



CITY COUNCIL MEETING AGENDA

May 22, 2023 – 7:00 pm

*This is an in-person meeting at Saugatuck City Hall, 102 Butler St, Saugatuck, MI 49453.
The meeting will also be available live, virtually on Zoom.*

1. **Call to Order**
2. **Pledge of Allegiance**
3. **Roll Call**
4. **Mayor’s Comments**
5. **City Manager Comments**
6. **Agenda Changes** (*Additions/Deletions*)
7. **Guest Speakers:** None
8. **Public Comment on Agenda Items Only** (*Limit 3 minutes*)
9. **Consent Agenda:** (*Roll Call*)
 - A. Regular City Council Meeting Minutes – May 8, 2023. Pg.3
10. **Staff Reports, Boards, Commissions & Committees:**

Starting on Pg.7

 - A. **Staff Reports:**
 1. City Manager
 2. Treasurer
 3. Planning and Zoning
 4. Department of Public Works
 5. Police
 6. Engineer
 - B. **Boards, Commissions & Committees:**
 1. Fire District Administration Board
 2. Interurban Board
 3. Kalamazoo Lake Sewer & Water Authority
 4. Kalamazoo Lake Harbor Authority
 5. Zoning Board of Appeals
 6. Historic District Commission

NOTICE:
Join online by visiting:
<https://us02web.zoom.us/j/2698572603>

Join by phone by dialing:
**(312) 626-6799 -or-
(646) 518-9805**

Then enter “Meeting ID”:
2698572603

Please send questions or comments regarding meeting agenda items prior to meeting to:
ryan@saugatuckcity.com

Requests for accommodations or interpretive services must be made 48 hours prior to this meeting. Please contact Saugatuck City Clerk at 269-857-2603 or Wolters@saugatuckcity.com for further information.

7. Planning Commission
8. Parks & Public Works Committee
9. Tri-Community Non-Motorized Trail Study Committee
10. Tri-Community Recycling Ad-Hoc Committee

11. Request for Payment: None

12. Approval of Accounts Payable: *(Roll Call)*

- A. Accounts Payable in the amount of \$99,746.50 *Pg.25*

13. Introduction of Ordinances: None

14. Public Hearings: None

15. Unfinished Business: None

16. New Business:

- A. Resolution 230522-A- Water System Improvements *(roll call) Pg.27*
- B. Fire Budget *(roll call) Pg.105*
- C. Road Maintenance Approval *(roll call) Pg.120*
- D. 4th of July Celebration Update from City Manager
- E. FEMA Floodplain Ordinance Update *(roll call) Pg.128*
- F. Revocable License- Grow *(voice vote) Pg.137*
- G. Revocable License- Tree of Life *(voice vote) Pg.145*
- H. Special Event- Waterfront Invitational Fine Art Fair *(voice vote) Pg.153*
- I. Proclamation No. 230522-P1- Pride Month *(voice vote) Pg.166*
- J. Rules of Procedure Amendment- City Council Agenda *(voice vote) Pg.168*

17. Public Comments *(Limit 3 minutes)*

18. Correspondence

19. Council Comments

20. Adjourn *(Voice Vote)*



CITY COUNCIL MEETING MINUTES - *Proposed*
May 8 , 2023

The City Council met for Regular Council Meeting at 7:00 p.m.
City Hall
102 Butler St., Saugatuck, MI 49453.

Call to Order:

The meeting was called to order by Mayor Pro-Tem Stanton at 7:00 p.m.

Attendance:

Present:, Mayor Pro-Tem Stanton and Councilmembers Baldwin, Gardner, Lewis, Leo, Muncey.

Absent: Mayor Dean

Others Present: City Manager Heise, Director of Planning, Zoning & Project Management Cummins, Department of Public Works Superintendent Herbert, Deputy Clerk/DPW Admin Williams, City Attorney O'Meara.

Motion by Gardener, second by Leo to excuse Mayor Dean from tonight's meeting. Upon voice vote, motion passed 6-0.

Mayor's Comments: Mayor Pro-Tem Stanton- Tulip time gave Saugatuck a little bump, businesses, restaurants, and everyone was really busy. She thanked the Coastal Alliance who invited Mayor Dean and herself to welcome a group from the Governor's and Senator's offices, the Michigan League of Conservation Voters, and representatives from the Match-E-Be-Nash-She-Wish band of Potawatomi. They took a boat ride out to the mouth of the river; she shared the resolution that the Council passed and submitted to the Army Corps of Engineers regarding the proposed Marina. The first meeting of the Short-Term Rental Task Force took place, and the next meeting will be May 18th at 1:00 p.m.

City Manager Comments: City Manager Heise- opened the floor for any questions regarding his City Manager Report.

Agenda Changes:

Motion by Muncey, second by Baldwin to allow guest speaker Kevin Whiteford to announce his candidacy for his position in Allegan County. Via voice vote, motion passed 6-0.

Guest Speakers:**Kevin Whiteford-**

He announced he filed papers for the 38th District State House seat in 2024. He is about communities, servicing people, businesses in small communities his entire life since 1986 as a CPA with a master's in tax law and as a financial advisor. He works with communities all along the lakeshore. His business is real estate investments. Saugatuck is a small business community; he was it to flourish, and he wants to help protect.

Public Comment on Agenda Item Only:

Christine Pierce- resident: She is on the agenda for sidewalk picnic tables. She will accommodate car doors to have enough room to open. She would like to have the tables next to Mary Street. Thanked Council for listening to her. She asked how many complaints on one business is too many. She hopes she gets her sidewalks this year, and thanks for always listening to her.

Consent Agenda:**A. Regular City Council Meeting Minutes – April 24, 2023.**

- Councilmember Lewis noted a change, edit on Page 7., Change Liver to Live.

Motion by Gardner, second by Muncey to approve the consent agenda. Via roll call vote, motion carried 6-0.

Staff Reports:

City Manager, Director of Planning & Zoning, DPW Superintendent and Engineer submitted status reports of current activities since the last Council meeting on April 24th, 2023, for their respective departments. Treasurer Stanislawski updated Council that he is still working on the Budget, has met with three Council members and have a meeting with three more on Thursday. It's moving forward.

Boards, Commissions & Committees:**Fire District Administration Board: Dan Fox**

Updated Council about the meeting from April 28th.

1. Reviewed, discussed, and adopted unanimously the 23-24 budget.
2. Invited everyone for a presentation on the budget at 5 p.m. on May 15th.
3. Budget includes a milage increase, its within the authorized 10 mils to fund three additional full-time firefighter slash EMS.

Interurban Board, Councilmember Muncey:

Next meeting is May 16th.

1. Open until 7 p.m. every night.
2. Encouraged people who work downtown to utilize the Interurban transport to work to free up parking spaces.

KLSWA: None.

Kalamazoo Lake Harbor Authority, Mayor Pro-Tem Stanton: Next meeting is May 16th.

Zoning Board of Appeals: None.

Historic District Commission, Councilmember Lewis:

Met the previous week on Thursday, good meeting and all details are described in the Planning and Zoning report.

Planning Commission, Chair Councilmember Gardner: Next meeting is May 18th.

Parks and Public Works Committee, Councilmember Baldwin: Next meeting is May 24th.

Tri-Community Non-Motorized Trail Study Committee, Councilmember Leo and City Manager Heise:

1. Waiting for revised intergovernmental agreement.
2. Waiting for other jurisdictions to sign the phase two contract and the intergovernmental agreement.

Tri-Community Recycling Ad-Hoc Committee:

1. Drafted a grant with a due date of May 12th with Eagle for electronic recycling.

Request for Payment: None.

Approval of Accounts Payable:

- A. Accounts Payable in the amount of \$ 160,447.21.

Motion by Lewis, second by Gardner to approve the accounts payable. Via roll call vote, motion carried 6-0.

Introduction of Ordinances: None

Public Hearings: None

Unfinished Business: None

New Business:

Wick Park Revocable License:

Motion by Lewis, second by Muncey to approve Revocable License Agreement for temporary restaurant seating within and on the sidewalk for Wicks Park Bar and Grill (WBPG LLC). Upon voice vote, motion carried 6-0.

Booknook Revocable License:

Motion by Muncey, second by Baldwin to approve Revocable License Agreement for a sign in the public right-of-way for The Book Nook of Saugatuck, LLC. Upon voice vote, motion carried 6-0.

City of Saugatuck Special Events:

Motion by Lewis, second by Baldwin to appropriate up to \$10,000 and to allow the manager to sign the appropriate contracts and negotiate with the appropriate vendors. Upon roll call vote, motion carried 6-0.

Special Event Application- SCA market:

Motion by Muncey, second by Baldwin to approve The Market at SCA hosted by Saugatuck Center for the Arts with dates of 6-9-23, 8-4-23. Upon voice vote, motion 6-0.

Special Event Application- Music in the Park:

Motion by Muncey, second by Leo to approve the 2023 Music in the Park series starting on June 21st organized by the Saugatuck Douglas Area Business Association. Upon voice vote, motion carried 6-0.

Special Event Application- Town Crier Race:

Motion by Lewis, second by Leo to approve the Town Crier Race event to take place on June 17th, 2023, organized by Town Crier Races, contingent on safety meeting with staff, Police and Fire departments. Upon voice vote, motion carried 6-0.

Public Comment: None.

Correspondence: Seventh Day Adventist Church

Council Comments:

- Councilmember Lewis: None.
- Councilmember Gardner: Asked if budget meeting date has been set. City website needs to be clearer on where to find City Council member listing and would like Council bios on it as well.
- Councilmember Stanton: None.
- Councilmember Leo: None.
- Councilmember Muncey: Mother's Day is Sunday and back to the fuschia is going to have a new market for vegetables, fruit and flowers.
- Councilmember Baldwin: None.
- Mayor Dean: None.

Adjournment:

Motion by Lewis, second by Baldwin to adjourn. Upon voice vote, motion carried 6-0. Mayor Pro-Tem Stanton adjourned at 7:59 p.m.

Respectfully Submitted

Jamie Wolters, City Clerk



City Managers Report – May 22, 2023

New! 4th of July Celebration

City staff is working on organizing the 4th of July celebration. The event will include fireworks, laser show, and music. The plan is to have the laser show utilize the smoke from the fireworks display and have a DJ playing music staged at Coghlin Park. Please reach out to me if you'd like to donate or sponsor @ ryan@saugatuckcity.com.

New! Discussions with AT&T on Potential Downtown WiFi

Meeting being scheduled to continue discussions with AT&T on the a potential downtown WiFi project. There appears to be enthusiasm and motivation to tackle this project from both the City and AT&T.

Blue Star Highway Multi-Modal Path

Kickoff meeting to be scheduled with engineer. Construction design work approved by City Council. Township voted to approve the same, along with the Intergovernmental Agreement; I'm checking on the status from Douglas.

Newish! MDOT Exit 36 and 41 Bridge Work

Information on traffic detours provided through social media. City of Saugatuck has requested a meeting with MDOT officials to review local road management of traffic concerns.

Parks and Recreation Master Plan- Tri-Community Effort (Including Saugatuck Public Schools Community Recreation).

A Tri-Community effort! A draft request for proposals (RFP) for professional services to assist in updating plan has been created and after staff review will be brought to Council.

Harbor Dredging Funding- Tri-Community Effort

The Army Corp of Engineers (ACOE) has confirmed that Saugatuck Harbor will be receiving \$895,000.00 for dredging this year. The focus is now on timing; this is a major unknown now. A note from the Army Corp revied on March 28th: Municipal Managers are waiting to receive the

dredge survey conducted by ACOE. It's unlikely that any dredging will be conducted this summer season, however the results of the survey will trigger a new discussion amongst the government entities on safety precautions for this summer season.

Barricades for Events

A funding request is being made to City Council for the purchase of barricades. City Staff and Allegan County Sheriff's Department met with the Holland Police Department to review road barricades "show and tell." Holland partners with Zeeland, Grand Haven and Grand Valley State University to share resources. Recommendations to Council for the potential procurement of barricades to assist with safety for events forthcoming and will be included as a budget recommendation. Allegan County Sheriff's Department reported grant opportunities look bleak for this year; we will keep trying.

Cellular Service Discussions Continue with AT&T

City staff is working closely with AT&T and the Historical Society to work through the logistics of addressing the existing antenna within the radar dome. Separately, I am working with a painting contractor on the logistics of painting the dome. AT&T has presented preliminary plans for facilities at Mt. Baldhead. Continued discussions with the AT&T government liaisons to review install/service agreements, permitting and identifying easements. City legal has provided their red-line version of a lease agreement provided by AT&T, which has been provided to both Council and AT&T. Lease agreements are being collected from around the state, including monthly rental rates charged to telecom. This has the makings of an excellent private/public partnership and a fantastic repurposing of the tower. Discussions are occurring between City and AT&T regarding repair and paint of the dome. Discussions regarding an opportunity to leverage FirstNet for first responders and public safety professionals has begun. <https://www.firstnet.com/>

Parks and Public Works Update

Attention remains on the following projects: playground/village square, Blue Star Trail multi-modal path (on your agenda), Airport Property, Mt. Baldhead and Park Street. The PPW Committee has organized study groups to perform "fact finding" to present to the PPW Committee. This is designed to be a bottom-up process with many opportunities for citizen input. Renderings of the proposed restroom and equipment facility are on your agenda for discussion and good feedback and request were received at the Council Workshop.

Ongoing- Kalamazoo Lake Sewer and Water (KLSWA) Agreement- Tri-Community

City/Township Managers continue to discuss the Asset Management Plan, along with our respective attorneys and engineers. The Tri-Communities have directly engaged with EGLE to ensure that our respective municipalities stay in compliance. KLSWA prefers to begin with negotiating the asset management plan for sewer to utilize as a roadmap for the water agreement. KLSWA has requested an extension from EGLE to provide the agreement. I've been sorting through historical water agreements in anticipation of the next phase of discussions. Discussions with City Council needed for collecting funds for long-term asset management.

Ongoing- Oval Beach Staffing and Operations

Compliments to staff on their excellent efforts and success in recruitment and staffing Oval Beach operations for the '23 season. Discussions on safety improvements, operational improvements, staff retention and recruitment continue.

City Hall

Work underway for exterior repairs, while noisy, everything appears to be on track for an early season completion.

Ongoing- Road Resurfacing (and utility) Projects

Presentation made at 5.17.23 Workshop. Recommendations for approval of certain projects on agenda.

Discussions continue with Allegan County Conservation District

Presentation made by Allegan Conservation District (ACD) regarding a survey conducted for treating Hemlock trees for hemlock woolly adelgid (HWA). A reminder that they are willing to assist with other invasive species treatment in the area, including Phragmites on city owned property. Please look forward to a budget recommendation for treating city owned property.

Old news- Dune Ridge Waterfront Update

Litigation continues...we typically do not discuss ongoing litigation.

Meetings

- Michigan Municipal Executive Advocacy Committee meeting
- Managers meeting to discuss KLSWA status
- AT&T Project Coordinator meeting
- CVB meeting
- Meeting with Ox-Bow School of Art
- Meeting for public art
- Meeting with MDOT regarding HWY project

Items On Deck for Council

- Mt Baldhead Cellular Lease, first introduction
- Budget discussions

- Milfoil Treatment Proposal

Council-Manager form of Government Tid-bit

How it Works

The elected city council members represent their community and develop a long-range vision for its future. They establish policies that affect the overall operation of the community and are responsive to residents' needs and wishes. To ensure that these policies are carried out and that the entire community is equitably served, the governing body appoints a professional manager on the basis of his/her education, experience, skills, and abilities (and not their political allegiances). If the manager is not responsive to the governing body, it has the authority to terminate the manager at any time.



Treasurer Report

Below is a summary of notable activities carried out by the Treasurer's Office since the last council meeting on 5/08/2023:

- Paid routine bills
- Completed and disseminated bi-weekly payroll
- Proceeding with the 2023-2024 budget process
- Oval Beach start up the season
- Attend Fire Department Budget Meeting
- Insurance Annual Renewal; loss control



Planning, Zoning and Project Report

May 22, 2023

Planning and Zoning

- Prepared for and attended Short Term Rental Task Force meeting.
- Prepared for and attended ZBA training.
- Prepared for and attended Planning Commission meeting.
- Attended Medler v Saugatuck motion hearing.
- Worked with EGLE and City Attorney to finalize a draft updated floodplain ordinance for City Council consideration.
- Held in-person meetings and phone conversations with owners and applicants to discuss questions, concerns and options for their property.
- Completed planning and zoning casework as outlined in the chart below.

Planning and Zoning Casework

726 Water St	Short Term Rental	Existing STR units. Renewing. Sent to Fire Department for inspection. Unit 2 failed. Sent reinspection invoice. Reviewed PUD history. Still awaiting results of re-inspection for Unit 2 and initial inspection for Unit 1. Reinspection passed.
133 Butler St	Short Term Rental	STR application, renewing unit B. Application initially incomplete. Owner advised unit A is no longer an STR. Talked with agent and advised of required information in applications to process. Complete application received and sent to Fire Authority for inspection. Still pending. Fire Department advised inspection is scheduled.
449 Water St	Enforcement	Complaint that a large outdoor fireplace was not indicated on approved site plan. Reviewed site plan. No outdoor fireplace shown or mentioned. Reviewed consent judgement. Reviewed zoning regulations for site plans. Reviewed with legal. Sent owner an e-mail requesting amended site plan to review. Owner consulted with her attorney. City Attorney conversed with owner's attorney. Amended site plan application received and reviewed. Approval was denied due to the setback not being met. Owner submitted revised plans that are under review. Fire Department requested additional information. Owner working on providing additional information to Fire Department.
615 Park St	Structural Improvements	Zoning permit application received for exterior wall, deck and foundation work. Some units will also receive interior re-builds due to water damage. Reviewed with legal and consultant. Advised applicants of issues related to substantial improvements in a floodplain, zoning, and current moratorium. Discussed further with applicant. Discussed market value questions with FEMA. Met in person with HOA president and applicant to discuss findings and options. Nothing further to report at this time.

Planning and Zoning Casework Continued

245 Spear	Rented ADU	Special land use application for a rented accessory dwelling unit. Planning Commission reviewed. The PC tabled the request to their next meeting and asked the applicant to provide additional information. Applicant provided additional information. Scheduled for May PC meeting.
412 Mason	Short Term Rental	STR application. Renewing. Sent to Fire Department for inspection. Fire Department advised inspection is scheduled.
842 Lake #5	Short Term Rental	STR application. New STR. Sent to Fire Department for inspection. Fire Department advised inspection is scheduled.
647 Butler	Short Term Rental	STR application. New STR. Sent to Fire Department for inspection. Scheduled for 6/2 due to ongoing renovations.
727 Butler	Short Term Rental	STR application. New STR. Sent to Fire Department for inspection. Fire Department advised inspection is scheduled.
129 Griffith #12	Short Term Rental	STR application. Previous STR under new ownership. Applicant did not provide contact information of a local representative within 45 miles of the City. Requested update of application. Talked with applicant who will be submitting the requested information.
402 Elizabeth St	Short Term Rental	STR application. New STR. Sent to Fire Department for inspection. Fire Department attempted to schedule and was advised unit will be ready for inspection in a few weeks.
143 Van Dalson	Short Term Rental	STR application. Previous STR. Re-applying after previous fire. Sent to Fire Department for inspection. Failed inspection. Passed reinspection. Sent reinspection invoice. Still not paid. Owner advised it will be paid this week.
828 Park	Short Term Rental	STR application. New STR. Did not provide contact within 45 miles. Requested update to the application. Applicant provided agent info. Sent to Fire Department for inspection. Failed inspection. Sent reinspection invoice.

Planning and Zoning Casework Continued

703 Pleasant	Short Term Rental	STR application to rent ADU. Previous STR several years ago. Requested further info from applicant on how they would like to rent ADU and advised of zoning ordinance requirements to rent ADU. Owner advised they wish to rent just the ADU and not the main home. Advised SLU approval required. Applicant applied for SLU approval. Will be heard at May Planning Commission meeting.
349 St. Joseph	Short Term Rental	STR application. New STR. Sent to Fire Department for inspection. Failed inspection. Sent reinspection invoice. Passed reinspection. Reinspection fee still needs to be paid before certificate issuance. Left owner voicemail.
237 Francis Apt B	Short Term Rental	STR application. New STR. Sent to Fire Department for inspection. Fire Department advised inspection is scheduled.
128 Van Dalson	Short Term Rental	STR application. New STR. Sent to Fire Department for inspection. Unit was not ready for scheduled inspection. Reinspection invoice sent.
141 North	Short Term Rental	STR application. Previous STR. New owner. Sent to Fire Department for inspection. Fire Department advised inspection is scheduled.
149 Griffith	Historic District Application	Historic District application for various work. Replacing siding, decks, fencing, windows, and doors. Repair and modify existing roof. Remove existing chimney, basement hatch, walk-in cooler, steps, shrubs and ivy. Add new deck and steps. Some work will also require separate zoning permit. Received additional requested items. HDC approved work with conditions. Discussed additional work the applicant is considering and issues with a front window. Advised applicant this will need HDC approval as well. Advised applicant zoning approvals will also be needed.

Planning and Zoning Casework Continued

560 Mill	Encroachments/Fence	Written request to extend fence onto City property. Also received a complaint of hardscape in right of way and lack of parking along Simonson Dr. Reviewed history. Sent to legal for review as no prior formal approval for landscaping or hardscaping on city property and fencing can't be placed in right of way per zoning ordinance. Discussed with City Manager, City Attorney, City Engineer and insurance carrier. Homeowner asked to remove hardscape items from right of way. Met with homeowner and landscaper. Discussed options. Applicant and neighbor plan to approach City Council.
306 Butler	Sign Application	Sign application for a mural attached sign. Needed building frontage and other area of other signs to make a decision. Requested info from applicant and applicant provided further detail. Sign application denied due to frontage issue. Advised applicant they can request HDC approval for mural/artwork that doesn't meet the sign definition.
860 Mill	Enforcement	Complaint of hardscaping in the right of way along Simonson Dr and parking issues in area. Observed site. Found stone wall in the City right of way. Work occurred sometime after 2019. Was not permitted or licensed. Sent owner e-mail requesting hardscaping to be removed. Owner requested an in person meeting. Met with owner to discuss options. Owner plans to work with neighbor to approach City Council.
132 Mason St	Expanded Outdoor Dining	Expanded outdoor dining area application for Round the Corner Ice Cream Shop. Updated insurance, food service license and fee needed to issue permit. Spoke with applicant who is still working on gathering these documents.
727 Butler	Historic District Application	Historic District application to replace windows, siding, and concrete steps, enclose porch, replace roof above back porch, and move kitchen window. Additional information requested from applicant. Scheduled for June 1 HDC meeting.

Planning and Zoning Casework Continued

449 Water St	Expanded Outdoor Dining	Temporary sidewalk seating application. Also received expanded outdoor dining area (EODA) application for street seating. Sidewalk seating revocable license agreement approved by Council. EODA permit issued. Awaiting owner signature on revocable license agreement. Advised owner the installed street dining is greater than 40' and needs to be modified to be compliant with the ordinance.
350 Mason	Bed and Breakfast - Revised	Owner has made modifications to plans. Revised plans under review.
312 St. Joseph	Short Term Rental	STR application. New STR. Sent to Fire Department for inspection. Fire Department advised inspection is scheduled.
640/650 Water St	Inquiry	Questions about food trailers and zoning options. Consultant and I researching questions.
313 St. Joseph	Zoning Permit	Zoning permit app for fencing. Other work unclear. Plans not submitted with application. Requested plans and survey. Answered owners additional questions.
350 N Maple	Water Line Replacement	Galvanized water line being replaced on private property. Owner's plumber asking if City would like City side repaired by their plumber at same time. Previous review by City Engineer related to lead and copper rule. Sent to City Manager for review and decision on approval.
582 Campbell	Inquiry	Questions about where to send STR app and submitting application for zoning approval for addition. Provided zoning permit application and advised STR app can go to me. Answered follow up questions and provided resources regarding rental of ADUs and dwelling size requirements.
842 Lake #4	Short Term Rental	STR application. Previous STR, new owner. Needed copy of property transfer affidavit and additional \$100. E-mailed new owner. Owner provided documents and paid additional fee. Sent to Fire Department for inspection.
City Sculptures	Solar Lighting	Solar lighting requested by CVB. Discussed concerns with HDC Chair. Provided feedback to CVB and discussed need to have HDC review.

Planning and Zoning Casework Continued

405 Park	Enforcement	Complaint of possible retaining wall, gravel fill, and window/door additions without permits. Researched history and investigated concerns. Asked EGLE whether gravel was allowed without a permit. Asked MTS whether doors and windows require permit. No permits found for retaining wall which is in city ROW. Previous discussion of work but no final plans. Sent email to property owner. MTS advised permits are needed. They sent a letter. EGLE logged a complaint and advised work appears to be a violation of Part 31 and may not be permittable "after-the-fact". They stated they will process accordingly.
184 Park	Setback Variance	ZBA application for front setback variance. Scheduled for June 8 ZBA meeting.
142 Butler	Enforcement	Sign damaged. Talked with business contact. They have a contractor identified for repairs. They are hoping to have it repaired by Memorial Day.
201 Culver	Enforcement	Tree of Life Juice has picnic tables on the sidewalk but no revocable license agreement. Sent e-mail and application to owner. Application received. Scheduled for Council review of revocable license agreement.
302 Culver	Enforcement	GROW Café has seating on sidewalk but no revocable license agreement. Some prior zoning approvals for seating outside CALA building. Sent e-mail and application to owner. Sidewalk seating app received. Scheduled for Council review of revocable license agreement.
322 Culver	Enforcement	Scooters Pizzeria has seating on sidewalk but no revocable license agreement. Some prior zoning approvals for seating outside CALA building. Sent e-mail and application to owner. Corresponded with owner via e-mail and in person. Application received. Scheduling for Council review of revocable license agreement.
201 Culver	Enforcement	EODA was being installed without permit. Called business contact. Advised permit was needed before installation. EODA application and fee received. Permit issued.

Planning and Zoning Casework Continued

865 Holland St	Addition to Duplex	HDC application received for an addition to duplex. Two family dwellings are not a permitted or special land use in the CR district. Structures with nonconforming uses cannot be enlarged or extended. Advised applicant. Answered applicant questions. Applicant submitted a use variance request. ZBA denied the variance request. Applicant pursued HDC approval of siding, new windows and roof but removed the addition request. HDC approved work with conditions. Permit issued.
201 Butler	New ATM	Request for a Huntington ATM outside drug store. Historic District application received. HDC denied request.
428 Butler	Inquiry	Question about whether sign indicating no parking and warning about being towed was approved for private property. This sign will replace an existing. Advised was previously approved in June 2022 and permit does not expire until end of June.
660 Lake St	Historic District Application	Historic District application to replace windows, remove awnings and replace front door. HDC approved with conditions. Permit issued.
Various	Final Inspections	592 Campbell, 716 Water, 901 Allegan, 434 Spear, 6608 North, and 992 Singapore all received final inspections on previously approved projects.
816 Allegan	Enforcement	Complaint about a porta-john in the front of the home for an extended period of time. Talked to the homeowner. He advised the porta-john was in place for contractors during addition. They are finalizing the landscaping for the project. Discussed concerns with length of time. He will have the porta-john removed.
275 North	Land Division	Land division/lot line adjustment application received. No zoning concerns. Needed neighbor to sign off on application due to boundary adjustment and copy of neighbor's tax certification. Applicant provided requested items. Approval issued.
Social District	Social District	HDC reviewed social district signage proposal by staff. HDC approved sidewalk decals only for the district. Notified DPW.

Planning and Zoning Casework Continued

322 Culver	Enforcement	Concern from the HDC that lattice material being used on EODA. Lattice was not part of submitted or approved plans. E-mailed applicants advising them only approved materials on the plans can be used. Applicant removed lattice.
450 Culver	Tree Damage Repairs	Historic District permit application to repair tree damage. Like for like on window and roof placement. HDC Chair agreed admin approval. Zoning reviewed. Reconstructing in same dimensions, which is permitted for wind/tree damage. HDC and zoning permits issued.
103 Butler	Enforcement	Observed a clothing rack outside. E-mailed and talked with lessee of storefront. They believe placement of rack is on their property. They did not have a property survey. GIS shows property line stops where building is. Asked City Engineer for any surveys. City Engineer provided area surveys and advised property line is 10 ft from back of curb. Measured area and clothing rack location appears to be on private property.
249 Mason	Inquiry	Questions about allowed uses. Provided resources.
N/A	Inquiry	Questions about STR certificates and whether new owners would have to apply. Answered questions.
220 Culver St	Inquiry	Questions about changing signage and potential mural for the side of the building. Answered questions and provided resources.
879 Park	Final Inspections	Final inspections complete for accessory structure.
N/A	Inquiry	Questions about installing a concrete pad for boat storage in rear yard. Provided resources.
100 Park St	Inquiry	Questions about water and sewer connections. Referred to resources in the code of ordinances.
333 Elizabeth	Short Term Rental	STR application. Did not provide contact within 45 miles. Requested info. Owner clarified they have other homes in area and will be contact. Sent to Fire Department for inspection. Passed inspection. STR certificate issued.

Planning and Zoning Casework Continued

565 Weirich	Short Term Rental	Working on cleaning up old STR holds. System showed Fire inspection was not completed. Fire Authority never received application. No application in the system but payment received. Sent owner an e-mail requesting application. No response. Sent letter to owner. Owner called. Discussed the lack of application. Received app. Sent to Fire Department for inspection. Failed inspection. Sent reinspection invoice. Passed reinspection and paid fee. STR certificate issued.
831 Holland St	Enforcement	Previous complaint about condition of the fence. Owner submitted application for zoning and historic district permits. Permits issued and fence issues corrected.
648/642 Allegan St	Inquiry	Answered questions about short term rental option for the property.
447 Butler	Inquiry	Met to discuss parking concerns. Discussed current reviews taking place and options.
134 Butler	Enforcement	Clothing rack on public sidewalk outside The Brass Anchor. Sent warning e-mail and asked for removal.
383 Dunegrass Circle	New Home	Planning Commission approved with conditions. Claim of Appeal filed in Circuit Court dismissed. Applicant submitted updated plans to EGLE for approval. EGLE issued approval. Fire Department approved additional access drive. Revised site plan, restoration plan and vegetation plans reviewed. Permit issued.
214 Butler	Inquiry	Questions about permits for a possible roof replacement. Provided resources.
439 Butler St	Sign Application	Sign permit application. Initial plans were not compliant. Applicant revised plans. Projecting sign revocable license agreement approved by City Council. Permit issued.
320 Mason	Enforcement	New agent checked on status of certificates. Previously a bed and breakfast. Accessory structure also on the property. Reviewed history and gathered further information from new agent. Reviewed with legal and consultant. STR options sent to applicant. Property still being advertised contrary to options presented. Sent agent and owner an e-mail.

Department of Public Works

Below is a summary of notable activities carried out by the Department of Public Works since the last council meeting on 0/08/2023:

Oval Beach:

- DPW staff tore off and replaced the roof on the storage shed located in the back parking lot.
- Bill's Dozer Service bulldozed the beach.
- A police report was made after DPW staff noticed that two picnic tables were completely burned by vandals.
- The boardwalk was installed on the north end of the beach.
- Oval Beach seasonal staff have completed their orientation, and all are now CPR/AED certified.

Rainbow Crosswalks:

Crosswalks in front of City Hall have been refreshed with new paint ahead of upcoming June PRIDE month.

Brush and Leaf Collection:

The May brush and leaf collection was completed citywide.

Village Square Playground:

- Staff attempted to get quotes from 5 contractors to replace the posts on the Village Square playground. Only one company submitted an estimate which came in just under \$40,000. This will be a discussion item at the next PPW Committee meeting.
- Safety chips were installed. Safety chip mulch is not treated with dye or chemicals.

Park Maintenance:

A heavy emphasis was placed on park maintenance as we approach Memorial Day.

Blue Star Highway Maintenance:

In collaboration with the City of the Village of Douglas, the expansion joints and drains were cleaned on and along the Blue Star bridge.

Meetings:

- **05/08/2023** – DPW Weekly Goals Meeting
- **05/08/2023** – City Council Meeting
- **05/12/2023** – DPW Weekly Goals Follow Up Meeting
- **05/12/2023** – Meet with F&V – Jon Moxey
- **05/18/2023** – DPW Weekly Goals Meeting
- **05/19/2023** – DPW Weekly Goals Follow Up Meeting

**City of Saugatuck
Status Report of Engineering Activities
May 17, 2023**

General Consultation

- Olde Mill Apartments Water Service: This work could be combined with other work on Maple Street or the Drinking Water State Revolving Fund project.
- City Hall Exterior Renovations: Construction is underway. Most of the paint has been removed. Siding and other repairs will begin soon, following by new paint.
- Mason Street and Oval Beach Drainage Asphalt Spillways: Of the contractors that were contacted, one quote was received and work is anticipated to begin soon.
- 2023 Asphalt Repairs: Bids were received on May 11 and a Recommendation of Award was prepared for the low bidder. Work is scheduled for June.
- 2023 System-wide Pavement Markings: Bids were received on May 11 and a Recommendation of Award was prepared for the low bidder. Work is scheduled for June.
- 2023 System-wide Crack Sealing: The project is out for bids with a June 21 due date. The work will take place in September/October.
- Grants Workshop: We are discussing the possibility of having grant experts from F&V put together a workshop for council, staff and other interested parties to review the various programs used in the past, recent applications and brainstorming for new opportunities.

Blue Star Highway Bridge Navigation Lighting

- Meeting with representatives from Douglas and Saugatuck Township on May 23 to discuss rebidding process.

EGLE Drinking Water State Revolving Fund

- The draft Project Plan is on public display and will be presented at the May 22 council meeting.
- The final project priority list is anticipated to come out in the fall. If the project is funded, design would begin in late 2023 or early 2024 for construction to begin in late 2024 or early 2025.

2023 Street Improvements (West, East, Takken, Taylor and N. Maple)

- Reconstruction of the north end of Maple Street (lift station to North Street) was added to obtain pricing.
- Design work is complete and the EGLE floodplain permit application has been submitted.
- The project is ready to go out for bids for construction in fall 2023 (after Labor Day to mid-November).

Mt. Baldhead Conceptual Planning

- We are working on scheduling a public workshop to begin soliciting community input.

Mt. Baldhead AT&T Project Assistance

- The AT&T team is taking the lead on design of the building “shell” but will not be including the restroom finishes in their bid package due to concerns about timing.

- F&V will prepare a separate bid package for utility connections and restroom finishes.
- F&V is taking the lead in obtaining the EGLE/USACoE Critical Dunes permitting for the overall project. That work will begin as soon as the AT&T site plan progresses to the point that limits of vegetation disturbance is established.

Airport and Landfill Property Environmental

- Collected background data from various sources, including the City records.
- Site walks have been completed.
- Soil samples were obtained at the airport property and results are pending.
- Reports will be completed when results from the soil samples are available.

MDOT Category B Application

- The Category B program funds 50% of eligible road construction costs up to a maximum grant amount of \$250,000.
- Applications are due June 15.
- We are working with staff to select a project to submit.
- We will present the draft application, including a resolution to be adopted by council, at the June 7 workshop.

Vendor Name	Description	Amount
1. ALLEGAN COUNTY SHERIFF	SHERIFF CONTRACT	31,019.60
2. ALLEGAN COUNTY TREASURER	TAX PAPER	120.00
3. BELL EQUIPMENT CO	STREET SWEEPER	1,697.86
4. BURNETT & KASTRAN PC	LEGAL FEES	84.00
5. CHIPS GROUNDCOVER LLC	PLAYGROUND CHIPS	259.50
6. COMMERCIAL RECORD	PUBLISHING	350.00
7. CONSUMERS ENERGY	ELECTRIC	3,180.68
8. DUNESVIEW KWIK SHOP INC	GASOLINE & DIESEL	2,160.45
9. FLEIS & VANDENBRINK ENGINEERING INC	ENGINEERING FEES	8,531.75
	STREETS EAST WEST TAKKEN TAYLOR	8,487.90
	ENGINEERING FEES DRINKING WATER	4,523.25
	TOTAL	21,542.90
10. HOLLAND LITHO PRINTING SERVICE	OVAL DAILY PASSES	827.65
11. HORIZON COMMUNITY PLANNER	PLANNING & HISTORIC DISTRICT	4,031.25
12. IHLE AUTO PARTS	OILS	197.96
13. KALAMAZOO LAKE SEWER & WATER	WATER & SEWER	1,750.04
14. KOOPS WELL DRILLING INC	OVAL BEACH	207.00
15. LANDSCAPE DESIGN SERVICES INC	ROSE GARDEN MAINTENANCE	2,035.00
16. MCKELLIPS PLUMBING INC	PLUMBING REPAIRS	365.00
17. MERCHANTS BANCARD NETWORK	BANK FEES	122.61
18. MICHIGAN ELECTRO FREEZE INC	CONCESSION START UP	337.44
19. MICHIGAN GAS UTILITIES	CITY HALL	92.92
	BUTLER ST TOILETS	110.54
	DPW GARAGE	282.19
	TOTAL	485.65
20. MINER SUPPLY CO	SUPPLIES	357.48
	SUPPLIES	8,100.00
	SUPPLIES	105.18
	TOTAL	8,562.66
21. NET2PHONE INC	TELEPHONES	209.25
22. OVERISEL LUMBER COMPANY	SUPPLIES	636.50
23. PETTY CASH	OVAL START UP	2,500.00
24. PLAINWELL REDI MIX	SUPPLIES CEMENT BLOCKS	2,240.00
25. PRIORITY HEALTH		

Vendor Name	Description	Amount
26. R SMITH & SONS INC	HEALTH INSURANCE	9,234.73
27. RICOH USA INC	ROAD GRAVEL	700.57
28. SAUGATUCK FIRE	COPIER LEASE	127.97
29. SEPTIC TANK SYSTEMS CO INC	RENTAL INSPECTIONS	550.00
30. SHORELINE TECHNOLOGY SOLUTIONS	PORTABLE TOILETS	1,150.00
31. SISTERS IN INK	COMPUTER SERVICES	304.00
	UNIFORMS	682.64
	OVAL BEACH	1,185.83
	TOTAL	1,868.47
32. STREAMLINE DESIGN.COM LLC		
	DECALS NEW TRUCK	55.00
33. TIME SAVES LIVES LLC		
	TRAINING CPR & AED	832.76
TOTAL - ALL VENDORS		99,746.50
FUND TOTALS:		
Fund 101 - GENERAL FUND		74,087.65
Fund 202 - MAJOR STREETS		4,135.07
Fund 203 - LOCAL STREETS		11,239.69
Fund 661 - MOTOR POOL FUND		8,199.16
Fund 715 - ROSE GARDEN		2,084.93



City Council Agenda Item Report

FROM: Ryan Heise

MEETING DATE: 5/22/23

SUBJECT: Safe Drinking Water Revolving Fund Plan

DESCRIPTION:

The Council reviewed and discussed the proposed Drinking Water State Revolving Fund Project Plan at their Council Workshop on 5.17.23

BUDGET ACTION REQUIRED:

None

COMMITTEE/COMMISSION REVIEW:

NA

LEGAL REVIEW:

None

SAMPLE MOTION:

Motion to **approve/deny** the Drinking Water State Revolving Fund Project Plan as presented.

CITY OF SAUGATUCK
ALLEGAN COUNTY, MI



DRAFT

**DRINKING WATER STATE
REVOLVING FUND PROJECT PLAN**

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Figure 1: Existing Water System

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Appendix D: Public Participation

INTRODUCTION

The purpose of the City of Saugatuck (City) Drinking Water State Revolving Fund (DWSRF) Project Plan is to fulfill the project planning requirements under the Michigan Safe Drinking Water Act (1976 PA 399) and to provide the basis for evaluating, scoring, and ranking the City's proposed waterworks improvements on the Project Priority List for a low interest DWSRF Loan.

The DWSRF program assists municipalities in financing water utility improvements projects over a 20- to 40-year term at favorable interest rates currently set between 1.875% and 2.125%. As such, projects reflect the long-term needs of the community.

The Project Plan includes a summary of the City's water quality and reliability issues that the proposed project intends to address, identification and analysis of principal alternatives to meet the future water needs of the service area, and evaluation of short- and long-term impacts resulting from completion of a selected alternative. The Project Plan also presents projected user costs for financing the selected alternative.

A draft Project Plan will be placed on public display at Saugatuck City Hall for 10 days prior to the City Council meeting on Monday, May 22, 2023 at 7:00 p.m. The availability of the Project Plan for public review will be advertised in the local newspaper and on the City's website. A summary of public participation and comments solicited by the City during the public meeting regarding the Project Plan and selected alternative will be included in Appendix D.

This report follows the format of the Project Planning Document Preparation Guidance for Drinking Water State Revolving Fund (Rev. January 2023) issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

I. PROJECT BACKGROUND

A. STUDY AREA CHARACTERISTICS

1. Delineation of Study Area

The City of Saugatuck is located in western Allegan County on Lake Michigan and has an area of 1.77 square miles. Saugatuck is located 11 miles southwest of the City of Holland and 18 miles north of the City of South Haven. The proposed project’s study area consists of the City’s entire water distribution system service area. Saugatuck’s water system is part of a larger regional system operated by the Kalamazoo Lake Sewer & Water Authority (KLSWA), which also serves the City of the Village of Douglas and portions of Saugatuck Township and Laketown Township. Most of the area within Saugatuck’s City limits is served by the regional system; those areas not served by the system rely on private wells. A map of Saugatuck’s portion of the existing regional water system is shown in Figure 1.

2. Land Use & Development Trends

The existing land use in Saugatuck is mostly residential, with a central business district along the shore of Kalamazoo Lake, and summer resort districts scattered throughout. A conservation/recreation area comprises a large portion of the land between Lake Michigan and the Kalamazoo River. None of the land within the City limits is zoned industrial or agricultural. Saugatuck’s 2014 zoning map is provided in Appendix A.

Most of the City’s land that is not dedicated green space has been developed, so there is little room for significant growth of the City. A nominal growth in population is anticipated, as remaining developable areas are infilled.

3. Population

A. Permanent Population

According to decennial census data from the U.S. Census Bureau, Saugatuck’s population has fluctuated over the past several decades, but recent decades have experienced decline. The population fluctuated between 1960 and 2000, and decreased between 2000 and 2020. Though it appears that the population will continue its downward trend, the 20-year projection of Saugatuck’s population will assume a decadal growth rate of 2.5% to be mildly conservative. The community has consistently grown, and declines in the Census numbers may be attributable to a shift from permanent residences to rentals or seasonal residences. Table 1 shows the past and projected populations of the service area. In 2043, Saugatuck’s population is projected to be approximately 916.

Table 1. Saugatuck Population

Year	Population	Percent Change
1960	927	
1970	1,022	10.2%
1980	1,079	5.6%
1990	954	-11.6%
2000	1,065	11.6%
2010	925	-13.1%
2020	865	-6.5%
2030 est.	887	2.5%
2040 est.	909	2.5%
2050 est.	932	2.5%

B. Seasonal Population

Saugatuck and surrounding municipalities, including the City of the Village of Douglas, Saugatuck Township, and Laketown Township, comprise a deeply interconnected recreational region that sees a large increase in seasonal population during the summer months. Due to this interconnectedness, it is difficult to determine the fraction of the region's total seasonal population that can be solely attributed to Saugatuck. According to the City's 2019 Parks & Recreation Plan, a seasonal influx of cottage owners, visitors, and boaters is estimated to virtually double the region's permanent population during the summer months. Day visitors on summer weekends are estimated to add another 4,000 or more to the population.

4. Existing Environment Evaluation

A. Cultural and Historic Resources

There are eleven Michigan State Historic Sites located in Saugatuck, three of which are also designated as National Historic Places. There are no National Historic Landmarks or National Natural Landmarks located in the City. Construction in Saugatuck in the recent past has not uncovered any culturally significant resources or artifacts. However, care will be taken when construction commences and all activities will cease should any artifacts be discovered.

B. Air Quality

According to EPA AirData from the Allegan County air monitoring station (the station closest to Saugatuck), the Air Quality Index (AQI) was measured for 295 days in 2022. The pollutants measured were ozone (O₃) and particulate matter less than or equal to 2.5 microns (PM_{2.5}). The AQI was in the "good" to "moderate" range for 287 of the days measured, in the "unhealthy for sensitive groups" range for 6 days, and in the "unhealthy" range for 2 days. The primary contributor to the index was O₃ for 225 days and PM_{2.5} for 70 days. The AQI report cautions that air pollution levels measured at a particular monitoring site are not necessarily representative of the air quality for an entire county or urban area, however; these are the only records available that may relate to Saugatuck's existing air quality. The AQI report is provided in Appendix A.

C. Major Surface Waters

Several major surface water bodies are located in Saugatuck. The following list presents brief descriptions of these water bodies:

- Lake Michigan forms the entire 1.1-mile western boundary of Saugatuck's City limits.
- The Kalamazoo River enters the City limits from the southeast, crosses under Blue Star Hwy, splits the City into eastern and western halves, exits the City limits to the north, and flows into Lake Michigan less than a mile north of the City.
- Kalamazoo Lake lies along the stretch of the Kalamazoo River at the southern end of the City. The 500-acre lake is split between the City of Saugatuck, the City of Douglas, and Saugatuck Township.
- Goshorn Creek enters the City limits from the northeast at the intersection of North St and Maple St, flows southwest through a wetland area, crosses under Simonson Dr and Holland St, and flows into the Kalamazoo River just north of the end of Newnham St.

Maps from the National Wetlands Inventory (NWI), provided in Appendix A, show the locations of the major surface waters.

D. Wetlands

Wetlands are valuable natural resources for storing floodwaters, recharging groundwater, and removing sediment and other pollutants from the water. They are also habitat for a wide variety of plants and animals. Because wetlands are so valuable, they are protected by Part 303 Public Act 451 of 1994. Part 303 requires that permits be acquired from EGLE prior to altering a regulated wetland.

Several wetlands exist throughout Saugatuck. Most are contiguous with or hydrologically connected (i.e. via groundwater) to one of the major surface waters identified above. There is an equal mix of

forested/shrub wetlands and emergent wetlands. Maps from the NWI and EGLE Wetlands Mapper, provided in Appendix A, show the locations of the wetlands.

