

**CHARTER TOWNSHIP OF MERIDIAN  
ENVIRONMENTAL COMMISSION  
AGENDA  
Wednesday, July 6, 2016**

**Town Hall Room  
Meridian Municipal Building  
5151 Marsh Road, Okemos, MI 48864**

**Work Session**

1. Call to Order at 6:30 p.m.
2. Approval of the work session agenda
3. Discussion Items
  - a. Greenspace map & 2016-17 Strategic Plan review
  - b. Possible Working Groups on Wetland Enhancement/Drinking Water
  - c. Potential Environmental Commission vacancy, Fall of 2016
4. Public remarks
5. Adjournment

**Regular Meeting**

1. Call to Order at 7:00 p.m.
2. Approval of Agenda
3. Approval of Minutes of the June 1, 2016 work session and special meeting
4. Public Remarks
5. Chair's Report
6. Staff Report
7. Commission Liaison/Workgroup Reports (Land Preservation, Energy, Parks)
8. ACTION ITEM: Wetland Use Permit #16-03 (Towner Road Park)
9. Public Remarks
10. Adjournment

**CHARTER TOWNSHIP OF MERIDIAN  
ENVIRONMENTAL COMMISSION MINUTES  
Meridian Municipal Building – Town Hall Room  
June 1, 2016 - Draft**

**WORK SESSION**

**PRESENT:** Chair McConnell, Vice-Chair Schools, Commissioners Sarver, Dickmann, Jackson and Kielbaso

**ABSENT:** Commissioner Masten

**STAFF:** Harmony Gmazel, AICP, Associate Planner

**OTHERS:** Ben Holland, Student

**1. CALL SPECIAL MEETING TO ORDER**

Chair McConnell called the meeting to order at 6:30 p.m.

**2. APPROVAL OF THE WORK SESSION AGENDA**

Approved by consent without objection.

**3. A. POSSIBLE WORKING GROUP ON WETLAND ENHANCEMENT  
B. POSSIBLE WORKING GROUP ON DRINKING WATER AND LEAD**

The potential for two new workgroups was discussed. The workgroups would pertain to wetland enhancement activities and assessing the quality of Township drinking water. It was decided that these workgroups should be discussed when all Commissioners are present.

**4. PUBLIC REMARKS**

None

**5. ADJOURNMENT**

Approved by consent without objection at approximately 6:57 p.m.

**CHARTER TOWNSHIP OF MERIDIAN  
ENVIRONMENTAL COMMISSION MINUTES  
Meridian Municipal Building – Town Hall Room  
June 1, 2016 - Draft**

**REGULAR MEETING**

**PRESENT:** Chair McConnell, Vice-Chair Schools, Commissioners Sarver, Dickmann, Jackson and Kielbaso

**ABSENT:** Commissioner Masten

**STAFF:** Harmony Gmazel, AICP, Associate Planner

**OTHERS:** Members of the Public

**1. CALL REGULAR MEETING TO ORDER**

Chair McConnell called the meeting to order at 7:03 p.m.

**2. APPROVAL OF THE REGULAR MEETING AGENDA**

Approved by consent without objection.

**3. REVIEW AND APPROVAL OF MAY 4, 2016 SPECIAL/REGULAR MEETING MINUTES.**

Approved by consent without objection.

**4. PUBLIC REMARKS**

None

**5. CHAIR'S REPORT**

Chair McConnell announced that he attended work sessions of the Planning Commission pertaining to the Master Plan Update. Topics of interest to the EC include three future areas of the township that are planned for increased density. Walkable connections between existing pathways, jobs, schools, homes and businesses are a priority. The Parks Department approached Chair McConnell asking for aid involving a future park improvement project. Chair McConnell invited the EC and members of the public to a workshop hosted by the Land Information Access Association on "Climate Health Adaptation Planning" on June 2<sup>nd</sup> at the MML offices in Lansing.

**6. STAFF REPORT**

None

**7. COMMISSIONER REPORTS**

**Land Preservation:** J. Kielbaso reported that the Board is in final negotiations on two properties. A small property on the south side of Lake Lansing went in front of the Township Board for acceptance recently. A small federal grant was awarded to the Board to re-establish native grasses on the 7-acre Sturk property off Hagadorn Rd. Commissioner Kielbaso invited the EC and members of the public to a "seedball" event at the Foster-Davis Property on June 3 at 11am. Native seeds will be dispersed

across the prairie by volunteers at the event. The Land Preservation Board recommended Ben Holland as a potential Student Environmental Commissioner.

**Energy Team:** J. Sarver reported that there was an Energy Team meeting in May. The Climate Action Plan is underway. A Consultant has been hired by the township to complete an energy efficiency audit of 5 Township-owned buildings. Commissioner Sarver invited the EC and members of the public to the Energy Fair being held at the Ingham County Fairgrounds on June 24 & 25. More info is at [www.gjrea.org](http://www.gjrea.org)

**Student Engagement:** None

**Parks:** None

8. **GREEN THEME PRESENTATION: “ A GROUNDWATER QUALITY SURVEY FOR INGHAM COUNTY” BY GARRY ROWE ON BEHALF OF THE INGHAM CO. BOARD OF HEALTH** To view the presentation, visit HOMTV at this link: [http://meridian.granicus.com/ViewPublisher.php?view\\_id=11](http://meridian.granicus.com/ViewPublisher.php?view_id=11). A follow-up presentation will be provided to the EC once Mr. Rowe’s research is complete over the coming year.

9. **PUBLIC REMARKS**

None

10. **ADJOURNMENT**

Motion to adjourn by Chair McConnell, approved by consent without objection at 8:05 p.m.



June 30, 2016  
Project No. G150126W09

Ms. Harmony Gmazel  
Charter Township of Meridian  
5151 Marsh Road  
Okemos, MI 48864

Re: Wetland Use Permit #16-03 Application Review  
Towner Road Park  
Charter Township of Meridian

Dear Ms. Gmazel:

Charter Township of Meridian (Township) Department of Parks and Recreation is requesting to install a timber boardwalk across a wetland and to drain stormwater from three detention basins to wetlands at Towner Road Park, 2055 Towner Road. These modifications are part of a larger project which will provide various amenities to the park, including walking paths, a paved plaza, pickleball courts, baseball fields, soccer fields and parking lots.

At the request of the Township, FTCH reviewed the Wetland Use Permit (WUP) request, including a Joint Permit Application (JPA), dated May 17, 2016, and prepared by VIRIDIS Design Group.

This letter provides a brief description of the resources that would be impacted by the proposed work, evaluates WUP Application #16-03 according to review standards in the Township Wetland Protection Ordinance (Article IV of Chapter 22 of the Code of Ordinances of the Charter Township of Meridian), and makes recommendations to the Township regarding issuance or denial of the WUP application.

## Overview of Proposed Wetland Impacts

The proposed activities are located in Section 4, Town 4 North, Range 1 West, Ingham County, Michigan. Towner Road Park is located on two parcels:

- Parcel Number 33-02-02-04-276-010, 23.79 acres at 2055 Towner Road, Haslett
- Parcel Number 33-02-02-04-276-009, 1.58 acres at 2083 Towner Road, Haslett

FTCH delineated four wetlands at the site in October 2015 and the results of the wetland delineation are provided in FTCH's October 19, 2015 *Wetland Delineation Report*. Three of the delineated wetlands (A, C and E) are regulated by the Township, and Wetland A was determined essential in March 2016.

The Township's Park and Recreation Department proposes the following wetland impacts:

- Construct an 8 foot wide, 27 foot long, timber boardwalk set on helical piers above Wetland C. The boardwalk is part of a paved walking path that will allow barrier-free access around the perimeter of the western baseball field and the two soccer fields. Piers will be driven into the ground with equipment located outside the wetland. Pier shafts are approximately 1.50 inches square.

- Route stormwater overflow from three detention basins into Township-regulated wetlands:
  - Basin 2 into Wetland A, a 0.43 acre, depressional wetland containing an emergent plant community, located at the north end of the site. The Township determined this wetland provides flood and storm control by its hydrologic absorption and storage capacity, wildlife habitat, and pollution treatment. Therefore, the Township has determined this wetland is essential and regulated by the Township.
  - Basin 3 into Wetland C, located at the southeast end of the site and associated with Township Wetland 4-24 (0.92 acre) and 3-6C (100.32 acre). In addition, overflow from Basin 1 will be discharged to Basin 3, and may ultimately be discharged into Wetland C.
  - Basin 4 into Wetland E, located at the southwest end of the site. Wetland E is part of a large wetland complex that extends to the south (Township Wetland 4-22). This wetland is an approximately 47.75-acre emergent, scrub-shrub, forested, wetland complex which contains the Costigan Drain.

Stormwater discharge points for all three basins are located outside of the 20-foot wetland boundary buffer, as indicated in Exhibits H, I and J. Stormwater drainage to wetlands will not be piped, but is entirely via overflow spillways.

## Review of WUP Application

The review standards used to evaluate WUP applications are found in Section 22-157 of Article IV (Wetland Protection) of Chapter 22 of the Township's Code of Ordinances. WUPs are not to be issued unless the proposed activity is found to be in the public interest, the permit is necessary to realize the benefits from the activity, and the proposed activity is otherwise lawful in all respects. Section 22-157(2) lists eleven general criteria to be considered when evaluating whether or not a proposed activity is in the public interest. An evaluation of the proposed activity, according to each of the eleven criteria, is as follows:

Section 22-157(2)(a) *The relative extent of the public and private need for the proposed activity.*

- There is a high public need for the proposed park development. A map in the Township's 2016 Parks & Recreation Family Fun Guide indicates there are currently no Township softball or soccer fields in the northwest quadrant of the Township, and limited availability in the north half of the Township. The Parks & Recreation Master Plan notes the lack of athletic fields in the northern portion of the Township.

Section 22-157(2)(b) *The availability of feasible and prudent alternative locations and methods to accomplish the expected benefits from the activity.*

- The proposed park design maximizes the extent of new park amenities while minimizing impact to site wetlands. The JPA states that based upon the existing grade of the site, location of the wetlands, and space required for the proposed field areas, the boardwalk is needed to complete a loop trail around the site in order to provide barrier free access to the site. If the boardwalk were eliminated, there would be a gap in the trail or one of the playing fields would need to be eliminated. These modifications would significantly reduce the usability of the site for recreational purposes.
- The alternative to overland drainage to the wetlands is either piping the water offsite or creating an underground storage tank. Both of these alternatives are not practical and cost prohibitive.

Section 22-157(2)(c) *The extent and permanence of the beneficial or detrimental effects which the proposed activity may have on the public and private uses to which the area is suited, including the benefits the wetlands provide.*

- The proposed project is a suitable use for the subject site. The site is currently a Township park with no amenities other than open space (mowed turf) and a parking lot. The site is a former golf driving range.
- The proposed site use fills a public need that has been identified in the Township Parks & Recreation Department's Master Plan, according to Ms. Jane Greenway, Township Parks and Land Management Coordinator.
- The existing site wetlands provide the following functions and values: water storage, water quality improvement, wildlife habitat, and aesthetic value. Construction of stormwater detention basins upgradient of site wetlands will also provide water quality benefits for the wetlands.
- Soil boring, field infiltration testing, and groundwater elevation data were not provided for review as part of FTCH's WUP review. Therefore, the extent that stormwater will infiltrate within the basins is not known nor the extent that stormwater will overflow into the wetlands. If more water enters the southern wetlands (Wetlands C and E) through overland flow than currently does, it is likely this water will move offsite and be absorbed into the large wetland complex that extends south and east of the site. Therefore, no significant impact to Wetlands C and E hydrology is anticipated.
- The wetland investigation determined that subsoil within Wetland A consisted of clay loam, a poorly infiltrating soil. If more water enters Wetland A through overland flow than currently does, the potential exists that up to two feet of ponding will occur. If water levels rise to an elevation of 871 (two feet above Wetland A's base elevation of 869), water will overflow into a roadside ditch along Towner Road. Therefore, the proposed site development has the potential of making Wetland A wetter, but would not convert Wetland A into a pond.
- No other significant beneficial or detrimental effects to these functions are anticipated due to the proposed site improvements.

Section 22-157(2)(d) *The probable impact of each proposal in relation to the cumulative effect created by other existing and anticipated activities in the watershed.*

- There is no identified impact of the proposed activities contributing to a cumulative effect created by other existing and anticipated activities in the watershed.

Section 22-157(2)(e) *The probable impact on recognized historic, cultural, scenic, ecological, or recreational values and on the public health or safety, or fish or wildlife.*

- FTCH has no direct information pertaining to the site's historic and cultural value.
- The proposed site development will significantly positively impact the recreational value of the site, which in turn will positively impact public health for the Township's community.
- The proposed development maintains the majority of the site as mowed turf, open space, with an increase in impervious surface, due to construction of parking areas, a paved plaza and a walking path. Since there is no change in the site's wetland plant community (other than potentially clearing trees and shrubs in the 0.005 acre boardwalk area), no ecological impact due to the proposed site development is anticipated.

- Construction of four stormwater detention basins will manage the increase in stormwater drainage generated by the new impervious surfaces. Therefore, no increase in offsite stormwater discharge is anticipated, and no downgradient/downstream impact to fish or wildlife is anticipated.
- No other impacts on recognized scenic or public safety values are apparent for the proposed activities.

Section 22-157(2)(f) *Economic value, both public and private, of the proposed land change to the general township area.*

- The Township will receive usage fees for sporting tournaments held at the park. In addition, tournament participants who travel to the Township will provide economic benefit to the Township through hotel, restaurant, and fuel purchases. The presence of recreational amenities within the Township also improves home values by contributing to the desirability of homeownership in this community.

Section 22-157(2)(g) *The size and quality of the wetland being considered.*

- The size of site wetlands is discussed in the Wetland Impact Overview section. Wetlands C and E are located at the edge of a large wetland complex associated with Lake Lansing. Wetland C appears to have been historically disturbed, due to steep grades at the northern wetland boundary. Wetlands A, C and E are of average quality. Wetland A consists of emergent wetland, while Wetlands C and E contain scrub-shrub wetland.
- The proposed land change has minimal impact upon Wetland C. Based upon the JPA's Exhibit E, it appears the deck of the boardwalk will be high enough to allow growth of herbaceous wetland plants below it. Woody wetland plants will need to be removed to facilitate boardwalk construction.

Section 22-157(2)(h) *The findings of necessity for the proposed activity which have been made by other agencies.*

- FTCH is not aware of findings of necessity for the proposed activity which have been made by other agencies.

Section 22-157(2)(i) *Amount of wetland remaining in the general area and proximity to a waterway.*

- An extensive wetland complex extends south and east from Wetlands C and E to Lake Lansing. The Township wetland map notes a series of contiguous wetlands in this area, notably Wetlands 4-22 (47.75-acres), 4-24 (0.92 acre), 3-2A (7.69 acres), 3-2B (17.50 acres), 3-2C (3.44 acres), 3-2D (8.72 acres), 3-6B (6.43 acres), 3-6C (100.32 acres), and 3-6D (21.00 acres). The Costigan Drain and the Pine Lake Drain run through this wetland complex. The Costigan Drain discharges into the Pine Lake Drain, which discharges in Lake Lansing.

Section 22-157(2)(j) *Proximity to any waterbody.*

- Lake Lansing is located approximately 0.64 mile east of the subject property. Lake Lansing is designated as Wetland 3-6A (142.96 acres) on the Township wetland map.

Section 22-157(2)(k) *Extent to which upland soil erosion adjacent to the protected wetland is controlled.*

- Exhibits H, I, and J provided in the JPA indicated that silt fence will be installed approximately 20-feet from the wetland boundaries to protect the wetlands from upland soil erosion.

## Recommendations

Based upon our review of the submitted materials, it is our opinion that the proposed project meets the Township's requirements for permit issuance. FTCH recommends the WUP permit be issued with the following conditions:

- Implement appropriate soil erosion and sedimentation control measures during construction to ensure there are no impacts to wetlands outside of project activities as a result of soil erosion.
- Removal of woody vegetation (if present) from the proposed boardwalk area must be accomplished without disturbing the ground surface. Trees and shrubs may not be removed by uprooting them. Cutting tree/shrub trunks near the ground surface and treating the cut end of the stump with an appropriate herbicide to prevent re-sprouting is an acceptable method of plant removal.

We appreciate the opportunity to assist in the review of this file. If you have any questions or require additional information, please contact me at 616.464.3738 or ehtripp@ftch.com.

Sincerely,

FISHBECK, THOMPSON, CARR & HUBER, INC.

A handwritten signature in black ink that reads "Elise Hansen Tripp". The signature is written in a cursive, flowing style.

