SUPERIOR CHARTER TOWNSHIP WETLANDS BOARD MEETING

WEDNESDAY, JANUARY 6, 2021 VIRTUAL VIA ZOOM

7:00 P.M.

AGENDA

- 1. CALL TO ORDER
- 2. ROLL CALL
- 3. ADOPTION OF AGENDA
- 4. APPROVAL OF MINUTES
 - A. Minutes of May 1, 2019
- 5. CITIZEN PARTICIPATION
- 6. COMMUNICATIONS
 - A. Permit Applications Received
 - B. Wetlands Map Updates
 - C. Huron River Watershed Council Representative Update
 - D. Rouge River Watershed Friends of Rouge Update
- 7. OLD BUSINESS
- 8. NEW BUSINESS
 - A. 5728 Geddes Road Wetland Permit Appeal
- 9. POLICY DISCUSSION
- 10. ADJOURNMENT

Laura Bennett, Recording Clerk 3040 N. Prospect Rd. Ypsilanti, MI 48198 (734) 482-6099

SUPERIOR CHARTER TOWNSHIP WETLANDS BOARD MINUTES OF May 1, 2019

- 1. The meeting was called to order by Chairman Zelisse at 7:00 p.m.
- 2. Board members present were Nancy Caviston, Ellen Kurath, Jim McIntyre, and David Zelisse.
- 3. The agenda was adopted as presented (motion by Cavision, support by Zelisse approved by voice vote).
- 4. Minutes of the September 19, 2018 regular meeting were approved as written (motion by McIntyre, support by Caviston approved by voice vote).
- 5. Citizen Participation None.
- 6. Communications
 - A. Permit Applications Received None.
 - B. Wetland Maps Updates None.
 - C. Huron River Watershed Council

There was no representative update. Zelisse noted concerns about LeForge Dam, favoring attention about its condition to avoid failure in case of heavy rain.

D. Rouge River Watershed - Friends of the Rouge Update

McIntyre report that the Rouge Rescue cleanup would be held on May 18, 2019.

- 7. Old Business None.
- 8. New Business
 - A. 5728 Geddes Road Wetland Inspection

No permit request has been received yet. A lot split south of the existing home at 5728 Geddes Road is proposed to allow a new home site. Existing wetland area could affect this as a site for a new house. More information will be needed, such as wetland quality.

9. Policy Discussion

A. Sewer proposed along Gotfredson Road from Salem Township to YCUA – Developer proposes this instead of connection east to Plymouth system. Gotfredson to Geddes to Ridge to YCUA is more than 10 miles and due to hills and valleys this would be a pumped system.

As of the April 15, 2019 Superior Township Board of Trustees meeting, Salem Township received another \$10 million in addition to an earlier \$10 million of somewhat obscure origin from the State. At the April 15, 2019 meeting, a member of the audience asked if he could connect to that sewer if his drain field was not in good condition. Supervisor Schwartz said no; nobody in Superior Township could connect to that sewer which will belong to Salem Township.

Supervisor Schwartz said that the sewer would run through Superior Township, but it is a practical issue who would repair it.

Superior Township has enacted an ordinance unfavorable to going ahead with construction of this sewer, and the Master Plan is against it. Also, WCRC has been informed that Superior Township is not in favor of it.

Zelisse reported that there was a survey and marker flagging has been placed alongside Gotfredson Road, to the West of the road.

- B. Kurath reported that WCRC now has three boom mowers and will be mowing ditches along the roads.
- 10. Next Meeting The next meeting was scheduled for Wednesday, September 18, 2019 at 7:00 p.m.
- 11. The meeting was adjourned at 8:00 p.m. (motion by McIntyre, support by Caviston, approved by voice vote).

Respectfully submitted, Ellen Kurath, Secretary Laura Bennett, Recording Secretary

NOTICE OF APPEAL

SUPERIOR CHARTER TOWNSHIP WETLANDS BOARD

Wednesday January 6, 2021 7:00 p.m.

The Superior Township Wetlands Board will meet virtually, via Zoom, regarding the appeal of a wetlands permit issued to 5728 Geddes Road (Parcel ID# J-10-30-400-061).

To participate in the Wetlands Board Meeting, please call 1-312-626-6799 and when prompted, enter meeting ID: 910 2264 1775#. Written comments can be received until 3:00 p.m. the day of the meeting at planning@superior-twp.org, or at the address below.

Laura Bennett, Planning Clerk 734-482-6099

3040 N. Prospect Road Ypsilanti, MI 48198

MEMORANDUM

TO: Superior Township Wetlands Board

FROM: Laura Bennett, Planning Department

RE: Wetlands Permit Appeal

DATE: December 11, 2020

On November 27, 2020, Matt Schuster emailed the Township Clerk indicating he wished to appeal a wetlands permit issued for a boardwalk at 5728 Geddes Road. Mr. Schuster's written appeal, subsequent emails and attachments are included in this packet.

Following the information from Mr. Schuster is a memo from Richard Mayernik, Building/Zoning Official, as well as information and attachments related to the wetland permit.

Please contact our office at 734-482-6099 or at <u>planning@superior-twp.org</u> if you have any questions about the information within this packet.

From: Rick Mayernik

To: <u>Matt Schuster; Lynette Findley</u>
Cc: <u>Sarah Collier; Laura Bennett</u>

Subject: RE: Appeal of Wetland Permit - 5728 Geddes

Date: Monday, November 30, 2020 11:52:50 AM

Mr. Schuster,

We have received your appeal to the Wetlands Permit issued for 5728 Geddes Road. The Wetlands Board will be scheduled to hear your appeal within 60 days of the receipt of your application. You will be contacted with the time and date that the Wetlands Board will hear your appeal.

Richard Mayernik

From: Matt Schuster <mattaschuster@yahoo.com>

Sent: Friday, November 27, 2020 11:35 PM

To: Lynette Findley < lynettefindley@superior-twp.org>
Cc: Rick Mayernik < rmayernik@superior-twp.org>
Subject: Appeal of Wetland Permit - 5728 Geddes

Hello,

I attempted to deliver this appeal to the township office on Wednesday, 11/25 but I found the office closed due to the holiday.

Please accept this email as evidence of an appeal request for an issued wetland permit at the property 5728 Geddes Rd. I have attached a copy of a letter citing my reasons based on information available thus far. Please contact me with any questions or to facilitate further discussion.

Best Regards,

Matt Schuster 5766 geddes (248) 790-5650 I am writing to appeal the issuance of a wetland permit issued by the township relating to:

Property Tax No. J-10-30-400-061 aka 5728 Geddes Rd

I understand the permit was issued on or about 11/20/20.

I am an adjacent parcel owner located within 300 ft of the proposed activity. I am also the holder of a dominant easement over access through the same parcel.

I have not had the opportunity to review the issued permits. To my understanding, the same parcel has been identified by its owners and/or their agents as having wetlands regulated by EGLE (formerly MDEQ). The owners and/or their agents have also identified the wetlands as regulated under Superior Township Wetland Ordinance. The parcel owner has previously caused and provided notice to the township of the EGLE wetlands determination. It is my understanding that EGLE regulation should designate the identified wetlands as "Protected Wetlands" under the Superior township wetland ordinance. I further believe that finding should result in the parcel being included in the Superior Township Wetlands Map, which I am not aware of occurring. The wetlands are contiguous with and within 500 ft of the Huron river and/or its impoundment. The wetlands should receive the full protection and evaluations afforded the 'protected wetland' status.

I am appealing the issuance of the permit to allow for a fuller review of the related submitted materials by myself, adjacent parcel owners, and the wetlands board. Upon initial review of information provided to me, the Superior Township Building Permit and wetlands permit do not match the location of the activity approved by EGLE in the wetlands per the drawing. The EGLE approved plans identify the entire activity LESS than 20 ft from the parcel border. The building permits stipulate any activity occur entirely MORE than 20 ft from the parcel border (outside the side yard setback) unless the activities extend less than 18" from the ground (which is not as shown in building plans). These location changes also alter the amount of impacted wetland in linear feet, and appear to necessitate an additional review by EGLE.

Please contact me at your convenience to discuss next steps and/or facilitate information review for further evaluation of the appeal.

Best Regards,

Matt Schuster

5766 Geddes Rd

Laura Bennett

From: Matt Schuster <mattaschuster@yahoo.com>

Sent: Monday, December 7, 2020 5:01 PM
To: Lynette Findley; Rick Mayernik
Cc: Sarah Collier; Laura Bennett

Subject: Re: Appeal of Wetland Permit - 5728 Geddes

Attachments: Wetland Permit Appeal Update (PW20-0003).pdf; Wetland Delineation TES Report 5.1.19

compiled.pdf

All,

Attached is supporting documentation which I wish to include in the appeal. All these documents are public records relating to development plans by the permit applicant with EGLE. I believe these have previously been noticed to the Township, but I wish to ensure that they are available to the record.

On Monday, November 30, 2020, 12:07:14 PM EST, Matt Schuster <mattaschuster@yahoo.com> wrote:

Mr Mayernik,

Thank You for the update, I appreciate your prompt support.

Am I correct that the wetland permit is suspended pending the resolution of the appeal? That is what I am interpreting from the wetland ordinance (178-07.4. A). I would like to stop into the office at a convenient time for you to pickup a copy of the issued wetland permit and issued building permit for detailed review.

I will have supporting documentation to you and the clerk less than one week from today for inclusion in the materials to be provided to the wetland board for their consideration.

Best Regards,

Matt Schuster (248) 790-5650

On Monday, November 30, 2020, 11:52:55 AM EST, Rick Mayernik <mayernik@superior-twp.org</pre> wrote:

Mr. Schuster,

We have received your appeal to the Wetlands Permit issued for 5728 Geddes Road. The Wetlands Board will be scheduled to hear your appeal within 60 days of the receipt of your application. You will be contacted with the time and date that the Wetlands Board will hear your appeal.

Intention of Appeal

- 1) Reconcile the proposed permit and building plans with details of the approved EGLE permit to ensure the plans MATCH
- 2) Ensure that Superior Township Ordinance Ordinance 178 is observed
- 3) Confirm that all wetland impacts anticipated in development are comprehended (including site plan and all resulting stormwater impacts)
- 4) Apply Conditions to the wetland permit (if approved) such that applicant is required to maintain all improvements indefinitely and prohibit loss or impairment of wetlands (damming, redirecting, etc) by the approved permit activity.

Attachments:

- 1) Property owner Wetland Delineation (5.1.19)
- 2) EGLE approved plans WRP018893 (contested) full development comprehended
- 3) EGLE approved plans WRP023919 v1.2 current work proposed

The appeal in its simplest sense is straightforward - the proposed Superior Township wetland permit and building permit does not match the design approved by EGLE for boardwalk placement. The EGLE approved location does not conform to Township side yard setback requirements. EGLE approved a boardwalk entirely within the 20' setback. The township approved a boardwalk entirely outside the setback. The resulting location apparently needs to shift West by at least 8 feet to comply with the ordinance, and this new location should be approved by EGLE prior to township permit approval, since this extends the wetland impact and could have other impacts on threatened and endangered species. In short, the applicant does not have EGLE approval to place the structures at the now proposed location, and a permit should not have been issued yet.

The review of the application is actually more complex than these simple approval details. The applicant has also previously provided the township and EGLE with a wetland delineation identifying parcel wetlands as being regulated by EGLE (EGLE agrees) and also likely by Superior Township. Superior Township wetland ordinance (178) specifies any EGLE/MDEQ regulated wetland as 'protected wetlands' in the Township. With this designation and a wetland delineation, it appears likely that the parcel needs to have its wetlands added to the Township Wetlands map, which has not yet been done.

Given that the wetlands are shown as contiguous with the Huron river and certainly within 500 ft of the Huron river, it would seem prudent to have a full submission of the site plans and impacts reviewed according to Ordinance 178 prior to wetland permit approval. Without other approved activities on the site, there would appear to be no reason to approve a boardwalk in the protected wetland. Previous full development site plans submitted to EGLE (not rescinded by the applicant, but apparently dramatically altered) indicated significant impervious surface impacts and therefore notable water runoff implications which could dramatically change the loads on the existing wetlands and any new structures placed therein.

As a neighbor within 300 feet of these wetlands with an interest in their preservation and responsible improvement, we would ask that any eventual approved permits require the applicant to also maintain the structures in perpetuity. A sinking or broken boardwalk could easily become a dam altering water flow or causing other wetland impairments.



ONE COMPANY.
INFINITE SOLUTIONS.

April 17, 2019

Ms. Rebecca Lussier Meadowlark 3250 W. Liberty Road Ann Arbor, Michigan 48103

Atwell, LLC Project No. 18002735

Re: Wetland Delineation and Threatened and Endangered Species Habitat Letter

Mouliere Parcel

Superior Township, Washtenaw County, Michigan

Ms. Lussier:

Meadowlark (Client) contracted Atwell, LLC (Agent) to conduct a Wetland Delineation and Threatened and Endangered Species (TES) habitat review for an approximately 4.60-acre parcel, #J-10-30-400-061, in Section 30 of Superior Township (Township 02 South, Range 07 East), Washtenaw County, Michigan (hereinafter referred to as "Site") to support a proposed single-family home project. The Site is located approximately 0.15 miles southwest of the intersection of Geddes Road and Hickman Road. Refer to the enclosed *Site Location Map*.

The purpose of the wetland determination and delineation was to determine if wetlands, watercourses, and/or bodies of water are present on the Site and, if found, to establish whether they fall under the jurisdiction of the Michigan Department of Environment, Great Lakes, and Energy (EGLE), previously Michigan Department of Environmental Quality (MDEQ) by Part 303, Wetlands Protection; Part 301, Inland Lakes and Streams; or Part 31, Water Resources Protection, of the *Natural Resources and Environmental Protection Act*, 1994 PA 451 (NREPA), as amended; and/or local ordinances.

In addition, Atwell reviewed the following data for any ecological and environmental constraints: aerial photography, U.S. Geological Survey (USGS) 7.5-Minute Topographic Maps, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Maps, Flood Insurance Rate Maps (FIRMs) provided by the Federal Emergency Management Agency (FEMA), and soil data from the Natural Resources Conservation Service (NRCS).

The purpose of the TES review was to determine if the Site contains habitat suitable for supporting TES and to determine the likely presence or absence of listed TES on the Site. To complete the TES review, the USFWS Information for Planning and Conservation (IPaC) and the Michigan Natural Features Inventory (MNFI) databases were reviewed followed by an on-site visit to assess the Site for potential TES habitat and potential occurrence of TES species. The results of the wetland delineation and TES site visit conducted on April 8th, 2019 are summarized below.

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Site Setting and Characteristics

A review of aerial photography and a site visit were conducted to characterize the Site and surrounding area. The surrounding landscape consists of residential and commercial development, active agriculture, forested areas, wetlands, Radrick Farms Golf Course, and the Huron River. Review of historical aerials shows a portion of the Site was a residence containing a house, pool, tennis court, fire pit and patio, and additional associated infrastructure. The Site contains upland forested areas, multiple wetland scrubshrub areas, and multiple watercourses with associated groundwater seeps. The most common tree species found on-site include hackberry (*Celtis occidentalis*), chinkapin oak (*Quercus muenlenbergii*), American basswood (*Tilia americana*), black walnut (*Juglans nigra*), and black oak (*Quercus velutina*). Other trees include American elm (*Ulmus americana*), common buckthorn (*Rhamnus cathartica*), and Eastern cottonwood (*Populus deltoides*). Scrub-shrub species found on-site include buckthorn (*Rhamnus spp.*), Eurasian honeysuckle (*Lonicera spp.*), multiflora rose (*Rosa multiflora*), nannyberry (*Viburnum lentago*), and silky dogwood (*Cornus amomum*).

Wetland Delineation

The wetland delineation was performed in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (USACE 2010). The delineation of any wetland depends on three basic parameters: 1) the presence of hydrophytic vegetation (plants adapted to living in saturated soils), 2) hydric soils (distinctive soil types that develop under saturated conditions), and 3) wetland hydrology (the presence of water at or near the surface for a specific period of time). The above parameters are virtually always inter-related and present in wetland systems.

A wetland is considered regulated by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), under Part 303, Wetlands Protection, of the *Natural Resources and Environmental Protection Act, 1994 PA 451* (NREPA) as amended, if it is five acres in size or larger, and/or if it is connected to, or located within, 500 feet of a lake, pond river, or stream. A watercourse (river or stream) is considered regulated by the MDEQ under Part 301, Inland Lakes and Streams, of the NREPA if it possesses a defined bed, banks, and evidence of continued flow and/or continued occurrence of water. *The State definition of lake, pond, river and stream is found in Parts 301 and 303 of PA 631 of Public Acts of 2018, amending NREPA, 1994 PA 451*.

In addition, an artificial or natural lake, pond, impoundment or wetland that is regulated under the current federal Waters of the United States (WOTUS) Rule is also considered regulated by EGLE. This includes features that meet any of the following criteria:

- A pond or wetland located within the 100-year floodplain of a tributary and within 1,500 feet of the ordinary high-water mark of that tributary.
- A pond or wetland located within 1,500 feet of the ordinary high-water mark of the Great Lakes.
- A pond or wetland located within the 100-year floodplain of a Section 10 or Interstate water and has a case-specific significant nexus to a Section 10 or Interstate water.
- A pond or wetland located within 4,000 feet of the ordinary high-water mark of a tributary or Section 10 or Interstate water and has a case-specific significant nexus to a Section 10 or Interstate water.
- A pond or wetland that is an Interstate water.

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The federal definition of WOTUS is found in the *U.S. Code of Federal Regulations Title 33. Navigation and Navigable Waters. Chapter II. Corps of Engineers, Dept. of the Army, Dept. of Defense, Part 328. Definition of Waters of the United States. Section 328.3. Definitions (CFR § 328.3 - Definitions.)*. The definition of tributary is also included in this section.

A permit is required by the MDEQ for any temporary or permanent work within a regulated wetland, watercourse, lake, or pond (e.g., filling, dredging, construction, bridges, culverts, etc.).

Part 31, Water Resources Protection, of NREPA regulates activities within the 100-year floodplain and floodway of a river or stream-with an upstream drainage area of two square miles or larger. Activities requiring a permit within regulated floodplains include filling, dredging, construction, bridges, culverts, etc.

Based on a memorandum of agreement between the U.S. Environmental Protection Agency (USEPA) and the EGLE (as MDEQ), the EGLE administers Section 404 of the *Federal Water Pollution Control Act of 1972 (Clean Water Act*), Title 33 of the United States Code, Section 1251 (USEPA 2011) for interior waters in Michigan. However, the U.S. Army Corps of Engineers (USACE) exercises jurisdiction over the Great Lakes and their connecting traditionally navigable waterways (i.e., navigable waters of the U.S.) under the authority of Section 10 of the *Rivers and Harbors Act of 1899*, as well as tributaries and wetlands adjacent to traditionally navigable waters of the U.S. (i.e., waters of the U.S.), under the authority of Section 404 of the Clean Water Act. On navigable waters of the U.S., USACE regulatory jurisdiction extends laterally to the waterbody, whether above-water or below-water, and includes all the land and waters below or waterward of the OHWM of the waterbody. A Section 404 permit is required for discharge of dredged or fill material and structures (temporary, seasonal, and permanent) within navigable waters of the U.S. and their adjacent jurisdictional tributaries and wetlands.

In addition, Superior Township has the authority to regulate any wetland deemed to be essential under Superior Charter Township Ordinance No. 178 (Superior Township 2009). It is likely that Superior Township will regulate all wetlands on-site. A natural features setback of 25 feet for wetlands and 50 feet for watercourses is also included in the Superior Township Zoning Ordinance,330 Section 14.05.B.

Atwell conducted a wetland determination and delineation for the Site on April 8, 2019 and identified three (3) wetlands (Wetland 1-3) on the Site, totaling approximately 1.97 acres. Atwell also identified eight (8) watercourses on the Site. Please refer to the enclosed *Wetland Location Map* for information and locations of the on-site wetland. Refer to the *Photographic Log* for site conditions and physical characteristics.

