuing Penalty (veh)	0											

Intersection: 2: Hamilton Road & Grand River Ave

Movement	EB	WB	NB	B7
Directions Served	TR	L	LR	T
Maximum Queue (ft)	9	77	101	121
Average Queue (ft)	0	30	67	16
95th Queue (ft)	5	62	98	72
Link Distance (ft)	398		15	400
Upstream Blk Time (%)	37			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		500		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	11
Average Queue (ft)	0
95th Queue (ft)	8
Link Distance (ft)	15
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Appendix C

FUTURE TRAFFIC CONDITIONS

HCM 6th Signalized Intersection Summary
 1: Dobie Road/Central Park Drive & Grand River Ave

Future Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	215	55	26	827	70	130	117	19	81	140	37
Future Volume (veh/h)	25	215	55	26	827	70	130	117	19	81	140	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1885	1885	1885	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	29	250	64	30	962	81	143	129	21	98	169	45
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.91	0.91	0.91	0.83	0.83	0.83
Percent Heavy Veh, %	7	7	7	1	1	1	3	3	3	1	1	1
Cap, veh/h	312	2105	938	701	2063	174	262	372	61	284	451	382
Arrive On Green	0.62	0.62	0.62	0.62	0.62	0.62	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	519	3413	1520	1073	3344	282	1158	1557	253	1247	1885	1598
Grp Volume(v), veh/h	29	250	64	30	515	528	143	0	150	98	169	45
Grp Sat Flow(s),veh/h/ln	519	1706	1520	1073	1791	1834	1158	0	1810	1247	1885	1598
Q Serve(g_s), s	3.2	3.0	1.7	1.2	15.5	15.5	11.8	0.0	6.9	7.1	7.5	2.2
Cycle Q Clear(g_c), s	18.7	3.0	1.7	4.2	15.5	15.5	19.3	0.0	6.9	14.0	7.5	2.2
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	312	2105	938	701	1105	1132	262	0	433	284	451	382
V/C Ratio(X)	0.09	0.12	0.07	0.04	0.47	0.47	0.55	0.00	0.35	0.34	0.37	0.12
Avail Cap(c_a), veh/h	312	2105	938	701	1105	1132	487	0	784	526	816	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.3	7.9	7.7	8.8	10.3	10.3	39.9	0.0	31.6	37.4	31.8	29.8
Incr Delay (d2), s/veh	0.6	0.1	0.1	0.1	1.4	1.4	3.7	0.0	1.0	1.5	1.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	0.5	0.3	5.6	5.7	3.5	0.0	3.1	2.2	3.5	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	8.0	7.8	8.9	11.7	11.7	43.6	0.0	32.6	38.9	32.9	30.1
LnGrp LOS	B	A	A	A	B	B	D	A	C	D	C	C
Approach Vol, veh/h		343			1073			293			312	
Approach Delay, s/veh		8.7			11.6			38.0			34.4	
Approach LOS		A			B			D			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		69.4		30.6		69.4		30.6				
Change Period (Y+Rc), s		7.7		* 6.7		7.7		* 6.7				
Max Green Setting (Gmax), s		42.3		* 43		42.3		* 43				
Max Q Clear Time (g_c+I1), s		0.0		16.0		0.0		21.3				
Green Ext Time (p_c), s		0.0		2.9		0.0		2.6				

Intersection Summary

HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
2: Hamilton Road & Grand River Ave

Future Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	3.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	315	0	340	912	11	125
Future Vol, veh/h	315	0	340	912	11	125
Conflicting Peds, #/hr	0	5	5	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	87	87	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	350	0	391	1048	18	208

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	355	0	1661 180
Stage 1	-	-	-	-	355 -
Stage 2	-	-	-	-	1306 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	1200	-	88 832
Stage 1	-	-	-	-	681 -
Stage 2	-	-	-	-	218 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1194	-	59 828
Mov Cap-2 Maneuver	-	-	-	-	124 -
Stage 1	-	-	-	-	678 -
Stage 2	-	-	-	-	147 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	15.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1194	-
HCM Lane V/C Ratio	0.4	-	-	0.327	-
HCM Control Delay (s)	15.5	-	-	9.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.9	-	-	1.4	-

HCM 6th TWSC
3: Grand River Ave & Site Drive

Future Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	426	1241	18	14	11
Future Vol, veh/h	14	426	1241	18	14	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	50	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	463	1349	20	15	12

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1369	0	-	0	1621
Stage 1	-	-	-	-	1359
Stage 2	-	-	-	-	262
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	497	-	-	-	94
Stage 1	-	-	-	-	204
Stage 2	-	-	-	-	758
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	497	-	-	-	91
Mov Cap-2 Maneuver	-	-	-	-	167
Stage 1	-	-	-	-	198
Stage 2	-	-	-	-	758

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	22.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	497	-	-	-	167	391
HCM Lane V/C Ratio	0.031	-	-	-	0.091	0.031
HCM Control Delay (s)	12.5	-	-	-	28.7	14.5
HCM Lane LOS	B	-	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1

HCM 6th Signalized Intersection Summary
 1: Dobie Road/Central Park Drive & Grand River Ave

Future Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	720	117	18	443	210	109	307	21	199	267	60
Future Volume (veh/h)	81	720	117	18	443	210	109	307	21	199	267	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	86	766	124	19	471	223	117	330	23	216	290	65
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	382	1972	877	325	1301	612	299	611	43	267	666	564
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	756	3770	1677	629	2487	1170	1034	1833	128	1044	2000	1693
Grp Volume(v), veh/h	86	766	124	19	356	338	117	0	353	216	290	65
Grp Sat Flow(s),veh/h/ln	756	1885	1677	629	1885	1771	1034	0	1961	1044	2000	1693
Q Serve(g_s), s	7.6	12.2	3.8	1.9	11.1	11.2	10.0	0.0	14.6	18.7	11.3	2.7
Cycle Q Clear(g_c), s	18.8	12.2	3.8	14.0	11.1	11.2	21.3	0.0	14.6	33.3	11.3	2.7
Prop In Lane	1.00		1.00	1.00		0.66	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	382	1972	877	325	986	926	299	0	653	267	666	564
V/C Ratio(X)	0.22	0.39	0.14	0.06	0.36	0.36	0.39	0.00	0.54	0.81	0.44	0.12
Avail Cap(c_a), veh/h	382	1972	877	325	986	926	299	0	653	267	666	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	14.3	12.3	18.5	14.0	14.1	34.3	0.0	27.1	41.6	26.0	23.1
Incr Delay (d2), s/veh	1.4	0.6	0.3	0.3	1.0	1.1	1.8	0.0	1.6	18.7	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.8	1.4	0.3	4.5	4.3	2.6	0.0	6.9	6.7	5.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	14.9	12.6	18.8	15.1	15.2	36.1	0.0	28.8	60.3	27.0	23.3
LnGrp LOS	C	B	B	B	B	B	D	A	C	E	C	C
Approach Vol, veh/h		976			713			470			571	
Approach Delay, s/veh		15.1			15.2			30.6			39.2	
Approach LOS		B			B			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.0		40.0		60.0		40.0				
Change Period (Y+Rc), s		7.7		* 6.7		7.7		* 6.7				
Max Green Setting (Gmax), s		52.3		* 33		52.3		* 33				
Max Q Clear Time (g_c+I1), s		0.0		35.3		0.0		23.3				
Green Ext Time (p_c), s		0.0		0.0		0.0		3.2				

Intersection Summary

HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
2: Hamilton Road & Grand River Ave

Future Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	5.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	908	32	118	668	3	314
Future Vol, veh/h	908	32	118	668	3	314
Conflicting Peds, #/hr	0	4	4	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	93	93	85	85
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	966	34	127	718	4	369

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1004	0	1600
Stage 1	-	-	-	-	987
Stage 2	-	-	-	-	613
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	686	-	97
Stage 1	-	-	-	-	322
Stage 2	-	-	-	-	503
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	683	-	79
Mov Cap-2 Maneuver	-	-	-	-	175
Stage 1	-	-	-	-	261
Stage 2	-	-	-	-	503

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	30.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	502	-	-	683	-
HCM Lane V/C Ratio	0.743	-	-	0.186	-
HCM Control Delay (s)	30.1	-	-	11.5	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	6.2	-	-	0.7	-

HCM 6th TWSC
3: Grand River Ave & Site Drive

Future Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↖		↖	↖
Traffic Vol, veh/h	44	1178	742	16	15	44
Future Vol, veh/h	44	1178	742	16	15	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	50	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	1253	798	17	16	48

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	815	0	-	0	1528 408
Stage 1	-	-	-	-	807 -
Stage 2	-	-	-	-	721 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	808	-	-	-	108 593
Stage 1	-	-	-	-	399 -
Stage 2	-	-	-	-	443 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	808	-	-	-	102 593
Mov Cap-2 Maneuver	-	-	-	-	223 -
Stage 1	-	-	-	-	376 -
Stage 2	-	-	-	-	443 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	808	-	-	-	223	593
HCM Lane V/C Ratio	0.058	-	-	-	0.073	0.081
HCM Control Delay (s)	9.7	-	-	-	22.4	11.6
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.3

Intersection: 1: Dobie Road/Central Park Drive & Grand River Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	67	101	54	33	47	231	228	162	159	131	133	54
Average Queue (ft)	16	36	15	8	12	111	126	82	67	52	67	17
95th Queue (ft)	50	74	44	24	36	194	210	139	129	101	120	44
Link Distance (ft)		2046	2046			398	398	522	522		1029	1029
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500			250	500					400		
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 2: Hamilton Road & Grand River Ave

Movement	WB	WB	NB	B7
Directions Served	L	T	LR	T
Maximum Queue (ft)	72	48	82	51
Average Queue (ft)	41	2	42	3
95th Queue (ft)	71	24	71	28
Link Distance (ft)		182	15	400
Upstream Blk Time (%)	14			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)	50			
Storage Blk Time (%)	3	0		
Queuing Penalty (veh)	12	0		

Intersection: 3: Grand River Ave & Site Drive

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	41	44	35
Average Queue (ft)	9	15	10
95th Queue (ft)	32	42	33
Link Distance (ft)			271
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50	50	
Storage Blk Time (%)	1	3	0
Queuing Penalty (veh)	2	0	0

Network Summary

Network wide Queuing Penalty: 14

Intersection: 1: Dobie Road/Central Park Drive & Grand River Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	110	183	164	67	44	144	191	163	287	425	969	845
Average Queue (ft)	39	102	92	17	13	82	98	62	153	380	695	360
95th Queue (ft)	84	159	156	47	37	133	164	124	258	528	1276	1138
Link Distance (ft)		2046	2046			398	398	522	522		1029	1029
Upstream Blk Time (%)											27	11
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	500			250	500					400		
Storage Blk Time (%)										60	16	
Queuing Penalty (veh)										161	31	