E. Coastal Areas

The City of Saugatuck is located entirely within Allegan County’s Coastal Zone Management Area (CZMA) of Lake Michigan. A map of the CZMA is provided in Appendix A.

F. Floodplains

The Federal Emergency Management Agency (FEMA) has defined special flood hazard areas subject to inundation by the 1% annual chance flood (100-year flood); these areas are categorized into different zones. Areas with no base flood elevations (BFEs) determined are designated as Zone A, while areas with BFEs determined are designated as Zone AE. Coastal flood zones with a velocity hazard (wave action) and no BFEs determined are designated as Zone V, while coastal flood zones with a velocity hazard and BFEs determined are designated as Zone VE.

The Kalamazoo River’s primary flow channel is designated as a Zone AE regulatory floodway, which is an area that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increase in flood heights. The remainder of the Kalamazoo River’s floodplain, including Kalamazoo Lake, is designated as Zone AE but is not part of the regulatory floodway. The floodplain for Goshorn Creek is designated as Zone A and the floodplain for Lake Michigan is designated as Zone VE. The FEMA Flood Insurance Rate Maps (FIRMs) for Saugatuck, which show the boundaries of defined floodplains, are provided in Appendix A.

G. National Wild and Scenic Rivers

There are no designated National Wild or Scenic rivers in or near Saugatuck.

H. Topography

Most of the land in and around Saugatuck is relatively flat, but local variations in elevation of up to 150 feet exist between uplands and the floodplain of the Kalamazoo River. There are also considerable local differences in elevation in the northwest portion of the City where sand dunes exist between Lake Michigan and the Kalamazoo River. The highest point in this area is Mount Baldhead, which rises 310 feet above Lake Michigan.

The sand dunes along Lake Michigan comprise a unique and fragile physiographic formation and ecosystem that is very susceptible to wind and water erosion, as well as destruction due to careless use or development. Saugatuck’s dunes have been identified by the Michigan Department of Natural Resources (DNR) as a critical dune area, subject to protection under the Michigan Sand Dune Protection and Management Act, new Part 353, PA 451 of 1994. A map of the designated critical dune area is provided in Appendix A. Under this Act, all proposed commercial or industrial development must be approved by the State, and residential development is regulated at the local level. The legislation also imposes certain standards on construction and site design in critical dune areas.

I. Geology

Saugatuck’s geology consists of several layers of clays, sands, and occasional gravels, with a Coldwater Shale bedrock layer.

J. Soil Types

According to a Natural Resource Conservation Service (NRCS) custom soil resource report for the City of Saugatuck, soils in the City are approximately 88% sand, 6% loamy sand, 4% muck, and 2% loam. A map of the soil types found within the City is provided in Appendix A.

K. Agricultural Resources

The City’s April 2019 zoning map, provided in Appendix A, shows that none of the land within the City limits is zoned agricultural. The outer areas within the City limits are largely forested, and agricultural land is adjacent to the City limits only along its western boundary.

L. Fauna and Flora

The Michigan Department of Natural Resources (DNR) is responsible for the protection of State threatened and endangered species under Act 451 of 1994, the Natural Resources and Environmental Protection Act (NREPA). The Michigan Natural Features Inventory (MNFI) maintains a database on the locations of rare species and natural communities in Michigan.

Appendix A provides the list of rare species and natural communities in Allegan County from the MNFI database. Species are listed with a State status of endangered (E), threatened (T), or special concern (SC). Information from the database cannot provide a definitive statement on the presence, absence, or condition of the natural features in any given locality, since much of the State has not been specifically or thoroughly surveyed for their occurrence, and the conditions at previously surveyed sites are constantly changing. This list should be used as a reference of which natural features currently or historically were recorded in the County.

5. Existing Waterworks System

Much of the information in this section has been obtained and summarized from KLSWA’s most recent Water System Reliability Study (WSRS) completed by Fleis & VandenBrink Engineering in February of 2021. The WSRS is provided in Appendix B.

A. Water Sources

Six groundwater production wells provide water to the KLSWA service area. Wells 1 and 2 are located in the City of Douglas, Wells 4 and 5 are located in the City of Saugatuck, and Wells 6 and 7 are located in Saugatuck Township. The City of Saugatuck’s wells are located off Maple St, east of Saugatuck High School. Table 2 summarizes various properties of KLSWA’s wells.

Table 2. Well Summary

Well No.	Year Drilled	Depth (feet)	Capacity (gpm)
1	1963	94	408
2	1963	108	357
4	1966	205	504
5	1974	157	296
6	1997	216	376
7	1997	181	680

A system’s firm well capacity is defined as the total flow from all wells with the largest producing well out of service. The current firm well capacity (Well 7 out of service) is 1,941 gpm.

B. Water Treatment

KLSWA maintains an iron removal plant (IRP) to treat water from Wells 1 and 2. Wells 4 and 5 have their own on-site treatment capabilities, and Wells 6 and 7 also have their own on-site treatment capabilities. Injection of sodium hypochlorite into the water provides disinfection and polyphosphate provides iron sequestration. KLSWA’s water meets all State drinking water requirements.

C. Water Storage

KLSWA maintains a 1,000,000-gallon concrete reservoir located on Mount Baldhead off Park St in Saugatuck. The reservoir was constructed in 1984 by Natgun and has a height to overflow and total head range of approximately 41 feet. The reservoir provides storage and maintains pressure for the entire KLSWA system.

In October 2018, the reservoir exterior was low pressure water cleaned and recoated with a two-coat waterborne acrylate system. Interior cleaning was performed and approximately 18 inches of sediment

was removed. Concrete repairs included patching a spall in the roof and repairing cracks on the interior floor. The reservoir was last inspected in October 2019 by Dixon Engineering and was found to be in good condition.

D. Service Lines

There are 2,695 service lines connected to the KLSWA water system, approximately 907 of which are located in Saugatuck. Service lines can be generally divided into two sections: the portion that exists within the public right-of-way (ROW), and the portion that exists on private property. The City’s preliminary Distribution System Materials Inventory (DSMI) estimated the number of service lines in which any portion is composed of lead, galvanized steel previously connected to lead (GPCL), or unknown material. Table 3 presents the findings of the preliminary DSMI.

Table 3. Service Line Materials Inventory

Lead	GPCL	Unknown	Not Lead or GPCL	Total
203	198	229	277	907

Due to the high number of known lead services in the system, the City suspects that many of the unknown service materials may contain lead. The City is currently working towards identifying the unknown materials to finalize their complete DSMI.

E. Distribution System

Construction of Saugatuck’s distribution system began in the early 1900s, and some of the original water mains are presently still in use. The existing water distribution system is composed of approximately 13 miles of cast iron, ductile iron, and high-density polyethylene (HDPE) water main ranging in diameter from 4 to 16 inches. On average, the system experiences 1 water main break per year, typically during the winter and on aging cast iron water mains.

An inventory of water main sizes, materials, and the total lengths of each is presented in Table 4. A map of the existing water system is shown in Figure 1.

Table 4. Water Main Inventory

Water Main Size	Cast Iron (ft)	Ductile Iron (ft)	HDPE (ft)	Total Length (ft)	Percentage of Total
4"	3,719	0	0	3,719	5.4%
6"	3,798	13,732	0	17,530	25.2%
8"	0	22,381	5,456	27,837	40.1%
10"	0	5,848	1,238	7,086	10.2%
12"	0	12,003	0	12,003	17.3%
16"	0	1,324	0	1,324	1.9%
Total	7,517	55,288	6,694	69,499	100.0%
Percentage of Total	10.8%	79.6%	9.6%	100.0%	-

F. Residuals Handling & Disposal

There are no existing residuals handling and disposal requirements for the City’s water system.

G. Water Meters

There are approximately 907 customer meters throughout the City's water system. The City uses Badger meters with remote reading capabilities. Meters are no older than 15 years and 5-10% of meters are replaced each year due to failures.

H. Operations & Maintenance

KLSWA's water system is classified as S-2/D-2. The Authority has three operators: one with F-1/S-1 licenses, one with S-3/D-3 licenses, and one with S-3/D-4 licenses. This meets the EGLE recommendation that public water systems have a minimum of two certified people on staff to operate the system.

The water system utilizes a radio telemetry SCADA system which provides communication between the wells and the reservoir. The low-water tank reservoir at which wells turn on is set at 15 ft. Adjustments to the high-water level settings are performed daily or weekly, as water demand adjusts seasonally. The reservoir level at which wells turn off is typically between 25' and 28', seasonally adjusted for demand. The settings are adjusted to ensure that the normal operating range of the reservoir is cycled at least once daily to maintain good water quality, which is a recommended best practice. Wells are rotated to operate at least once a week to meet regulatory monitoring and to ensure proper functional operation.

The Authority addresses necessary repairs and flushes all fire hydrants annually for the purpose of inspection and rust control. High priority critical valves, including river crossing valves and supply isolation valves, are exercised during flushing activities. Other valves are exercised outside of flushing activities on an as-needed basis. Hydrants are painted and hydrant locating flags are replaced as needed. As required by State law, the reservoir is overflowed once per year to ensure that the overflow functions properly and that the pipe is not blocked.

I. System Capacity

The WSRS evaluated the KLSWA water system in three categories: water supply, water distribution, and water storage. In general, the system was found to meet the current and projected supply and storage demands, but has fire flow distribution deficiencies in areas served by dead-end or small diameter water mains.

EGLE recommends that a community's firm well capacity be greater than its maximum day demand, and that communities start planning to increase their water supply when the maximum day demand reaches 80% of firm capacity. The 20-year projected maximum day demand of 1,615 gpm is 83% of the system's firm well capacity of 1,941 gpm. The firm well capacity is still adequate for supplying the maximum day demand, but the City should start to consider drilling an additional well. Due to the age of the existing wells, KLSWA has been actively working with Fleis & VandenBrink to identify potential sites for future wells.

Some portions of the system composed of 4" and 6" water mains do not provide adequate fire flow. These portions of the system are typically composed of cast iron mains that are well past their useful life and tend to be the source of water main breaks. The City should replace these sections of water main with minimum 8" mains to improve fire flow capacity, system reliability, and water quality.

Under 20-year projected maximum day demands, the reservoir's capacity is sufficient to provide the required fire flow for all fire classifications; no additional storage is needed.

J. Climate Resiliency

In Michigan, climate change is leading to more extreme heat and storm events. Extreme heat events can result in an increase of peak water demands, especially due to irrigation. The WSRS demonstrated that the water system has sufficient capacity to meet projected peak demands over the next 20 years. Extreme storm events can result in flooding and power outages. Saugatuck's water system operational facilities are located outside of flood zones defined by FEMA and are equipped with sufficient backup

power. The KLSWA also maintains an Emergency Response Plan that was last updated in 2018. At this time, the City does not anticipate needing to improve its water system infrastructure or operations in direct response to climate change.

B. NEED FOR THE PROJECT

1. Compliance with Act 399

The WSRS reviewed the most recent series of water quality test reports of all contaminants and found no acute or non-acute violations of Maximum Contaminant Levels or waterborne diseases. The City's most recent EGLE Water System Sanitary Survey did not identify any deficiencies in the existing treatment facilities. The WSRS did not identify any other water supply needs or deficiencies that warrant correction to bring the system into compliance with Act 399.

2. Orders or Enforcement Actions

The City has not received any court or enforcement orders, including written enforcement actions such as a Notice of Violation, Agreement, or Department Order to achieve compliance with Act 399.

A January 2021 Partial Sanitary Survey of the KLSWA water system identified deficiencies under the following categories: Distribution System; Management & Operations. KLSWA provided a Corrective Action Plan to address the deficiencies, part of which specified that KLSWA will encourage each of the Constituent Municipalities to prepare and submit to EGLE an Asset Management Plan (AMP) and associated Capital Improvement Plan (CIP) for the water system assets located within their respective municipal limits. The proposed project would address several of the items outlined in the City of Saugatuck's AMP and CIP.

3. Drinking Water Quality Problems

As stated above, KLSWA's drinking water meets all State water quality standards. The City has not received a significant number of customer complaints about the aesthetics of the water.

Lead service lines (LSLs) are the largest source of lead in contact with drinking water. Under uncommon circumstances, lead from service lines can leach into and contaminate the water. Consumption of lead contaminated water in large quantities and/or over prolonged periods is known to cause serious health issues. While lead contamination is not currently identified as an issue stemming from the City's water supply or distribution system, the presence of LSLs throughout the system means that water delivered to customers is susceptible to potential lead contamination if the system is not properly maintained.

4. Projected Future Needs

A. Lead Service Line Replacements

Of the 907 service lines in Saugatuck, the materials of 678 are known and 229 are unknown. Of the 678 service lines of known materials, 401 (59%) are lead or GPCL. Until the City's complete DSMI has been finalized, it will be assumed that 137 (59%) of the 229 service lines of unknown material are either lead or GPCL. Therefore, there are an estimated 538 lead and GPCL service lines in the City.

The Michigan Lead & Copper Rule (LCR) requires water suppliers to fully replace all LSLs by January 1, 2041. The City will need to replace approximately 538 known and suspected LSLs to maintain compliance with State law in the future and ensure that water is safe for consumption.

B. Water Main Improvements

The 2021 WSRS identified several sections of the system that are unable to deliver adequate flows for firefighting due to undersized water mains. Many of these sections are also more susceptible to water main breaks due to the old age and material (cast iron) of the water mains. The WSRS recommended replacement of these undersized and aging water mains within 20 years. Areas of particular importance for water main replacement include Butler St, the wellfield loop, and the river crossing.

The water main on Butler St is some of the oldest that remains in the system from its original construction and serves a large portion of the City's downtown commercial and residential district. Replacement of this water main has been needed for several years, but has continued to be postponed due to the substantial interruption it will cause to the seasonal tourism in the commercial district, which is a vital part of the City's economy. Replacing and upsizing this water main will ensure adequate fire protection is available to the district and will proactively reduce the potential of water main breaks to cause future interruptions in service.

Currently, Wells 4 and 5 discharge into a 6" water main, which imparts significant resistance on the well pumps to distribute water into the system and, ultimately, to fill the reservoir. Upsizing this water main will reduce the strain on the pumps and improve their efficiencies, which will reduce the maintenance and energy costs of operation.

The system's most critical stretch of water main is the 16" main between the reservoir and the intersection of Water St and Lucy St, which includes a crossing under the Kalamazoo River. A dive survey conducted in November 2014 revealed that the water main is exposed on the riverbed and that the pipe segments have settled into positions where the joints are at or beyond their recommended angle of deflection. Replacing the river crossing with a directionally drilled water main would eliminate the risk of the main being damaged, as it is currently in a vulnerable state.

C. Wellhouse Improvements

Well 5 is housed in a building that is effectively a shack constructed of sheet metal, which is in fair to poor condition. The proposed project seeks to replace the wellhouse with an appropriate block/brick building to provide better protection and security for Well 5. Additionally, the underground electric line that serves Wells 4 and 5 is not well protected and needs to be replaced with additional protection against potential damage or tampering.

D. Reservoir Overflow Improvements

The reservoir's overflow pipe currently discharges approximately 100 feet away from the reservoir to the side of the dune that the reservoir sits atop. As required by State law, the reservoir is overflowed once per year to ensure that the overflow functions properly and that the pipe is not blocked. Over the years, the overflow water has eroded a channel down the side of the dune, resulting in noticeable deposition of sand that has been filling in a natural depression in the dune. The proposed project seeks to relocate the overflow discharge point by extending the overflow pipe down the side of the dune to discharge directly into the depression and prevent further erosion. This will reduce negative impacts to the legally protected critical dunes which are important ecological and recreational features of the region.

II. ANALYSIS OF ALTERNATIVES

Alternatives to address needed improvements to the City's water system were developed and evaluated based on their ability to accomplish the project objectives while remaining within financial, regulatory, and technical constraints. Project objectives include:

- Ensure reliable water distribution to customers, including adequate water quality, fire flows, and pressures.
- Rehabilitate/repair high priority areas of existing water infrastructure that is beyond its useful life.
- Provide infrastructure capable of maintaining compliance with regulatory requirements.
- Minimize financial burden to the water system users.
- Minimize environmental impact during and after construction of the improvements project.

The following alternatives were evaluated:

- Alternative A – No Action
- Alternative B – Optimum Performance of Existing System

- Alternative C – Regionalization
- Alternative D – Water System Improvements

The alternatives are described in detail in the following sections. Each alternative was initially screened based on effectiveness, constructability, reliability, and financial requirements. Feasible alternatives were then subjected to a comprehensive evaluation with detailed attention to economic, technical, environmental, and public concerns.

A. IDENTIFICATION OF POTENTIAL ALTERNATIVES

1. Alternative A – No Action

Under this alternative, the City would continue use of the existing water system in its current condition. LSLs and aging and undersized water mains would continue to be used; Wellhouse 5 would continue to be used in its degraded state; and the reservoir overflow would continue eroding the sand dune. The system would continue to deteriorate until it fails and no longer provides safe, reliable water to its customers.

The Michigan LCR requires water suppliers to fully replace all LSLs by January 1, 2041. Under the No Action alternative, LSLs would not be replaced, the water system would fall out of compliance with the LCR in 2041, and the City may face fines and regulatory action. Additionally, water customers would continue to be subject to the unnecessary risk of potential lead contamination.

Water main breaks have different levels of severity, ranging from easily fixable to catastrophic failure. Severe breaks cause a significant loss of system pressure, which can compromise the system by allowing contaminants to enter and pollute the water. Currently, the City experiences an average of 1 break per year. Under the No Action alternative, the frequency and severity of these breaks will increase as the system ages, costing the City frequent expensive repairs and interrupted service to customers, as well as increased water loss.

According to “Recommended Standards for Waterworks” by the Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, typically referred to as “Ten States Standards” in the industry, the minimum size of water main which provides for fire protection and serving fire hydrants shall be 6-inch diameter. Larger size mains will be required if necessary to allow the withdrawal of the required fire flow while maintaining the minimum residual pressure of 20 psi. Under the No Action alternative, continuing the use of 4-inch and 6-inch water mains that do not deliver adequate fire flow would not meet Ten States Standards.

Under the No Action alternative, Wellhouse 5 would not be upgraded to an appropriately constructed wellhouse building, and the existing wellhouse would continue to degrade and would not fully protect the well from the elements or secure the well from potential tampering.

Under the No Action alternative, the reservoir overflow would not be rerouted, the legally protected critical dune would continue to be eroded by overflow water, and the surrounding environment would continue to be negatively impacted.

Based on the analysis presented above, this alternative would not accomplish the project objectives and will not be further evaluated as a principal alternative.

2. Alternative B – Optimum Performance of Existing System

Under this alternative, the City would continue use of the existing water system in its current condition, but would optimize the practices in place to maintain the system in adequate operational condition and to mitigate impacts on the environment as a result of operating the system.

The Michigan LCR requires all LSLs to be replaced by 2041 and does not allow the rehabilitation or partial replacement of LSLs. Nothing related to LSLs could be optimized to achieve full compliance with the LCR.

Optimizing the system to mitigate the existing water main issues would consist of maintaining adequate personnel, supplies, and equipment that would improve response times to water main breaks, and make the process of repairing a water main break as efficient as possible. Since the problematic water mains would not be replaced, the frequency and severity of the breaks would continue to increase as the system ages, and the undersized mains would continue to deliver inadequate fire flows.

Optimization of Wellhouse 5 would consist of repairing the existing structure. Repairs may temporarily delay the degradation of the structure, but would not be an effective long-term solution for protecting the critical water source asset.

Optimizing system operations to reduce erosion of the reservoir dune would consist of reducing the frequency of overflowing the reservoir. This would not be possible because State law requires annual overflowing of finished water storage tanks.

Mitigating the environmental impacts of overflowing the reservoir would consist of some form of slope stabilization on the sand dune. To prevent erosion down the side of a slope under typical circumstances, riprap would be used to reduce the energy of the water flowing down the slope, or slope stabilization techniques would be used to hold the soil together. Due to sand's non-cohesive property, employing these erosion control measures would not be effective on the slope of a sand dune.

The only effective method of stabilizing sand dunes is establishing native grasses and plants that would help bind the sand together with their roots. Establishing plants along the current flow path of the overflow water would be difficult, as the unnaturally large and concentrated volume of water would wash the plants away before they could become well-established. Even if plants were to be successfully established, they would not be dense enough to fully protect the dune from erosion.

Based on the analysis presented above, this alternative would not accomplish the project objectives and will not be further evaluated as a principal alternative.

3. Alternative C – Regionalization

Saugatuck's water system is already part of a regional system. Even if the system were to be further regionalized with other communities, the City's needs would not be addressed, and the City would still become non-compliant with the Michigan LCR in 2041. This alternative would not accomplish the project objectives and will not be further evaluated as a principal alternative.

4. Alternative D – Water System Improvements

Under this alternative, approximately 538 LSLs would be replaced City-wide, which would prepare the City for future compliance with the Michigan LCR and ensure that water is safe for consumption.

Approximately 14,210 feet (2.7 miles) of water main would be replaced in the locations listed below and shown in Figure 2.

- Maple St (Blue Star Hwy to south of North St)
- Elizabeth St (Allegan St to Main St)
- Lucy St (Water St to Butler St)
- Hoffman St (Griffith St to Grand St)
- Butler St (Culver St to Lucy St)
- Grand St (Mason St to Hoffman St)
- Grand St (Francis St to St. Joseph St)
- Park St (Campbell Rd to Perryman St)
- Wellfield loop (Maple St to High School)

- River crossing (Park St to Water St)

These water mains would be replaced with mains of appropriate size to deliver adequate fire flows during peak water demands over at least the next 20 years, as determined in the WSRS. The work would also include the replacement of all valves and hydrants located along the new water mains. The new, larger water mains would improve fire-flow capacity throughout the water system, reduce the frequency of water main breaks, and improve the overall reliability and water quality of the system.

Wellhouse 5 would be replaced with an appropriate block/brick building to provide better protection and security for Well 5. Additionally, the underground electric line that serves Wells 4 and 5 would be replaced with additional protection against potential damage or tampering.

The reservoir overflow discharge point would be relocated by extending the overflow pipe down the side of the dune to discharge directly into the natural depression. Since the overflow water would avoid contact with the sand until it reaches the bottom of the hill, further erosion of the side of the dune would be mitigated. This would reduce negative impacts to the legally protected critical dunes which are important ecological and recreational features of the region.

This alternative would accomplish the project objectives and will be further evaluated as a principal alternative.

B. ANALYSIS OF PRINCIPAL ALTERNATIVES

Alternative D – Water System Improvements was the only viable alternative that would accomplish the project objectives. Analysis of this alternative will compare variations of implementation, including differing water main construction methods and pipe materials. A monetary evaluation will present estimated costs of the project, and an environmental evaluation will outline potential environmental impacts of implementing the project.

1. Construction Methods

For typical water main installation, the most common construction method used is the open cut method. Other construction methods, including jack and bore and directional drilling, are utilized in specific situations where the open cut method is not viable.

A. Open Cut

The open cut method involves excavating an approximately 15-foot wide trench to lay the pipe in. The trench is excavated to a depth where the top of the pipe can be placed below the frost line, which is approximately 5.5 feet below the ground surface. In locations where the groundwater table is close to the ground surface, dewatering of the trench may be required to keep the trench dry enough for construction activities. The trench is then backfilled with appropriate construction materials and compacted to the density required to support surface infrastructure such as roads or sidewalks. The open cut method is utilized for typical water main installation within the public ROW where other underground utilities are likely to exist.

B. Jack and Bore

Jack and bore is a trenchless method that simultaneously “jacks” sections of steel casing horizontally through the soil while rotating augers (bores) within the casing remove the excavated soil; the water main is then installed inside the steel casing. This method is typically utilized in areas that cannot be easily trenched and/or areas that require additional reinforcement against heavy loads on top of the pipe, such as crossings under highways or railroads.

C. Directional Drilling

Directional drilling is another trenchless method in which a tunnel for the water main can be drilled and curved, horizontally and vertically, in any direction. This method is typically utilized when pipe runs require

curves in areas where open cut trenching is not possible and/or areas that are difficult to traverse with construction vehicles, such as steep hills or crossings under rivers or wetland areas.

D. Summary

Utilizing trenchless methods eliminates the need to excavate a wide trench, so that surface activities can carry on undisturbed. These methods, however, tend to be more expensive due to specialized equipment costs. Additionally, these methods are risky in areas where other utilities are in the ground, as drilling through sewers, gas mains, communications, or electrical cables can be dangerous, costly, and can interrupt service to customers.

This project will utilize the open cut method for a majority of the water main installation, while directional drilling will be required for replacing the river crossing water main. The jack and bore method is not likely to be needed for this project.

2. Pipe Materials

For typical water main installation, the most common pipe materials used are ductile iron (DI) and polyvinyl chloride (PVC). High-density polyethylene (HDPE) is also a prevalent pipe material, but is typically utilized for directional drilling applications due to the material's flexibility.

A. Ductile Iron

DI pipe offers many advantages, including a long useful life, structural stability under roads, and a roughness coefficient (Hazen Williams C value) of 140 that minimizes friction loss through the system. Additionally, since DI currently exists in the KLSWA water system, the equipment and spare parts needed for repairs to DI pipe are already part of KLSWA's inventory, and employees are familiar to working with the material.

In the past, the only major disadvantage of DI pipe was its heavier weight compared to PVC. In recent years, however, a nationwide shortage of DI pipe has caused sharp inflation of the cost of pipe, which is expected to continue for the foreseeable future. The shortage has also increased the lead time of obtaining the material once purchased; current lead times are as long as 10 to 14 months.

B. Polyvinyl Chloride

PVC pipe offers advantages similar to those of DI, including a long useful life, structural stability under roads, and a roughness coefficient of 150 that further minimizes friction loss through the system. Unlike DI, PVC is currently readily available and has not sharply inflated in cost in recent years.

For Saugatuck, the disadvantage of PVC water main is that it does not currently exist in the system, so KLSWA would need to stock their inventory with appropriate spare parts and fittings to be prepared for any future repairs needed. KLSWA staff are also less familiar to working with the material and may be less efficient when performing future repairs.

C. High-Density Polyethylene

HDPE is a plastic pipe that is very flexible compared to PVC, which makes it an ideal material for installation of water main via directional drilling. A roughness coefficient between 150 and 160 is typical for HDPE.

Since HDPE is a weaker material than PVC (allowing it to be flexible), the pipe walls need to be thicker to provide the same amount of structural support. This increases the weight per unit length and decreases the flow capacity due to a smaller cross-sectional area.

D. Summary

Due to the current volatility of material costs, a definitive choice of whether to use DI or PVC as the primary water main material for this project will be made during the design phase based on current differentials in costs and lead times. HDPE will be used for replacement of the river crossing water main.

3. Monetary Evaluation

A. Present Worth

The present worth analysis examines project costs over the 20-year planning period. The present worth is the sum of money which, if invested now at a given interest rate, would provide the exact funds required to pay all present and future project costs. The real discount rate used to calculate the present worth is established each year by the Federal Office of Management and Budget (OMB). The current discount rate is 2.0%.

The total present worth is the sum of the initial capital cost and the present worth of annual operation, maintenance, and replacement (OM&R) costs. The net present worth is the total present worth minus the present worth of the salvage value at the end of the 20-year planning period.

Since the project only involves replacement of existing infrastructure and not the addition of infrastructure, the water system’s annual OM&R costs will not be affected. If anything, OM&R costs should decrease since new water main will reduce the frequency of water main breaks and improve well pump efficiencies, however; if the dollar value of these benefits were to be quantified, they would likely be negligible. Therefore, net OM&R costs associated with this project are assumed to be zero.

The salvage value of the service lines and water main was calculated with a 50-year useful life at 20 years with straight line depreciation. The cost of labor, equipment, and materials was not escalated over the 20-year planning period. The interest charged during construction (capitalized interest) was not included in the cost analysis.

Since Alternative D – Water System Improvements was the only viable alternative that would accomplish the project objectives, the monetary evaluation of principal alternatives only includes the present worth analysis of Alternative D, which is presented in Table 5.

Table 5. Present Worth Analysis

Cost Item	Alternative D
Project Capital Cost	\$16,527,000
Annual OM&R	\$0
Present Worth of 20 Years of Annual OM&R	\$0
Total Present Worth:	\$16,527,000
Salvage Value at 20 Years	\$6,951,500
Present Worth of Salvage Value	\$4,497,000
Net Present Worth:	\$12,030,000

4. Project Delivery Method

EGLE published a State Revolving Funds Design Phase Guidance document in March 2015 which lists the following project delivery methods as acceptable for use in the DWSRF program: Design-Bid-Build (DBB), Construction Management At-Risk (CMAR), Fixed-Price Design-Build (FPDB), and Progressive Design-Build (PDB).

The City is reviewing each of the available methods. A comparison/summary of each are outlined below.

A. Design-Bid-Build (DBB)

Many public infrastructure projects are delivered using the DBB method. In the DBB method, an engineer works closely with the City and prepares the project bidding documents including the construction drawings and specifications.

General contractors submit bids based on the plans and specifications, and the lowest, responsible bidder is awarded the project. The general contractor pricing includes their subcontractors, or trade contractors, to perform specialized work such as electrical/controls, mechanical work, pavement/concrete work, etc. Typically, the engineering firm that developed the design provides construction observation and construction administration services during the construction phase. In this alternative, there are three parties: the owner, the engineer, and the general contractor.

The DBB method offers the following advantages:

- Well-understood and accepted.
- Independent oversight of Builder.
- Open to Owner involvement during design.

The DBB method includes the following disadvantages:

- Pricing is not known until the design process is complete.
- Contractor is selected based on low bid, not on value, knowledge, and experience brought to the team.

B. Construction Management At-Risk (CMAR)

CMAR is similar to DBB in that the engineering/design contract is separate from the construction contract. However, in the CMAR method, a construction management firm (CM) is hired independently by the City before or early in the design process. An engineer works closely with the City and the CM during the entire design process. The CM provides input to the engineer and owner through the entire design process. The engineer prepares the construction drawings and specifications while the CM prepares the bidding documents and obtains pricing from their subcontractors and suppliers.

The CM develops a Guaranteed Maximum Price (GMP). In this alternative there are three parties: the owner, the engineer, and the independently contracted CM firm.

The CMAR method offers the following advantages:

- Open to owner involvement during design.
- Early integration of builder.
- Provides early and continuous constructability review.
- Provides early certainty of costs.
- Pricing and design may be conducted in parallel.
- Reduced likelihood of claims compared to the DBB alternative.

The CMAR method includes the following disadvantages:

- Not a single source of responsibility.
- No legal obligation linking designer to builder.
- Potential for disputes, claims, and change orders.

C. Fixed-Price Design-Build (FPDB)

Fixed Price Design Build (FPDB) is a delivery method where the owner designates one firm, a design-builder (DB), under one contract for the design and construction of the project. The DB provides a fixed price based on a defined scope, requirements, and schedule; but before complete and detailed design documents have been prepared.

Owner involvement during the design process is typically very limited after the fixed price is accepted. The “book is closed” on pricing around the 30% mark of the design process.

D. Progressive Design-Build (PDB)

The PDB delivery method is similar to the CMAR method with one major distinction – the design-builder (DB) is under one contract for design and construction of the project. Therefore, the City has one single firm responsible for the design, schedule, construction, and warranty of the project. If there are issues that arise during construction or after construction, the City has one firm to address the issues.

During the latter part of the design phase, the DB prepares the bidding documents and obtains pricing from their subcontractors and suppliers on an open book basis.

If an agreement is reached on the pricing, the City will move forward collaboratively to construction. With such flexibility, the PDB method allows the owner to improve the project outcome by participating directly in design decisions. In this alternative there are two parties – the owner and the DB firm.

The PDB method offers the following advantages:

- The owner can transfer more risk to the DB since there is a single point of responsibility for the design, permitting, construction, and performance warranty of the project.
- Owner is involved during the entire design and construction.
- Early integration of builder.
- Provides early and continuous constructability review.
- Provides early certainty of costs.
- Pricing and design may be conducted in parallel.

E. Project Delivery Selection

The City and the engineering firm that developed the Project Plan will have discussions regarding the available project delivery methods and the advantages and disadvantages offered by each method to develop the preferred method for the City. Based on preliminary discussions, it is anticipated that the City will proceed with the Design-Bid-Build or Progressive Design-Build delivery method for the project.

5. Environmental Evaluation

Table 6 provides a summary of the anticipated environmental impacts resulting from construction of the project. Since there were no competing principal alternatives, only Alternative D was evaluated.

Table 6. Environmental Evaluation of Principal Alternative

Environmental Feature	Impact of Alternative D
Cultural and Historic Resources	NSI
Air Quality	T
Major Surface Waters	NSI
Wetlands	NSI
Coastal Areas	NSI
Floodplains	NSI
Natural or Wild and Scenic Rivers	N/A
Topography	L
Geology	NSI
Soil Types	NSI
Agricultural Resources	NSI
Fauna and Flora	NSI

NSI: No Significant Impact
 L: Low, but Measurable Impact
 SI: Significant Impact
 T: Temporary Impact
 B: Beneficial
 N/A: Not Applicable

The anticipated environmental impacts resulting from construction of the project are described in more detail below.

A. Cultural and Historic Resources

Construction of the proposed project will occur within the public ROW and is not anticipated to have any impacts on National or State Historic Sites in Saugatuck. Since construction will occur within the ROW where the soil has been previously excavated and replaced with appropriate construction materials, culturally significant resources or artifacts are not anticipated to be found. However, care will be taken when construction commences and all activities will cease should any artifacts be discovered.

B. Air Quality

Construction activities will cause short-term, localized, negative impacts to air quality. While construction work is in progress, construction sites will have elevated dust levels and construction vehicles will emit combustion exhaust. Construction of this project is not expected to create any more or less air pollution than typical construction activities. It is anticipated that dust control will be provided by the application of water and/or dust palliative during dry and windy periods.

C. Major Surface Waters

Construction activities have the potential to cause deposition of sediment into nearby surface water bodies if proper precautions are not taken. Excess sediment in a surface water body may increase the turbidity of the water, which would occlude sunlight from vegetation in the water. This, in turn, would deplete oxygen levels in the water and render the water body uninhabitable for aquatic species. Sediment buildup may also decrease the depth of the water body, which may increase the water temperature and further degrade the habitability of the water.

The closer an excavation site is to a water body, the more likely that larger sediment volumes are to be deposited into the water due to wind and runoff from the excavation site. Surface water bodies that are small in size and close to excavation sites are most vulnerable to negative impacts from sediment buildup. Turbidity and water temperature increase more readily in smaller water bodies with standing water than in larger water bodies and those with flowing water.

Some of the proposed project areas are located near surface water bodies, which creates the potential for deposition of sediment into the water bodies during construction work. Due to the proximity of some of the project areas to surface water bodies, the project may be subject to Federal, State, or local soil erosion and sediment control (SESC) permitting requirements. As long as adequate SESC measures are employed, excessive sediment deposition into surface water bodies is not anticipated.

D. Wetlands

Construction activities have the potential to cause deposition of sediment into nearby wetlands if proper precautions are not taken. The concerns with sediment deposition into wetlands are the same as the concerns described above for surface water bodies.

Some of the proposed project areas are located near wetlands, which creates the potential for deposition of sediment into the wetlands during construction work. Due to the proximity of some of the project areas to wetlands, the project may be subject to Federal, State, or local SESC permitting requirements. As long as adequate SESC measures are employed, excessive sediment deposition into wetlands is not anticipated.

E. Floodplains

Construction activities have the potential to cause deposition of sediment into nearby floodplains if proper precautions are not taken. Some of the proposed project areas are located near or within designated floodplains, which creates the potential for deposition of sediment into the floodplains during construction work and reducing the floodplains' capacities for conveying floodwaters. Due to the proximity of some of the project areas to floodplains, the project may be subject to Federal, State, or local SESC permitting

requirements. As long as adequate SESC measures are employed, excessive sediment deposition into floodplains is not anticipated. Even if excavated soil were to accumulate in floodplain areas, the total volume of soil to be excavated for this project is small compared to the overall volumes of the floodplains, so hydraulic impacts to the floodplains would be minimal.

It should also be noted that construction activities located within designated floodplains will be subject to a 1% chance of flooding over a 1-year period.

F. Topography

Extension of the reservoir overflow pipe will require altering the topography of the sand dune, which will likely require a permit because the critical dunes are legally protected. After the new pipe is installed, however, the dune will be restored to as close to its original condition as is feasible, which may involve removing the sand that has filled in the natural depression to restore the eroded slope of the dune.

Construction of the proposed water main will occur within public ROWs in which the topography has already been reshaped, so further significant alteration of the topography is not anticipated.

G. Geology

The proposed project does not include drilling a new well or other modifications to Saugatuck’s geology, so no impacts are anticipated.

H. Soil Types

Construction of the proposed project will occur within public ROWs in which the soils have already been disturbed and replaced with appropriate construction materials, so further significant alteration of the soils is not anticipated.

I. Agricultural Resources

Since the project work will occur in areas of the City that are already developed and the project does not include expansion of the water system onto existing agricultural land, the project is not anticipated to have any impacts on agricultural resources in the region.

J. Fauna and Flora

Prior to construction in the critical dune area, a complete environmental review will be required to ensure that any rare species in the area will not be impacted.

Construction of the proposed water main will occur within public ROWs where infrastructure already exists and does not include expansion onto undeveloped land, so disturbance of threatened or endangered species is not anticipated. Additionally, minimal tree clearing will be required for this project, so impacts to threatened or endangered bats that rely on trees in the ROWs will be negligible. Where tree trimming or removal is required, it will need to be scheduled during times of the year when the bats are not inhabiting the region.

6. Technical Considerations

The proposed project will replace undersized water mains with larger water mains as recommended in the WSRS, in which the City’s water system was modeled to adhere to the following sections of the Ten States Standards:

8.2.1 Pressure – “All water mains...shall be sized after a hydraulic analysis based on flow demands and pressure requirements. The system shall be designed to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow.”

8.2.2 Diameter – “The minimum size of water main which provides for fire protection and serving fire hydrants shall be six-inch diameter. Larger size mains will be required if necessary to allow the withdrawal of the required fire flow while maintaining the minimum residual pressure specified in Section 8.2.1.”

8.2.3 Fire protection – “When fire protection is to be provided, system design should be such that fire flows and facilities are in accordance with the requirements of the State Insurance Services Office.”

7. New/Increased Water Withdrawals

The proposed project does not include new or increased water withdrawals, so this section is not applicable.

III. SELECTED ALTERNATIVE

As the only viable alternative that meets the project objectives, Alternative D will move forward with further reviews of design, cost, construction, and environmental impacts to form a complete project plan.

A. DESIGN PARAMETERS

1. Lead Service Line Replacement

The proposed project includes replacement of approximately 538 LSLs to prepare the City for future compliance with the Michigan LCR. The LSLs proposed for replacement are located throughout the City and their exact locations would be determined during the design phase of the project.

Depending on which portion(s) of the service line contains lead or GPCL, either a full or partial service line replacement will be required. To ensure that no lead material is left behind in a service line, each full and partial replacement will also require replacement of the curb stop, which is the valve that joins the two service line portions at the boundary between the ROW and the private property. Additionally, those service lines that require replacement of the City’s portion will also require replacement of the corporation stop, which is the valve that joins the service line to the water main. Materials and construction methods will adhere to the most current editions of the Ten States Standards and the Michigan Plumbing Code.

2. Water Main Improvements

The sections of water main proposed for replacement are shown in Figure 2. The above section, II.B.5. Technical Considerations, provides the factors that dictated sizing of the pipes for the water main improvements. Materials and construction methods will adhere to the most current edition of the Ten States Standards. Table 7 summarizes the proposed water main improvements:

Table 7. Summary of Water Main Improvements

Location	Existing WM Size	Proposed WM Size	WM Length (ft)
Maple St (Blue Star Hwy to south of North St)	4" & 6"	8"	4,060
Elizabeth St (Allegan St to Main St)	4" & 6"	8"	1,120
Lucy St (Water St to Butler St)	6"	8"	210
Hoffman St (Griffith St to Grand St)	4"	8"	670
Butler St (Culver St to Lucy St)	4" & 6"	8"	2,250
Grand St (Mason St to Hoffman St)	4"	8"	280
Grand St (Francis St to St. Joseph St)	4"	8"	300
Park St (Campbell Rd to Perryman St)	10"	12"	3,440
Wellfield loop (Maple St to High School)	6"	12"	1,060
River crossing (Park St to Water St)	16"	16"	820
Total:			14,210

It should be noted that a dead end water main currently exists on Hoffman St between Griffith St and St. Joseph St. The proposed improvements would loop this dead end by extending the water main west to connect to existing water main at Griffith St.

3. Wellhouse Improvements

Wellhouse 5 will be replaced with a building that is constructed of appropriate materials and adheres to the most current edition of the Michigan Building Code and Ten States Standards safety and security requirements for a wellhouse with chemical storage. Improvements to the site’s electric service will adhere to the most current edition of the Michigan Electrical Code.

4. Reservoir Overflow Improvements

Alterations to the reservoir’s overflow pipe will be designed and constructed to minimize erosion of the dune and adhere to the Ten States Standards requirements of a finished water storage overflow.

B. USEFUL LIFE

For the purposes of determining salvage values in this report, the following useful lives of the equipment and structures proposed for this project will be used, as defined by guidance from EGLE:

- Water conveyance (water mains, service lines) – 50 years
- Structures (wellhouse) – 50 years
- Process equipment (chemical feed systems, pumps, motors) – 20 years

C. WATER AND ENERGY EFFICIENCY

Replacement of the service lines and water mains will help improve the system’s water efficiency by eliminating any leaks that may be present in the pipes and joints that are to be replaced. In turn, this will improve the system’s energy efficiency, as the well pumps will run less frequently to refill the reservoir. Upsizing water mains will reduce the friction acting against the well pumps, which will improve their operating efficiencies as well. It is difficult to determine the amounts of water and energy saved by implementing these improvements, but they are likely small amounts.

D. SCHEDULE FOR DESIGN AND CONSTRUCTION

Table 8 presents the proposed project schedule. Dates are subject to change according to the detailed FY 2024 Financing Schedule, which is provided in Appendix C.

Table 8. Schedule for Design & Construction

Milestone	Anticipated Date
Submit Final DWSRF Project Plan to EGLE	June 2023
Submit Preliminary Plans & Specifications	January 2024
Submit Final Plans & Specifications	March 2024
Bidding	May 2024
EGLE Order of Approval	August 2024
Begin Construction	September/October 2024
Complete Construction	September 2025
Project Closeout/Record Drawings	November/December 2025

E. COST SUMMARY

1. Project Costs

Table 9 lists the quantity, unit price, and estimated cost of each component of the proposed project. The sum of the project component costs plus contingency, engineering, legal, and administrative costs is the total present-worth cost of implementing the project.

Unit prices were based on recent contractor bid prices from similar projects designed by Fleis & VandenBrink. The unit price of water main was increased to include the cost of appurtenances (hydrants,

valves, fittings, etc.) and surface restoration, assuming a worst case scenario of the water main being installed along the centerline of the roadway, requiring two lanes of road pavement restoration.

Table 9. Proposed Project Costs

Project Component	Unit	Quantity	Unit Price	Estimated Cost
General Conditions, Bonds, and Insurance*	LSUM	1	\$583,000	\$583,000
Lead Service Line Replacement	EA	538	\$9,500	\$5,111,000
8" Water Main, Appurtenances, Restoration	LFT	8,890	\$385	\$3,422,700
12" Water Main, Appurtenances, Restoration	LFT	4,500	\$410	\$1,845,000
16" Water Main, Directional Drill	LFT	820	\$1,100	\$902,000
Dewatering	LSUM	1	\$55,000	\$55,000
Wellhouse 5 Building & Site Improvements	LSUM	1	\$275,000	\$275,000
Wellhouse 5 Chemical Feed Equipment	LSUM	1	\$16,500	\$16,500
Re-route Reservoir Overflow Pipe	LSUM	1	\$30,000	\$30,000
<i>The Design Professional has no control over costs or the price of labor, equipment, or materials, or over the Contractor's method of pricing. Bid prices may vary significantly based on these factors and market conditions at time of bid.</i>	Subtotal			\$12,241,000
	Contingency (15%)			\$1,837,000
	Engineering, Legal & Administrative (20%)			\$2,449,000
	Total			\$16,527,000

* Set to 5% of the sum of the project component costs (i.e. excluding engineering and contingency costs).

2. User Costs

Communities must meet the following criteria, defined by EGLE, to qualify as an “Overburdened Community”:

- a) Users within the area served by the proposed drinking water project are directly assessed for the costs of construction.
- b) The median annual household income (MAHI) of the area served by the proposed drinking water project does not exceed 100% of Michigan’s statewide MAHI of \$63,498.

And at least one of the following:

- c) The taxable value per capita of the area served by the project falls into the communities representing the lowest 20% of Michigan’s population within that category. For FY24, the value is \$22,920 per capita;
- d) The annual user costs for the drinking water system exceeds 1% of the median annual household income of the area served by the proposed project.

It is anticipated that Saugatuck will not qualify as an Overburdened Community based on criteria b) above, which means the City would not be eligible to receive a disadvantaged community low-interest (1.875%) loan. The Overburdened Community Status Determination Worksheet will be submitted to EGLE for review.

The City of Saugatuck is anticipating funding the FY 2024 project with an estimated \$16.527 million DWSRF loan at 2.125% interest over a 30-year period.

A customer’s monthly water bill consists of a base fee based on meter size plus a commodity charge per 1,000 gallons of water used. To determine a customer’s base fee, each meter size is assigned a Meter Equivalent Unit (MEU), which is a factor applied to the base fee for a typical residential 5/8-inch meter. Based on recent City billing data, the water system serves approximately 1,417 MEUs in Saugatuck.

Table 10 shows how the monthly MEU base fee will be impacted by distributing the cost of the project evenly across the 1,417 MEUs served by the system. The table also presents the impacts at various levels of grant or principal forgiveness that the City may be awarded by EGLE to fund the project. Customers can calculate their actual costs by adding “Monthly MEU Base Fee Increase” in Table 10 to their current base fee from a recent water bill. Users with meters larger than a typical residential customer will need to apply their meter size factor to determine their total anticipated base fee.