Elise Hansen Tripp, PWS

pmb

By email

cc: Ms. Gail Oranchak, AICP – Township



## Joint Permit Application

For Work in Inland Lakes and Streams, Great Lakes, Wetlands, Floodplains, Dams,  
 High Risk Erosion Areas and Critical Dune Areas

[www.mi.gov/jointpermit](http://www.mi.gov/jointpermit)

<p><b>What is the purpose of the Joint Permit Application?</b></p>	<p>This Joint Permit Application was developed to facilitate the state and federal permit application process administered by the Michigan Department of Environmental Quality (DEQ) and the U.S. Army Corps of Engineers (USACE).</p> <p>The Joint Permit Application is a multi-purpose application used to describe and quantify proposed activities regulated by the DEQ and/or the USACE. This application is for those activities regulated by the following Parts of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended by the State of Michigan.</p> <ul style="list-style-type: none"> <li>• Part 301, Inland Lakes and Streams</li> <li>• Part 325, Great Lakes Submerged Lands</li> <li>• Part 303, Wetlands Protection</li> <li>• Floodplain Regulatory Authority found in Part 31, Water Resources Protection</li> <li>• Part 315, Dam Safety</li> <li>• Part 323, Shorelands Protection and Management (High Risk Erosion Areas)</li> <li>• Part 353, Sand Dunes Protection and Management (Critical Dune Areas)</li> </ul> <p>The regulated activities are summarized in Appendix D. The statutes and rules are available at <a href="http://www.mi.gov/jointpermit">www.mi.gov/jointpermit</a>.</p> <p>This application is also for those activities regulated by the USACE within the waters of the United States under Section 10, Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404, Clean Water Act of 1977 (33 U.S.C. 1344).</p> <p><u>Preapplication Meeting:</u> This is an optional service available for activities proposed in inland lakes and streams (Part 301), wetlands (Part 303), and critical dune areas (Part 353). A preapplication meeting can answer many questions regarding whether or not a permit is required and the review process. The application form and fee schedule are available at <a href="http://www.mi.gov/jointpermit">www.mi.gov/jointpermit</a>.</p>
<p><b>How do I complete the Joint Permit Application?</b></p> <p><i>An accurate and complete application package is required for processing; inaccurate or missing information will delay processing.</i></p>	<p><b>There are three parts to a complete Joint Permit Application package:</b></p> <ol style="list-style-type: none"> <li>1. Application Form</li> <li>2. Maps and Drawings</li> <li>3. Fee</li> </ol> <p>Follow the checklists on the following page for each part of the application package.</p> <p><b>When you have questions or need assistance in completing the application package refer to the following information on our website <a href="http://www.mi.gov/jointpermit">www.mi.gov/jointpermit</a> or you may contact the appropriate district office, page iii, or through the website link “Who to Contact.”</b></p> <ul style="list-style-type: none"> <li>• Joint Permit Application Training Manual</li> <li>• EZ Guides for small projects</li> <li>• Acronyms in Appendix A</li> <li>• Sample drawings in Appendix B</li> <li>• Minor Project and General Permit Categories in Appendix C</li> <li>• Fee schedule in Appendix C</li> <li>• State and Federal Authority and Penalties in Appendix D</li> <li>• Glossary in Appendix E</li> </ul>



## Application Checklist

The following website will provide township, range, section, latitude and longitude information:

[www.mcgi.state.mi.us/wetlands/](http://www.mcgi.state.mi.us/wetlands/)

[www.geocoder.us](http://www.geocoder.us)

In each section check all boxes that apply to your project.

Show and label property lines on the site plan.

Label existing and proposed contours, dimensions, excavation and/or fill on the site plans and cross sections.

Provide tables for multiple impact areas.

### 1. Application Form

- Complete Sections 1 through 9 of the application form.
- An authorization letter from the property owner if someone other than the property owner is signing the application.
- Complete those Sections 10 through 20 that apply to your project. Follow the instructions at the beginning of each section. For additional information, the instructions for each sample drawing in Appendix B indicate the application sections you will most likely need to complete. Complete the application form as much as possible before adding attachments. Label each attachment with the applicant's name.
- Stake or flag the area for site inspection including the property corners, proposed road or driveway centerlines, and areas of proposed impacts. The site must be flagged when the application is submitted.

### 2. Maps and Drawings

- All maps and drawings must be black and white, legible, reproducible, and sized to 8.5" x 11". Aerial photographs do not substitute for site plans. If larger drawings or blueprints are required to show adequate detail for review, you may also submit one full size copy.
- Vicinity Map: A map to the proposed project location that includes ALL streets, roads, intersections, highways, or cross-roads to the project. Do not assume review staff knows your project location.
- Project Site Plan: Overhead drawings to scale or with dimensions, length and width, of the proposed project are required. Show and label property lines on the site plan.
- Cross-section drawings are required. Provide the cross-sections and profile views to scale or with dimensions, length, width, and height.
- Elevation data must include a description of the reference point or benchmark used and its corresponding elevation. For projects on the Great Lakes or Section 10 Waters, elevations must be provided in IGLD 85. For observed Great Lake water elevations in IGLD, visit the USACE website under "water levels". If elevations are from still water, provide the observation date and water elevation. On inland sites, elevations can use NGVD 29, NAVD 88, a local datum or an assumed bench mark.
- Provide descriptive photographs of the proposed work site showing vegetation if wetlands are involved or the shoreline for shore protection projects. All photographs must be labeled with your name and the date of the photograph, indicate what they show, and be referenced to the site plan. Proposed activities or structure(s) may be indicated directly on the photographs using indelible markers or ink pens. Provide aerial photographs 1:400 or larger for major projects.

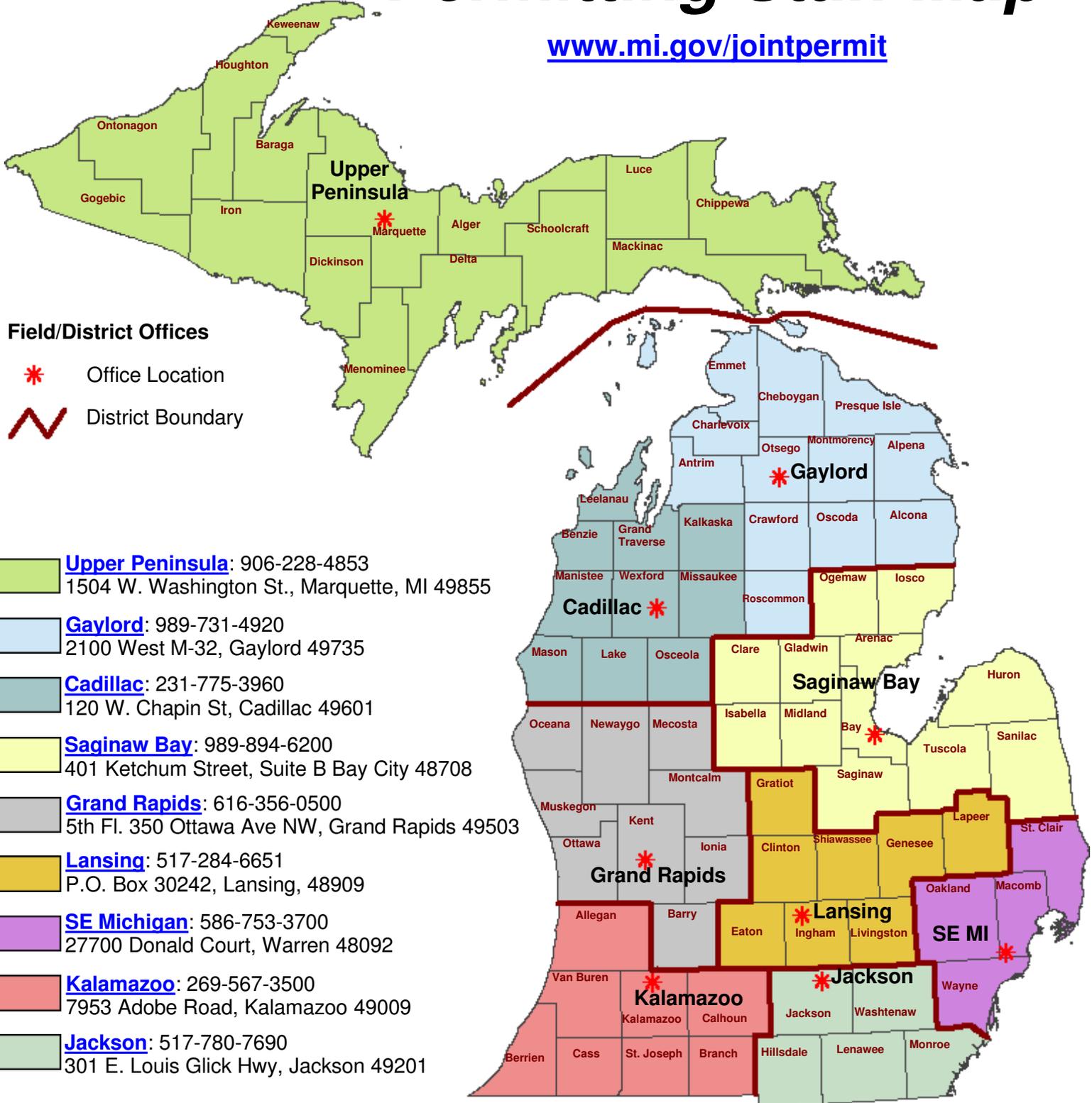
### 3. Fee

- Payment to the **State of Michigan**. Fees typically range from \$50 to \$4,000 depending on the type of project. Refer to Appendix C of the application and/or visit [www.mi.gov/jointpermit](http://www.mi.gov/jointpermit) to determine the appropriate fee for your project and for directions to pay by credit card or electronic fund transfer payment.
- Applications should be sent directly to the district offices. Please refer to page iii, or refer to [www.mi.gov/jointpermit](http://www.mi.gov/jointpermit) "who to contact" for address and/or phone number. Applications that cross county boundaries should be sent to the district containing the primary work effort.
- Applications for dams regulated under Part 315 or from public agencies eligible to receive federal and/or state transportation funding for a project involving public roadways, non-motorized paths, airports, or related facilities should be mailed to: DEQ, WRD, P.O. BOX 30458, LANSING, MI 48909-7958.



# Land/Water Interface Permitting Staff Map

[www.mi.gov/jointpermit](http://www.mi.gov/jointpermit)





## APPENDICES

<b>Appendix A:</b>	Acronyms and Abbreviations.....	A-1
<b>Appendix B:</b>	Sample Drawings	
	1. General Instructions for all Drawings and Sample Site Location Maps.....	B-1
	2. Inland Lake Shore Protection.....	B-2
	3. Bulkhead/Seawall.....	B-2
	4. Pond Construction.....	B-3
	5. Floodplain Fill.....	B-3
	6. Wetland Boardwalk.....	B-4
	7. Dredging.....	B-4
	8. Driveway Across Wetland.....	B-5
	9. Residential Wetland Fill and Boardwalk Construction.....	B-5
	10. Docks - Piers - Mooring Piles.....	B-6
	11. Beach Sanding.....	B-6
	12. Pipe/Utility Crossings in a Trench.....	B-7
	13. Pipe/Utility Crossings using Directional Bore.....	B-7
	14. Bridge or Culvert (4 drawings).....	B-8
	15. Dam Construction.....	B-12
	16. Water Intake.....	B-12
	17. Great Lakes Shore Protection.....	B-13
	18. Maintenance Dredge Channel.....	B-13
	19. Proposed Residence in a High Risk Erosion Area.....	B-14
	20. Proposed Residence in a Critical Dune Area.....	B-14
	21. Marina Site Plan.....	B-15
	22. Outlet Pipe.....	B-16
	23. Temporary Logging Road Crossing.....	B-16
<b>Appendix C:</b>	Fees and Categories for Minor Project and General Permit for Minor Activities.....	C-1
<b>Appendix D:</b>	State Authority, Federal Authority, Privacy Act Statement, and State and Federal Penalties.....	D-1
<b>Appendix E:</b>	Glossary (listed words are italicized in the application package).....	E-1

Application status can be viewed on the Water Resources Division (WRD) website at [www.deq.state.mi.us/CIWPIS](http://www.deq.state.mi.us/CIWPIS). During the application period, if any information is missing from the application or if any clarification is needed regarding materials provided, the application is incomplete and staff will request the information from the applicant/agent by letter, email, fax or phone call. If a complete response is not provided within 30 days, the application will be closed. Some regulatory parts allow extensions if requested within the 30 day time frame. Once the WRD has received the information necessary for review of the project, including a thoroughly completed application, consistent drawings that have adequate detail for review and the full application fee, the file will be reviewed for final processing. A mailed postcard or a public notice will provide the file number and the telephone number of the office where the application is being processed. The review time to determine if an application is complete for processing ranges from 15 to 30 days. Technical processing times, after the application is administratively complete, may range from 60 to 90 days. Processing times will be longer if a public hearing is held. Staff from your local District/Field Office may visit the project site and may request additional information prior to a decision on the application. Application fees are not refundable or transferable.

**If a federal permit will also be required, a copy of the permit application will be sent to the Detroit District Office, USACE, for processing at the federal level.** Additional copies of this application form can be downloaded from the WRD website at [www.mi.gov/jointpermit](http://www.mi.gov/jointpermit) or can be photocopied from the original. If you have any questions about the permitting process or if you need to modify your application, you can contact the WRD by phone or fax at the addresses on the previous page, or email at [DEQ-WRD-jointpermit@michigan.gov](mailto:DEQ-WRD-jointpermit@michigan.gov).



AGENCY USE	Previous USACE File Number	Date Received	DEQ File Number
	USACE File Number		Fee received \$

Validate that all parts of this checklist are submitted with the application package. Fill out application and additional pages as needed.

- All items in Sections 1 through 9 are completed.
- Project-specific Sections 10 through 20 are completed.
- Dimensions, volumes, and calculations are provided for all impact areas.
- All information contained in the headings for the appropriate Sections (1-20) are addressed, and identified attachments (➔) are included.
- Map, site plan(s), cross sections; one set must be black and white on 8 ½ by 11 inch paper; photographs.
- Application fee is attached.

**1 Project Location Information** For Latitude, Longitude, and TRS info anywhere in Michigan see [www.mcgi.state.mi.us/wetlands/](http://www.mcgi.state.mi.us/wetlands/)

Project Address (road, if no street address) <b>2055 Towner Rd</b>	Zip Code <b>48840</b>	Municipality (Township/Village/City) <b>Meridian Township</b>	County <b>Ingham</b>
Property Tax Identification Number(s) <b>33-02-02-04-276-011</b>	Latitude <b>42.764346 N</b>	Township/Range/Section (TRS) T <b>4 N</b> N or S; R <b>1 W</b> E or W;	
Subdivision/Plat and Lot Number	Longitude <b>- 84 4244109 W</b>	Sec <b>4</b> OR Private Claim # _____	

**2 Applicant and Agent Information**

Owner/Applicant (individual or corporate name) <b>Charter Township of Meridian</b>	Agent/Contractor (firm name and contact person) <b>VIRIDIS Design Group - John McCann</b>
Mailing Address <b>5151 Marsh Rd</b>	Mailing Address <b>313 North Burdick</b>
City <b>Okemos</b> State <b>MI</b> Zip Code <b>48864</b>	City <b>Kalamazoo</b> State <b>MI</b> Zip Code <b>49007</b>
Contact Phone Number Fax <b>517-853-4604</b>	Contact Phone Number Fax <b>269-978-5143</b>
Email <b>maisner@meridian.mi.us</b>	E-mail <b>john@viridg.com</b>
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Is the applicant the sole owner of all property on which this project is to be constructed and all property involved or impacted by this project? ➔ If no, attach letter(s) of authorization from all property owners including the owner of the disposal site.	
Property Owner's Name (If different from applicant)	Mailing Address
Contact Phone Number	City State Zip Code

**3 Project Description**

Project Name <b>Towner Road Park</b>	Preapplication File Number - - -P
Name of Water body	Date project staked/flagged
The proposed project is on, within, or involves (check all that apply)	Project Use
<input type="checkbox"/> an inland lake (5 acres or more) <input type="checkbox"/> a Great Lake or Section 10 Waters <input type="checkbox"/> a pond (less than 5 acres) <input checked="" type="checkbox"/> a wetland <input type="checkbox"/> a stream, river, ditch or drain <input type="checkbox"/> a 100-year floodplain <input type="checkbox"/> a legally established County Drain <input type="checkbox"/> a dam Date Drain was established <input type="checkbox"/> a designated high risk erosion area <input type="checkbox"/> a channel/canal <input type="checkbox"/> a designated critical dune area <input type="checkbox"/> 500 feet of an existing water body <input type="checkbox"/> a designated environmental area	<input type="checkbox"/> private <input type="checkbox"/> commercial <input checked="" type="checkbox"/> public/government <input type="checkbox"/> project is receiving federal/state transportation funds <input type="checkbox"/> Wetland Restoration <input type="checkbox"/> other

Indicate the type of permit being applied for:  General Permit  Minor Project  Individual (All other projects.) ➔ See Appendix C.