Intersection: 2: Hamilton Road & Grand River Ave

Movement	EB	EB	WB	NB	B7
Directions Served	T	TR	L	LR	T
Maximum Queue (ft)	10	22	100	99	117
Average Queue (ft)	0	1	42	70	18
95th Queue (ft)	7	7	81	100	69
Link Distance (ft)	398	398		15	400
Upstream Blk Time (%)				41	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)			500		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Grand River Ave & Site Drive

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	50	17	4	45	62
Average Queue (ft)	19	1	0	13	25
95th Queue (ft)	47	10	3	38	53
Link Distance (ft)		174	1722		270
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	50			50	
Storage Blk Time (%)	1			1	1
Queuing Penalty (veh)	3			0	0

Intersection: 7: Bend

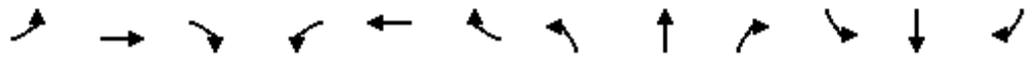
Movement	SB
Directions Served	T
Maximum Queue (ft)	33
Average Queue (ft)	1
95th Queue (ft)	14
Link Distance (ft)	15
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 196

HCM 6th Signalized Intersection Summary
 1: Dobie Road/Central Park Drive & Grand River Ave

Future Conditions With Improvements
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	720	117	18	443	210	109	307	21	199	267	60
Future Volume (veh/h)	81	720	117	18	443	210	109	307	21	199	267	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	86	766	124	19	471	223	117	330	23	216	290	65
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	329	1757	781	280	1159	545	368	715	50	339	780	661
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	756	3770	1676	629	2487	1170	1034	1833	128	1044	2000	1694
Grp Volume(v), veh/h	86	766	124	19	356	338	117	0	353	216	290	65
Grp Sat Flow(s),veh/h/ln	756	1885	1676	629	1885	1771	1034	0	1961	1044	2000	1694
Q Serve(g_s), s	8.5	13.6	4.3	2.1	12.4	12.6	9.1	0.0	13.4	19.4	10.3	2.4
Cycle Q Clear(g_c), s	21.1	13.6	4.3	15.7	12.4	12.6	19.4	0.0	13.4	32.8	10.3	2.4
Prop In Lane	1.00		1.00	1.00		0.66	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	329	1757	781	280	878	825	368	0	765	339	780	661
V/C Ratio(X)	0.26	0.44	0.16	0.07	0.41	0.41	0.32	0.00	0.46	0.64	0.37	0.10
Avail Cap(c_a), veh/h	329	1757	781	280	878	825	454	0	928	426	946	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	17.9	15.4	23.2	17.6	17.6	28.7	0.0	22.7	34.9	21.8	19.3
Incr Delay (d2), s/veh	1.9	0.8	0.4	0.5	1.4	1.5	1.0	0.0	0.9	4.2	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.6	1.6	0.3	5.3	5.1	2.3	0.0	6.1	5.2	4.8	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.5	18.7	15.8	23.6	19.0	19.1	29.7	0.0	23.6	39.1	22.4	19.5
LnGrp LOS	C	B	B	C	B	B	C	A	C	D	C	B
Approach Vol, veh/h		976			713			470			571	
Approach Delay, s/veh		19.0			19.2			25.1			28.4	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.3		45.7		54.3		45.7				
Change Period (Y+Rc), s		7.7		* 6.7		7.7		* 6.7				
Max Green Setting (Gmax), s		38.3		* 47		38.3		* 47				
Max Q Clear Time (g_c+I1), s		0.0		34.8		0.0		21.4				
Green Ext Time (p_c), s		0.0		4.2		0.0		5.3				

Intersection Summary

HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

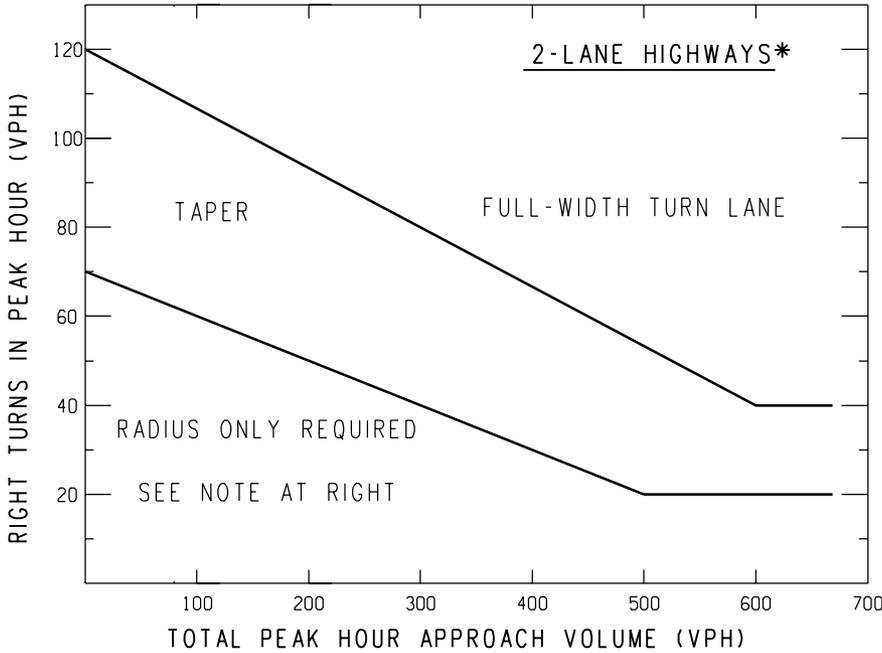
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection: 1: Dobie Road/Central Park Drive & Grand River Ave

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	131	209	202	59	65	195	229	150	250	242	238	50
Average Queue (ft)	48	126	117	20	14	98	119	60	119	125	105	17
95th Queue (ft)	100	192	188	45	43	163	191	122	206	207	189	41
Link Distance (ft)		2046	2046			398	398	522	522		1029	1029
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	500			250	500					400		
Storage Blk Time (%)												
Queuing Penalty (veh)												

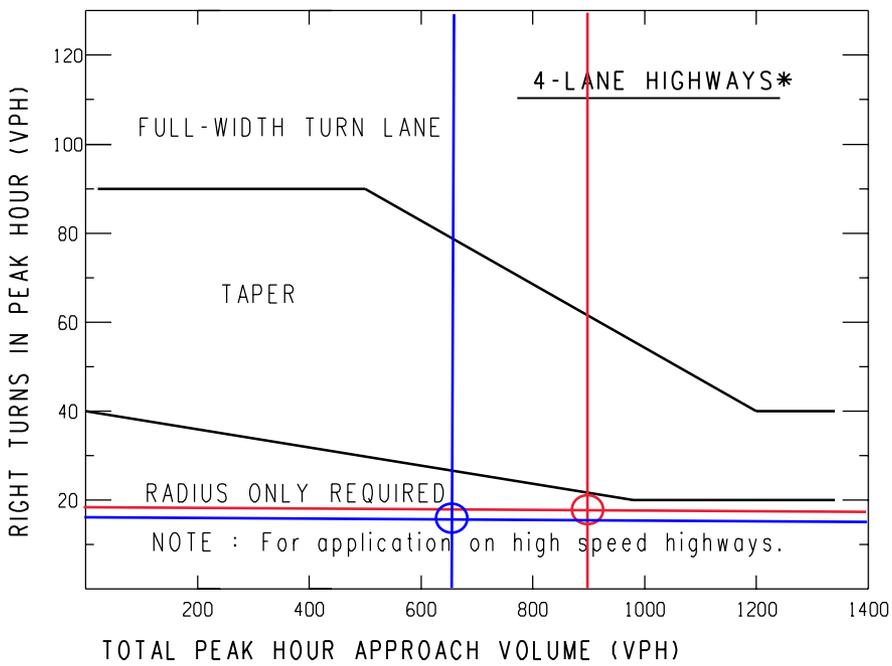
Appendix D

WARRANT SUMMARIES



NOTE:
 For posted speeds at or under 45 mph, peak hour right turns greater than 40 vph, and total peak hour approach less than 300 vph, adjust right turn volumes.

Adjust peak hour right turns = Peak hour right turns - 20



*If a center left-turn lane exists (i.e. 3 or 5 lane highway), subtract the number of left turns in approach volume from the total approach volume to get an adjusted total approach volume.

AM
 18 Right-turns
 906 Approach

PM
 16 Right-turns
 639 Approach

Sample Problem:

The Design Speed is 55 mph. The Peak Hour Approach Volume is 300 vph. The Number of Right Turns in the Peak Hour is 100 vph. Determine if a right turn lane is recommended.

Solution:

Figure indicates that the intersection of 300 vph and 100 vph is located above the upper trend line; thus, a right-turn lane may be recommended.