Wetland 1 is an approximately 1.95-acre Palustrine Emergent (PEM)/Palustrine Scrub-shrub (PSS) wetland located throughout a large portion of the Site. Wetland hydrological indicators such as geomorphic position, saturation, and standing water were present at the time of the site inspection. Emergent vegetation present in the wetland included skunk cabbage (Symplocarpus foetidus; OBL), reed canary grass (Phalaris arundinacea; FACW), purple loosestrife (Lythrum salicaria; OBL), and lakebank sedge

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(Carex lacustris; OBL). These species range in wetland indicator status from Facultative wetland (FACW) to Obligate (OBL) wetland, indicating that these species most often occur in wetlands. Scrub-shrub vegetation present in the wetland included common buckthorn (FAC), glossy buckthorn (Frangula alnus; FACW), and silky dogwood (FACW). These species range in indicator status from Facultative (FAC) to FACW, indicating that these species generally occur in wetlands. Wetland 1 is within 500 feet and contiguous to the Huron River, which is located along the southern boundary of the Site. Therefore, Wetland 1 is likely regulated by the EGLE. In addition, Wetland 1 is likely regulated by Superior Township.

Wetlands 2 and 3 are both approximately 0.01-acre PEM/PSS wetlands located in the northcentral portion of the Site. Wetland hydrological indicators such as geomorphic position, saturation, and standing water were present at the time of the site inspection. Emergent vegetation present in the wetland included skunk cabbage, reed canary grass, and panicled aster (*Symphyotrichum lanceolatum*; FAC). These species range in wetland indicator status from FAC to OBL, indicating that these species generally occur in wetlands. Scrub-shrub vegetation present in the wetland included common buckthorn and silky dogwood. These species range in indicator status from FAC to FACW, indicating that these species generally occur in wetlands. Wetlands 2 and 3 are located within 500 feet of multiple watercourses throughout the Site, as well as the Huron River. Therefore, Wetlands 2 and 3 are likely regulated by the EGLE. In addition, Wetlands 2 and 3 are likely regulated by Superior Township.

Additionally, Part 301, Inland Lakes and Streams, states that a feature is considered a regulated watercourse by the EGLE if it possesses a defined bank, and evidence of continued flow or continued occurrence of water at the time of inspection. Therefore, it is Atwell's professional opinion that all eight (8) on-site watercourses possess the characteristics of a regulated watercourse, and therefore, should be considered regulated by the EGLE. All watercourses on-site likely originate from groundwater seeps and are therefore considered ephemeral, and are more prominent at certain times of the year. Also, the southern portions of Watercourses 5 and 8 show significant channelization and are most likely visible all year.

According to the U.S. Department of Agriculture (USDA) NRCS Web Soil Survey, the soils contained within the Site have been previously mapped as St. Clair clay loam, 18 to 35 percent slopes (StE); Fox sandy loam, 18 to 25 percent slopes (FoE); Fox cobbly sandy loam, cobbly variant, 2 to 6 percent slopes (FpB); and Wawassee loam, 6 to 12 percent slopes (WawabC). Only a small portion of the Site (4%) is classified as having hydric soils or soils with hydric inclusions, however that does not mean that the Site does not currently contain hydric soils. Hydric soils are conducive to the growth and regeneration of hydrophytic vegetation by their ability to hold water for extended periods of time (USDA-NRCS 2010).

FEMA FIRMs were reviewed to determine if portions of the Site are mapped as floodplains, floodways, or other flood prone areas. These maps record the following data: 100-year (1% chance of annual flooding) and 500-year (0.2% annual chance of flooding) floodplains, the height of the base flood elevation, and the risk to premium areas developed across a floodplain. Based on FEMA FIRM Panel #26121C0269E, FEMA maps approximately 0.45 acres of Zone A floodplain in the southern portion of the Site associated with the Huron River. The remainder of the Site is an area of minimal flood hazard (Zone X).

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Threatened and Endangered Species Habitat Review

Federally listed species are protected by federal law under the Endangered Species Act (ESA) of 1973 (16 U.S.C §1531-1544). In Michigan, Part 365, Endangered Species Protection, of the NREPA confers legal protection to state listed species, including plants and animals. NREPA does not provide legal protection for species listed as special concern; however, their status is typically a reflection of declining populations, and they have the potential to be listed under Part 365 in the future.

The USFWS IPaC database was reviewed to obtain a preliminary list of federally threatened, endangered, proposed, and candidate species for the Site. The USFWS IPaC results are provided for analysis and initial planning purposes. IPaC results list seven (7) threatened or endangered species: the Indiana bat (*Myotis sodalis*; federally endangered), northern long-eared bat (*Myotis septentrionalis*; federally threatened), eastern massasauga rattlesnake (*Sistrurus catenatus*; federally threatened), snuffbox mussel (*Epioblasma triquetra*; federally endangered), Mitchell's satyr butterfly (*Neonympha mitchellii*; federally endangered), poweshiek skipperling (*Oarisma poweshiek*; federally endangered), and eastern prairie fringed orchid (*Platanthera leucophaea*; federally threatened) (USFWS 2019). Refer to the *IPaC Results* enclosed with this letter.

MNFI's online database indicates that the Site is located within the range of eleven (11) state listed threatened or endangered species including: the Blanchard's cricket frog (Silphium laciniatum; state threatened), the compass plant (Silphium laciniatum; state threatened), ginseng (Panax quinquefolius; state threatened), goldenseal (Hydrastis canadensis; state threatened), Indiana bat (Myotis sodalist; state endangered), King rail (Rallus elegans; state endangered), lambda snaggletooth (Gastrocopta holzingeri; state endangered), purple wartyback (Cyclonaias tuberculata; state threatened), red mulberry (Morus rubra; state threatened), showy orchis (Galeria spectabilis; state threatened), and snuffbox (Epioblasma triquetra; state endangered) (MNFI 2019). Refer to the MNFI Results enclosed with this letter.

It is Atwell's professional opinion that the preferred habitat for the snuffbox mussel, Mitchell's satyr butterfly, poweshiek skipperling butterfly, eastern prairie fringed orchid, Blanchard's cricket frog, ginseng, goldenseal, King rail, lambda snaggletooth snail, purple wartyback mussel, showy orchid are not present on the Site. Habitat types that these species prefer include prairies, streams, lakes, large freshwater marshes, ponds, rich forests with little to no invasive species, fens, railroad right-of-ways, swamps, limestone cliffs, and large floodplain areas. Although there are watercourses on-site, the watercourses cannot support species that require year round habitat because they are ephemeral and originate from groundwater seeps. The Site was historically occupied and maintained with interspersed canopy trees and has since become dominated by a shrub layer of invasive species. Other habitat types within the Site consist of low quality emergent and scrub-shrub wetland, upland scrub-shrub areas dominated by invasive species, and forest habitat primarily dominated by hackberry and oak species. Therefore, due to the lack of potentially suitable habitat required to support these species, it is Atwell's professional opinion that development of the Site will not impact these TES or their preferred habitats.

The eastern massasauga rattlesnake (EMR) is a federally threatened and a state special concern species that occurs throughout Michigan's Lower Peninsula. In Michigan, the populations are typically found in open, shallow wetlands and on adjacent uplands during the summer. Some of the wetlands and nearby upland areas appear to have suitable habitat for the species. Additionally, the USFWS indicates that the Site is within the known range of the eastern massasauga rattlesnake. Based upon Atwell's habitat assessment and review of available USFWS data, the Site is located within Tier 1 habitat.

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In 2017, the USFWS Michigan Ecological Services Field Office published a screening tool for the EMR projects that could potentially affect this species in Michigan. The screening tool includes a set of general best management practices (BMPS) recommended for work within suitable EMR habitat as well as activity specific BMPs recommended for work within Tier 1 habitat (USFWS 2017). It is Atwell's professional opinion that if the general and Tier 1 activity-specific BMPS are followed, impacts to the eastern massasauga rattlesnake and its habitat are unlikely.

Additionally, the red mulberry tree is a state threatened species that occurs throughout the southern portion of Michigan's Lower Peninsula. In Michigan, the populations are typically found in forest floodplain areas within close proximity to rivers and fertile slopes. The species also occurs in forests with large areas of wetland. Based on Atwell's habitat assessment and review of available USFWS data, the Site contains a known mulberry species (*Morus spp.*). Therefore, Atwell recommends that a survey be completed between late May and early October, while leaves are visible, in order to determine if the onsite mulberry species is red. If red mulberry is found on-site, additional BMPs could be recommended in order to preserve the species.

Michigan is within the range of both the Indiana bat and northern long-eared bat, which utilize trees for roosting and/or maternity sites. Open forested habitat is limited within the Site, however, the preferred habitat for Indiana bat and northern long-eared bat was identified during site reconnaissance. Still, some adjacent areas include a multi-lane highway, industrial buildings, and agricultural areas which are all not considered ideal habitat for these species.

The USFWS advises that if the proposed project includes tree clearing activities within suitable Indiana bat habitat, then tree clearing activities should be conducted between October 1st and March 31st in order to avoid potential impacts to this species. It should also be noted that if tree clearing impacts more than 10% of the existing forested habitat within the Site and a half-mile buffer, the EGLE will red file the project.

Conclusions and Recommendations

In conclusion, based on the desktop review of online databases and a site visit, the Site contains three (3) wetlands (Wetlands 1-3) and eight (8) watercourses. It is Atwell's professional opinion that all delineated wetlands within the Site (Wetlands 1-3) appears to meet the requirements of Part 303, Wetlands Protection, of NREPA. Therefore, Wetlands 1-3 should be considered regulated by the EGLE. Additionally, all wetlands on site are likely regulated by Superior Township. The Site appears to contain eight (8) features (Watercourses 1-8) that are regulated by the EGLE under Part 301, Inland Lakes and Streams, of the NREPA. Furthermore, all wetlands and watercourses on-site include a 25 and 50 foot natural features setback, respectively, which is detailed in the Superior Township Zoning Ordinance, Section 14.05.B. Based on FEMA FIRM Panel #26161C0269E, the Site contains approximately 0.45 acres of Zone A floodplain in the southern portion of the Site associated with the Huron River.

Please note that natural resources-based field work conducted out of the growing season can create seasonal constraints, due to a lack of herbaceous vegetation, frozen ground and/or snow cover. Atwell used our professional judgement based on current field conditions and coordinated field work with the Client prior to conducting potentially contestable field work. Atwell recommends that delineated wetland lines be reviewed during the growing season for accuracy.

Ms. Rebecca Lussier April 17, 2019 Page **7** of **8**

A permit is required by the EGLE for any proposed work (*e.g.*, filling, dredging, construction, draining, and/or other development) that takes place within the boundaries of a regulated wetland, watercourse, or floodplain. Although most construction activities that take place outside of these boundaries do not require a permit from the EGLE, the EGLE has the final authority on the extent of regulated wetlands, lakes, streams, ponds, and floodplains in the State of Michigan. Atwell strongly recommends additional reconnaissance with the EGLE prior to any activities on Site. Similarly, a permit from Superior Township is required for any impacts to wetlands.

In addition, it is Atwell's professional opinion that the Site does not appear to contain the preferred habitat for the majority of the above listed TES. However, the Site is in Tier 1 habitat for eastern massasauga rattlesnake (EMR). This means that the Site is either occupied or highly likely to be occupied by the EMR, and therefore has associated BMPs. Atwell suggests that the BMPs and recommendations should be followed in order to avoid and minimize potential impacts to these species and their habitat to the maximum extent practicable. Additionally, mulberry trees (Morus spp.) have been documented on the Site, and therefore Atwell recommends a survey between the end of May and the beginning of October to determine the species of the mulberry trees on-site. If the trees are confirmed to be red mulberry trees, additional BMPs could be recommended. Lastly, the Site contains a few trees which could potentially serve as roosting and/or foraging habitat for Indiana bats and/or northern long-eared bats. If tree clearing for this project takes place between October 1st and March 31st, the proposed project is not likely to impact Indiana bats or northern long-eared bats. Additionally, publically available data indicates known northern long-eared bat roost trees exist within Pittsfield Township. Atwell recommends coordinating with the USFWS to determine the exact locations of these roost trees as well as roost type. If the roost trees are not maternity roosts or are not located near the Site, it is Atwell's professional opinion that the development of the Site is not subject to incidental take prohibitions under the final 4(d) rule for the northern-long eared bat and that the proposed project should not have reasonable potential to affect the federally listed northern long-eared bat.

We appreciate the opportunity to be of service to you on this project. Should you have any questions, please contact us at (248) 447-2000.

Sincerely,

ATWELL, LLC

Brittany Wenzel-Zachariahs Environmental Technician Environmental Services Group Don Berninger Team Leader

Environmental Services Group

Don B

Enclosures: Wetland Location Map

Brittany wyachariahs

Photographic Log

IPaC Results & MNFI Database Results

Wetland Data Form

REFERENCES

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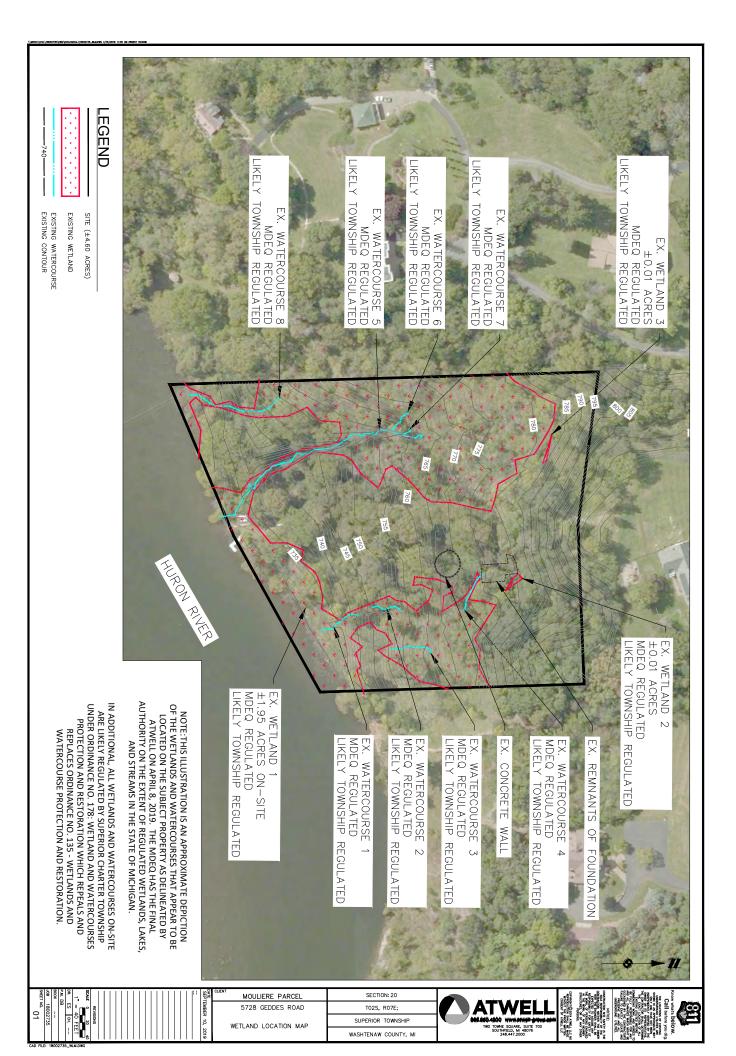




Photo #1

Date: 4/8/2019 Feature: Upland

Direction: North

Description: A representative photo of the upland forested areas on the northwest portion of the Site.



Photo #2

Date: 4/8/2019

Feature: Old House

Direction: Southeast

Description: A representative photo of the previous house, pool, and infrastructure located

on the Site.



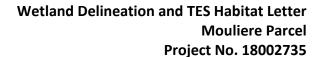




Photo #3

Date: 4/8/2019

Feature: Wetland 3/Old Fire Pit

Direction: Northeast

Description: A representative photo of Wetland 3, an EGLE regulated PEM/PSS wetland within the northcentral portion of the Site, and the previous fire pit located on the Site.



Photo #4

Date: 4/8/2019

Feature: Watercourse 4/Wetland 1/House

Direction: North

Description: A representative photo of Watercourse 4, which is an ephemeral stream beginning near the old house foundation in the northcentral portion of the Site. Watercourse 1 is contiguous to Wetland 1, which is an EGLE regulated 1.95-acre PEM/PSS wetland that continues throughout a large portion of the Site and is also pictured.







Photo #5

Date: 4/8/2019

Feature: Watercourse 5

Direction: North

Description: A representative photo of Watercourse 5, an ephemeral stream that is contiguous to the Huron River. The Watercourse is located at the bottom of a large ravine located along the southwest portion of the Site.



Photo #6

Date: 4/8/2019

Feature: Wetland 1/Old Tennis

Court

Direction: West

Description: A representative photo of Wetland 1, which is an EGLE regulated 1.95-acre PEM/PSS wetland that is pictured here growing on an old tennis court.







Photo #7

Date: 4/8/2019

Feature: Pathway/Wetland 1

Direction: North

Description: A representative photo the current pathway that comes south from Geddes Road. Wetland 1 is also pictured.



Photo #8

Date: 4/8/2019

Feature: Southern Boundary/Huron River

Direction: Southwest

Description: A representative photo of the southern boundary of the Site along the Huron

River.



IPaC

U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Washtenaw County, Michigan



Local office

Michigan Ecological Services Field Office

(517) 351-2555

(517) 351-1443

2651 Coolidge Road Suite 101 East Lansing, MI 48823-6360

http://www.fws.gov/midwest/endangered/section7/s7process/step1.html

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Draw the project location and click CONTINUE.
- Click DEFINE PROJECT.
- 3. Log in (if directed to do so).
- 4. Provide a name and description for your project.
- 5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the <u>Ecological Services Program</u> of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact <u>NOAA Fisheries</u> for <u>species under their jurisdiction</u>.

- Species listed under the <u>Endangered Species Act</u> are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the <u>listing status page</u> for more information.
- 2. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME STATUS

Indiana Bat Myotis sodalis

There is final critical habitat for this species. Your location is outside the critical habitat.

https://ecos.fws.gov/ecp/species/5949

Threatened

Endangered

Northern Long-eared Bat Myotis septentrionalis

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/9045

Reptiles

NAME **STATUS**

Eastern Massasauga (=rattlesnake) Sistrurus catenatus This species only needs to be considered if any of the following conditions apply:

- · All Projects: Tier 1 EMR Habitat Present
- · All Projects: Project is Within EMR Range

No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2202

Threatened

Clams

NAME STATUS

Snuffbox Mussel Epioblasma triquetra

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/4135

Endangered

Insects

NAME STATUS

Mitchell's Satyr Butterfly Neonympha mitchellii mitchellii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8062

Endangered

Poweshiek Skipperling Oarisma poweshiek

There is final critical habitat for this species. Your location is outside the critical habitat.

https://ecos.fws.gov/ecp/species/9161

Endangered

Flowering Plants

NAME **STATUS**

Eastern Prairie Fringed Orchid Platanthera leucophaea No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/601

Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described <u>below</u>:

- 1. The Migratory Birds Treaty Act of 1918.
- 2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds
 http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the <u>USFWS Birds</u> of <u>Conservation Concern</u> (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ <u>below</u>. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the <u>E-bird data mapping tool</u> (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found <u>below</u>.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A

BREEDING SEASON IS INDICATED

FOR A BIRD ON YOUR LIST, THE

BIRD MAY BREED IN YOUR

PROJECT AREA SOMETIME WITHIN

THE TIMEFRAME SPECIFIED,

WHICH IS A VERY LIBERAL

ESTIMATE OF THE DATES INSIDE

WHICH THE BIRD BREEDS

ACROSS ITS ENTIRE RANGE.

"BREEDS ELSEWHERE" INDICATES

THAT THE BIRD DOES NOT LIKELY

BREED IN YOUR PROJECT AREA.)