Written Summary of All Proposed Activities **Installation of an 8-foot wide by 27-foot long timber boardwalk set on helical piers within wetlands. Overflow of storm water drainage from adjacent detention basins to wetland areas, drainage will not be piped, only via overflow spillway.**

Construction Sequence and Methods **Silt fence installation, Topsoil strip, general earthwork and basin construction, boardwalk construction, site restoration.**



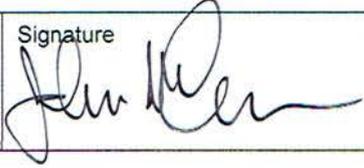
<b>4 Project Purpose, Use and Alternatives</b> <i>Attach additional sheets as necessary.</i>					
Describe the purpose of the project and its intended use; include any new development or expansion of an existing land use. <b>Project includes the development of a public park on a vacant unused property that was previously a golf driving range. Intended use is to provide recreational facilities for the public including baseball, soccer, lacrosse, rugby, football, and walking trails.</b>					
Describe the alternatives considered to avoid or minimize resource impacts. Include factors such as, but to limited to, alternative locations, project layout and design, and construction technologies. For utility crossings include alternative routes and construction methods. <b>The wetlands are the natural drainage areas (or low spots) for the site. Site run off is collected by detention basins before being released into wetland area. The alternative to draining to the wetlands would be either piping water off site or creating an underground storage tank, both of which are not practical and would be cost prohibitive. Based on the existing grade of the site, location of the wetland, and space required for the proposed field areas, the boardwalk is needed to complete a loop trail around the site in order to provide barrier free access to the site. The alternative to having the boardwalk cross the wetland would be to eliminate a section of the loop trail which would create a "gap" in the trail; or to eliminate one of the fields which greatly reduces the usability of the site for its purpose.</b>					
<b>5 Locating Your Project Site</b> <i>Attach a legible black and white map with a North arrow.</i>					
Names of roads of closest intersection <b>Towner Rd and Saginaw Highway</b>					
Directions from main intersection to the project site, with distances from the best and nearest visible landmark and water body <b>Entry drive to the site is about 1,000 feet east of the intersection of Towner Rd and Saginaw Highway on the south side of Towner Rd.</b>					
Description of buildings on the site (color; 1 or 2 story, other) <b>No buildings</b>			Description of adjacent landmarks or buildings (address; color; etc)		
How can your site be identified if there is no visible address? <b>Asphalt drive flanked by telephone pole on east side and low shrubs on both sides. Entry drive opens up to small parking lot. Soccer goals or other sport equipment may be visible on the site. Large metal tower is located just west of the site.</b>					
<b>6 Easements and Other Permits</b>					
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Is there a conservation easement or other easement, deed restriction, lease, or other encumbrance upon the property? ➤ If yes, attach a copy. Provide copies of court orders and legal lake levels if applicable.					
List all other federal, interstate, state, or local agency authorizations including required assurances for Critical Dune Area projects.					
<b>Agency</b>	<b>Type of Approval</b>	<b>Number</b>	<b>Date Applied</b>	<b>Date approved /denied</b>	<b>Reason for denial</b>
<b>7 Compliance</b>					
If a permit is issued, when will the activity begin? (M/D/Y) <b>9/1/16</b>			Proposed completion date (M/D/Y) <b>6/1/17</b>		
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Has any construction activity commenced or been completed in a regulated area? ➤ If Yes, identify the portion(s) underway or completed on drawings or attach project specifications and give completion date(s).					
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Were the regulated activities conducted under a DEQ and/or USACE permit? ➤ If Yes, list the permit numbers					
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Are you aware of any unresolved violations of environmental law or litigation involving the property? ➤ If Yes, attach explanation.					
<b>8 Adjoining Property Owners</b> <i>Provide current mailing addresses. Attach additional sheets/labels for long lists.</i>					
<input type="checkbox"/> Established Lake Board	Contact Person	Mailing Address	City	State and Zip Code	
<input type="checkbox"/> Lake Association					
List all adjoining property owners. If you own the adjoining lot, provide the requested information for the first adjoining parcel that is not owned by you.					
Property Owner's Name		Mailing Address	City	State and Zip Code	
<b>See attached Exhibit B</b>					



**9 Applicant's Certification**

*Read carefully before signing.*

I am applying for a permit(s) to authorize the activities described herein. I certify that I am familiar with the information contained in this application; that it is true and accurate; and, to the best of my knowledge, that it is in compliance with the State Coastal Zone Management Program. I understand that there are penalties for submitting false information and that any permit issued pursuant to this application may be revoked if information on this application is untrue. I certify that I have the authority to undertake the activities proposed in this application. By signing this application, I agree to allow representatives of the DEQ, USACE, and/or their agents or contractors to enter upon said property in order to inspect the proposed activity site before and during construction and after the completion of the project. I understand that I must obtain all other necessary local, county, state, or federal permits and that the granting of other permits by local, county, state, or federal agencies does not release me from the requirements of obtaining the permit requested herein before commencing the activity. I understand that the payment of the application fee does not guarantee the issuance of a permit.

<input type="checkbox"/> Property Owner <input type="checkbox"/> Agent/Contractor <input type="checkbox"/> Corp. or Public Agency / Title	Printed Name <i>John McCann</i>	Signature 	Date <i>5/17/16</i>
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<b>10 Projects Impacting Inland Lakes, Streams, Great Lakes, Wetlands or Floodplains</b>					
<ul style="list-style-type: none"> <li>• Complete only those sections A through M applicable to your project.</li> <li>• If your project impacts wetlands also complete Section 12. If your project impacts regulated floodplains also complete Section 13.</li> <li>• To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27. Example: (25 ft long x 10 ft wide x 2 feet deep) / 27 = 18.5 cubic yards</li> <li>• Some projects on the Great Lakes require an application for conveyance prior to Joint Permit Application completeness.             <ul style="list-style-type: none"> <li>➤ Provide a black and white overall site plan, with cross-section and profile drawings. Show existing lakes, streams, wetlands, and other water features; existing structures; and the location of all proposed structures, land change activities and soil erosion and sedimentation control measures. Review Appendix B and EZ Guides for aid in providing complete site-specific drawings.</li> <li>➤ Provide tables for multiple impact areas or multiple activities such as multiple fill areas or multiple culverts. Include your calculations.</li> </ul> </li> </ul>					
<b>Water Level Elevation</b>					
On inland waters		<input type="checkbox"/> NAVD 88	<input type="checkbox"/> other	Observed water elevation (ft)	date of observation (M/D/Y)
On a Great Lake		<input type="checkbox"/> IGLD 85	<input type="checkbox"/> surveyed	<input type="checkbox"/> converted from observed still water elevation.	
<input type="checkbox"/> <b>A. PROJECTS REQUIRING FILL</b> (See All Sample Drawings)					
<ul style="list-style-type: none"> <li>➤ Attach a site plan and cross-section views to scale showing maximum and average fill dimensions with calculations.</li> <li>➤ For multiple impact areas on a site provide a table with location, dimensions and volumes for each fill area.</li> </ul>					
Purpose		<input type="checkbox"/> bioengineered shore protection	<input type="checkbox"/> boat ramp	<input type="checkbox"/> boat well	<input type="checkbox"/> bridge or culvert
		<input type="checkbox"/> riprap	<input type="checkbox"/> seawall	<input type="checkbox"/> swim area	<input type="checkbox"/> crib dock
Dimensions of fill (ft)		Total volume (cubic yards)		Volume below OHWM (cubic yards)	
Length	Width	Maximum Depth			
Maximum water depth in fill area (ft)			Area filled (sq ft)		Will filter fabric be used under proposed fill? <input type="checkbox"/> No <input type="checkbox"/> Yes (If Yes, type)
Fill will extend		feet into the water from the shoreline and upland		feet out of the water.	
Type of clean fill		<input type="checkbox"/> peastone	% <input type="checkbox"/> sand	% <input type="checkbox"/> gravel	% <input type="checkbox"/> other
Source of clean fill		<input type="checkbox"/> commercial	<input type="checkbox"/> on-site	➤ If on-site, show location on site plan.	
		<input type="checkbox"/> other	➤ If other, attach description of location.		
<input type="checkbox"/> <b>B. PROJECTS REQUIRING DREDGING OR EXCAVATION</b> (See Sample Drawings)					
<ul style="list-style-type: none"> <li>• Refer to <a href="http://www.mi.gov/jointpermit">www.mi.gov/jointpermit</a> for spoils disposal and authorization requirements.</li> <li>➤ Attach a site plan and cross-section views to scale showing maximum and average dredge or excavation dimensions with calculations.</li> <li>➤ For multiple impact areas on a site provide a table with location, dimensions and volumes for each dredge/excavation area.</li> </ul>					
Purpose		<input type="checkbox"/> boat ramp	<input type="checkbox"/> boat well	<input type="checkbox"/> bridge or culvert	<input type="checkbox"/> maintenance dredge
		<input type="checkbox"/> navigation	<input type="checkbox"/> pond/basin	<input type="checkbox"/> other	
Dimensions (ft)			Total volume (cu yds)		Volume below OHWM (cu yds)
Length	Width	Maximum Depth			
Has this same area been previously dredged?		<input type="checkbox"/> No <input type="checkbox"/> Yes		If Yes, provide date and permit number:	
Will the previously dredged area be enlarged?		<input type="checkbox"/> No <input type="checkbox"/> Yes		If Yes, when and how much?	
Is long-term maintenance dredging planned?		<input type="checkbox"/> No <input type="checkbox"/> Yes		If Yes, how often?	
Dredge or Excavation Method <input type="checkbox"/> Hydraulic <input type="checkbox"/> Mechanical <input type="checkbox"/> other					
Spoils Disposal	Dredged or excavated spoils will be placed <input type="checkbox"/> on-site <input type="checkbox"/> landfill <input type="checkbox"/> USACE confined disposal facility <input type="checkbox"/> other upland off-site				
	For disposal, provide a ➤ Detailed spoils disposal area location map and site plan with property lines. ➤ Letter of authorization from property owner of spoils disposal site, if disposed off-site.				
For volumes less than 5,000 cu yards, has proposed dredge material been tested for contaminants within the past 10 years? <input type="checkbox"/> No <input type="checkbox"/> Yes ➤ If Yes, provide test results with a map of sampling locations.					
<input type="checkbox"/> <b>C. PROJECTS REQUIRING RIPRAP</b> (See Sample Drawings 2, 3, 8, 12, 14, 22, and 23)					
Riprap water ward of the ordinary high water mark: dimensions (ft)				length	width
				depth	Volume(cu yd)
Riprap landward of the ordinary high water mark: dimensions (ft)				length	width
				depth	Volume(cu yd)
Type and size of riprap (inches)				Will filter fabric or pea stone be used under proposed riprap?	
<input type="checkbox"/> field stone <input type="checkbox"/> angular rock <input type="checkbox"/> other				<input type="checkbox"/> No <input type="checkbox"/> Yes, Type	



<input type="checkbox"/> <b>D. SHORE PROTECTION PROJECTS</b> (See EZ Guides and Sample Drawings 2, 3, and 17. Complete Sections 10A, B, and/or C.)			
➔ For bioengineering projects include the list of native plants/seeds, if available.			
Type and length (ft)	<input type="checkbox"/> bioengineering (ft)	<input type="checkbox"/> revetment (ft)	<input type="checkbox"/> riprap (ft) <input type="checkbox"/> seawall/bulkhead (ft)
Structure is	<input type="checkbox"/> new <input type="checkbox"/> repair <input type="checkbox"/> replacement of an existing structure	Will the existing structure be removed? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Proposed Toe Stone (linear feet)		Distance of project from adjacent property lines (ft)	
Distance of project from an obvious fixed structure (example - 50 ft from SW corner of house)			
For bioengineering projects indicate the structure type <input type="checkbox"/> brush bundles <input type="checkbox"/> coir log <input type="checkbox"/> live stakes <input type="checkbox"/> tree revetment <input type="checkbox"/> other			
<input type="checkbox"/> <b>E. DOCK - PIER – MOORING PILINGS</b> (See Sample Drawing 10)			
➔ Attach a copy of the property legal description, mortgage survey, or a property boundary survey report.			
Dock Type <input type="checkbox"/> open pile <input type="checkbox"/> filled <input type="checkbox"/> crib <input type="checkbox"/> floating <input type="checkbox"/> cantilevered <input type="checkbox"/> spring piles <input type="checkbox"/> piling clusters <input type="checkbox"/> other			
Is the structure within the applicant's riparian area interest area? <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ Show parcel property lines on the site plan.			
Proposed structure dimensions (ft) length width		Use <input type="checkbox"/> private <input type="checkbox"/> public <input type="checkbox"/> commercial	
Dimensions of nearest adjacent structures (ft) length width		Distance of dock from adjacent property lines (ft)	
<input type="checkbox"/> <b>F. BOAT WELL</b> (See EZ Guide. Complete Sections 10A and 10B)			
Dimensions (ft) length width depth		Number of boats	
Type of sidewall stabilization <input type="checkbox"/> concrete <input type="checkbox"/> riprap <input type="checkbox"/> steel <input type="checkbox"/> vinyl <input type="checkbox"/> wood <input type="checkbox"/> other			
Volume of backfill behind sidewall stabilization (cu yd)		Distance of boat well from adjacent property lines (ft)	
<input type="checkbox"/> <b>G. BOAT RAMP</b> (See EZ Guide. Complete sections 10A, 10B, and 10C for mattress and pavement fill, dredge, and riprap)			
Type <input type="checkbox"/> new <input type="checkbox"/> existing <input type="checkbox"/> maintenance/improvement		Use <input type="checkbox"/> private <input type="checkbox"/> public <input type="checkbox"/> commercial	
Existing overall boat ramp dimensions (ft) length width depth		Type of construction material <input type="checkbox"/> concrete <input type="checkbox"/> wood <input type="checkbox"/> stone <input type="checkbox"/> other	
Proposed overall ramp dimensions (ft) length width depth		Proposed ramp dimensions (ft) below ordinary high water mark length width depth	
Number of proposed skid piers	Proposed skid pier dimensions (ft) length width		Distance of ramp from adjacent property lines (ft)
<input type="checkbox"/> <b>H. BOAT HOIST – ROOFS</b> (See EZ Guide)			
Type <input type="checkbox"/> cradle <input type="checkbox"/> side lifter <input type="checkbox"/> other		Located on <input type="checkbox"/> seawall <input type="checkbox"/> dock <input type="checkbox"/> bottomlands	
Hoist dimensions, including catwalks (ft) length width			
Area occupied, including cat walks (sq ft)		Distance of hoist from adjacent property lines (ft)	
Permanent Roof <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ If Yes, how is the roof supported?		Maximum Roof Dimensions (ft): length width height	
<input checked="" type="checkbox"/> <b>I. BOARDWALKS and DECKS in WETLANDS or FLOODPLAINS</b> (See Sample Drawings 5 and 6. Complete Sections 12 and/or 13)			
➔ Provide a table for multiple boardwalks and decks proposed in one project; include locations and dimensions.			
<b>Wetlands</b>		<b>Floodplains</b>	
Boardwalk <input checked="" type="checkbox"/> on pilings <input type="checkbox"/> on fill	Deck <input type="checkbox"/> on pilings <input type="checkbox"/> on fill	Boardwalk <input type="checkbox"/> on pilings <input type="checkbox"/> on fill	Deck <input type="checkbox"/> on pilings <input type="checkbox"/> on fill
Dimensions (ft) length <b>27'</b> width <b>8'</b>	Dimensions (ft) length width	Dimensions (ft) length width	Dimensions (ft) length width
<input type="checkbox"/> <b>J. INTAKE PIPES</b> (See Sample Drawing 16) or <b>OUTLET PIPES</b> (See Sample Drawing 22)			
If outlet pipe, discharge is to <input type="checkbox"/> inland lake <input type="checkbox"/> stream, drain or river <input type="checkbox"/> overland flow <input type="checkbox"/> Great Lake <input type="checkbox"/> wetland <input type="checkbox"/> other			
Number of pipes	Pipe diameters and invert elevations	Does pipe discharge below the OHWM?	<input type="checkbox"/> No <input type="checkbox"/> Yes
		Is the water treated before discharge?	<input type="checkbox"/> No <input type="checkbox"/> Yes
Type <input type="checkbox"/> headwall <input type="checkbox"/> end section <input type="checkbox"/> other		Dimensions of headwall OR end section (ft) length width height	