Table 10. User Costs

	100% Loan 0% Grant	75% Loan 25% Grant	50% Loan 50% Grant	25% Loan 75% Grant
Project Capital Cost	\$16,527,000	\$12,395,250	\$8,263,500	\$4,131,750
Annual Cost Over 30 Years (2.125% int.)	\$750,673	\$563,005	\$375,336	\$187,668
Current Monthly MEU Base Fee	\$14.60	\$14.60	\$14.60	\$14.60
Monthly MEU Base Fee Increase	\$44.15	\$33.11	\$22.07	\$11.04

F. IMPLEMENTABILITY

The ability of Saugatuck to implement the proposed project depends on several factors. One factor is the success of the City’s application to EGLE for principal forgiveness and/or a low-interest loan to fund the project. For project execution, the City intends to utilize consultants to assist with project coordination, construction management, and bidding. For water system operations, the KLSWA will operate and maintain the water system.

The public will be given a chance to review and comment on this project plan, including all the alternatives that were considered. A public meeting will be held after the comment period to ensure further opportunity for public participation.

Concerns related to financial burden are expected to be remediated by funding the project through low-interest loans from DWSRF. Since this work needs to be completed to ensure proper upkeep of essential community infrastructure, the costs related to this project are unavoidable.

IV. ENVIRONMENTAL & PUBLIC HEALTH IMPACTS

A. DIRECT IMPACTS

1. Construction Impacts

Areas that will be impacted during construction of this project will be primarily located within public ROWs and their immediate surroundings. Certain cases may arise in which small areas of private property must be disturbed for successful replacement of service lines.

A. Construction Methods

Replacement of most of the proposed water mains will utilize the open cut method, in which a trench approximately 15 feet wide will be excavated within the ROW. As a result, soil will be disturbed, but only where it has already been disturbed by urban development. Replacement of the river crossing water main will utilize the directional drilling method, which will only disturb the soil where the pipe enters and exits the ground within the ROWs on either side of the river.

In order to minimize disturbance of private property, replacement of service lines will likely utilize the pipe bursting method, in which a wedge will be forced through the old service line, breaking the pipe outward, and making way for the new pipe to be fed through the cavity left by the burst pipe. This allows the ground surface and landscaping on private property to remain undisturbed.

The existence of a construction site means that construction workers and site visitors will be subject to various potential safety hazards. The severity of potential injuries incurred on the construction site will depend on how strictly the contractor enforces safety rules and regulations on site.

B. Man-Made Features

Man-made features that exist within the ROWs include pavement and utilities such as sanitary sewer, storm sewer, gas, electric, and communications. If construction plans are not carefully designed and detailed to avoid conflicts with existing utilities, construction activities could result in damage to the utilities. There is also a chance that undocumented utilities may be damaged during construction activities.

Depending on where the water main is proposed for construction with respect to the ROW width, road or sidewalk pavement may need to be removed prior to excavation of the trench for water main construction. At this time, the extent of pavement removal required for construction of the proposed project is unknown; these details will be determined during the design phase of the project.

C. Trees & Vegetation

Natural features that exist within the ROWs include trees and other vegetation. Depending on where the water main is proposed for construction with respect to the ROW width, trees and other vegetation may need to be trimmed or removed prior to excavation of the trench for water main construction. Tree and vegetation removal on private property is unlikely, but may be required in certain cases. At this time, the extent of vegetation removal required for construction of the proposed project is unknown; these details will be determined during the design phase of the project.

D. Air Quality

Construction activities will cause short-term, localized, negative impacts to air quality. While construction work is in progress, construction sites will have elevated dust levels and construction vehicles will emit combustion exhaust. If construction vehicles are well-maintained and appropriate dust control measures are employed, construction of this project is not expected to create any more or less air pollution than typical construction activities.

E. Surface Water

Construction activity in proximity to surface water bodies, such as rivers, lakes, wetlands, and floodplains, creates the potential for wind and runoff to deposit sediment into the water bodies during construction work. As long as adequate soil erosion and sediment control (SESC) measures are employed, surface water bodies will not be impacted by excessive sediment deposition.

Some of the proposed project areas are located near surface water bodies, so the project may be subject to Federal, State, or local SESC permitting requirements. At this time, the permits required for construction of the proposed project are unknown; these details will be determined during the design phase of the project.

F. Groundwater

Localized dewatering of trenches may be required at some of the project construction sites located near surface water bodies where groundwater will be encountered at shallower depths. Groundwater will be pumped out of the trenches and discharged through geotextile bags to appropriate receiving areas. The City's residential population does not rely heavily on private wells, so impacts to any private wells are not anticipated. The pumping water level in trenches will be maintained at the minimum possible depth below the ground surface that will dewater the excavation. At this time, the estimated depth of dewatering activity is unknown; these details will be determined during the design phase of the project.

G. Topography

Extension of the reservoir overflow pipe will require altering the topography of the sand dune. After the new pipe is installed, however, the dune will be restored to as close to its original condition as is feasible,

which may involve removing the sand that has filled in the natural depression to restore the eroded slope of the dune.

H. Fauna and Flora

Since the project work will occur in areas of the City that are already developed and the project does not include expansion of the water system onto undeveloped land, the project is not anticipated to have any impacts on the habitats of threatened or endangered species. However, if tree trimming or removal is not scheduled for the appropriate time of year, threatened or endangered bats could be impacted.

I. Traffic

Construction of the proposed project will require temporarily restricting traffic where water main construction is being completed. The number of traffic lanes that will need to be restricted on a particular street will depend on where the water main is proposed for construction with respect to the ROW width. For open cut construction areas, traffic will need to be restricted to local residents, visitors and employees of non-residential facilities, and emergency vehicles. Temporary detour routes may need to be implemented. At this time, the extent of traffic restriction or relocation required during construction of the proposed project is unknown; these details will be determined during the design phase of the project.

J. Noise

Construction sites will have elevated noise levels during the working hours approved by the City. Construction workers and site visitors may be required to wear ear protection if exposure to extreme noise levels and/or durations will be experienced.

2. Operational Impacts

During installation of new water mains, small portions of the water system will need to be isolated to connect the new mains to the existing mains. This will result in a temporary interruption of water service to the customers located in the isolated area. Installation of new service lines will also result in a temporary interruption of service.

During construction of the new Wellhouse 5, power will need to be shut off to Wells 4 and 5. This should not be an issue, however, because the four other wells that are part of KLSWA's water system are capable of providing the necessary supply capacity.

During construction of the reservoir overflow improvements, the reservoir will need to be taken offline and completely drained of water. To maintain pressure throughout the water system, well pumps will need to be run continuously and one or more blowoff valves throughout the system will need to be opened to relieve the excess pressure delivered by the pumps.

3. Social Impacts

Funding the construction of this project without the aid of principal forgiveness and/or a low-interest loan would result in a significant increase in user costs, which would be an unreasonable cost to pass onto the City's residents, and would negatively impact the public's view of City officials.

Completion of this project will result in several positive impacts to the community. Replacement of LSLs will eliminate any potential lead contamination of drinking water to the residents receiving new service lines, and will therefore reduce the community's risk of serious health issues. Replacing the aging and fragile water mains will reduce the frequency of water main breaks throughout the system, which will reduce the potential of contaminants compromising the system and interrupting service to customers. Replacing corroding cast iron water mains with non-corrosive materials will reduce the amount of rust that leaches into the water system, which will improve the system's overall water quality. Replacing undersized water mains with appropriately sized water mains will increase the available fire flow in the improved portions of the water system. This increased fire protection will improve the City's Public Protection Classification assigned by the Insurance Services Office (ISO), which should translate to lower insurance rates for home and business owners.

B. INDIRECT IMPACTS

Indirect impacts are those caused or facilitated by the proposed project but will be removed in time and/or distance. An indirect impact typically associated with water system improvements is unrestricted development and the associated increase in water users where the improvements were made. Completion of this project, however, is not anticipated to have any indirect impacts on development, land use, air or water quality, natural areas, community aesthetics, or resource consumption, as the improvements will be made in areas that are already fully developed, and not expanding the water system.

C. CUMULATIVE IMPACTS

Cumulative impacts are those that increase in magnitude over time or that result from individually minor but collectively significant actions taking place over time. Completion of this project, particularly the LSL replacement, may be the first of several phases needed to achieve system-wide removal of LSLs by 2041. These major projects will continue to increase the City's debt and user costs over time. Since this work is required by State law, these costs to the community will be unavoidable unless more Federal or State grant monies become available in the future to help offset the costs.

V. MITIGATION OF IMPACTS

A. DIRECT IMPACTS

1. Construction Impacts

A. Safety Hazard Control

Construction site safety is the responsibility of the contractor. The contractor will be required to have only trained persons performing all phases of the work. The contractor will also be required to comply with the Occupational Safety & Health Act (OSHA), including using back-up alarms on all equipment, having employees trained in hazard control, and maintaining materials safety data sheets (MSDS) for materials that may be used or handled by construction personnel.

B. Man-Made Features

Water main construction plans will be carefully designed and detailed to avoid conflicts with existing utilities in the ROW. If any conflicts arise during construction, water main can be relatively easily rerouted to avoid disturbing other utilities. Pavement restoration will be included in the construction plans.

C. Trees & Vegetation

Any trees, vegetation, or landscaping removed or disturbed during construction will be restored to their original condition, to the extent feasible, in a timely fashion and in accordance with the project specifications.

D. Air Quality

Construction sites will have elevated dust levels while construction work is in progress. The contractor will be required to mitigate negative effects of dust on residents and construction workers in accordance with methods described in the project specifications. It is anticipated that dust control will be provided by the application of water and/or dust palliative during dry and windy periods.

Exhaust emissions can be minimized by properly maintaining construction vehicles and equipment.

E. Soil Erosion & Sediment Control

To mitigate the potential impacts to surface water, wetlands, and floodplains identified above, the contractor will be required to obtain an SESC permit from the local agency prior to the start of the work. It is anticipated that mitigation measures may include silt fence, straw bales, rip rap, geotextile fabric, or other such methods, as appropriate.

F. Groundwater

During the dewatering of trenches, the pumping water level will be maintained at the minimum possible depth below the ground surface that will dewater the excavation. Pumped water from dewatering will be conveyed to a natural watercourse in a manner that does not cause damage to abutting property, create a hazard, or cause silting in the receiving stream. The contractor will be required to minimize dewatering discharge velocity to avoid scouring the receiving area. Before discharging to a waterway, pumped water will be filtered through a geotextile bag to remove sediment.

G. Topography

The Michigan Sand Dune Protection and Management Act requires all proposed development to be approved at the State and/or local level. The legislation also imposes certain standards on construction and site design in critical dune areas. The design and construction of the reservoir overflow improvements will need to be approved by the appropriate agencies.

H. Fauna and Flora

Potential impacts to threatened or endangered bats can be mitigated by scheduling tree trimming and removal during times of the year when the bats are not inhabiting the region.

I. Traffic

The contractor will be required to provide traffic control and maintain access to homes and businesses. Water main construction work can be strategically planned in advance with the intent of minimizing traffic impacts at and near each site. For example, in primarily residential areas, specific tasks requiring heavy construction work and especially significant restrictions to traffic flow could be completed during business hours, when most residents would likely be at work and not in the neighborhood. Where only short, single-lane closures are needed, the contractor could hire flaggers to direct traffic around the work zone. Residents and local employees would be notified when construction work is scheduled in their area.

J. Noise

Construction activities will only be allowed during the hours approved by the City and would be subject to all local noise control ordinances. Construction workers and site visitors may be required to wear ear protection to minimize the health effects of extreme worksite noise levels and/or durations.

2. Operational Impacts

To mitigate the interruption of water service to customers due to water main and service line installation, project specifications will require the contractor to work as efficiently as possible to install the new pipes in a timely manner and minimize the amount of time that customers are without water.

3. Social Impacts

Concerns related to financial burden are expected to be remediated by funding the project through low-interest loans from DWSRF. Since this work needs to be completed to ensure proper upkeep of essential community infrastructure, the costs related to this project are unavoidable.

The ability of Saugatuck to implement the proposed project depends on several factors. One factor is the success of the City's application to EGLE for grants and/or principal forgiveness to fund the project. For project execution, the City intends to utilize consultants to assist with project coordination, construction management, and bidding. For water system operations, the KLSWA will operate and maintain its own water system.

B. INDIRECT IMPACTS

Unrestricted growth in the City's water distribution system service area is not anticipated, with or without the proposed project. If unrestricted growth were to occur, the most effective way of mitigating it would be proactive creation of zoning districts and effective enforcement of that zoning.

C. CUMULATIVE IMPACTS

Mitigation measures would be developed to ensure that sensitive environmental features do not suffer permanent damage. Every effort will be made to avoid potential long-term or irreversible adverse impacts during the construction of the water distribution system improvements. Water main construction work will incorporate “best management practices” for installing pipes and disturbing the earth.

Mitigation of impacts to surface waters, wetlands, and floodplains would be handled through permit processes. Although impacts to surface waters, wetlands, floodplains, and other water resources are not anticipated as part of this project, mitigation measures will be employed if the need for them arises and/or impacts cannot be avoided.

The design and project specifications will include the proper use of physical measures to reduce soil erosion to a manageable level. Any disturbed slope areas will be immediately seeded, mulched, and/or sodded to prevent soil erosion and/or sedimentation.

VI. PUBLIC PARTICIPATION

A. PUBLIC MEETING

A public meeting on project alternatives and user costs will be held on Monday, May 22, 2023, at 7:00 pm, at Saugatuck City Hall, 102 Butler St, Saugatuck, MI 49453.

B. PUBLIC MEETING ADVERTISEMENT

The public meeting will be advertised in the local newspaper for the Allegan County area. A copy of the public meeting notice and affidavit of publication is included in Appendix D.

Prior to the public meeting, a copy of the Draft Project Plan will be made available to the public for a 10-day period at the City Hall and as stated in the public meeting notice.

C. PUBLIC MEETING SUMMARY

This section will be updated to summarize the public meeting.

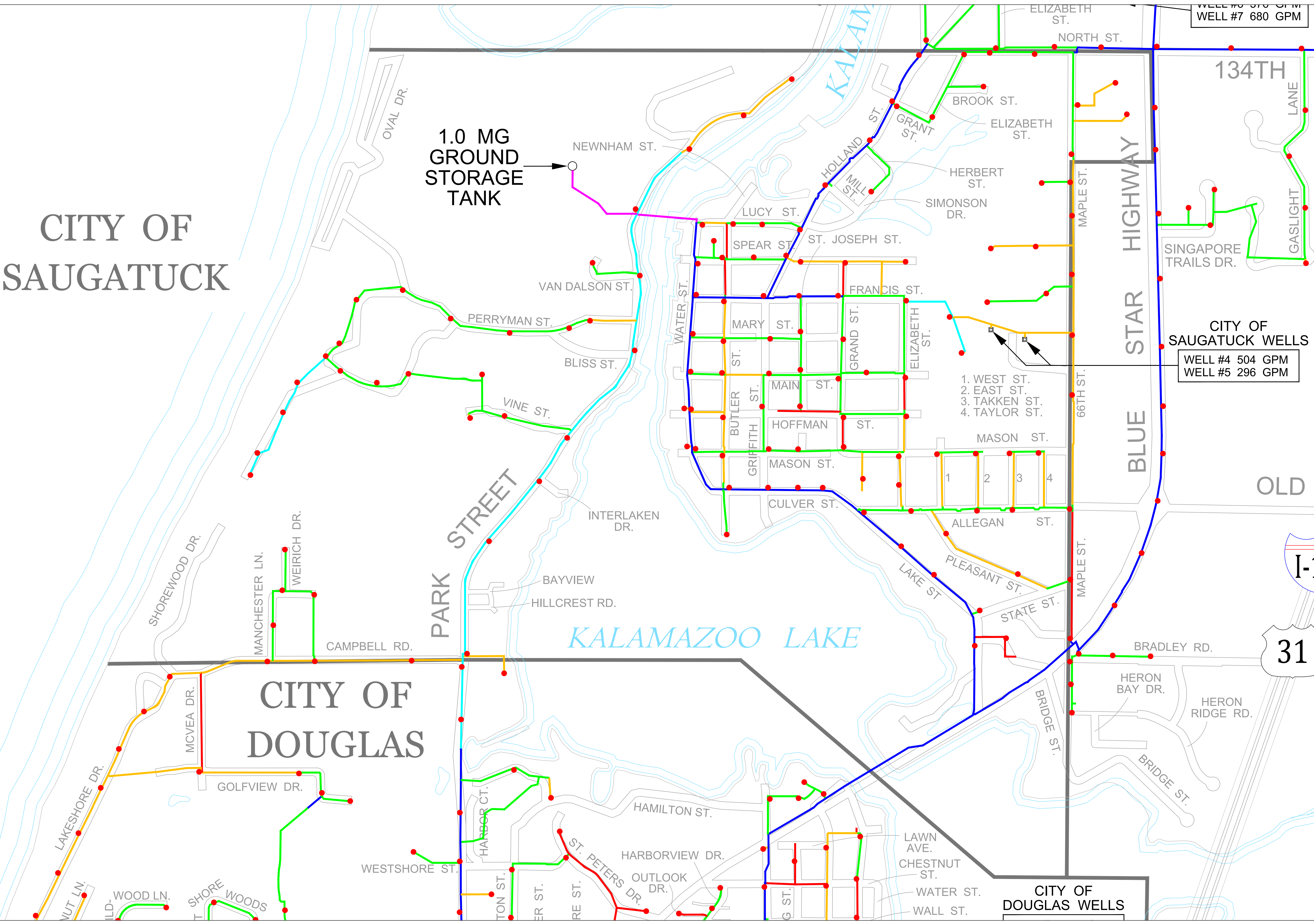
D. PUBLIC MEETING COMMENTS AND ANSWERS

This section will be updated to summarize written comments from the public that were received before, during, and after the public meeting.

E. ADOPTION OF THE PROJECT PLAN

This section will be updated to reflect the adoption/rejection of the Project Plan.

CITY OF SAUGATUCK

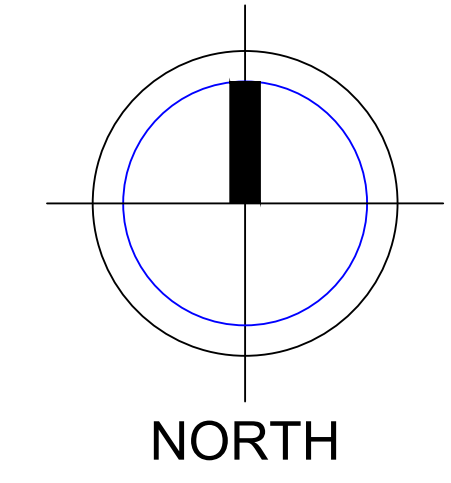


**FIGURE 1:
 EXISTING WATER SYSTEM**

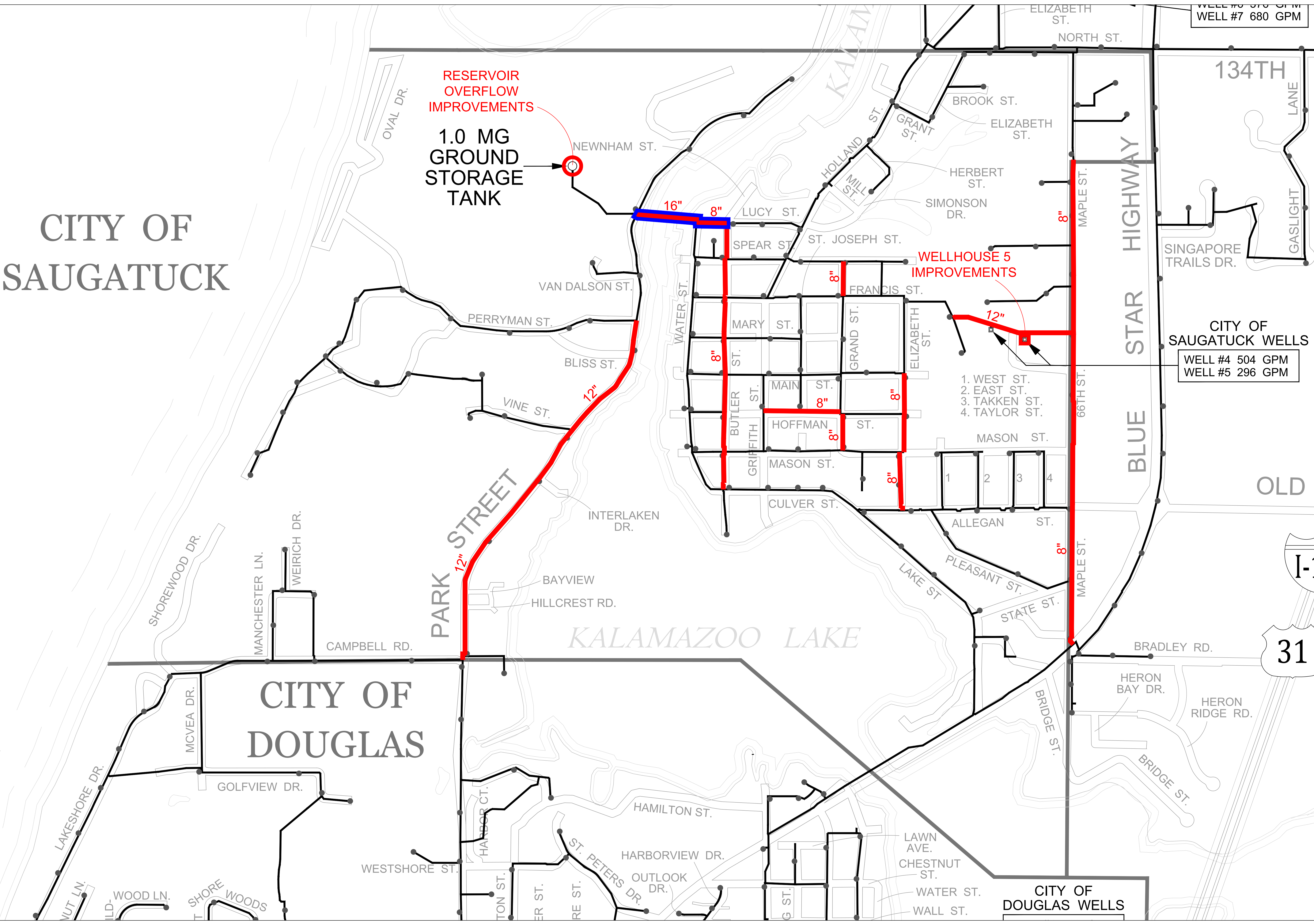
CITY OF SAUGATUCK
 ALLEGAN COUNTY, MICHIGAN
 DWSRF PROJECT PLAN

LEGEND

4" WATERMAIN	6" WATERMAIN	8" WATERMAIN	10" WATERMAIN	12" WATERMAIN	16" WATERMAIN	FIRE HYDRANT
(Red line)	(Orange line)	(Green line)	(Cyan line)	(Blue line)	(Purple line)	(Red dot)



CITY OF SAUGATUCK



APPENDIX A: ENVIRONMENTAL EVALUATION REPORTS

Air Quality Index Report

Geographic Area: Allegan County, MI

Summary: by County

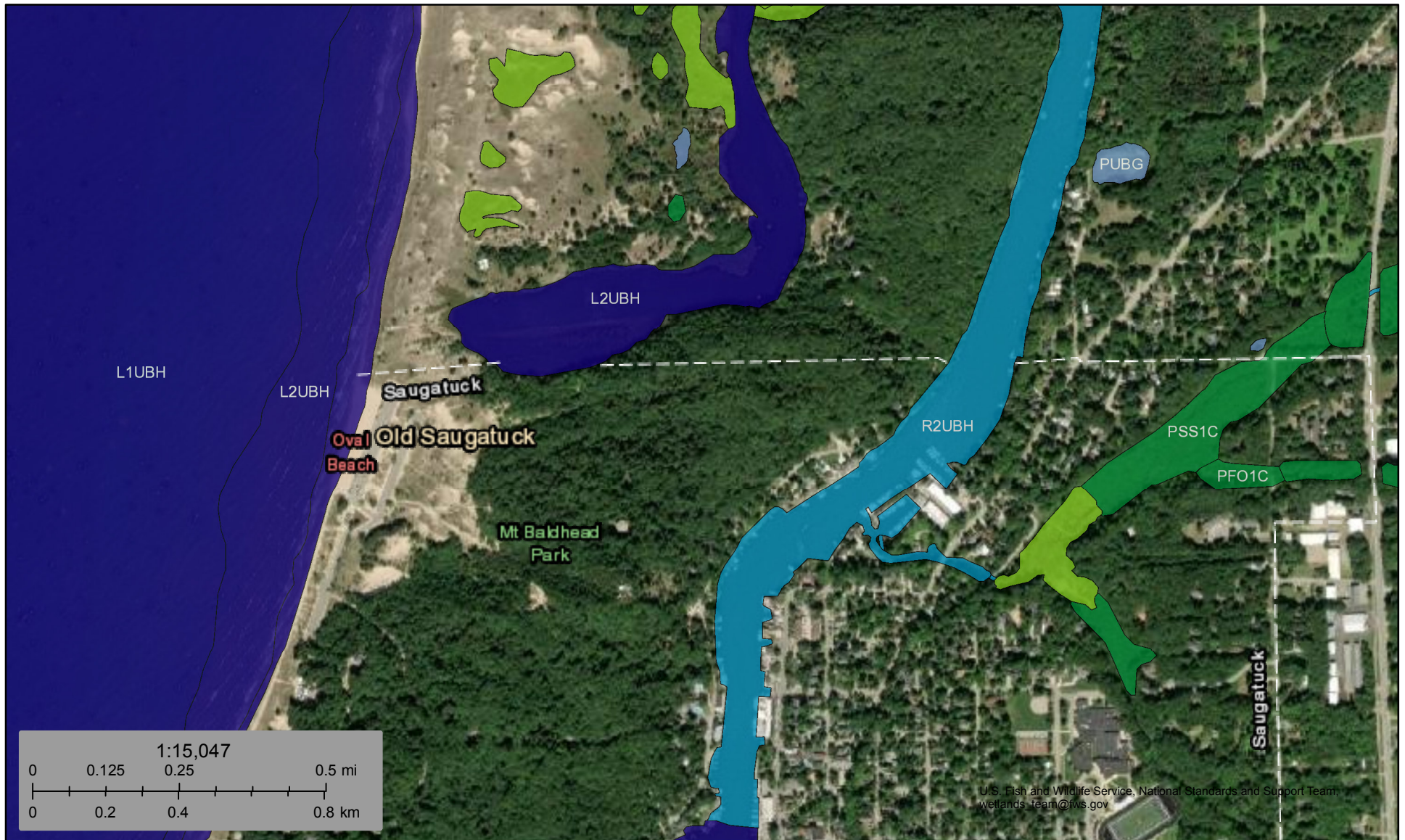
Year: 2022 (Annual statistics for 2022 are not final until May 1, 2023)

County	# Days with AQI	Number of Days when Air Quality was...						AQI Statistics			Number of Days when AQI Pollutant was...				
		Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy	Hazardous	Maximum	90th Percentile	Median	CO	NO2	O3	PM2.5	PM10
Allegan County, MI	295	244	43	6	2	.	.	195	64	38	.	.	225	70	.

Get detailed information about this report, including column descriptions, at <https://www.epa.gov/outdoor-air-quality-data/about-air-data-reports#aqi>

AirData reports are produced from a direct query of the AQS Data Mart. The data represent the best and most recent information available to EPA from state agencies. However, some values may be absent due to incomplete reporting, and some values may change due to quality assurance activities. The AQS database is updated by state, local, and tribal organizations who own and submit the data.

Readers are cautioned not to rank order geographic areas based on AirData reports. Air pollution levels measured at a particular monitoring site are not necessarily representative of the air quality for an entire county or urban area.

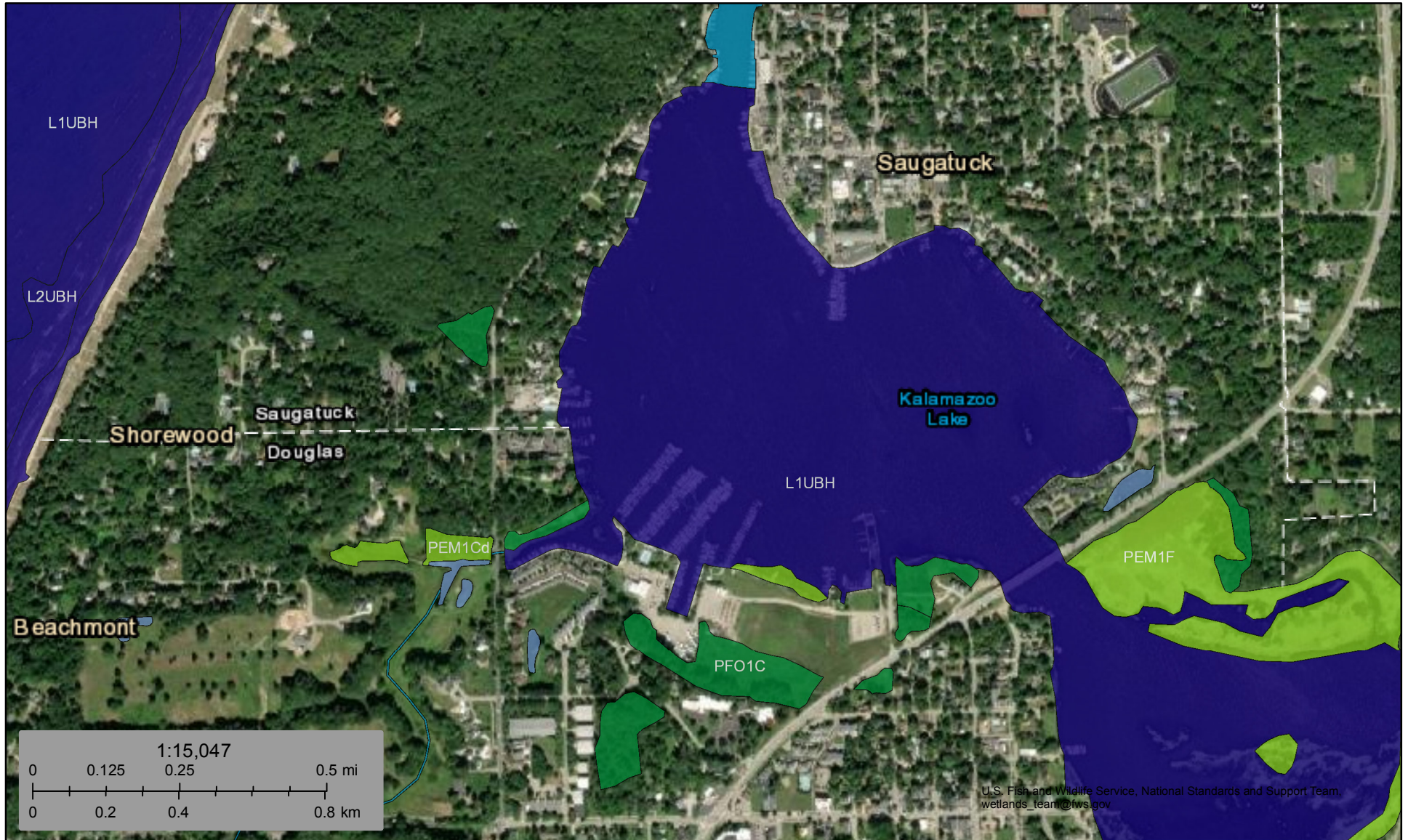


March 16, 2023

Wetlands

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

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



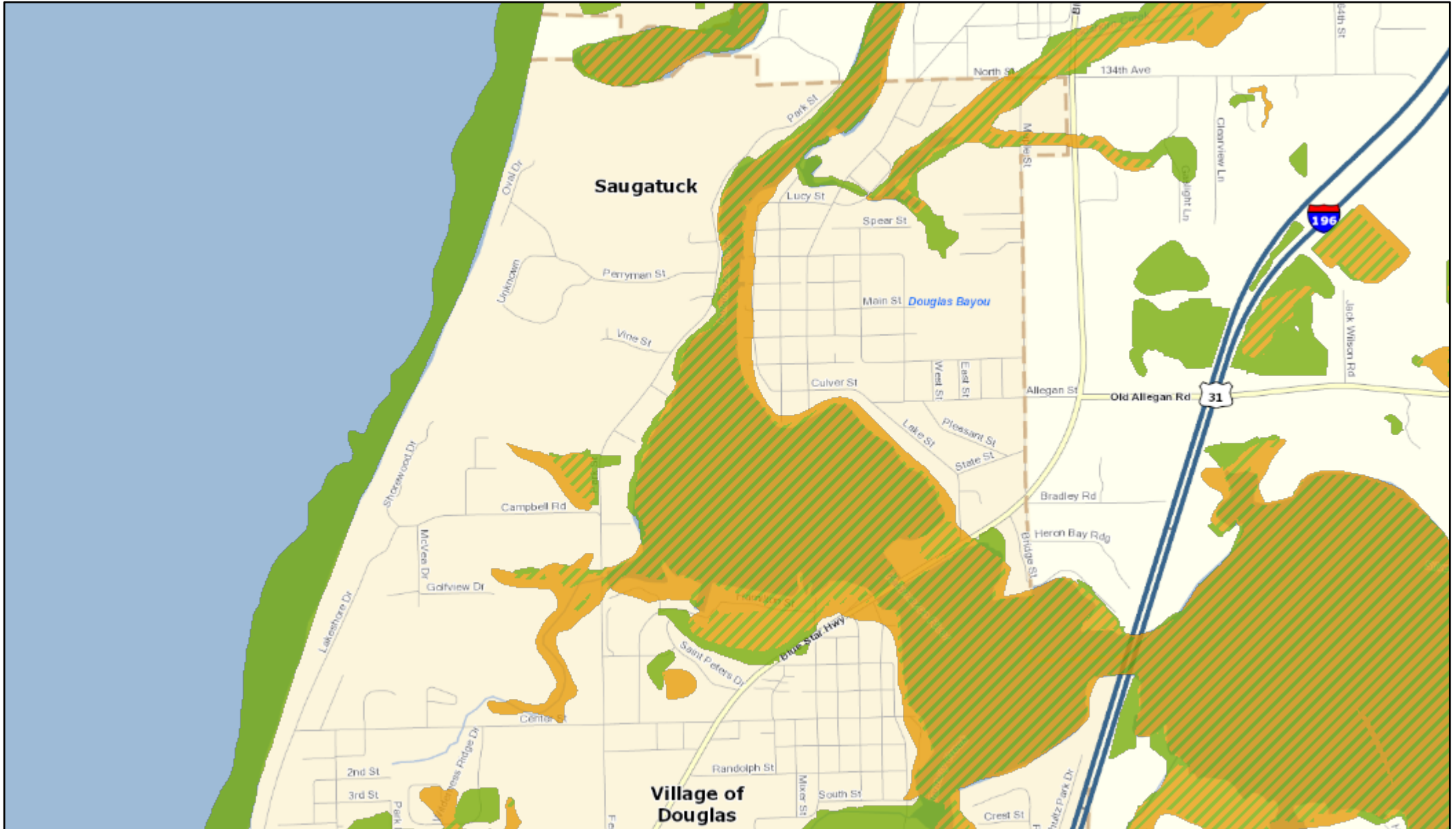
March 16, 2023

Wetlands

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




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

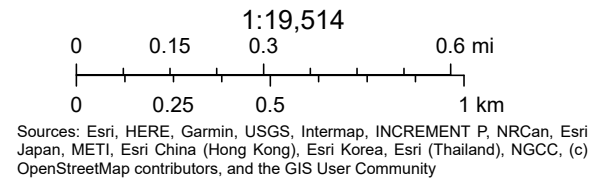
Wetlands Map Viewer



March 16, 2023

Part 303 Final Wetlands Inventory

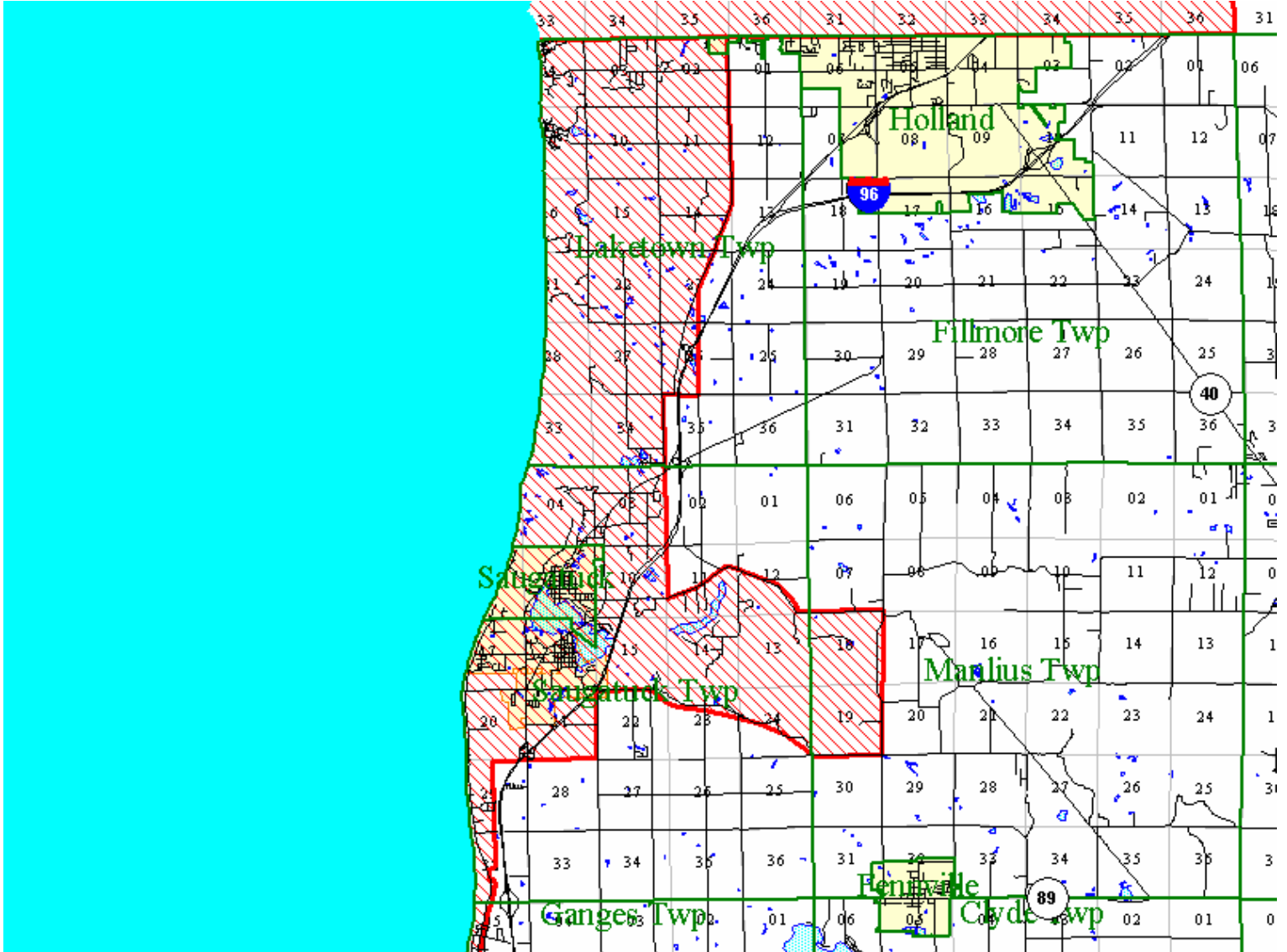
-  Wetlands as identified on NWI and MIRIS maps
-  Soil areas which include wetland soils
-  Wetlands as identified on NWI and MIRIS maps and soil areas which include wetland soils

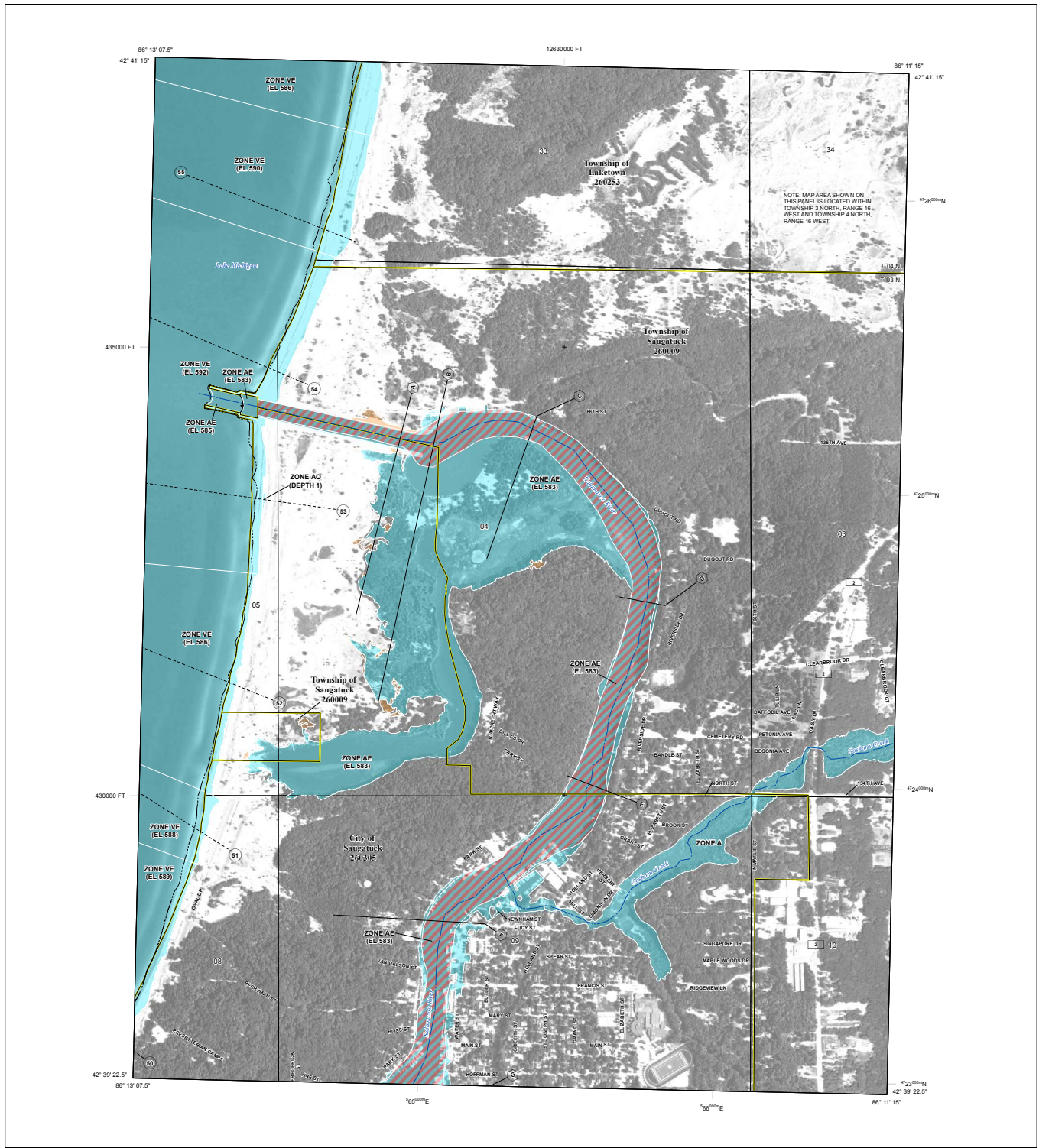


Disclaimer: This map is not intended to be used to determine the specific **63**

Allegan County
Laketown Township, T4N R16W
South Haven, T3N R 16W
Saugatuck Township, T3N R16W
Manlius Township T3N R15W

The heavy red line is the **Coastal Zone Management Boundary**
The red hatched area is the **Coastal Zone Management Area**





FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
 THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING
 DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
[HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

	Without Base Flood Elevation (BFE) Zone A, X, AP, AR
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes. Zone X
	Area with Flood Risk due to Levee Zone D
	NO SCREEN Area of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
	Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map data for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Service Center website at <https://msc.fema.gov>. Available products may include, previously issued, various of Maps, Changes in Flood Insurance Study Report, and/or digital versions of the map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be obtained directly from the Flood Map Service Center at the number listed above.

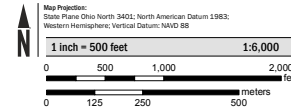
For community and countywide map dates refer to the Flood Insurance Study Report for the jurisdiction. To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was derived from digital orthorectification at a 2-foot resolution from photography dated 2016.

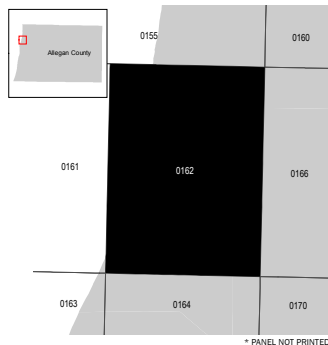
LIMIT OF MODERATE WAVE ACTION: Zone AE has been divided by a Limit of Moderate Wave Action (LMWA). The LMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave heights between the Zone VE and the LMWA (or between the shoreline and the LMWA for areas where Zone VE is not identified) will be similar to, but less severe than, those in the Zone VE.