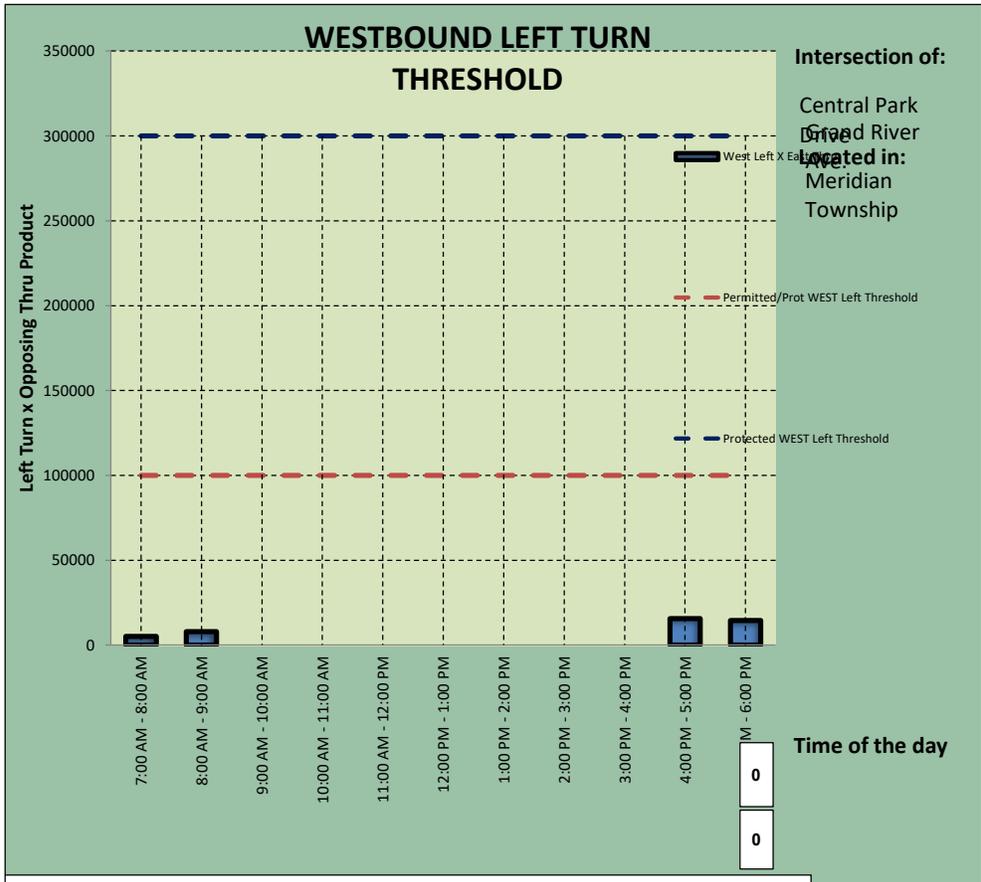
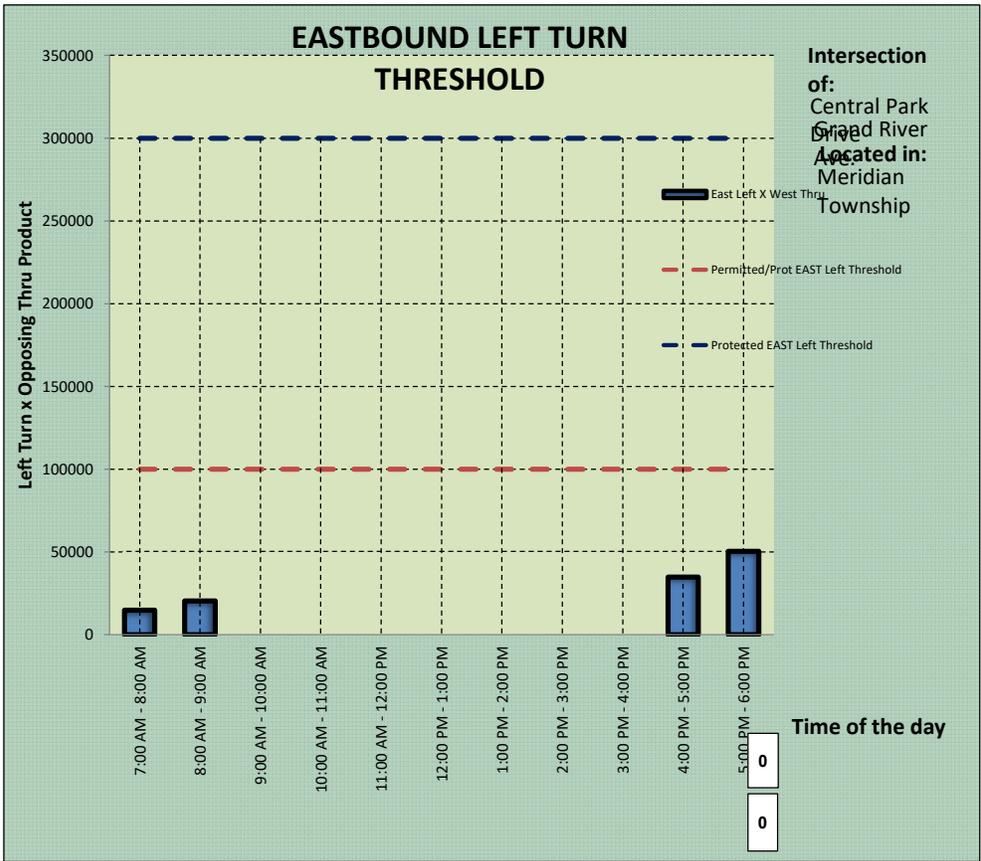
		TRAFFIC VOLUME GUIDELINES FOR RIGHT-TURN LANES AND TAPERS	
TRAFFIC AND SAFETY NOTE			
DRAWN BY: MTS CHECKED BY: JAT	08/05/2004 PLAN DATE:	604A	SHEET 2 OF 2
FILE: K:\DGN\ts notes\Note604A tsn.dgn		REV. 08/05/2004	

EASTBOUND AND WESTBOUND LEFT TURN PHASE THRESHOLDS

Please enter Data in Yellow Boxes ONLY

CONDITIONS		Items to Consider for Protected Only	Items to Consider for Permissive/Protected	
EASTBOUND LEFT TURN GEOMETRY				
No. of Opposing WESTbound Thru Lanes (include combination thru lanes)	2	NO	YES	
No. of Opposing WESTbound Right Turn Only Lanes	0	N / A		
What is the Opposing WESTbound speed limit or 85%ile? (mph)	45	NO	N / A	
No. of EASTbound Left Turning Lanes	1	NO	N / A	
What is the EASTbound sight distance in the field? (ft)	500	NO	YES	
Minimum Required Sight Distance (ft)	397			
WESTBOUND LEFT TURN GEOMETRY				
No. of Opposing EASTbound Thru Lanes (include combination thru lanes)	2	NO	YES	
No. of Opposing EASTbound Right Turn Only Lanes	0	N / A		
What is the Opposing EASTbound speed limit or 85%ile? (mph)	45	NO	N / A	
No. of WESTbound Left Turning Lanes	1	NO	N / A	
What is the WESTbound sight distance in the field? (ft)	500	NO	YES	
Minimum Required Sight Distance (ft)	397			
TRAFFIC CHARACTERISTICS				
EASTbound Left Turn Vol (vph)	81	NO		
WESTbound Left Turn Vol (vph)	30	NO		
Cross Product of LEFT TURN EAST (See Chart Below)	50544	NO	NO	
Cross Product of LEFT TURN WEST (See Chart Below)	15750	NO	NO	
CRASH HISTORY				
Is there an existing permissive/protected or permissive/protected LT phase?	NO			
Which Approach does the "One Left Turn Movement" crashes correspond to?	EASTBOUND			
ONE LEFT TURN MOVEMENT	Crash History for 12 Month Period			
	Enter Number of Correctable crashes? (Left-Turn Head-On)	0	NO	NO
	Crash History for 24 Month Period			
	Enter Number of Correctable crashes? (Left-Turn Head-On)	0	NO	NO
TWO LEFT TURN MOVEMENTS	Crash History for 12 Month Period			
	Enter Number of Correctable crashes? (Left-Turn Head-On)	0	NO	NO
	Crash History for 24 Month Period			
	Enter Number of Correctable crashes? (Left-Turn Head-On)	0	NO	NO
EASTbound Left Turn DELAY per vehicle? Sec. / Veh.	20.4	NO		
EASTbound TOTAL Left Turn DELAY? Veh-Hr	0.46	NO		
WESTbound Left Turn DELAY per vehicle? Sec. / Veh.	55.9	NO		
WESTbound TOTAL Left Turn DELAY? Veh-Hr	0.47	NO		

Left-turn phasing should only be approved and installed after a comprehensive engineering study indicates such an operation is necessary for the safe and efficient operation of an intersection. The type of left-turn phasing will be determined based on data from the engineering study which includes the amount of delay experienced by left-turning traffic, crash patterns that may be occurring and available capacity of the intersection.

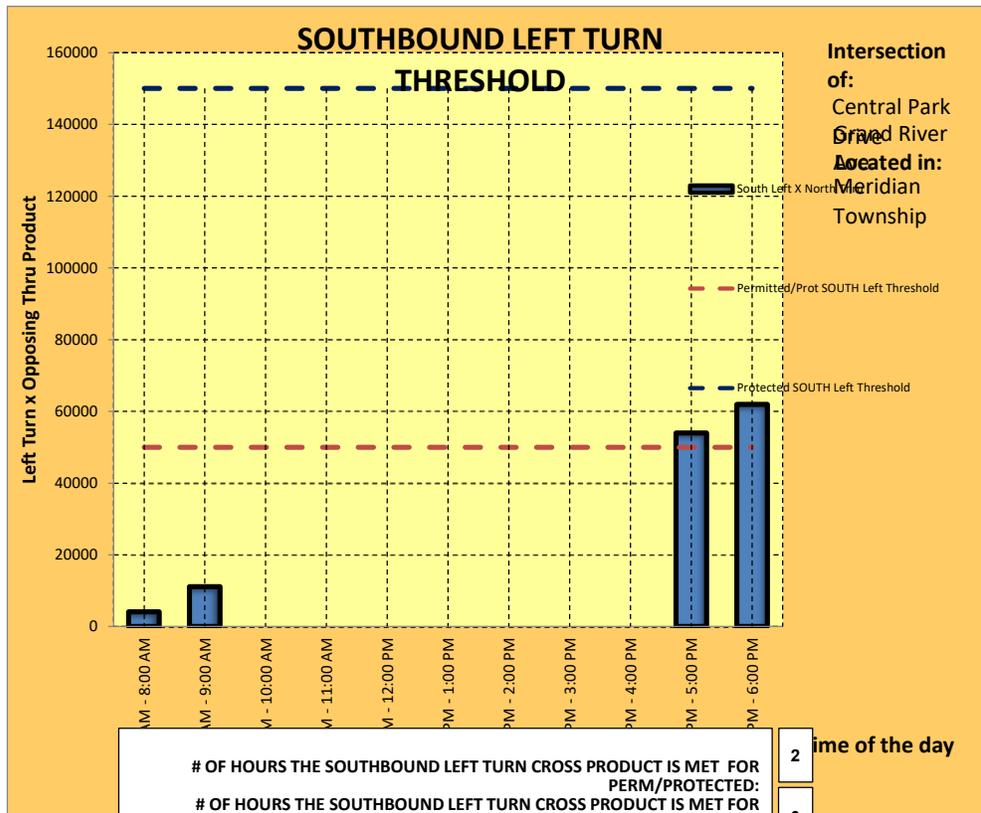
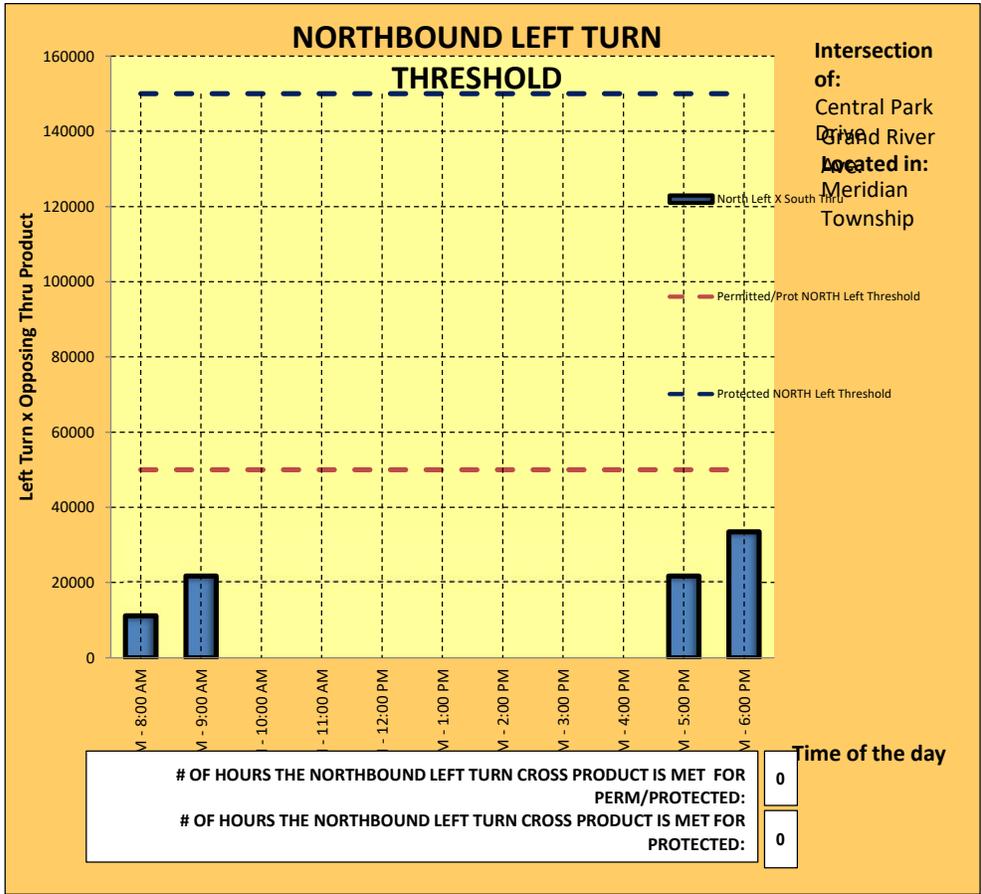