<input type="checkbox"/> <b>K. MOORING and NAVIGATION BUOYS</b> (See EZ Guide for Sample Drawing) ➔ Provide a site plan showing the distances between each buoy and from the shore to each buoy, and depth (ft) of water at each location. ➔ Provide cross-section drawing(s) showing anchoring system(s) and dimensions.			
Purpose of buoy <input type="checkbox"/> mooring <input type="checkbox"/> navigation <input type="checkbox"/> scientific structures <input type="checkbox"/> swimming <input type="checkbox"/> other			
Number of buoys	Dimensions of buoys (ft)		Boat Lengths
	width	height	swing radius
			chain length
Buoy Location: Latitude    .    N    Longitude    --    .    W. ➔ Provide a table for multiple buoys.			
Do you own the property along the shoreline?		<input type="checkbox"/> No <input type="checkbox"/> Yes	➔ If No, attach an authorization letter from the property owner(s).
Do you own the bottomlands?		<input type="checkbox"/> No <input type="checkbox"/> Yes	➔ If No, attach an authorization letter from the property owner(s).
<input type="checkbox"/> <b>L. FENCES</b> ➔ Provide an overall site plan showing the proposed fencing through streams, wetlands or floodplains. ➔ Provide a drawing of fence profile showing the design, dimension, post spacing, mesh, and distance from ground to bottom of fence.			
Purpose of fence <input type="checkbox"/> Airport <input type="checkbox"/> Cervidae <input type="checkbox"/> Livestock <input type="checkbox"/> Residential <input type="checkbox"/> Security <input type="checkbox"/> Other			
Total length (ft) of fence through		Fence height (ft)	Fence type and material
streams    wetlands    floodplains			
<input type="checkbox"/> <b>M. OTHER</b> - e.g., structure removal, maintenance or repair, aerator, dry fire hydrant, gold prospecting, habitat structures, scientific measuring devices, soil borings, or survey activities.			
Structure description, dimensions and volumes. Complete Sections 10A-C as applicable.			
<b>11 Expansion of an Existing or Construction of a New Lake or Pond</b> (See Sample Drawings 4 and 15) ➔ Complete Section 10J for outlets and Section 17 for water control structures. ➔ Provide elevations, cross-sections and profiles of outlets, dams, dikes, water control structures and emergency spillways to nearest water bodies.			
Which best describes your proposed water body use (check all that apply) <input type="checkbox"/> mining <input type="checkbox"/> recreation <input type="checkbox"/> storm water retention basin <input type="checkbox"/> wastewater basin <input type="checkbox"/> wildlife <input type="checkbox"/> other			
Water source for lake/pond <input type="checkbox"/> groundwater <input type="checkbox"/> natural springs <input type="checkbox"/> Inland Lake or Stream <input type="checkbox"/> storm water runoff <input type="checkbox"/> pump <input type="checkbox"/> sewage <input type="checkbox"/> other			
Location of the lake/basin/pond <input type="checkbox"/> floodplain <input type="checkbox"/> wetland <input type="checkbox"/> stream (inline) <input type="checkbox"/> upland			
Maximum dimensions (ft)		Maximum Area: <input type="checkbox"/> acres <input type="checkbox"/> sq ft	
length    width    depth			
Has the there been a hydrologic study performed on the site?		<input type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, provide a copy.
Has the DEQ conducted a wetland assessment for this parcel?		<input type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, provide a copy or WIP number:
Has a professional wetland delineation been conducted for this parcel?		<input type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, provide a copy with data sheets.
Spoils Disposal	Dredged or excavated spoils will be placed <input type="checkbox"/> on-site <input type="checkbox"/> landfill <input type="checkbox"/> USACE confined disposal facility <input type="checkbox"/> other upland off-site For disposal, provide a ➔ Detailed spoils disposal area location map and site plan with property lines. ➔ Letter of authorization from property owner of spoils disposal site, if disposed off-site.		



**12 Activities That May Impact Wetlands** (See Sample Drawings 8 & 9). Complete other Sections as applicable.

- Locate your site and wetland information with the DEQ Wetlands Map Viewer at [www.mcgi.state.mi.us/wetlands/](http://www.mcgi.state.mi.us/wetlands/)
- For information on the DEQ's Wetland Identification Program (WIP) visit [www.mi.gov/wetlands](http://www.mi.gov/wetlands).
  - ➔ Provide a detailed site plan with labeled property lines, upland and wetland areas, and dimensions and volumes of wetland impacts.
  - ➔ Complete the wetland dredge and wetland fill dimension information below for each impacted wetland area.
  - ➔ Attach tables for multiple impact areas or activities.
  - ➔ Attach at least one cross-section for each wetland dredge and/or fill area; show wetland and upland boundaries on the cross-section.

Has the DEQ conducted a wetland assessment for this parcel?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, provide a copy or WIP number:
Has a professional wetland delineation been conducted for this parcel?	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	➔ If Yes, provide a copy with data sheets
Is there a recorded DEQ easement on the property?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, provide the easement number
Did the applicant purchase the property before October 1, 1980?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, provide documentation.
Is any grading or mechanized land clearing proposed?	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	➔ If Yes, label the locations on the site plan.
Has any of the proposed grading or mechanized land clearing been completed?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	➔ If Yes, label the locations on the site plan

Proposed Activity	<input checked="" type="checkbox"/> boardwalk or deck (Section 10I)	<input type="checkbox"/> bridges and culverts (Section 14)	<input type="checkbox"/> designated environmental area
	<input type="checkbox"/> dewatering	<input checked="" type="checkbox"/> draining surface water	<input type="checkbox"/> driveway / road
	<input type="checkbox"/> fences (Section 10L)	<input type="checkbox"/> fill or dredge	<input type="checkbox"/> restoration
	<input type="checkbox"/> septic system	<input type="checkbox"/> stormwater discharge (Section 10J)	<input type="checkbox"/> other

<b>FILL</b>	Dimensions maximum length (ft) maximum width (ft)	Area <input type="checkbox"/> acres <input type="checkbox"/> sq ft	Average depth (ft)	Volume (cu yd) <b>no fill proposed</b>
<b>DREDGE</b>	Dimensions maximum length (ft) maximum width (ft)	Area <input type="checkbox"/> acres <input type="checkbox"/> sq ft	Average depth (ft)	Volume (cu yd) <b>no dredge proposed</b>

Spoils Disposal	Dredged or excavated spoils will be placed <input type="checkbox"/> on-site <input type="checkbox"/> landfill <input type="checkbox"/> USACE confined disposal facility <input type="checkbox"/> other upland off-site			
	For disposal, provide a ➔ Detailed spoils disposal area location map and site plan with property lines. ➔ Letter of authorization from property owner of spoils disposal site, if disposed off-site.			

Septic System	The proposed project will be serviced by: <input checked="" type="checkbox"/> public sewer <input type="checkbox"/> private septic system ➔ Show system on plans.	If a private septic system is proposed, has an application for a permit been made to the County Health Department? <input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, has a permit been issued? <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ Provide a copy of the permit.
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Describe the wetland impacts, the proposed use or development, and the alternatives considered:  
**Proposed development includes a public park with athletic fields and walking paths. Impacts include the following: 1) building a 8 foot by 27 foot timber boardwalk set on helical piers above the wetland, piers are driven into the ground with equipment that sit outside the wetland, pier shafts are approx. 1.5-inches square. 2) stormwater overflow drainage to wetland areas. No drainage is conveyed to wetland by pipe. All drainage to wetlands is overflow from detention basins, therefore all drainage to wetlands will be detained in a basin prior to flowing into wetland. A large portion of drainage is from green space and athletic fields. The existing wetland areas are the natural low areas that the site is currently draining to.**

Does the project impact more than 1/3 acre of wetland?  No  Yes  
 ➔ If Yes, submit a Mitigation Plan with the type and amount of mitigation proposed. For more information go to [www.mi.gov/wetlands](http://www.mi.gov/wetlands)

Describe how impacts to waters of the United States will be avoided and minimized:  
**Waters of the UnitesStates will not be impacted.**

Describe how the impact to waters of the United States will be compensated. OR Explain why compensatory mitigation should not be required for the proposed impacts.  
**Waters of the United States will not be impacted.**





**13 Floodplain Activities** (See Sample Drawing 5 and others. Complete other applicable sections.)

- For more information go to [www.mi.gov/floodplainmanagement](http://www.mi.gov/floodplainmanagement). This site also lists the projects and requirements for an expedited floodplain review under "Expedited Review Information for Minor Floodplain Projects."
- Examples of projects proposed within the non-floodway portions of the 100-year-floodplain which may qualify for an expedited review: Open pile decks and boardwalks; residences, commercial/industrial facilities, garages and accessory structures; parking lots; pavilions, gazebos, large community playground structures; residential swimming pools
- Examples of projects proposed within the floodway portions of the floodplain which may qualify for an expedited review: Open pile decks and boardwalks, (non-enclosed) that are anchored to prevent floatation and that do not extend over the bed and bank of a watercourse; parking lots constructed at grade or resurfacing that is no more than 4 inches above the existing grade; dry hydrants that do not require fill placement; scientific structure such as staff gauges, water monitoring devices, water quality testing devices, and core sampling devices which meet specific design criteria and fish structures that meet specific design criteria.
- For expedited review include:
  - Photographs of the work site labeled to identify what is being shown and with the direction of the photo clearly indicated. Include photographs of any river or stream adjacent to the project.
  - A letter or statement from the local unit of government acknowledging your proposed application. See the website for sample wording.
- A hydraulic analysis or hydrologic analysis may be required to fully assess floodplain impacts.
- The state building code requires an Elevation Certificate for any building construction or addition in a floodplain. A sample form can be found at [www.fema.gov/nfip/elvinst.shtm](http://www.fema.gov/nfip/elvinst.shtm).
  - Attach additional sheets or tables for multiple proposed floodplain activities and provide hydraulic calculations.
  - Show reference datum used on plans.

Proposed Activity	<input type="checkbox"/> fill <input type="checkbox"/> excavation or cut <input type="checkbox"/> other	100-year floodplain elevation (ft) (if known) Datum <input type="checkbox"/> NGVD 29 <input type="checkbox"/> NAVD 88 <input type="checkbox"/> other
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Site is \_\_\_\_\_ feet above  ordinary high water mark (OHWM) OR  observed water level. Date of observation (M/D/Y)

Fill volume below the 100-year floodplain elevation (cu yds)	Compensating cut volume below the 100-year floodplain elevation (cu yds)
--	--

<b>Buildings and/or Additions</b>	Type of construction is <input type="checkbox"/> residential <input type="checkbox"/> garage/pole barn <input type="checkbox"/> non residential <input type="checkbox"/> other	
	Construction is <input type="checkbox"/> new <input type="checkbox"/> addition AND Serviced by <input type="checkbox"/> public sewer <input type="checkbox"/> private septic <input type="checkbox"/> other	
	Lowest adjacent grade (ft): existing _____ proposed _____ datum <input type="checkbox"/> NGVD 29 <input type="checkbox"/> NAVD 88 <input type="checkbox"/> other	
	Existing Structure Information	Proposed Structure Information
	Foundation type <input type="checkbox"/> basement <input type="checkbox"/> concrete slab on grade <input type="checkbox"/> pilings <input type="checkbox"/> crawl space <input type="checkbox"/> other	Foundation type <input type="checkbox"/> basement <input type="checkbox"/> concrete slab on grade <input type="checkbox"/> pilings <input type="checkbox"/> crawl space <input type="checkbox"/> other
	Foundation floor elevation (ft)	Foundation floor elevation (ft)
	Height of crawl space/basement from finished foundation floor to bottom of floor joists (ft)	Height of crawl space/basement from finished foundation floor to bottom of floor joists (ft)
	Elevation of 1st floor above basement floor/crawl space (ft)	Elevation of 1st floor above basement floor/crawl space (ft)
	For enclosed areas below the flood elevation, such as a crawl space, garages and accessory structures: Area of proposed foundation (sq ft) Elevation of proposed enclosed area (ft) datum <input type="checkbox"/> NGVD 29 <input type="checkbox"/> NAVD 88 <input type="checkbox"/> other	
	Number of flood vents	net opening of each vent (sq inches)



<b>14</b>	<b>Bridges and Culverts</b> Including Foot and Cart Bridges. (See EZ Guides and Sample Drawings 5, 14A, 14B, 14C, 14D.)		
	<ul style="list-style-type: none"> <li>• Complete other applicable Sections, including 10A-C.</li> <li>• A hydraulic analysis or hydrologic analysis may be required to fully assess impacts. → Attach hydraulic calculations.</li> <li>• High Water Elevation - describe reference point and highest known water level above or below reference point and date of observation.               <ul style="list-style-type: none"> <li>→ Attach additional sheets for multiple bridges and/or culverts.</li> <li>→ Provide detailed site-specific drawings of existing and proposed Plan and Elevation View at a scale adequate for detailed review.</li> <li>→ Provide all information in the boxes below; do not write in a reference to plan sheets. Show reference datum used on plans.</li> </ul> </li> </ul>		
	<b>Stream Information</b>	The site has a high water elevation (ft) <input type="checkbox"/> above or <input type="checkbox"/> below the Reference Point of _____ Date observed _____	
		Reference datum used <input type="checkbox"/> NGVD 29 <input type="checkbox"/> NAVD 88 <input type="checkbox"/> IGLD 85 (Great Lakes coastal areas) <input type="checkbox"/> other _____	
		Average stream width (ft) at the ordinary high water mark (OHWM) outside the influence of any ponding or scour holes around the structure	Upstream _____ Downstream _____
		Cross-sectional area of primary channel (sq ft) _____ (See Sample Drawing 14C for more information)	
		The width of the stream where the water begins to overflow its banks. Bankfull width (ft) _____	
The invert of the stream 100-feet from structure (ft)		Upstream _____ Downstream _____	
Is the existing culvert perched? <input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, provide a profile of the channel bottom at the high and low points for a distance of 200 feet upstream and downstream of the culvert.			
<b>Complete this form for each bridge / culvert location.</b>			
<b>Bridge</b>	<b>Existing</b>	<b>Proposed</b>	
	Number of bridge spans		
	Bridge type (concrete box beam, concrete I-beam, timber, etc.)		
	Bridge span ( length perpendicular to stream) (ft)		
	Bridge width (parallel to stream) (ft)		
	Bottom of bridge beam (ft)	Upstream _____ Downstream _____	
	Stream invert elevation at bridge (ft)	Upstream _____ Downstream _____	
	Bridge rise from bottom of beam to streambed (ft)		
<b>Culvert</b>	Number of culverts		
	Culvert type (arch, bottomless, box, circular, elliptical, etc.)		
	Culvert material (concrete, corrugated metal, plastic, etc.)		
	Culvert length (ft)		
	Culvert <input type="checkbox"/> width <input type="checkbox"/> diameter (ft)		
	Culvert height prior to any burying (ft)		
	Depth culvert will be buried (ft)		
	Elevation of culvert crown (ft)	Upstream _____ Downstream _____	
	Higher elevation of <input type="checkbox"/> culvert invert OR <input type="checkbox"/> streambed within culvert (ft)	Upstream _____ Downstream _____	
<b>Complete for both Bridges and Culverts</b>	Entrance design (mitered, projecting, wingwalls, etc.)		
	Total structure waterway opening above streambed (sq ft)		
	Total structure waterway area below the 100-year elevation (sq ft) (if known)		
	Elevation of road grade at structure (ft)		
	Elevation of low point in road (ft)		
	Distance from low point of road to mid-point of bridge crossing (ft)		
	Length of approach fill from edge of bridge/culvert to existing grade (ft)		
	<p>A Licensed Professional Engineer may certify that your project will not cause a harmful interference for a range of flood discharges up to and including the 100-year flood discharge. The "Required Certification Language" is found under "forms" on the "maps, forms and documents" link from the <a href="http://www.mi.gov/jointpermit">www.mi.gov/jointpermit</a> page or a copy may be requested by phone, email, or mail. A hydraulic report supporting this certification may also be required.</p> <p>Is Certification Language attached? <input type="checkbox"/> No <input type="checkbox"/> Yes</p>		

**15 Stream, River, or Drain Construction , Relocation and Enclosure Activities**

- Complete Section 10C for riprap activities.
- If side casting or other proposed activities will impact wetlands or floodplains, complete Sections 12 and 13, respectively.
  - ➔ Provide a scaled overall site plan showing existing lakes, streams, wetlands, and other water features; existing structures; and the location of all proposed structures and land change activities.
  - ➔ Provide scaled cross-section (elevation) drawings necessary to clearly show existing and proposed conditions.
  - ➔ For activities on legally established county drains, provide original design and proposed dimensions and elevations.

Stream Information	Water elevation (ft) datum <input type="checkbox"/> NGVD 29 <input type="checkbox"/> NAVD 88 <input type="checkbox"/> IGLD 85 (Great Lakes coastal areas) <input type="checkbox"/> other ➔ Show elevation on plans with description.	
	Dimensions (ft) of existing stream/drain channel (ft)	length width depth
	Existing channel average water depth in a normal year (ft)	
Proposed Activity <input type="checkbox"/> enclosure <input type="checkbox"/> improvement <input type="checkbox"/> maintenance <input type="checkbox"/> new drain <input type="checkbox"/> relocation <input type="checkbox"/> wetlands <input type="checkbox"/> other		
If an enclosed structure is proposed, check material type <input type="checkbox"/> concrete <input type="checkbox"/> corrugated metal <input type="checkbox"/> plastic <input type="checkbox"/> other		
Dimensions (ft) of the structure: diameter length	Volume of fill (cu yds)	
Will old/enclosed stream channel be backfilled to top of bank grade? <input type="checkbox"/> No <input type="checkbox"/> Yes		
Length of channel to be abandoned (ft)	Volume of fill (cu yds)	
Dimensions (ft) of improved, maintained, new, relocated or wetland stream/drain channel. length width depth	Volume of dredge/excavation (cu yds)	
How will slopes and bottom be stabilized?	Proposed side slopes (vertical / horizontal)	
Spoils Disposal	Dredged or excavated spoils will be placed <input type="checkbox"/> on-site <input type="checkbox"/> landfill <input type="checkbox"/> USACE confined disposal facility <input type="checkbox"/> other upland off-site For disposal, provide a ➔ Detailed spoils disposal area location map and site plan with property lines. ➔ Letter of authorization from property owner of spoils disposal site, if disposed off-site.	