American Bittern Botaurus lentiginosus

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

https://ecos.fws.gov/ecp/species/6582

Bald Eagle Haliaeetus leucocephalus

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

https://ecos.fws.gov/ecp/species/1626

Black-billed Cuckoo Coccyzus erythropthalmus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

https://ecos.fws.gov/ecp/species/9399

Bobolink Dolichonyx oryzivorus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Cerulean Warbler Dendroica cerulea

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

https://ecos.fws.gov/ecp/species/2974

Dunlin Calidris alpina arcticola

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Golden-winged Warbler Vermivora chrysoptera

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

https://ecos.fws.gov/ecp/species/8745

Breeds Apr 1 to Aug 31

Breeds Dec 1 to Aug 31

Breeds May 15 to Oct 10

Breeds May 20 to Jul 31

Breeds Apr 22 to Jul 20

Breeds elsewhere

Breeds May 1 to Jul 20

Henslow's Sparrow Ammodramus henslowii

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

https://ecos.fws.gov/ecp/species/3941

Breeds May 1 to Aug 31

Least Bittern Ixobrychus exilis

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6175

Breeds Aug 16 to Oct 31

Lesser Yellowlegs Tringa flavipes

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

https://ecos.fws.gov/ecp/species/9679

Breeds elsewhere

Red-headed Woodpecker Melanerpes erythrocephalus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Sep 10

Rusty Blackbird Euphagus carolinus

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Semipalmated Sandpiper Calidris pusilla

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Willow Flycatcher Empidonax traillii

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3482

Breeds May 20 to Aug 31

Wood Thrush Hylocichla mustelina

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (*)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (1)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

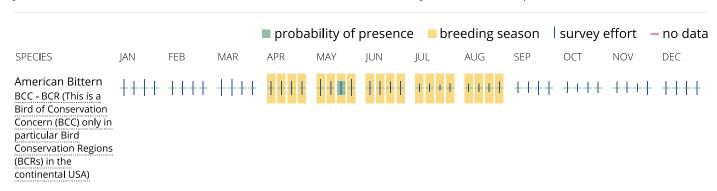
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

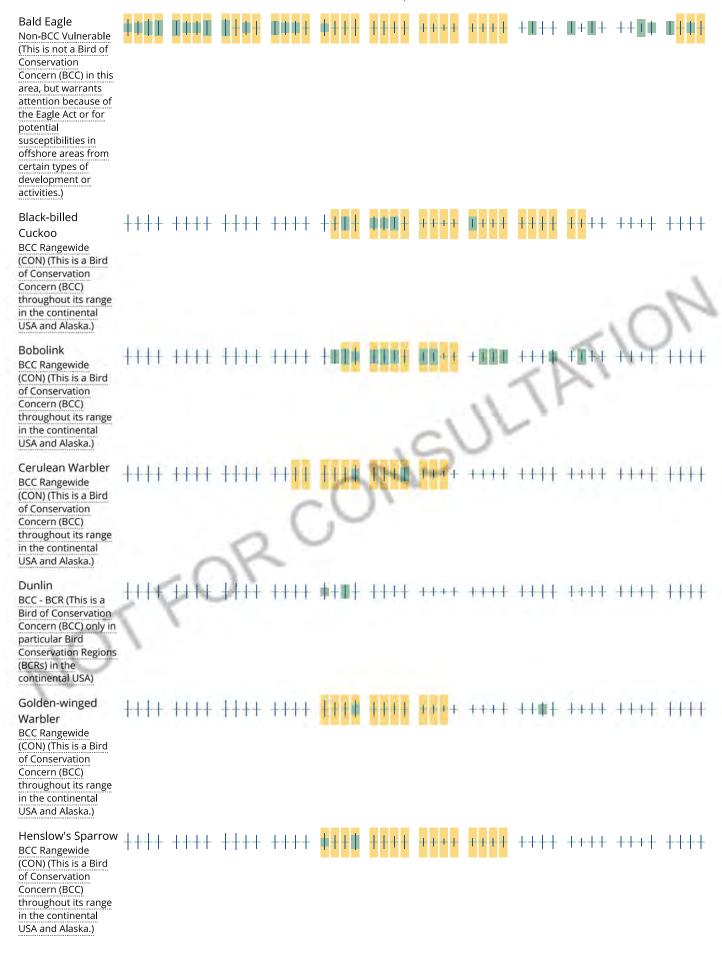
No Data (-)

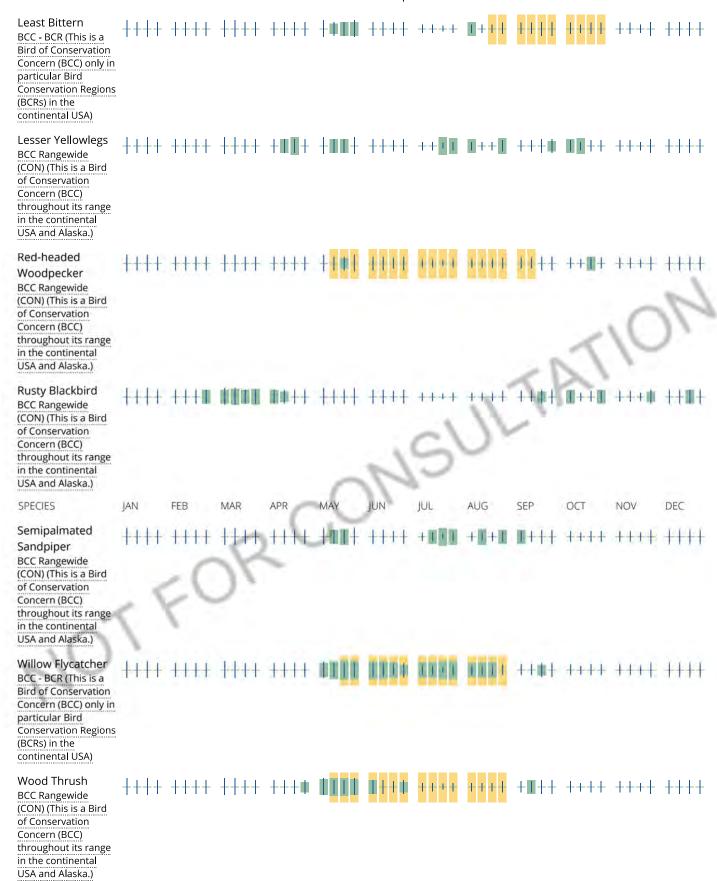
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.







Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

<u>Nationwide Conservation Measures</u> describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and

avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. <u>Additional measures</u> and/or <u>permits</u> may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network</u> (<u>AKN</u>). The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>E-bird Explore Data Tool</u>.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey, banding, and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird

impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of Engineers District</u>.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

LAKE

L1UBHh

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

OT FOR CONSULTATIO

Search Results for Town 02S, Range 07E, Section 30 Displaying Record 1 to 25 of 25 Records Found

ı	ı			۱						ш		
Common Name	n Scientific Name	ic State Status	s Status	l Last Observed Date	Element Category	Mapping Precision	Site of Observation	Best Documentation of EO	Town Range	ge	Section	County
American burying beetle	n Nicrophorus etle americanus	rus ×	Fi	1916-08-07	Animal	GX	Ann Arbor	University of Michigan Museum of Zoology, 1989. Records for Michigan Rare and Endangered Insects.	02S 07E	m	7, 18, 19, 30, 31	Washtenaw
Blanchard's cricket frog	d's Acris og blanchardi	di T		1950-05-20	Animal	Z	Dixboro		02S 07E	mi	88	Washtenaw
Compass plant		a n		1928-06-27	Plant	g _X	Ypsilant Ann Arbor Rr Tracks	Walpole, B.A. 1924. Flora of Washienaw County, Department of Natural Science, Mich. State Normal College [Eastern Michigan University], Ypsilanti, Michigan. 80 pp.	02S 07E		17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35	Washtenaw
Depressed ambersnail	ed Oxyloma ail peoriense	se sc					Ann Arbor Mi	Unknown, Unknown Date, 1 collected Field Museum, Chicago,	02S 07E	m	7, 18, 19, 30, 31	Washtenaw
Eastern massasauga	Sistrurus ga catenatus	us SC	4	2018-08-02	Animal	Z	Matthaei Botanical Gardens/Fleming Creek	Schneider, G. 1990, #190844, 190845 UMMZ	02S 07E	m	18, 19, 30	Washtenaw
Ginseng) Panax quinquefolius	dius		1867	Plant	GX.	Ann Arbor East		02S 07E	m	7, 18, 19, 30, 31	Washtenaw
Ginseng		dius T		2012-07-15	Plant	(A)	Radrick Forest	Weatherbee, E.E. 1890, MNFI Special Plant Survey Form and Map.	02S 07E	п	19,30	Washtenaw
Goldenseal	al Hydrastis canadensis	sis T		2018-08-06	Plant	GX	Huron Parkway/Cedar Bend Nature Area	Burnham, S.H. 1868. GH.	02S 07E		7, 8, 16, 17, 18, 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, 34	Washtenaw
Green violet	let Hybanthus concolor	us SC		1919-06-01	Plant	o	Superior Township	WALPOLE, B.A. 1919, WUD	02S 07E	cn	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36	Washtenaw
Green violet	let Hybanthus concolor	us SC		1919-05-31	Plant	G	Fleming Creek	Walpole, B.A. 1919, #875 MSC.	02S 07E		19, 20, 29, 30, 31, 32	Washtenaw
Hemlock- parsley	Conioselinum chinense	num SC		1924-10-30			Geddes Swamp	Walters, Beverly, 2014. Excel spreadsheet of museum specimens for new SQTTE species.	02S 07E	mi	30, 31	Washtenaw
Indiana bat	z	dalis E	Fi	1965-05-11	Animal	g×	Ann Arbor	Kurta, A. 1980. Status of the Indiana Bat, Myotis sodalis, in Michigan.	02S 07E	mi	18, 19, 30, 31	Washtenaw
King rail	Rallus elegans	gans E		1948-05-19	Animal	K	Dixboro		02S 07E	т	8, 16, 17, 18, 19, 20, 21, 28, 29, 30	Washtenaw
Lambda snaggletooth	Gastrocopta oth holzingeri	ph ph		1942	Animal		Huron River At Geddes	Unknown surveyor, 1942. UNMZ Lat No. 158837.	02S 07E	ш	30, 31	Washtenaw
Little brown bat		s SC		1992-08-23			Pittsfield Village/Ann Arbor	Pitisfield Village/Ann Arbor UNMZ online catalog for all collections of the species Myotis lucthigus, downloaded from VertNet (www.vertnet.org) 2015-06-17 for the State of Michigan. Saved in Excel spreadsheet. Also point and polygon shapefiles created from the database catalogue.	02S 07E	m	7, 18, 19, 30, 31	Washtenaw
Low-forked chickweed	ed Paronychia id fastigiata	ia ia		1909-08-21	Plant	N	Geddes		02S 07E	m	30, 31	Washtenaw
Northern long- eared bat	ng- Myotis st septentrionalis	nalis SC	4	2003-07-09			Ann Arbor	Kurta, A. Bet survey and Mine database information recieved 2013-03-15. Not for public viewing, NLEB-1 shp is the spatial representation of just the NLEB.	02S 07E	m	18, 19, 30, 31	Washtenaw
Pale avens	ns Geum virginianum	um SC		1895-08-20	Plant	GX	Ypsilanti		02S 07E	m	27, 28, 29, 30, 31, 32, 33, 34, 35, 36	Washtenaw
Purple wartyback	Cyclonaias k tuberculata	ata T		1997-04	Animal	G	Huron River	Strayer, D. 1979. Some Revent Collections of Mussels from Southeastern Michigan. Malacological Review 12:93-95.	02S 07E	m	30, 31, 32	Washtenaw
Red mulberry	erry Morus rubra	bra		1880-05-18	Plant	G×	Huron River	Spaulding, U.M. 1880 MICH.	02S 07E		5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34	Washtenaw
Rusty-patched bumble bee	hed Bombus affinis ee	ffinis SC	E	1983-05-29	Animal		Ann Arbor, Matthaei Botanical Gardens	Rowe, Logan, T. Wood, and D. Cuthrell. 2019. January 17 - Excel file with museum specimen data for the bumble bees of Michigan project.	02S 07E		18, 19, 30	Washtenaw
Showy orchis	his Galearis spectabilis	S T		1894-05-23	Plant	GX	Ann Arbor		02S 07E	m	30, 31	Washtenaw
Snuffbox	 Epioblasma triquetra 	ma E	F	1958-05-17	Animal	N	Us-23, Huron River	Ananymous, 1958, #197202 UMMZ.	02S 07E	m	30, 31	Washtenaw
Trailing wild Bean	iid Strophostyles helvula	yles SC		1924	Plant	N	Shanghai Prairie	WALFOLE, BIA 1924 FLORA OF WASHTENAW COUNTY MICHIGAN, MICHIGAN STATE NORMAL COLLEGE YPSILANTI, MICHIGAN, P. 50.	02S 07E	m	16, 17, 18, 19, 20, 21, 29, 30	Washtenaw
Whiskered	d Helianthus	SC		1868-09-16	Plant	ex S	Penn Central Railroad	Allmendinger, E.C. 1868. MICH.	02S 07E	m	7, 18, 19, 20, 29, 30, 31, 32	Washtenaw

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 18002735 - Mouliere Parcel		City/Cou	nty: Superio	or Twp, Washtenaw Co Sampling Date: 4-8-19	
Applicant/Owner: Meadowlark				State: MI Sampling Point: WL1	_
Investigator(s): C. Kunkle, B. Zachariahs - Atwell, LLC		Section, T	 ∫ownship, Ra	ange: S30, T2S,R7E	
Landform (hillside, terrace, etc.): Depression			Local relief (d	concave, convex, none): Concave	_
Slope (%): 0-10 Lat: 42.277793		Long: -	83.648461	Datum: NAD83	_
Soil Map Unit Name: St. Clair clay loam, 18 to 35 perce	ent slopes			NWI classification: PEM/PSS	_
Are climatic / hydrologic conditions on the site typical fo		of vear?	Yes X	No (If no, explain in Remarks.)	_
Are Vegetation , Soil , or Hydrology si		-			
Are Vegetation, Soil, or Hydrologyn				xplain any answers in Remarks.)	
				ocations, transects, important features, etc).
Hydrophytic Vegetation Present? Yes X No		Is the	Sampled A	urea	
			n a Wetland		
Wetland Hydrology Present? Yes X No					
Remarks:					
WL on slope/bluff outer bend Huron River. Numerous	seeps creati	ng some epho	emeral, smal	II, stream segments	
VECETATION Lies scientific names of plan	-+-				_
VEGETATION – Use scientific names of plan	Absolute	Dominant	Indicator	T	\neg
<u>Tree Stratum</u> (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:	
Celtis occidentalis	5	Yes	FAC	Number of Dominant Species That	
2. Fraxinus pennsylvanica	5	Yes	FACW	Are OBL, FACW, or FAC: 6 (A)	
3. Ulmus americana	5	Yes	FACW	Total Number of Dominant Species	
4.				Across All Strata: 6 (B)	
5				Percent of Dominant Species That	
	15=	=Total Cover		Are OBL, FACW, or FAC:)
Sapling/Shrub Stratum (Plot size:)					4
1. Rhamnus cathartica	15	Yes	FAC	Prevalence Index worksheet:	
2. Frangula alnus	5	No No	FACW	Total % Cover of: Multiply by:	
3. Cornus amomum	5	No No	FACW	OBL species 36 x 1 = 36	
4. <u>Carex stricta</u> 5.		No	OBL	FACW species 25 x 2 = 50 FAC species 22 x 3 = 66	
5	27 =	=Total Cover		FACU species $\begin{array}{cccccccccccccccccccccccccccccccccccc$	
Herb Stratum (Plot size:)		-10.01.00.0.		UPL species 0 x 5 = 0	
Symplocarpus foetidus	15	Yes	OBL	Column Totals: 83 (A) 152 (B)	
Lythrum salicaria	10	Yes	OBL	Prevalence Index = B/A = 1.83	
3. Carex lacustris	5	No	OBL		
4. Phalaris arundinacea	5	No	FACW	Hydrophytic Vegetation Indicators:	
5. Typha angustifolia	2	No	OBL	1 - Rapid Test for Hydrophytic Vegetation	
6. Carex stricta	2	No	OBL	X 2 - Dominance Test is >50%	
7. Symphyotrichum lanceolatum	2	No	FAC	X 3 - Prevalence Index is ≤3.0 ¹	
8				4 - Morphological Adaptations ¹ (Provide supporting	ng
9				data in Remarks or on a separate sheet)	
10				Problematic Hydrophytic Vegetation ¹ (Explain)	
	41 =	=Total Cover		¹ Indicators of hydric soil and wetland hydrology must	
Woody Vine Stratum (Plot size:)				be present, unless disturbed or problematic.	4
1				Hydrophytic	
2		=Total Cover		Vegetation	
		= TOtal Cover		Fleseit: 165 / 140	4
Remarks: (Include photo numbers here or on a separa	ate sheet.)				