Limit of Moderate Wave Action (LMWA)

SCALE



PANEL LOCATOR



FEMA
National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

ALLEGAN COUNTY, MICHIGAN
(All Jurisdictions)

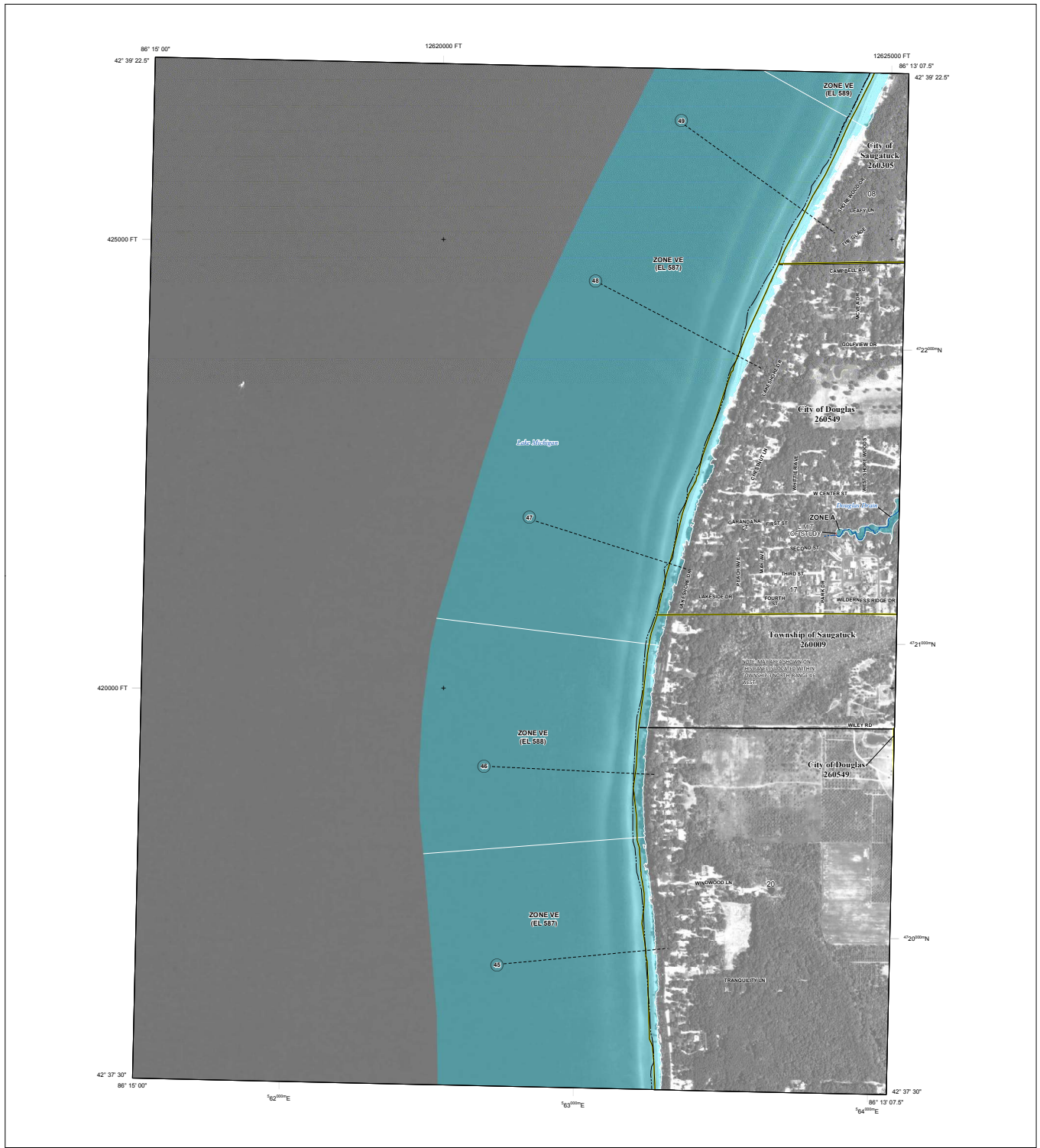
PANEL 162 of 650

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
TOWNSHIP OF LAKETOWN	260253	0162	F
TOWNSHIP OF SAUGATUCK	260009	0162	F
CITY OF SAUGATUCK	260305	0162	F

PRELIMINARY
9/30/2019

VERSION NUMBER
2.4.3.0
MAP NUMBER
260500162F
EFFECTIVE DATE
65



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
 THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING
 DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
[HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

	Without Base Flood Elevation (BFE) Zone A, X, AG9
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes, Zone X
	Area with Flood Risk due to Levee Zone D
	NO SCREEN Area of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
	Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM including historic versions, the current map data for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information Exchange at 1-877-FEMA-MAP (1-877-362-6227) or visit the FEMA Flood Map Service Center website at <https://msc.fema.gov>. Available products may include previously issued editions of Map Changes in Flood Insurance Study Report and digital versions of the map. Many of these products can be ordered or obtained directly from the website.

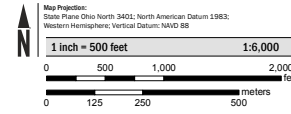
Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM data. These may be obtained directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

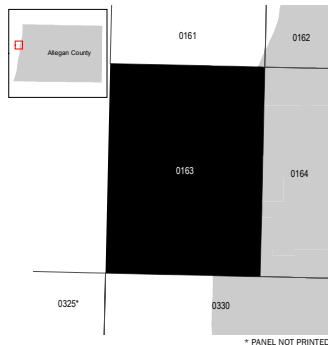
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was derived from digital orthorectified imagery at a 2-foot resolution from photography dated 2016.

SCALE



PANEL LOCATOR



**NATIONAL FLOOD INSURANCE PROGRAM
 FLOOD INSURANCE RATE MAP**

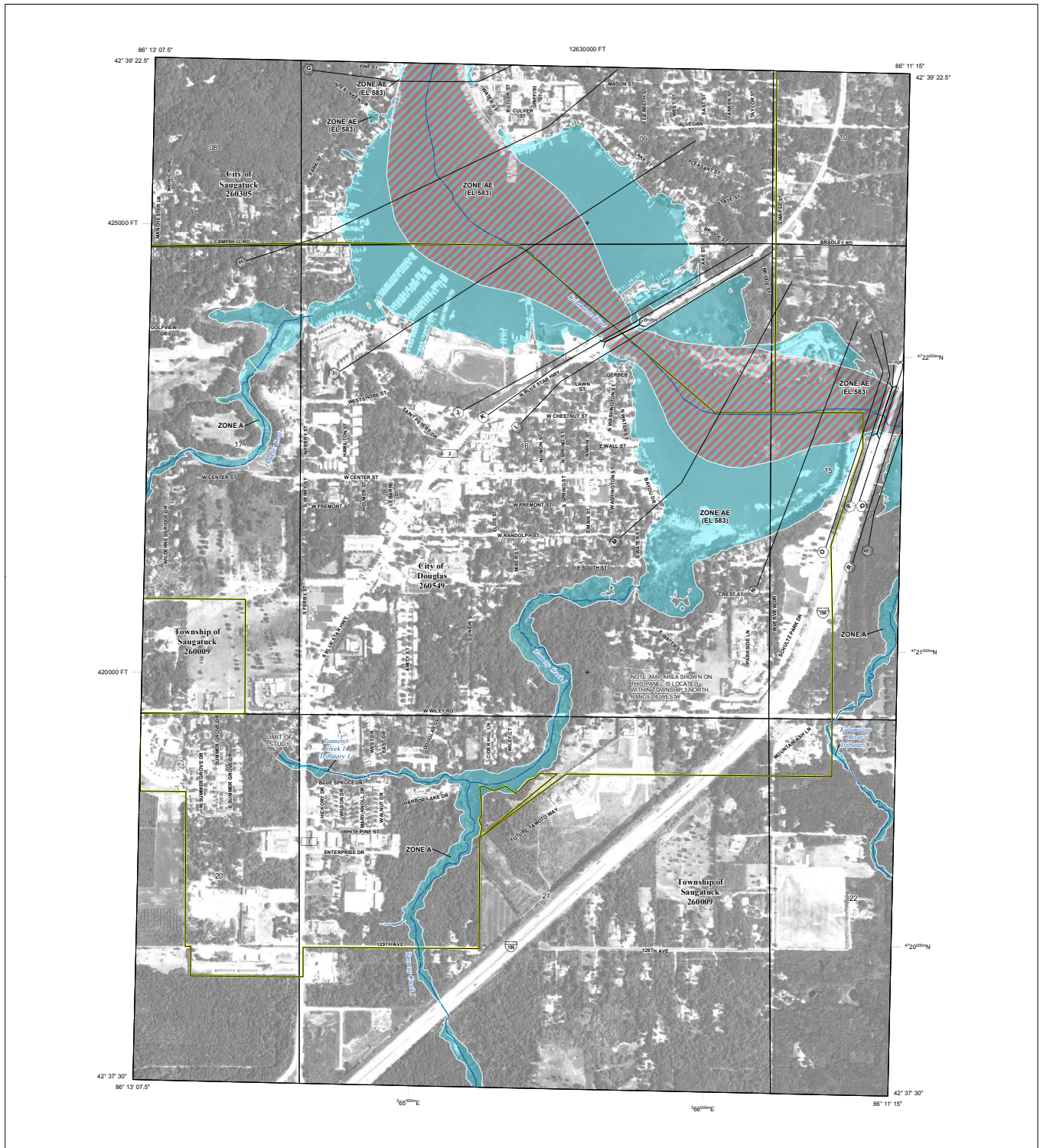
ALLEGAN COUNTY, MICHIGAN
 (All Jurisdictions)
 PANEL 163 of 650

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF DOUGLAS	260549	0163	F
TOWNSHIP OF SAUGATUCK	260009	0163	F
CITY OF SAUGATUCK	260305	0163	F

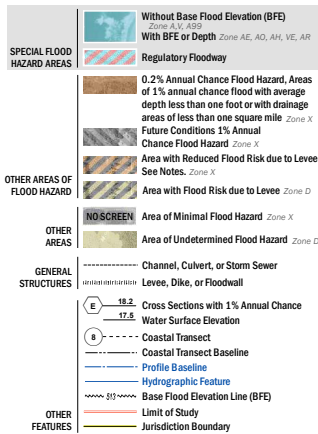
**PRELIMINARY
 9/30/2019**

VERSION NUMBER
2.4.3.0
 MAP NUMBER
0500163F
 EFFECTIVE DATE



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
 THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING
 DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
[HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)



NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM including flood insurance, the current map data for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Service Center at 1-877-FEMA-MAP (1-877-362-7627) or visit the FEMA Flood Map Service Center website at <https://msc.fema.gov>. Available products may include, previously issued, Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of the map. Many of these products can be ordered or obtained directly from the website.

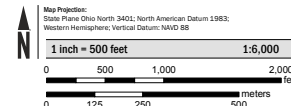
Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRB note. These may be obtained directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for the jurisdiction.

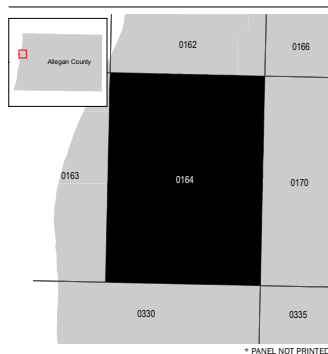
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6629.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was derived from digital orthorectified imagery at a 2-foot resolution from photography dated 2016.

SCALE



PANEL LOCATOR



FEMA
 National Flood Insurance Program

**NATIONAL FLOOD INSURANCE PROGRAM
 FLOOD INSURANCE RATE MAP**

ALLEGAN COUNTY, MICHIGAN
 PANEL 164 of 650

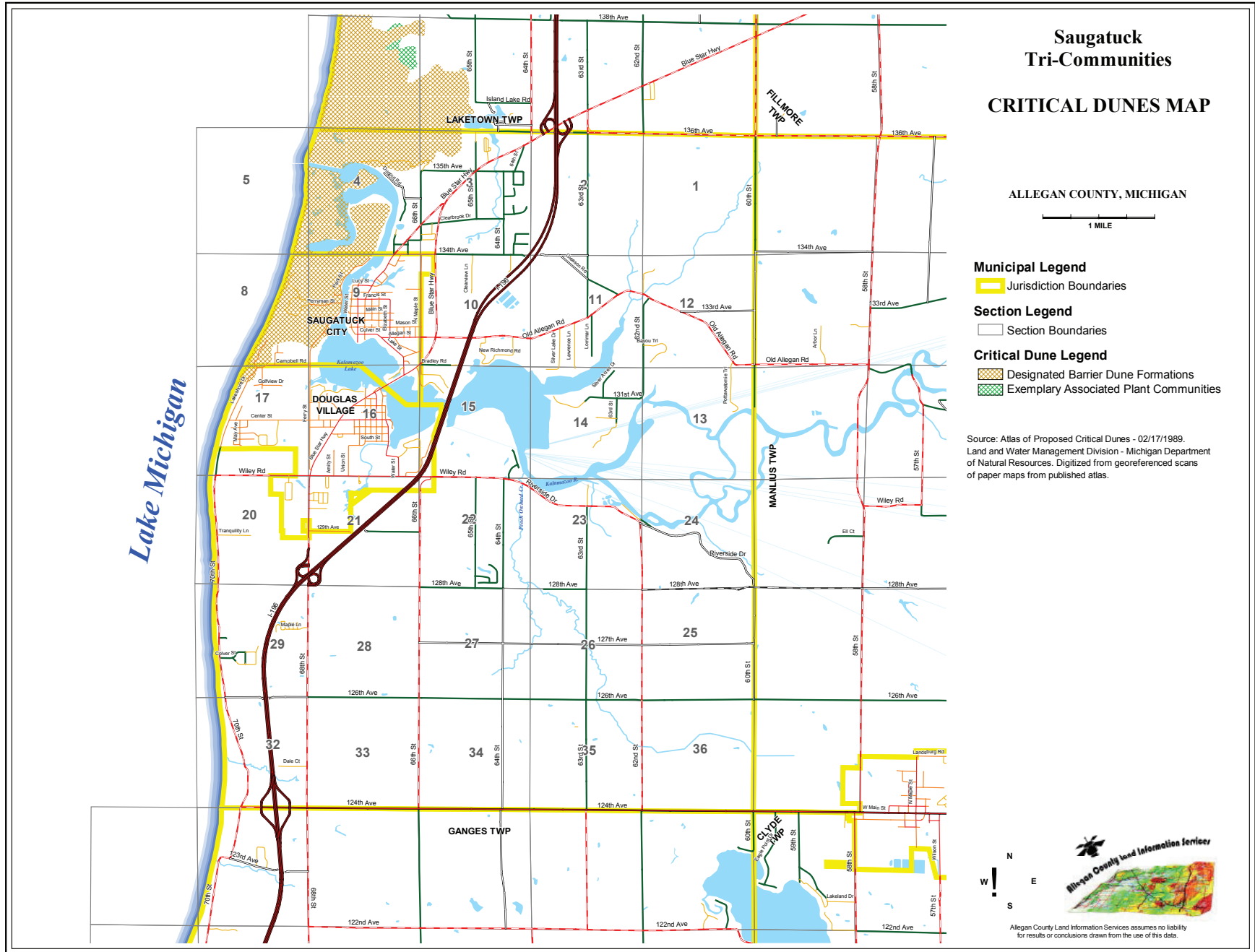
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF DOUGLAS	260549	0164	F
TOWNSHIP OF SAUGATUCK	260009	0164	F
CITY OF SAUGATUCK	260305	0164	F

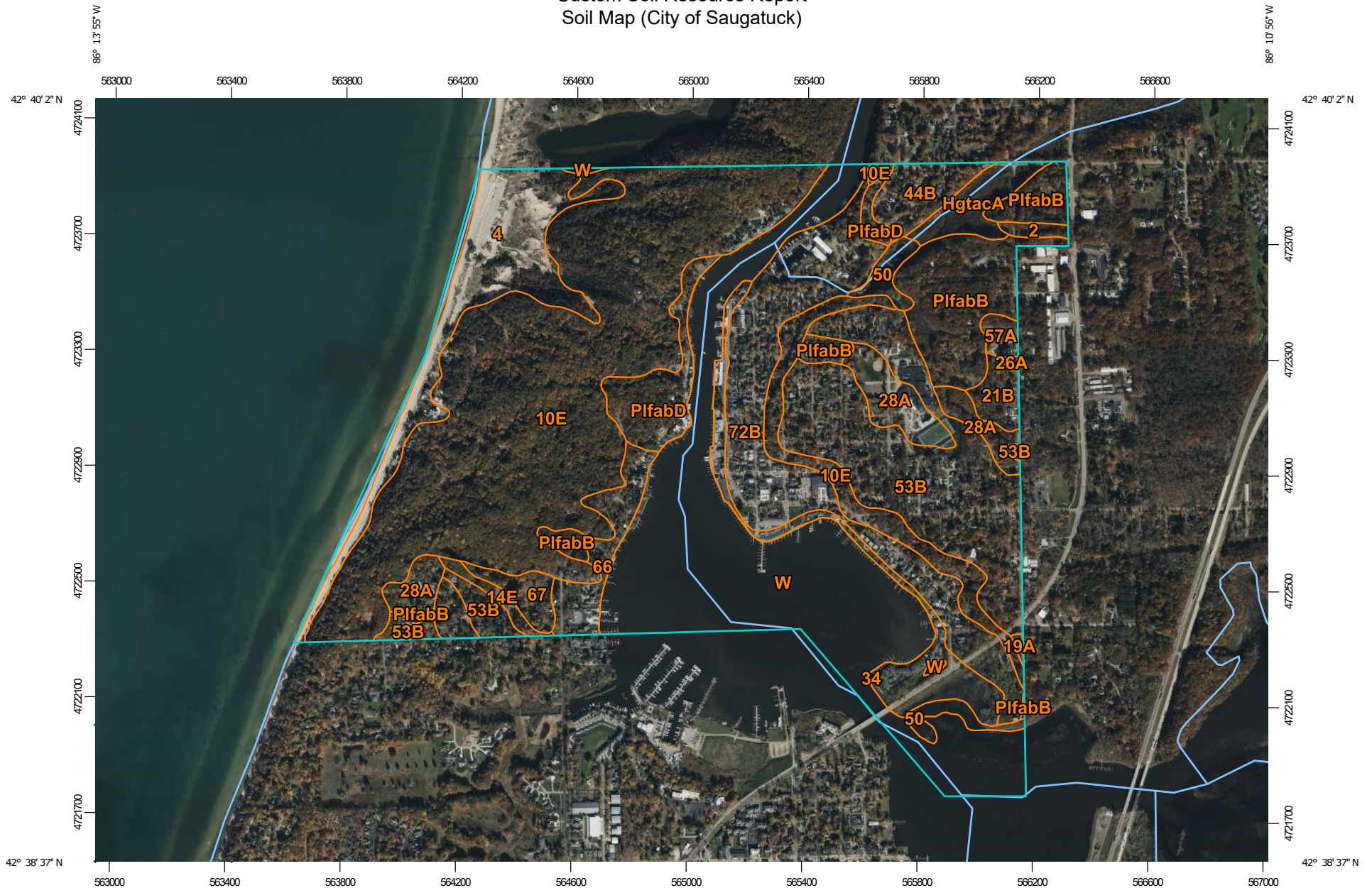
**PRELIMINARY
 9/30/2019**

VERSION NUMBER
 2.4.3.0
 MAP NUMBER
 260500164F
 EFFECTIVE DATE

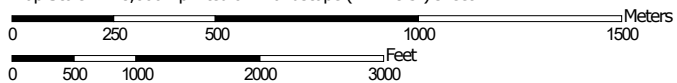
Map 4-8 Tri-Community Critical Dunes Areas



Custom Soil Resource Report
Soil Map (City of Saugatuck)




Map Scale: 1:18,600 if printed on A landscape (11" x 8.5") sheet.



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

MAP LEGEND


Area of Interest (AOI)

 Area of Interest (AOI)


Soils

 Soil Map Unit Polygons

Water Features

 Streams and Canals

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

Soil Survey Area: Allegan County, Michigan
Survey Area Data: Version 20, Aug 24, 2022

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

Date(s) aerial images were photographed: Oct 4, 2022—Oct 28, 2022

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

Map Unit Legend (City of Saugatuck)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2	Glendora loamy sand	2.7	0.3%
4	Dune land and Beaches	57.3	6.0%
10E	Oakville fine sand, 18 to 45 percent slopes	285.2	30.0%
14E	Filer loam, 18 to 35 percent slopes	4.0	0.4%
19A	Brady sandy loam, 0 to 3 percent slopes	0.6	0.1%
21B	Capac-Wixom complex, 1 to 4 percent slopes	7.8	0.8%
26A	Pipestone sand, 0 to 4 percent slopes	0.5	0.1%
28A	Rimer loamy sand, 0 to 4 percent slopes	29.6	3.1%
34	Aquents, sandy and loamy	29.9	3.1%
44B	Chelsea loamy fine sand, 0 to 6 percent slopes	14.8	1.6%
50	Aquents and Histosols, ponded	11.3	1.2%
53B	Oakville fine sand, loamy substratum, 0 to 6 percent slopes	105.9	11.1%
57A	Covert sand, 0 to 4 percent slopes	4.0	0.4%
66	Udipsamments, nearly level to gently sloping	18.6	2.0%
67	Martisco muck	8.0	0.8%
72B	Urban land-Oakville complex, 0 to 6 percent slopes	87.0	9.1%
HgtacA	Houghton muck, lake moderated, 0 to 1 percent slopes	13.8	1.5%
PlfabB	Plainfield sand, lake plain, 0 to 6 percent slopes	63.2	6.6%
PlfabD	Plainfield sand, lake plain, 6 to 18 percent slopes	25.0	2.6%
W	Water	176.5	18.5%
Totals for Area of Interest		951.9	100.0%

Map Unit Descriptions (City of Saugatuck)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas

shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

CITY OF SAUGATUCK
ALLEGAN COUNTY, MICHIGAN

ZONING MAP

AS AMENDED THROUGH AUGUST 5, 2014.



1:8,700

1 INCH = 725 FEET

MAP LEGEND

ZONING

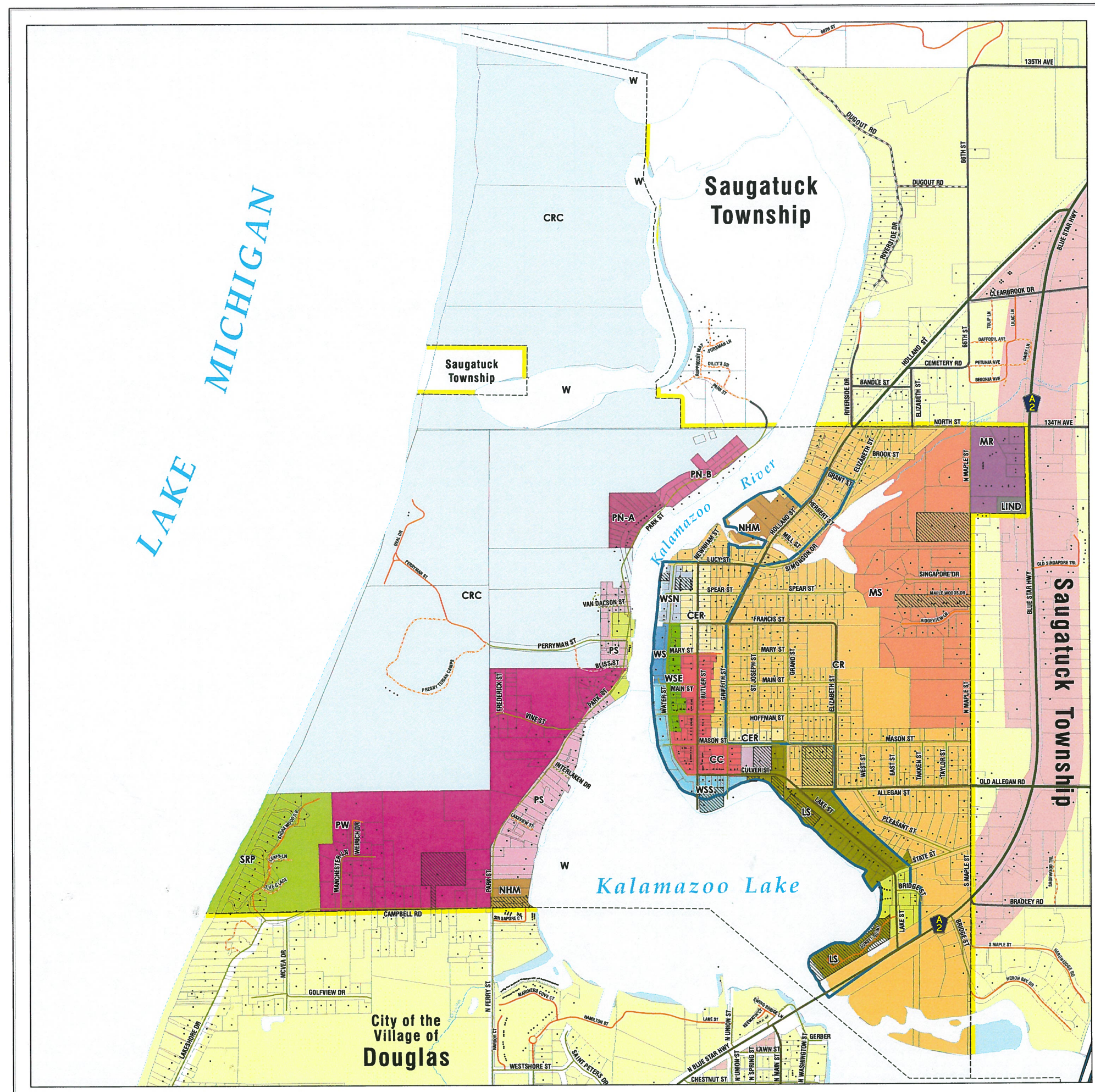
- BLUE STAR DISTRICT - LI-1
- CENTER RESIDENTIAL - R-4
- CITY CENTER - C-1
- COMMUNITY RESIDENTIAL - R-1
- CONSERVATION, RECREATION & CAMP - CRC
- CULTURAL COMMUNITY
- LAKE STREET - R-2
- MAPLE STREET - R-1
- MULTI-FAMILY RESIDENTIAL - MR
- NEIGHBORHOOD MARINE - NHM
- PENINSULA NORTH (DUNESIDE) - R-1
- PENINSULA NORTH (RIVERSIDE) - R-1
- PENINSULA SOUTH - R-1
- PENINSULA WEST - R-1
- RESORT DISTRICT - C-4
- SUMMER RESORT & PARK ASSOCIATION - SRP
- WATER (RIVERS/LAKES) - W
- WATER STREET COMMERCIAL - C-2
- WATER STREET EAST - C-2
- WATER STREET NORTH - C-1
- WATER STREET SOUTH - C-2

ZONING OVERLAYS

- HISTORIC DISTRICT
- PLANNED UNIT DEVELOPMENT (PUD)

ADJACENT ZONING (GENERALIZED)

- AGRICULTURAL
- COMMERCIAL
- GOVERNMENT
- INDUSTRIAL
- OPEN SPACE
- RESIDENTIAL
- RIGHT-OF-WAY
- RURAL
- WATER



I HEREBY ATTEST THIS TO BE THE OFFICIAL ZONING MAP FOR THE CITY OF SAUGATUCK AS DESCRIBED IN SECTION 154.043 OF THE ZONING CODE.

[Signature]
CITY MAYOR

[Signature]
CITY CLERK



ALLEGAN COUNTY LAND INFORMATION SERVICES ASSUMES NO LIABILITY FOR RESULTS OR CONCLUSIONS DRAWN FROM THE USE OF THIS DATA. MAP UPDATED OCTOBER 8, 2014.



County Element Data

The lists include all elements (species and natural communities) for which locations have been recorded in MNFI's database for each county. Information from the database cannot provide a definitive statement on the presence, absence, or condition of the natural features in any given locality, since much of the state has not been specifically or thoroughly surveyed for their occurrence and the conditions at previously surveyed sites are constantly changing. The County Elements Lists should be used as a reference of which natural features currently or historically were recorded in the county and should be considered when developing land use plans.

Choose a county

Allegan County

[Code Definitions](#)

Species

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Acipenser fulvescens	Lake sturgeon		T	G3G4	S2	2	2016
Acris blanchardi	Blanchard's cricket frog		T	G5	S2S3	4	2021
Adlumia fungosa	Climbing fumitory		T	G4	S3	1	1889
Alesmidonta marginata	Elktoe		SC	G4	S3?	8	2019
Alesmidonta viridis	Slippershell		T	G4G5	S2S3	2	2013
Ambystoma opacum	Marbled salamander		E	G5	S1	2	1989
Ammodramus savannarum	Grasshopper sparrow		SC	G5	S4	2	2022
Anaxyrus fowleri	Fowler's toad		SC	G5	S3S4	1	2022
Aristida longespica	Three-awned grass		SC	G5	S2	1	2010
Asclepias purpurascens	Purple milkweed		T	G5?	S2	1	2018
Baptisia lactea	White or prairie false indigo		T	G4Q	S3	1	1981
Bartonia paniculata	Panicked screwstem		T	G5	S2	3	1999
Berula erecta	Cut-leaved water parsnip		SC	G4G5	S2	6	2020
Boechera missouriensis	Missouri rock-cress		T	G5	S2	4	2018
Bombus affinis	Rusty-patched bumble bee	LE	E	G2	SH	3	1964
Bombus auricomus	Black and gold bumble bee		SC	G5	S2	1	1964
Bombus borealis	Northern amber bumble bee		SC	G4G5	S3	1	1936
Bombus pennsylvanicus	American bumble bee		E	G3G4	S1	3	1963
Brickellia eupatorioides	False boneset		SC	G5	S2	2	2021
Buteo lineatus	Red-shouldered hawk		SC	G5	S4	9	2013
Callophrys irus	Frosted elfin		T	G2G3	S2S3	24	2021
Cambarunio iris	Rainbow		SC	GNR	S3	1	Historical
Carex albolutescens	Sedge		T	G5	S2	1	1989
Carex festucacea	Fescue sedge		T	G5	S1	1	1989
Carex seorsa	Sedge		T	G5	S2	3	2020
Centronyx henslowi	Henslow's sparrow		E	G4	S3	2	2022
Chlidonias niger	Black tern		T	G4G5	S2	1	1997
Cincinnatia cincinnatiensis	Campeloma spire snail		SC	G5	S3	1	Historical
Cirsium pitcheri	Pitcher's thistle	LT	T	G3	S3	3	2013
Cistothorus palustris	Marsh wren		SC	G5	S3	1	2005
Clemmys guttata	Spotted turtle		T	G5	S2	14	2021
Clonophis kirtlandii	Kirtland's snake		E	G2	S1	1	1985
Collinsia verna	Blue-eyed Mary		T	G5	SNR	1	1940
Conioselinum chinense	Hemlock-parsley		SC	G5	SNR	2	2020
Coregonus artedii	Lake herring or Cisco		T	GNR	S3	4	2017
Coregonus kiyi	Kiyi		SC	G3G4	S2S3	1	1983
Coregonus zenithicus	Shortjaw cisco		E	G3	S2	2	2001
Cottus ricei	Spoonhead sculpin		SC	G5	S1S2	1	1990
Cyclonaias tuberculata	Purple wartyback		T	G5	S2	5	2017
Cypripedium candidum	White lady slipper		T	G4	S2	1	2021
Dryobius sexnotatus	Six-banded longhorn beetle		T	GNR	S1	1	2011
Echinodorus tenellus	Dwarf burhead		E	G5?	S1	2	2013
Eleocharis atropurpurea	Purple spike rush		E	G4G5	S1	1	2010
Eleocharis engelmannii	Engelmann's spike rush		SC	G4G5	S2S3	1	1989

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Eleocharis microcarpa	Small-fruited spike-rush		E	G5	S1	1	1988
Eleocharis tricosata	Three-ribbed spike rush		T	G4	S2	4	2020
Emydoidea blandingii	Blanding's turtle		SC	G4	S2S3	11	2021
Epioblasma triquetra	Snuffbox	LE	E	G3	S1S2	1	1996
Erimyzon claviformis	Creek chubsucker		E	G5	S1	1	1982
Erynnis persius persius	Persius dusky wing		T	G5T1T3	S3	3	1980
Evonymus atropurpureus	Wahoo		SC	G5	S3	1	2007
Euphorbia commutata	Tinted spurge		T	GNR	S1	1	1931
Eutrochium fistulosum	Hollow-stemmed Joe-pye weed		T	G5?	S1	2	2009
Fontigenes nickliniana	Watercress snail		SC	G5	S2S3	1	2021
Frexinius profunde	Pumpkin ash		T	G4	S2	1	2014
Fuirena pumila	Umbrella-grass		T	G4	S2	1	1975
Galearis spectabilis	Showy orchis		T	G5	S2	2	2014
Gallinula galeata	Common gallinule		T	G5	S3	2	2019
Gavia immer	Common loon		T	G5	S3	1	1988
Gentiana puberulenta	Downy gentian		E	G4G5	S1	1	1990
Geum triflorum	Prairie smoke		T	G5	S2S3	1	1932
Glyptemys insculpta	Wood turtle		T	G3	S2	1	1975
Haliaeetus leucocephalus	Bald eagle		SC	G5	S4	9	2021
Helianthus hirsutus	Whiskered sunflower		SC	G5	S3	1	2014
Hesperia meta	Cobweb skipper		SC	G4	S4	1	2002
Hesperia ottoe	Ottoe skipper		E	G3	S1	8	2011
Hieracium paniculatum	Panicked hawkweed		T	G5	S2	2	2015
Hiodon tergisus	Mooneye		E	G5	S1	1	1941
Hydrastis canadensis	Goldenseal		T	G3G4	S2	1	1976
Hypericum gentianoides	Gentian-leaved St. John's-wort		SC	G5	S3	1	2018
Isoetes engelmannii	Engelmann's quillwort		E	G4	S1	1	1989
Juncus antheratus	Large path rush		SC	GNR	SNR	2	2020
Juncus brachycarpus	Short-fruited rush		T	G4G5	S1S2	1	1989
Juncus dichotomus	Forked rush		SC	G5	SNR	1	2017
Juncus scirpoides	Scirpus-like rush		T	G5	S2	3	2014
Juncus vaseyi	Vasey's rush		T	G5	S1S2	1	1989
Lanius ludovicianus migrans	Migrant loggerhead shrike		E	G4T3Q	S1	2	1991
Lasmigona compressa	Creek heelsplitter		SC	G5	S3	5	2018
Lasmigona costata	Flutedshell		SC	G5	SNR	13	2019
Lechea minor	Least pinweed		T	G5	S1	1	2000
Lechea pulchella	Leggett's pinweed		T	G5	S1S2	2	2018
Lepisosteus oculatus	Spotted gar		SC	G5	S2S3	10	2015
Liquia recta	Black sandshell		T	G4G5	S1?	2	2000
Linum sulcatum	Furrowed flax		SC	G5	S2S3	2	2005
Linum virginianum	Virginia flax		T	G4G5	S2	2	2015
Lipocarpa micrantha	Dwarf-bulrush		SC	G5	S3	2	2016
Lithobates palustris	Pickerel frog		SC	G5	S3S4	4	2003
Ludwigia sphaerocarpa	Globe-fruited seedbox		E	G5	S1	2	2018
Lycaeides melissa samuelis	Kamer blue	LE	T	G1G2	S2	27	2021
Lycopodiella subappressa	Northern appressed clubmoss		SC	G2	S2	2	1970
Melanerpes erythrocephalus	Red-headed woodpecker		SC	G5	S3	2	2021
Mesomphix cupreus	Copper button		SC	G5	S1	2	Historical
Microtus pinetorum	Woodland vole		SC	G5	S3S4	2	1939
Moxostoma duquesnei	Black redhorse		SC	G5	S2	1	1982
Myotis septentrionalis	Northern long-eared bat	LE	T	G2G3	S1	1	2000
Necturus maculosus	Mudpuppy		SC	G5	S3S4	5	2013
Notropis dorsalis	Bigmouth shiner		T	G5	S2	14	1960
Notropis texanus	Weed shiner		X	G5	S1	4	1947
Nycticorax nycticorax	Black-crowned night-heron		SC	G5	S3	2	1997
Obliquaria reflexa	Threehorn wartyback		E	G5	S1	1	1936
Oecanthus laricis	Tamarack tree cricket		SC	G3?	S3	1	2000
Panax quinquefolius	Ginseng		T	G3G4	S2S3	10	2021
Pandion haliaetus	Osprey		SC	G5	S4	2	2020
Panicum longifolium	Panic grass		T	G4	S2	4	2015
Panicum verrucosum	Warty panic grass		T	G4	S1	1	2021

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
<i>Pantherophis spiloides</i>	Gray rat snake		SC	G4G5	S2S3	4	2017
<i>Papaipema beeriana</i>	Blazing star borer		SC	G3?	S2	1	1997
<i>Papaipema maritima</i>	Maritime sunflower borer		SC	G3	S2	1	1997
<i>Papaipema sciata</i>	Culvers root borer		T	G3	S3	2	1996
<i>Papaipema speciosissima</i>	Regal fern borer		SC	G4	S2S3	1	1995
<i>Parkesia motacilla</i>	Louisiana waterthrush		T	G5	S2	2	1999
<i>Percicaria careyi</i>	Caroy's smartweed		T	G4	S1S2	1	1999
<i>Platanthera ciliaris</i>	Orange- or yellow-fringed orchid		E	G5	S1S2	2	2015
<i>Pleuroberma sintoxia</i>	Round pigtoe		SC	G4G5	S3	3	2017
<i>Poa paludigena</i>	Bog bluegrass		SC	G3G4	S2	1	2016
<i>Polygala cruciata</i>	Cross-leaved milkwort		SC	G5	S3	3	2013
<i>Potamilus alatus</i>	Pink heelsplitter		SC	G5	SNR	2	2000
<i>Potamogeton bicupulatus</i>	Waterthread pondweed		T	G4	S2	4	2017
<i>Protonotaria citrea</i>	Prothonotary warbler		SC	G5	S3	3	2006
<i>Pycnanthemum verticillatum</i>	Whorled mountain mint		SC	G5	S2	4	2014
<i>Pygarcia spraguei</i>	Sprague's pygarcia		SC	G5	S2S3	2	1993
<i>Rallus elegans</i>	King rail		E	G4	S2	2	1949
<i>Resapamea stipata</i>	Four-lined borer moth		SC	G4	SNR	1	1974
<i>Rhexia mariana</i>	Maryland meadow beauty		T	G5T5	S1S2	2	2022
<i>Rhexia virginica</i>	Meadow beauty		SC	G5	S3	6	2016
<i>Rhynchospora macrostachya</i>	Tall beakrush		SC	G4	S3S4	7	2016
<i>Rhynchospora nitens</i>	Short-beak beak-rush		E	G4?	S1	1	2016
<i>Rhynchospora recognita</i>	Globe beak-rush		E	G5?	S1	1	1995
<i>Rhynchospora scirpoides</i>	Bald-rush		SC	G4	S2	4	2016
<i>Sagittario nasutus</i>	Eastern pondmussel		E	G4	S2	1	2002
<i>Schoenoplectella hallii</i>	Hall's bulrush		T	G3	S2	3	2020
<i>Schoenoplectus torreyi</i>	Torrey's bulrush		SC	G5?	S2S3	1	1983
<i>Scleria pauciflora</i>	Few-flowered nut rush		E	G5	S1	1	1995
<i>Scleria reticularis</i>	Nelted nut rush		T	G4	S2	3	2016
<i>Scleria triglomerata</i>	Tall nut rush		SC	G5	S3	2	2015
<i>Setophaga cerulea</i>	Cerulean warbler		T	G4	S3	3	2015
<i>Setophaga citrina</i>	Hooded warbler		SC	G5	S3	4	2010
<i>Setophaga discolor</i>	Prairie warbler		SC	G5	S3	5	2003
<i>Sistrurus catenatus</i>	Eastern massasauga	LT	T	G3	S3	20	2020
<i>Sisyrinchium atlanticum</i>	Atlantic blue-eyed-grass		T	G5	S2	3	2017
<i>Spiranthes ovalis</i>	Lesser ladies'-tresses		SC	G5?	S1	1	2009
<i>Spiza americana</i>	Dickcissel		SC	G5	S3	2	2022
<i>Sporobolus clandestinus</i>	Dropseed		E	G5	S1	3	2021
<i>Sporobolus heterolepis</i>	Prairie dropseed		SC	G5	S3	2	2013
<i>Strophostyles helvula</i>	Trailing wild bean		SC	G5	S3	1	2002
<i>Symphotrichum sericeum</i>	Western silvery aster		T	G5	S2	1	2014
<i>Sympistis perscripte</i>	Scribbled sallow moth		SC	G4	SNR	1	1970
<i>Sympistis saundersiana</i>	Saunders' sallow moth		SC	GNR	SNR	2	1995
<i>Sympistis viridincta</i>	Green-spotted sympistis		SC	GNR	SNR	1	1999
<i>Terrapene carolina carolina</i>	Eastern box turtle		T	G5T5	S2S3	28	2021
<i>Toxolasma parvum</i>	Lilliput		E	G5	S1	1	2019
<i>Tradescantia bracteata</i>	Long-bracted spiderwort		X	G5	SX	1	1938
<i>Trichostema dichotomum</i>	Bastard pennyroyal		T	G5	S2	1	1986
<i>Triphora trianthophora</i>	Nodding pogonia or three birds orchid		T	G4?	S1	1	1880
<i>Truncilla donaciformis</i>	Fawnsfoot		E	G5	S1	2	2000
<i>Truncilla truncata</i>	Deertoe		SC	G5	S2S3	12	2019
<i>Utricularia subulate</i>	Bladderwort		T	G5	S1	1	2010
<i>Utterbackia imbecillis</i>	Paper pondshell		SC	G5	S2S3	8	2019
<i>Valerianella chenopodiifolia</i>	Goosefoot corn salad		E	G4	S1	2	2020
<i>Venustaconcha ellipsiformis</i>	Ellipse		SC	G4	S3	4	2019
<i>Zizania aquatica</i>	Wild rice		T	G5	S2S3	1	1910

Natural Communities

Community Name	Global Rank	State Rank	Occurrences in County	Last Observed in County
Bog	G3G5	S4	2	2009
Clay Bluffs	GNR	S2	2	2011
Coastal Plain Marsh	G2	S2	18	2021
Dry-mesic Northern Forest	G4	S3	1	1989
Floodplain Forest	G37	S3	1	2015
Great Lakes Marsh	G2	S3	1	2010
Hardwood-Conifer Swamp	G4	S3	1	1981
Interdunal Wetland	G27	S2	1	2010
Mesic Northern Forest	G4	S3	2	2010
Mesic Southern Forest	G2G3	S3	1	2007
Oak-Pine Barrens	G3	S2	9	2021
Open Dunes	G3	S3	1	2015
Poor Conifer Swamp	G4	S4	1	2009
Prairie Fen	G3	S3	1	1981
Southern Hardwood Swamp	G3	S3	2	2021
Wet-mesic Sand Prairie	G2G3	S2	6	2021

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APPENDIX B: WATER SYSTEM RELIABILITY STUDY

**KALAMAZOO LAKE
SEWER & WATER AUTHORITY
ALLEGAN COUNTY, MI**



WATER SYSTEM RELIABILITY STUDY

February 2021
Project No. 844340



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I. EXECUTIVE SUMMARY

This report reviews the Kalamazoo Lake Sewer and Water Authority's water system facilities, capacities, and needs through year 2039. In addition, it provides a master plan for water system improvements to be implemented as the need arises and funding permits.

The system was evaluated in three categories: water supply, water storage, and water distribution. In general, the system was found to meet the current and projected supply and storage demands, but has fire flow distribution deficiencies in areas served by dead-end or small diameter watermain.

A. WATER SUPPLY

The system is supplied by six wells that are all in regular service. The system's firm well capacity (Well 7 out of service) is 1,941 gpm, which exceeds the existing maximum day demand of 1,317 gpm. The maximum day demand in 20 years is projected to be 1,615 gpm (83% of firm capacity), at which point KLSWA may need to consider drilling an additional well. Due to the age of the existing wells, KLSWA has actively been working with Fleis & VandenBrink to identify potential sites for future wells.

A portion of the system is also served by a booster station. Currently, one of the two pumps at the station must be running at all times to maintain sufficient pressure in its service area. Installation of a hydropneumatic tank at this station is recommended to reduce energy usage and extend the life of the pumps.

B. WATER TREATMENT

All wells are equipped with on-site treatment capabilities. Wells 1 and 2, in particular, pump directly to an adjacent iron removal plant for treatment and improvement of water quality.

The most recent bacteriological and chemical testing reported that the treated water meets the State drinking water standards. Lead and copper levels were below the EGLE action levels.

C. WATER STORAGE

KLSWA maintains a 1,000,000-gallon concrete ground storage tank. The tank was last inspected in October 2019 by Dixon Engineering and was found to be in good condition.

The tank's capacity is sufficient to provide the required fire flow for all fire classifications during existing and projected maximum day demands.

D. WATER DISTRIBUTION

Approximately 24% of the distribution system is composed of 6-inch or smaller watermains. EGLE considers watermains smaller than 6 inches undersized. It is recommended that the Authority continue the use of 8" or greater watermains for future replacements or extensions, due to problems associated with providing adequate fire flows through 6-inch or smaller mains.

E. RECOMMENDED IMPROVEMENTS

This report recommends improvements to the water system that include construction or replacement of a number of watermain sections, as well as installation of a hydropneumatic tank at the booster station. Short-term improvements are estimated at a cost of \$1.59M and long-term improvements are estimated at \$4.23M. These improvements will increase available fire flow throughout a majority of the service area to meet recommended target fire flows.

Each recommended improvement has an estimated cost associated with it. These costs are rough approximations in year 2020 dollars to be used for budgeting purposes only.

II. BACKGROUND AND PURPOSE

The Kalamazoo Lake Sewer and Water Authority (KLSWA) provides water service to a portion of Allegan County, which includes the City of Saugatuck, the City of the Village of Douglas, and portions of Saugatuck and Laketown Townships. KLSWA has a Type I (public) water supply and distribution system with six water production wells and one ground storage tank.

The purpose of this report is to provide KLSWA with a comprehensive analysis of its water system in order to comply with EGLE and Act 399. The report evaluates the existing water supply, treatment, storage, and distribution, and provides recommendations for improvements to serve the existing and future needs of the communities that are served by KLSWA. This report is intended to be the master plan for guiding the Authority on the overall water system improvements needed to meet future daily water and fire flow demands.

The last water system reliability study completed for KLSWA was in March of 2012.

Analyses in this report have been completed through year 2019 because at the time of completion, the full year of 2020 water usage data was not yet available. This data has since become available and is presented in the report, but is not incorporated into any of the analyses.