**16 Drawdown of an Impoundment**

- If wetlands will be impacted, complete Section 12.

Type of drawdown <input type="checkbox"/> over winter <input type="checkbox"/> temporary <input type="checkbox"/> one-time event <input type="checkbox"/> annual event <input type="checkbox"/> permanent (dam removal) <input type="checkbox"/> other		
Reason for drawdown		
Has there been a previous drawdown? <input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, provide date (M/D/Y)	Previous DEQ permit number, if known	
Does waterbody have established legal lake level? <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Not Sure	Dam ID Number, if known	
Extent of vertical drawdown (ft)	Impoundment design head (ft)	Number of adjoining or impacted property owners
Date drawdown would start (M/D/Y)	Date drawdown would stop (M/D/Y)	Rate of drawdown ( ft/day)
Date refilling would start (M/D/Y)	Date refill would end (M/D/Y)	Rate of refill (ft/day)
Type of outlet discharge structure to be used <input type="checkbox"/> surface <input type="checkbox"/> bottom <input type="checkbox"/> mid-depth	Impoundment area at normal water level (acres)	Sediment depth behind impoundment discharge structure (ft)



**17 Dam, Embankment, Dike, Spillway, or Control Structure Activities** (See Sample Drawing 15)

- For more information go to [www.mi.gov/damsafety](http://www.mi.gov/damsafety). If wetlands will be impacted, complete Section 12.
- Information on removing a dam is available at [www.mi.gov/damsafety](http://www.mi.gov/damsafety) and following the Related Link –Dam Management.
  - ➔ Attach detailed signed and sealed engineering plans for a Part 315 dam repair, dam alteration, dam abandonment, or dam removal.
  - ➔ Part 315 Dam Safety application fees are added to all other application fees.
  - ➔ Mail applications for dams regulated under Part 315 to DEQ, WRD, P.O. BOX 30458, LANSING, MI 48909-7958, attention Dam Safety.

Proposed Activity	<input type="checkbox"/> abandonment	<input type="checkbox"/> alteration	<input type="checkbox"/> enlargement of an existing dam
	<input type="checkbox"/> removal	<input type="checkbox"/> repair	<input type="checkbox"/> reconstruction of a failed dam
	<input type="checkbox"/> new dam construction	<input type="checkbox"/> other	

Dam ID Number, if known	Type of outlet discharge structure <input type="checkbox"/> surface <input type="checkbox"/> bottom <input type="checkbox"/> mid-depth
-------------------------	--

Will proposed activities require a drawdown of the waterbody to complete the work?  No  Yes ➔ If Yes, complete Section 16.

Structural height (difference between embankment top elevation and streambed elevation at downstream embankment toe) (ft) \_\_\_\_\_

Hydraulic Height (difference between design flood elevation and streambed elevation at downstream embankment toe) (ft) _____	Impoundment size at design flood elevation (acres)
--	--

Does dam meet the criteria for regulation under Part 315? (i.e. hydraulic height of 6 feet or more and an impoundment size at the design flood of 5 surface acres or more)  No  Yes

Dredging/excavation volume (cu yd)	Fill volume (cu yd)	Riprap volume (cu yd)
------------------------------------	---------------------	-----------------------

Will a water diversion during construction be required?  No  Yes

If Yes, describe how the stream flow will be controlled through the dam construction area during the proposed project activities:

Complete the following for a new dam, reconstruction of a failed dam or enlargement of an existing dam

For Part 315 regulated dams, the following must be attached:

- ➔ Site-specific conceptual plans of the dam for resource impact review (An engineering report and detailed engineering plans are not required until the project has been determined to be permitable).
- ➔ A description and evaluation of the loss of natural resources associated with the project.
- ➔ A description of the natural resources that are associated with or created by the impoundment and how they offset the natural resources lost by the creation of the impoundment.
- ➔ An assessment of all known existing and potential adverse effects within the scope of the project.

Embankment dimensions	length (ft)	top width (ft)	bottom width (ft)	slopes (vertical / horizontal)	Upstream Downstream
-----------------------	-------------	----------------	-------------------	--------------------------------	------------------------

Have soil borings been taken at dam location?  No  Yes ➔ If Yes, attach results.

Do you have flowage rights to all proposed flooded property at the design flood elevation?  No  Yes ➔ If No, provide a letter of authorization from the property owner.

Applications for Part 315 regulated dam removal projects must also include the following:

- An evaluation of the capacity of the remaining structure to pass flood flows.
- An evaluation of the quantity and quality of the sediments behind the impoundment.
- A description of the methods to be employed to control sediments.
- An assessment of all known existing and potential adverse impacts within the scope of the project.



**18 Utility Crossings** (See Sample Drawings 12 and 13, and EZ Guide)

- If side casting is proposed, complete Sections 10A and 10B. If spoils will be placed in or impact wetlands, complete Section 12.
  - ➔ Attach additional sheets or tables with the requested information as needed for multiple crossings.
  - ➔ For wetland crossings using the open trench method show clay plugs at the wetland/upland boundaries on the plans.

Crossing of  Inland Lake or Stream  floodplain  Great Lake  wetlands (also complete Section 12)

What method will be used to construct the crossings?  directional boring  jack and bore  open trench  plow / knife  flume

Utility Type	Number of lake or stream crossings	Number of wetland crossings	Pipe diameter with casing (in)	Pipe length per crossing (ft)	Distance below streambed or wetland (in)	Trench width (ft)
<input type="checkbox"/> sanitary sewer						
<input type="checkbox"/> storm sewer						
<input type="checkbox"/> watermain						
<input type="checkbox"/> cable						
<input type="checkbox"/> electric						
<input type="checkbox"/> fiber optic cable						
<input type="checkbox"/> oil/gas pipeline						

**19 Marina Construction, Expansion and Reconfiguration** (See Sample Drawing 21)

- For more information go to [www.mi.gov/marinas](http://www.mi.gov/marinas)
- Marinas located on the Great Lakes, including Lake St. Clair, may be required to secure leases or conveyances from the state of Michigan to place structures on the bottomlands. If a conveyance is necessary, an application must be submitted before the Joint Permit Application can be determined complete.
  - ➔ Fully complete Section 10 E. For multiple structures provide a table with the requested information.
  - ➔ Enclose a copy of any current pump-out agreement with another marina facility, if on-site sanitary pump out facilities are not available.
  - ➔ Attach a copy of the property legal description, mortgage survey, or a property boundary survey to your application.
  - ➔ The WRD may require a riparian interest area (RIA) estimate survey, sealed by a licensed surveyor, in order to determine whether the proposed project will adversely impact riparian rights. Include any available sealed RIA estimate survey and/or written authorizations from affected adjoining riparian owners with your application.

Proposed Marina Activity  New construction  Expansion  Reconfiguration

Do you have an existing Great Lake Conveyance?  No  Yes For more information visit [www.mi.gov/deqgreatlakes](http://www.mi.gov/deqgreatlakes).

Are sanitary pump-out facilities available?  No  Yes Is there a pump out agreement?  No  Yes If Yes, provide a copy.

Marina Description	Current Count	Final Count
Number of boat slips/wells (do not include broadside dockage or mooring buoys)		
Lineal feet of broadside dockage		
Maximum number of boats at broadside dockage		
Number of mooring buoys		
Number of launch ramps/lanes		



**20 Critical Dune Areas and High Risk Erosion Areas** (See Sample Drawings 19 and 20)

**Critical Dune Areas (See Sample Drawing 20)**

- Although not required, submitting **PHOTOGRAPHS** of the site may provide for a faster application review.
- For more information go to [www.mi.gov/jointpermit](http://www.mi.gov/jointpermit), select "Sand Dune Protection" under "Related Links."
- All property boundaries and proposed structure corners, including decks, septic systems, water wells, driveways, grading, and terrain alteration locations must be staked before the WRD site inspection.
- Scaled overhead and cross-section plans must include all property boundaries, locations, and dimensions of all existing structures and impacted areas, and all proposed structures, terrain alterations, and construction access. Cross-sections must show existing and proposed grades, including foundations.
- Construction in critical dune areas on slopes greater than 33 percent (1 vertical: 3 horizontal) is prohibited without a special exception.
- Construction in critical dune areas on slopes that measure from 25 percent (1 vertical: 4 horizontal) to less than 33 percent requires sealed plans prepared by a registered architect or licensed professional engineer.

**High Risk Erosion Areas (See Sample Drawing 19)**

- For more information go to [www.mi.gov/jointpermit](http://www.mi.gov/jointpermit), select "HREA" under "Related Links."
- All property boundaries, proposed structure corners, and septic system locations must be staked before the WRD site inspection.
- Scaled overhead plans must include all property boundaries, and the location and dimensions of all structures and septic systems must be included.
- Additional information, including the building construction plans, may be required to complete the application review.

<b>Critical Dune Areas</b>	Parcel dimensions (ft) width      depth		Date project staked (M/D/Y)	
	Property is a <input type="checkbox"/> platted lot <input type="checkbox"/> unplatted parcel		Year current property boundaries created	
	Dune habitat present in Building Site and access route (check all that apply): <input type="checkbox"/> Wooded <input type="checkbox"/> Open Dune <input type="checkbox"/> Shrubs <input type="checkbox"/> Bare Sand <input type="checkbox"/> Lakefront Lot <input type="checkbox"/> MNFI Community if known: _____			
	Type of construction activities <input type="checkbox"/> addition <input type="checkbox"/> driveway <input type="checkbox"/> garage <input type="checkbox"/> new home <input type="checkbox"/> renovation <input type="checkbox"/> septic <input type="checkbox"/> deck(s) <input type="checkbox"/> other			
	<input type="checkbox"/> Provide a sand relocation plan with location and dimensions of disposal area. Indicate <input type="checkbox"/> on-site OR <input type="checkbox"/> off-site If on-site show location and how the disposal site will be accessed on the plans. Indicate the depth of the disposed sand on the plans.			
	<input type="checkbox"/> Provide the permit or letter from the County Enforcing Agent stating the project complies with Part 91 (Soil Erosion and Sedimentation Control).			
	The proposed project will be serviced by <input type="checkbox"/> public sewer <input type="checkbox"/> private septic system. ➔ On the plans, show the location and dimensions of the private septic system. If a private septic system is proposed, has a permit been issued by the health department? <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ If Yes, provide a copy of the permit for all Critical Dune Area projects.			
	<input type="checkbox"/> Provide a copy of the vegetation assurance letter. <input type="checkbox"/> Provide a re-vegetation plan, including # _____ of trees to be removed and # _____ of trees to be replanted.			
	<b>Proposed Utility Installation</b>		<b>Proposed New Construction</b>	
	Utility Installation Method <input type="checkbox"/> directional bore <input type="checkbox"/> plowing in <input type="checkbox"/> open trench <input type="checkbox"/> other		Foundation type <input type="checkbox"/> concrete slab <input type="checkbox"/> pilings <input type="checkbox"/> crawl space <input type="checkbox"/> other	
➔ Show utility locations and dimensions on the site plan.		Area of existing structure (sq ft)		
➔ Show construction access route on the site plan.		Area of proposed structure (sq ft)		
➔ Show existing and proposed grades on the cross-section.		Area of existing deck (sq ft)		
➔ Show locations of vegetation to be removed on the site plan.		Area of proposed deck (sq ft)		
Provide the following information for special use projects: (a) Lot size, width, density, and front and side setbacks. (b) Storm water drainage that provides for disposal of drainage water without serious erosion. (c) Methods for controlling erosion from wind and water. (d) Re-stabilization plan. (e) Environmental Impact Statement.				



<b>High Risk Erosion Areas</b>	Parcel dimensions (ft) width      depth		Date project staked (M/D/Y)	
	<b>Existing Structure Information</b>		<b>Proposed New Construction</b>	
	Foundation type <input type="checkbox"/> basement <input type="checkbox"/> concrete slab <input type="checkbox"/> pilings <input type="checkbox"/> crawl space <input type="checkbox"/> other		Foundation type <input type="checkbox"/> basement <input type="checkbox"/> concrete slab <input type="checkbox"/> pilings <input type="checkbox"/> crawl space <input type="checkbox"/> other	
	Material above foundation wall <input type="checkbox"/> block <input type="checkbox"/> log <input type="checkbox"/> stud frame <input type="checkbox"/> other		Material above foundation wall <input type="checkbox"/> block <input type="checkbox"/> log <input type="checkbox"/> stud frame <input type="checkbox"/> other	
	Siding material <input type="checkbox"/> block <input type="checkbox"/> vinyl <input type="checkbox"/> wood <input type="checkbox"/> other		Siding material <input type="checkbox"/> block <input type="checkbox"/> vinyl <input type="checkbox"/> wood <input type="checkbox"/> other	
	Area of the foundation, excluding attached garage (sq ft)		Area of the foundation, excluding attached garage (sq ft)	
	Area of the garage foundation (sq ft)		Area of the garage foundation (sq ft)	
	If renovating or restoring an existing structure, indicate the renovation or restoration cost \$			
	Current structure replacement value \$			
	Tax assessed value of existing structure excluding land value \$		Assessment Year	
Provide the number of individual living units in the proposed building				

# CHARTER TOWNSHIP OF MERIDIAN

Elizabeth Ann LeGoff  
Brett Dreyfus  
Julie Brixie  
Frank L. Walsh

Supervisor  
Clerk  
Treasurer  
Manager



Milton L. Scales  
Ronald J. Styka  
John Veenstra  
Angela Wilson

Trustee  
Trustee  
Trustee  
Trustee

February 15, 2016

MDEQ – WRD  
Lansing District Office  
Constitution Hall 1<sup>st</sup> Floor South  
Tower 525 W. Allegan Street  
P. O. Box 30242  
Lansing, MI 48909

RE: TOWNER ROAD PARK  
Meridian Township, Ingham County, MI  
Parcel No. 33-02-02-04-276-011

Dear MDEQ Staff:

Please consider this letter my authorization for John McCann, Viridis Design Group, to submit a Joint Permit Application for improvements to the Towner Road Park, located in Meridian Township, Ingham County, Michigan. The improvements involve the installation of a wood pedestrian bridge that will be utilized to cross a small wetland.

Should you have any questions, please contact me at 517-853-4604 or [maisner@meridian.mi.us](mailto:maisner@meridian.mi.us).

Yours truly,

A handwritten signature in blue ink, appearing to read "LuAnn Maisner", is written over a light blue horizontal line.