US Army Corps of Engineers

SOIL Sampling Point: WL1

Profile Description: (Describe Depth Matrix	<u> </u>		c Featur					-	
(inches) Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-12 10YR 2/1	100					Sandy			
	· —— ·								
1	. . :					2.			
¹ Type: C=Concentration, D=Dep	letion, RM	=Reduced Matrix, N	IS=Mas	ked San	d Grains.			ore Lining, M=Ma	
Hydric Soil Indicators:		Condy Clay	ad Mat	riv (C4)		Inc		roblematic Hydri	c Solls :
Histosol (A1)		Sandy Gley		IIX (S4)			_	Redox (A16)	١
Histic Epipedon (A2) Black Histic (A3)		Sandy Red Stripped M		3)			_	ese Masses (F12 Material (F21))
X Hydrogen Sulfide (A4)		? Dark Surfa)				/ Dark Surface (F	22)
Stratified Layers (A5)		Loamy Mu	` '	aral (F1)			_	in in Remarks)	22)
2 cm Muck (A10)		Loamy Gle	-	, ,			_Other (Expla	iii iii ixemarks)	
Depleted Below Dark Surface	_ (Δ11)	Depleted M							
Thick Dark Surface (A12)	<i>(</i> A11)	Redox Dar				³ In	dicators of hyd	Irophytic vegetati	on and
Sandy Mucky Mineral (S1)		Depleted D		` ')		•	ology must be pro	
5 cm Mucky Peat or Peat (S	3)	Redox Dep			,		-	bed or problemat	
Restrictive Layer (if observed):				- ()					
Type:									
Typo.									
Depth (inches):						Hydric Soil P	resent?	Yes X	No
Depth (inches): Remarks: This data form is revised from M Errata. (http://www.nrcs.usda.gov						Hydric Soil P		Yes X	
Remarks: This data form is revised from M									
Remarks: This data form is revised from M Errata. (http://www.nrcs.usda.gov									
Remarks: This data form is revised from M Errata. (http://www.nrcs.usda.gov									
Remarks: This data form is revised from M Errata. (http://www.nrcs.usda.gov	//Internet/F	SE_DOCUMENTS/	nrcs142			NRCS Field Ind	dicators of Hyc		7.0, 2015
Remarks: This data form is revised from M Errata. (http://www.nrcs.usda.gov HYDROLOGY Wetland Hydrology Indicators:	//Internet/F	SE_DOCUMENTS/	nrcs142	2p2_0512	293.docx)	NRCS Field Ind	dicators of Hyc	Iric Soils, Version	7.0, 2015
Remarks: This data form is revised from M Errata. (http://www.nrcs.usda.gov HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of other contents) X Surface Water (A1) X High Water Table (A2)	//Internet/F	ired; check all that a	apply) ned Lea una (B1	ves (B9)	293.docx)	NRCS Field Ind	dicators of Hydeleccondary Indica Surface Soil Drainage Pa	ators (minimum of Cracks (B6) tterns (B10)	7.0, 2015
Remarks: This data form is revised from M Errata. (http://www.nrcs.usda.gov HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of ot X Surface Water (A1)	//Internet/F	ired; check all that a X Water-Stai X Aquatic Fa True Aquat	apply) ned Lea una (B1 ic Plant	ves (B9) 3) s (B14)	293.docx)	NRCS Field Ind	dicators of Hydeleccondary Indica Surface Soil Drainage Pa	ators (minimum o	7.0, 2015
Remarks: This data form is revised from Mi Errata. (http://www.nrcs.usda.gov HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of ot X Surface Water (A1) X High Water Table (A2) X Saturation (A3) Water Marks (B1)	//Internet/F	ired; check all that a X Water-Stai X Aquatic Fa True Aquat X Hydrogen S	apply) ned Lea una (B1 ic Plant	2p2_0512 vves (B9) 3) s (B14) Odor (C1	293.docx)	NRCS Field Ind	econdary Indica Surface Soil Drainage Pa Dry-Season	ators (minimum of Cracks (B6) tterns (B10) Water Table (C2) rows (C8)	7.0, 2015
Remarks: This data form is revised from M Errata. (http://www.nrcs.usda.gov HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of ot X Surface Water (A1) X High Water Table (A2) X Saturation (A3) Water Marks (B1) X Sediment Deposits (B2)	//Internet/F	ired; check all that a X Water-Stai X Aquatic Fa True Aquat X Hydrogen S X Oxidized R	apply) ned Lea una (B1 ic Plant Sulfide (ves (B9) 3) s (B14) Odor (C1 eres on	293.docx)	NRCS Field Ind	econdary Indica Surface Soil Drainage Pa Dry-Season Crayfish Burl Saturation V	ators (minimum of Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial Im	7.0, 2015 two require
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Remarks: This data form is revised from M Errata. (http://www.nrcs.usda.gov HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of otology X Surface Water (A1) X High Water Table (A2) X Saturation (A3) Water Marks (B1) X Sediment Deposits (B2) Drift Deposits (B3) X Algal Mat or Crust (B4) X Iron Deposits (B5) X Inundation Visible on Aerial I Sparsely Vegetated Concave	v/Internet/F	ired; check all that a X Water-Stai X Aquatic Fa True Aquat X Hydrogen S X Oxidized R Presence c Recent Iror X Thin Muck 7) Gauge or V	apply) ned Lea una (B1 tic Plant Sulfide (hizosph of Reduce Surface Vell Dat	aves (B9) 3) s (B14) Odor (C1 eres on the ced Iron (C7) a (D9)) Living Roo (C4) illed Soils	Se X X Dts (C3) X	econdary Indica Surface Soil Drainage Pa Dry-Season Crayfish Burr Saturation Vi	ators (minimum of Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial In tressed Plants (D Position (D2)	7.0, 2015 two require
Remarks: This data form is revised from M Errata. (http://www.nrcs.usda.gov HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of otology X Surface Water (A1) X High Water Table (A2) X Saturation (A3) Water Marks (B1) X Sediment Deposits (B2) Drift Deposits (B3) X Algal Mat or Crust (B4) X Iron Deposits (B5) X Inundation Visible on Aerial I Sparsely Vegetated Concave Field Observations:	magery (B	ired; check all that a X Water-Stai X Aquatic Fa True Aquat X Hydrogen S X Oxidized R Presence C Recent Iror X Thin Muck T) Gauge or V B8) Other (Exp	apply) ned Lea una (B1 tic Plant Sulfide (hizosph of Reduc n Reduc Surface Vell Dat lain in F	aves (B9) 3) s (B14) Odor (C1 eres on ced Iron ced Iron (C7) a (D9) demarks)) Living Roi (C4) illed Soils	Se X X Dts (C3) X	econdary Indica Surface Soil Drainage Pa Dry-Season Crayfish Burr Saturation Vi	ators (minimum of Cracks (B6) tterns (B10) Water Table (C2) rows (C8) isible on Aerial In tressed Plants (D Position (D2)	7.0, 2015 two require
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WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 18002735 - Mouliere Parcel		City/Cour	nty: Superio	or Twp, Washtenaw Co Sampling Date: 4-8-19		
Applicant/Owner: Meadowlark				State: MI Sampling Point: WL2		
Investigator(s): C. Kunkle, B. Zachariahs - Atwell, LLC	Section, Township, Range: S30, T2S,R7E					
Landform (hillside, terrace, etc.): Depression		!	Local relief (d	concave, convex, none): Concave		
Slope (%): 0-5 Lat: 42.277880		Long: -	83.647980	Datum: NAD83		
Soil Map Unit Name: St. Clair clay loam, 18 to 35 perc	ent slopes			NWI classification: PEM/PSS		
Are climatic / hydrologic conditions on the site typical for	or this time c	of year?	Yes X	No (If no, explain in Remarks.)		
Are Vegetation, Soil, or Hydrology	significantly	disturbed? A	 ا Are "Normal (Circumstances" present? Yes X No		
Are Vegetation, Soil, or Hydrology			If needed, ex	xplain any answers in Remarks.)		
<u> </u>			ıg point lo	ocations, transects, important features, etc.		
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No	0		e Sampled Ain a Wetland?			
Remarks: VEGETATION – Use scientific names of pla						
·	Absolute	Dominant	Indicator	I		
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:		
1 2.				Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)		
3.				Total Number of Dominant Species		
4.				Across All Strata: 3 (B)		
5.				Percent of Dominant Species That		
		=Total Cover		Are OBL, FACW, or FAC:		
Sapling/Shrub Stratum (Plot size:)		=-			
1. Rhamnus cathartica	10	Yes	FAC	Prevalence Index worksheet:		
2. Cornus amomum	2	No	FACW	Total % Cover of: Multiply by:		
3				OBL species 5 x 1 = 5		
4				FACW species 7 x 2 = 14		
5	12	=Total Cover		FAC species 11 x 3 = 33 FACU species 0 x 4 = 0		
Herb Stratum (Plot size:)	12	=10(a) 0070.	ļ	UPL species 0 x 5 = 0		
Symplocarpus foetidus	5	Yes	OBL	Column Totals: 23 (A) 52 (B)		
Phalaris arundinacea	5	Yes	FACW	Prevalence Index = B/A = 2.26		
3. Symphyotrichum lanceolatum	1	No	FAC			
4.				Hydrophytic Vegetation Indicators:		
5.				1 - Rapid Test for Hydrophytic Vegetation		
6.				X 2 - Dominance Test is >50%		
7.	· · · · · · · · · · · · · · · · · · ·			X 3 - Prevalence Index is ≤3.0 ¹		
8				4 - Morphological Adaptations ¹ (Provide supporting		
9				data in Remarks or on a separate sheet)		
10				Problematic Hydrophytic Vegetation ¹ (Explain)		
		=Total Cover		¹ Indicators of hydric soil and wetland hydrology must		
Woody Vine Stratum (Plot size:)		ļ	be present, unless disturbed or problematic.		
1.				Hydrophytic		
2		Tetal Cover		Vegetation		
		=Total Cover		Present?		
Remarks: (Include photo numbers here or on a sepa	rate sheet.)					

US Army Corps of Engineers

SOIL Sampling Point: WL2

Depth _	Matrix		Redo	x Featur	es						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	<u> </u>		Remarks	
0-12	10YR 2/1	100					Sandy	·			
					<u> </u>			<u> </u>			
		etion, RM	=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.		ocation: PL=			_
Hydric Soil Inc							Ir	dicators for		•	Soils ³ :
Histosol (A	,		Sandy Gle		rix (S4)		_	Coast Prair			
Histic Epip	` '		Sandy Red				_	Iron-Manga			
Black Histi	` '		Stripped M		5)		_	Red Paren			
	Sulfide (A4)		X Dark Surfa	` '						urface (F22)
Stratified L			Loamy Mu	•	, ,			Other (Exp	lain in Rer	narks)	
2 cm Muck	` ,		Loamy Gle	-							
	Below Dark Surface	(A11)	Depleted N				0				
	Surface (A12)		Redox Dar		` '		³I	ndicators of h		•	
	cky Mineral (S1)		Depleted [, ,			wetland hy	• • • • • • • • • • • • • • • • • • • •	•	ent,
5 cm Muck	xy Peat or Peat (S3)	Redox Dep	oression	s (F8)			unless dist	urbed or p	roblematic.	
Restrictive La	yer (if observed):										
Type:											
, , , <u> </u>											
Depth (inch Remarks: This data form	is revised from Mic		ional Supplement \			ude the N	Hydric Soil			Yes X , Version 7	No 0, 2015
Depth (inch Remarks: This data form Errata. (http://w	is revised from Mid					ude the N					
Depth (inch Remarks: This data form Errata. (http://w	is revised from Mid					ude the N					
Depth (inch Remarks: This data form Errata. (http://w	is revised from Mic www.nrcs.usda.gov.	/Internet/F	SE_DOCUMENTS	/nrcs142		ude the N	NRCS Field Ir	ndicators of H	ydric Soils	, Version 7.	0, 2015
Depth (inch Remarks: This data form Errata. (http://w HYDROLOG Wetland Hydro Primary Indicat	is revised from Mic www.nrcs.usda.gov SY ology Indicators: tors (minimum of o	/Internet/F	rSE_DOCUMENTS	/nrcs142	2p2_0512	ude the N	NRCS Field Ir	econdary Indi	ydric Soils	, Version 7.	0, 2015
Depth (inch Remarks: This data form Errata. (http://w HYDROLOG Wetland Hydro Primary Indicat Surface Wi	is revised from Mic www.nrcs.usda.gov. iY ology Indicators: tors (minimum of o ater (A1)	/Internet/F	ired; check all that a	apply)	ves (B9)	ude the N	NRCS Field Ir	econdary Indi	ydric Soils cators (mi	, Version 7.	0, 2015
Depth (inch Remarks: This data form Errata. (http://v HYDROLOG Wetland Hydro Primary Indicat Surface Water High Water	is revised from Mic www.nrcs.usda.gov. iy ology Indicators: tors (minimum of o ater (A1) r Table (A2)	/Internet/F	ired; check all that aX_ Water-Stai Aquatic Fa	apply) ined Lea	ves (B9)	ude the N	NRCS Field Ir	econdary Indi Surface Sc	cators (mi il Cracks (atterns (B	nimum of tv (B6)	0, 2015
Depth (inch Remarks: This data form Errata. (http://w HYDROLOG Wetland Hydro Primary Indicat Surface Water High Water X Saturation	is revised from Mic www.nrcs.usda.gov. is Y ology Indicators: tors (minimum of o ater (A1) r Table (A2) (A3)	/Internet/F	ired; check all that a X Water-Stai Aquatic Fa True Aqua	apply) ined Lea una (B1 tic Plant	aves (B9) 3) s (B14)	lude the N	NRCS Field Ir	econdary Indi Surface Sc Drainage F Dry-Seaso	cators (mi il Cracks (atterns (B n Water Ta	nimum of tv (B6) 10) able (C2)	0, 2015
Depth (inch Remarks: This data form Errata. (http://w HYDROLOG Wetland Hydro Primary Indicat Surface With High Water X Saturation X Water Mark	is revised from Mic www.nrcs.usda.gov. GY ology Indicators: tors (minimum of o ater (A1) r Table (A2) (A3) ks (B1)	/Internet/F	ired; check all that a X Water-Stai Aquatic Fa True Aqua Hydrogen	apply) ined Lea luna (B1 tic Plant Sulfide (2p2_0512 vves (B9) 3) s (B14) Odor (C1	lude the N	NRCS Field Ir	econdary Indi Surface Sc Drainage F Dry-Season	cators (mi il Cracks (atterns (B n Water Ta	nimum of tw (B6) 10) able (C2)	0, 2015
Depth (inch Remarks: This data form Errata. (http://w HYDROLOG Wetland Hydro Primary Indicat Surface Water High Water X Saturation X Water Mark Sediment I	is revised from Mic www.nrcs.usda.gov. iy ology Indicators: tors (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	/Internet/F	ired; check all that a way water-Stai Aquatic Fa True Aqua Hydrogen Oxidized R	apply) ined Lea iuna (B1 tic Plant Sulfide (thizosph	ves (B9) 3) s (B14) Odor (C1 eres on l	lude the N 193.docx)	NRCS Field Ir	econdary Indi Surface So Drainage F Dry-Seasor Crayfish Bu Saturation	cators (mi il Cracks (latterns (B in Water Ta urrows (C8 Visible on	nimum of tv (B6) 10) able (C2) Aerial Imag	0, 2015
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Depth (inch Remarks: This data form Errata. (http://w HYDROLOG Wetland Hydro Primary Indicat Surface W: High Watel X Saturation X Water Mari Sediment I Drift Depos Algal Mat of	ology Indicators: tors (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	/Internet/F	ired; check all that a X Water-Stai Aquatic Fa True Aqua Hydrogen Oxidized Recent Iro	apply) ined Lea una (B1 tic Plant Sulfide (thizosph of Reduc n Reduc	eves (B9) 3) s (B14) Odor (C1 eres on lead Iron of the ced Iro	ude the N 293.docx)	NRCS Field Ir	econdary Indi Surface Sc Drainage F Dry-Season Crayfish Bu Saturation Stunted or Geomorphi	cators (mi il Cracks (atterns (B n Water Taurrows (C& Visible on Stressed c Position	nimum of tv (B6) 10) able (C2) 3) Aerial Imaç Plants (D1) (D2)	0, 2015
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WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 18002735 - Mouliere Parcel		City/Cour	nty: Superio	or Twp, Washtenaw Co Sampling Date: 4-8-19
Applicant/Owner: Meadowlark				State: MI Sampling Point: WL3
Investigator(s): C. Kunkle, B. Zachariahs - Atwell, LLC	Section, T	_ ownship, Ra	ange: S30, T2S,R7E	
Landform (hillside, terrace, etc.): Depression		I	Local relief (d	concave, convex, none): Concave
Slope (%): <u>0-5</u> Lat: <u>42.278020</u>		Long: _{	83.648636	Datum: NAD83
Soil Map Unit Name: Fox sandy loam, 18 to 25 percent	t slopes			NWI classification: PEM/PSS
Are climatic / hydrologic conditions on the site typical for	or this time o	of year?	Yes X	No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologys	significantly of	disturbed? A	Are "Normal (Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologyı			If needed, ex	xplain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	ap showir	ng samplin	g point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No Hydrophytic Vegetation Present? Yes X No Hydrophytic Vegetation Present?	0		Sampled A	
Remarks: VEGETATION – Use scientific names of pla				
	Absolute	Dominant	Indicator	The second second
Tree Stratum (Plot size:) 1.	% Cover	Species?	Status	Dominance Test worksheet:
2				Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
3.				Total Number of Dominant Species
4.				Across All Strata: 3 (B)
5.				Percent of Dominant Species That
	. ——-	=Total Cover		Are OBL, FACW, or FAC:(A/B)
Sapling/Shrub Stratum (Plot size:)	10	Voo	5 40	Prevalence Index worksheet:
Rhamnus cathartica Cornus amomum	10	Yes No	FACW	Total % Cover of: Multiply by:
3.		INO	IACVV	OBL species 5 x 1 = 5
4.				FACW species 7 x 2 = 14
5.				FAC species 11 x 3 = 33
	12 =	=Total Cover		FACU species 0 x 4 = 0
Herb Stratum (Plot size:)				UPL species 0 x 5 = 0
Symplocarpus foetidus	5	Yes	OBL	Column Totals: 23 (A) 52 (B)
2. Phalaris arundinacea	5	Yes	FACW	Prevalence Index = B/A = 2.26
3. Symphyotrichum lanceolatum	1	No	FAC	
4				Hydrophytic Vegetation Indicators:
5				1 - Rapid Test for Hydrophytic Vegetation
6				X 2 - Dominance Test is >50%
7.				X 3 - Prevalence Index is ≤3.0 ¹
8				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9.				Problematic Hydrophytic Vegetation ¹ (Explain)
10	11 =	=Total Cover		<u> </u>
Woody Vine Stratum (Plot size:		= I Olai Covei		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. (Piot size)	,			
2.				Hydrophytic Vegetation
		=Total Cover		Present? Yes X No
Remarks: (Include photo numbers here or on a separ				<u> </u>

SOIL Sampling Point: WL3

Depth _	Matrix		Redo	x Featur	es						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	<u> </u>		Remarks	
0-12	10YR 2/1	100					Sandy	·			
					<u> </u>			<u> </u>			
		etion, RM	=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.		ocation: PL=			_
Hydric Soil Inc							Ir	dicators for		•	Soils ³ :
Histosol (A	,		Sandy Gle		rix (S4)		_	Coast Prair			
Histic Epip	` '		Sandy Red				_	Iron-Manga			
Black Histi	` '		Stripped M		5)		_	Red Paren			
	Sulfide (A4)		X Dark Surfa	` '						urface (F22)
Stratified L			Loamy Mu	•	, ,			Other (Exp	lain in Rer	narks)	
2 cm Muck	` ,		Loamy Gle	-							
	Below Dark Surface	(A11)	Depleted N				ā				
	Surface (A12)		Redox Dar		` '		³I	ndicators of h		•	
	cky Mineral (S1)		Depleted [, ,			wetland hy	• • • • • • • • • • • • • • • • • • • •	•	ent,
5 cm Muck	xy Peat or Peat (S3)	Redox Dep	oression	s (F8)			unless dist	urbed or p	roblematic.	
Restrictive La	yer (if observed):										
Type:											
, , , <u> </u>											
Depth (inch Remarks: This data form	is revised from Mic		ional Supplement \			ude the N	Hydric Soil			Yes X , Version 7	No 0, 2015
Depth (inch Remarks: This data form Errata. (http://w	is revised from Mid					ude the N					
Depth (inch Remarks: This data form Errata. (http://w	is revised from Mid					ude the N					
Depth (inch Remarks: This data form Errata. (http://w	is revised from Mic www.nrcs.usda.gov.	/Internet/F	SE_DOCUMENTS	/nrcs142		ude the N	NRCS Field Ir	ndicators of H	ydric Soils	, Version 7.	0, 2015
Depth (inch Remarks: This data form Errata. (http://w HYDROLOG Wetland Hydro Primary Indicat	is revised from Mic www.nrcs.usda.gov SY ology Indicators: tors (minimum of o	/Internet/F	rSE_DOCUMENTS	/nrcs142	2p2_0512	ude the N	NRCS Field Ir	econdary Indi	ydric Soils	, Version 7.	0, 2015
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PROJECT DEVELOPER

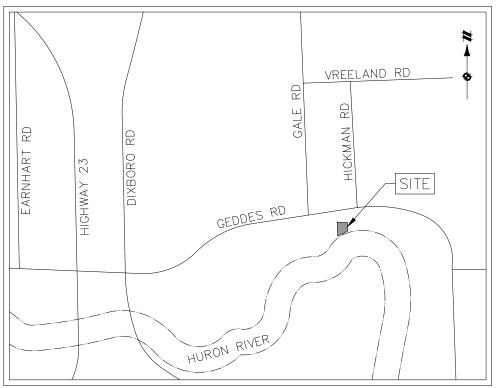
MEADOWLARK 3250 W. LIBERTY ROAD ANN ARBOR, MI 48103 ATTN: REBECCA LUSSIER

PROJECT CONSULTANTS

ATWELL, LLC TWO TOWNE SQUARE, SUITE 700 SOUTHFIELD, MI 48076 FAX: 248,447,2001 ATTN: BOURKE THOMAS

MOULIERE PARCEL - 5728 GEDDES RD.