NORTHBOUND AND SOUTHBOUND LEFT TURN PHASE THRESHOLDS

Please enter Data in Yellow Boxes ONLY

CONDITIONS		Items to Consider for Protected Only	Items to Consider for Permissive/Protected	
NORTHBOUND LEFT TURN GEOMETRY				
No. of Opposing SOUTHbound Thru Lanes (include combination thru lanes)	1	NO	YES	
No. of Opposing SOUTHbound Right Turn Only Lanes	1	N / A		
What is the Opposing SOUTHbound speed limit or 85%ile? (mph)	35	NO	N / A	
No. of NORTHbound Left Turning Lanes	1	NO	N / A	
What is the NORTHbound sight distance in the field? (ft)	500	NO	YES	
Minimum Required Sight Distance (ft)	309			
SOUTHBOUND LEFT TURN GEOMETRY				
No. of Opposing NORTHbound Thru Lanes (include combination thru lanes)	1	NO	YES	
No. of Opposing NORTHbound Right Turn Only Lanes	0	N / A		
What is the Opposing NORTHbound speed limit or 85%ile? (mph)	35	NO	N / A	
No. of SOUTHbound Left Turning Lanes	1	NO	N / A	
What is the SOUTHbound sight distance in the field? (ft)	500	NO	YES	
Minimum Required Sight Distance (ft)	283			
TRAFFIC CHARACTERISTICS				
NORTHbound Left Turn Vol (vph)	135	YES		
SOUTHbound Left Turn Vol (vph)	189	YES		
Cross Product of LEFT TURN NORTH (See Chart Below)	33463	NO	NO	
Cross Product of LEFT TURN SOUTH (See Chart Below)	61992	NO	YES	
CRASH HISTORY				
Is there an existing permissive/protected or permissive/protected LT phase?	YES			
Which Approach does the "One Left Turn Movement" crashes correspond to?	SOUTHBOUND			
ONE LEFT TURN MOVEMENT	Crash History for 12 Month Period			
	Enter Number of Correctable crashes? (Left-Turn Head-On)	0	NO	NO
	Crash History for 24 Month Period			
	Enter Number of Correctable crashes? (Left-Turn Head-On)	0	NO	NO
TWO LEFT TURN MOVEMENTS	Crash History for 12 Month Period			
	Enter Number of Correctable crashes? (Left-Turn Head-On)	0	NO	NO
	Crash History for 24 Month Period			
	Enter Number of Correctable crashes? (Left-Turn Head-On)	0	NO	NO
NORTHbound Left Turn DELAY per vehicle? Sec. / Veh.	36.1	NO		
NORTHbound TOTAL Left Turn DELAY? Veh-Hr	1.35	NO		
SOUTHbound Left Turn DELAY per vehicle? Sec. / Veh.	55.9	YES		
SOUTHbound TOTAL Left Turn DELAY? Veh-Hr	2.93	YES		

Left-turn phasing should only be approved and installed after a comprehensive engineering study indicates such an operation is necessary for the safe and efficient operation of an intersection. The type of left-turn phasing will be determined based on data from the engineering study which includes the amount of delay experienced by left-turning traffic, crash patterns that may be occurring and available capacity of the intersection.





To: Planning Commission

From: Brian Shorkey, Senior Planner

Date: June 8, 2023

Re: Special Use Permit #23012 (The W. Investment Holdings), to construct a medical marijuana provisioning center at 1614 West Grand River

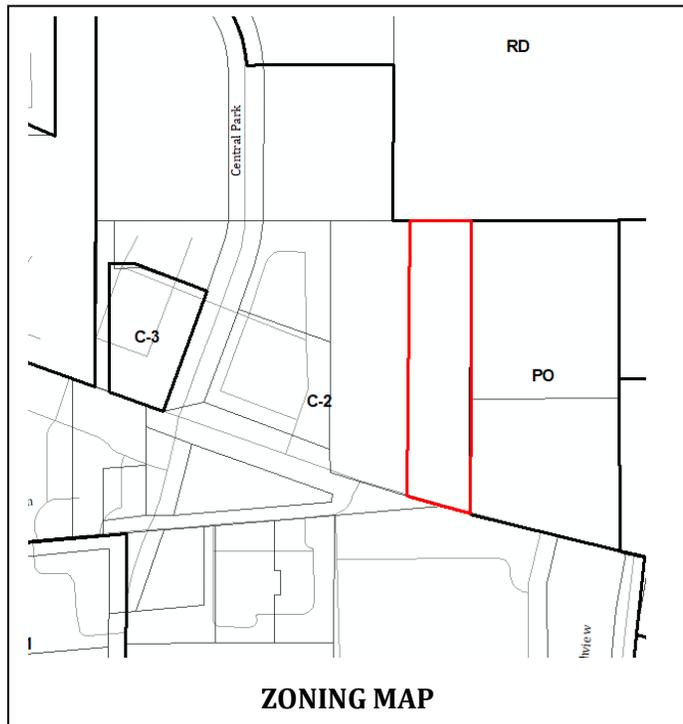
The W. Investment Holdings (Applicant) has submitted a Special Use Permit (SUP) application for the construction of a 4,000 square foot medical marijuana provisioning center at 1614 West Grand River, Okemos, MI 48864 (Subject Property). The Subject Property is approximately 2.4 acres in size and is zoned C-2 – Commercial.

Sec. 40-30 (e)(3) of the Township Code of Ordinances requires a successful medical marijuana applicant to apply for a special use permit, as provided in Sec. 86-124, within 60 days or issuance of a conditional approval for a medical marijuana facility permit. This SUP application fulfills that requirement and is identical to the SUP application that the Planning Commission reviewed and recommended for approval in 2019 (SUP #19131).

Zoning and Future Land Use

The proposed project is located in the C-2 – Commercial zoning district. A provisioning center is permitted subject to approval of a special use permit reviewed by the Planning Commission and approved by the Township Board.

The C-2 district requires a minimum of 100 feet of lot frontage and 4,000 square feet of lot area. The Subject Property is 2.4 acres in size and has 150 feet of frontage along Grand River Avenue, exceeding the ordinance standards.



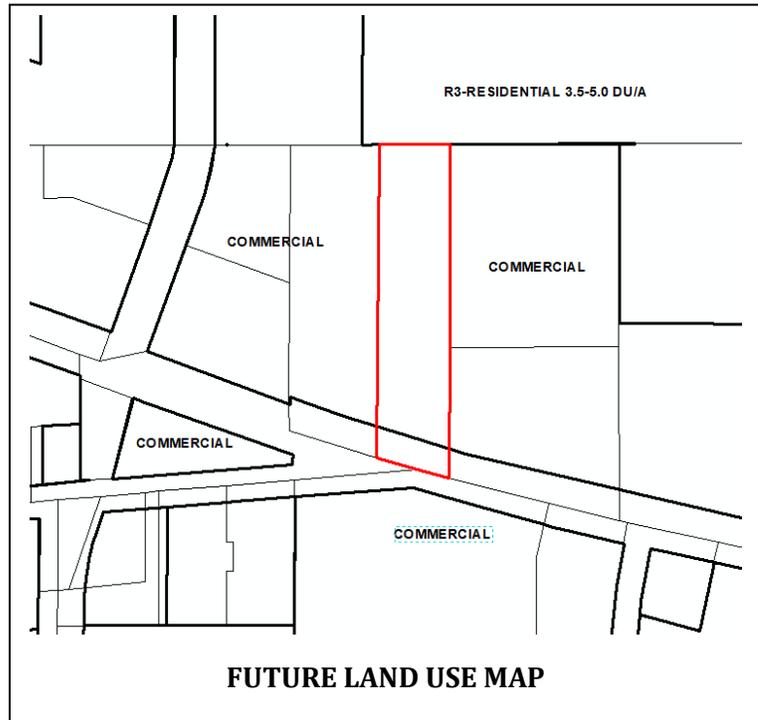
**Special Use Permit #23012 (The W. Investment Holdings)
Planning Commission (June 12, 2023)
Page 2**

The 2017 Master Plan designates the subject site as Commercial. This designation applies to the properties adjacent to the north, south, and east. The property to the north is shown as R3 – Single-Family Residential and is part of the Grand Reserve project that was approved by the Township earlier this year.