LuAnn Maisner, CPRP  
Director of Parks and Recreation

# LOCATION MAP



## Ingham County Equalization/Tax Mapping

Road Aerial

**Map Layers**

- Parcels
- Cities

**Tools**

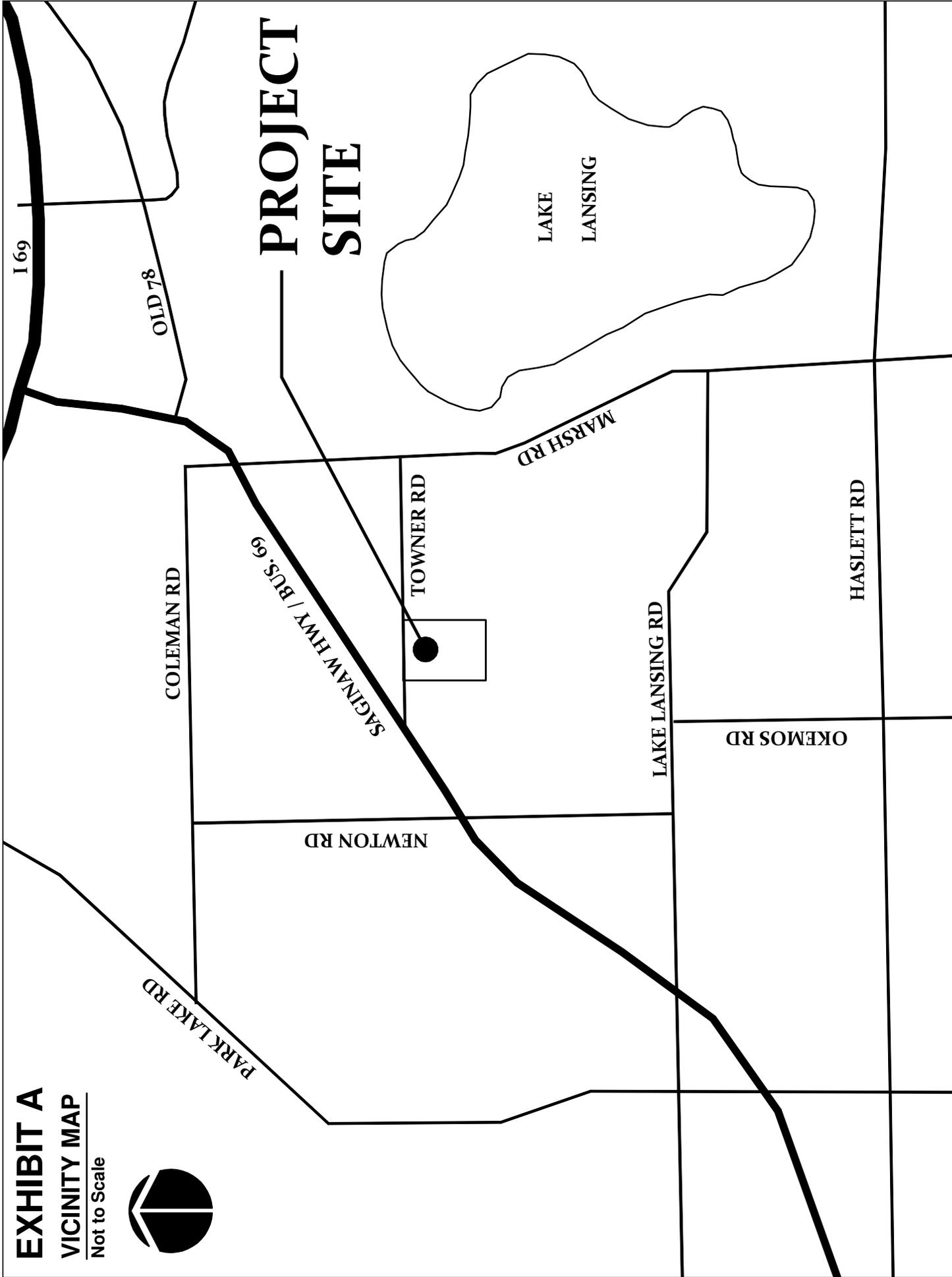
- Select Parcel
- Clear Selection
- Parcel Search
- Notifications
- Parcel Info

**SITE**

© 2010 NAVTEQ © AND © 2016 Microsoft Corporation

**EXHIBIT A**  
**VICINITY MAP**

Not to Scale



**PROJECT  
SITE**

LAKE  
LANSING

MARSH RD

TOWNER RD

SAGINAW HWY / BUS. 69

COLEMAN RD

NEWTON RD

LAKE LANSING RD

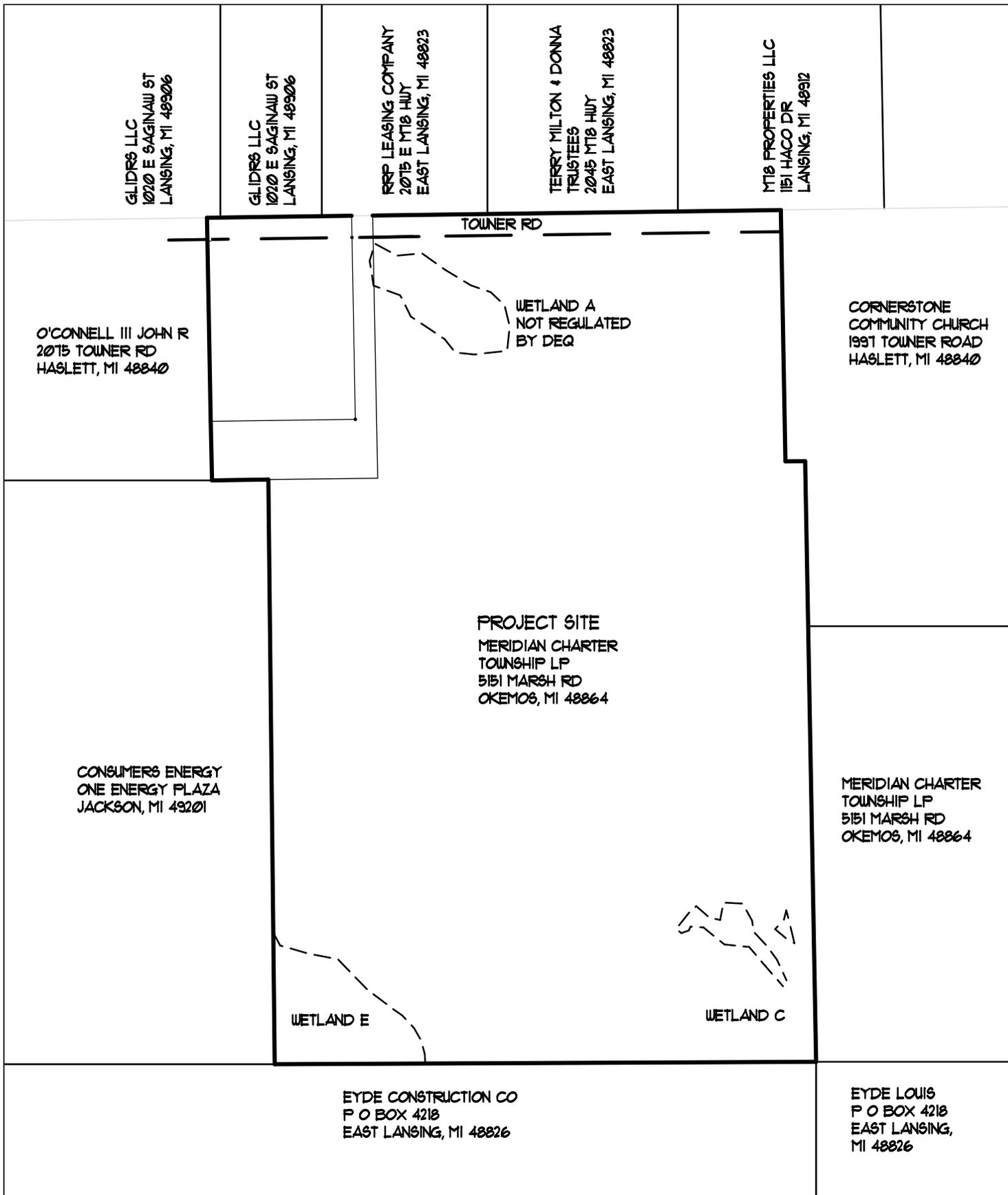
OKEMOS RD

HASLETT RD

I 69

OLD 78

PARKLAKE RD



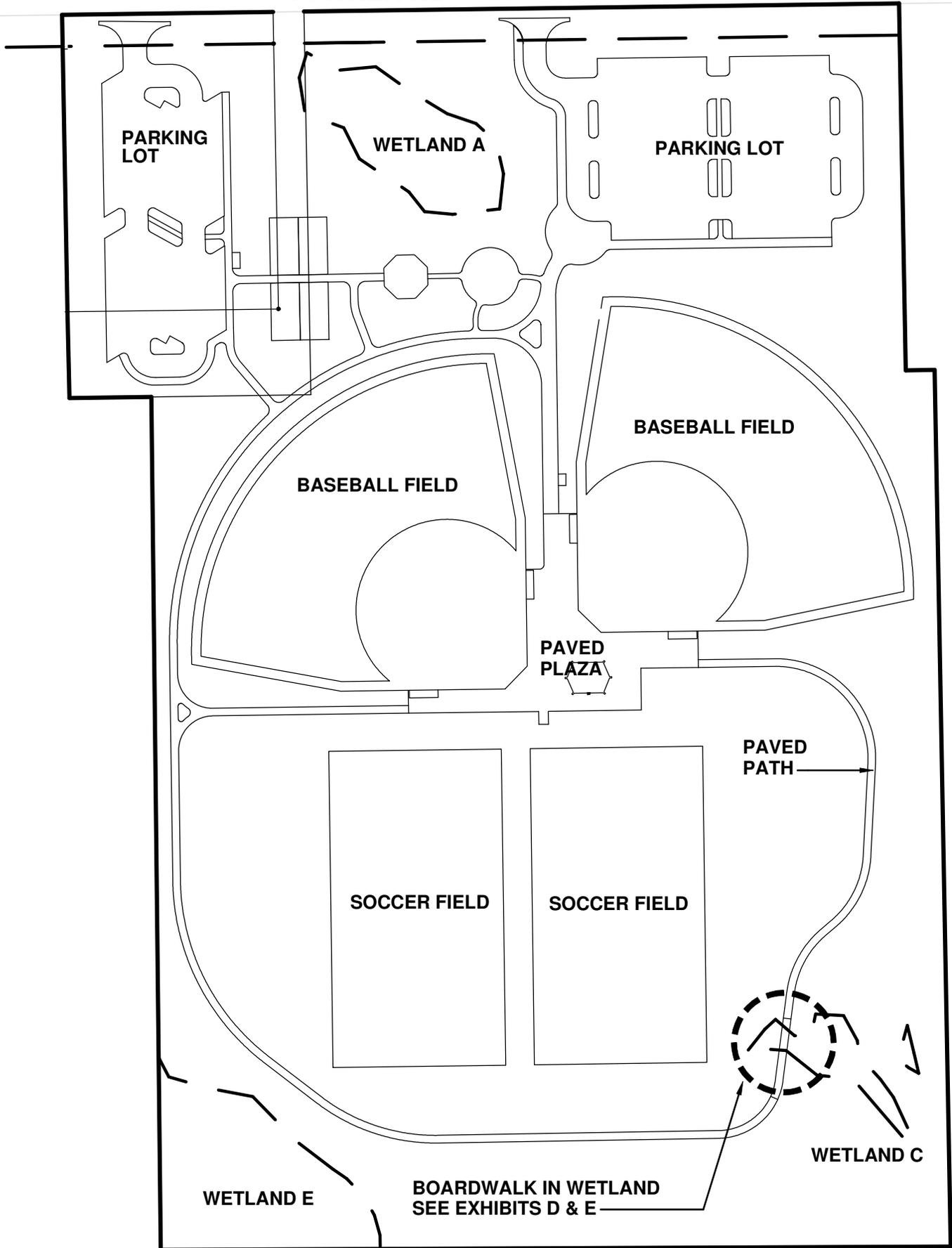
# EXHIBIT B

## ADJACENT PROPERTY OWNERS

1" = 200'



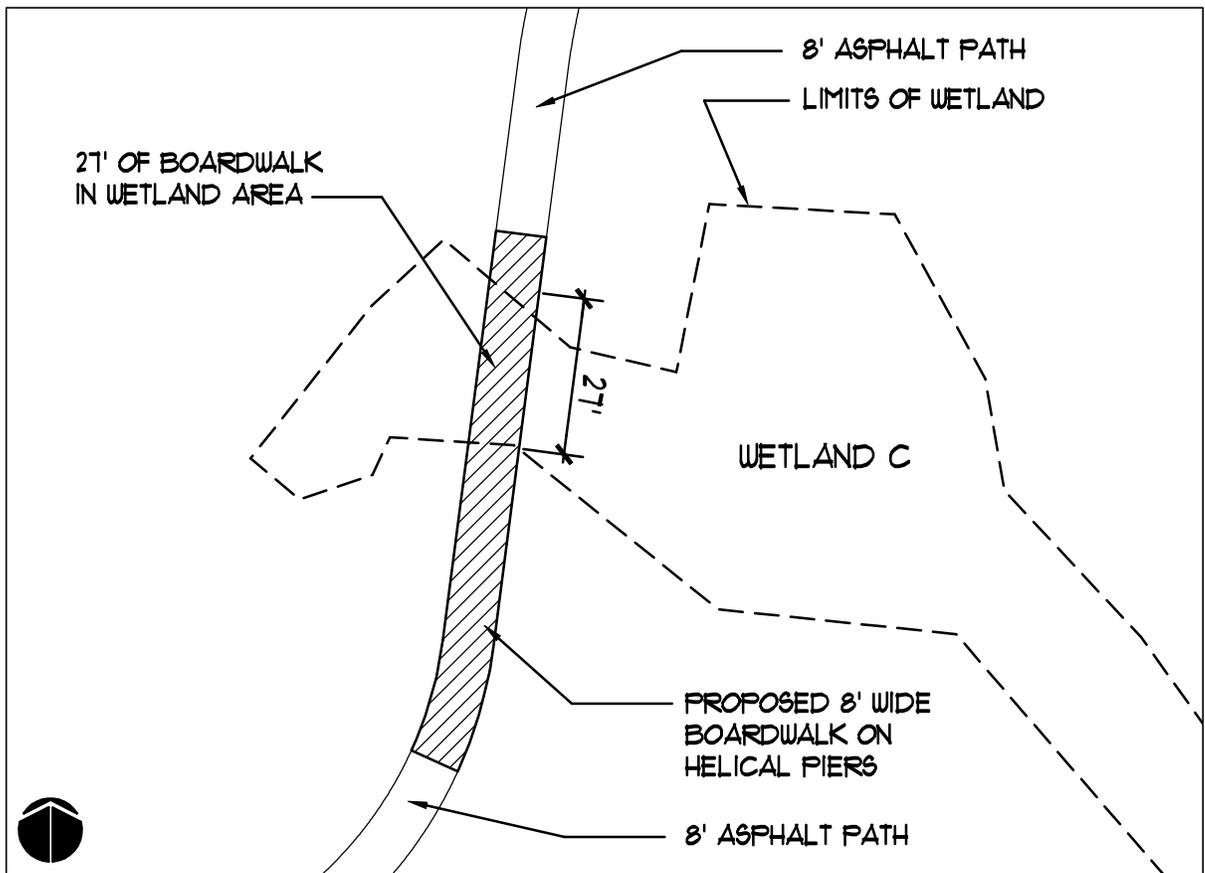
TOWNER RD



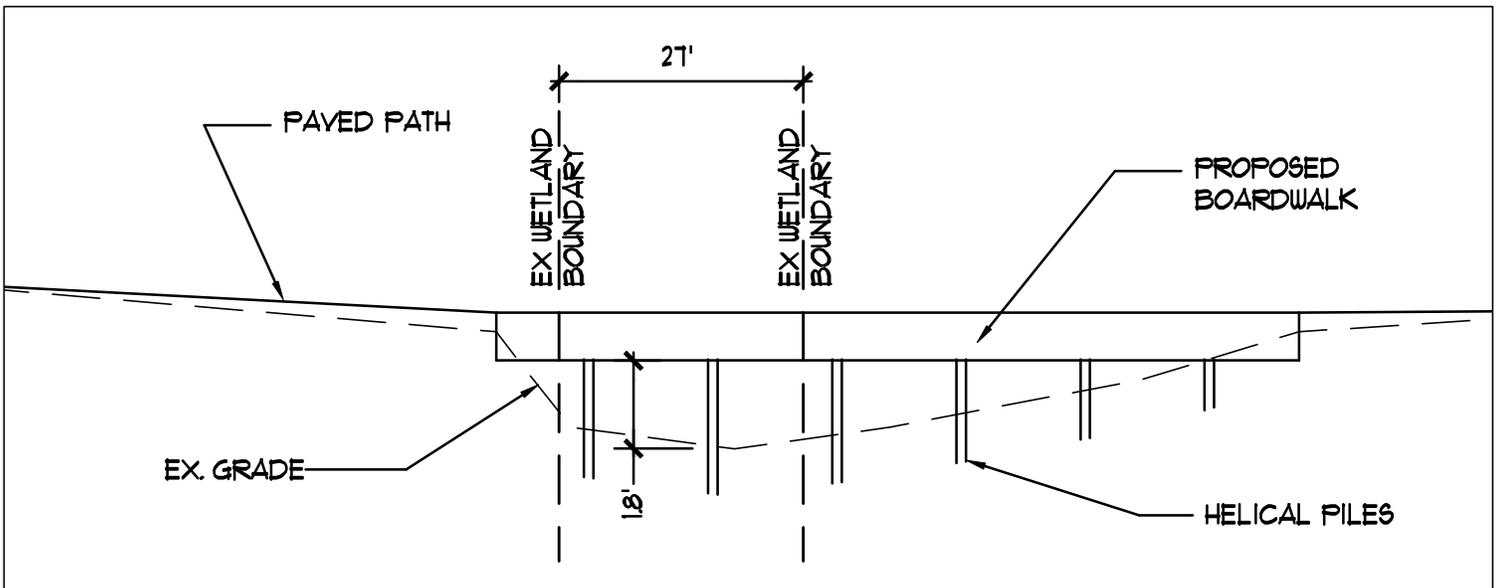
**EXHIBIT C**  
**OVERALL SITE PLAN**

1" = 140'





**PLAN VIEW**  
1" = 30'



**CROSS-SECTION**  
HORIZONTAL 1" = 20'  
VERTICAL 1" = 4'

**EXHIBIT D**  
**BOARDWALK DETAILS**

1-1/2" DIA. STEEL HANDRAIL  
PAINT BLACK TO MATCH FENCE RAIL

4x6 GUARDRAIL POST & CHAIN  
LINK FABRIC.