III. EXISTING WATER SYSTEM

A. WATER SUPPLY

1. WELLS

KLSWA’s water supply system currently consists of six wells. These wells are designated as Wells 1, 2, 4, 5, 6, and 7 and are shown in Figure 1.

Wells 1 and 2 are located in separate buildings off Bayou St in the City of Douglas. Both wells pump directly to an adjacent iron removal plant for treatment. The wells are run in combination to meet the volume of water that is distributed through one of the plant’s high service pumps. The Well 1 pump was last overhauled in May 2020 and the Well 2 pump was last overhauled in April 2016.

Wells 4 and 5 are located in separate buildings off Maple Street in the City of Saugatuck. Both wells have on-site treatment capabilities. The Well 4 pump was last overhauled in June 2018 and the Well 5 pump was last overhauled in 2008.

Wells 6 and 7 are located in one building off Blue Star Highway in the City of Saugatuck. Both wells have on-site treatment capabilities. Both well pumps were last overhauled in 2014 and received new motors in 2017.

All wells have been in use since their original construction dates. Table 1 summarizes various properties of the wells and pumps.

**TABLE 1
WELL & PUMP SUMMARY**

Well No.	Year Drilled	Diameter (inches)	Depth (feet)	Rated Capacity @ TDH	Current Capacity @ TDH
1	1963	16	94	450 gpm @ 105 ft	408 gpm @ N/A ft
2	1963	12	108	450 gpm @ 120 ft	357 gpm @ 133 ft
4	1966	12	205	500 gpm @ 258 ft	504 gpm @ 258 ft
5	1974	12	157	300 gpm @ 261 ft	296 gpm @ 281 ft
6	1997	16x8x6	216	400 gpm @ 220 ft	376 gpm @ 229 ft
7	1997	12	181	1000 gpm @ 256 ft	680 gpm @ 315 ft

The current capacity and total dynamic head of each well pump were obtained from November 2019 pump inspection reports by Peerless Midwest Inc. These values were used

to generate the pump curves in the hydraulic computer model. The system’s current firm well capacity (Well 7 out of service) is 1,941 gpm.

Per the inspection reports, most of the well pumps are operating below their rated capacities. The wells should continue to be regularly inspected to ensure they remain in adequate operational condition.

Table 2 shows the monthly water production from all wells from 2015 through 2020.

**TABLE 2
PAST WELL PRODUCTION LEVELS**

Month	2015 (MG)	2016 (MG)	2017 (MG)	2018 (MG)	2019 (MG)	2020 (MG)
January	9.565	10.475	8.770	8.736	8.310	8.542
February	7.204	7.328	6.983	8.026	8.537	8.112
March	8.464	8.516	8.164	8.879	9.614	8.431
April	8.757	9.146	9.636	8.485	9.560	8.602
May	18.378	20.632	21.731	20.996	17.319	17.495
June	24.425	29.238	36.714	27.211	20.849	35.369
July	33.773	42.592	41.267	46.310	44.690	45.792
August	35.694	34.931	36.702	37.865	40.032	41.748
September	25.889	26.244	30.761	26.111	23.631	28.152
October	13.221	13.902	18.237	15.095	14.187	15.195
November	9.434	8.704	8.492	8.542	9.052	9.721
December	9.718	9.006	8.500	8.686	8.576	9.299
Total	204.522	220.714	235.957	224.942	214.357	236.458

Wells operated by KLSWA range in age from 23-57 years old (see Table 1). The average lifespan of a well is approximately 50 years, however; some wells last beyond that age while others fail earlier. Given that 4 of the 6 wells are over 50 years old, F&V recommends that KLSWA actively pursue and develop new well sites to maintain/increase current capacity.

KLSWA has been working with F&V to identify potential well sites. This work has been conducted as part of KLSWA’s wellhead protection activities. KLSWA has obtained grants from the State of Michigan for much of this work. F&V has prepared reports of well searches conducted in three areas: south of the Kalamazoo River, north of the Kalamazoo River, and in the “Peninsula” area. Finding suitable well sites remains a challenge due to the hydrogeological setting of the service area, limited available land, and the difficulties of maintaining isolation from known and/or potential contamination sources. Several potential sites have been identified from these investigations. Recommendations and priority sites are discussed in three reports prepared for KLSWA by F&V. Further investigation including test drilling will be necessary to evaluate the viability of potential well sites. Findings from the F&V reports can be used to guide for such investigations.

KLSWA has also worked with Saugatuck Township to evaluate a potential well site on 135th Ave west of Blue Star Highway. In December 2017, two test wells were drilled on the site to evaluate its viability as a future well site. F&V assisted in this evaluation and prepared a report discussing the findings of this work, which was submitted to Saugatuck Township. The testing determined that the site generally had favorable conditions for a well, although there were some limitations noted in the report.

2. WELL HOUSES

All wells except for Well 5 are housed in concrete block buildings. The well houses are in good condition and appear to be well maintained. Well 5 is housed in a metal building that is in fair condition and is being considered for replacement within the next few years.

3. BOOSTER STATION

System pressure for a portion of Saugatuck Township is maintained by a booster station located off Blue Star Highway just west of I-196. This station has two pumps rated at 500 gpm, which are controlled through VFDs. The combined capacity with both pumps operating is approximately 800 gpm. One of the pumps must be running at all times to maintain pressure. It is recommended that a hydropneumatic tank be installed to save on energy use and extend the life of the pumps.

4. WATER TREATMENT & QUALITY

Water from each well is treated on-site through the addition of chlorine and phosphate. Wells 1 and 2, in particular, pump directly to an adjacent iron removal plant (IRP) for treatment and improvement of water quality.

When Wells 1 and 2 supply water to the IRP, the treated water is pumped into the distribution system via one of the IRP's two service pumps, which are manually alternated between filter backwash cycles. The plant is designed so that the backwash water can be discharged into either the sanitary sewer or the Kalamazoo River via an NPDES discharge permit. Operators normally discharge the backwash water to the sanitary sewer and only use the outfall into the river as a backup emergency discharge.

The IRP service pumps were last overhauled in 2017. When one of the pumps runs for a 24-hour cycle, it will pump between 900,000 and 1,000,000 gallons, meaning that each pump currently operates at a capacity of approximately 625-695 gpm. Wells 1 and 2 are run in combination to supply the volume of water that is needed for distribution through one of the IRP's service pumps.

The Authority regularly tests the water quality of its wells and throughout the system per EGLE requirements. Bacteriological testing is performed monthly, partial chemical testing is performed annually, and metals testing is performed triennially.

The most recent bacteriological and chemical testing reported that the contaminant levels met the State drinking water standards. The most recent metals analysis reported that lead and copper levels were below the EGLE action levels.

5. WELLHEAD PROTECTION

KLSWA has an active wellhead protection program which was approved in 2000. The plan was updated in 2011 and most recently in 2017. KLSWA has an active wellhead protection team made up of representatives from the City of Saugatuck, the City of the Village of Douglas, Saugatuck Township, fire protection, and the Allegan Health Department. KLSWA has pursued wellhead protection grants from the State to help fund multiple wellhead protection activities. These activities include: completing wellhead protection area delineations of all wellfields; working on the siting of new/future wells; the development of groundwater protection ordinances; and education and outreach.

6. AUXILIARY POWER

In the event of power loss, Wells 1 and 2 and the IRP are powered by a permanent 250-kW generator; Wells 4 and 5 can be powered by two portable 80-kW generators; Wells 6 and 7 are powered by a permanent 155-kW generator; and the booster station is powered by a permanent 155-kW generator.

7. EMERGENCY RESPONSE PLAN

The Authority’s Emergency Response Plan was last updated in 2018. It should be updated with any changes in contact information.

B. DISTRIBUTION SYSTEM

1. PIPE CONDITION

The existing water distribution system is shown in Figure 1. Pipe diameters range from 4 to 16 inches for primary distribution mains. The municipalities within the service area have made progress toward replacing older and small diameter pipes. The pipes are composed of ductile iron (88.5%), cast iron (9.1%), and HDPE (2.4%). A significant portion of service lines are either of unknown material, lead, or galvanized steel that was previously connected to lead. An inventory of the distribution system showing watermain sizes and the approximate lengths of each size are shown in Table 3.

**TABLE 3
WATERMAIN INVENTORY**

Watermain Size	Length (feet)	Percentage of Total
4"	17,251	6.1%
6"	49,400	17.6%
8"	127,579	45.4%
10"	8,729	3.1%
12"	76,548	27.3%
16"	1,324	0.5%
Total	280,831	100.0%

2. LOW FLOW AREAS

No areas of low flow have been recently noted, however; lower flows are expected in areas served by dead-end or 4-inch watermains.

3. WATERMAIN BREAKS

No areas where watermain breaks are frequent have been recently noted.

4. CROSS CONNECTIONS

The Authority’s Cross Connection Program was approved in the 1980s. The Authority continues to add accounts to be inspected.

C. WATER STORAGE

1. SPECIFICATIONS

A concrete ground storage tank is located off Park Street between the Kalamazoo River and Lake Michigan. It was constructed in 1984 by Natgun with a usable storage capacity of 1,000,000 gallons. The tank overflow is approximately 41 feet above the base.

2. TANK MAINTENANCE

In October 2018, the tank exterior was low pressure water cleaned and recoated with a two-coat waterborne acrylate system. Interior cleaning was performed and approximately 18 inches of sediment was removed. Concrete repairs included patching a spall in the roof and repairing cracks on the interior floor. The tank was last inspected in October 2019 by Dixon Engineering and was found to be in good condition. The tank should be scheduled for a routine inspection in 2024.

D. CONTROLS

1. TELEMETRY

The water system utilizes a radio telemetry SCADA system which provides communication between the wells and the storage tank. The low-water tank level at which wells turn on is set at 15 ft. Adjustments to the high-water level settings are performed daily or weekly, as water demand adjusts seasonally. The tank level at which wells turn off is typically between 25' and 28', seasonally adjusted for demand. The settings are adjusted to ensure that the normal operating range of the tank is cycled at least once daily to maintain proper disinfection, which is a best practice recommendation. Wells are rotated to operate at least once a week to meet regulatory monitoring and to ensure proper functional operation.

Analyses of the tank levels were performed to determine seasonal turnover rates and the static pressure that is maintained at the highest elevation water service customer in the system (outside of the high-pressure district). During the summer season, the current operating range of 15-28 ft results in an average tank turnover rate of 0.5 days. During the winter season, the same operating range would result in a turnover rate of 1.5 days; a range of 15-24 ft would be 1 day; and a range of 15-19.5 ft would be 0.5 days. The winter high-water level should be set to no more than 24 ft to ensure that the tank's normal operating range cycles at least once daily.

The tank's low-water level of 15 ft maintains a static pressure of 41 psi at grade level (665 ft) of the water system's highest elevation customer, located at the southwest end of the Dunegrass development. In the unlikely event that the tank level was to drop to 1 ft, a sufficient pressure of 35 psi would still be maintained in this area.

E. SYSTEM OPERATIONS

1. OPERATORS

The KLSWA's water distribution classification is S-2 and its water treatment classification is D-2. The Authority has three operators: one with F-1/S-1 licenses, one with S-3/D-3 licenses, and one with S-3/D-4 licenses. This does not meet the EGLE recommendation that public water systems have a minimum of two certified people on staff to operate the system. The Authority should strive to either hire an additional operator who is fully certified, or encourage existing operators to acquire the necessary certifications.

2. METERS

There are approximately 2,695 metered service connections to the Authority's water system. KLSWA employees perform meter reading on a monthly basis. The Authority uses Badger meters with remote reading devices. Meters are no older than 15 years and 5-10% of meters are replaced each year due to failures.

Approximately 30% of the brass meter bodies were replaced over 5 years ago to meet lead-free standards. There are likely 200-300 brass meter bodies currently in use that do not meet the NSF-61 lead-free standard.

3. MAINTENANCE

The Authority addresses necessary repairs and flushes all fire hydrants annually for the purpose of inspection and iron (rust) control. High priority critical valves, including river crossing valves, supply isolation valves, and Laketown Township's 12" valves, are exercised during flushing activities. Other valves are exercised outside of flushing activities on an as-needed basis. Hydrants are painted and hydrant locating flags are replaced as needed.

4. PARTS

The Authority maintains an inventory of various sized meters (5/8" up to 2") and meter-reading equipment, watermain repair sleeves, fittings, gaskets, mechanical flanges, bolt kits, and sections of ductile iron pipe ranging in size from 4" to 8". It also maintains various water service repair and connection tapping parts for water services ranging in size from 1" to 2".

Additionally, spare parts for chemical feed equipment including complete pumps, pump repair parts, plumbing, mixers, injectors, and transfer pumps are maintained.

IV. WATER USE AND FIRE PROTECTION

A. WATER USE

1. CUSTOMERS

KLSWA’s water system currently serves approximately 2,695 customers that are roughly 80% residential, 15% commercial, 0.1% industrial, and 4.9% other. Past water usage data is presented in Table 4 below. Peak hour demands are estimated based on a peaking factor of 5 times the average day demand.

**TABLE 4
PAST WATER USAGE**

Year	Total Water Pumped (MGY)	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Average Day Demand (gpm)	Maximum Day Demand (gpm)	Maximum Day Peaking Factor	Peak Hour Demand (gpm)
2015	204.522	0.560	1.765	389	1,226	3.1	1,946
2016	220.714	0.603	1.699	419	1,180	2.8	2,094
2017	235.957	0.646	1.891	449	1,313	2.9	2,245
2018	224.942	0.616	1.938	428	1,346	3.1	2,140
2019	214.357	0.587	1.896	408	1,317	3.2	2,039
2020	236.458	0.646	1.944	449	1,350	3.0	2,243

2. HISTORICAL WATER LOSS

Water losses, calculated as unbilled water divided by total water pumped, were 8% in 2018 and 2019 and 6% in 2020 as shown in Table 5. These losses are lower than the 10-15% range that is typical of similar systems. This range accounts for acceptable system leakage and unmetered water from firefighting and routine hydrant flushing. These losses are at an acceptable level and the Authority should continue to monitor its water loss and strive to reduce this amount whenever possible.

**TABLE 5
WATER LOSS**

Year	Total Water Pumped (MG)	Total Water Billed (MG)	Unbilled Water (MG)	Unbilled Percentage
2018	224.942	207.780	17.162	8%
2019	214.357	197.521	16.836	8%
2020	236.458	221.609	14.849	6%

3. LARGEST WATER USERS

Table 6 shows the total water use and average demand of the system’s largest water users in 2019. These users accounted for approximately 18% of the Authority’s total water use.

**TABLE 6
LARGEST WATER USERS**

Customer	Total Water Use (gal)	Average Daily Use (gal)	Average Demand (gpm)
Douglas Mobile Estates	3,296,400	9,031	6.3
Saugatuck Hotel	2,776,190	7,606	5.3
Saugatuck Public Schools	2,693,320	7,379	5.1
Saugatuck Brewing Co.	2,462,570	6,747	4.7
Grace of Douglas	2,238,100	6,132	4.3
Saugatuck Public Schools 2	1,591,300	4,360	3.0
McKearney Gowan Inc.	1,504,630	4,122	2.9
Dunes Acquisition Co.	1,394,213	3,820	2.7
Northern Lights Resort	1,338,781	3,668	2.5
Douglas Harbor Village Assoc.	1,334,770	3,657	2.5
Saugatuck Center for the Arts	1,302,006	3,567	2.5
Huntington National Bank	1,203,635	3,298	2.3
Vivek LLC	1,182,000	3,238	2.2
Tower Marina	1,122,700	3,076	2.1
Saugatuck Public Schools 3	1,062,170	2,910	2.0
Phil's Bar & Grille	1,057,091	2,896	2.0
Ship n Shore	1,039,700	2,848	2.0
Saugatuck RV Resort	1,005,958	2,756	1.9
Douglas - The City of the Village	976,878	2,676	1.9
Best Western Plaza Hotel	934,050	2,559	1.8
Wicks Park Bar & Grille Inc.	844,910	2,315	1.6
The BARge	833,830	2,284	1.6
Ridgewood Oaks	822,800	2,254	1.6
Secret of Saugatuck Suites	783,028	2,145	1.5
The Butler	774,047	2,121	1.5

B. POPULATION PROJECTIONS

The projected 20-year population of the KLSWA service area was estimated with consideration to the past population numbers obtained from the U.S. Census Bureau. The combined population of each of the municipalities served by KLSWA increased at an average rate of 0.49% annually between 1960 and 2010. A conservative value of 1% annual population growth was used for population projections. Table 7 shows the past and projected populations for the service area.

In Table 7, the estimated populations of water system users for 2000 and 2010 (obtained from the previous reliability study) were calculated based on the assumption of 2.5 persons per residential service connection. In 2019, each municipality served by KLSWA submitted a Preliminary Distribution System Materials Inventory to EGLE that stated its estimated number of service connections and an estimated population served, based on the assumption of 2.3 persons per service connection (all customer classes, not just residential). These estimated populations were summed to obtain the 2019 population served of 6,242. The projections for 2024 and 2039 were calculated based on 1% annual growth (as defined above) from the 2019 estimate.

**TABLE 7
SERVICE AREA POPULATION**

Year	City of Saugatuck Population	City of Douglas Population	Saugatuck Township Population	Laketown Township Population	Combined Population	Water System Users (Estimated Population)
1960	927	602	2,662	4,114	8,305	
1970	1,022	813	3,089	5,440	10,364	
1980	1,079	948	2,701	6,327	11,055	
1990	954	1,040	2,916	6,538	11,448	
2000	1,065	1,227	2,363	5,561	10,216	5,206
2010	925	1,232	2,944	5,505	10,606	5,408
2019 Est.	1,012	1,348	3,220	6,021	11,600	6,242
2024 Est.	1,064	1,417	3,385	6,328	12,192	6,561
2039 Est.	1,235	1,645	3,929	7,347	14,154	7,617

C. PROJECTED WATER DEMANDS

The estimated population of water system users increased at an average annual rate of 1.6% from 2010 to 2019. This growth rate was used to estimate the population for each year in Table 8 below. Then, the corresponding average day demands were used to estimate average usage per capita.

**TABLE 8
PER CAPITA WATER USAGE**

Year	Average Day Demand (gpd)	Estimated Population	Average Day Demand (gpcd)
2015	560,000	5,857	96
2016	603,000	5,951	101
2017	646,000	6,046	107
2018	616,000	6,143	100
2019	587,000	6,242	94

The average daily water usage per capita has remained fairly consistent over the last five years. This study assumes that water use will remain proportional to the population. An average value of 100 gpcd will be used for analysis.

The maximum day peaking factor (maximum day demand divided by average day demand) has also remained fairly consistent over the last five years (see Table 4). An average maximum day peaking factor of 3.1 is used in this report to estimate future maximum day demands. Peak hour demands are calculated based on a peaking factor of 5.0 times the average day demand. Table 9 presents the projected water demands.

**TABLE 9
PROJECTED WATER DEMANDS**

Year	Total Water Usage (MGY)	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Average Day Demand (gpm)	Maximum Day Demand (gpm)	Peak Hour Demand (gpm)
2024	240.133	0.656	2.003	456	1,391	2,278
2039	278.021	0.762	2.326	529	1,615	2,645

D. FIRE PROTECTION

1. ISO RATING SYSTEM

The Insurance Services Office (ISO) establishes suggested fire flow protection standards based on various factors including building construction type, area, height, type of development and density. These factors and others such as firefighting capabilities, when combined, result in an ISO rating between 1 and 10, with 1 being the best and 10 being the worst. This rating is used by insurance companies to determine appropriate insurance rates for its customers that live within the water supply system.

Based on the most recent ISO report from December 2020, the Authority is rated as a Class 03 community, which is better than a typical rating for a community of this size. Since the classification is a single (not split) class, the classification applies to properties with a needed fire flow of 3,500 gpm or less in the community. KLSWA’s rating has improved since its 2014 rating of Class 05.

2. RECOMMENDED FIRE FLOWS

The ISO establishes suggested fire flows at various locations throughout a community during a survey. It is not always cost-effective for a community to build a water system that meets all of the suggested ISO fire flows. In such a situation, the community can choose to adopt target fire flow values. Table 10 below presents the ISO suggested fire flows and recommended target fire flow values. The recommended target fire flows were obtained from tabular values presented in the “*Fire Protection Handbook*”, and the AWWA’s Manual of Water Supply Practices – “*Distribution System Requirements for Fire Protection*”. It will be necessary for the Authority to decide as to whether these recommended target fire flows provide the desired level of protection.

**TABLE 10
ISO SUGGESTED AND RECOMMENDED TARGET FIRE FLOWS AND DURATIONS**

Classification	ISO Suggested Fire Flows at 20 psi (gpm)	Recommended Target Fire Flows at 20 psi (gpm)	Duration (hours)
Residential	1,000-1,500	1,000	2
Commercial	2,000-2,500	2,000	2
Industrial	3,000	3,000	3
Institutional	3,500	3,500	3

3. HYDRANT FLOW TESTS

Fleis & VandenBrink staff performed fire hydrant flow tests at select locations throughout the system (see Figure 2) on July 17 and 18, 2020 in order to obtain information used in calibration of the WaterCAD hydraulic computer model. Table 11 provides the results of the fire hydrant tests. The available fire flow at the minimum residual pressure of 20 psi was calculated using the following formula:

$$Available\ Fire\ Flow\ at\ 20\ psi = \frac{Hydrant\ Flow \times (Static\ Pressure - 20)^{0.54}}{(Static\ Pressure - Residual\ Pressure)^{0.54}}$$

**TABLE 11
JULY 2020 HYDRANT FLOW TEST RESULTS**

Test #	Hydrant Test Location	Static Pressure Reading (psi)	Residual Pressure Reading (psi)	Hydrant Flow (gpm)	Calculated Flow at 20 psi (gpm)
1	Saugatuck Township: Southwest end of Lake Ridge Dr	65	41	1,060	1,488
2	Saugatuck Township: South end of Palmer Dr	83	25	768	803
3	Douglas: South end of Yamato St	56	38	918	1,335
4	Douglas: South end of Just Barns Dr	50	39	1,033	1,776
5	Douglas: Lakeshore Dr north of Wiley Rd	52	3	580	461
6	Douglas: North end of St. Peters Dr	64	58	750	2,200
7	Douglas/Saugatuck: North end of Weirich Dr	57	34	887	1,147
8	Saugatuck: West end of Vine St	64	54	1,060	2,359
9	Saugatuck: Maple St at State St	61	53	1,710	4,133
10	Saugatuck: Mason St at West St	61	51	1,124	2,408
11	Saugatuck: Spear St at Grand St	64	51	1,033	1,995
12	Saugatuck: South end of Clearbrook Ct	65	55	1,173	2,643
13	Saugatuck: West end of Goshorn Way	63	46	1,033	1,705
14	Laketown Township: North end of Otis Ave	64	48	1,086	1,875
15	Saugatuck: East end of Sambroek Ln	61	49	1,073	2,083
16	Saugatuck: Maple Gate Dr between Destin Ct and Palmetto Ct	64	54	1,173	2,611
17	Saugatuck: South end of Gaslight Ln	66	43	2,013	2,927
18	Douglas: North end of Amity St	56	38	731	1,063

The results of the fire hydrant flow tests indicate that the system provides adequate static pressures, but the available fire flow does not meet the recommended target for certain areas. Figure 3.1 shows the existing static pressures, expressed as contours, throughout the system under normal conditions (average day demand) and Figure 3.2 shows static pressures under emergency conditions (maximum day demand; firm well flow).

V. EVALUATION OF SYSTEM CAPACITY

A. HYDRAULIC MODEL ANALYSIS

1. MODEL DESCRIPTION

In order to evaluate the water distribution system, a computer model was developed to simulate the existing system. The software used was WaterCAD version 10.03 developed by Bentley. The watermain sizes, configuration, friction factors, well pump curves, topographic information, flow demands, and storage tank data were input to the model to simulate the existing and proposed water distribution system. Watermain friction factors were adjusted to achieve model calibration within ±10% of the calculated available fire flow at 20 psi residual pressure at the hydrant flow test locations. Out of the 18 test locations, 16 achieved a drop of at least 10 psi from static to residual pressure; only the valid test locations were used to calibrate the model. Table 12 compares the available fire flow at 20 psi (calculated from hydrant test data) to the values obtained in the calibrated WaterCAD model for the test locations listed.

**TABLE 12
COMPARISON OF CALCULATED FLOWS FROM FIELD MEASUREMENTS TO MODEL FIRE FLOWS**

Test #	Hydrant Test Location	Available Fire Flow at 20 psi (calculated) (gpm)	Available Fire Flow at 20 psi (WaterCAD) (gpm)	Difference Between Calculated & WaterCAD
1	Saugatuck Township: Southwest end of Lake Ridge Dr	1,488	1,625	9.2%
2	Saugatuck Township: South end of Palmer Dr	803	840	4.6%
3	Douglas: South end of Yamato St	1,335	1,318	-1.3%
4	Douglas: South end of Just Barns Dr	1,776	1,664	-6.3%
5	Douglas: Lakeshore Dr north of Wiley Rd	461	418	-9.3%
7	Douglas/Saugatuck: North end of Weirich Dr	1,147	1,239	8.1%
8	Saugatuck: West end of Vine St	2,359	2,564	8.7%
10	Saugatuck: Mason St at West St	2,408	2,403	-0.2%
11	Saugatuck: Spear St at Grand St	1,995	2,190	9.8%
12	Saugatuck: South end of Clearbrook Ct	2,643	2,717	2.8%
13	Saugatuck: West end of Goshorn Way	1,705	1,576	-7.6%
14	Laketown Township: North end of Otis Ave	1,875	1,763	-6.0%
15	Saugatuck: East end of Sambroek Ln	2,083	1,882	-9.7%
16	Saugatuck: Maple Gate Dr between Destin Ct and Palmetto Ct	2,611	2,539	-2.7%
17	Saugatuck: South end of Gaslight Ln	2,927	2,908	-0.6%
18	Douglas: North end of Amity St	1,063	964	-9.3%

2. TEST RESULTS

As the results of Table 12 show, the difference between the calculated available fire flows at 20 psi from the valid hydrant tests and those predicted by the calibrated WaterCAD model are within a ±10% tolerance. Therefore, the model is an accurate approximation of the system.

3. FIRE FLOW RESULTS

Fire flows were simulated throughout the existing system. The simulations were completed under existing firm capacity conditions. The storage tank water level was set at an average operating depth. EGLE recommends a minimum residual pressure of 20 psi in the system at all times. This is to ensure positive water pressure remains in the distribution system for customer use and to ensure safe water quality. All available fire flows reported are with a 20-psi residual pressure. Table 13 below presents available fire flow at 20 psi under maximum day conditions for the existing water distribution system. Figure 4.1 shows the existing available fire flow, expressed as contours, throughout the system for the 2019 maximum day demand. Figures 4.2 and 4.3 show the available fire flow of the existing system under projected maximum day demands for 2024 and 2039, respectively.

**TABLE 13
COMPARISON OF TARGET FIRE FLOWS TO MODEL FIRE FLOWS**

Test #	Hydrant Test Location	Recommended Target Fire Flow at 20 psi (gpm)	Available Fire Flow at 20 psi (WaterCAD) (gpm)	Difference Between Target & Available
1	Saugatuck Township: Southwest end of Lake Ridge Dr	1,000	1,630	63%
2	Saugatuck Township: South end of Palmer Dr	1,000	917	-8%
3	Douglas: South end of Yamato St	1,000	1,299	30%
4	Douglas: South end of Just Barns Dr	2,000	1,637	-18%
5	Douglas: Lakeshore Dr north of Wiley Rd	1,000	414	-59%
7	Douglas/Saugatuck: North end of Weirich Dr	1,000	1,221	22%
8	Saugatuck: West end of Vine St	1,000	2,556	156%
10	Saugatuck: Mason St at West St	1,000	2,464	146%
11	Saugatuck: Spear St at Grand St	1,000	2,237	124%
12	Saugatuck: South end of Clearbrook Ct	1,000	2,830	183%
13	Saugatuck: West end of Goshorn Way	1,000	1,605	61%
14	Laketown Township: North end of Otis Ave	1,000	1,790	79%
15	Saugatuck: East end of Sambroek Ln	1,000	1,927	93%
16	Saugatuck: Maple Gate Dr between Destin Ct and Palmetto Ct	1,000	2,610	161%
17	Saugatuck: South end of Gaslight Ln	1,000	3,024	202%
18	Douglas: North end of Amity St	1,000	958	-4%

The available fire flows shown in Table 13 vary slightly from the values shown in Table 12 for multiple reasons. For Table 12, all pumps except for the booster station and IRP were turned off for calibration, while for Table 13, all pumps/wells except for Well 7 were operating to model firm capacity conditions. Also, the calibration values in Table 12 portray average flow conditions, while Table 13 shows the flows during the maximum day demands.

The recommended target fire flow can currently be met at 12 out of the 16 valid test locations with 20 psi residual pressure.

B. WATER SUPPLY

EGLE recommends that the firm capacity of a community’s water supply be greater than its maximum day demand. Currently, the firm capacity of KLSWA’s water supply is 1,941 gpm and the 2019 maximum day demand was 1,317 gpm. Therefore, the existing firm capacity is sufficient for the current demands of the system. EGLE recommends that communities plan to increase supply when maximum day demand reaches 80% of firm capacity. The projected maximum day demand of 1,615 gpm for 2039 is approximately 83% of firm capacity. Depending on future growth, KLSWA may need to consider drilling an additional well in 20 years, or overhaul/upgrade some of its existing well pumps to achieve a higher firm capacity.

C. WATER STORAGE

The recommended target fire flow for commercial areas is 2,000 gpm for two hours. To provide the required volume of water to combat a fire of this duration, 240,000 gallons of water would be used (2,000 gpm × 120 minutes). Table 14 compares the volume of available water using current firm well capacity and the existing storage volume for each of the classifications of recommended target fire flows and durations for the existing maximum day demand.

**TABLE 14
REQUIRED STORAGE CAPACITY FOR FIREFIGHTING (EXISTING MAXIMUM DAY DEMAND)**

Classification	Desired Fire Flow at 20 psi (gpm)	Duration (hours)	Existing Maximum Day Demand (gpm)	Total Flow Required (system outflow) (gpm)	Firm Well Flow (system inflow) (gpm)	Net (system outflow) (gpm)	Total Storage Required (gal)	Existing Storage (gal)	Add'l Storage Required (gal)
Residential	1,000	2	1,317	2,317	1,941	376	45,080	1,000,000	0
Commercial	2,000	2	1,317	3,317	1,941	1,376	165,080	1,000,000	0
Industrial	3,000	3	1,317	4,317	1,941	2,376	427,620	1,000,000	0
Institutional	3,500	3	1,317	4,817	1,941	2,876	517,620	1,000,000	0

As the data in Table 14 shows, the Authority’s existing storage capacity meets the target fire flow requirements for all fire classifications.

Table 15 shows the estimated storage needed for the future maximum day demand. Additional storage will not be needed in the next 20 years.

**TABLE 15
REQUIRED STORAGE CAPACITY FOR FIREFIGHTING (2039 PROJECTED MAX DAY DEMAND)**

Classification	Desired Fire Flow at 20 psi (gpm)	Duration (hours)	Maximum Day Demand (gpm)	Total Flow Required (system outflow) (gpm)	Firm Well Flow (system inflow) (gpm)	Net (system outflow) (gpm)	Total Storage Required (gal)	Existing Storage (gal)	Add'l Storage Required (gal)
Residential	1,000	2	1,615	2,615	1,941	674	80,876	1,000,000	0
Commercial	2,000	2	1,615	3,615	1,941	1,674	200,876	1,000,000	0
Industrial	3,000	3	1,615	4,615	1,941	2,674	481,315	1,000,000	0
Institutional	3,500	3	1,615	5,115	1,941	3,174	571,315	1,000,000	0

The existing booster station currently serves the Saugatuck Township service area along 136th Ave and Palmer Dr. As development of this area continues, elevated storage will be required when the area exceeds 150 units, especially if the proposed industrial park begins to be developed as well. The booster station currently serves approximately 60 units, and growth in this area is expected to be similar to the rest of the system’s service area.

At the current growth rates and without further expansion of this portion of the system, a storage tank will not be necessary in the 20-year planning period covered in this report. Until this growth is realized, it is recommended that a hydropneumatic tank be installed so that the pumps are not required to operate full-time to maintain pressure.

VI. RECOMMENDED IMPROVEMENTS

Figure 5 shows the recommended system improvements. Figure 6.1 shows the available fire flow contours under 2024 maximum day demands after completion of the short-term recommended improvements and Figure 6.2 shows the available fire flow contours under 2039 maximum day demands after completion of the long-term recommended improvements.

Table 16 provides a comparison of the 2039 available fire flows to the recommended target fire flows after completion of all recommended improvements.

**TABLE 16
COMPARISON OF AVAILABLE FIRE FLOW TO TARGET FIRE FLOWS
AFTER COMPLETION OF RECOMMENDED IMPROVEMENTS**

Test #	Hydrant Test Location	Recommended Target Fire Flow at 20 psi (gpm)	Available Fire Flow at 20 psi (WaterCAD) (gpm)	Difference Between Target & Available
1	Saugatuck Township: Southwest end of Lake Ridge Dr	1,000	2,448	145%
2	Saugatuck Township: South end of Palmer Dr	1,000	1,687	69%
3	Douglas: South end of Yamato St	1,000	1,397	40%
4	Douglas: South end of Just Barns Dr	2,000	2,188	9%
5	Douglas: Lakeshore Dr north of Wiley Rd	1,000	2,351	135%
7	Douglas/Saugatuck: North end of Weirich Dr	1,000	2,251	125%
8	Saugatuck: West end of Vine St	1,000	2,544	154%
10	Saugatuck: Mason St at West St	1,000	2,634	163%
11	Saugatuck: Spear St at Grand St	1,000	4,091	309%
12	Saugatuck: South end of Clearbrook Ct	1,000	2,681	168%
13	Saugatuck: West end of Goshorn Way	1,000	1,858	86%
14	Laketown Township: North end of Otis Ave	1,000	1,696	70%
15	Saugatuck: East end of Sambroek Ln	1,000	1,739	74%
16	Saugatuck: Maple Gate Dr between Destin Ct and Palmetto Ct	1,000	2,887	189%
17	Saugatuck: South end of Gaslight Ln	1,000	3,007	201%
18	Douglas: North end of Amity St	1,000	2,008	101%

As seen in Table 16, the recommended improvements would increase the available fire flow at most locations while decreasing it at others. The recommended target fire flows are exceeded at all locations.

A. ESTIMATED COSTS

Distribution system improvements are recommended to improve available fire flows and overall system reliability. These improvements should be considered and implemented by municipality officials as deemed necessary and as funding allows. Distribution improvements are shown in Figure 5. The Authority should plan on replacing 4-inch or smaller watermains as road improvements are conducted in the service area. These small pipes should be replaced with minimum 8-inch pipes.

Estimated costs are included with the recommended improvements. They are meant to be rough estimates for budgeting purposes only. They include appurtenances such as valves, hydrants, fittings, water services, restoration, engineering, and contingencies. A unit price of \$130 per foot for 8-inch watermain and \$140 per foot for 12-inch watermain was assumed. It is assumed that the watermains could be placed outside of the paved roadway. The costs are estimated to increase by \$50 to \$100 per foot if watermain must be constructed within the paved roadway, depending on the amount and type of road construction required.

B. SHORT-TERM IMPROVEMENTS

Saugatuck Township

1. Construct 2,059 ft of 8-inch watermain on Wiley Rd from the existing 12-inch stub to Lakeshore Dr	\$268,000
2. Construct 5,755 ft of 12-inch watermain on 63 rd St from 136 th Ave to 134 th Ave	\$806,000
3. Construct 1,082 ft of 12-inch watermain on 134 th Ave from the existing 12-inch stub to 63 rd St	\$152,000
4. Construct 2,450 ft of 8-inch watermain from Palmer Dr to the intersection of 134 th Ave and 63 rd St	\$319,000
5. Install a 12-inch pressure reducing valve along the proposed watermain on 134 th Ave	\$15,000
6. Install a hydropneumatic tank at the existing booster station	\$30,000

Short-Term Improvements Total Cost: \$1,590,000

C. LONG-TERM IMPROVEMENTS

Laketown Township

1. Construct 433 ft of 8-inch watermain on 65 th St from the existing stub to the south end of the street, then directional drill approximately 1,188 ft of 8-inch watermain under Goshorn Lake to connect to the existing 8-inch on Goshorn Way	\$366,000
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Laketown Township Subtotal: \$366,000

Saugatuck Township

2. Construct 4,295 ft of 12-inch watermain on Old Allegan Rd from the existing 12-inch stub to Blue Star Highway	\$602,000
3. Construct 1,117 ft of 8-inch watermain on Blue Star Highway to loop the 8-inch dead end at the south end of Just Barns Dr	\$146,000
4. Replace 2,634 ft of 4-inch watermain with 8-inch watermain on Lakeshore Dr from Lakeside Dr to the southern dead end	\$343,000

Saugatuck Township Subtotal: \$1,091,000

City of Saugatuck

5. Replace 1,089 ft of 4-inch watermain with 8-inch watermain on Maple St from Allegan St to Blue Star Highway	\$142,000
6. Replace 1,115 ft of 4-inch and 6-inch watermain with 8-inch watermain on Elizabeth St from Main St to Allegan St	\$145,000
7. Replace 280 ft of 4-inch watermain with 8-inch watermain on Grand St from Hoffman St to Mason St	\$37,000
8. Replace 547 ft of 4-inch watermain with 8-inch watermain on Hoffman St from Griffith St to Grand St	\$72,000
9. Replace 300 ft of 4-inch watermain with 8-inch watermain on Grand St from Spear St to Francis St	\$39,000
10. Replace 2,173 ft of 4-inch and 6-inch watermain with 8-inch watermain on Butler St from Lucy St to Culver St	\$283,000

11. Replace 210 ft of 6-inch watermain with 8-inch watermain on Lucy St from Water St to Butler St	\$28,000
City of Saugatuck Subtotal:	\$746,000
<u>City of Douglas</u>	
12. Replace 4,177 ft of 4-inch and 6-inch watermain with 8-inch watermain on Lakeshore Dr from Campbell Rd to Lakeside Dr	\$544,000
13. Replace 2,545 ft of 6-inch watermain with 8-inch watermain on Campbell Rd from Lakeshore Dr to Ferry St	\$331,000
14. Replace 1,531 ft of 4-inch watermain with 8-inch watermain on Shorewood Dr	\$200,000
15. Replace 857 ft of 1-inch waterline with 8-inch watermain on McVea Dr from Campbell Rd to Golfview Dr	\$112,000
16. Replace 1,582 ft of 4-inch watermain with 8-inch watermain on St Peters Dr from the north end of the street to Center St and Blue Star Highway	\$206,000
17. Replace 343 ft of 4-inch watermain with 8-inch watermain on Lebarre St	\$45,000
18. Replace 1,146 ft of 6-inch watermain with 8-inch watermain on Amity St	\$149,000
19. Replace 531 ft of 4-inch watermain with 8-inch watermain on Chestnut St from Union St to Main St	\$70,000
20. Replace 353 ft of 4-inch watermain with 8-inch watermain on Spring St from Lawn Ave to Chestnut St	\$46,000
21. Replace 1,619 ft of 4-inch and 6-inch watermain with 8-inch watermain on Washington St from Chestnut St to South St	\$211,000
22. Replace 828 ft of 4-inch watermain with 8-inch watermain on Randolph St from Union St to Washington St	\$108,000
City of Douglas Subtotal:	\$2,022,000
Long-Term Improvements Total Cost:	\$4,225,000
TOTAL COST OF ALL RECOMMENDED IMPROVEMENTS:	\$5,815,000

VII. FUNDING SOURCES

Five possible sources of funding have been identified for KLSWA and its participating municipalities to complete the recommended improvement projects if desired. A brief description of each follows:

Drinking Water Revolving Fund

This is a preferred alternative. It is a low interest loan program sponsored by EGLE. The current interest rate is 1.875% for 20-year loans and 40-year loans (Disadvantaged only), and 2.125% for 30-year loans. Some communities may be eligible for principal forgiveness under the Green Project Reserve funding if the project reduces system energy use or conserves water.

The program is competitive and projects are scored on a point system that ranks them on a priority list. Not all projects submitted are funded so it is important to maximize points on the application. Requirements include a fairly extensive project plan, but most expenses, including the project plan, are eligible activities that can be rolled into the loan. In order for a community to be competitive, they should have a completed wellhead protection program. Applications are submitted by May 1st of every year.

USDA – Rural Utilities Service – Water & Waste Disposal Loans & Grants

This program provides funding for water improvements in eligible rural communities. Based on median household incomes, the City of Saugatuck and the City of Douglas would qualify for funding at the “intermediate” level, while Saugatuck and Laketown Townships would qualify at the “market” level. The program will assist qualified applicants who are not otherwise able to obtain commercial credit on reasonable terms.

Long-term loans (payback period up to 40 years) are available at a fixed interest rate, based on the need for the project and the median household income of the area to be served. The current interest rate for intermediate income areas is 1.75% and the market rate is 2.125%.

If funds are available, a grant may be combined with a loan if necessary to keep user costs reasonable.

Special Assessment Bonds

Special assessments levied under PA 188 of 1954 are one of the most common ways to finance infrastructure improvements. A municipality may levy special assessments against properties that receive special benefits from a public improvement. Property owners have petition rights that must be satisfied before the special assessment can go forward.

Special assessments typically can be repaid in installments with interest. The bonds may not exceed the amount of the special assessment roll and may be secured secondarily by a pledge of the municipality’s full faith and credit.

Revenue Bonds

Revenue bonds are authorized by PA 94 of 1933. They authorize a municipality to borrow money and issue bonds. They are paid from user fees generated by the operation of the improvements.

Revenue bonds are subject to the right of referendum. Petitions for a public vote can be filed by registered municipality voters during a 45-day referendum period. Voter approval is not required if the referendum period expires without petitions being filed.

Contract Bonds

Contract bonds are authorized by several state laws. They authorize a municipality to enter into an agreement with the County or a public authority in order to have the County or authority issue bonds on behalf of the municipality.

A municipality may want to consider a contract bond as the County may be able to borrow at a more favorable rate than the municipality if they are willing to pledge its taxing power as secondary security for repayment of the bonds. Also contract bonds may be paid back by a number of sources including special assessments, connection fees, and user fees.

Economic Development Administration (EDA) and Michigan Economic Development Commission (MEDC)

EDA and MEDC fund infrastructure improvements when a business or industry is interested in locating in a community that will need to provide infrastructure improvements to support the incoming industry.

As an example, if an industry wanted to locate in the KLSWA service area where there is not currently watermain, or the watermain is undersized to serve the business, these organizations could assist in funding the improvements. Also, water supply and/or storage improvements could be funded with grant dollars if the improvements are necessary to support the new business.

APPENDIX C: DETAILED FINANCING SCHEDULE

Department of Environment, Great Lakes, and Energy (EGLE) and Michigan Finance Authority (MFA)
FY 2024 FINANCING SCHEDULE
 Clean Water and Drinking Water State Revolving Funds and the
 Strategic Water Quality Initiatives Fund (SWQIF)

	QUARTER 1	QUARTER 1.5	QUARTER 2	QUARTER 2.5	QUARTER 3	QUARTER 3.5	QUARTER 4
EAs Published No Later Than	08/15/2023	09/26/2023	11/17/2023	01/04/2024	02/06/2024	03/20/2024	04/24/2024
Part I and Part II Application Due	08/29/2023	10/10/2023	11/28/2023	01/09/2024	02/14/2024	03/28/2024	05/15/2024
FNSI Clearance Plans & Specs Approved	09/14/2023	10/26/2023	12/18/2023	02/05/2024	03/07/2024	04/19/2024	05/24/2024
Bid Ad Published No Later Than	09/14/2023	10/26/2023	12/18/2023	02/05/2024	03/07/2024	04/19/2024	05/24/2024
Part III of Application Due Bid Data Submittal (With Tentative Contract Award)	10/31/2023	12/12/2023	01/30/2024	03/13/2024	04/15/2024	05/28/2024	07/08/2024
EGLE Order of Approval Issued*	11/14/2023	01/08/2023	02/23/2024	04/08/2024	05/15/2024	06/26/2024	08/07/2024
Borrower's Pre-Closing with the MFA	11/28/2023	01/22/2024	03/13/2024	04/24/2024	05/28/2024	07/08/2024	08/21/2024
MFA CLOSING	12/11/2023	02/05/2024	03/25/2024	05/06/2024	06/05/2024	07/17/2024	08/28/2024
Notice to Proceed Issued No Later Than	02/09/2024	04/05/2024	05/24/2024	07/05/2024	08/04/2024	09/15/2024	10/27/2024

*In addition to MFA requirements, all municipal bond sales must be reviewed and approved by the Local Audit and Finance Division of the Michigan Department of Treasury before an Order of Approval can be issued.

AN APPROVABLE APPLICATION FOR A REVOLVING FUND LOAN MUST INCLUDE:

- 1.A complete revolving fund application (Parts I, II, and III) including all required application information and assurances.
- 2.A detailed project description, cost breakdown, and project schedule.
- 3.Financial documentation to demonstrate ability for timely repayment of the loan and other assurances required by the application. (Part I)
- 4.If applicable, all executed intermunicipal service agreements. (Part II)
- 5.An approved Project Planning Document.
- 6.A set of plans and specifications suitable for bidding, including EGLE construction permit if required.
- 7.A certified resolution from the applicant designating an authorized representative.
- 8.Verification that the project has been advertised for bids or other appropriate procurement action. (Part III)
- 9.A fiscal sustainability plan certification form. (Part III for CWSRF only)

APPENDIX D: PUBLIC PARTICIPATION

NOTICE OF PROJECT PLANNING PUBLIC MEETING

The City of Saugatuck will hold a public meeting on the proposed Water System Improvements project for the purpose of receiving comments from interested persons.

The meeting will be held at 7 p.m. on Monday, May 22, 2023 at City Hall.

The purpose of the proposed project is improvements to the city's water system.

Project construction will involve replacement of approximately 538 lead service lines, replacing 2.7 miles of aging or undersized watermain at various locations throughout the City, improvements at Wellhouse No. 5, and improvements to the overflow pipe at the concrete reservoir.