SUPERIOR TOWNSHIP, WASHTENAW COUNTY EGLE IMPACT PLANS



VICINITY MAP

NOT TO SCALE

SHEET INDEX

- COVER SHEET PROPOSED SITE PLAN
- IMPACT CROSS SECTION
- 04 05 BMP & CONSTRUCTION DETAILS
- SESC NOTES

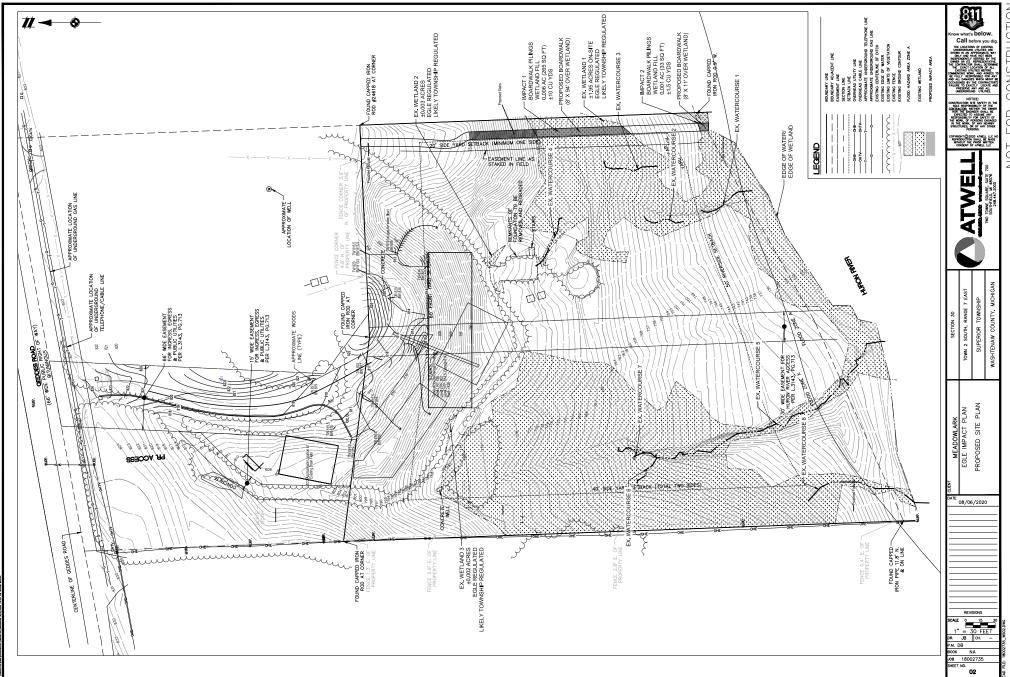
VERTICAL DATUM

ELEVATIONS ARE BASED ON THE NAVD 88

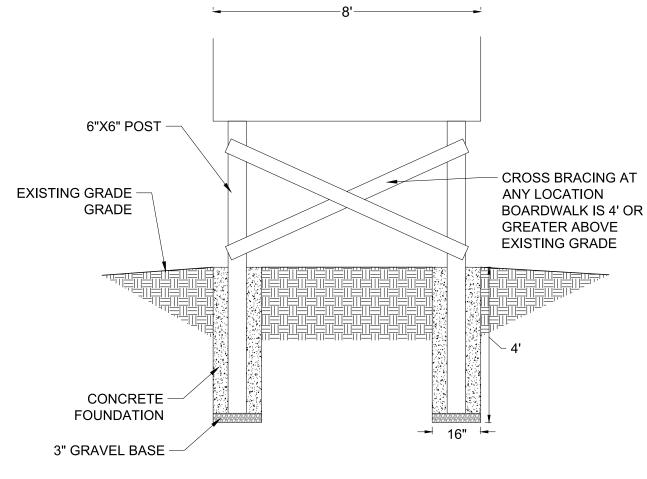
BASIS OF BEARING

STATE PLANE, MICHIGAN SOUTH, NAD 83 BASED UPON GPS OBSERVATIONS ALONG WITH SOLUTIONS PROVIDED BY O.P.U.S.

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CONSENT OF ATMELL MOULIERE PARCEL EGLE IMPACT PLANS COVER SHEET 08/06/2020 REVISIONS R. BS CH. CK .m. DB JOB 18002735 ່ດເ



NOT FOR CONSTRUCTION



BOARDWALK DETAIL

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SECTION 30	TOWN 2 SOUTH, RANGE 7 EAST	SUPERIOR TOWNSHIP	WASHTENAW COUNTY, MICHIGAN	
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- THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL AUTHORITY AND THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY (FIG. IN) FORCE ON DATE OF APPROVAL SHALL GOVERN ALL MATERIALS AND WORKMANISHIP INVOLVED IN THE MISPOVEMENTS. IN ON THESE PLANS EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATION, OR BY THE CONSTRUCTION
- INTH HEREIN FOR (AND ALL SUBCONTRACTORS) SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL
- SKET Y REQUIREMENTS, TOOLTHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING MEDICAL PROPERTY LTS ALS SO GILLY THE RESONABLEUT OF THE CONTRACTOR AND SUBCONTRACTOR AND SUBCONTRACTOR ON TO INTIME.

 MANTAIN, AND SUPERIVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH WORK.

 THE CONTRACTOR SHALL ORSTAN ALL INCESSANT LOCKESS AND PERMITS FIND FOR THE STATE OF CONSTRUCTION. LAND DISTURBING
 ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. THE CONTRACTOR SHALL
 COMPLY WITH ALL REQUIREMENTS AND SPECIAL CONDITIONS OF THE APPROVALS ISSUEP FOR THE PROJECT,
 THE CONTRACTOR SHALL CAUSE NOTICE TO BE GIVEN TO MISS DIG (811) A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF
 CONSTRUCTION.
- ALL DRAIN TILE AND STORM SEWERS NOT NOTED TO BE REMOVED/RE-ROUTED WHICH ARE DAMAGED, DISTURBED, OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH THE SAME QUALITY PIPE OR BETTER, MAINTAINING THE SAM GARDIST AS EXSTING, BEPLACED DAIANT IS SYMLE BE LAND ON COMPACTED BEDOING COLUMN DESIGN OF THE MAINTAINING STRATUM.
 BEPLACEMENT SHALL BE COME AT THE THEOR OF THE BACKELL OPERATION.
 THE FLOW IN ALL SEWERS, DRAINS, AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN
 EXPENSE, AND WHENEVER SUCH WATERCOURSES AND ORDING ARE DESIGNED OF DESTROYED ON DRINKS THE PROSECUTION OF THE

- EXPENSE, AND WHENEVER STOKE WITH RECOURSES AND DRAINS ARE DISTURBED ON DESTROYED DURING THE PROSECUTION OF THE WORK, THEY SHAD EXPENSED AND THE CONTRINCTION AT HIS OWN COST AND EXPENSE. THE CONTRACTOR SHALLTA CHEMINA LL GRADES ACING THE LIMITS OF DISTURBANCE TO ORIGINAL, CONDITION, MATING UNDISTURBED AREAS, SO AS TO SHALLTA CHEMINA AND THE CONTRACTOR OF THE FETCH PROGRAM OF THE ORIGINAL CONDITION, MATING UNDISTURBED DAILY INSPACEDASS SHALL BE REMORE SHITE CONTRACTOR OF THE FETCH PROGRAM SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND PART EXCESSION FETCH AND SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH THE CONTRACTOR SHALL BY THE PROBLEM OF THE CONTRACTOR SHALL BY THE PROBLEM OF THE PROBLEM OF
- 24 HOURS.
 SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSPECTED BY A CERTIFIED STORM WATER OPERATOR AT LEAST ONCE EVERY
- SEMINATION OF MACHINE AND ADMINISTRATION OF A OF EVERY PRECIPITATION EVENT HAT RESULTS IN A DISCHARGE FROM THE SITE ON MORE PRECUENTLY IF REQUIRED BY GOVERNING OFF A OF EVERY PRECIPITATION EVENT HAT RESULTS IN A DISCHARGE FROM THE SITE ON MORE PRECUENTLY IF REQUIRED BY GOVERNING OFF A SCHEMAL PERMIT. ALL MAINTENANCE REQUIRED BY INSPECTION SHALL COMMENCE WITHIN 124 HOURS AND BE COMPLETED WITHIN 48 HOURS OF REPORT. ALL PRACTICES MUST BE MONTORED AND MARKITANDE BY A TRANSFER PRESENTATIVE OF THE CONTRACTOR. THE CONTRACTOR MUST REVEN WHITE HE RECORDS OF SELEMONION MORE AND ADMINISTRATION FOR THE TOTAL COLOL AUTHORITIES, BOLE, OR OTHER INSPECTION AUTHORITY.
- SECTION AND ADDRESS OF SELF-MONITORING AND PROVIDE THEM TO THE LOCAL AUTHORITIES. SCILE, OR OTHER NOFEMING AUTHORITY
 HOWN REQUEST.

 11. ANY SEDMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS
 OR IN WAITERWINE.
- IMAYS. F MFASI IRFS SHALL BE PUT IN PLACE TO PREVENT POLLUTANTS SEDIMENT, TRASH, FUEL, SOLVENTS, ETC. FROM LEAVING THE WORK SITE AND/OR ENTERING SURFACE OR GROUND WATER. PROPER HANDLING AND STORAGE OF ALL HAZARDOUS MATERIALS SHALL BY MAINTAINED AT ALL TIMES AND SPILL PREVENTION AND CLEAN-UP PLANS SHALL BE IN PLACE PRIOR TO BRINGING HAZARDOUS MATERIALS
- ON-SITE.

 13. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. HEISHE SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION (90% VEGETATIVE COVER) HAS BEEN
- STRAW MULCH BLANKETS MUST BE USED ON 3:1 SLOPES OR GREATER.
- 5. ALL EXPOSED AREAS SHALL BE STABILIZED AS SPECIFIED IMMEDIATELY FOLLOWING THE CONCLUSION FINAL GRADING IN THE DESIGNATED
- AREA. OF DISTURBED DOLI THAT ESMANIMACTIVE FOR 14 DAYS MUST HAVE TEMPORARY OR FERMANERS TSTAIRLIGATION IN PLACE. USUALLY, REST CONSISTS OF GRASS SEED AND MUCH SHITT ON A SOI HOLDIE AGREGATE COVER EROSINO CONTROL BLANKETS, TUPF BRINGOCEMENT MATS, OR OTHER APPROPRIATE STAIRLIGATION PRACTICE.

- 17. THIS PLAN SHALL NOT BE CONSIDERED ALL NOLLISIDE AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PRECIOUS TO PRECIOUS TO LIGHT AND THE STATE OF THE PRECIOUS TO PRECIOUS TO SHALL SHE DESIGNATION OF SHALL BE REPOSIBLE TO THE WINE THE STALLED IF DESIGNED RECESSARY BY ON-SITE INSPECTION. IS GAILERAN FOR SHALL BE REPOSIBLED TO THE WINE THAT SHALL SHE STALLED IN SECRETARY BY ON-SITE INSPECTION. IS GAILERAN FOR SHALL BE REPOSIBLED TO THE SHALL SHE PRIMARIEST SOLL STREET SHE SHALL SHE PRIMARIEST SOLL STREET SHE SHALL SHALL SHE SHALL SHE SHALL SHALL SHALL SHE SHALL SH
- CONTROL.

 28. FEEDLA, PERCAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.

 28. FEEDLA, PERCAUTIONS WILL BE TAKEN IN THE LOCAL AUTHORITIES PERFORM A FINAL INSPECTION OF THE COMPLETED PROJECT ONCE
 THE PROJECT HAS PASSED LOCAL INSPECTION, AND THE LOCAL THE CONTRACTOR WITH THE EGLE AND
 NO FURTHER EARTH DISRUPTION ACTIVITIES MAY OCCUP WITHOUT A NEW PERMIT.

 27. CONTRACTOR SAUL BEDIENCE LOCATION OF CONCRETE WASHOUT AREAS, BY LEED ON THE SWPPP.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY:

- CONSTRUCTION PERMITTERS THAT HAS AUTHORIZATION TO DECHARGE UNDER A NATIONAL PERMIT (NPDES) SHALL COMPLY WITH THE FOLLOWING PROVISIONS DEVELOPMENT AGREEMENT REQUIREMENTS AND 18 MORE STRINGERT):

 LUBRICANTS, PLEES, LUTTER, SMATHAY WASTE, OR ANY OTHER SUBSTANCE AT THE CONSTRUCTION STEEN TOWN ATTEMPT WOULD AND ANY OTHER SUBSTANCE AT THE CONSTRUCTION STEEN TOWN ATTEMPT WOULD AND ANY OTHER SUBSTANCE AT THE CONSTRUCTION SET INTO WASTERN OWN AND STRING AN

- AFTER EVERY PREOPRIATION EVENT THAT RESULTS IN A DISCHARGE FROW THE SITE. AND ENSURE THAT ANY NEEDED CORRECTIVE ACTIONS AND CORRECTIVE ACTION AND CORRECTIVE ACTION AND CORRECTIVE ACTION ACTION FROM THE CORRECTIVE ACTION ACTI
- OF ANY ACCIDENTAL LOSSES OF DIE OR OTHER POLLUTING MATERIALS.

 7. DISPOSED OF SOLIDS, SEDIMENT, FILTER BACKWASH, OR OTHER WASTE THAT IS REMOVED FROM OR RESULTS FROM THE TREATMENT OF
- ISSPURSED OF SUCLUS, SECURISM, I'PLE HE MANNEYS NOT OTHER YEARS I FINAL IS REBUVED HAVE ON HEAD IS A PHOLY THE HEAD HERST IS CONTROL OF STORM WATER IN COMPUTANCE WITH APPLICABLE STATE LAWS AND REGULATIONS AND IN A MANNER HAT PREVENTS AN WALLOT HE DEPARTMENT TO ENTER DYON THE SITE AT ANY REASONABLE TIME BEFORE THE EXPRATION OF THE AUTHORIZATION TO DISCHARGE AS SET FORTH IN SUBJULE (6) OF THIS RULE, UPON PRESENTATION OF GREENANCH AS MOST OTHER DOCUMENTS AS MAY BE REQUIRED AT LAW, FOR THE PURPOSE OF INSPECTING CONTROL IN RELIGIOUS TO THE POLLUTION OF ANY WATERS ON DETERMINING
- COMPLIANCE WITH THE PROVISIONS OF THIS RULE JOINTLIANCE WITH THE PROVISIONS OF THIS HULE.

 JPON REQUEST, MAKE AVAILABLE FOR PUBLIC INSPECTION OR PROVIDE TO THE DEPARTMENT ALL REPORTS OR LOGS PREPARED PURSUANT.
- TO THE PROVISIONS OF THIS RULE.
 FILE A REVISED NOTICE OF COVERAGE IN COMPLIANCE WITH THE PROVISIONS OF SUBRULE (1) OF THIS RULE BEFORE ANY EXPANSION OF THE
 CONSTRUCTION ACTURY OR CHANGE IN THE SOIL EROSION CONTROL MEASURES THAT REQUIRES A CHANGE IN THE SOIL EROSION AND

PROHIBITED CONSTRUCTION ACTIVITIES:
THE CONTRICTOR SHALL NOT USE CONSTRUCTIONS THAT MAY LANGESSARILY MARKET THE RATURAL ENVIRONMENT OR THE PRINCH HEALTH AND SAFETY. PROHIBITED CONSTRUCTION ACTIVITIES.
PROCEEDINGS OF OPERATIONS INCLUDE BUT ARE NOT

- I: SING OF EXCESS OR UNSUITABLE EXCAVATED MATERIALS IN WETLANDS OR FLOODPLAINS. EVEN WITH THE
- DBROSING OF EXCESS OF UNSUTRALE EXCANATED INTERNALS IN WETLANDS OF FLOODFLANS, EVEN WITH THE UNDESCRIBINATE, ARRITMACY OR CAPACIDIS OFFERSTAND OF ENDIPMENT IN ANY STEEMA CORRIDOR, TRIBUTARY, WATERS, WETLANDS, OR ANY AREAS OUTSIDE OF THE PROPOSED WORK AREA, PURPHAS OF SERVINET-ALDER WATER FROM EXCANATIONS INTO ANY SURFACE WATERS, STREAM CORRIDORS, WETLANDS,
- OR STURM DRAINS.

 4. DISCHARGING OF POLLUTANTS SUCH AS CHEMICALS, FUEL, LUBRICANTS, BİTUMINOUS MATERIALS, RAW SEWAGE, AND
 OTHER HARMFUL WASTE INTO OR ALONGSIDE STREAM, RIVERS, IMPOUNDMENT, OR INTO NATURAL OR MAN-MADE
- OTHER HAWAPUL WAS IS INTO OR ALUNGSIDE STREAM, NYERS, IMPOUNDMENT, OR INTO NATURAL OR MARAMADE CHANNELS LEADING THERETO.
 PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW-LINE OF A STREAM.
 DAMAGING OF VEGETATION OUTSIDE OF THE PROPOSED WORK LIMITS, WITHIN NO-BUILD. THEE PRESERVATION AND GREEN
- ZONES. DISPOSAL OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, WETLANDS SURFACE WATERS, OR ANY

- CONTROL OF TREES DROWN THE VERTILE AND STATE STREAM CLARIFOLDING, WETLANDS SUPPACE WATERS, OR ANY
 OFFICE BLANK OF PROJECT DEBIES WAT THOU IT A PERMIT
 B. STORING OF CONSTRUCTION EQUIPMENT AND VEHILLES AND OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY,
 OFFICE AND OFFICE STREAM OF THE VEHILLES AND OFFICE STREAM OFFICE STREAM
 OFFICE STREAM OFFICE STREAM OFFICE STREAM OFFICE STREAM OFFICE STREAM OFFICE STREAM
 OFFICE STREAM OFFI STREAM CORRIGOR, OR VEHILLAND.
 IT TROCKING OF MAD AND OTHER OFFICE STREAM OFFI THE VEHILLAND OFFI OFFI TO ANY SUPPACE WATER STREAM CORRIGOR, OR VEHILLAND.
 IT TROCKING OF MAD AND OTHER OFFI CONTROL OTHER OFFI THE OTHER OFFI THE OTHER OT

BMP MAINTENANCE NOTES TO CONTRACTOR

ALL MEASURES STATED ON THIS PLAN SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION, SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS (WHO IS ALSO A CERTIFIED STORM WATER OPERATOR AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

- ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE
- FERTILIZED, WATERED, AND RESECRED AS NECEDO.
 SILT FENCES SWILD BE REPAIRED TO PHER ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT READ-HES ONE-THEN THE HEIGHT OF THE SILT FENCE.
 NO SOULD OF LIQUID WASTE SHALL BE DIGHOHAGED. NOT STORM WATER MAD
- ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST CONFORM TO THE REQUIREMENTS OF MICHIGAN'S PERMIT-BY-RULE FOR CONSTRUCTION ACTIVITIES. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY
- PERMITEVALUE FOR CONSTRUCTION ACTIVITIES. OTHER PROSION AND SEDMENT CONTROL LIEUW MAY DE INCLUSIONS TO RECLUSIONS TO THE PERMIT AND INTERPRETATION AND MANTENANCE WILL BE PROVIDED FOR ALL BROSSON AND SEDMENT CONTROL PRACTICES. PERMANENT RECORDS OF MANTENANCE AND INSPECTIONS MUST BE REPT THROUGHOUT THE CONSTRUCTION PERMOD MANTENANCE AND INSPECTIONS MUST BE REPT THROUGHOUT THE CONSTRUCTION PERMOD MANTENANCE AND INSPECTIONS MUST BE REPT THROUGHOUT THE CONSTRUCTION PERMOD MANTENANCE AND INSPECTION AND
- OR DEFICIENT MEASURES SHALL BE REPLACED OR REPAIRED IMMEDIATELY
- THE CONSTRUCTION ACCESS POINTS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF
- THE CURS INCLINENT ACCESS PLANTS STALL OR ANY AREAS ON OR ADJACENT TO WINDOWN THE WEET TRACKING OF THE MEDICAL OR ANY AREAS ON OR ADJACENT TO THE SET BEYOND THE LIMITS OF DESTURBANCE SHOWN ON THE SOIL ERGISION FLANS ONLESS WRITTEN AUTHORIZATION IS PROVIDED BY THE ACCEPTING LAND OWNER AND AGREED TO BY THE DEVELOPER.