1x6 COMPOSITE DECKING

SOLID BLOCKING BETWEEN  
JOISTS @ PIER LINES

GUARDRAIL CONNECTION

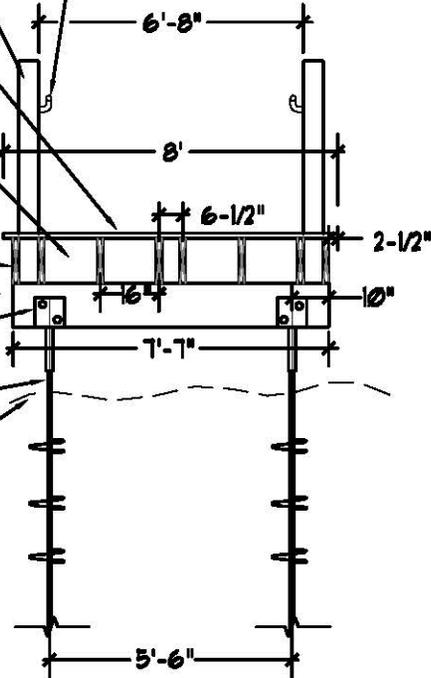
2x12 JOIST

(2) 2x12 BEAM

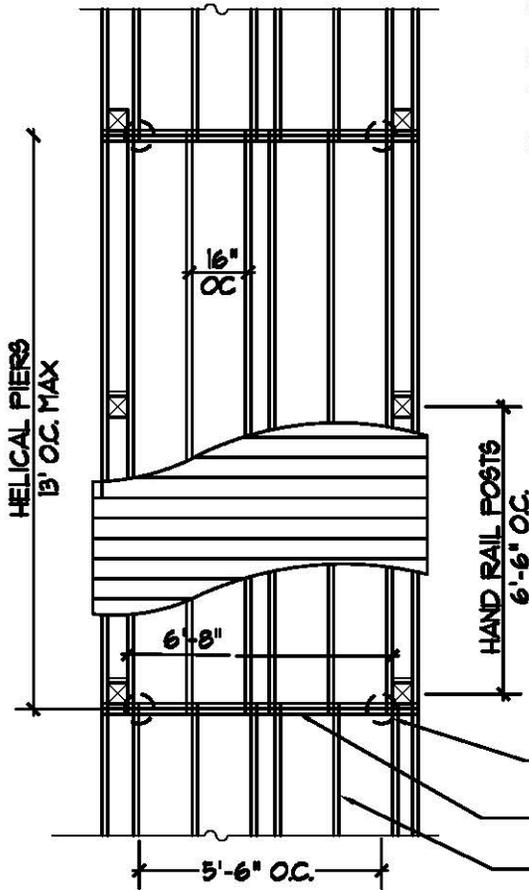
BRACKET ASSEMBLY

HELICAL PIER RATED FOR  
4000# (WORKING)

EXISTING GRADE



SECTION

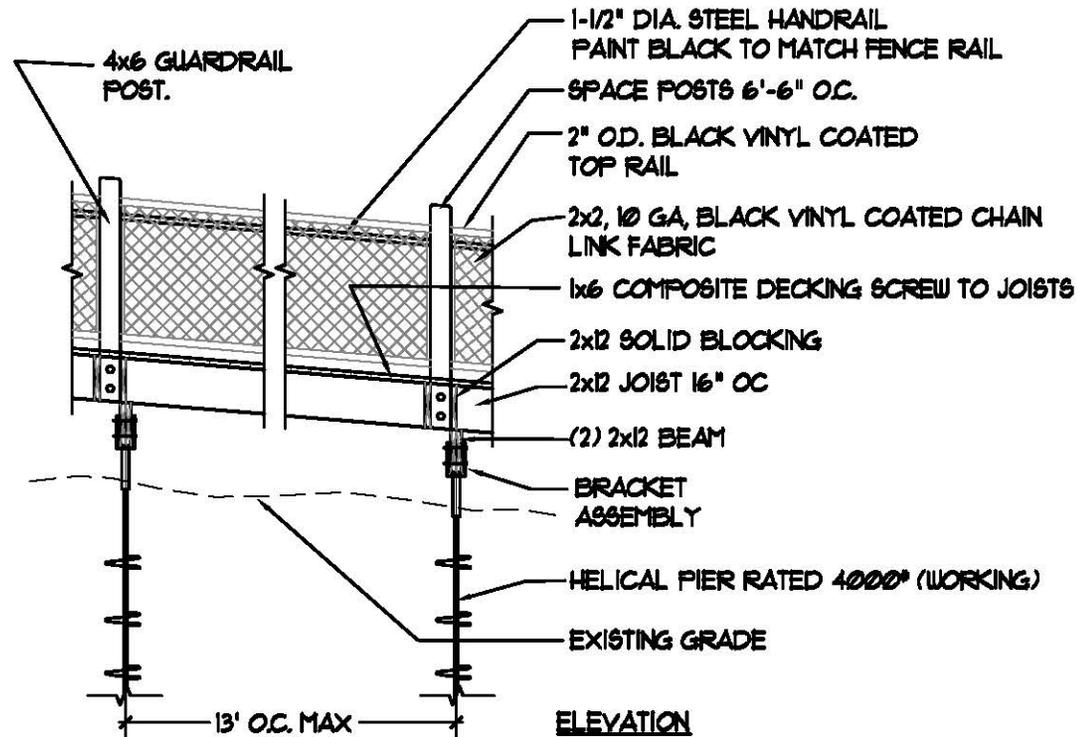


HELICAL PIERS  
13' OC. MAX

HAND RAIL POSTS  
6'-6" OC.

HELICAL PIER RATED 4000#  
(WORKING)  
(2) 2x12 BEAM

2x12 JOIST 16" OC

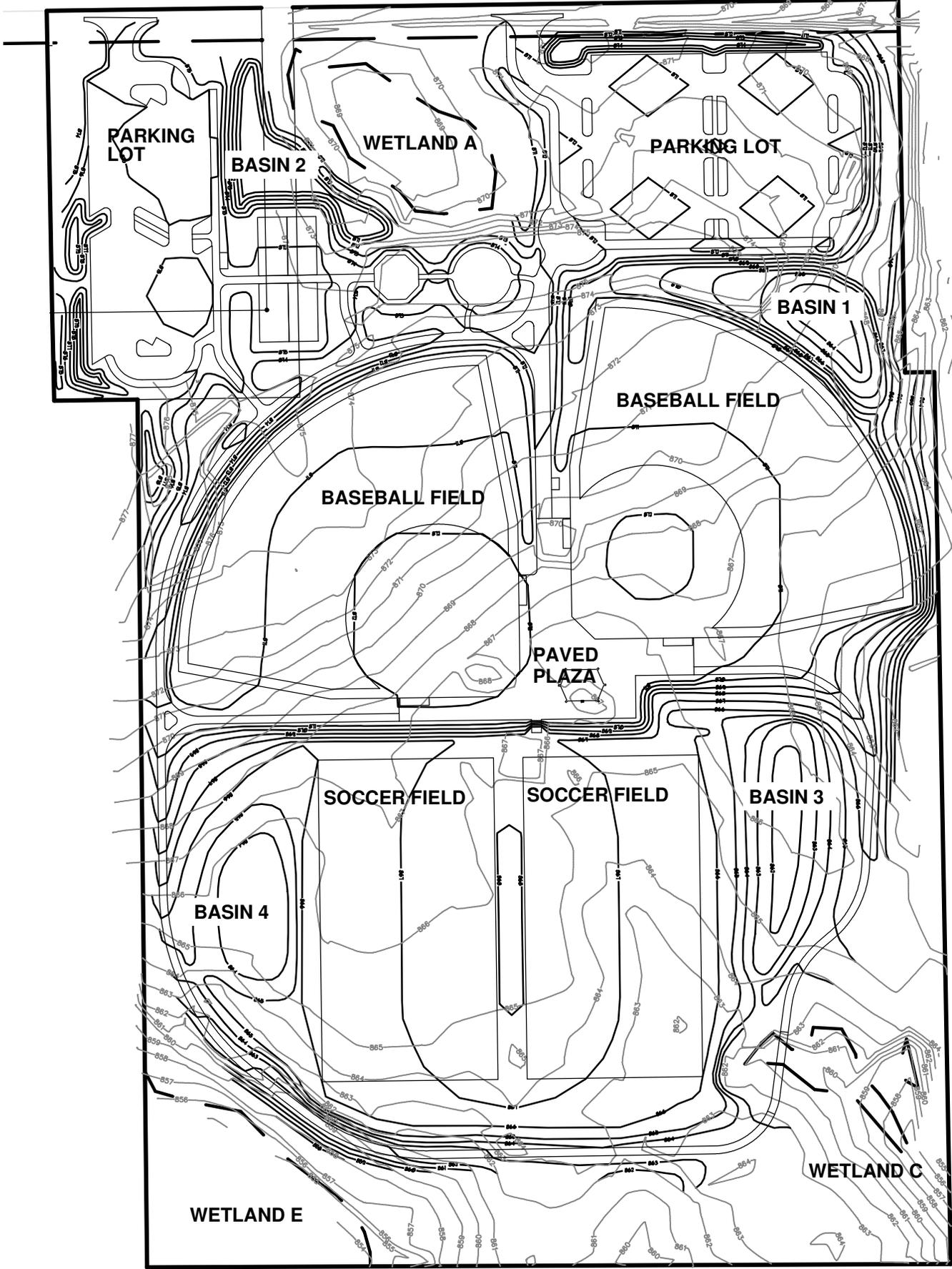


ELEVATION

# EXHIBIT E

## BOARDWALK DETAILS

**TOWNER RD**

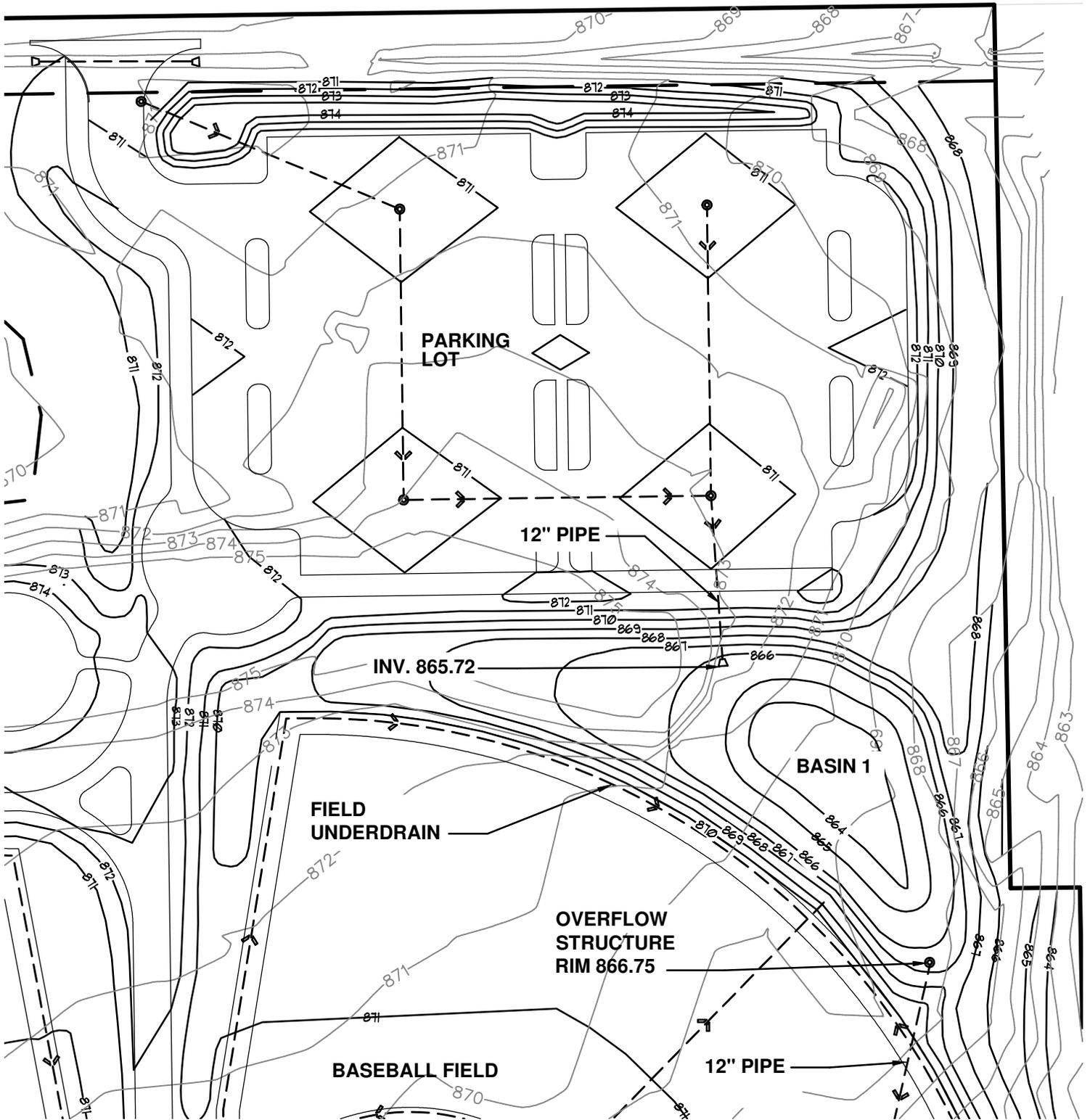


**EXHIBIT F**  
**OVERALL DRAINAGE PLAN**

1" = 140'



# TOWNER RD

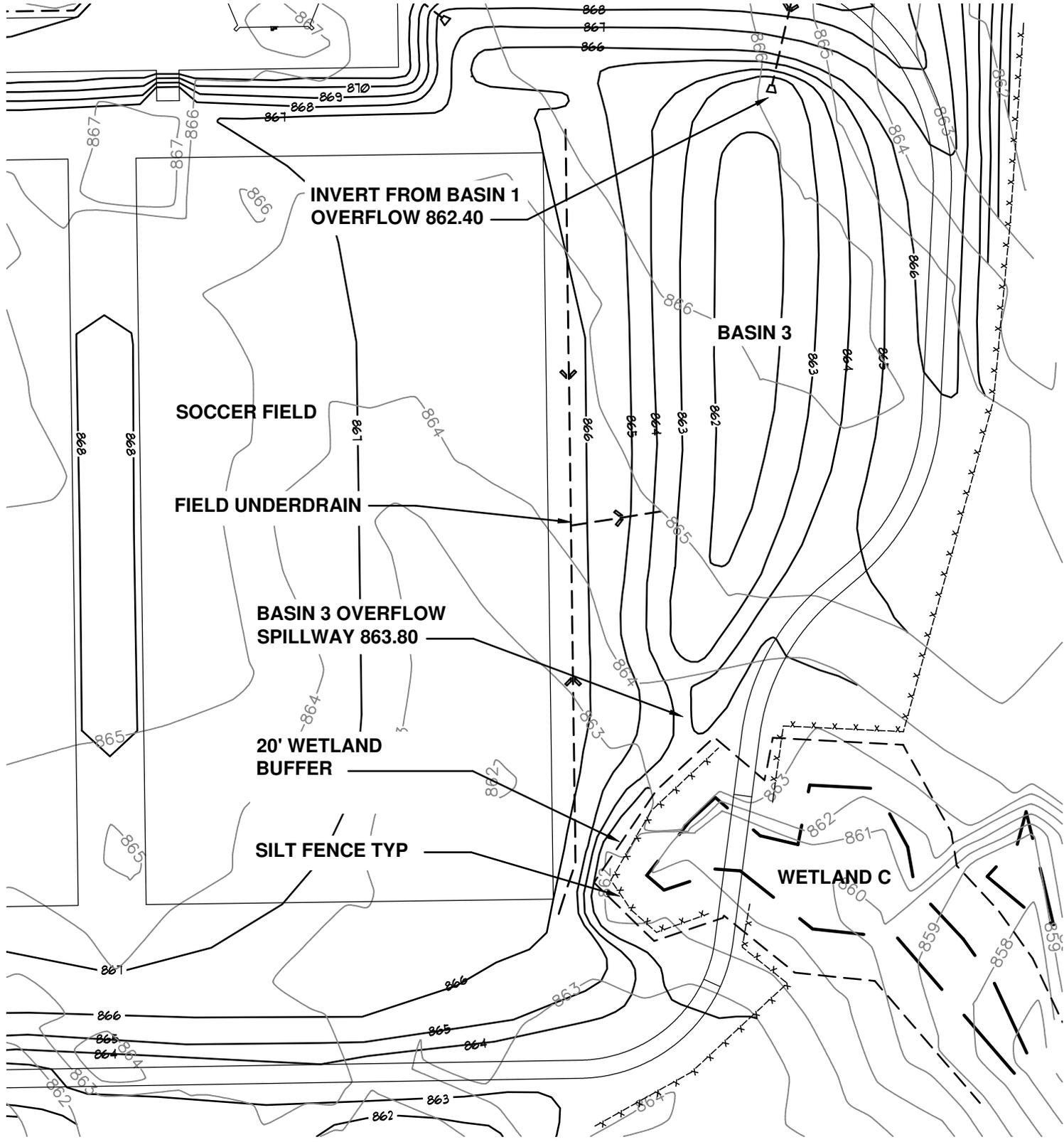


**BASIN 1 IS A VEGETATED DETENTION BASIN THAT ACCEPTS RUN OFF FROM A PARKING LOT AND BASEBALL FIELD. BOTTOM OF BASIN IS 864. OVERFLOW STRUCTURE RIM ELEVATION IS 866.75. OVERFLOW DRAINS TO BASIN 3 VIA PIPE.**