Impacts of the proposed project include minor traffic operation, increased local noise and dusts levels typically of a construction project. There are no anticipated long-term impacts from this project.

The estimated cost to users for the proposed project will be dependent on the terms of the financing proposed by EGLE for this project. The estimated project costs are totaled to be approximately \$15 million.

Copies of the plan detailing the proposed project are available for inspection at the following location(s): Saugatuck City Hall – 102 Butler Street, Saugatuck, MI 49453.

Written comments received before the meeting record is closed on Monday, May 22, 2023 at 7 p.m. will receive responses in the final project planning document. Written comments should be sent to: Ryan Heise, City Manager, 102 Butler Street, Saugatuck, MI 49453.

**A RESOLUTION ADOPTING A FINAL PROJECT PLANNING DOCUMENT
FOR WATER SYSTEM IMPROVEMENTS
AND DESIGNATING AN AUTHORIZED PROJECT REPRESENTATIVE
RESOLUTION 230522-A**

WHEREAS, the City of Saugatuck recognizes the need to complete water system improvements; and

WHEREAS, the City of Saugatuck authorized Fleis & VandenBrink to prepare a Project Planning Document, which recommends replacement of lead and galvanized service lines, watermain replacement, and miscellaneous improvements to the water reservoir and Wellhouse No. 5; and

WHEREAS, said Project Planning Document was presented at a Public Meeting held on May 22nd, 2023 at 7 p.m. and all public comments have been considered and addressed.

NOW THEREFORE BE IT RESOLVED, that the City of Saugatuck formally adopts said Project Planning Document and agrees to implement the selected Alternative D, which includes replacement of approximately 538 lead service lines, replacing 2.7 miles of aging or undersized watermain at various locations throughout the City, improvements at Wellhouse No. 5, and improvements to the overflow pipe at the concrete reservoir, pending project funding.

BE IT FURTHER RESOLVED, that the City Manager, a position currently held by Ryan Heise, is designated as the authorized representative for all activities associated with the project referenced above, including the submittal of said Project Planning Document as the first step in applying to the State of Michigan for a Drinking Water State Revolving Fund Loan to assist in the implementation of the selected alternative.

Yeas (names of Members voting Yes):

Nays (names of Members voting No):

I certify that the above Resolution was adopted by the City of Saugatuck Council on May 22nd, 2023.

BY: _____
Name (please print or type) Title

Signature Date

BY: _____
Name (please print or type) Title

Signature Date



City Council Agenda Item Report

FROM: Ryan Heise

MEETING DATE: 5/22/23

SUBJECT: Fire Budget

DESCRIPTION:

The Council reviewed and discussed the proposed Saugatuck Township Fire budget at their Workshop meeting 5.17.23.

BUDGET ACTION REQUIRED:

None

COMMITTEE/COMMISSION REVIEW:

NA

LEGAL REVIEW:

None

SAMPLE MOTION:

Motion to **approve/deny** the budget as presented for the Saugatuck Township Fire budget.

Proposed Annual Budget



Fiscal Year 2023-2024



MISSION

THE MISSION OF THE
SAUGATUCK TOWNSHIP FIRE DISTRICT
IS TO MINIMIZE COMMUNITY RISKS AND
IMPROVE THE QUALITY OF LIFE
FOR ALL PERSONS WITHIN
SAUGATUCK TOWNSHIP FIRE DISTRICT.



From the Board...

The Saugatuck Township Fire District Board forwards for review the attached budget for the Fiscal Year 2023/2024 to the City of Saugatuck, Saugatuck Township, and the City of the Village of Douglas. The budget includes a millage of 2.50 mils, levied against the real property taxable value within the Fire District.

The Fire District is facing staffing challenges negatively affecting its ability to maintain current service levels. To ensure 24/7/365 staffing, with two full-time crew members on duty at all times, it will be necessary to hire three additional, full-time firefighter/EMS professionals. To fund this effort in the coming year, the STFD budget includes an additional .3 mils (from 2.2 to 2.5).

To continue to attract and retain candidates from areas outside the District's service area (where housing costs are prohibitive for most), the Fire District staff, under the direction of the Fire Board, continues working with architects on plans to upgrade dormitory accommodations.

Strategic evaluation also continues regarding issues associated with the Emergency Medical Services transport country-wide staffing crisis. Our local Advanced Life Support (ALS) contracted ambulance services have been struggling with staffing for years and conditions have worsened. To address delayed ALS response, STFD is conducting exploratory research and planning on the feasibility of providing Basic Life Support (BLS) ambulance service to the area.

On the revenue side, it is important to note that the Fire District's Grant and Cost Recovery Teams have successfully supplemented the taxpayer funding with \$99,572 in grant funds, and \$26,220 in collection of cost recovery fees for 2022 continuing a long tradition. Additional such revenue for the period 2014 to 2023 is \$678,175 in grants, \$149,164 in the collection of cost-recovery fees, and \$93,899 in donations.

In addition to aggressively pursuing additional non-tax revenue opportunities, the Fire District actively investigates opportunities for cost-containment by virtue of sharing resources (and the cost thereof) among area fire services. The recent acquisition by the STFD, in concert with two other departments of a drone and associated equipment for use in fire and life-saving rescue operations is one example. Currently, the STFD is in the early stages of applying similar cost-reduction/asset-sharing thinking to other critical equipment. One such future candidate is an aerial ladder/platform truck (needed to fight fires in multi-story buildings like condominium complexes) with an acquisition cost in excess of \$1 million.

Included in the packet is a copy of the Fiscal Year 2023-2024 budget adopted unanimously by the Fire Board.

The Fire Board will hold a public presentation and briefing on the budget at Saugatuck Township Fire District, 3342 Blue Star Highway, Saugatuck, MI 49453 on May 15, 2023, at 5:00 PM. The Council members of Saugatuck and Douglas as well as the Township trustees are strongly encouraged to attend. The joint meeting is designed for the local units of government as well as the public to become familiar with the hard work of the Fire District to continually improve efficiency and services. The Fire Board and Fire District personnel will be available to answer questions. We look forward to seeing you on May 15th, at 5:00pm.

The Fire District Board is requesting the City of Saugatuck, Saugatuck Township, and the City of the Village of Douglas to review and adopt this proposed budget during their first meeting following the May 15th joint meeting.



Saugatuck Township Fire District Board:

- Jane Verplank - Chairperson, City of Saugatuck Representative
- Eric Beckman - Vice Chair, Saugatuck Township Representative
- Dan Fox - Secretary, City of Saugatuck Representative
- Scott Phelps - Vice Secretary, At Large Member
- Tarue Pullen - City of the Village of Douglas Representative
- Cathy North - City of the Village of Douglas Representative
- Stacey Aldrich - Saugatuck Township Representative

Call Volume Trend 2004-2023

- Call Volume Trends:**
- 30% decrease in Fire Calls
 - 105% increase in Total Calls
 - 70% increase in Emergency Medical Service Calls
 - 357% increase in Other Calls

Year	Fire Calls	EMS Calls	Other Calls	Total Calls	Total Calls %
2004	37	388	74	499	—
2005	67	411	78	556	11.42
2006	44	408	75	527	(5.21)
2007	56	413	90	559	6.07
2008	34	402	122	558	(0.17)
2009	30	441	121	592	6.09
2010	38	465	108	611	3.20
2011	24	485	133	642	5.07
2012	54	521	158	733	14.17
2013	36	506	148	690	(5.86)
2014	31	565	149	745	7.97
2015	31	522	230	783	5.10
2016	32	560	283	875	11.75
2017	28	469	316	813	(7.08)
2018	30	501	376	907	11.56
2019	21	514	442	977	7.7
2020	33	533	296	862	(11.80)
2021	37	594	333	964	11.80
2022	26	659	338	1.023	6.10

Roster Profile

Jurisdiction and beyond

14, or 44% live in our jurisdiction, which includes the two cites and the township. 18, or 56% live outside our borders.

Currently we have 8 females and 24 males, 25% and 75% respectively. In 2011 the numbers were 5 and 29, 15% and 85% respectively. Back then, only 2 of the 5 females were trained as firefighters, whereas today 7 of the 8 are.

Having overnight facilities at the station is a must! Otherwise roughly half of our roster would not be able to respond within a reasonable time frame.

Total Roster	32	%
Roster jurisdiction	14	44%
Roster non-jurisdiction	18	56%
Firefighters/EMS jurisdiction	11	34%
Firefighters/EMS non-jurisdiction	11	34%
Firefighters jurisdiction	2	6%
Firefighters non-jurisdiction	5	16%
EMS only jurisdiction	2	6%
EMS only non-jurisdiction		0%
Academy jurisdiction	1	3%
Academy non-jurisdiction	2	6%
Roster proximity to station		
0.0-2.5 Miles	7	22%
2.6-5.0 Miles	10	31%
5.1-10.0 Miles	5	16%
10.1-20.0 Miles	5	16%
20.0-40.0 Miles	5	16%

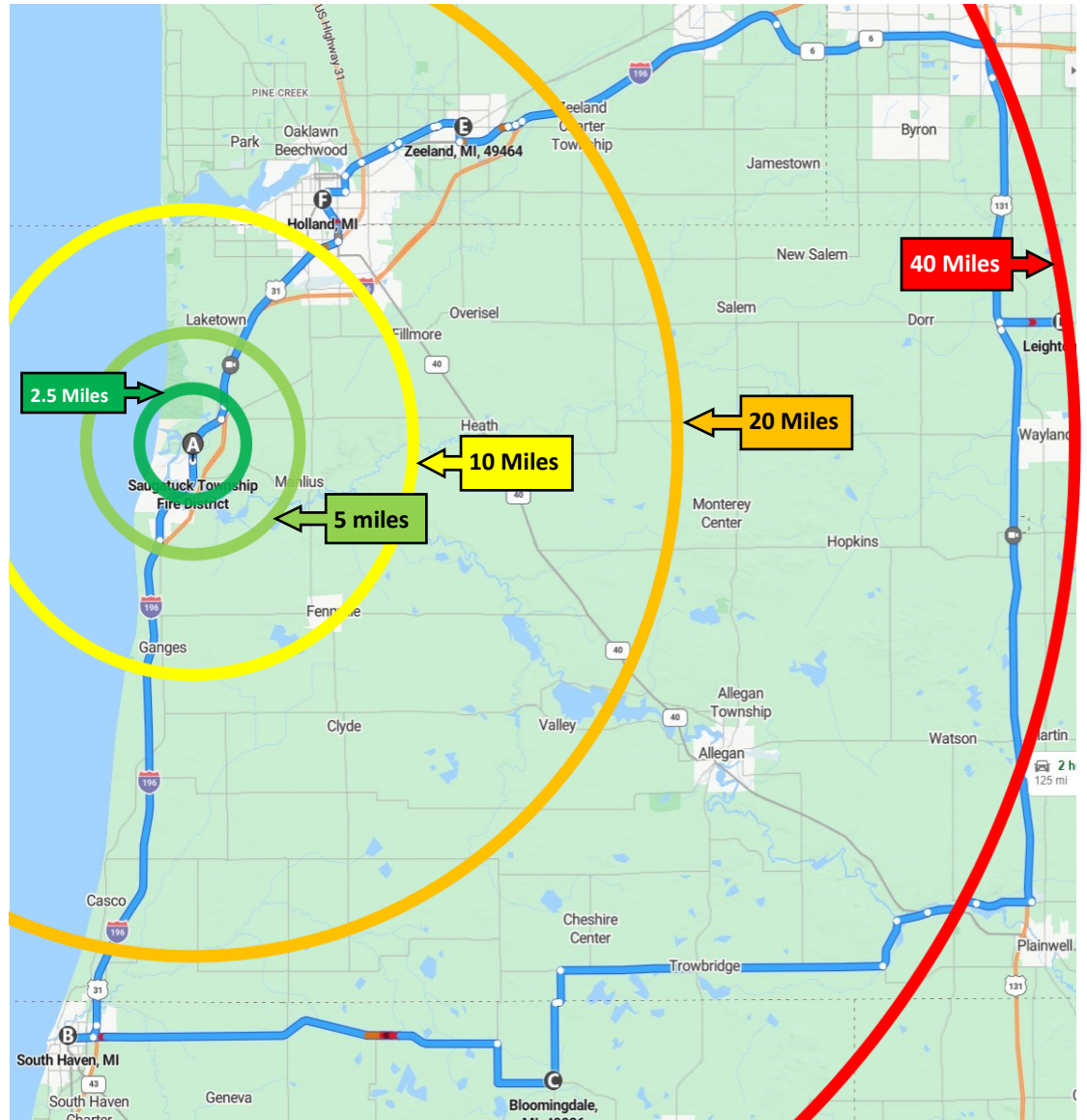
Personnel Proximity to Our Station

Where is our Personnel coming from?

A slight majority, 52%, live within 5 miles of the station. Focusing on this group, only 2 live in the cities of Saugatuck and Douglas, where the remaining 15 live in the Township or very nearby.

For the remaining 48%, their locations range from 5-40 miles away. On their duty nights and weekends, they respond from the station.

0.0-2.5 Miles	7	22%
2.6-5.0 Miles	10	31%
5.1-10.0 Miles	5	16%
10.1-20.0 Miles	5	16%
20.0-40.0 Miles	5	16%



2013-2023 Millage

2023 call volume is estimated from April 30 totals. 284, or 4.8% more calls than at the same time in 2022.

Since the last millage increase in 2018/19, annual calls for service have increased by 12.8%.

Year	Millage	Budget Amount	Difference in %	Number of Calls
2023/24	2.5000	\$ 2,140,000	26.7%	1,072
2022/23	2.2000	\$ 1,689,500	7.1%	1,023
2021/22	2.2000	\$ 1,577,500	5.6%	964
2020/21	2.2000	\$ 1,494,500	3.4%	862
2019/20	2.2000	\$ 1,446,000	18.6%	977
2018/19	2.0000	\$ 1,219,000	4.7%	907
2017/18	2.0000	\$ 1,164,730	23.8%	813
2016/17	2.0000	\$ 940,684	4.3%	875
2015/16	1.7000	\$ 901,754	19.5%	783
2014/15	1.5000	\$ 754,523	15.2%	745
2013/14	1.3000	\$ 655,030	-	690

Additional Revenue 2014-2023

Cost Recovery
Initiated in 2008, however not enforced before 2014.

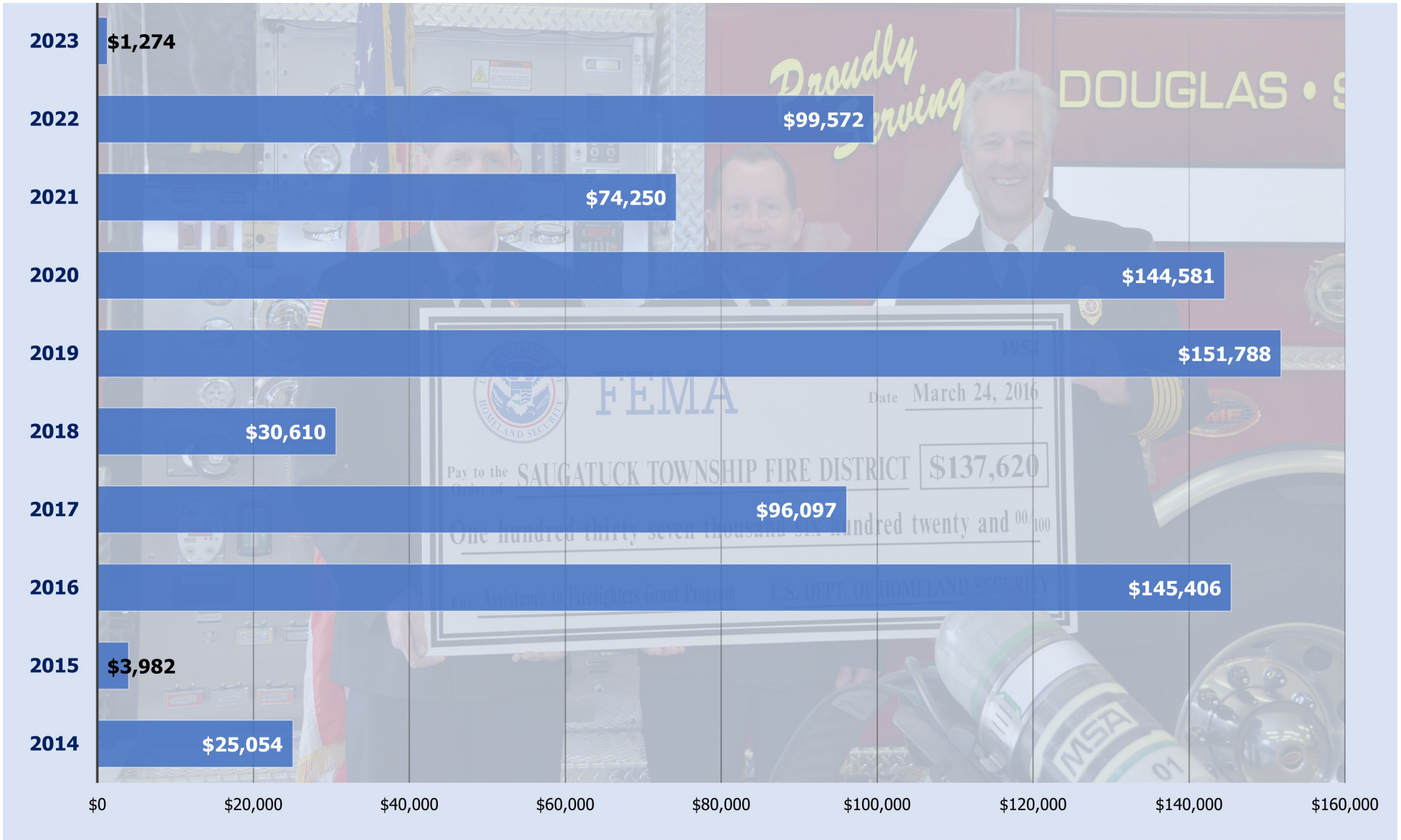
Grants:
FEMA, State and private businesses/insurance companies.

Donations:
Private donations to help offset cost i.e. Live Fire Training Facility and Emergency Medical Equipment and Services



Year	Cost Recovery Filed	Cost Recovery Collected	Grants Received	Donations Received	Totals Collected by Year
2014	\$ 14,843	\$ 12,032	\$ 2,490	\$ 22,564	\$ 37,086
2015	\$ 25,262	\$ 23,028	\$ 3,982	\$ -	\$ 27,010
2016	\$ 32,034	\$ 21,577	\$ 145,406	\$ -	\$ 166,983
2017	\$ 18,960	\$ 5,413	\$ 78,072	\$ 18,025	\$ 101,510
2018	\$ 16,872	\$ 10,412	\$ 13,600	\$ 17,010	\$ 41,022
2019	\$ 25,632	\$ 19,633	\$ 148,398	\$ 3,390	\$ 171,421
2020	\$ 17,223	\$ 11,726	\$ 144,581	\$ -	\$ 156,307
2021	\$ 26,669	\$ 6,105	\$ 73,710	\$ -	\$ 79,815
2022	\$ 44,312	\$ 26,220	\$ 66,662	\$ 32,910	\$ 125,792
2023	\$ 19,894	\$ 13,068	\$ 1,274	\$ -	\$ 14,342
Totals:	\$ 241,701	\$ 149,214	\$ 678,175	\$ 93,899	\$ 921,288

Grants and Donations 2014-2023



Overlapping Calls 2021-2023

What is an overlapping call?

Another emergency incident that requires fire department response that occurs within the time frame of a previous emergency incident.

Year	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL	Year change
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2023														
Runs	75	59	82	68									284	
Overlap	21	20	31	23									95	
Percent	28.0	33.9	37.8	33.8									33.5	
2022														
Runs	69	57	78	67	82	83	116	99	94	91	96	91	1,023	
Overlap	19	12	18	17	30	29	47	40	23	39	39	39	352	
Percent	27.5	21.1	23.1	25.4	36.6	34.9	40.5	40.4	24.5	42.9	40.6	42.9	34.4	28%
2021														
Runs	72	54	67	58	78	101	104	103	93	87	75	72	964	
Overlap	14	4	26	6	18	29	38	32	27	33	26	23	276	
Percent	19.4	7.4	38.8	10.3	23.1	28.7	36.5	31.1	29.0	37.9	34.7	31.9	28.6	41%

Estimated Revenues

GL NUMBER	DESCRIPTION	2019-20 ACTIVITY	2020-21 ACTIVITY	2021-22 ACTIVITY	2022-23 ACTIVITY THRU 04/30/23	2022-23 AMENDED BUDGET	2023-24 REQUESTED BUDGET
Dept 000							
206-000-401.000	SAUGATUCK CITY	353,019.12	364,779.55	389,038.87	417,713.50	415,000.00	517,000.00
206-000-402.000	SAUGATUCK TOWNSHIP	715,779.24	746,971.40	779,960.89	799,471.47	840,000.00	1,072,000.00
206-000-403.000	DOUGLAS CITY	360,753.30	380,819.08	404,358.41	413,146.27	430,000.00	546,000.00
206-000-450.000	FIRE SERVICES	3,155.31	5,214.75	3,909.02	1,006.00	1,000.00	1,000.00
206-000-460.000	INSPECTION & PLAN REVIEW FEES	4,688.00	24,350.00	40,632.58	20,575.00	1,000.00	1,000.00
206-000-465.000	COST RECOVERY	11,098.24	9,871.75	11,360.95	31,227.58	1,000.00	1,000.00
206-000-528.000	OTHER FEDERAL GRANTS		109,856.99		26,928.05		
206-000-560.000	GRANTS & DONATIONS	127,447.33	4,892.90	49,703.10	23,726.90	1,000.00	1,000.00
206-000-665.000	INTEREST	7,623.25	495.26	954.85	3,954.78	500.00	1,000.00
206-000-685.000	SALES OF ASSETS	7,400.00	24,550.00	400.00			
206-000-686.000	FUND BALANCE TRANSFER IN					417,000.00	
Totals for dept 000 -		1,590,963.79	1,671,801.68	1,680,318.67	1,737,749.55	2,106,500.00	2,140,000.00
TOTAL ESTIMATED REVENUES		1,590,963.79	1,671,801.68	1,680,318.67	1,737,749.55	2,106,500.00	2,140,000.00

Appropriations

GL NUMBER	DESCRIPTION	2021-22 ACTIVITY	2022-23 AMENDED BUDGET	2022-23 ACTIVITY THRU 04/30/23	2022-23 PROJECTED ACTIVITY	2023-24 REQUESTED BUDGET
Dept 336 - FIRE FUND						
206-336-702.000	BOARD SALARY	3,250.00	5,000.00	2,050.00	4,000.00	5,000.00
206-336-704.000	CHIEF SALARY	91,871.81	106,100.00	89,118.09	106,100.00	118,000.00
206-336-705.000	OFFICER SALARIES	6,744.56	9,650.00	5,708.48	8,000.00	9,650.00
206-336-708.000	CAREER FIREFIGHTER	330,774.04	338,000.00	340,535.79	415,000.00	575,000.00
206-336-709.000	OPERATIONAL WAGES	115,895.57	125,000.00	76,750.52	100,000.00	100,000.00
206-336-709.500	PAID ON CALL STIPEND	93,911.48	85,000.00	71,401.14	95,000.00	95,000.00
206-336-710.000	FIRE CALLS	48,684.91	65,000.00	45,312.66	63,000.00	70,000.00
206-336-711.000	MEDICAL CALLS	33,412.45	32,000.00	24,633.05	32,000.00	32,000.00
206-336-712.000	TRAINING	45,519.48	48,000.00	17,858.17	30,000.00	48,000.00
206-336-713.000	SPECIAL EVENTS	10,392.31	12,000.00	8,901.49	12,000.00	12,000.00
206-336-720.000	PAYROLL TAXES	62,458.79	66,000.00	54,416.85	70,000.00	98,000.00
206-336-721.000	EMPLOYEE INSURANCE BENEFITS	84,908.36	90,000.00	82,011.08	94,000.00	140,000.00
206-336-722.000	WORKER COMP INSURANCE	43,037.60	58,000.00	55,772.40	56,000.00	100,000.00
206-336-723.000	RETIREMENT	106,038.84	100,000.00	107,895.68	119,000.00	142,000.00
206-336-727.000	OPERATING SUPPLIES	17,794.00	22,500.00	21,107.88	22,500.00	25,000.00
206-336-728.000	GAS & OIL	16,337.64	20,000.00	14,542.92	20,000.00	20,000.00
206-336-730.000	PROFESSIONAL SERVICES	29,550.34	30,000.00	24,553.70	30,000.00	30,000.00
206-336-742.000	TESTING, REPAIR & REPLACEMENT	9,324.84	18,000.00	10,096.11	15,000.00	20,000.00
206-336-745.000	STATION TOOLS	2,918.19	3,000.00	285.73	2,500.00	3,250.00
206-336-746.000	FIRE FIGHTER TOOLS	9,296.03	10,000.00	3,914.06	8,500.00	13,000.00
206-336-751.000	PHONES	11,026.62	13,500.00	8,696.33	11,500.00	13,500.00
206-336-752.000	UTILITIES	14,966.40	20,000.00	11,878.06	15,000.00	20,000.00
206-336-760.000	VEHICLE/ EQUIP REP & MAINTENANCE	72,522.84	45,000.00	29,107.00	55,000.00	55,000.00
206-336-761.000	BOAT MAINTENANCE	14,534.53	17,500.00	14,913.39	17,500.00	19,000.00
206-336-762.000	RADIO & PAGER R&R	5,686.81	8,500.00	1,214.32	5,000.00	10,000.00

Appropriations

GL NUMBER	DESCRIPTION	2021-22 ACTIVITY	2022-23 AMENDED BUDGET	2022-23 ACTIVITY THRU 04/30/23	2022-23 PROJECTED ACTIVITY	2023-24 REQUESTED BUDGET
206-336-763.000	BUILDING REPAIR & MAINTENANCE	29,118.66	27,000.00	11,503.81	22,000.00	30,000.00
206-336-764.000	BUILDING SECURITY	1,515.21	2,000.00	0.00	1,000.00	2,000.00
206-336-767.000	DUES & SUBSCRIPTIONS	2,567.98	4,000.00	2,489.73	3,500.00	4,000.00
206-336-770.000	OFFICE EXPENSES	8,573.92	12,000.00	7,043.21	10,000.00	12,000.00
206-336-771.000	TECHNOLOGY	18,557.07	20,000.00	17,529.68	20,000.00	23,000.00
206-336-775.000	BUILDING INSPECTIONS	452.50	2,500.00	226.45	1,800.00	2,500.00
206-336-780.000	UNIFORMS	7,770.04	15,000.00	12,924.14	15,000.00	15,000.00
206-336-781.000	TURN OUT GEAR	34,307.79	30,000.00	4,121.29	30,000.00	40,000.00
206-336-785.000	EDUCATION	18,999.56	23,000.00	15,624.56	22,000.00	33,000.00
206-336-791.000	MEDICAL SUPPLY	11,122.66	16,000.00	3,606.97	10,000.00	20,000.00
206-336-795.000	COMMUNITY RISK REDUCTION	8,944.45	13,000.00	8,433.51	12,000.00	15,000.00
206-336-796.000	PHYSICALS	289.98	15,000.00	13,500.09	14,500.00	15,000.00
206-336-815.000	GENERAL INSURANCE	28,835.00	32,000.00	33,975.00	33,975.00	35,000.00
206-336-861.000	TAX CHARGE BACK	642.94	500.00	988.72	1,000.00	1,000.00
206-336-975.000	TRUCK PAYMENT	260,000.00	417,000.00	419,307.50	419,307.50	0.00
206-336-985.000	LONG TERM CAPITAL	66,771.78	29,750.00	58,679.44	65,000.00	83,100.00
206-336-986.000	CAPITAL FUND TRANSFER	0.00	100,000.00	0.00	0.00	36,000.00
Totals for dept 336 - FIRE FUND		1,779,327.98	2,106,500.00	1,732,629.00	2,087,682.50	2,140,000.00
TOTAL APPROPRIATIONS		1,779,327.98	2,106,500.00	1,732,629.00	2,087,682.50	2,140,000.00
NET OF REVENUES/APPROPRIATIONS - FUND 206		(99,009.31)	0.00	8,968.39	(269,117.66)	0.00
BEGINNING FUND BALANCE		1,001,996.75	902,987.44	902,987.44	902,987.44	633,869.78
ENDING FUND BALANCE		902,987.44	902,987.44	911,955.83	633,869.78	633,869.78





City Council Agenda Item Report

FROM: Ryan Heise

MEETING DATE: 5/22/23

SUBJECT: Street Improvements

DESCRIPTION:

The council discussed the street improvements included in the agenda packet at their 5.17.23 Workshop.

Included:

- \$158,000.00 bid for road reconstruction with A-1 Asphalt
- \$13,725.00 Stormwater/spillway work
- \$30,407.00 for pavement markings with Ace Contractor

BUDGET ACTION REQUIRED:

\$202,132.00 from road budget.

COMMITTEE/COMMISSION REVIEW:

NA

LEGAL REVIEW:

None, only engineering

SAMPLE MOTION:

Motion to **approve/deny** the bid to approve the bid award as recommended by engineer for \$158,000.00 with A-1 Asphalt for asphalt repairs, \$13,275.00 for spillway and drainage work with Bruce's Blacktop, and \$37,000.00 for pavement markings with Ace Parking.

RECOMMENDATION OF AWARD

May 12, 2023

Via Email: ryan@saugatuckcity.com

Ryan Heise, City Manager
City of Saugatuck
102 Butler Street
PO Box 86
Saugatuck, MI 49453

RE: 2023 Asphalt Repairs

Dear Ryan,

We received bids for the 2023 Asphalt Repairs project on May 11, 2023. Repairs have been identified in the following high priority areas, based on input from the Department of Public Works:

- Spear Street from Water Street to Butler Street, entire block full width
- Griffith Street from Mary Street to Francis Street, full width most of the block
- Francis Street west of Elizabeth Street, two locations
- Hoffman Street west of Elizabeth Street, two locations
- Grand Street north of Mason Street, two locations
- Park Street between Campbell Road and Perryman Street, three locations

Repairs include removal and replacement of the top course of asphalt, approximately 1.5" plus anticipated asphalt base repairs and related work. Bids were requested based on completing the work prior to the 4th of July holiday. Two bids were received, and a tabulation is attached. The low bid is from A-1 Asphalt of Wayland, Michigan in the amount of \$121,614.50, which is in line with our Engineer's Estimate for the work. We have worked with A-1 on a number of similar projects. They are prequalified by the Michigan Department of Transportation, and we feel they are capable of meeting the project requirements.

Based on the above, we recommend an award to A-1 Asphalt in the amount of \$121,614.50.

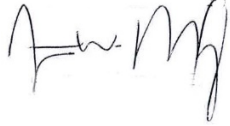
For budgetary purposes, we recommend that the City plan on the following construction phase costs:

Item	Budget
Construction (as awarded):	\$121,614.50
Contingencies (~7%):	\$8,385.50
Construction Engineering & Administration:	\$8,000
Total Recommended Construction Budget:	\$138,000

Please feel free to contact me with any questions.

Sincerely,

FLEIS & VANDENBRINK

A handwritten signature in black ink, appearing to read 'J. Moxey', written over a faint, light-colored signature line.

Jonathan W. Moxey, P.E.
Project Manager

**City of Saugatuck
2023 Asphalt Repairs
Bid Tabulation**



Project No.: 3187-39
By: JWM
Date: 5/11/2023

ITEM NO.	ITEM DESCRIPTION	UNIT	EST. QTY.	Engineer's Estimate		A-1 Asphalt		Rieth Riley	
				ESTIMATED UNIT PRICE	ESTIMATED AMOUNT	BID UNIT PRICE	BID PRICE	BID UNIT PRICE	BID PRICE
1	General Conditions, Bonds, and Insurance, Max 5%	LSum	1	\$ 6,100.00	\$ 6,100.00	\$ 1,575.00	\$ 1,575.00	\$ 13,200.00	\$ 13,200.00
2	Traffic Control	LSum	1	\$ 10,000.00	\$ 10,000.00	\$ 8,269.00	\$ 8,269.00	\$ 23,400.00	\$ 23,400.00
3	Cold Milling HMA Surface	Syd	2,970	\$ 6.00	\$ 17,820.00	\$ 8.36	\$ 24,829.20	\$ 22.30	\$ 66,231.00
4	HMA, 4EL or 13A (Base)	Ton	80	\$ 250.00	\$ 20,000.00	\$ 207.41	\$ 16,592.80	\$ 420.00	\$ 33,600.00
5	HMA, 4EL or 13A (Surface)	Ton	300	\$ 200.00	\$ 60,000.00	\$ 205.62	\$ 61,686.00	\$ 357.00	\$ 107,100.00
6	HMA Valley Gutter	Ft	1,590	\$ 5.00	\$ 7,950.00	\$ -	\$ -	\$ 5.00	\$ 7,950.00
7	Turf Restoration	Syd	450	\$ 10.00	\$ 4,500.00	\$ 19.25	\$ 8,662.50	\$ 30.00	\$ 13,500.00
				Total: \$ 126,370.00		\$ 121,614.50		\$ 264,981.00	

Indicates a mathematical error in the Bid Form that has been corrected.

RECOMMENDATION OF AWARD

May 12, 2023

Via Email: ryan@saugatuckcity.com

Ryan Heise, City Manager
City of Saugatuck
102 Butler Street
PO Box 86
Saugatuck, MI 49453

RE: 2023 Pavement Markings

Dear Ryan,

We received bids for the 2023 Pavement Markings project on May 11, 2023. The scope of work requested includes tracing all of the pavement markings in the City, including on-street parking and municipal parking lots, with the exception of the special crosswalks at the intersection of Culver Street and Butler Street, which the Department of Public Works will be addressing separately.

Bids were requested based on completing the work prior to the 4th of July holiday. Two bids were received, and a tabulation is attached. The low bid is from Ace Parking Lot Striping of Plainwell, Michigan in the amount of \$30,406.95. This is below our Engineer's Estimate for the work and significantly lower than the other bid received. To my knowledge, we have not worked with Ace on similar projects, however, they have been doing pavement marking work for Douglas for several years and Douglas is having them perform work this spring. We are in the process of checking additional references.

Based on the above, we recommend a conditional award to Ace Parking Lot Striping in the amount of \$30,406.95, conditional on completing reference checks.

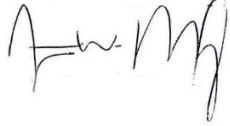
For budgetary purposes, we recommend that the City plan on the following construction phase costs:

Item	Budget
Construction (as awarded):	\$30,406.95
Contingencies (~5%):	\$1,593.05
Construction Engineering & Administration:	\$5,000
Total Recommended Construction Budget:	\$37,000

Please feel free to contact me with any questions.

Sincerely,

FLEIS & VANDENBRINK

A handwritten signature in black ink, appearing to read 'J. Moxey', written over a light blue horizontal line.

Jonathan W. Moxey, P.E.
Project Manager

City of Saugatuck
2023 Pavement Markings
Bid Tabulation



Project No.: 3187-36
 By: JWM
 Date: 5/11/2023

ITEM NO.	ITEM DESCRIPTION	UNIT	EST. QTY.	Engineer's Estimate		Ace Parking Lot Striping		PK Contracting	
				ESTIMATED UNIT PRICE	ESTIMATED AMOUNT	BID UNIT PRICE	BID PRICE	BID UNIT PRICE	BID PRICE
1	General Conditions, Bonds, and Insurance, Max 5%	LSum	1	\$ 2,200.00	\$ 2,200.00	\$ 1,447.95	\$ 1,447.95	\$ 4,500.00	\$ 4,500.00
2	Pavt Mrkg, Waterborne, 4 inch, White	Ft	7,000	\$ 0.25	\$ 1,750.00	\$ 0.20	\$ 1,400.00	\$ 0.15	\$ 1,050.00
3	Pavt Mrkg, Waterborne, 4 inch, Yellow	Ft	47,000	\$ 0.25	\$ 11,750.00	\$ 0.20	\$ 9,400.00	\$ 0.15	\$ 7,050.00
4	Pavt Mrkg, Waterborne, 6 inch, Crosswalk	Ft	380	\$ 0.40	\$ 152.00	\$ 0.30	\$ 114.00	\$ 1.50	\$ 570.00
5	Pavt Mrkg, Waterborne, 4 inch, White, Prkg	Ft	28,000	\$ 0.50	\$ 14,000.00	\$ 0.40	\$ 11,200.00	\$ 1.40	\$ 39,200.00
6	Pavt Mrkg, Waterborne, 12 inch, Crosswalk	Ft	5,400	\$ 1.00	\$ 5,400.00	\$ 0.40	\$ 2,160.00	\$ 3.00	\$ 16,200.00
7	Pavt Mrkg, Waterborne, 24 inch, Stop Bar	Ft	975	\$ 2.00	\$ 1,950.00	\$ 0.80	\$ 780.00	\$ 6.00	\$ 5,850.00
8	Pavt Mrkg, Waterborne, Lt Turn Arrow Sym	Ea	1	\$ 100.00	\$ 100.00	\$ 50.00	\$ 50.00	\$ 80.00	\$ 80.00
9	Pavt Mrkg, Waterborne, Rt Turn Arrow Sym	Ea	1	\$ 100.00	\$ 100.00	\$ 50.00	\$ 50.00	\$ 80.00	\$ 80.00
10	Pavt Mrkg, Waterborne, Thru Lt Turn Arrow Sym	Ea	1	\$ 100.00	\$ 100.00	\$ 75.00	\$ 75.00	\$ 160.00	\$ 160.00
11	Pavt Mrkg, Waterborne, Thru Rt Turn Arrow Sym	Ea	1	\$ 100.00	\$ 100.00	\$ 75.00	\$ 75.00	\$ 160.00	\$ 160.00
12	Pavt Mrkg, Waterborne, Thru Rt Lt Turn Arrow Sym	Ea	1	\$ 100.00	\$ 100.00	\$ 75.00	\$ 75.00	\$ 160.00	\$ 160.00
13	Pavt Mrkg, Waterborne, Thru Arrow Sym	Ea	11	\$ 100.00	\$ 1,100.00	\$ 50.00	\$ 550.00	\$ 70.00	\$ 770.00
14	Pavt Mrkg, Waterborne, Only	Ea	2	\$ 100.00	\$ 200.00	\$ 75.00	\$ 150.00	\$ 80.00	\$ 160.00
15	Curb Head, Yellow	Ft	2,600	\$ 1.00	\$ 2,600.00	\$ 0.40	\$ 1,040.00	\$ 3.00	\$ 7,800.00
16	Pavt Mrkg, Waterborne, Accessible	Ea	30	\$ 50.00	\$ 1,500.00	\$ 15.00	\$ 450.00	\$ 50.00	\$ 1,500.00
17	Pavt Mrkg, Waterborne, 4 inch, Blue, Prkg/XH	Ft	940	\$ 0.80	\$ 752.00	\$ 0.50	\$ 470.00	\$ 1.85	\$ 1,739.00
18	Pavt Mrkg, Waterborne, 4 inch, Yellow, XH	Ft	2,300	\$ 0.75	\$ 1,725.00	\$ 0.40	\$ 920.00	\$ 1.40	\$ 3,220.00
				Total: \$ 45,579.00		\$ 30,406.95		\$ 90,249.00	

Bruce's Blacktop LLC

PO Box 19

Zeeland, MI 49464

Phone: 616-875-2036

Estimate

Date	Estimate #
5/8/2023	2122

Name / Address
City of Saugatuck 102 Butler Street Saugatuck, MI 49453

Description	Total
Oval Beach Project Install spillway on South end of the parking lot as per print Mill approximately 2ft x 430ft on West edge of parking lot Install rolled curb approximately 2ft wide, 3" high As Per Quote	7,500.00
Mason St Project Install 3 spillways as per print As Per Quote	5,225.00



City Council Agenda Item Report

FROM: Ryan Cummins, Director of Planning and Zoning

MEETING DATE: May 22, 2023

SUBJECT: Ordinance 230522-A Floodplain Management Provisions of the State Construction Code

DESCRIPTION:

FEMA has updated the flood insurance study and flood insurance rate maps for our area. They sent the attached letter and maps advising that prior to the effective date (June 21, 2023) we have to show evidence of adoption of the floodplain management regulations that meet the federal law.

EGLE has provided us with a sample ordinance. The sample ordinance has been vetted by FEMA and approved. While I am currently the designated floodplain administrator, EGLE and FEMA are strongly recommending that the Building Official be the designated floodplain administrator. I discussed this with Dan Poll at Michigan Township Services, and he agreed to this as long as the current processes remain in place. Essentially, both MTS and I flag and evaluate projects for floodplain issues. MTS and staff met with EGLE to discuss our current processes and they found them to meet the requirements.

Attached is the updated floodplain ordinance for City Council consideration.

BUDGET ACTION REQUIRED:

N/A

COMMITTEE/COMMISSION REVIEW:

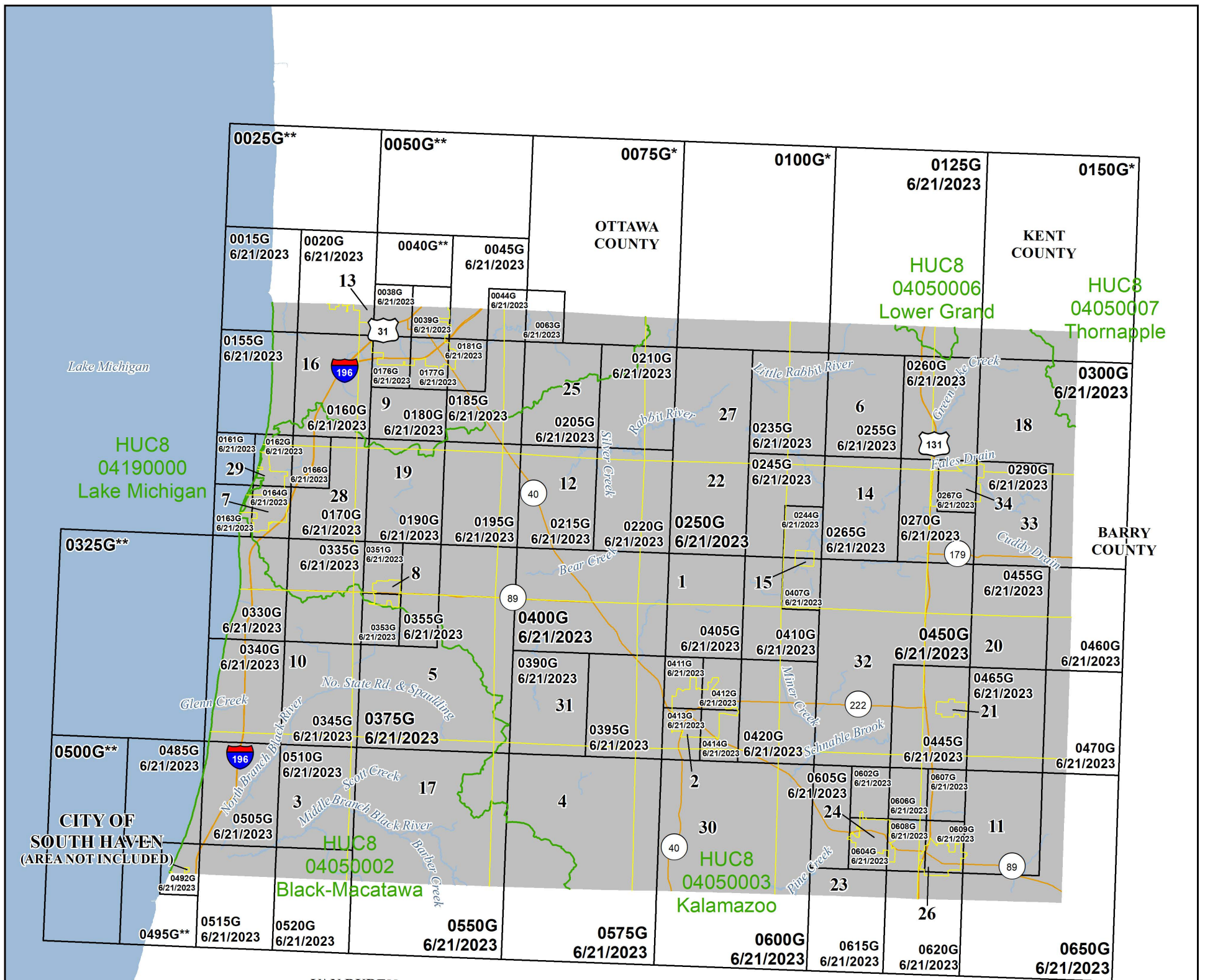
N/A

LEGAL REVIEW:

The City Attorney prepared the ordinance based on the sample and feedback provided by EGLE.

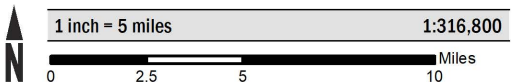
SAMPLE MOTION:

Motion to approve Ordinance 230522-A Floodplain Management Provisions of the State Construction Code.