Staff Analysis

The site is currently undeveloped. The site was previously occupied by a single-family house that was demolished in early 2019.

Applications for special land use permits are reviewed under Sec. 86-126 in the Zoning Ordinance. Based on that review, Staff has the following comments:



1. The Subject Property lies within Medical Marijuana Overlay District 5. This has been approved of one of only seven areas in the Township where medical marijuana facilities are allowed. The proposed use conforms with this.
2. The proposed medical marijuana dispensary is a commercial use and conforms with the Subject Property's commercial zoning and Future Land Use designations.
3. The material attached to the medical marijuana application, approved on January 23, 2023, detailed the safety and odor control that was being proposed by the Applicant. The safety and odor control systems meet the Township's requirements.
4. Municipal water and sanitary sewer are 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, although there are no indications that the current system cannot handle a new retail use.
5. The original traffic study was reevaluated by the Applicant's traffic engineer and found to still be valid, as shown in the attached traffic study. The traffic study indicated that the existing roads are capable of handling the expected traffic, although it did suggest an optimization of traffic signal timing at the intersection of Grand River Avenue and Central Park Drive. This will be reviewed by the Michigan Department of Transportation (MDOT) during the site plan review phase.
6. The applicant is proposing to close an existing driveway and create a new driveway along Grand River Avenue to access the site. In accordance with MDOT, the Township has developed access management criteria for use in evaluating proposed access driveways along Grand River Avenue. The access management criteria for the proposed driveway are

Special Use Permit #23012 (The W. Investment Holdings)
Planning Commission (June 12, 2023)
Page 3

summarized in the study provided by the applicant's traffic consultant. Based on the study, the traffic consultant noted that waivers for the spacing between adjacent driveways will be required to facilitate the development of the proposed provisioning center. This criteria will be reviewed during the site plan review process and all curb cuts on Grand River are subject to MDOT review and approval.

7. The Flood Insurance Rate Map (FIRM) for Meridian Township indicates the property is not located in a floodplain. The Township Greenspace Plan shows no special designation on the site.
8. There are two wetlands located on the Subject Property. Both wetlands are located within 30 feet of a 2-acre pond and are therefore regulated by the State of Michigan and Meridian Township. Based on the submitted plans, the Applicant is not proposing any impacts to the wetlands and the 20-foot wetland buffer is being observed.
9. A sign plan was submitted as required by Sec. 40-30. The proposed signage meets the requirements of the Township sign ordinance.

Based on the information provided by the Applicant, Staff has identified wetlands and access management as potential concerns while reviewing the proposed Special Use Permit. The attached site drawings show that the Applicant is aware of the wetlands and is working around them in accordance with the Township's wetland ordinances. The traffic study and the proposed driveway relocation will be reviewed in detail during the site plan review phase.

If the project is approved by the Planning Commission and the Township Board, the applicant will be required to submit for Site Plan Review and building permits 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.

Prior to operations, the applicant will need to receive a medical marijuana license from the State of Michigan, Department of Licensing and Regulatory Affairs, approvals from any other State agencies, and final approval of the local permit for a commercial medical marijuana facility.

Planning Commission Options

The Planning Commission has the option to recommend approval, approval with conditions, or denial of Special Use Permit #23012. A resolution will be provided at a future meeting.

Attachments

1. SUP permit application with attachments, dated March 23, 2023 and received by the Township on April 28, 2023.
2. Site concept drawing, prepared by Rogvoy Architects, dated August 2, 2019 and received by the Township on April 28, 2023.
3. Traffic Impact Study prepared by Fleis & Vandenbrink Engineering, Inc. dated January 21, 2020, with memo dated April 27, 2023, and received by the Township on April 28, 2023.



To: Planning Commission

From: Brian Shorkey, Senior Planner

Date: June 23, 2023

Re: Special Use Permit #23012 (The W. Investment Holdings), to construct a medical marijuana provisioning center at 1614 West Grand River.

The W. Investment Holdings (Applicant) has submitted a Special Use Permit (SUP) application for the construction of a 4,000 square foot medical marijuana provisioning center at 1614 West Grand River, Okemos, MI 48864 (Subject Property). The Subject Property is approximately 2.4 acres in size and is zoned C-2 – Commercial. A public hearing for this application was held at the Planning Commission’s regular meeting on Monday, June 12, 2023. The Planning Commission raised no major concerns and agreed to consider a resolution to approve the special use permit to construct a medical marijuana provisioning center at 1614 West Grand River at its next meeting.

Planning Commission Options

The Planning Commission may approve, approve with conditions, or deny the special use permit. A resolution to approve the request is provided. Staff **recommends approval** of Special Use Permit #23012 for the construction of a medical marijuana provisioning center at 1614 West Grand River, with the conditions listed in the resolution.

Attachments

1. Resolution to approve SUP #23012.
2. June 12, 2023 meeting packet.

RESOLUTION TO APPROVE

**Special Use Permit #23012
(The W. Investment Holdings)**

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 June, 2023 at 6:30 p.m., Local Time.

PRESENT:

ABSENT:

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

WHEREAS, The W. Investment Holdings has submitted a request to establish a 4,000 square foot commercial medical marihuana provisioning center at 1614 West Grand River; and

WHEREAS, the Township Board adopted both zoning and non-zoning ordinances allowing commercial medical marihuana facilities in designated overlay areas throughout the Township at its meeting on May 21, 2019; and

WHEREAS, the zoning ordinance established seven designated areas in the Township where commercial medical marihuana facilities are permitted and identified the zoning districts in which each of the five types of commercial medical marihuana facilities can locate; and

WHEREAS, the non-zoning ordinance established the application process, the facility types allowed, the number of permits, and the general operational standards for the different types of commercial facilities, which include growers, processors, secure transporters, provisioning centers, and safety compliance facilities; and

WHEREAS, the overlay areas adopted by the Township Board allow commercial medical marihuana provisioning centers in the I (Industrial), C-1, C-2, C-3 (Commercial), and RP (Research and Office Park) zoning districts subject to the approval of a special use permit reviewed by the Planning Commission and approved by the Township Board; and

WHEREAS, the subject site is located entirely within Overlay Area 5 and is appropriately zoned C-2 (Commercial), which allows commercial medical marihuana provisioning centers by special use permit; and

WHEREAS, the proposed commercial medical marihuana provisioning center meets the required setbacks from any public or private K-12 school, church, place of worship or other religious facility, library, preschool, or child care center established in Section 40-31 of the Code of Ordinances; and

WHEREAS, the proposed commercial medical marihuana provisioning center will not adversely affect adjacent land uses or the health, safety, and general welfare of the community; 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.

**Resolution to Approve
SUP #23012 (The W. Investment Holdings)
Page 2**

NOW THEREFORE, BE IT RESOLVED THE PLANNING COMMISSION OF THE CHARTER TOWNSHIP OF MERIDIAN hereby recommends approval of Special Use Permit #23012, subject to the following conditions:

1. Approval is in accordance with the site plan prepared by ROGVOY Architects dated August 2, 2019 and received by the Township on April 28, 2023.
2. Approval is in accordance with the building elevations prepared by ROGVOY Architects dated August 2, 2019 and received by the Township on April 28, 2023.
3. Approval is subject to the applicant receiving approval of a Commercial Medical Marihuana Facility permit by the Director of Community Planning and Development.
4. Approval is subject to the applicant receiving Final Approval for a medical marihuana license from the State of Michigan, Department of Licensing and Regulatory Affairs.
5. The applicant shall obtain and maintain any and all other applicable permits, licenses, and approvals necessary to operate the proposed commercial medical marihuana provisioning center from the State of Michigan, Township, and any other applicable agencies. Copies of all permits, licenses, and approvals shall be submitted to the Department of Community Planning and Development.
6. Site plan review approval is required to construct the proposed building. The final site plan, building elevations, and landscape plan shall be subject to the approval of the Director of Community Planning and Development.
7. The applicant shall obtain all necessary permits, licenses, and approvals from the Ingham County Road Department, Ingham County Drain Commissioner, Michigan Department of Environment, Great Lakes, and Energy, and the Township, as applicable. Copies of all permits, licenses, and approval letters shall be submitted to the Department of Community Planning and Development.
8. 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.
9. 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.
10. All utility service distribution lines shall be installed underground.
11. Any proposed future expansion, additions, or revisions to the proposed tenant space, building, or site, will require an amendment to Special Use Permit #23012.
12. 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.
13. Site accessories such as railings, benches, exterior lighting fixtures, and bicycle racks shall be of commercial quality and complement the building design. The final design and location

**Resolution to Approve
SUP #23012 (The W. Investment Holdings)
Page 3**

of such accessories shall be subject to the approval of the Director of Community Planning and Development.

14. 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 of the Director of Community Planning and Development.
15. Sign permits shall be required for any signage proposed on the property.
16. The provisioning center shall remain in compliance with the operational requirements established in Section 40-31 of the Code of Ordinances.
17. The special use permit shall be revoked if the applicant fails to maintain a valid Commercial Medical Marihuana Facility permit from the Township and Facility License from the State of Michigan.

ADOPTED: YEAS:

NAYS:

STATE OF MICHIGAN)

) ss

COUNTY OF INGHAM)

I, the undersigned, the duly qualified and acting Chairperson 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 June, 2023.

Mark Blumer
Planning Commission Chairperson

7. PUBLIC HEARINGS

A. SUP #23012 – The W. Investment Holdings – 1614 W. Grand River Avenue

Senior Planner Shorkey outlined the case for the Planning Commission. He noted that the traffic study done for this case was previously approved in 2019, and it has been found to still be valid. He further noted that the wetlands in the area are being observed with a 20-foot buffer as opposed to a 40-foot buffer due to the size.

Commissioner Brooks questioned why this is the third SUP coming before them that was previously approved in 2019 but needs to be approved again.

Senior Planner Shorkey noted that the initial approval expired, but he couldn't speak as to why the applicant didn't take action previously.

Applicant Ammar Alkhafaji on behalf of W. Investment Holdings (29580 Northwestern Hwy, Suite 1000, Southfield, MI 48034) introduced himself and opened the floor for questions from the Commission. There were no questions for the applicant representative.

Public Hearing closed.

STRAW VOTE: YEAS: Chair Blumer, Vice-Chair Trezise, Commissioners Brooks, McConnell, Scales, Shrewsbury, Snyder

NAYS: Commissioner Richards

Results: 7-1

8. UNFINISHED BUSINESS

A. None

9. OTHER BUSINESS

A. None

10. MASTER PLAN UPDATE

A. None

Commissioner Brooks inquired about the process of the Master Plan. Senior Planner Shorkey said that Staff would update the Planning Commission at their next meeting.