 LAND OWNER AND AGREED TO BY THE DEVELOPER.
- PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. ANY DEBRIS AND/OR SEDIMENT REACHING THE
 PUBLIC STREET SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

BEST MANAGEMENT PRACTICES SEQUENCE:

NOTE. THE FOLONING SESS SEQUENCE AND DISESSIFES ARE GENERAL TO EACH STRUCTURE LOCATION. ADDITIONAL MERCAUSES AND PARABOR MAY BE RECURRED EXPENDING ON THE INSTAULA CONDITIONS AT THE LOCATION WORK BEING PERFORMED. FOUNDATION SPOIL LOCATIONS SHOWN ON THE FLANIS ARE FOR REFERENCE ONLY, CONTRACTOR MAY ADJUST ACTUAL LOCATION AS NECESSARY TO BEST MAINTINA RESTING DRAWAGE COURSES AND MININGZE MAPCATE TO THE EXISTING CONDITIONS SURROUNDING EACH WORK AREA. ALL EARTH DISTURBANCES ARE TO OCCUR ONLY WITHIN THE PERMITTEE

- DEMOLISH EXISTING STRUCTURE(S) & FOUNDATION(S) AS NECESSARY. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF
- MATERIALS/CONCRETE AT AN APPROVED AND LICENSED OFF-SITE LOCATION.

 MATERIALS/CONCRETE AT AN APPROVED AND LICENSED OFF-SITE LOCATION.

 MATERIAL AND GRADE ADJACENT TO EXCAVATION AS SHOWN ON THE SITE DETAILS. NO DEWATERING OF EXCAVATED AREAS ARE ANTICIPATED, HOWEVER IF NECESSARY, PLANS
- WILL BE PROVIDED.
 PLACE TOPSOIL AND SEED SOIL STOCKPILE AS SPECIFIED. PLACE EROSION BLANKETS OVER ANY EXPOSED RAW EARTH WITHIN
- TRUCKE OF ORAL RANGE STATE AND ASSESS AS SECURED. PLANE EMISSION BUNKES OFFER ANY EXPOSED HAW EARLY TO FET OF A DISTRICT ON THE ASSESS AS SECESSARY.

 NOTE OF A DISTRICT ON THE ASSESSARY AND ASSESSARY ASSESSARY AND ASSESSARY AND ASSESSARY AS
- SILT FENCE AND OTHER BMPS WHICH ARE STILL IN A SERVICEABLE CONDITION MAY BE RE-USED AS WORK PROGRESSES SIL FERCE AND OTHER MENS VINCH ARE STALL IN A SERVICE-BRILE COUNT ION MAY BE IN-LISED AN SOUR PROJECTIONS.

 THE NOT POSSIBLE TO PERMANENTLY STALLE THE EARTH CHANGE, THEN MENTANTH TEMPORARY SOUR ENGINE MAND SEDIMENTATION CONTROL RESIDENCE AND THE AREA SEDIMENTATION CONTROL MESSIBLES ARE IN PLACE AND THE AREA SET STABLEZED CHARGE PROVINGENED PROSPRINGENCE AND WILL BE PERMANENTLY STABLIZED DURING THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED DURING THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED DURING THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED TO THE COUNTRY OF THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED TO THE COUNTRY OF THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED TO THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED WITH COUNTRY THE SECOND WITH S
- ALSO RECOMMENDED FOR EARLY SPRING GROWTH.

 LANDOWNER WILL BE RESPONSIBLE FOR PERMANENT STABILIZATION OF DISTURBED AREAS FOR ONE YEAR.

FINAL PROJECT CLOSEOUT (ALL PROPOSED IMPROVEMENTS ARE COMPLETE) ONCE ALL PERMANENT SOIL EROSION CONTROL MEASURES ARE COMPLETED AND PERMANENT VEGETATION ESTABLISHED. THE

- CONTRACTOR SHALL CONTACT THE GOVERNING AUTHORITIES FOR A FINAL INSPECTION. ONCE THE SITE HAS PASSED ITS FINAL INSPECTION, THE S.E.S.C. PERMIT IS CLOSED AND NO FURTHER EARTH DISRUPTION CAN OCCUR WITHOUT A NEW
- PERMIT.

 THE NOTICE OF COVERAGE PERMITTEE SHALL FILE A NOTICE OF TERMINATION (NOT) WITH THE EGLE AND RETAIN S.E.S.C. LOGS (HARD COPIES & ELECTRONICALLY) FOR A MINIMUM OF 5 YEARS.

TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITHIN 50 FEET OF A STREAM AND NOT AT FINAL GRADE	IMMEDIATELY FOLLOWING (2 DAYS MAX) THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A STREAM	DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY IS SCHEDULED TO BE INACTIVE FOR MORE THAN 16 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED OR STABILIZED IN ANOTHER APPROPRIATE WAY AS SOON AS POSSIBLE.
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER (NOVEMBER 1)

WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNORTAINABLE ALTERNATIVE STABILIZATION TECHNIQUES MUST BE FMPLOYED. THIS CAN INCLUDE AGGREGATE COVER, EROSION CONTROL BLANKETS, TURF REINFORCEMENT MATS OR OTHER STABILIZATION PRACTICE.

PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN FIVE (5) CALENDAR DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A STREAM AND AT FINAL GRADE	WITHIN 2 CALENDAR DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN FIVE (5) CALENDAR DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

CONSTRUCTION DEWATERING PLAN

DEFINITION: DEWATERING CONSISTS OF THE REMOVAL OF SURFACE WATER AND/OR GROUNDWATER BY DIVERTING AND/OR REMOVING CONSTRUCTION AREAS WITHIN WATER FEATURES (I.E. WETLANDS, WATERCOURSE, AND/OR WATERSHED), AS NEEDED FOR CONSTRUCTION

- DEWATERING ACTIVITIES SHALL CONFORM TO APPLICABLE PART 91, SQIL EROSION AND SEDMENTATION CONTROL (SESC), OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (MERPA), 1989 PA 43, AS AMENDED.

 JURNAD GENATURES ACTIVITIES, THE SEGMENT LICEM WHATE CHANGE IS DEPICTLY DISCHARGED TO SURFACE WATERS, OPTIONS FOR REDUCING THE
- TURBIDITY OF THE WATER INCLUDE:
- CONSTRUCTING A TEMPORARY SEDIMENT TRAP FOR TURRID WATER DISCHARGE PRETREATMENT.
- COST OF A THREAT OF A SERVICE OF THE CONTROL OF THE
- DISCHARGE WATER THROUGH A SERIES OF FIBER LOGS OR A ROCK WEEPER INTO A LARGE VEGETATED BUFFER AREA.
- ENERGY DISSIPATION SHOULD BE PROVIDED AT ALL DISCHARGE POINTS.
- DEWATERING OR BASIN DRAINING ACTIVITIES SHOULD NOT CAUSE EROSION IN RECEIVING CHANNELS OR ADVERSELY IMPACT WETLANDS.

POLLUTANTS CONTROLLED AND IMPACTS:

PROPER DEWATERING TECHNIQUES WILL FILTER WATER OF SEDIMENT, OILS, AND OTHER CHEMICALS, THUS PREVENTING THESE POLLUTANTS FROM ENTERING THE SURFACE WATER

DEWATER ACCUMULATED GROUND WATER OR STORMWATER VIA PUMP, DEWATERING BAG AND ENSURE DISCHARGED WATER DOES NOT CONTRIBUTE SEDIMENTATION TO RECEIVING WATERS

WHEN TO APPLY

APPLY AT THE BEGINNING OF AND DURING CONSTRUCTION WHEN IT IS NECESSARY TO LOWER THE WATER LEVELS WITHIN THE CONSTRUCTION AREA. PUMPING NEEDS TO BE MAINTAINED TO KEEP UTILITY DITCHES AND COFFERDAMS DRY UNTIL ALL UNDERGROUND WORK IS COMPLETED.

WHERE TO APPLY:

APPLY ON CONSTRUCTION SITES WHERE APPROPRIATE OR ANYWHERE ELSE DEWATERING IS MEEDED

- 1) CLEAN WATER SHOULD BE PUMPED FROM THE GROUND AND DISCHARGED THROUGH HOSES TO DEWATERING BAGS OR OTHER ADEQUATE
- ENERGY DISSIPATION PRIOR TO DISCHARGING TO RECEIVING WATERS. THESE BEST MANAGEMENT PRACTICES (BMPS) SHALL BE EMPLOYED AS APPROPRIATE AND APPLICABLE ACCORDING TO LOCAL PERMITS AND REGULATIONS. b) WHEN CONSTRUCTION ENCOUNTERS UNCONTAMINATED EXCAVATION DEWATERING:
- CLEAN WATER SHOULD BE DISCHARGED TO A VEGETATED AREA, DITCHES OR OTHER CONVEYANCE VIA HOSE, ENERGY DISSPATION SHOULD BE APPLIED TO THE DISCHARGE LOCATION TO MINIMIZE SCOUR, ALTERNATIVELY, UNCONTANINATED WATER COULD BE DISCHARGED TO RECEIVING WATERS AS ALLOWED BY LOCAL PERMITS AND REGULATIONS OR AS LONG AS POSITIVE DRAININGS IS PROVIDED. THE WATER COULD BE DISCHARGED INTO THE SURROUNDING AGRICULTURAL FIELDS AND ALLOWED TO INFLITRATE OR DRAIN ALONG EXISTING DRAINAGE PATTERNS PROVIDED THAT THE WATER DOES NOT CAUSE FLOODING OR CROP DAMAGE

BELATIONSHIP WITH OTHER RMPS

- DELIDINGHIE WHI OF HER DIRES.

 DEWATERING IS OFTEN IMPLEMENTED IN CONJUNCTION WITH DEEP FOUNDATION INSTALLATION. SEDMENT BASINS AND FILTERS SHOULD BE CONSIDERED TO HELP FILTER THE DEWATERED WATER BEFORE IT IS DISCHARGED TO A SURFACE WATER WITHIN UPLANDS.
- UTILIZE EROSION BLANKETS, EROSION CONTROL FENCING, STRAW BALES, LEVEL SPREADERS, SILT FENCING, ETC., WHERE NECESSARY TO MITIGATE OTENTIAL EXCESSIVE EROSION AND SEDIMENTATION, ENSURE ANY MATERIALS PLACED IN SURFACE WATER BODIES ARE FREE FROM SILT AND OTHER
- SUCH PARTICLES, KEEP EXTRA EROSION AND SEDIMENT CONTROL MATERIALS ON SITE (E.G., HEAVY DUTY SILT FENCING, STRAW BALES). CHITOSAN AND CHITIN BASED ADDITIVES HAVE BEEN SHOWN TO SIGNIFICANTLY INCREASE THE EFFECTIVE NESS OF FILTRATION AND SETTLING. CHITOSAN POLY-D-GLUCOSAMINE) IS A LOW-TOXICITY PRODUCT EXTRACTED FROM CHITIN (POLY-N-ACETYL-D-GLUCOSAMINE). A BY-PRODUCT OF THE SHELLFIS INDUSTRY, OTHER PRODUCTS SUCH AS ANIONIC POLYACRYLAMIDE (ANIONIC PAM) ARE COMMERCIALLY AVAILABLE TO INCREASE SETTLING, OFTEN THESE
- ARE LITHEZED THROUGH WET OR DRY DOSING MECHANISMS OR AS WATER RUNS OVER A GEL BLOCK LIPSTREAM OF A SETTLING OR FILTRATION PRACTICE EACH PRODUCT SHOULD BE UTILIZED WITHIN THE MANUFACTURERS' SPECIFICATIONS AND TAILORED TO THE SOIL AND SITE CONDITIONS PARTICULATE FILTER UNITS UTILIZING CARTRIDGES OR ENCLOSED FILTER BAGS CAN REMOVE SMALLER PARTICLES DEPENDING ON THE FILTER SIZE. THIS TYPE OF MEASURE IS USUALLY NECESSARY TO TREAT CLAYS. BUTERS MAY NEED TO BE CHANGED DAILY OR MORE REPOUNTLY
- OHECK THAT BERGION COMPIGE TROCKS ARE IN GOOD REPAIR AND PROPERLY FUNCTIONING DESIGN PRICE TO CONDUCTING DALLY WORK AND RE-INSTALL OR REPAIR AS REQUIRED PRIOR TO COMMENCING DALLY CONSTRUCTION ACTIVITIES.

 REFERENCE AS REQUIRED PRIOR TO COMMENCING DALY CONSTRUCTION ACTIVITIES.

 REFERENCE AND REPORT OF CONTROL PRICE STABILIZED (I.E., RE-VEGETATED).
- THE PROPERTY OF THE PROPERTY OF THE DISCHARGED WHITE DOSS NOT CAUSE SCOURING OF THE RECEIVING AREA IF THE RECEIVING AREA IS A STRUCTURAL BMP (IE. BASIN OR SUMP), THE DESIGN OF THE BMP SHOULD BE BASED ON THE ANTICIPATED FLOW FROM THE DEWATERS DARK. DESIGN SPECIFICATIONS:
- DEWLITERO AREA. SEDIMENT-LADEN WATER FROM COFFERDAMS, TRENCHES, FOUNDATION EXCAVATIONS, AND OTHER AREAS WHICH NEED TO BE DEWLITERD SHOULD BE PUMPED HOUGH A GEOTERILE MATERIAL BEFORE THE WATER IS DISCHARGED TO A SURFACE WATER BODY. THE PILITER BAG SHOULD BE DISPOSED OF BY THE CONTRINCTOR AT AN UPLANS LOT.
- IF THE DEWATERED WATER IS DISCHARGED THROUGH A FILTER TO A COUNTY OR INTER COUNTY DRAIN, PERMISSION MUST BE OBTAINED FROM THE DRAIN
- COMMISSIONER OR DRAIN BOARD. A TEMPORARY SUMP AND ROCK BASE SHOULD BE USED WHERE A TEMPORARY PUMP IS INSTALLED TO DEWATER AN AREA OF ACCUMULATED WATER. IF A
- BOCK BASE CANNOT BE USED. THE PUMP INTAKE SHALL BE ELEVATED TO DRAW WATER FROM THE TOP OF THE WATER COLUMN TO LIMIT SEDIMENTATION IMPLEMENT DEWATERING OF FOUNDATIONS AS NEEDED. A TEMPORARY SUMP AND ROCK BASE SHOULD BE USED WHERE A TEMPORARY PUMP IS INSTALLED TO DEWATER AN AREA OF ACCUMULATED WATER.
- ENERGY DISSIPATION (RIPPAP) SHOULD BE APPLIED TO THE DISCHARGE AREA OF THE PUMP HOSE. THE WATER SHOULD BE DISCHARGED TO A
 LARGE FLAT VEGETATED AREA FOR FLITATION I INFILITATION PRIOR TO FLOWING WITO RECEIVING WATERS OF CONVEYANCES) DIOTHEST
 DISCHARGE WATER IS TURBIOL. DEWATERINGBROST EMPORARY TRAPS AND ROCK WEEPERS OR OTHER ADCIDATE BUT BY ISEDED TO CONTROL.

7 PROPOSED RMPS AND WATER TREATMENT

- 1) GEOTEXTILE FILTER BAGS REMOVE SEDIMENT FROM DEWATERING DISCHARGE AND ARE PUMPED INTO A FILTER BAG CHOSEN FOR THE PREDOMINANT SEDMENT SIZE. FILTER BAGS ARE MANUFACTURED PRODUCTS MADE TYPICALLY FROM WOVEN MONOFILAMENT POLYPROPYLENE TELECOARSE MATERIALS, E.O. SANDS) OR NON-MOVEN GEOTEXTILE (SILTS/CLAYS). THEY ARE SINGLE USE PRODUCTS THAT MUST BE REPLACED WHEN THEY BECOME CLOGGED OR HALF-FULL OF SEDMENT:
- 2) GEOTEXTILE FILTER BAGS ARE GENERALLY CONSIDERED HIGH FLOW PRODUCTS, WHICH HAVE LIMITED ABILITY TO TREAT FINE-GRAINED SEDMENTS, GRAVITY DRANGE PLITTER BAGS SHOULD APPLY THE FOLLOWING. IT THE FLITTER BAGS SHOULD BE PLACED OUTSIDE OF A VEGETATION FLITTER ARE AND NOT IN CLOSE PROXIMITY FOR IS STREAM OF WATER RESCURICE; 3 PIEW MUST STON AS RETAINEY FLAT GROOT TO PREVENT ERIOSON CAUSED BY WATER LEAVING THE BAG. 3) THE PLACEMENT OF THE BAG OVERLAIN A FLAT GED OF AGGREGATE WILL MANUMENT FLET FOUND AND ISSETS. USERNOCE AREA OF THE BAG - I THEY SHOULD BE USED IN COLUMNON WITH A LARGE VEGETATION BLIFTER. OR SECONDARY POND AND/OR BARRIER.
- 3) FILTER BAGS SHOULD BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH DOUBLE-STITCHED "J" TYPE SEAMS CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
- 4) FILTER BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREAS AND DISCHARGE ONTO STABLE, EROSION RESISTANT SURFACES/AREAS. BAGS SHALL NOT BE PLACED ONTO SLOPES GREATER THAN 5%.
- 5) THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE FILTER BAG IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME HALF FULL. SPARE REPLACEMENT BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED ANDON ARE HALF FULL.
- THE MONITORING FOR TURBIDITY OF THE FILTER BAG DISCHARGE SHOULD OCCUR ON A REGULAR BASIS. IF TURBID WATER IS OBSERVED PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM HAS BEEN RESOLVED. BAGS SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF PUMPING ACTIVITIES.

MAINTENANCE-

THE DEWATERING SITE SHOULD BE INSPECTED SEVERAL TIMES DAILY TO ENSURE THAT THE PUMPING PROCEDURE IS ADEQUATELY CONTROLLING THE EXCESS WATER. TO ENJURIE THE FLITER BAG IS NOT CLOGGED, AND THAT THE VEGETATIVE FILTER, WHERE USED, IS STILL RETAINING SEDIMENT. IF THE FILTER BAG BECOMES CLOGGED, REPLACE WITH A NEW ONE.









WASHTENAW

CONSTRUCTION MEADOWLAF EGLE IMPACT F ચ

08/06/2020

PEVISIONS R. JB CH. .M. DB NA

JOB 18002735 04

SEEDING SPECIFICATION

SHALL ALSO BE APPLIED DURING THE APPLICATION OF THE PERMANENT SEED MIX TO ENSURE TIMELY VEGETATIVE COVER OF EXPOSED AREAS

IMMEDIATELY AFTER SEEDING, MULCH ALL SEEDED AREAS WITH UNWEATHERED SMALL GRAIN STRAW OR HAY UNIFORMLY AT THE RATE OF 1-1/2 TONS TO 2 TONS PER ACRE OR 100 POUNDS PER 1000 SQUARE FEET. ANCHOR MULCH WITH DISC-TYPE ANCHORING TOOL OR OTHER MEANS APPROVED BY THE LOCAL REGULATORY AGENCY.

SEEDING MIXTURES SEE SEED MIXES IN TEMPORARY & PERMANENT SEED CHARTS.