KEY NO.	COMMUNITY	CID
1	Township of Allegan	261512
2	City of Allegan	260003
3	Township of Casco	260004
4	Township of Cheshire	261513
5	Township of Clyde	261514
6	Township of Dorr	261515
7	City of the Village of Douglas	260549
8	City of Fennville	261460
9	Township of Fillmore	261516
10	Township of Ganges	260005
11	Township of Gun Plain	260614
12	Township of Heath	260347
13	City of Holland	260006
14	Township of Hopkins	261517
15	Village of Hopkins	261458
16	Township of Laketown	260253

KEY NO.	COMMUNITY	CID
17	Township of Lee	260722
18	Township of Leighton	261518
19	Township of Manlius	260348
20	Township of Martin	261900
21	Village of Martin	260793
22	Township of Monterey	261000
23	Otsego Township	260740
24	City of Otsego	260007
25	Overisel Township	261822
26	City of Plainwell	260008
27	Township of Salem	261823
28	Township of Saugatuck	260009
29	City of Saugatuck	260305
30	Township of Trowbridge	261519
31	Township of Valley	261520
32	Township of Watson	261521
33	Township of Wayland	261522
34	City of Wayland	260744



Map Projection:
 State Plane Michigan South FIPS 2113;
 North American Datum 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
[HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION
 * PANEL NOT PRINTED – NO SPECIAL FLOOD HAZARD AREAS
 ** PANEL NOT PRINTED – AREA OUTSIDE COUNTY BOUNDARY



NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP INDEX

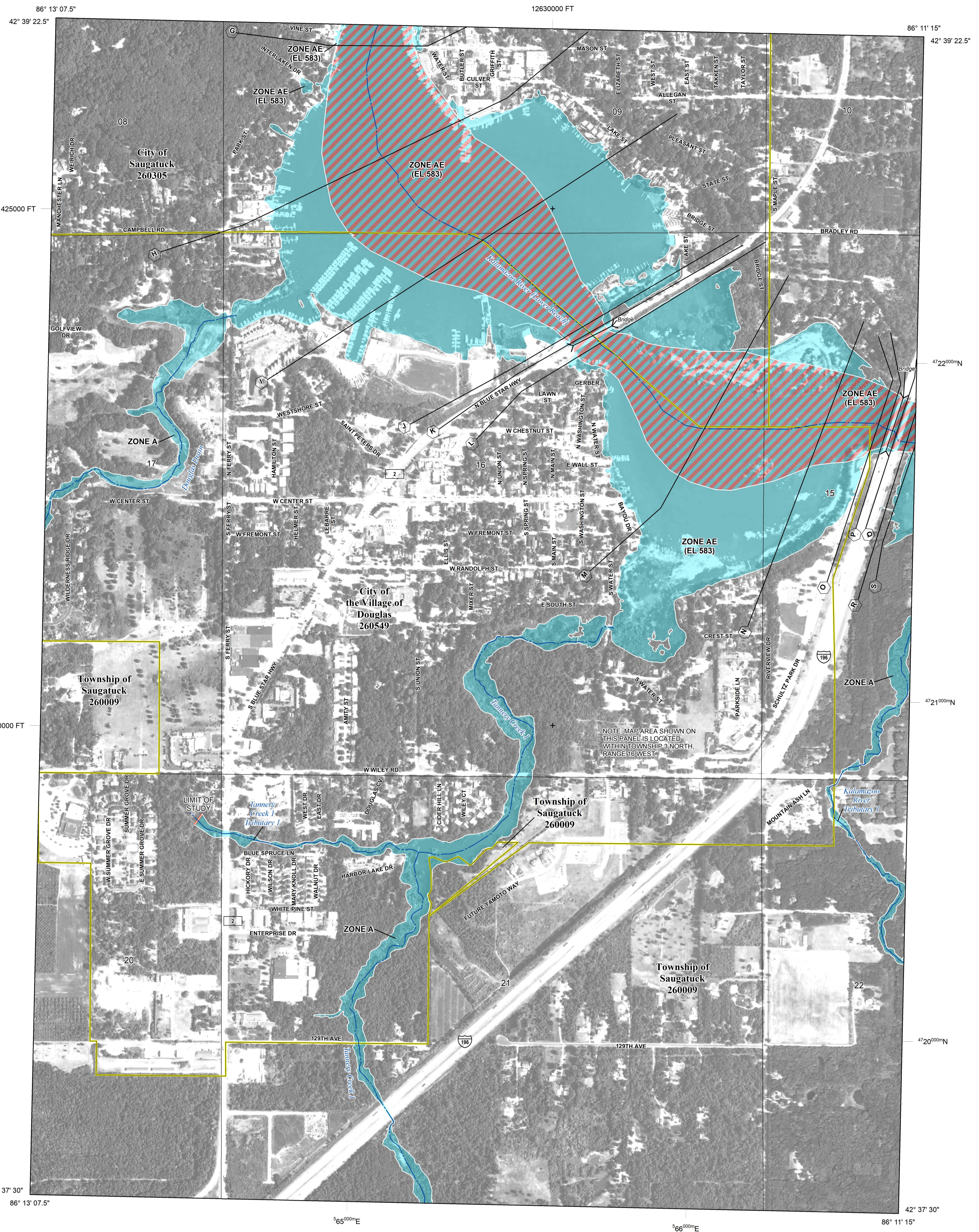
ALLEGAN COUNTY, MICHIGAN
 (All Jurisdictions)

PANELS PRINTED:
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FEMA

MAP NUMBER
 26005CINDOA
 EFFECTIVE DATE
 JUNE 21, 2023



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
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[HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

	Without Base Flood Elevation (BFE) Zone A,V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes. Zone X
	Area with Flood Risk due to Levee Zone D
	NO SCREEN Area of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at <https://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

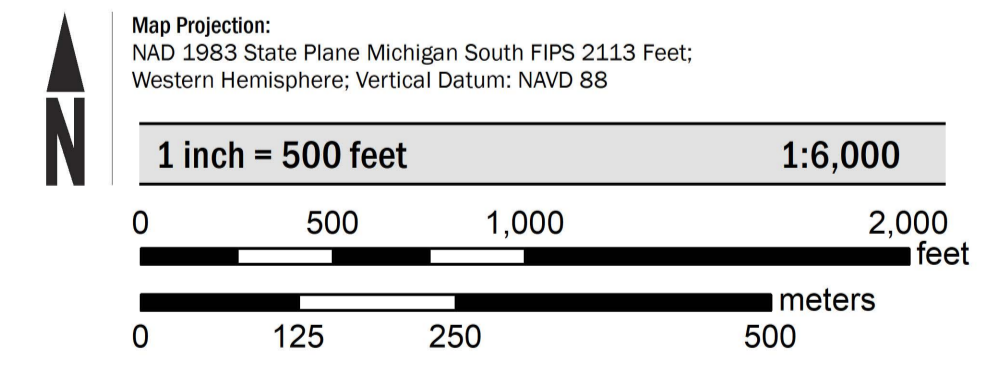
Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was derived from digital orthophotography at a 2-foot resolution from photography dated 2016.

SCALE



PANEL LOCATOR



FEMA
 National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
 FLOOD INSURANCE RATE MAP

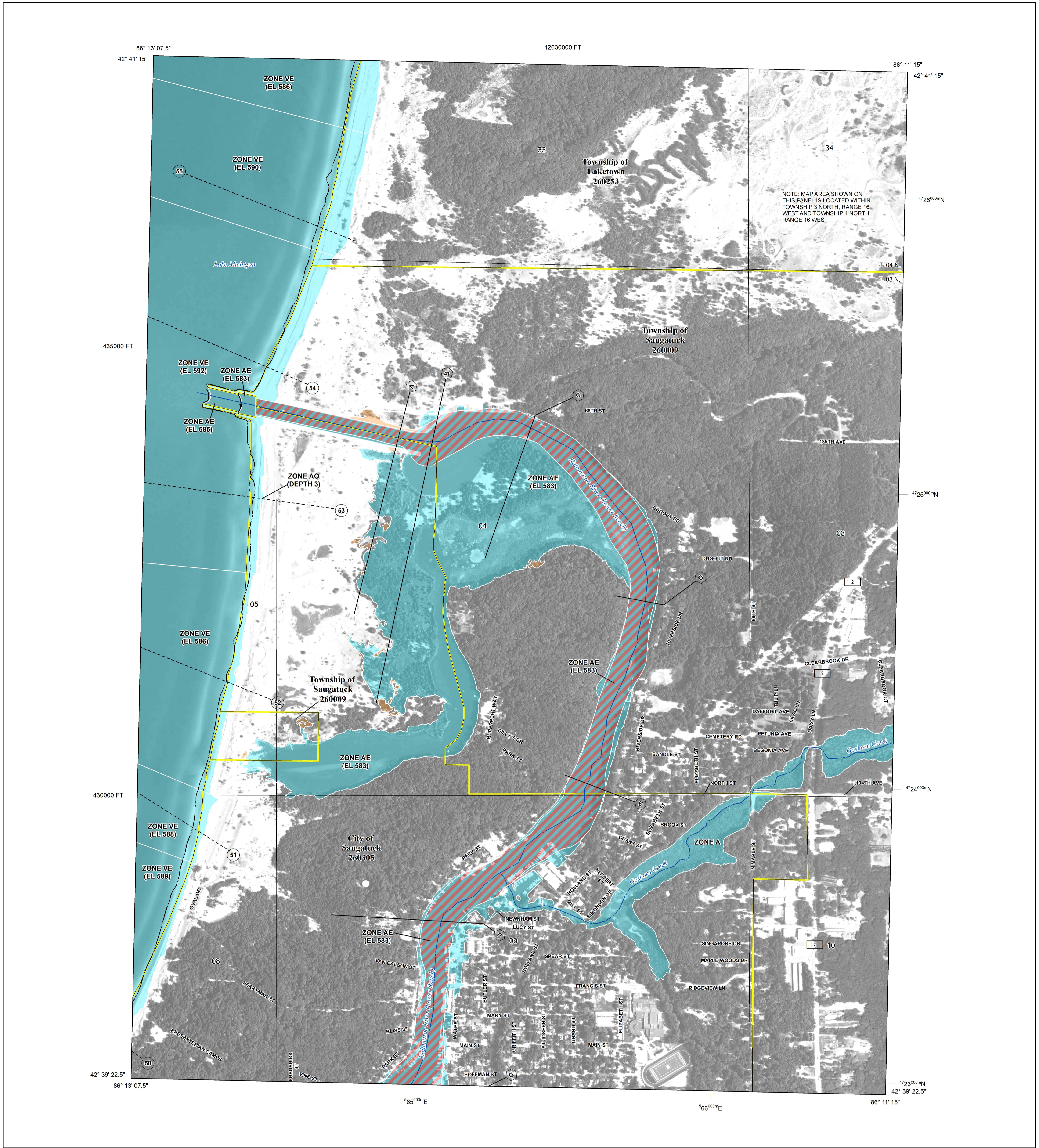
ALLEGAN COUNTY, MICHIGAN
 (All Jurisdictions)

PANEL 164 of 650

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
THE VILLAGE OF DOUGLAS, CITY OF	260549	0164	G
SAUGATUCK, TOWNSHIP OF	260009	0164	G
SAUGATUCK, CITY OF	260305	0164	G

VERSION NUMBER 2.4.3.0
 MAP NUMBER 26005C0164G
 EFFECTIVE DATE JUNE 21, 2023



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
 THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A,V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		Area of Minimal Flood Hazard Zone X
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Base Flood Elevation Line (BFE)
OTHER FEATURES		Limit of Study
		Jurisdiction Boundary

NOTES TO USERS

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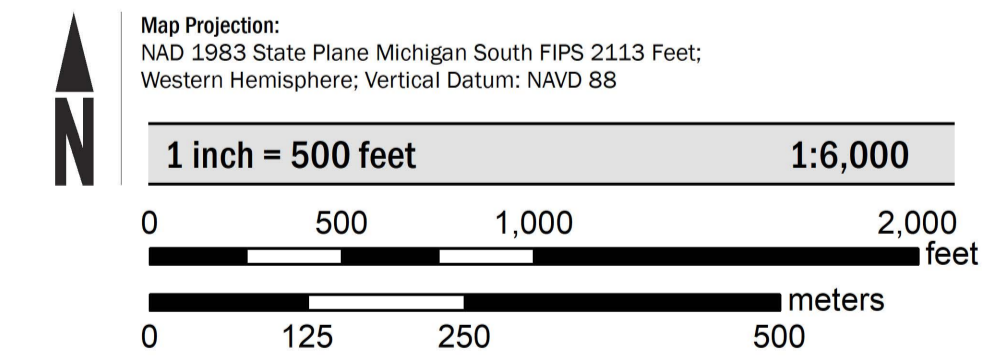
For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction. To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was derived from digital orthophotography at a 2-foot resolution from photography dated 2016.

LIMIT OF MODERATE WAVE ACTION: Zone AE has been divided by a Limit of Moderate Wave Action (LiMWA). The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the Zone VE and the LiMWA (or between the shoreline and the LiMWA for areas where Zone VE is not identified) will be similar to, but less severe than, those in the Zone VE.

Limit of Moderate Wave Action (LiMWA)

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
 FLOOD INSURANCE RATE MAP

ALLEGAN COUNTY, MICHIGAN
 (All Jurisdictions)

PANEL 162 of 650

COMMUNITY	NUMBER	PANEL	SUFFIX
LAKETOWN, TOWNSHIP OF	260253	0162	G
SAUGATUCK, TOWNSHIP OF	260009	0162	G
SAUGATUCK, CITY OF	260305	0162	G

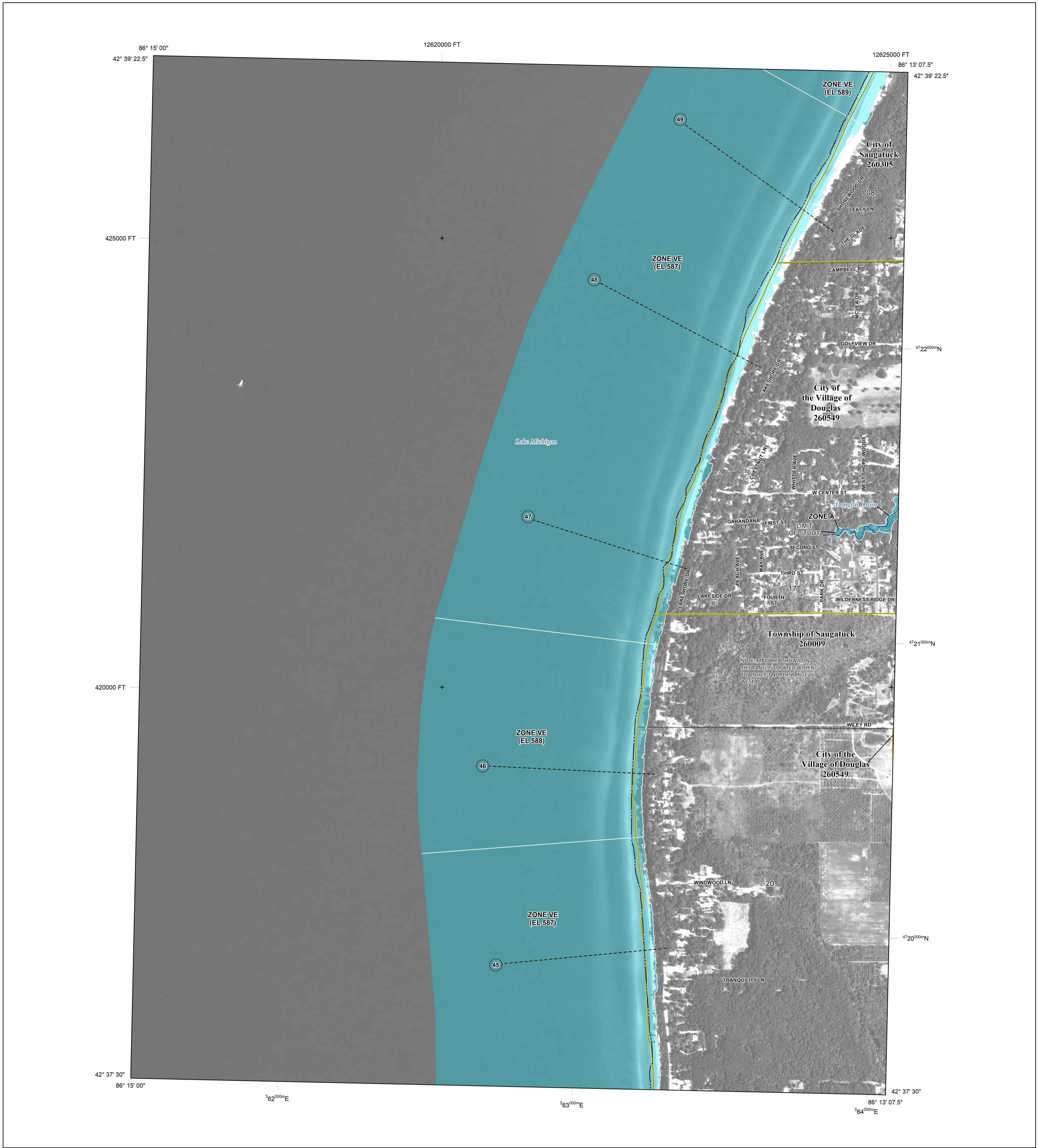
Panel Contains:

VERSION NUMBER
2.4.3.0

MAP NUMBER
26005C0162G

EFFECTIVE DATE
JUNE 21, 2023

131



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTPS://MSC.FEMA.GOV](https://msc.fema.gov)

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee See Notes. Zone X
OTHER AREAS OF FLOOD HAZARD		Area with Flood Risk due to Levee Zone D
		Area of Minimal Flood Hazard Zone X
OTHER AREAS		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Base Flood Elevation Line (BFE)
OTHER FEATURES		Limit of Study
		Jurisdiction Boundary

NOTES TO USERS

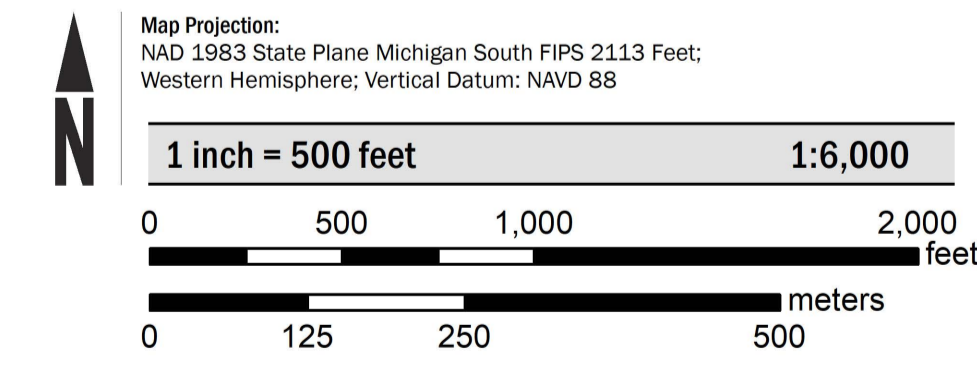
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SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

ALLEGAN COUNTY, MICHIGAN
 (All Jurisdictions)

PANEL 163 of 650

COMMUNITY	NUMBER	PANEL	SUFFIX
THE VILLAGE OF DOUGLAS, CITY OF	260549	0163	G
SAUGATUCK, TOWNSHIP OF	260009	0163	G
SAUGATUCK, CITY OF	260305	0163	G

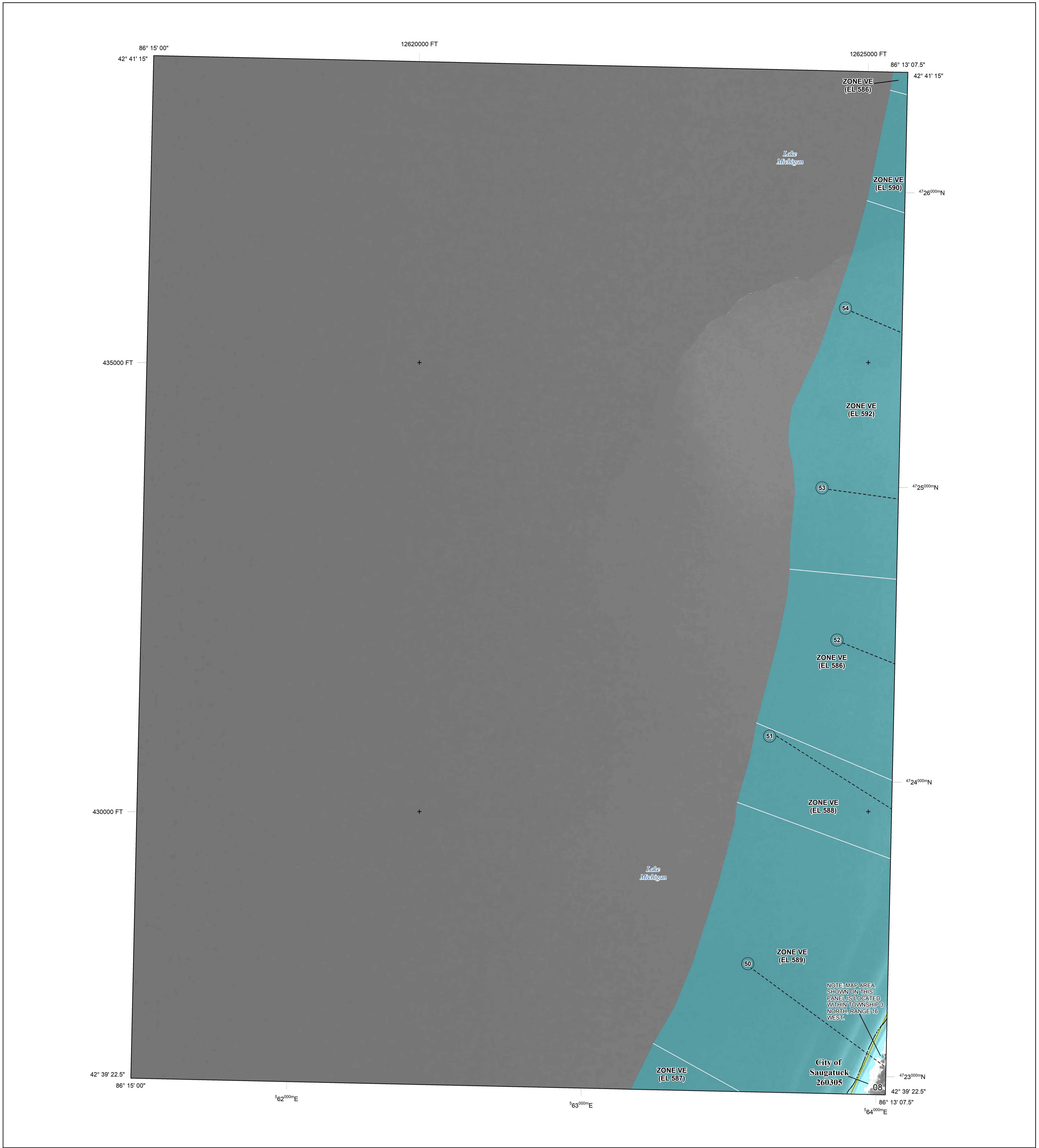
Panel Contains:

VERSION NUMBER
2.4.3.0

MAP NUMBER
26005C0163G

EFFECTIVE DATE
JUNE 21, 2023

132



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
 THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTPS://MSC.FEMA.GOV](https://msc.fema.gov)

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
OTHER AREAS OF FLOOD HAZARD		Regulatory Floodway
		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee See Notes. Zone X
OTHER AREAS		Area with Flood Risk due to Levee Zone D
		Area of Minimal Flood Hazard Zone X
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary

NOTES TO USERS

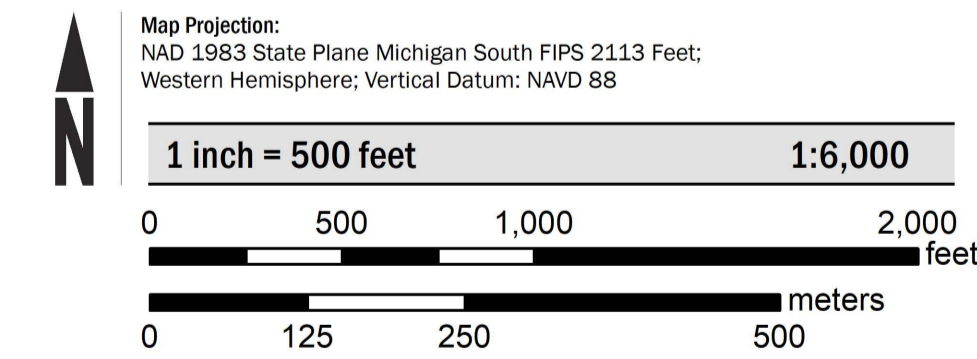
For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at <https://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction. To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the USDA National Agriculture Imagery Program (NAIP). This information was derived from digital orthophotography at a 2-foot resolution from photography dated 2016.

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
 FLOOD INSURANCE RATE MAP

ALLEGAN COUNTY, MICHIGAN
 (All Jurisdictions)

PANEL 161 of 650

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
SAUGATUCK, CITY OF	260305	0161	G

VERSION NUMBER
2.4.3.0

MAP NUMBER
26005C0161G

EFFECTIVE DATE
JUNE 21, 2023

133

ORDINANCE ADDRESSING FLOODPLAIN MANAGEMENT PROVISIONS OF THE STATE CONSTRUCTION CODE

City of Saugatuck, Allegan County

Ordinance number 230522-A

An ordinance to designate an enforcing agency to discharge the responsibility of the City of Saugatuck located in Allegan County, and to designate regulated flood hazard areas under the provisions of the State Construction Code Act, Act No. 230 of the Public Acts of 1972, as amended.

The City of Saugatuck ordains:

Section 1. AGENCY DESIGNATED. Pursuant to the provisions of the state construction code, in accordance with Section 8b(6) of Act 230, of the Public Acts of 1972, as amended, the City's Building Official is hereby designated as the enforcing official to discharge the responsibility of the City of Saugatuck under Act 230, of the Public Acts of 1972, as amended, State of Michigan. The designated Building Official, who is currently with Michigan Township Services, assumes responsibility for the administration and enforcement of said Act throughout the corporate limits of the community adopting this ordinance.

Section 2. CODE APPENDIX ENFORCED. Pursuant to the provisions of the state construction code, in accordance with Section 8b(6) of Act 230, of the Public Acts of 1972, as amended, Appendix G of the Michigan Building Code shall be enforced by the enforcing agency within the jurisdiction of the community adopting this ordinance.

Section 3. DESIGNATION OF REGULATED FLOOD PRONE HAZARD AREAS. The Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) entitled "Flood Insurance Study for Allegan County, All Jurisdictions" and dated June 21, 2023 and the Flood Insurance Rate Maps (FIRMs) panel numbers included on Index Panel 26005CIND0A, effective June 21, 2023 are adopted by reference for the purposes of administration of the Michigan Construction Code, and declared to be a part of Section 1612.3 of the Michigan Building Code, and to provide the content of the "Flood Hazards" section of Table R301.2(1) of the Michigan Residential Code.

Section 4. Title XV: Land Usage, Chapter 151: Flood Damage Prevention, Section 151.03 Basis for Establishing Areas of Special Flood Hazard, of the City of Saugatuck's Zoning Ordinance shall be amended to read as follows:

Section 151.03: Basis for Establishing Areas of Special Flood Hazard.

The area of special flood hazard identified by the ~~Federal Insurance Administration in a scientific and engineering report~~ Federal Emergency Management Agency Flood Insurance Study entitled "~~The flood~~ Flood Insurance Study for ~~the Village of Saugatuck~~ Allegan County, All Jurisdictions" dated ~~February 1, 1980~~ June 21, 2023, with accompanying flood insurance rate maps and ~~flood boundary maps—floodway maps~~, is hereby adopted by reference and declared to be a part of this chapter. The flood insurance study is on file at the office of the City Clerk.

Section 5. Title XV: Land Usage, Chapter 151: Flood Damage Prevention, Section 151.06 Designation and Duties of the Administrator.

Section 151.06 Designation and Duties of the Administrator.

The ~~City Clerk~~ City's designated Building Official is hereby appointed Administrator and is to review all development and subdivision proposals to insure compliance with this chapter.

Section 5. MOST RESTRICTIVE STANDARDS. If another ordinance contains standards inconsistent with the provisions of this ordinance, the most restrictive standards shall apply.

Section 6. PUBLICATION. This ordinance shall be effective after legal publication and in accordance with the provisions of the Act governing same.

Adopted this ____ day of _____, 2023.

This ordinance was duly adopted on the date written above at a regular meeting of the City of Saugatuck City Council and will become effective on the ____ day of _____, 2023.

Signed on this ____ day of _____, 2023

By: _____
Jamie Wolters
Clerk of the City of Saugatuck.

Attested on this ____ day of _____, 2023 by _____,
Scott Dean, Mayor of the City of Saugatuck.



City Council Agenda Item Report

FROM: Ryan Cummins

MEETING DATE: 5/22/2023

SUBJECT: Sidewalk Seating Request – GROW Café and Bistro

DESCRIPTION:

Alec Payleitner, owner of GROW Café and Bistro (Grow Estate, LLC), has submitted the attached application and sketch plan to place 16 tables (of a size to seat two persons), 3 high top tables, 32 chairs, and rope barrier on the public sidewalk adjoining the property. Mr. Payleitner advised the tables and chairs will be in place through October and serve their customers from as early as 8am to as late as 10pm.

Attached is a Revocable License Agreement that would allow for GROW Café and Bistro to have temporary restaurant seating in the public right-of-way until November 1.

BUDGET ACTION REQUIRED:

N/A

COMMITTEE/COMMISSION REVIEW:

On March 27, City Council approved continued flexibility and staff discretion for temporary expanded outdoor dining during the 2023 spring/summer/fall tourist season. Mr. Payleitner understands after November 1, 2023, all city codes, including zoning, will have to be followed.

LEGAL REVIEW:

The City Attorney reviewed revocable license agreement language for restaurant seating in the public right of way.

SAMPLE MOTION:

Motion to **approve/deny** the Revocable License Agreement for temporary restaurant seating in the public right-of-way for GROW Café and Bistro (Grow Estate, LLC)



Temporary Sidewalk Restaurant Seating

LOCATION INFORMATION APPLICATION NUMBER _____ - _____

Business Address 302 Culver Street / 121 Griffith Parcel Number 57-300-195-00

APPLICANTS INFORMATION

Name Alec Payleitner Address / PO Box PO Box 841

City Saugatuck State MI Zip 49453 Phone 312.480.8161

Interest In Project Owner E-Mail alec@grow-food.com

Signature Date 05.10.2023

SUBJECT PROPERTY OWNERS INFORMATION (IF DIFFERENT FROM APPLICANTS)

Name Fred Gerigery Address / PO Box PO Box 2840

City Douglas State MI Zip 49406 Phone 561.889.3255

E-Mail fredgerigery@gmail.com

I hereby authorize that the applicant as listed above is authorized to make this application for proposed work as my agent and we agree to conform to all applicable laws and regulations of the City of Saugatuck. I additionally grant City of Saugatuck staff or authorized representatives thereof access to the property to inspect conditions, before, during, and after the proposed work is completed.

Signature Date 05.10.2023

BUSINESS PROPERTY INFORMATION **See Attached Diagram**

Depth _____ Width _____ Size _____ Zoning District _____ Current Use _____

Check all that apply: Waterfront _____ Dunes _____ Vacant _____

DESCRIPTION (LOCATION OF TABLES, NUMBER OF CHAIRS, HOURS OF OPERATION, DURATION OF OPERATION)

ON CULVER: 8-12 tables, 2 chairs at each table

ON GRIFFITH: 3 high top tables, 4 low tables with 8 chairs

Maximum hours of operation: 8am - 10pm

Current hours of operation (as of 5/10/23) : 9am - 5pm

Maximum duration of operation: April 1 - October 31

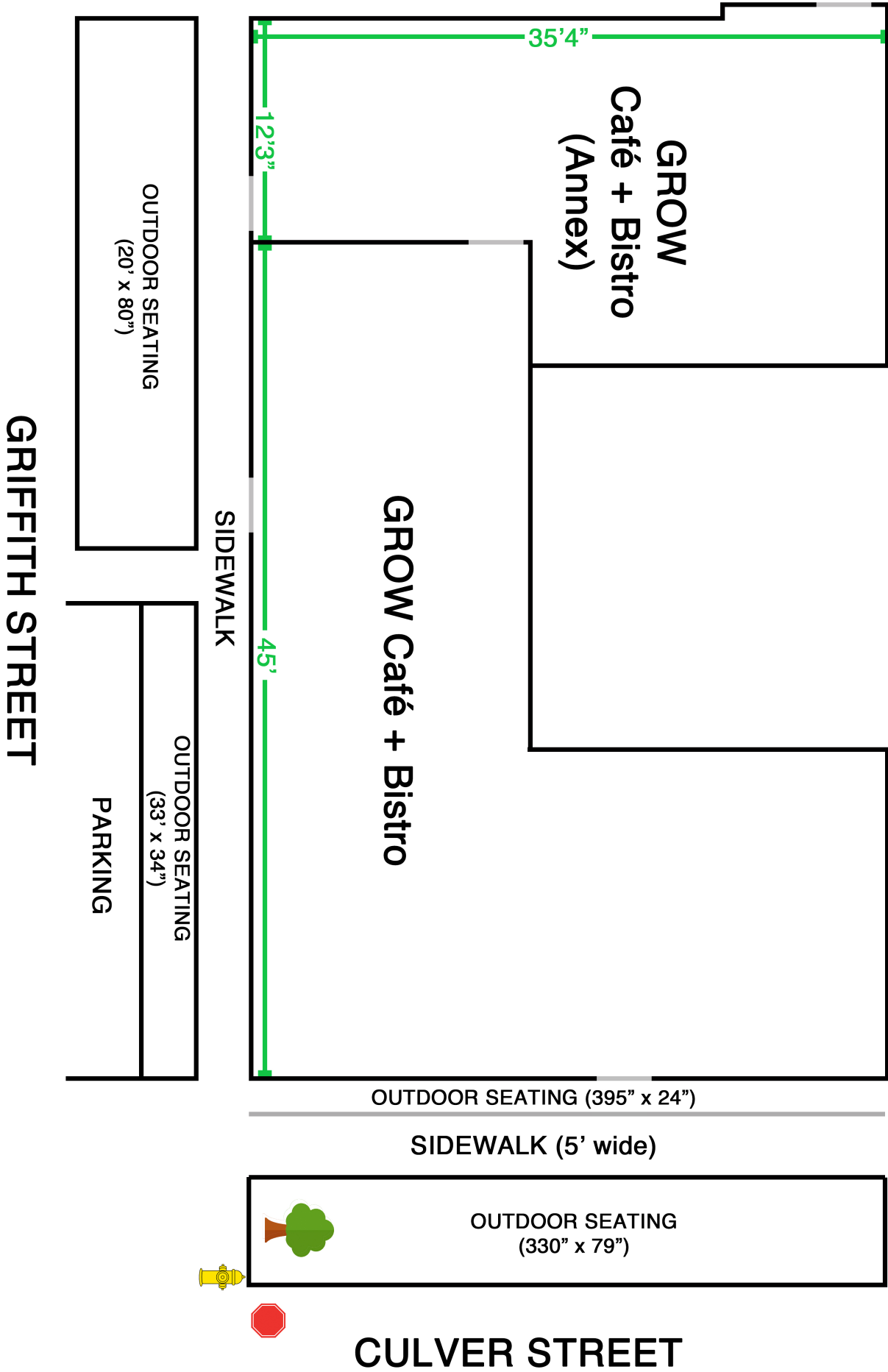
STANDARDS AND APPLICATION REQUIREMENTS

Please submit a scaled drawing showing the following:

Y N NA

- Scaled drawing showing the location of the proposed seating,
- Listed here Sidewalk surface materials (Griffith Street = Concrete, Culver Street = Brick + Concrete)
- Adjacent Property lines,
- Curb-line and crosswalks,
- Obstructions including but not limited to trees, tree pits, signs, fire hydrants, benches, or similar features within 25 feet of proposed seating area.

ALLEY WAY



REVOCABLE LICENSE AGREEMENT

FOR RESTAURANT SEATING IN THE PUBLIC RIGHT OF WAY

THIS AGREEMENT is made this ___ day of _____, 2023, by and between the CITY OF SAUGATUCK, (hereinafter “City”) a municipal corporation located in Allegan County, Michigan; and Grow Café and Bistro (Grow Estate LLC), (hereinafter “Licensee”).

Recitals

- A. Licensee has leasehold interest in real property located at 302 Culver Street, in the City of Saugatuck, further described as PP No. 03-57-300-195-00. A restaurant is operated on the property.
- B. Licensee desires to place 16 tables (of a size to seat two persons), 3 high top tables, 32 chairs, and rope barrier within and on the public sidewalk adjoining the property, to be utilized in conjunction with the restaurant.
- C. The public sidewalk is under the control and jurisdiction of the City and the City is amenable to granting a revocable license to Licensee for the purposes described herein, subject to the terms of this Agreement.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is acknowledged by the parties, it is agreed as follows:

Agreement

1. The parties affirm that the recitals set forth above are correct, form an integral part of this Agreement and are incorporated by reference.
2. The City grants to the Licensee, and the Licensee accepts from the City, a non-exclusive, revocable license to place and utilize the number of tables and chairs set forth above within and on the public sidewalk directly adjacent to the Licensee’s property, in the precise location shown on the attached sketch plan, marked as Exhibit A (the “Licensed Premises”) subject to the terms and conditions of this Agreement. Without limiting the foregoing, the placement and use of the seating and tables shall not obstruct or interfere with a five (5) foot wide path on the improved sidewalk, which path shall be continuously maintained for pedestrian travel.
3. The Licensee acknowledges and agrees that Licensee has inspected the Licensed Premises and has determined such premises to be in a satisfactory condition and that the Licensee's entry upon and use of the Licensed Premises constitutes acceptance of the Licensed Premises on an "as is" basis. The City makes no representations or warranties as to the condition of the public right-of-way, the suitability of the use of the Licensed Premises proposed by Licensee, or any physical or other condition. The City will have no liability or responsibility for upkeep, maintenance, or any other action with regard to personal property located on the Licensed Premises or the Licensed

Premises as a result of this Agreement. Licensee will comply with all applicable ordinances, laws, and regulations governing the same and will keep personal property placed thereon in neat and clean condition, reasonable wear and tear excepted.

4. This Agreement is subject, without limitation, to the following general restrictions:
 - A. The use of the personal property on the Licensed Premises shall not be conducted in such a way as to become a public nuisance; and Licensee's use of the Licensed Premises shall not interfere with traffic or circulation on any adjoining streets, alleys, sidewalks or public open-space areas.
 - B. The Licensee is responsible for maintaining, in a clean and safe condition, the personal property as well as the Licensed Premises.
 - C. The personal property shall only be located in that area expressly designated on Exhibit A.
5. This Agreement shall not authorize the use or placement of any other personal property within or on the Licensed Premises, including, but not limited, to signage, fencing, trash cans, service stations, or features except those items referenced in Recital B above.
6. The Licensee shall hold the City and its officers, employees, and agents harmless from, and defend and indemnify them against, any and all claims or lawsuits seeking recovery for damage or injury, including death, and against any other legal proceedings instituted against any of them, directly or indirectly, arising from the use or placement of the tables and chairs within and on the public sidewalks or from the City's permitting the Licensee to install and maintain such encroachment, regardless of whether the Licensee or any of its officers, employees, or agents are negligent. The obligations of the Licensee under this paragraph shall survive the termination of this Agreement for a period of three years.
7. The license granted by this Agreement shall expire on November 1, 2023. Notwithstanding the foregoing, the license granted by this Agreement shall be revocable at the will of the City, with or without cause, by the City giving Licensee 15 days written notice of intent to revoke. Upon written notice to Licensee, mailed by regular mail to the Licensee at the property Licensee's address of record (PO Box 841, Saugatuck, MI 49453), Licensee shall forthwith remove the tables, chairs and rope barrier from within the City right-of-way. In the event the license is revoked, neither Licensee nor its successors or assigns shall be entitled to any compensation.
8. Any food service shall conform to applicable local, county, state, and federal laws, regulations, licensing requirements, and standards, subject to any limits imposed in this license.
9. The Licensee shall obtain, continuously maintain for the duration of this Agreement, and provide the City prior to execution of this Agreement, and from time to time

thereafter, with proof acceptable to the City Manager of commercial general liability insurance coverage, naming the City as an additional insured party. Such insurance shall have an initial limit of \$1,000,000 per occurrence and \$2,000,000 general aggregate. Said insurance must contain comprehensive coverage to insure against any and all claims arising out of or attributable to the encroachment of the tables and chairs into the Licensed Premises or other public right-of-way, regardless of whether the Licensee or any of its officers, employees, or agents are negligent in any manner. The certificate of insurance must contain an unqualified guarantee that the City will be provided with 30 days prior written notice of cancellation, termination, non-renewal, or material change in coverage of the insurance policy provided. If the Licensee fails to maintain the required insurance in force, the City may, at its option, obtain such insurance at its own expense and bill the costs of the same to the Licensee, which costs the Licensee agrees to promptly pay.

10. In no event shall the City be responsible for loss or damage to improvements or personal property owned by the Licensee or its invitees or employees and located on the Licensed Premises, which are caused by fire, theft, loss, vandalism or other casualty.
11. The failure of either party to enforce any covenant or condition of this Agreement shall not be deemed a waiver thereof or of the right of either party to enforce each and every covenant and condition of this License. No provision of this Agreement shall be deemed to have been waived unless such waiver shall be in writing.
12. Licensee acknowledges and agrees that the City is the owner of the Licensed Premises, that the license granted under this Agreement involves the permission to enter and use property which is a public right of way, that the public's rights are paramount, and that the Licensee's use under this license may not interfere with the public's rights to the reasonable use of the Licensed Premises. Licensee further acknowledges that its use of the Licensed Premises does not constitute any title, claim of right, or other interest in the Licensed Premises.
13. Violations of a term of this Agreement by Licensee shall result in the suspension of Licensee's rights hereunder with 24-hour notice to Licensee.
14. This license is personal with the Licensee and does not run with the land. This license shall not be assigned or transferred in any manner by the Licensee to any other person or business entity. The City, in its sole discretion, may authorize the assignment or transfer of this license to a third party by amendment to this Agreement or by a separate license agreement.

In witness whereof, the parties have caused this Agreement to be executed on the date first set forth above.

CITY OF SAUGATUCK, a municipal corporation

By: _____

Its: _____

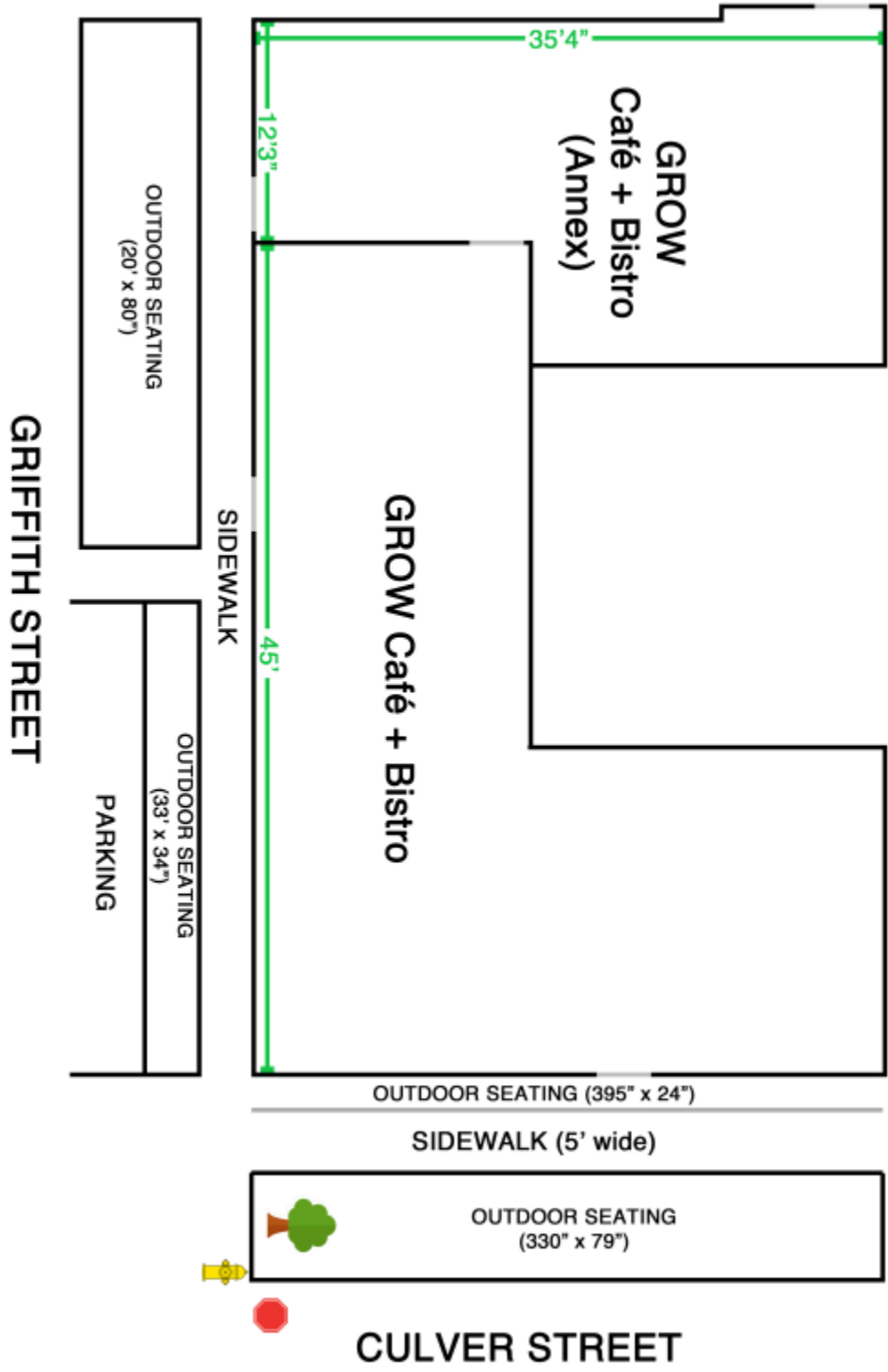
_____, a _____

By: _____

Its: _____

EXHIBIT A

ALLEY WAY





City Council Agenda Item Report

FROM: Ryan Cummins

MEETING DATE: 5/22/2023

SUBJECT: Sidewalk Seating Request – Tree of Life Juice

DESCRIPTION:

Joanne Lam, owner of Tree of Life Juice (JSL Juice LLC), has submitted the attached application and sketch plan to place two picnic tables on the public sidewalk adjoining the property. Ms. Lam advised the tables and chairs will be in place through October and serve their customers from 10am to 7pm.

Attached is a Revocable License Agreement that would allow Tree of Life Juice to have temporary restaurant seating in the public right-of-way until November 1.

BUDGET ACTION REQUIRED:

N/A

COMMITTEE/COMMISSION REVIEW:

On March 27, City Council approved continued flexibility and staff discretion for temporary expanded outdoor dining during the 2023 spring/summer/fall tourist season. Ms. Lam understands after November 1, 2023, all city codes, including zoning, will have to be followed.