11. REPORTS AND ANNOUNCEMENTS

A. Township Board Update

None

A. None

8. UNFINISHED BUSINESS

A. SUP #23012 – The W. Investment Holdings – 1614 W. Grand River Avenue

Senior Planner Shorkey outlined the SUP to the Commission.

After reading the resolution, Commissioner Scales moved to approval the presented resolution. Vice-Chair Trezise supported.

Commissioner McCurtis asked about the property's location.

Commissioner Scales asked about the potential expiration of the SUP if no work is done on the project.

Senior Planner Shorkey stated that the permit becomes void if construction has not commenced within 24 months after the effective date of the permit.

Commissioner Scales stated support for the SUP.

ROLL CALL VOTE:

YEAS: Chair Blumer; Vice-Chair Trezise; Commissioner Brooks, McCurtis, Scales

NAYS: None

Motion carried: 5-0

9. OTHER BUSINESS

A. None

10. MASTER PLAN UPDATE

A. Upcoming Meetings

The July 10th meeting will tentatively be canceled, and there will be a Masterplan Draft at the July 24th meeting.

The Planning Commission discussed the importance of reviewing the document and potentially have a dedicated meeting to the Master Plan Update.

11. REPORTS AND ANNOUNCEMENTS

A. Township Board Update

None

B. Liaison Reports

Commissioner Scales noted the Robert's Rule of Order training on June 27th and 28th.



To: Board Members
From: Frank L. Walsh, Township Manager
Date: July 28, 2023
Re: Senior/Community Center

As Trustee Wilson, who chairs the Senior/Community Center Committee, stated during your previous Board meeting, “thanks to the valiant efforts of our state legislators”, Meridian Township is earmarked to receive \$5,000,000 for a new senior center. However, before too many decisions are made regarding the future project it’s critical that we not usurp Governor Whitmer’s authority to veto appropriations prior to memorializing the annual budget.

The question before the Board is, what are our next steps? From our vast research, we have a pretty good idea that a new Senior/Community Center will cost approximately \$13,000,000-\$15,000,000. We also believe there is a potential for a private donor to consider a gift in consideration of naming rights. The committee is interested in continuing our work and drafting options for the Board and community to consider. There are many options in front of us. Securing the location, funding and timeline are paramount at this point. I can assure you, when considering funding options, with an open mind there will be plenty of options to consider.

We look forward to the Board’s input on Tuesday evening and are extremely thankful to Senator Singh, Representative Brixie and Representative Tsernoglou.



To: Board Members

**From: Dan Opsommer, Deputy Township Manager
Director of Public Works and Engineering**

Date: August 1, 2023

Re: Renewable Energy Plan Overview

One of the goals in the 2023 Goals Action Plan, as adopted by the Board, is:

With the support of the Environmental Commission, develop a plan for the Township to achieve its goal of 100% renewable energy by 2035.

Township staff, along with help from Absolute Solar, the Energy Team and the Environmental Commission, have developed a renewable energy plan in accordance with this goal. This plan, if constructed, would result in 100% of the energy use being supplied by Township-owned solar arrays for our nine facilities that consume the most energy:

1. Municipal Building (partially powered by renewable energy)
2. Public Safety Building (partially powered by renewable energy)
3. Service Center (already powered by renewable energy)
4. North Fire Station
5. Central Fire Station
6. South Fire Station (already powered by renewable energy)
7. Historical Village
8. Harris Nature Center
9. Main Lift Station (our largest sanitary sewer lift station)

The attached renewable energy plan focuses on these seven facilities:

1. Central Fire Station (Options A and B)
2. North Fire Station
3. Municipal Building (Options A, B and C)
4. Public Safety Building (Options A and B)
5. Historical Village
6. Harris Nature Center (Options A and B)
7. Main Lift Station

Some additional work will be necessary in the future to develop a plan for our smaller Township facilities (predominantly park restroom facilities). It may not be feasible to power most of our lift stations with Township-owned renewable energy facilities as most of the lift stations are constructed on a small easement. There is no land available to put a solar array unless the lift station is adjacent to other Township-owned property that can be used for this purpose. The only

Memo to Township Board
August 1, 2023
Re: Renewable Energy Plan Overview

lift station that has adjacent Township-owned land is the Main Lift Station, which is included in the attached plan.

Attachments:

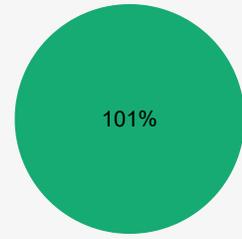
1. Renewable Energy Plan



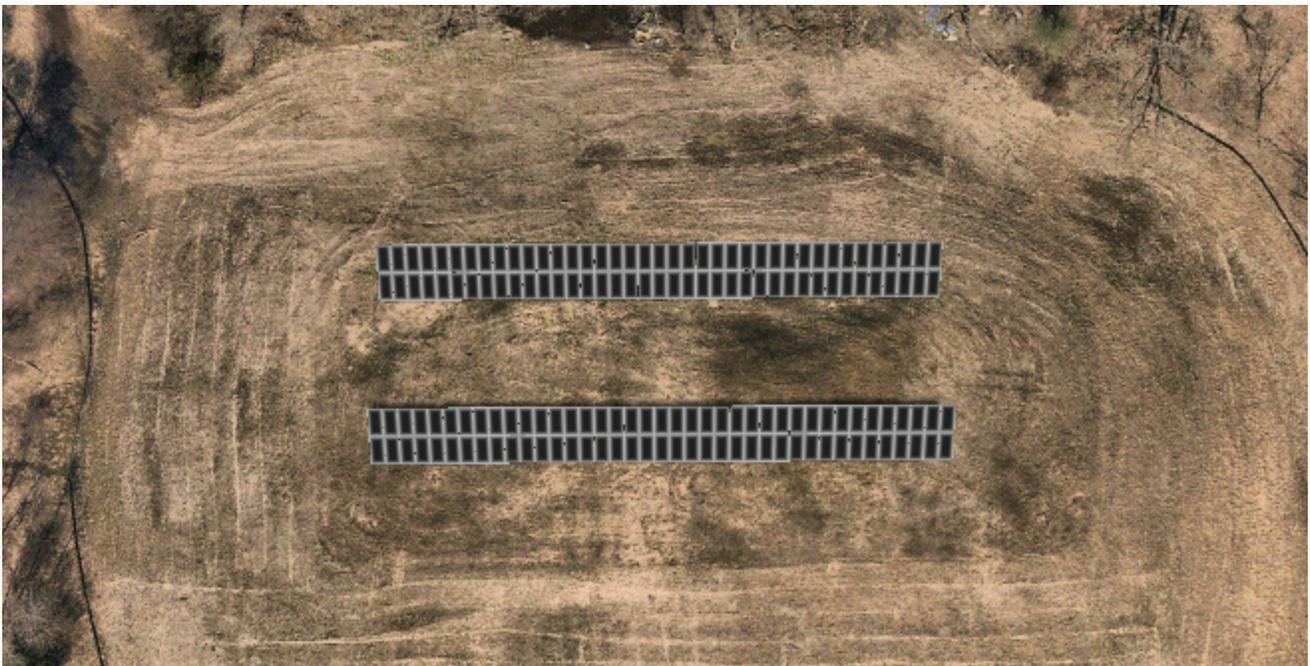
Site Assessment
Option A.

Customer: Fire Station #91
Address: 5000 Okemos Rd
Okemos, MI 48864

System size: 84.24 kW
Yr 1 Production: 109,810 kWh
Total Price \$235,872
Designer: Absolute Solar
Date: June 8th, 2023



■ Solar ■ Utility

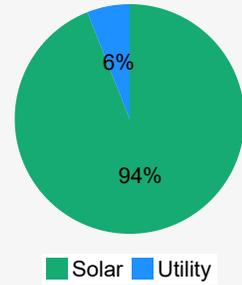




Site Assessment Option B.

Customer: Fire Station #91
Address: 5000 Okemos Rd
Okemos, MI 48864

System size: 98.82 kW
Yr 1 Production: 102,338 kWh
Total Price: \$271,755
Designer: Absolute Solar
Date: June 8th, 2023

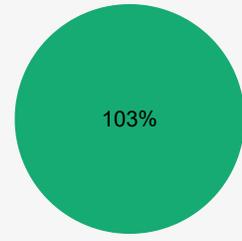




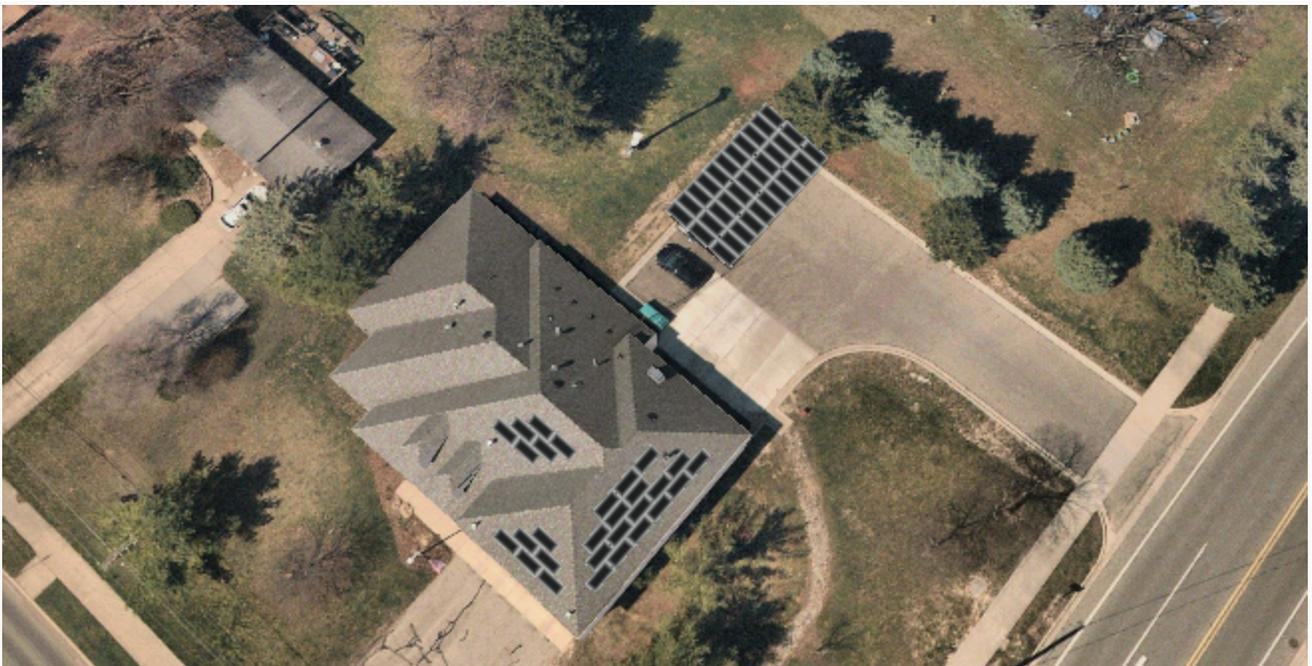
Site Assessment

Customer: North Fire Station #92
Address: 2140 Haslett Rd
East Lansing, MI 48823

System size: 29.71 kW
Yr 1 Production: 35,255 kWh
Total Price: \$85,268
Designer: Absolute Solar
Date: June 8th, 2023



■ Solar ■ Utility

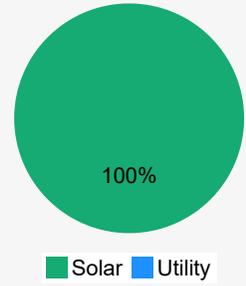




Site Assessment
Option A.