SLOPES FLATTER THAN 3:1 (NOT INCLUDING BASINS)
APPLY 17-17-17 COMMERCIAL ORGANIC FERTILIZER AT A RATE OF 20 LBS PER 1000 SQIFT. SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

TEMPORARY SEEDINGPLANTING DATES IMMEDIATELY FOLLOWING

SEED VARIETY (SEE CHART BELOW)

LAST DISTURBANC WITHIN 14 DAYS

APPLICATION RATE 60 LBS PER ACRE

PERMANENT SEEDING PLANTING DATES PREFERABLE EARLY SPRING OR EARLY FALL

SEED VARIETY (SEE CHART BELOW)

APPLICATION RATE

SLOPES 3:1 OR GREATER (NOT INCLUDING BASINS)
APPLY 17-17-17 COMMERCIAL ORGANIC FERTILIZER AT A RATE OF 20 LBS PER 1000 SQ/FT.
AND SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

TEMPORARY SEEDING PLANTING DATES IMMEDIATELY FOLLOWING

SEED VARIETY (SEE CHART BELOW)

APPLICATION RATE 60 LBS PER ACRE

PERMANENT SEEDING PLANTING DATES PREFERABLE EARLY SPRING

SEED VARIETY (SEE CHART BELOW)

APPLICATION RATE 80 LBS PER ACRE

LAST DISTURBANCE OR WITHIN 5 DAYS

40% SEED OATS 25% KENTUCKY 31 TALL FESCUE 25% KENTUCKY 31 TALL FESC 22% CREEPING RED FESCUE 11% TIMOTHY 1.0% INERT MATTER 1.0% OTHER CROP

0.01% WEED SEED

PERMANENT SEED SEED 80 LBS PER ACRE 70% TRUE BLUE KENTUCKY (BROOKLAWN, BOUTIOUS O WN BOUTIOUS GROME AND H92-203 KENTUCKY BLUEGRASS 30% PERENNIAL RYE GRASS (MANHATTAN 4, CHARGER, CITATION 4, AND PIZZAZZ PERENNIAL RYE GRASS)

SED BED PREPARATION PERMANENT SEEDING).
SHAPE WATER OCKTION CHRONIC ANSWERS SHALL BE IN PLACE. AREA TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL. TOTAL SEEDED PREPARED DEPTH SHOULD BE AT LEAST 4 INCHES. LOOSE BOOKS, BOOTS AND OTHER DESTRUCTIONS NEED TO BE REMOVED FROM THE SUPPLIED AND STRUCTIONS NEED TO BE REMOVED FROM THE SUPPLIED AND STRUCTIONS. SHEEP OF PIRAL SEEDED AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH SHEEP AND ANTENDANCE OF PERST PREPARATION SHOULD BE AT FINISH GRADE AND BE REASONABLY SMOOTH AND UNIFORM

IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME SHOULD BE USED ACCORDING TO SEEDING SPECIFICATIONS. IF SOIL TEST IS TAKEN, APPLY FERTILIZER AND LIME ACCORDING TO SOIL TEST REPORT, FERTILIZER AND LIME SHALL BE APPLED UNFORMAT AND MIXED WITH THE SOIL DURING SEEDIED PREPARATION. WEBSITS, SEED SPECIES AND PRECENTAGE OF PURITY AND GERMANDIAN MIXED ECHOECHE POPROT TO SEEDING.

SEEDING SHALL BE ACCOMPLISHED IN TWO DIRECTIONS AND AT RIGHT ANGLES TO EACH OTHER. LAWN AREAS SHALL BE SEEDED AT THE RATE SECOND SYNAL BE ACCOUNT OPERAL IN 10 DIRECTIONS AND AT INDIA MINISTER. TOWN THE ACCESS ESCENE SYNAL BE SECRED AT I'RE AN INDICATED ON THE DRAWNING SYNAM SEVENIL WITH AN APPROVED MECHANICAL CULTIPACKER SECRET TO COVER THE ADD AND FORM THE SECORED IN ONE OPERATION. IF BROADCAST SECRET IS USED THE SECOND RATE SHALL BE TWO (2) TIMES THE DRILL BRITE. IN INACCESSIBLE. AREAS, THE SECOND HALL BE LIVED WATER BALLAST ROLLER. AFTER BOX SECRED AND ASSET AND AREAS, THE SECOND HALL BE LIVED WATER BALLAST ROLLER. AFTER BOX SECRED AND ASSET ASS ARE TO BE MULCHED ACCORDING TO SPECIFICATION. IF HYDRO-SEED OPERATION IS USED, SEEDING RATE SHALL BE FIVE (5) TIMES THE DRILL RATE INDICATED ON THE DRAWINGS.

IF SEEDIN CALL NOT BE ACCOMEDISED DUE TO SEASONAL CONSTRUMES, APPLY STOWN MULCH AND TAGRISET TO ALL SLOPES AND DISTURBED. AREAS WITH PERMANENT SEEDINGS ALL OWEN ON THE SETHING OCCURS OUT OF SEASON, MANTEMANCE SHALL OCCUR AND CONTINUE INTO THE FOLLOWING GROWING SEASON OR WITH A UNIFORM STAND OF THE SPECIFIED PERMANENT GRASSES HAVE BEEN ESTABLISHED AND THE STET HAS PERCHED ON STABLISHATION. PERMANENT AND TEMPORARY SEEDING SHALL BE ACCOMPANISED THROUGHOUTH THE CONSTRUCTION.

INSPECTION
INSPECT SECRED AREAS FREQUENTLY. IF SEEDED AREAS FAIL TO GERMINATE, OR TO PROVIDE ADEQUATE GROUND COVERAGE, THE AREA SHALL BE RE-SEEDED UNTIL FINAL STABILIZATION IS ACHIEVED.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE PLANS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION. BEST MANAGEMENT PRACTICES (BMS), AND CONTROLS SHALL LONGORN OF DEDERAL, STATE, OR LOCAL REQUIREMENTS OF MANALLO, OF PRACTICE, AS APPLICABLE, CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING ADENCY OF OWNER. CONTRACTOR SHALL IMMINIZE CLEARING TO THE MANAMUM EXTEMP PRACTICE. ON AS REQUIRED BY THE GENERAL, PERMIT
- ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR
- DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST

- DUST ON HE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OLD, AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSED OF TOXIC LIQUIDS FOR DUST PROPRIED THAN SO, ARRANGE LITTER, OR OTHER SUCH MATERIALS, SHALL BE EXPOSITED INTO SOLECE CONTAMERS, AND ARTERIALS SHALL BE REPORTED THAN SOLECE CONTAMERS, AND ARTERIALS SHALL BE REPORTED THAN SOLECE THAN S
- SHALL BE PROMIFTED REMOVED BY THE CONTINUED OF THE CONTIN IMPLEMENTATION OF BEST MANAGEMENT PRACTICES, STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT RECORDENENTS.

 ALL STOCKPILES SOLES SHALL BE MANTAINED IN SUCH A WAY AS TO PREVENT EROSION FROM THE WORK AREA.

- ALL STOCKPILED SOILS SHALL BE MANTANED IN SUCH A WAY AS TO PREVENT EROSION FROM THE WORK AREA.

 CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STREET CACCOMMACE WITH FROSION CONTROL SECURIZATION OF OWN TO THIS PLAN. NO
 UNINECESSARY OR IMPROPERLY SECURIZED CLEARING AND OR GRADING SHALL BE PERMITTED.

 EROSION AND ANY SEGIMENTATION FROM WORK ON THIS SITE SHALL BE CONTRIBED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY
 OFF-SITE AREAS OR IN WAITERWAYS. WATERWAYS INCLUDE BOTH MATURIAL AND MAN-MAKE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES
 CONTRIBATIONS HALL APPLY TEMPORARY REGIONAL AND EMEMBRICATION CONTRIBED. MEASURE WHITE POLICIPATION CONTRIBED.

 TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, STOCKPILES AND OTHER EARTH CHANGES HAVE BEEN
 ACCOMPUSIBLED.
- ACCOMPLISHE TOW GROUND PRESSURE FOURMENT SHALL BE USED TO MINIMIZE LAND DISTURBANCE RETWEEN STRUCTURES

COTADT | END

- LOW GROUND PRESSURE OF SERVING THE STATE OF THE WASHTENAM CERTIFICATION OF THE WASHTENAM COUNTY WATER SOURCES CONTINUE OF THE WASHTENAM COUNTY WATER RESOURCES COMMENTED AND SERVING THE WASHTENAM COUNTY WATER RESOURCES COMMENTED AS NOT TO OBSTRUCT UPSTREAM DRAINAGE.

 ALL DRAINANT OF SERVING THE WASHTENAM AND SERVING THE STREAM DRAINAGE.

 SITES WILL BENEFICED THE WASHTENAM AREAS OF OTH-SITE FRODOWN WILL BE CORRECTED WITHIN 25 BUSINESS DAYS. THISSEN COUNTY WASHEST OF THE WASHTENAM AND SERVING THE WASHTENAM AREAS.

SEQUENCE OF CONSTRUCTION FOR SOIL EROSION CONTROL (FOR EACH SITE)

DAY	DAY	*SCHEDULE TO BE FILLED OUT BY CONTRACTOR,
		PULL ALL NECESSARY PERMITS & LICENSES.
		2. INSTALL SILT AND PROTECTIVE FENCING.
		3. CLEAR AND GRUB WORK AREA
		COMPLETELY REMOVE EXISTING STRUCTURE & FOUNDATION.
		5. STRIP AND STOCKPILE TOPSOIL.
		EXCAVATE FOR PROPOSE STRUCTURE, STOCKPILE SPOILS AND GRADE ACCORDINGLY
		7. BEGIN FOUNDATION CONSTRUCTION OF NEW STRUCTURE.
		REPLACE TOPSOIL, SEED AND STABILIZE DISTURBED AREAS.
		REMOVE SILT FENCE, REPAIR DISTURBED AREAS AS NECESSARY.
	1	10 COORDINATE WITH REDMITTING AGENCIES FOR CLOSECULT INSPECTION

NOTE:

15 SEEDING CAN NOT BE ACCOMPLISHED DUE TO SEASONAL CONSTRAINTS. APPLY STRAW MULCH AND TADDIFFER TO ALL
SLOPES AND DISTURBED AREAS UNTIL PERMANENT SEEDING IS ALLOWED. IN THE EVENT SEEDING OCCURS OUT OF
SEASON MAINTENANCE SHALL OCCUR AND CONTINUE BOTT OF FOLLOWING SERSON. FOR ALLAPEAS LEFT
UNSTABILIZED DUE TO SEASONAL CONSTRAINTS, FINAL STABILIZATION SHALL BE ACHIEVED BY APRIL 15TH.

811 Call before you







MEADOWLARK	SECTION 30
GLE IMPACT PLANS	TOWN 2 SOUTH, RANGE 7 EAST
SESC NOTES	SUPERIOR TOWNSHIP
	WASHTENAW COUNTY, MICHIGAN

08/06/2020

REVISIONS

R. JB CH. -.m. DB NA JOB 18002735

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PROJECT DEVELOPER

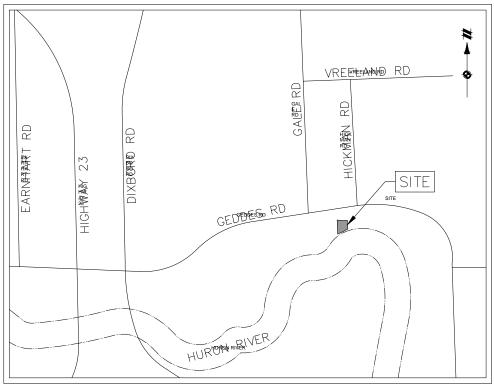
MEADOWLARK
3250 W. LIBERTY ROAD
ANN ARBOR, MI 48103
ATTN: REBECCA LUSSIER

PROJECT CONSULTANTS

ATWELL, LLC
TWO TOWNE SQUARE, SUITE 700
SOUTHFIELD, MI 48076
PHONE: 248.447.2000
FAX: 248.447.2001
ATTN: BOURKE THOMAS

MOULIERE PARCEL - 5728 GEDDES RD.

SUPERIOR: TOWNSHIP, WASHTENAW COUNTY EGLE IMPACT PLANS



VICINITY MAP

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SHEET INDEX

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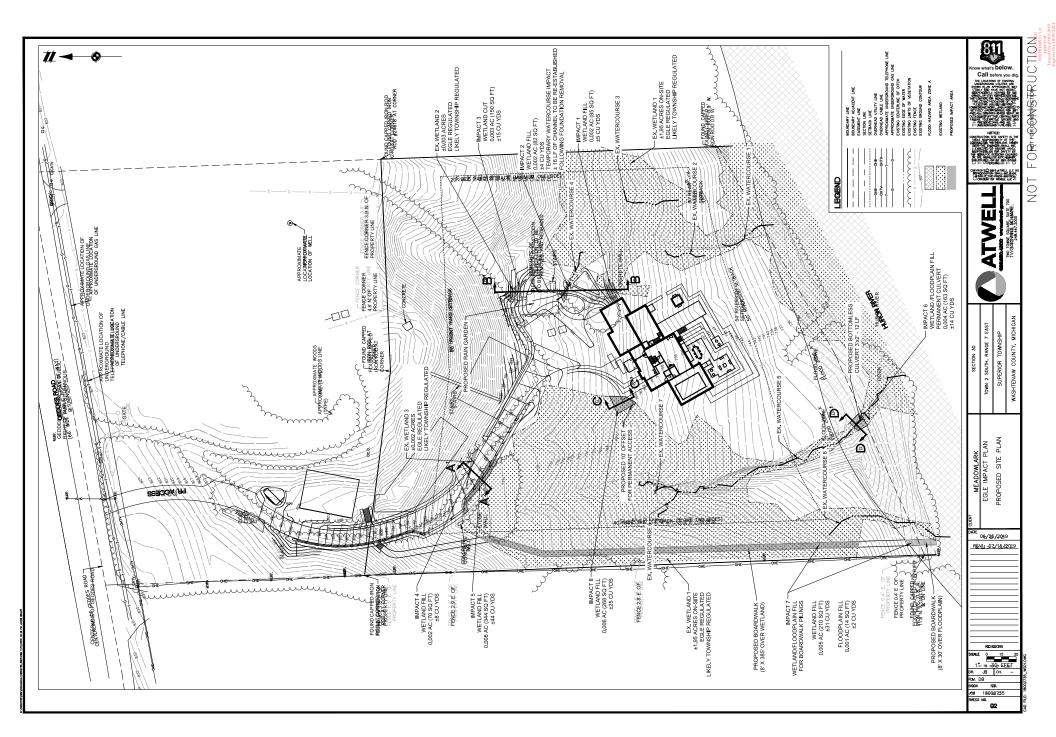
VERTICAL DATUM

ELEVATIONS ARE BASED ON THE NAVD 88 DATUM.

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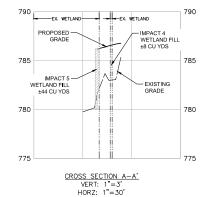
STATE PLANE, MICHIGAN SOUTH, NAD 83 BASED UPON GPS OBSERVATIONS ALONG WITH SOLUTIONS PROVIDED BY O.P.U.S.

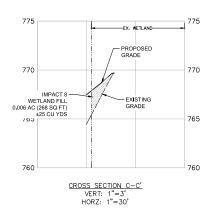
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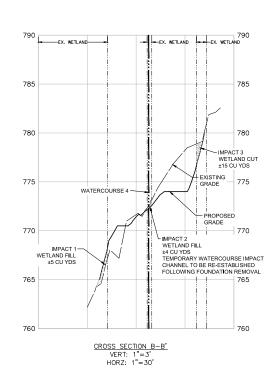


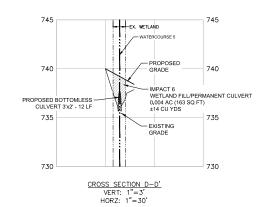
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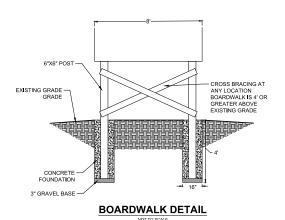
ATWELL











MEADOWLARK
EGLEI MPACT IIPLANS
IMPA©P OROSSI GECTIONS 06/25/2019 REV1: 07/15/2019 NA JOB 18002735 03

LOCAL AND STATE CONDITIONS AND CLARIFICATIONS:

- THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL AUTHORITY AND THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY (FIG. IN) FORCE ON DATE OF APPROVAL SHALL GOVERN ALL MATERIALS AND WORKMANISHIP INVOLVED IN THE MISPOVEMENTS. IN ON THESE PLANS EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATION, OR BY THE CONSTRUCTION
- INTH HEREIN FOR (AND ALL SUBCONTRACTORS) SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL
- SKET Y REQUIREMENTS, TOOLTHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING MEDICAL PROPERTY LTS ALS SO GILLY THE RESONABLEUT OF THE CONTRACTOR AND SUBCONTRACTOR AND SUBCONTRACTOR ON TO INTIME.

 MANTAIN, AND SUPERIVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH WORK.

 THE CONTRACTOR SHALL ORSTAN ALL INCESSANT LOCKESS AND PERMITS FIND FOR THE STATE OF CONSTRUCTION. LAND DISTURBING
 ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. THE CONTRACTOR SHALL
 COMPLY WITH ALL REQUIREMENTS AND SPECIAL CONDITIONS OF THE APPROVALS ISSUEP FOR THE PROJECT,
 THE CONTRACTOR SHALL CAUSE NOTICE TO BE GIVEN TO MISS DIG (811) A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF
 CONSTRUCTION.
- ALL DRAIN TILE AND STORM SEWERS NOT NOTED TO BE REMOVED/RE-ROUTED WHICH ARE DAMAGED, DISTURBED, OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH THE SAME QUALITY PIPE OR BETTER, MAINTAINING THE SAM GARDIST AS EXSTING, BEPLACED DAIANT IS SYMLE BE LAND ON COMPACTED BEDOING COLUMN DESIGN OF THE MAINTAINING STRATUM.
 BEPLACEMENT SHALL BE COME AT THE THEOR OF THE BACKELL OPERATION.
 THE FLOW IN ALL SEWERS, DRAINS, AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN
 EXPENSE, AND WHENEVER SUCH WATERCOURSES AND ORDING ARE DESIGNED OF DESTROYED ON DRINKS THE PROSECUTION OF THE

- EXPENSE, AND WHENEVER STOKE WITH RECOURSES AND DRAINS ARE DISTURBED ON DESTROYED DURING THE PROSECUTION OF THE WORK, THEY SHAD EXPENSED AND THE CONTRINCTION AT HIS OWN COST AND EXPENSE. THE CONTRACTOR SHALLTA CHEMINA LL GRADES ACING THE LIMITS OF DISTURBANCE TO ORIGINAL, CONDITION, MATING UNDISTURBED AREAS, SO AS TO SHALLTA CHEMINA AND THE CONTRACTOR OF THE FETCH PROGRAM OF THE ORIGINAL CONDITION, MATING UNDISTURBED DAILY INSPACEDASS SHALL BE REMORE SHITE CONTRACTOR OF THE FETCH PROGRAM SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND PART EXCESSION FETCH AND SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH AND THE CONTRACTORS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCES SHALL BE CORRECTED BY THE CONTRACTOR WHITH THE CONTRACTOR SHALL BY THE PROBLEM OF THE CONTRACTOR SHALL BY THE PROBLEM OF - 24 HOURS.
 SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSPECTED BY A CERTIFIED STORM WATER OPERATOR AT LEAST ONCE EVERY SEMINATION OF MACHINE AND ADMINISTRATION OF A OF EVERY PRECIPITATION EVENT HAT RESULTS IN A DISCHARGE FROM THE SITE ON MORE PRECUENTLY IF REQUIRED BY GOVERNING OFF A OF EVERY PRECIPITATION EVENT HAT RESULTS IN A DISCHARGE FROM THE SITE ON MORE PRECUENTLY IF REQUIRED BY GOVERNING OFF A SCHEMAL PERMIT. ALL MAINTENANCE REQUIRED BY INSPECTION SHALL COMMENCE WITHIN 124 HOURS AND BE COMPLETED WITHIN 48 HOURS OF REPORT. ALL PRACTICES MUST BE MONTORED AND MARKITANDE BY A TRANSFER PRESENTATIVE OF THE CONTRACTOR. THE CONTRACTOR MUST REVEN WHITE HE RECORDS OF SELEMONION MORE AND ADMINISTRATION FOR THE TOTAL COLOL AUTHORITIES, BOLE, OR OTHER INSPECTION AUTHORITY.
- SECTION AND ADDRESS OF SELF-MONITORING AND PROVIDE THEM TO THE LOCAL AUTHORITIES. SCILE, OR OTHER NOFEMING AUTHORITY
 HOWN REQUEST.