LEGAL REVIEW:

The City Attorney reviewed revocable license agreement language for restaurant seating in the public right of way.

SAMPLE MOTION:

Motion to **approve/deny** the Revocable License Agreement for temporary restaurant seating in the public right-of-way for Tree of Life Juice (JSL Juice LLC)



Temporary Sidewalk Restaurant Seating

LOCATION INFORMATION APPLICATION NUMBER _____ - _____

Business Address 201 Culver St. Unit 1 Parcel Number _____

APPLICANTS INFORMATION

Name Joanne Lam Address / PO Box 245 Ira Spring Rd.
City Holland State MI Zip 49423 Phone (616) 610-9534
Interest In Project sidewalk seating E-Mail thetreeoflifejuice@gmail.com
Signature Joanne Lam Date 5/12/2023

SUBJECT PROPERTY OWNERS INFORMATION (IF DIFFERENT FROM APPLICANTS)

Name _____ Address / PO Box _____
City _____ State _____ Zip _____ Phone _____
E-Mail _____

I hereby authorize that the applicant as listed above is authorized to make this application for proposed work as my agent and we agree to conform to all applicable laws and regulations of the City of Saugatuck. I additionally grant City of Saugatuck staff or authorized representatives thereof access to the property to inspect conditions, before, during, and after the proposed work is completed.

Signature Joanne Lam Date 5/12/2023

BUSINESS PROPERTY INFORMATION

Depth 8 1/2 ft Width 14 1/2 ft Size _____ Zoning District _____ Current Use X
Check all that apply: Waterfront _____ Dunes _____ Vacant _____

DESCRIPTION (LOCATION OF TABLES, NUMBER OF CHAIRS, HOURS OF OPERATION, DURATION OF OPERATION)

- in front of shop
- two tables w/ benches on each side
- Sunday - Saturday 10am - 7pm

STANDARDS AND APPLICATION REQUIREMENTS

Please submit a scaled drawing showing the following:

Y N NA

- Scaled drawing showing the location of the proposed seating,
- Sidewalk surface materials
- Adjacent Property lines,
- Curb-line and crosswalks,
- Obstructions including but not limited to trees, tree pits, signs, fire hydrants, benches, or similar features within 25 feet of proposed seating area.

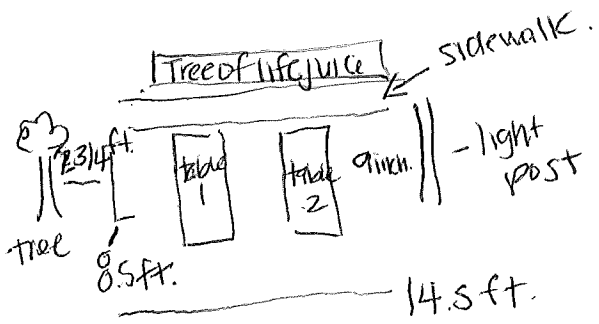


table 1 & 2 are wooden tables w/ umbrellas.

REVOCABLE LICENSE AGREEMENT

FOR RESTAURANT SEATING IN THE PUBLIC RIGHT OF WAY

THIS AGREEMENT is made this ___ day of _____, 2023, by and between the CITY OF SAUGATUCK, (hereinafter “City”) a municipal corporation located in Allegan County, Michigan; and Tree of Life Juice (JSL Juice LLC), (hereinafter “Licensee”).

Recitals

- A. Licensee has leasehold interest in real property located at 202 Culver Street, in the City of Saugatuck, further described as PP No. 03-57-170-001-00. A restaurant is operated on the property.
- B. Licensee desires to place two picnic tables within and on the public sidewalk adjoining the property, to be utilized in conjunction with the restaurant.
- C. The public sidewalk is under the control and jurisdiction of the City and the City is amenable to granting a revocable license to Licensee for the purposes described herein, subject to the terms of this Agreement.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is acknowledged by the parties, it is agreed as follows:

Agreement

1. The parties affirm that the recitals set forth above are correct, form an integral part of this Agreement and are incorporated by reference.
2. The City grants to the Licensee, and the Licensee accepts from the City, a non-exclusive, revocable license to place and utilize the number of tables and chairs set forth above within and on the public sidewalk directly adjacent to the Licensee’s property, in the precise location shown on the attached sketch plan, marked as Exhibit A (the “Licensed Premises”) subject to the terms and conditions of this Agreement. Without limiting the foregoing, the placement and use of the seating and tables shall not obstruct or interfere with a five (5) foot wide path on the improved sidewalk, which path shall be continuously maintained for pedestrian travel.
3. The Licensee acknowledges and agrees that Licensee has inspected the Licensed Premises and has determined such premises to be in a satisfactory condition and that the Licensee's entry upon and use of the Licensed Premises constitutes acceptance of the Licensed Premises on an "as is" basis. The City makes no representations or warranties as to the condition of the public right-of-way, the suitability of the use of the Licensed Premises proposed by Licensee, or any physical or other condition. The City will have no liability or responsibility for upkeep, maintenance, or any other action with regard to personal property located on the Licensed Premises or the Licensed Premises as a result of this Agreement. Licensee will comply with all applicable

ordinances, laws, and regulations governing the same and will keep personal property placed thereon in neat and clean condition, reasonable wear and tear excepted.

4. This Agreement is subject, without limitation, to the following general restrictions:
 - A. The use of the personal property on the Licensed Premises shall not be conducted in such a way as to become a public nuisance; and Licensee's use of the Licensed Premises shall not interfere with traffic or circulation on any adjoining streets, alleys, sidewalks or public open-space areas.
 - B. The Licensee is responsible for maintaining, in a clean and safe condition, the personal property as well as the Licensed Premises.
 - C. The personal property shall only be located in that area expressly designated on Exhibit A.
5. This Agreement shall not authorize the use or placement of any other personal property within or on the Licensed Premises, including, but not limited, to signage, fencing, trash cans, service stations, or features except those items referenced in Recital B above.
6. The Licensee shall hold the City and its officers, employees, and agents harmless from, and defend and indemnify them against, any and all claims or lawsuits seeking recovery for damage or injury, including death, and against any other legal proceedings instituted against any of them, directly or indirectly, arising from the use or placement of the tables and chairs within and on the public sidewalks or from the City's permitting the Licensee to install and maintain such encroachment, regardless of whether the Licensee or any of its officers, employees, or agents are negligent. The obligations of the Licensee under this paragraph shall survive the termination of this Agreement for a period of three years.
7. The license granted by this Agreement shall expire on November 1, 2023. Notwithstanding the foregoing, the license granted by this Agreement shall be revocable at the will of the City, with or without cause, by the City giving Licensee 15 days written notice of intent to revoke. Upon written notice to Licensee, mailed by regular mail to the Licensee at the property Licensee's address of record (245 Ira Spring Rd, Holland, MI 49423), Licensee shall forthwith remove the tables and chairs from within the City right-of-way. In the event the license is revoked, neither Licensee nor its successors or assigns shall be entitled to any compensation.
8. Any food service shall conform to applicable local, county, state, and federal laws, regulations, licensing requirements, and standards, subject to any limits imposed in this license.
9. The Licensee shall obtain, continuously maintain for the duration of this Agreement, and provide the City prior to execution of this Agreement, and from time to time thereafter, with proof acceptable to the City Manager of commercial general liability

insurance coverage, naming the City as an additional insured party. Such insurance shall have an initial limit of \$1,000,000 per occurrence and \$2,000,000 general aggregate. Said insurance must contain comprehensive coverage to insure against any and all claims arising out of or attributable to the encroachment of the tables and chairs into the Licensed Premises or other public right-of-way, regardless of whether the Licensee or any of its officers, employees, or agents are negligent in any manner. The certificate of insurance must contain an unqualified guarantee that the City will be provided with 30 days prior written notice of cancellation, termination, non-renewal, or material change in coverage of the insurance policy provided. If the Licensee fails to maintain the required insurance in force, the City may, at its option, obtain such insurance at its own expense and bill the costs of the same to the Licensee, which costs the Licensee agrees to promptly pay.

10. In no event shall the City be responsible for loss or damage to improvements or personal property owned by the Licensee or its invitees or employees and located on the Licensed Premises, which are caused by fire, theft, loss, vandalism or other casualty.
11. The failure of either party to enforce any covenant or condition of this Agreement shall not be deemed a waiver thereof or of the right of either party to enforce each and every covenant and condition of this License. No provision of this Agreement shall be deemed to have been waived unless such waiver shall be in writing.
12. Licensee acknowledges and agrees that the City is the owner of the Licensed Premises, that the license granted under this Agreement involves the permission to enter and use property which is a public right of way, that the public's rights are paramount, and that the Licensee's use under this license may not interfere with the public's rights to the reasonable use of the Licensed Premises. Licensee further acknowledges that its use of the Licensed Premises does not constitute any title, claim of right, or other interest in the Licensed Premises.
13. Violations of a term of this Agreement by Licensee shall result in the suspension of Licensee's rights hereunder with 24-hour notice to Licensee.
14. This license is personal with the Licensee and does not run with the land. This license shall not be assigned or transferred in any manner by the Licensee to any other person or business entity. The City, in its sole discretion, may authorize the assignment or transfer of this license to a third party by amendment to this Agreement or by a separate license agreement.

In witness whereof, the parties have caused this Agreement to be executed on the date first set forth above.

CITY OF SAUGATUCK, a municipal corporation

By: _____

Its: _____

_____, a _____

By: _____

Its: _____

EXHIBIT A

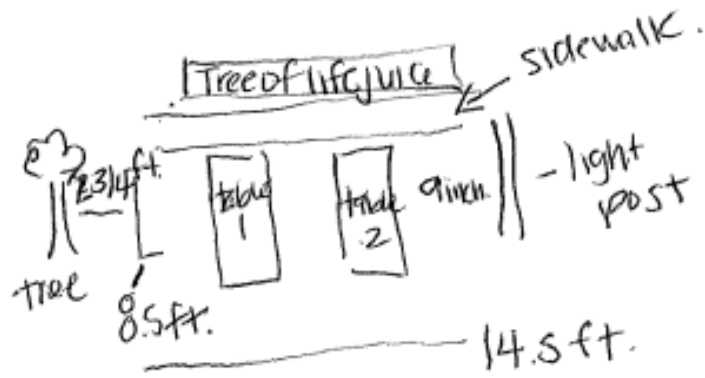


table 1 & 2 are wooden tables w/ umbrellas.



City Council Agenda Item Report

FROM: Jamie Wolters
MEETING DATE: May 22, 2023
SUBJECT: Special Event-Waterfront Invitational Fine Art & Craft Fair

DESCRIPTION:

The Saugatuck Douglas Art Club is proposing the Waterfront Invitational Fine Art & Craft Fair to be held on July 1, 2023, and July 29, 2023. See attached application and breakdown of event below. City Staff, Fire, Police, and event organizer will meet closer to the event date to discuss specifics needed from each department.

BREAKDOWN OF EVENT:

Name: Waterfront Invitational Fine Art & Craft Fair
Dates: 7/1 & 7/29
Location: Village Square Park
Booths: 60
Vendor Parking: Christian Reformed Church via Interurban
Fireworks or Alcohol: No

BUDGET ACTION REQUIRED:

N/A

LEGAL REVIEW:

N/A

SAMPLE MOTION:

Motion to approve/deny the Waterfront Invitational Fine Art & Craft Fair to take place on July 1st 2023 and July 29 2023 organized by the Saugatuck Douglas Art Club.



Council Action	
_____	Approved
_____	Denied
_____	Date

102 Butler Street • P.O. Box 86 • Saugatuck, MI 49453
 Phone: 269-857-2603 • Website: www.saugatuckcity.com

SPECIAL EVENT & PARADE APPLICATION

Must be filled out in its entirety & returned to the City Clerk's Office 60 days prior to scheduled event

SPONSORING ORGANIZATION INFORMATION

LEGAL BUSINESS NAME: Saugatuck Douglas Art Club TELEPHONE: 510 504 2155 *president: Betsy York*
 MAILING ADDRESS: P.O. Box 176 Saugatuck, MI 49453-0176
 CONTACT NAME: Aron Lowe TELEPHONE: 616 255 2043
 E-MAIL ADDRESS: sdartclub@gmail.com CELL PHONE: _____

CONTACT PERSON ON DAY OF EVENT

CONTACT NAME: Aron Lowe TELEPHONE: 616 255 2043
 E-MAIL ADDRESS: aronlowe@hotmail.com CELL PHONE: _____

EVENT INFORMATION

NAME OF EVENT: Waterfront Invitational Fine Art Fair DATE(S) OF EVENT: July 1, 2023
 PURPOSE OF EVENT: Art fair fundraiser for art club RAIN DATE: none

- Non-Profit
- For-Profit
- City Operated/Sponsored
- Co-Sponsored
- Marathon/Race
- Festival/Fair
- Video/Film Production
- Other _____

EVENT LOCATION: Butler + Main Street Park Areas EVENT HOURS: 10-5
Village Square Park

ESTIMATED NUMBER OF ATTENDEES: 5000

ESTIMATED NUMBER OF VOLUNTEERS: 20

ESTIMATE DATE / TIME FOR SET-UP: 7/1/23 7-10 A.M. P.M.

ESTIMATE DATE / TIME FOR CLEAN-UP: 7/1/23 5-6:30 A.M. P.M.

EVENT DETAILS

WILL MUSIC BE PROVIDED DURING THIS EVENT: Yes No

TYPE OF MUSIC PROPOSED: Live Amplification Recorded Loudspeakers

PROPOSED TIME MUSIC WILL BEGIN: _____ END: _____

FOOD VENDORS/CONCESSIONS: (Contact Allegan County Health Department) Yes No
 Provide Copy of Health Department Food Service License

WILL ALCOHOL BE SERVED AT THIS EVENT: Yes No
 Provide Copy of Liquor Liability Insurance (listing the City as additionally insured)
 Provide Copy of Michigan Liquor Control License

If yes, describe measures to be taken to prohibit the sale of alcohol to minors: _____

WILL FIREWORKS BE APART OF EVENT: Yes No
 Provide Copy of Liability Insurance (listing the City as additionally insured)
 Provide Copy of Fireworks Permit

EVENT SIGNAGE: City Council approval is required for any temporary signing in the public right-of-way, across a street or on City property. Which of the following signs are requested for this event:

"YARD" SIGNS - Number requested: 8 (Maximum size is 2' x 2'. Cannot be displayed no more than 15 days prior to first day of event and must be removed 24 hours after end of event.)

BANNER UNDER SAUGATUCK PALETTE SIGN - (Size cannot be greater than 14' x 4'). Cannot be displayed more than 15 days prior to first day of event and must be removed 24 hours after end of event.)

SIGNAGE AT EVENT SITE - Location(s): _____
Description of signs: _____
(Signs at event site cannot be displayed prior to day of the event and must removed at the end of the event.)

TENTS/CANOPIES/MISC: The City of Saugatuck does not have tents, stage, tables or chairs available for rental. There are a number of businesses listed in the yellow pages under "Rental Service Stores" that specialize in the rental of event supplies. Will the following be constructed or located in the event area:

BOOTHS - QUANTITY 60 TENTS - QUANTITY _____

AWNINGS - QUANTITY _____ TABLES - QUANTITY _____

PORTABLE TOILETS - QUANTITY _____

VENDOR PARKING: Have you made arrangement for vendor parking? Yes No

If yes, where do you propose your vendors park? Christian Reformed Church on Allegan

Will the Interurban be utilized? Yes No Time(s) 7:00 - 10:30 am + 5-7pm

DEPARTMENT OF PUBLIC WORKS

APPROVED DENIED

Authorized Personnel Signature

Will this event require the use of any of the following municipal equipment: Yes No

- TRASH RECEPTACLES - QUANTITY 4 BARRICADES - QUANTITY 2
- TRAFFIC CONES - QUANTITY _____ PARKING SIGNS - QUANTITY _____
- FENCING WATER ELECTRIC RESTROOM CLEANING
- OTHER Sprinklers turned off for 7/1/23 in those parks

POLICE DEPARTMENT

APPROVED DENIED

Authorized Personnel Signature

ADDITIONAL OFFICERS REQUIRED? Yes No

If yes please describe & include times _____

Other (describe): _____

SAUGATUCK TOWNSHIP FIRE DISTRICT

APPROVED DENIED

Authorized Personnel Signature

STREET CLOSURES: Yes No (use attached map to outline proposed closures)

Street closure date/time: 7/1/23 (Post office to Owl House on Butler) A.M. P.M. we will move barricades out of way
 Street re-open date/time: 7/1/23 7-10 am + 5-7 pm on Butler during the fair 10-5 A.M. P.M.

SIDEWALK CLOSURES: Yes No (use attached map to outline proposed closures)

Describe Sidewalk Use: _____

Sidewalk closure date/time: _____ A.M. P.M.

Sidewalk re-open date/time: _____ A.M. P.M.

PARKING LOT CLOSURES: Yes No (use attached map to outline proposed closures)

Parking Lot Location: _____

Sidewalk closure date/time: _____ A.M. P.M.

Sidewalk re-open date/time: _____ A.M. P.M.

What parking arrangements are proposed to accommodate potential attendance: _____

Vendor parking shuttle.

APPLICATION CHECK LIST

- Completed Application
- Event Map (includes detailed event layout for vendors, booths, porta potties, etc.)
- Road/Sidewalk/Parking Lot Closure Map
- Certificate of Insurance (listing the City of Saugatuck as additionally insured)
- Fireworks Permit (if applicable)
- Michigan Liquor Control Commission Special Event License (if applicable)
- Health Department Food Service License (if applicable)

If document is missing, please explain: Food vendors will be supplying Health Dept license

The applicant and sponsoring organization understand and agrees to:

Provide a certificate of insurance with all coverages deemed necessary for the event, name the City of Saugatuck as an additional insured on all applicable policies and submit the certificate to the City Clerk's Office no later than one (1) week following notice of the event approval.

Comply with all City and County Ordinances and applicable State laws, City policies and acknowledges that the special events permit does not relieve the applicant or organization from meeting any application requirements of law or other public bodies or agencies.

Applicant and sponsoring organization further understands the approval of this special event may include additional requirements and/or limitations based on the City's review of this application. The applicant and sponsoring organization understands that it may be necessary to meet with City staff during the review of this application and that City Council approval is necessary.

Applicant understands that he/she is responsible for contacting the Michigan Liquor Control Commission and/or Allegan County Health Department to secure all permits required for this event.

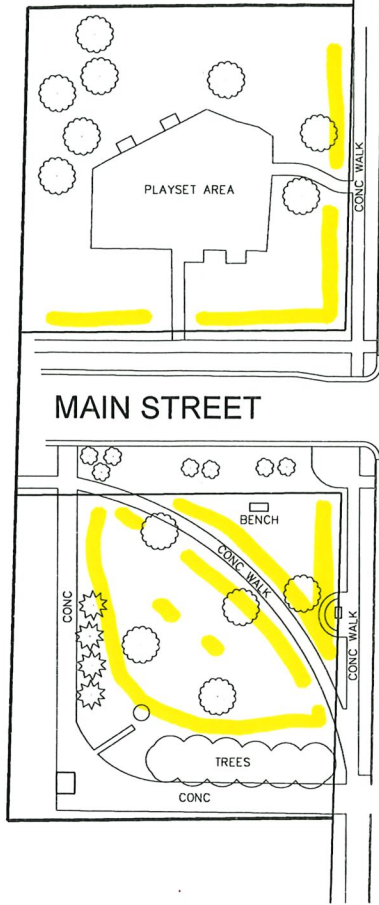
Applicant agrees to defend, indemnify and hold harmless the City of Saugatuck, Michigan from any claim, demand, suit, loss, cost of expense or any damage which may be asserted, claimed or recovered against or from this Special Event by reason of any damage to property, personal injury or bodily injury, including death, sustained by any person whomsoever and which damage, injury or death arises out of or is incident to or in any way connected with the performance of this contract, and regardless of which claim, demand, damage, loss cost of expense is caused in whole or in part by the negligence of the City of Saugatuck or by third parties, or by the agents, servants, employees or factors of any of them.

As the duly authorized agent of the sponsoring organization, I hereby apply for approval of this Special Event and affirm the above understandings. The information provided on this application is true and complete to the best of my knowledge.



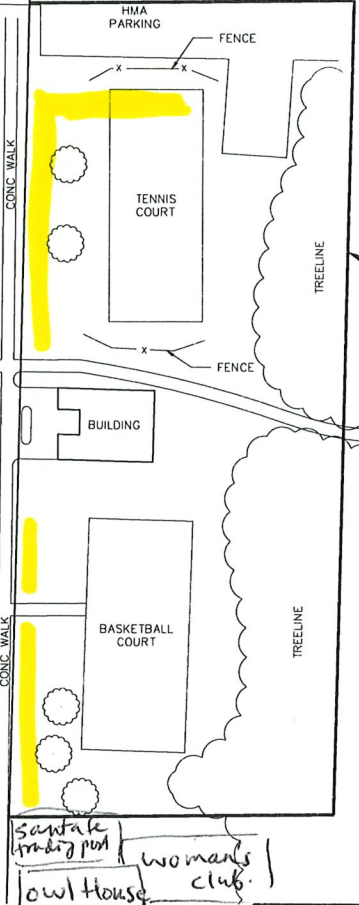
Applicant Signature

Date

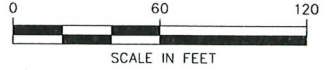


BUTLER STREET

Traffic Flow



VILLAGE SQUARE PARK BOUNDARY



APPLICANT TO SKETCH LOCATION OF PROPOSED TEMPORARY STRUCTURES, TENTS, STAGES, EQUIPMENT, TRAILERS, PORTA POTTY'S, ETC...

FLEIS & VANDENBRINK ENGINEERING, INC.

CITY OF SAUGATUCK
ALLEGAN COUNTY, MICHIGAN

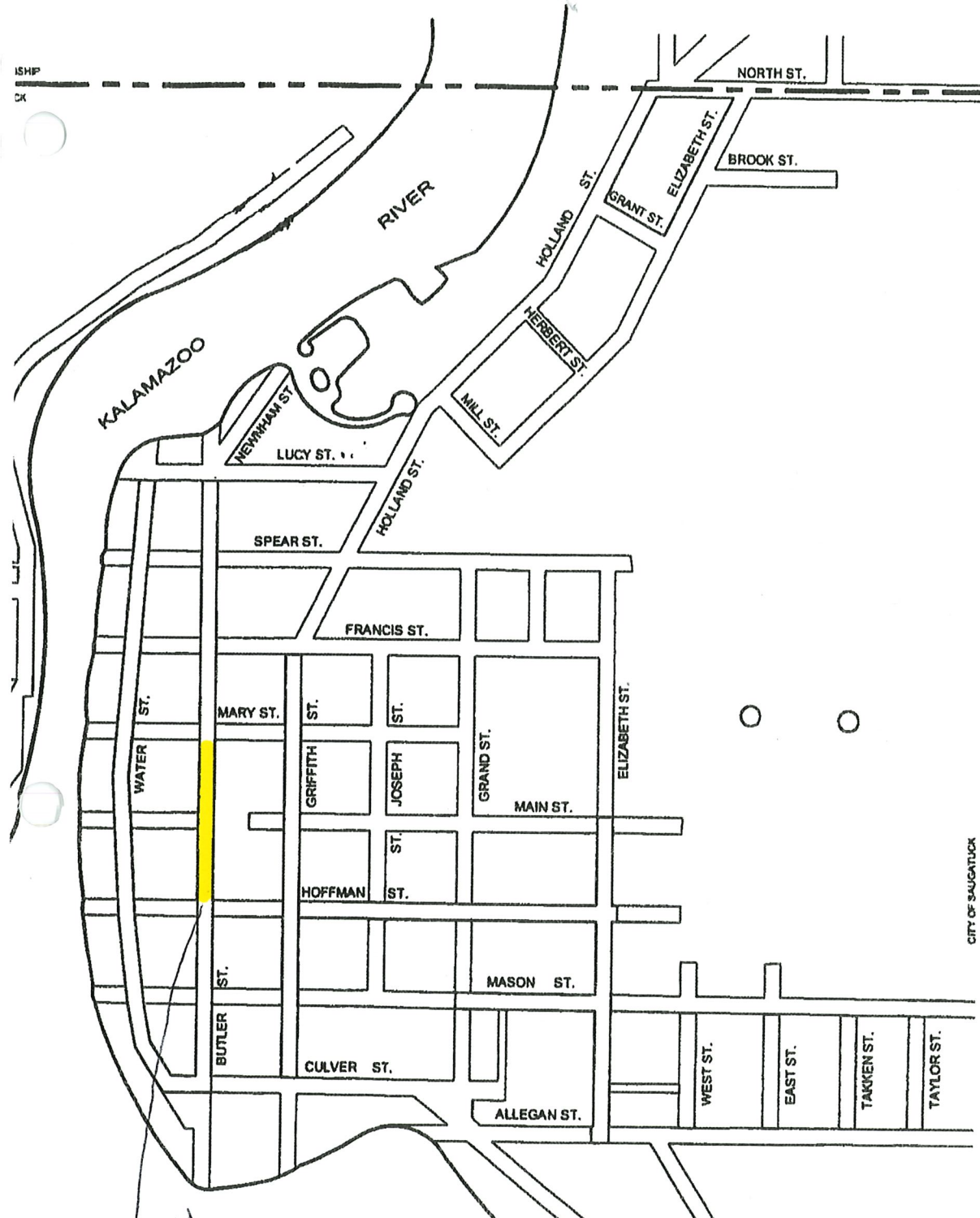
VILLAGE SQUARE PARK
PARK USE PERMIT APPLICATION

2011 3187

- 10' x 10' Booths

- 2 Barricades 7-10am + 5-7pm

Downtown Street / Sidewalk Closure(s)



CITY OF SAUGATUCK

closed
7-10am
+
5-7pm.



Council Action
_____ Approved
_____ Denied
_____ Date

102 Butler Street • P.O. Box 86 • Saugatuck, MI 49453
 Phone: 269-857-2603 • Website: www.saugatuckcity.com

SPECIAL EVENT & PARADE APPLICATION

Must be filled out in its entirety & returned to the City Clerk's Office 60 days prior to scheduled event

SPONSORING ORGANIZATION INFORMATION

LEGAL BUSINESS NAME: Saugatuck Douglas Art Club TELEPHONE: 510 504 2155 *president: Betsy York*

MAILING ADDRESS: P.O. Box 176, Saugatuck, MI 49453-0176

CONTACT NAME: Aron Lowe TELEPHONE: 616 255 2043

E-MAIL ADDRESS: sdartclub@gmail.com CELL PHONE: _____

CONTACT PERSON ON DAY OF EVENT

CONTACT NAME: Aron Lowe TELEPHONE: 616 255 2043

E-MAIL ADDRESS: aronlowe@hotmail.com CELL PHONE: _____

EVENT INFORMATION

NAME OF EVENT: Village Square Arts+Crafts fair DATE(S) OF EVENT: July 29, 2023

PURPOSE OF EVENT: art fair fund raiser for art club RAIN DATE: none

- Non-Profit
- For-Profit
- City Operated/Sponsored
- Co-Sponsored
- Marathon/Race
- Festival/Fair
- Video/Film Production
- Other _____

EVENT LOCATION: Butler + main Street Park Areas Village Square park. EVENT HOURS: 10-5

ESTIMATED NUMBER OF ATTENDEES: 5000

ESTIMATED NUMBER OF VOLUNTEERS: 20

ESTIMATE DATE / TIME FOR SET-UP: 7/29/23 7-10 A.M. P.M.

ESTIMATE DATE / TIME FOR CLEAN-UP: 7/29/23 5-7 A.M. P.M.

EVENT DETAILS

WILL MUSIC BE PROVIDED DURING THIS EVENT: Yes No

TYPE OF MUSIC PROPOSED: Live Amplification Recorded Loudspeakers

PROPOSED TIME MUSIC WILL BEGIN: _____ END: _____

FOOD VENDORS/CONCESSIONS: (Contact Allegan County Health Department) Yes No
 Provide Copy of Health Department Food Service License

WILL ALCOHOL BE SERVED AT THIS EVENT: Yes No
 Provide Copy of Liquor Liability Insurance (listing the City as additionally insured)
 Provide Copy of Michigan Liquor Control License

If yes, describe measures to be taken to prohibit the sale of alcohol to minors: _____

WILL FIREWORKS BE APART OF EVENT: Yes No
 Provide Copy of Liability Insurance (listing the City as additionally insured)
 Provide Copy of Fireworks Permit

EVENT SIGNAGE: City Council approval is required for any temporary signing in the public right-of-way, across a street or on City property. Which of the following signs are requested for this event:

"YARD" SIGNS - Number requested: 8 (Maximum size is 2' x 2'. Cannot be displayed no more than 15 days prior to first day of event and must be removed 24 hours after end of event.)

BANNER UNDER SAUGATUCK PALETTE SIGN - (Size cannot be greater than 14' x 4'). Cannot be displayed more than 15 days prior to first day of event and must be removed 24 hours after end of event.)

SIGNAGE AT EVENT SITE - Location(s): _____
Description of signs: _____
(Signs at event site cannot be displayed prior to day of the event and must removed at the end of the event.)

TENTS/CANOPIES/MISC: The City of Saugatuck does not have tents, stage, tables or chairs available for rental. There are a number of businesses listed in the yellow pages under "Rental Service Stores" that specialize in the rental of event supplies. Will the following be constructed or located in the event area:

BOOTHS - QUANTITY ~ 90 TENTS - QUANTITY _____
 AWNINGS - QUANTITY _____ TABLES - QUANTITY _____
 PORTABLE TOILETS - QUANTITY _____

VENDOR PARKING: Have you made arrangement for vendor parking? Yes No

If yes, where do you propose your vendors park? Christian Reformed Church on Allegan st.

Will the Interurban be utilized? Yes No Time(s) 7-10:30 am + 5-7 pm

DEPARTMENT OF PUBLIC WORKS

APPROVED DENIED

Authorized Personnel Signature

Will this event require the use of any of the following municipal equipment: Yes No

- TRASH RECEPTACLES - QUANTITY 5
- BARRICADES - QUANTITY 2
- TRAFFIC CONES - QUANTITY _____
- PARKING SIGNS - QUANTITY _____
- FENCING WATER ELECTRIC RESTROOM CLEANING
- OTHER Sprinklers turned off in these parks for 7/29/23

POLICE DEPARTMENT

APPROVED DENIED

Authorized Personnel Signature

ADDITIONAL OFFICERS REQUIRED? Yes No

If yes please describe & include times _____

Other (describe): _____

SAUGATUCK TOWNSHIP FIRE DISTRICT

APPROVED DENIED

Authorized Personnel Signature

STREET CLOSURES: Yes No (use attached map to outline proposed closures)

Street closure date/time: 7/29/23 ^(post office to our house shop on Butler St.) 7-10am A.M. P.M.

Street re-open date/time: 7/29/23 10-5p A.M. P.M. we will move barricades to side 10-5

SIDEWALK CLOSURES: Yes No (use attached map to outline proposed closures)

Describe Sidewalk Use: _____

Sidewalk closure date/time: _____ A.M. P.M.

Sidewalk re-open date/time: _____ A.M. P.M.

PARKING LOT CLOSURES: Yes No (use attached map to outline proposed closures)

Parking Lot Location: _____

Sidewalk closure date/time: _____ A.M. P.M.

Sidewalk re-open date/time: _____ A.M. P.M.

What parking arrangements are proposed to accommodate potential attendance: _____

Vendor parking shuttle

APPLICATION CHECK LIST

- Completed Application
- Event Map (includes detailed event layout for vendors, booths, porta potties, etc.)
- Road/Sidewalk/Parking Lot Closure Map
- Certificate of Insurance (listing the City of Saugatuck as additionally insured)
- ~~Fireworks Permit (if applicable)~~
- ~~Michigan Liquor Control Commission Special Event License (if applicable)~~
- Health Department Food Service License (if applicable) — *food vendors will provide*

If document is missing, please explain: _____

The applicant and sponsoring organization understand and agrees to:

Provide a certificate of insurance with all coverages deemed necessary for the event, name the City of Saugatuck as an additional insured on all applicable policies and submit the certificate to the City Clerk's Office no later than one (1) week following notice of the event approval.

Comply with all City and County Ordinances and applicable State laws, City policies and acknowledges that the special events permit does not relieve the applicant or organization from meeting any application requirements of law or other public bodies or agencies.

Applicant and sponsoring organization further understands the approval of this special event may include additional requirements and/or limitations based on the City's review of this application. The applicant and sponsoring organization understands that it may be necessary to meet with City staff during the review of this application and that City Council approval is necessary.

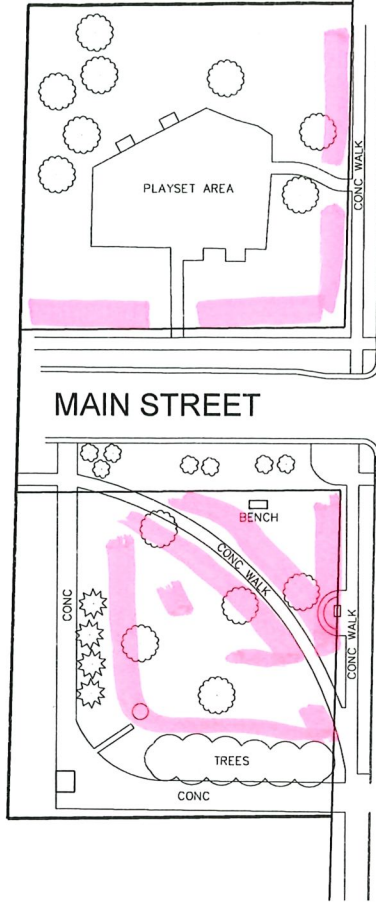
Applicant understands that he/she is responsible for contacting the Michigan Liquor Control Commission and/or Allegan County Health Department to secure all permits required for this event.

Applicant agrees to defend, indemnify and hold harmless the City of Saugatuck, Michigan from any claim, demand, suit, loss, cost of expense or any damage which may be asserted, claimed or recovered against or from this Special Event by reason of any damage to property, personal injury or bodily injury, including death, sustained by any person whomsoever and which damage, injury or death arises out of or is incident to or in any way connected with the performance of this contract, and regardless of which claim, demand, damage, loss cost of expense is caused in whole or in part by the negligence of the City of Saugatuck or by third parties, or by the agents, servants, employees or factors of any of them.

As the duly authorized agent of the sponsoring organization, I hereby apply for approval of this Special Event and affirm the above understandings. The information provided on this application is true and complete to the best of my knowledge.

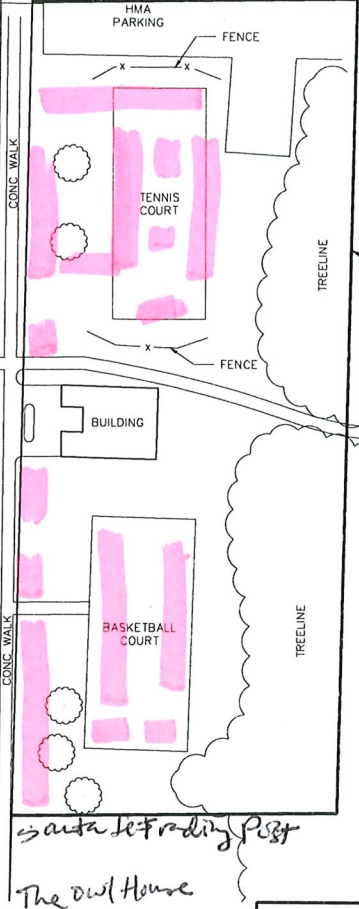
Arnon Low
Applicant Signature

2/21/23
Date



BUTLER STREET

Traffic during set up/tear down



VILLAGE SQUARE PARK BOUNDARY



santa lefrading Post

The Owl House

APPLICANT TO SKETCH LOCATION OF PROPOSED TEMPORARY STRUCTURES, TENTS, STAGES, EQUIPMENT, TRAILERS, PORTA POTTY'S, ETC...

FLEIS & VANDENBRINK ENGINEERING, INC.

CITY OF SAUGATUCK
ALLEGAN COUNTY, MICHIGAN

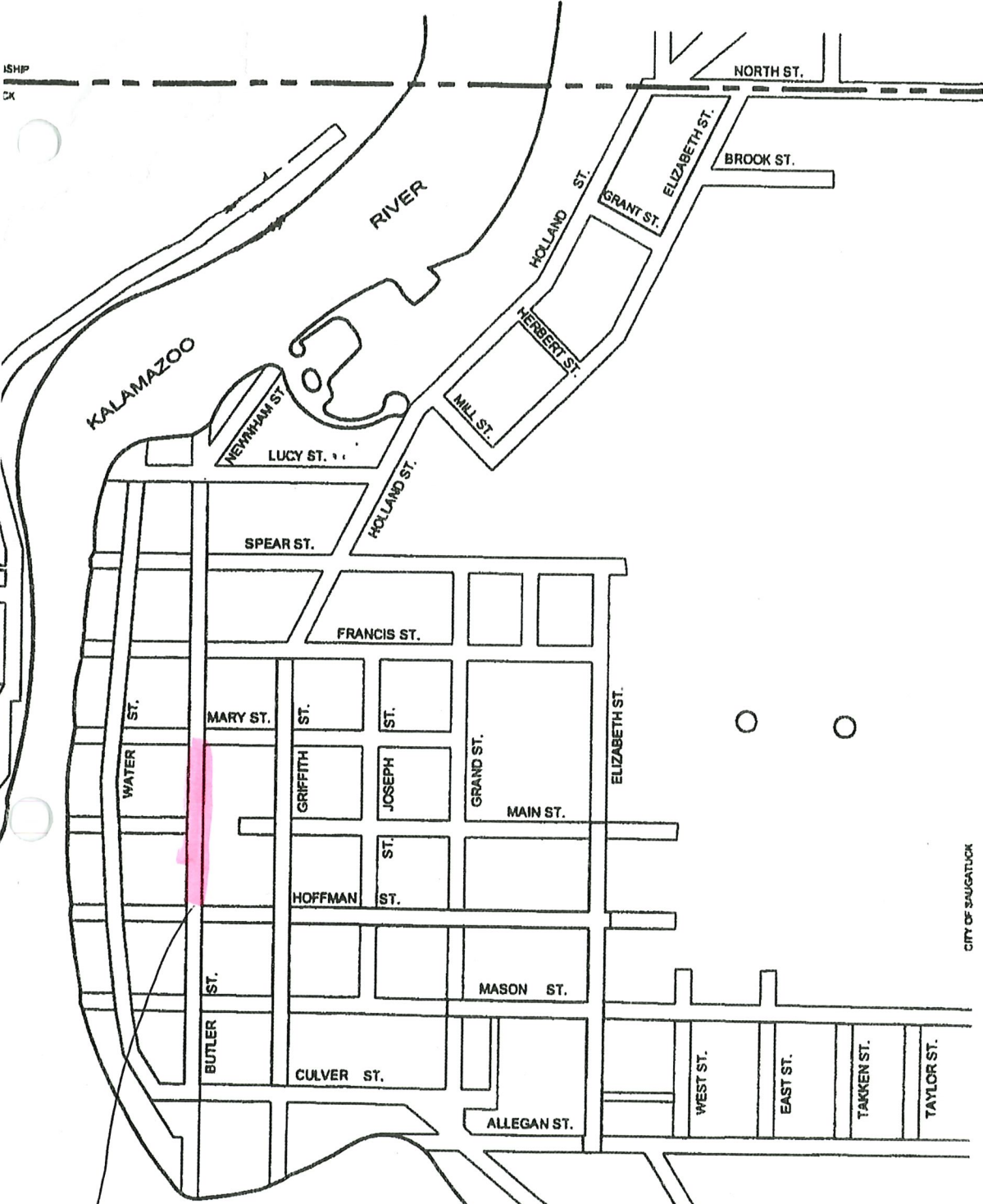
VILLAGE SQUARE PARK
PARK USE PERMIT APPLICATION
2011

10'x10'
Booths

Barricades during set up
7-10 am +
tear down 5-7pm

Downtown Street / Sidewalk Closure(s)

ISHIP
CK



CITY OF SAUGATUCK

closed 7-10am +
5-7pm, otherwise
open.



City Council Agenda Item Report

FROM: Jamie Wolters, City Clerk
MEETING DATE: May 22, 2023
SUBJECT: Proclamation No. 230522-P1 – Pride Month

DESCRIPTION:

Mayor Dean's proclamation of June 2023 as Pride Month within the City of Saugatuck is found in the subsequent document. The City of Saugatuck has been proclaiming June as Pride Month since 2019 to show support for the LGBTQ+ community.

BUDGET ACTION REQUIRED:

N/A

COMMITTEE/COMMISSION REVIEW:

N/A

LEGAL REVIEW:

N/A

SAMPLE MOTION:

Motion to **approve/deny** Proclamation No. 230522-P1 designating June 2023 as Pride Month in the City of Saugatuck and proclaiming that Pride flags will be on display at Saugatuck City Hall throughout the month of June.

**CITY OF SAUGATUCK
COUNTY OF ALLEGAN
STATE OF MICHIGAN**

PROCLAMATION NO. 230522-P1

**MAYOR'S PROCLAMATION:
"A PROCLAMATION DESIGNATING JUNE AS PRIDE MONTH"**

WHEREAS, the City of Saugatuck supports the rights of every citizen to experience equality and freedom from discrimination; and

WHEREAS, all people regardless of age, gender identity, race, color, religion, marital status, national origin, sexual orientation, or physical challenges have the right to be treated on the basis of their intrinsic value as human beings; and

WHEREAS, in support of the city's commitment the City of Saugatuck Non-Discrimination Ordinance was approved by City Council on August 27, 2007; and

WHEREAS, the City of Saugatuck accepts and welcomes people of diverse backgrounds and believes a diverse population leads to a more vibrant community; and

WHEREAS, the Lesbian, Gay, Bisexual, Transgender and Queer (LGBTQ+) communities contribute to the cultural, civic and economic successes of the City of Saugatuck; and

WHEREAS, while we as a society at large are slowly embracing new definitions of sexuality and gender, we must also acknowledge that the need for education and awareness remains vital to end discrimination and prejudice; and

NOW, THEREFORE, BE IT RESOLVED, I, Mayor Scott Dean and the members of the Saugatuck City Council hereby proclaim June 2023 as Pride Month in the City of Saugatuck, Michigan and encourage our residents to reflect on the ongoing struggle for equality members of the LGBTQ+ community face and celebrate the contributions that enhance our city.

BE IT FINALLY RESOLVED, the City of Saugatuck will display the Pride Flag at Saugatuck City Hall from June 1 through June 30 in acknowledgment of LGBTQ+ Pride Month and to celebrate diversity and inclusion.

Signed: _____ Dated _____
Scott Dean, Mayor

Signed: _____ Dated _____
Jamie Wolters, City Clerk



City Council Agenda Item Report

FROM: Jamie Wolters
MEETING DATE: May 22, 2023
SUBJECT: City Council Meetings Rules of Procedure Amendment

DESCRIPTION:

This proposed amendment to the existing Rules and Procedures document amends the "Conduct of Meetings" section 3, "Agenda Order of Business" to rearrange the current agenda. Please current and proposed new agenda below.

BUDGET ACTION REQUIRED:

N/A

COMMITTEE/COMMISSION REVIEW:

N/A

LEGAL REVIEW:

N/A

SAMPLE MOTION:

Motion to **approve/deny** the amendment to the City Council Rules and Procedures for Meetings originally adopted on July 23, 2007 and last revised on January 9, 2023.

Current Agenda:

1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Mayor's Comments
5. City Manager Comments
6. Agenda Changes (Additions/Deletions)
7. Public Comment on Agenda Items Only (Limit 3 minutes)
8. Consent Agenda: *(Roll Call)*
 - A. Regular City Council Meeting Minutes
9. Staff Reports, Boards, Commissions & Committees
 - A. Staff Reports:
 - a. City Manager
 - b. Treasurer
 - c. Planning and Zoning
 - d. Department of Public Works
 - e. Police
 - f. Engineer
 - B. Boards, Commissions & Committees:
 - a. Fire District Administration Board
 - b. Interurban Board
 - c. Kalamazoo Lake Sewer & Water Authority
 - d. Kalamazoo Lake Harbor Authority
 - e. Zoning Board of Appeals
 - f. Historic District Commission
 - g. Planning Commission
 - h. Parks & Public Works Committee
 - i. Tri-Community Non-Motorized Trail Study Committee
 - j. Tri-Community Recycling Ad-Hoc Committee
10. Guest Speakers
11. Request for Payment
 - A. Approval of Accounts Payable
12. Introduction of Ordinances
13. Public Hearings
14. Unfinished Business
15. New Business
16. Public Comments (Limit 3 minutes)
17. Correspondence
18. Council Comments
19. Adjourn

New Agenda:

1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Mayor's Comments
5. City Manager Comments
6. Agenda Changes (Additions/Deletions)
7. Public Comment on Agenda Items Only (Limit 3 minutes)
8. Consent Agenda: *(Roll Call)*
 - A. Regular City Council Meeting Minutes
9. Staff Reports, Boards, Commissions & Committees
 - A. Staff Reports:
 - a. City Manager
 - b. Treasurer
 - c. Planning and Zoning
 - d. Department of Public Works
 - e. Police
 - f. Engineer
 - B. Boards, Commissions & Committees:
 - a. Fire District Administration Board
 - b. Interurban Board
 - c. Kalamazoo Lake Sewer & Water Authority
 - d. Kalamazoo Lake Harbor Authority
 - e. Zoning Board of Appeals
 - f. Historic District Commission
 - g. Planning Commission
 - 1) Short-Term Rental Task Force
 - h. Parks & Public Works Committee
 - i. Tri-Community Non-Motorized Trail Study Committee
 - j. Tri-Community Recycling Ad-Hoc Committee
10. Guest Speakers
11. Request for Payment
 - A. Approval of Accounts Payable
12. Introduction of Ordinances
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16. Public Comments (Limit 3 minutes)
17. Correspondence
18. Council Comments
19. Adjourn