Customer: Meridian Municipal Building
Address: 5151 Marsh Rd
Okemos, MI 48864

System size: 207.36 kW
Yr 1 Production: 248,477 kWh
Total Price: \$551,578
Designer: Absolute Solar
Date: June 8th, 2023

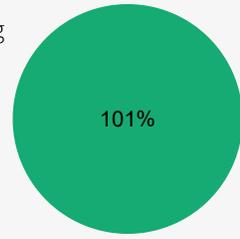




Site Assessment
Option B.

Customer: Meridian Municipal Building
Address: 5151 Marsh Rd
Okemos, MI 48864

System size: 207.36 kW
Yr 1 Production: 250,808 kWh
Total Price: \$549,504
Designer: Absolute Solar
Date: June 8th, 2023



■ Solar ■ Utility

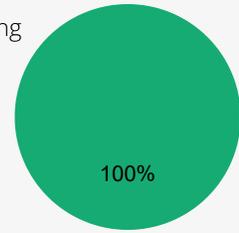




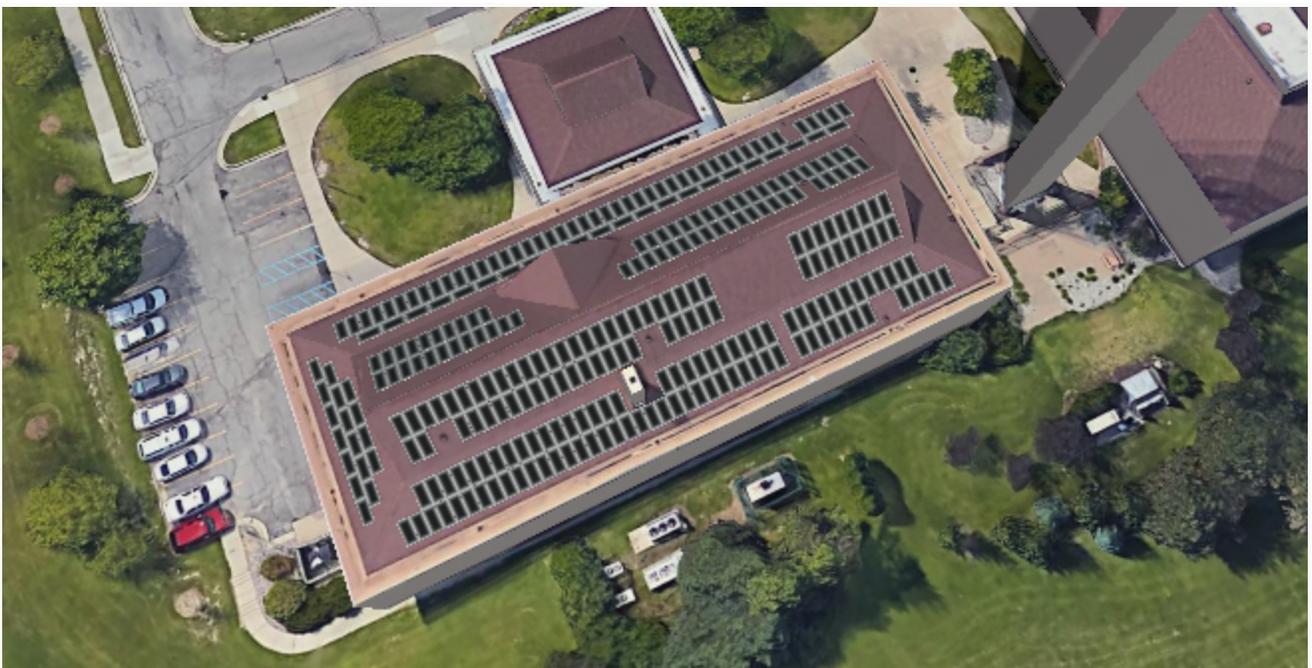
Site Assessment

Customer: Meridian Municipal Building
Address: 5151 Marsh Rd
Okemos, MI 48864

System size: 219.64 kW
Yr 1 Production: 249,178 kWh
Total Price: \$608,403
Designer: Absolute Solar
Date: June 9th, 2023



■ Solar ■ Utility

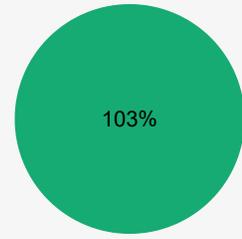




Site Assessment

Customer: Public Safety Building
Address: 5147 Marsh Rd
Okemos, MI 48864

System size: 204.22 kW
Yr 1 Production: 244,677 kWh
Total Price: \$549,352
Designer: Absolute Solar
Date: June 8th, 2023



■ Solar ■ Utility

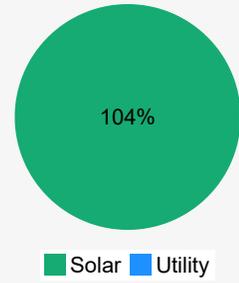




Site Assessment

Customer: Public Safety Building
Address: 5147 Marsh Rd
Okemos, MI 48864

System size: 203.95 kW
Yr 1 Production: 246,562 kWh
Total Price: \$548,626
Designer: Absolute Solar
Date: June 9th, 2023

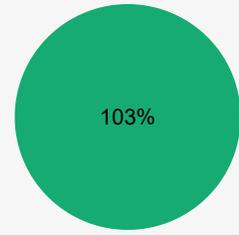




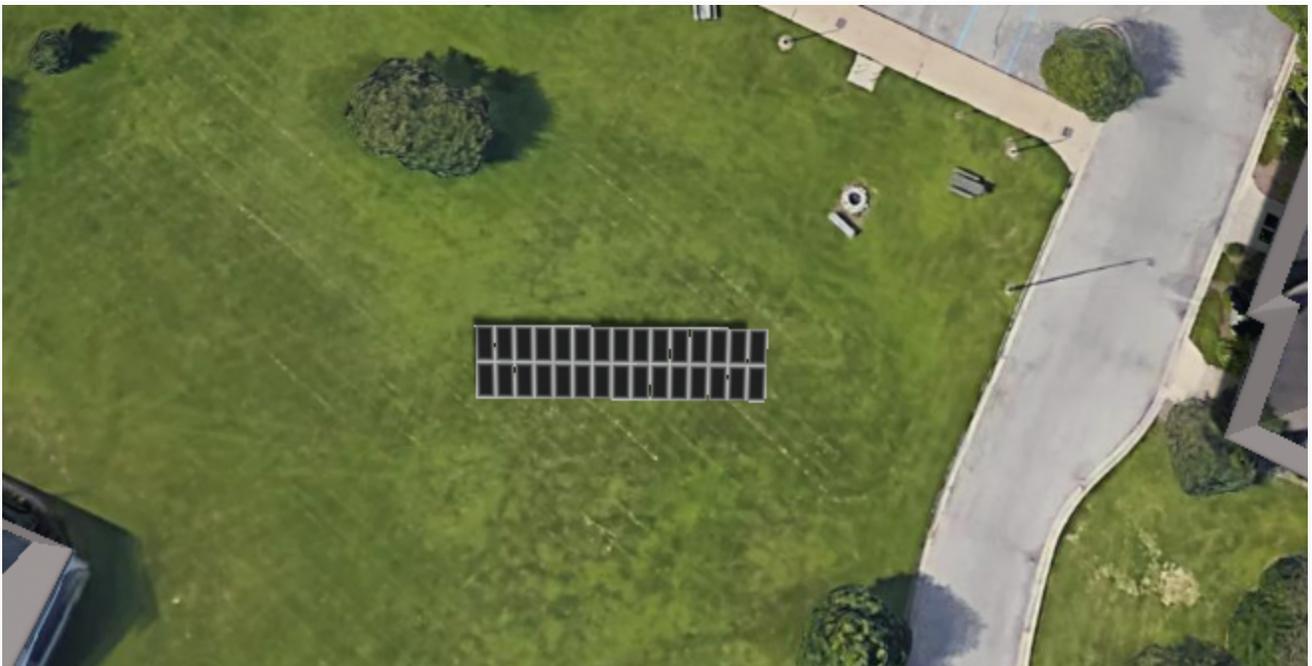
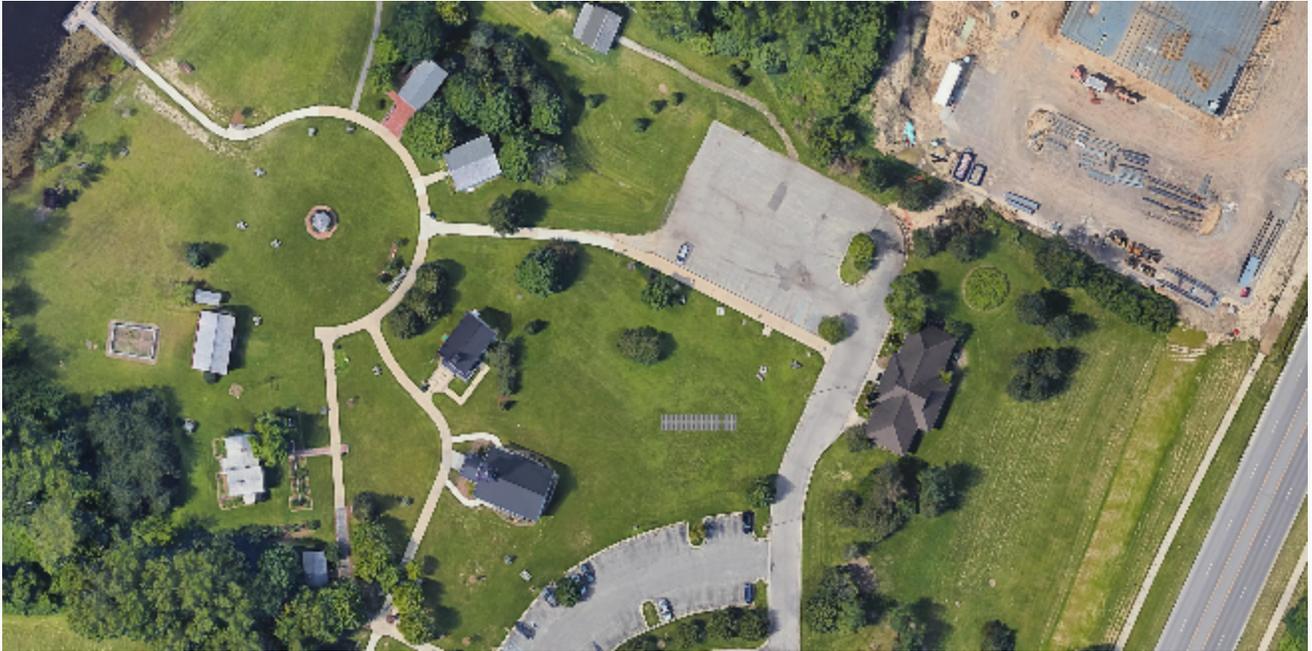
Site Assessment