## **EXHIBIT G** **BASIN 1 DRAINAGE**

1" = 60'



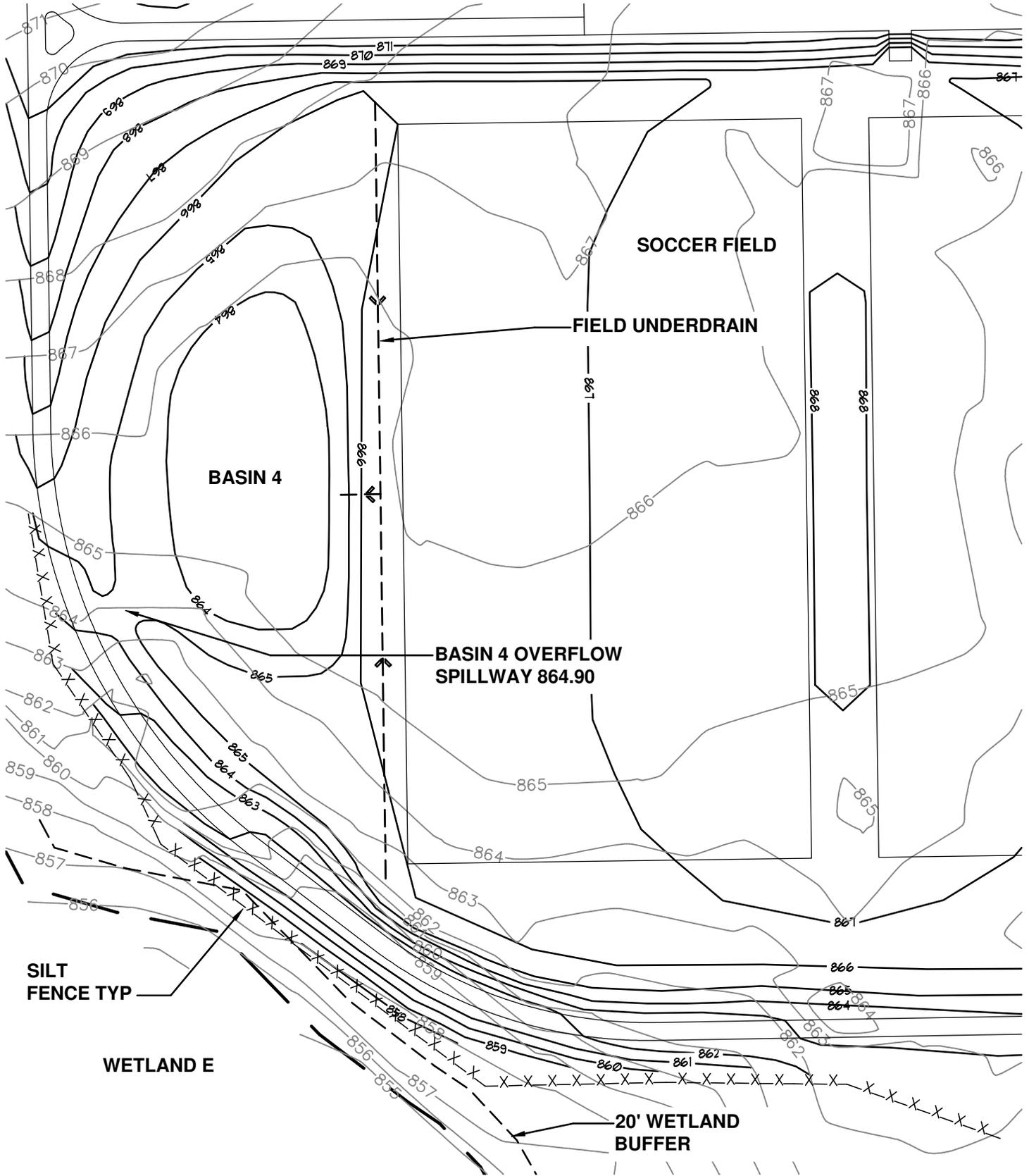


**BASIN 3 IS A VEGETATED DETENTION BASIN THAT ACCEPTS RUN OFF FROM THE SOCCER FIELD AND OVERFLOW FROM BASIN 1. BOTTOM OF BASIN IS 862. OVERFLOW SPILLWAY ELEVATION (NO STRUCTURE OR PIPE) IS 863.80. OVERFLOW DRAINS TO WETLAND C.**

**EXHIBIT H**  
**BASIN 3 OVERFLOW DRAINAGE TO WETLAND C**

1" = 60'





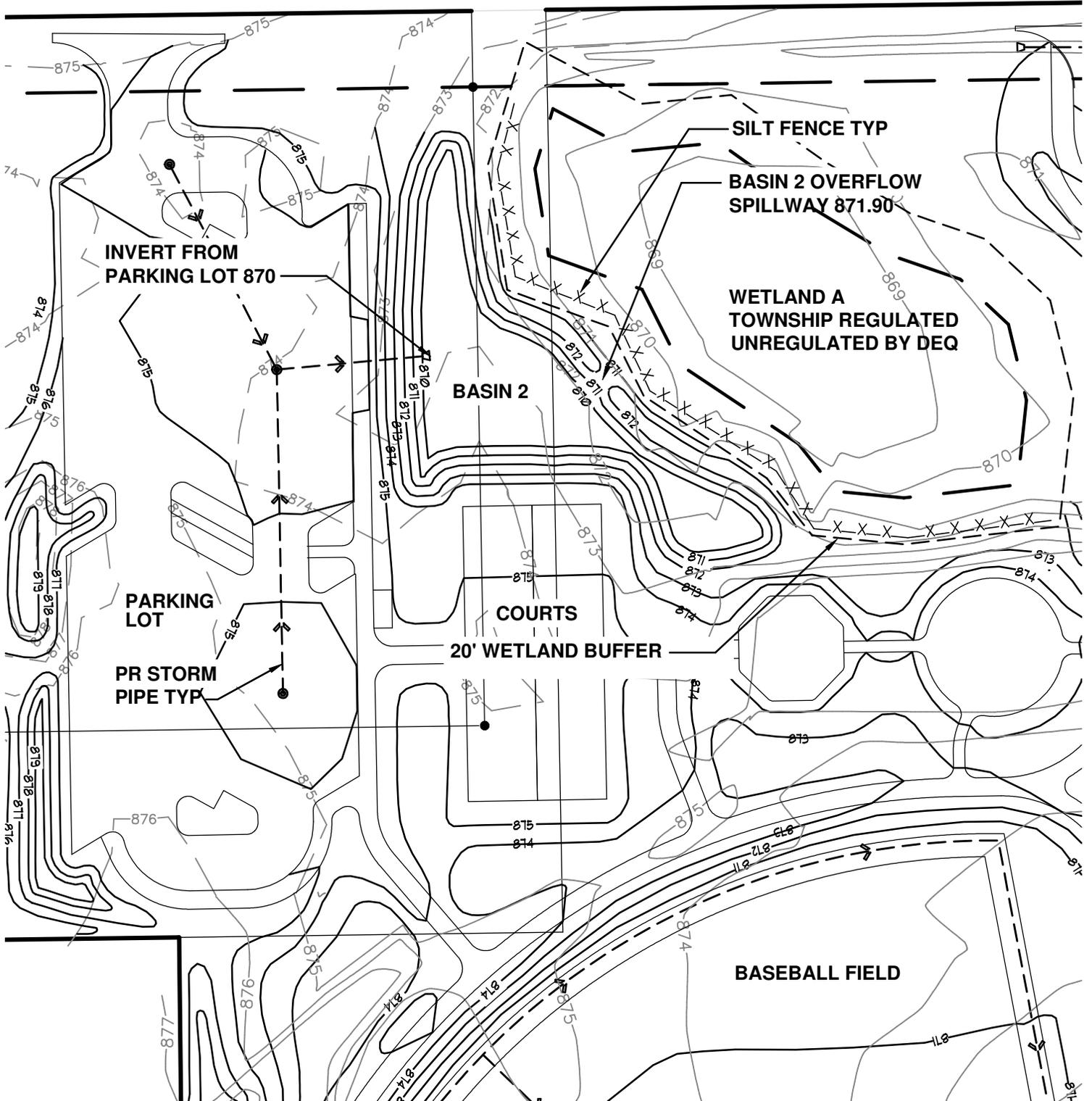
**BASIN 4 IS A VEGETATED DETENTION BASIN THAT ACCEPTS RUN OFF FROM THE SOCCER FIELD AND PAVED TRAIL AREAS. BOTTOM OF BASIN IS 864. OVERFLOW SPILLWAY ELEVATION (NO STRUCTURE OR PIPE) IS 864.90. OVERFLOW DRAINS TO WETLAND E.**

**EXHIBIT I**  
**BASIN 4 OVERFLOW DRAINAGE TO WETLAND E**

1" = 60'



# TOWNER RD



**BASIN 2 IS A VEGETATED DETENTION BASIN THAT ACCEPTS RUN OFF FROM THE PARKING LOT AND PICKLEBALL COURTS. BOTTOM OF BASIN IS 870. OVERFLOW SPILLWAY ELEVATION (NO STRUCTURE OR PIPE) IS 871.90. OVERFLOW DRAINS TO WETLAND A.**

**NOTE: WETLAND A IS NOT REGULATED BY THE MDEQ, HOWEVER IT IS REGULATED BY THE TOWNSHIP.**

## **EXHIBIT J**

### **BASIN 2 DRAINAGE TO WETLAND A**

1" = 60'



Meridian Township Park - Towner Road

Drainage District	Total Area sqft	Pervious sqft	Impervious sqft	Drains to Basin #	Pervious C factor	Impervious C factor	Imp % of total	Pervious % of total	Imp C factor	Average weighted C factor	2yr/24hr Bankfull cft	first flush 1/2 inch cft
A	168947	97484	71463	1	0.4	0.95	42	58	0.401841	0.230804	20,047	4,453
B	53636	0	53636	2	0.4	0.95	100	0	0.95	0	9,557	2,123
C	223312	192084	31228	3	0.4	0.95	14	86	0.13	0.34	19,975	4,438
D	134912	128803	6109	2	0.4	0.95	5	95	0.04	0.38	10,752	2,389

Basin	Bottom area	Bot. elev.	Top Area	Top elev.	Depth	Volume cft	Volume gal	Req. CFT Bankfull	Req. CFT First flush	Meets Bankfull	Meets First Flush
1	2630	864	13360	866.75	2.75	20,091	150,292	20,047	4,453	TRUE	TRUE
2	5742	870	10342	871.9	1.9	15,067	112,709	9,557	2,123	TRUE	TRUE
3	4687	862	19661	863.8	1.8	20,369	152,367	19,975	4,438	TRUE	TRUE
4	9074	864	17098	864.9	0.9	11,588	86,687	10,752	2,389	TRUE	TRUE

Existing Project Areas:

cummulative provided	67,115
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@ full site design

Based on existing impervious only...

Existing site Impervious area	Existing theoretical Bankfull Requirement cft	Existing theoretical First Flush	100 year event required for increased area
sft	12320	488	
Proposed increase in Impervious	26,748	5,942	20,272

providing	67,115 cft	so meets bankfull and first flush and 100 yr
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Ingham County Drain Commissioner Standards

Area **3.446189** Acres 150116 sft

C Factor **0.95** Unitless

Maximum allowable discharge **0.516928** cfs based on 0.15 cfs per acre

Duration Min	Duration Hours	100 Year Intensity Inches/Hour	Rainfall Inches	C Factor	Runoff cft	Outflow cft	Req. Storage cft	min
10	0.17	7	1.17	0.95	13864.88	310.157	13,554.72	10
20	0.33	5	1.67	0.95	19806.97	620.314	19,186.66	20
30	0.50	3.8	1.90	0.95	22579.95	930.4711	21,649.48	30
40	0.67	3.2	2.13	0.95	25352.92	1240.628	24,112.30	40
60	1.00	2.3	2.30	0.95	27333.62	1860.942	25,472.68	60
120	2.00	1.4	2.80	0.95	33275.71	3721.884	29,553.83	120
180	3.00	1	3.00	0.95	35652.55	5582.826	30,069.72	180
240	4.00	0.8	3.20	0.95	38029.39	7443.769	30,585.62	240
300	5.00	0.65	3.25	0.95	38623.6	9304.711	29,318.89	300
360	6.00	0.55	3.30	0.95	39217.81	11165.65	28,052.15	360
420	7.00	0.48	3.36	0.95	39930.86	13026.6	26,904.26	420
480	8.00	0.43	3.44	0.95	40881.59	14887.54	25,994.05	480
540	9.00	0.39	3.51	0.95	41713.48	16748.48	24,965.00	540
600	10.00	0.36	3.60	0.95	42783.06	18609.42	24,173.64	600
720	12.00	0.31	3.72	0.95	44209.16	22331.31	21,877.86	720
1080	18.00	0.22	3.96	0.95	47061.37	33496.96	13,564.41	1080
1440	24.00	0.18	4.32	0.95	51339.67	44662.61	6,677.06	1440



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March 7, 2016

## **Towner Road Park Drainage Narrative**

The overall drainage concept is to retain as much storm water run off as possible on site and allow it to infiltrate into the soil. All of the hard surface areas drain to a vegetated basin or a seeded lawn area. There is not a direct point of discharge to an existing wetland or to off site areas.

The parking lot at the northeast side of the site (Lot A) includes asphalt paving and curb and gutter around the perimeter. The run off is collected by a system of pipes and catch basins and directed to a detention basin (basin 1).

The baseball field on the east side of the site slopes at a 1% slope in all directions from the pitchers mound. The field contains a system of under drains that collect the run off. The under drains are connected to the surface by a pea stone trench. The under drains direct the run off to a detention basin (basin 1).

Basin 1 has a bottom grade at 864 and an outlet structure rim elevation set to 866.75, providing 20,091 cubic feet of storage before the water will outlet into the structure. The required storage capacity based on a 2 year / 24 hour rain event is 20,047 cubic feet, therefore the provided capacity meets the requirement. The basin also provides a first flush of the storm run off. When the water level of basin 1 reached the outlet structure elevation, it will then drain via storm pipe to Basin 3.

The parking lot at the northwest side of the site (Lot B) includes asphalt paving and curb and gutter around the perimeter. The run off is collected by a system of pipes and catch basins and directed to a detention basin (basin 2).

Basin 2 has a bottom grade at 870 and an overflow elevation set at 871.90, providing 15,067 cubic feet of storage before the water will overflow into the existing wetland. The required storage capacity based on a 2 year / 24 hour rain event is 9,557 cubic feet, therefore the provided capacity meets the requirement. The basin also provides a first flush of the storm run off. When the water level reaches the overflow elevation the run off will overflow into the existing wetland which is not regulated by the DEQ (but is by the Township). Basin 2 also accepts run off from the pickleball courts, sidewalks, and picnic pavilion.

The baseball field on the west side of the site, the paved plaza between the ball fields, the concession building, and the east soccer field drain to Basin 3. The baseball field on the west side of the site slopes at a 1% slope in all directions from the pitchers mound. The field contains a system of under drains that collect the run off. The under drains are connected to the surface by a pea stone trench. The paved plaza drainage and roof run off from the concession building is collected by a catch basin and directed via pipe to Basin 3. The soccer field is drained by a network of sand trenches and under drains that collect run off and outlet into Basin 3.

Basin 3 has a bottom elevation of 862 and an overflow elevation of 863.80, which provides 20,369 cubic feet of storage. The required storage capacity based on a 2 year / 24 hour rain event is 19,975 cubic feet, therefore the provided capacity meets the requirement. The basin also provides a first flush of the storm run off. When the water level reaches the overflow elevation the water will overflow into an existing wetland area.

The soccer field and some areas of the paved path drain to basin 4. The soccer field is drained by a network of sand trenches and under drains that collect run off and outlet into the detention basin. Basin 4 has a bottom elevation of 864 and an overflow elevation of 864.90, which provides 11,588 cubic feet of storage. The required storage capacity based on a 2 year / 24 hour rain event is 10,752 cubic feet, therefore the provided capacity meets the requirement. The basin also provides a first flush of the storm run off. When the water level reaches the overflow elevation the water will overflow into an existing wetland area.

The proposed increase in impervious surfaces includes 150,116 square feet (3.44 acres), which based on the 100 year storm event would require 20,272 cubic feet of storage. The site provides 67,115 cubic feet of storage, thus exceeding the requirement.

Based on the County's requirements of the 100 year storm and a discharge rate of 0.15 cubic feet per second per acre, the storage requirement is 30,585.62 cubic feet. The site provides 67,115 cubic feet of storage, thus exceeding the requirement.