Customer: Public Safety Building
Address: 5147 Marsh Rd
Okemos, MI 48864

System size: 16.20 kW
Yr 1 Production: 22,474 kWh
Total Price: \$49,410
Designer: Absolute Solar
Date: June 9th, 2023



■ Solar ■ Utility



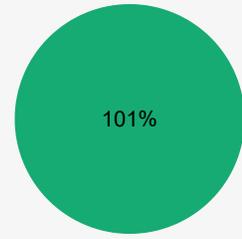


Site Assessment

Option A.

Customer: Harris Nature Center
Address: 3998 Van Atta Rd
Okemos, MI 48864

System size: 31.32 kW
Yr 1 Production: 38,298 kWh
Total Price: \$93,334
Designer: Absolute Solar
Date: June 8th, 2023



■ Solar ■ Utility





Site Assessment
Option B.

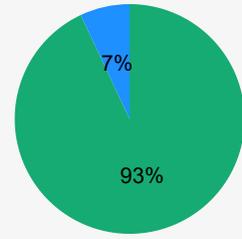
Customer: Harris Nature Center
Address: 3998 Van Atta Rd
Okemos, MI 48864

System size: 33.38 kW
Yr 1 Production: 35,309 kWh

Total Price: \$97,803

Designer: Absolute Solar

Date: June 8th, 2023



■ Solar ■ Utility

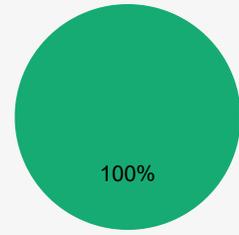




Site Assessment

Customer: Lift Station N. Okemos
Address: 2070 Gaylord C Smith Ct
East Lansing, MI 48823

System size: 120.96 kW
Yr 1 Production: 156,734 kWh
Total Price: \$306,029
Designer: Absolute Solar
Date: July 20th, 2023



■ Solar ■ Utility





To: Board Members
From: Frank L. Walsh, Township Manager
Date: July 28, 2023
Re: Listening Sessions Itinerary

Last year, the Township Board established their 2023 Goals and Objectives. One of the three main goals for 2023 is to enhance citizen communication. To that end, last month the Board directed the administration to set up six Listening Sessions to be held in predetermined locations from September-November. I've attached the letter and map that was mailed to residents in late June.

The question before the Board is preparing the session's agenda. The administration is looking for some guidance on whether or not you plan to allocate a portion of the agenda for a 2023 update. Or, do you simply plan to ask residents to share their observations and questions with you. Our first session is scheduled for Tuesday, September 12. Therefore, we need to begin contemplating what it is we plan to accomplish at each of the six sessions.

We look forward you your direction regarding the listening sessions.

Attachments:

1. Listening Session Resident Letter
2. Listening Session Map



Meridian Township
5151 Marsh Road
Okemos, MI 48864

P 517.853.4000
F 517.853.4096

Township Board:

Patricia Herring Jackson
Township Supervisor

Deborah Guthrie
Township Clerk

Phil Deschaine
Township Treasurer

Scott Hendrickson
Township Trustee

Kathy Ann Sundland
Township Trustee

Marna Wilson
Township Trustee

Courtney Wisinski
Township Trustee

Frank L. Walsh
Township Manager

July 1, 2023

Dear Meridian Residents,

Back in 2022, the Township Board and Administration developed our 2023 top goals and objectives. In addition to increased resurfacing of local roads, completing Phase I and II of the Lake Lansing to MSU Pathway, the Board established a goal to enhance neighborhood communication throughout the Township.

We have increased communications to the public in many ways including utilizing Everbridge for more public notices. In addition, we have chosen to create six listening sessions throughout our community. The meetings will be a great opportunity for us to hear your ideas for the future of Meridian Township. We will provide a brief overview of our current projects, programs and events.

Most importantly, we want to hear from you!

The enclosed map depicts when your neighborhood session will occur and the venue as well. The listening sessions will take place from 6:00 PM-7:30 PM in September, October and November.

The future of Meridian Township begins, and ends, with our 45,494 residents. You will receive another letter with more details several weeks before your scheduled listening session. We look forward to seeing you this Fall.

Have a great summer.

Sincerely,

Patricia Herring Jackson
Township Supervisor

Deborah Guthrie
Township Clerk

Phil Deschaine
Township Treasurer

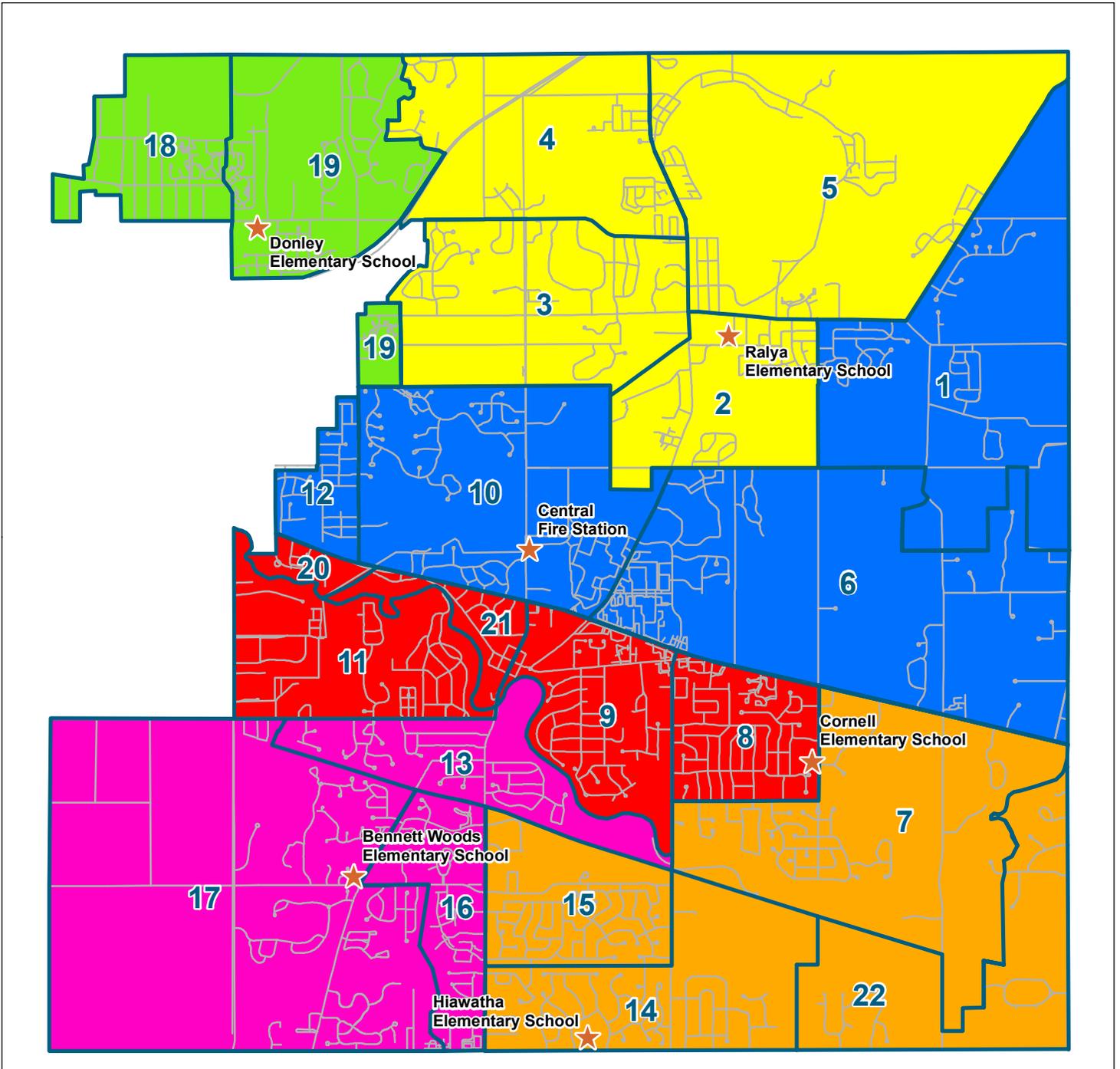
Scott Hendrickson
Township Trustee

Kathy Ann Sundland
Township Trustee

Marna Wilson
Township Trustee

Courtney Wisinski
Township Trustee

Listening Session Location Map



SCHEDULE:

- 1. 9/12/23 - Bennett Woods Elementary School
2650 Bennett Rd - 13, 16, 17
- 2. 9/26/23 - Ralya Elementary School
5645 School St - 2, 3, 4, 5
- 3. 10/10/23 - Hiawatha Elementary School
1900 Jolly Rd - 7, 14, 15, 22
- 4. 10/24/23 - Donley Elementary School
2400 E Lake Lansing Road - 18, 19
- 5. 11/14/23 - Central Fire Station
5000 Okemos Rd - 1, 6, 10, 12
- 6. 11/28/23 - Cornell Elementary School
4371 Cornell Rd - 8, 9, 11, 20, 21



Last Updated: 6/9/2023