 11. ANY SEDMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS
 OR IN WAITERWINE.
- IMAYS. F MFASI IRFS SHALL BE PUT IN PLACE TO PREVENT POLLUTANTS SEDIMENT, TRASH, FUEL, SOLVENTS, ETC. FROM LEAVING THE WORK SITE AND/OR ENTERING SURFACE OR GROUND WATER. PROPER HANDLING AND STORAGE OF ALL HAZARDOUS MATERIALS SHALL BY MAINTAINED AT ALL TIMES AND SPILL PREVENTION AND CLEAN-UP PLANS SHALL BE IN PLACE PRIOR TO BRINGING HAZARDOUS MATERIALS
- ON-SITE.

 13. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. HEISHE SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION (90% VEGETATIVE COVER) HAS BEEN
- STRAW MULCH BLANKETS MUST BE USED ON 3:1 SLOPES OR GREATER.
- 5. ALL EXPOSED AREAS SHALL BE STABILIZED AS SPECIFIED IMMEDIATELY FOLLOWING THE CONCLUSION FINAL GRADING IN THE DESIGNATED
- AREA. OF DISTURBED DOLI THAT ESMANIMACTIVE FOR 14 DAYS MUST HAVE TEMPORARY OR FERMANERS TSTAIRLIGATION IN PLACE. USUALLY, REST CONSISTS OF GRASS SEED AND MUCH SHITT ON A SOI HOLDIE AGREGATE COVER EROSINO CONTROL BLANKETS, TUPF BRINGOCEMENT MATS, OR OTHER APPROPRIATE STAIRLIGATION PRACTICE.

- 17. THIS PLAN SHALL NOT BE CONSIDERED ALL NOLLISIDE AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PRECIOUS TO PRECIOUS TO LIGHT AND THE STATE OF THE PRECIOUS TO PRECIOUS TO SHALL SHE DESIGNATION OF SHALL BE REPOSIBLE TO THE WINE THE STALLED IF DESIGNED RECESSARY BY ON-SITE INSPECTION. IS GAILERAN FOR SHALL BE REPOSIBLED TO THE WINE THAT SHALL SHE STALLED IN SECRETARY BY ON-SITE INSPECTION. IS GAILERAN FOR SHALL BE REPOSIBLED TO THE SHALL SHE PRIMARIEST SOLL STREET SHE SHALL SHE PRIMARIEST SOLL STREET SHE SHALL SHALL SHE SHALL SHE SHALL SHALL SHALL SHE SHALL SH
- CONTROL.

 28. FEEDLA, PERCAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.

 28. FEEDLA, PERCAUTIONS WILL BE TAKEN IN THE LOCAL AUTHORITIES PERFORM A FINAL INSPECTION OF THE COMPLETED PROJECT ONCE
 THE PROJECT HAS PASSED LOCAL INSPECTION, AND THE LOCAL THE CONTRACTOR WITH THE EGLE AND
 NO FURTHER EARTH DISRUPTION ACTIVITIES MAY OCCUP WITHOUT A NEW PERMIT.

 27. CONTRACTOR SAUL BEDIENCE LOCATION OF CONCRETE WASHOUT AREAS, BY LEED ON THE SWPPP.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY:

- CONSTRUCTION PERMITTERS THAT HAS AUTHORIZATION TO DECHARGE UNDER A NATIONAL PERMIT (NPDES) SHALL COMPLY WITH THE FOLLOWING PROVISIONS DEVELOPMENT AGREEMENT REQUIREMENTS AND 18 MORE STRINGERT):

 LUBRICANTS, PLEES, LUTTER, SMATHAY WASTE, OR ANY OTHER SUBSTANCE AT THE CONSTRUCTION STEEN TOWN ATTEMPT WOULD AND ANY OTHER SUBSTANCE AT THE CONSTRUCTION STEEN TOWN ATTEMPT WOULD AND ANY OTHER SUBSTANCE AT THE CONSTRUCTION SET INTO WASTERN OWN AND STRING AN

- AFTER EVERY PREOPRIATION EVENT THAT RESULTS IN A DISCHARGE FROW THE SITE. AND ENSURE THAT ANY NEEDED CORRECTIVE ACTIONS AND CORRECTIVE ACTION AND CORRECTIVE ACTION AND CORRECTIVE ACTION ACTION FROM THE CORRECTIVE ACTION ACTI
- OF ANY ACCIDENTAL LOSSES OF DIE OR OTHER POLLUTING MATERIALS.

 7. DISPOSED OF SOLIDS, SEDIMENT, FILTER BACKWASH, OR OTHER WASTE THAT IS REMOVED FROM OR RESULTS FROM THE TREATMENT OF
- ISSPURSED OF SUCLUS, SECURISM, I'PLE HE MANNEYS NOT OTHER YEARS I FINAL IS REBUVED HAVE ON HEAD IS A PHOLY THE HEAD HERST IS CONTROL OF STORM WATER IN COMPUTANCE WITH APPLICABLE STATE LAWS AND REGULATIONS AND IN A MANNER HAT PREVENTS AN WALLOT HE DEPARTMENT TO ENTER DYON THE SITE AT ANY REASONABLE TIME BEFORE THE EXPRATION OF THE AUTHORIZATION TO DISCHARGE AS SET FORTH IN SUBJULE (6) OF THIS RULE, UPON PRESENTATION OF GREENANCH AS MOST OTHER DOCUMENTS AS MAY BE REQUIRED AT LAW, FOR THE PURPOSE OF INSPECTING CONTROL IN RELIGIOUS TO THE POLLUTION OF ANY WATERS ON DETERMINING COMPLIANCE WITH THE PROVISIONS OF THIS RULE JOINTLIANCE WITH THE PROVISIONS OF THIS HULE.

 JPON REQUEST, MAKE AVAILABLE FOR PUBLIC INSPECTION OR PROVIDE TO THE DEPARTMENT ALL REPORTS OR LOGS PREPARED PURSUANT.
- TO THE PROVISIONS OF THIS RULE.
 FILE A REVISED NOTICE OF COVERAGE IN COMPLIANCE WITH THE PROVISIONS OF SUBRULE (1) OF THIS RULE BEFORE ANY EXPANSION OF THE
 CONSTRUCTION ACTURY OR CHANGE IN THE SOIL EROSION CONTROL MEASURES THAT REQUIRES A CHANGE IN THE SOIL EROSION AND

PROHIBITED CONSTRUCTION ACTIVITIES:
THE CONTRICTOR SHALL NOT USE CONSTRUCTIONS THAT MAY LANGESSARILY MARKET THE RATURAL ENVIRONMENT OR THE PRINCH HEALTH AND SAFETY. PROHIBITED CONSTRUCTION ACTIVITIES.
PROCEEDINGS OF OPERATIONS INCLUDE BUT ARE NOT

- I: SING OF EXCESS OR UNSUITABLE EXCAVATED MATERIALS IN WETLANDS OR FLOODPLAINS. EVEN WITH THE
- DBROSING OF EXCESS OF UNSUTRALE EXCANATED INTERNALS IN WETLANDS OF FLOODFLANS, EVEN WITH THE UNDESCRIBINATE, ARRITMACY OR CAPACIDIS OFFERSTAND OF ENDIPMENT IN ANY STEEMA CORRIDOR, TRIBUTARY, WATERS, WETLANDS, OR ANY AREAS OUTSIDE OF THE PROPOSED WORK AREA, PURPHAS OF SERVINET-ALDER WATER FROM EXCANATIONS INTO ANY SURFACE WATERS, STREAM CORRIDORS, WETLANDS,
- OR STURM DRAINS.

 4. DISCHARGING OF POLLUTANTS SUCH AS CHEMICALS, FUEL, LUBRICANTS, BİTUMINOUS MATERIALS, RAW SEWAGE, AND
 OTHER HARMFUL WASTE INTO OR ALONGSIDE STREAM, RIVERS, IMPOUNDMENT, OR INTO NATURAL OR MAN-MADE
- CHANNELS LEADING THERETO .

 CHANNELS LEADING THERETO .

 PERMANENT OR LUNSPECIFIED ALTERATION OF THE FLOW-LINE OF A STREAM.

 CHANNELS LEADING THERETO .

 PERMANENT OR LUNSPECIFIED ALTERATION OF THE FLOW-LINE OF A STREAM.

 CHANGING OF VEGETATION OUTSIDE OF THE PROPOSED WORK LIMITS, WITHIN NO-BULD, TREE PRESERVATION AND GREEN
- ZONES. DISPOSAL OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, WETLANDS SURFACE WATERS, OR ANY

- CONTROL OF TREES DROWN THE VERTILE AND STATE STREAM CLARIFOLDING, WETLANDS SUPPACE WATERS, OR ANY
 OFFICE BLANK OF PROJECT DEBIES WAT THOU IT A PERMIT
 B. STORING OF CONSTRUCTION EQUIPMENT AND VEHILLES AND OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY,
 OFFICE AND OFFICE STREAM OF THE VEHILLES AND OFFICE STREAM OFFICE STREAM
 OFFICE STREAM OFFICE STREAM OFFICE STREAM OFFICE STREAM OFFICE STREAM OFFICE STREAM
 OFFICE STREAM OFFI STREAM CORRIGOR, OR VEHILLAND.
 IT TROCKING OF MAD AND OTHER OFFICE STREAM OFFI THE VEHILLAND OFFI OFFI TO ANY SUPPACE WATER STREAM CORRIGOR, OR VEHILLAND.
 IT TROCKING OF MAD AND OTHER OFFI CONTROL OTHER OFFI THE OTHER OFFI THE OTHER OT

BMP MAINTENANCE NOTES TO CONTRACTOR

ALL MEASURES STATED ON THIS PLAN SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION, SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS (WHO IS ALSO A CERTIFIED STORM WATER OPERATOR AND REPARRED IN ACCORDANCE WITH THE FOLLOWING:

- ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE
- FERTILIZED, WATERED, AND RESECRED AS NECEDO.
 SILT FENCES SWILD BE REPAIRED TO PHER ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT READ-HES ONE-THEN THE HEIGHT OF THE SILT FENCE.
 NO SOULD OF LIQUID WASTE SHALL BE DIGHOHAGED. NOT STORM WATER MAD
- ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST CONFORM TO THE REQUIREMENTS OF MICHIGAN'S PERMIT-BY-RULE FOR CONSTRUCTION ACTIVITIES. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY
- PERMITEVALUE FOR CONSTRUCTION ACTIVITIES. OTHER PROSION AND SEDMENT CONTROL LIEUW MAY DE INCLUSIONS TO RECLUSIONS TO THE PERMIT AND INTERPRETATION AND MANTENANCE WILL BE PROVIDED FOR ALL BROSSON AND SEDMENT CONTROL PRACTICES. PERMANENT RECORDS OF MANTENANCE AND INSPECTIONS MUST BE REPT THROUGHOUT THE CONSTRUCTION PERMOD MANTENANCE AND INSPECTIONS MUST BE REPT THROUGHOUT THE CONSTRUCTION PERMOD MANTENANCE AND INSPECTIONS MUST BE REPT THROUGHOUT THE CONSTRUCTION PERMOD MANTENANCE AND INSPECTION AND
- OR DEFICIENT MEASURES SHALL BE REPLACED OR REPAIRED IMMEDIATELY
- THE CONSTRUCTION ACCESS POINTS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF
- THE CURS INCLINENT ACCESS PLANTS STALL OR ANY AREAS ON OR ADJACENT TO WINDOWN THE WEET TRACKING OF THE MEDICAL OR ANY AREAS ON OR ADJACENT TO THE SET BEYOND THE LIMITS OF DESTURBANCE SHOWN ON THE SOIL ERGISION FLANS ONLESS WRITTEN AUTHORIZATION IS PROVIDED BY THE ACCEPTING LAND OWNER AND AGREED TO BY THE DEVELOPER.

 LAND OWNER AND AGREED TO BY THE DEVELOPER.
- PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. ANY DEBRIS AND/OR SEDIMENT REACHING THE
 PUBLIC STREET SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

BEST MANAGEMENT PRACTICES SEQUENCE:

NOTE. THE FOLONING SESS SEQUENCE AND DISESSIFES ARE GENERAL TO EACH STRUCTURE LOCATION. ADDITIONAL MERCAUSES AND PARABOR MAY BE RECURRED EXPENDING ON THE INSTAULA CONDITIONS AT THE LOCATION WORK BEING PERFORMED. FOUNDATION SPOIL LOCATIONS SHOWN ON THE FLANIS ARE FOR REFERENCE ONLY, CONTRACTOR MAY ADJUST ACTUAL LOCATION AS NECESSARY TO BEST MAINTINA RESTING DRAWAGE COURSES AND MININGZE MAPCATE TO THE EXISTING CONDITIONS SURROUNDING EACH WORK AREA. ALL EARTH DISTURBANCES ARE TO OCCUR ONLY WITHIN THE PERMITTEE

- DEMOLISH EXISTING STRUCTURE(S) & FOUNDATION(S) AS NECESSARY. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF
- MATERIALS/CONCRETE AT AN APPROVED AND LICENSED OFF-SITE LOCATION.

 MATERIALS/CONCRETE AT AN APPROVED AND LICENSED OFF-SITE LOCATION.

 MATERIAL AND GRADE ADJACENT TO EXCAVATION AS SHOWN ON THE SITE DETAILS. NO DEWATERING OF EXCAVATED AREAS ARE ANTICIPATED, HOWEVER IF NECESSARY, PLANS
- WILL BE PROVIDED.
 PLACE TOPSOIL AND SEED SOIL STOCKPILE AS SPECIFIED. PLACE EROSION BLANKETS OVER ANY EXPOSED RAW EARTH WITHIN
- TRUCKE OF ORAL RANGE STATE AND ASSESS AS SECURED. PLANE EMISSION BUNKES OFFER ANY EXPOSED HAW EARLY TO FET OF A DISTRICT ON THE ASSESS AS SECESSARY.

 NOTE OF A DISTRICT ON THE ASSESSARY AND ASSESSARY ASSESSARY AND ASSESSARY AND ASSESSARY AS SILT FENCE AND OTHER BMPS WHICH ARE STILL IN A SERVICEABLE CONDITION MAY BE RE-USED AS WORK PROGRESSES
- SIL FERCE AND OTHER MENS VINCH ARE STALL IN A SERVICE-BRILE COUNT ION MAY BE IN-LISED AN SOUR PROJECTIONS.

 THE NOT POSSIBLE TO PERMANENTLY STALLE THE EARTH CHANGE, THEN MENTANTH TEMPORARY SOUR ENGINE MAND SEDIMENTATION CONTROL RESIDENCE AND THE AREA SEDIMENTATION CONTROL MESSIBLES ARE IN PLACE AND THE AREA SET STABLEZED CHARGE PROVINGENED PROSPRINGENCE AND WILL BE PERMANENTLY STABLIZED DURING THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED DURING THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED DURING THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED TO THE COUNTRY OF THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED TO THE COUNTRY OF THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED TO THE NOR-GROWNED SECOND WILL BE PERMANENTLY STABLIZED WITH COUNTRY THE SECOND WITH S
- ALSO RECOMMENDED FOR EARLY SPRING GROWTH.

 LANDOWNER WILL BE RESPONSIBLE FOR PERMANENT STABILIZATION OF DISTURBED AREAS FOR ONE YEAR.

FINAL PROJECT CLOSEOUT (ALL PROPOSED IMPROVEMENTS ARE COMPLETE) ONCE ALL PERMANENT SOIL EROSION CONTROL MEASURES ARE COMPLETED AND PERMANENT VEGETATION ESTABLISHED. THE

- CONTRACTOR SHALL CONTACT THE GOVERNING AUTHORITIES FOR A FINAL INSPECTION. ONCE THE SITE HAS PASSED ITS FINAL INSPECTION, THE S.E.S.C. PERMIT IS CLOSED AND NO FURTHER EARTH DISRUPTION CAN OCCUR WITHOUT A NEW
- PERMIT.

 THE NOTICE OF COVERAGE PERMITTEE SHALL FILE A NOTICE OF TERMINATION (NOT) WITH THE EGLE AND RETAIN S.E.S.C. LOGS (HARD COPIES & ELECTRONICALLY) FOR A MINIMUM OF 5 YEARS.

TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITHIN 50 FEET OF A STREAM AND NOT AT FINAL GRADE	IMMEDIATELY FOLLOWING (2 DAYS MAX) THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A STREAM	DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY IS SCHEDULED TO BE INACTIVE FOR MORE THAN 16 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED OR STABILIZED IN ANOTHER APPROPRIATE WAY AS SOON AS POSSIBLE.
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER (NOVEMBER 1)

WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNORTAINABLE ALTERNATIVE STABILIZATION TECHNIQUES MUST BE FMPLOYED. THIS CAN INCLUDE AGGREGATE COVER, EROSION CONTROL BLANKETS, TURF REINFORCEMENT MATS. OR OTHER STABILIZATION PRACTICE.

PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN FIVE (5) CALENDAR DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A STREAM AND AT FINAL GRADE	WITHIN 2 CALENDAR DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN FIVE (5) CALENDAR DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

CONSTRUCTION DEWATERING PLAN

DEFINITION: DEWATERING CONSISTS OF THE REMOVAL OF SURFACE WATER AND/OR GROUNDWATER BY DIVERTING AND/OR REMOVING CONSTRUCTION AREAS WITHIN WATER FEATURES (I.E. WETLANDS, WATERCOURSE, AND/OR WATERSHED), AS NEEDED FOR CONSTRUCTION

- DEWATERING ACTIVITIES SHALL CONFORM TO APPLICABLE PART 91, SQIL EROSION AND SEDMENTATION CONTROL (SESC), OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (MERPA), 1989 PA 43, AS AMENDED.

 JURNAD GENATURES ACTIVITIES, THE SEGMENT LICEM WHATE CHANGE IS DEPICTLY DISCHARGED TO SURFACE WATERS, OPTIONS FOR REDUCING THE
- TURBIDITY OF THE WATER INCLUDE:
 - CONSTRUCTING A TEMPORARY SEDIMENT TRAP FOR TURRID WATER DISCHARGE PRETREATMENT.

 - COSE OF A PORTABLE SEDIMENT INFO PORT INDEXES AND WATER DISCOVERED REPORTABLE SEDIMENT CONTAINABLE THE PROTECTION OF NATURAL BASED FLOCCULENT TECHNOLOGY SUCH AS CHITOSAN IN SEDIMENT TRAPS OR A SERIES OF DITCH CHECKS TO CONTAIN
- DISCHARGE WATER THROUGH A SERIES OF FIBER LOGS OR A ROCK WEEPER INTO A LARGE VEGETATED BUFFER AREA.
- ENERGY DISSIPATION SHOULD BE PROVIDED AT ALL DISCHARGE POINTS.
- DEWATERING OR BASIN DRAINING ACTIVITIES SHOULD NOT CAUSE EROSION IN RECEIVING CHANNELS OR ADVERSELY IMPACT WETLANDS.

POLLUTANTS CONTROLLED AND IMPACTS:

PROPER DEWATERING TECHNIQUES WILL FILTER WATER OF SEDIMENT, OILS, AND OTHER CHEMICALS, THUS PREVENTING THESE POLLUTANTS FROM ENTERING THE SURFACE WATER

DEWATER ACCUMULATED GROUND WATER OR STORMWATER VIA PUMP, DEWATERING BAG AND ENSURE DISCHARGED WATER DOES NOT CONTRIBUTE SEDIMENTATION TO RECEIVING WATERS

WHEN TO APPLY

APPLY AT THE BEGINNING OF AND DURING CONSTRUCTION WHEN IT IS NECESSARY TO LOWER THE WATER LEVELS WITHIN THE CONSTRUCTION AREA. PUMPING NEEDS TO BE MAINTAINED TO KEEP UTILITY DITCHES AND COFFERDAMS DRY UNTIL ALL UNDERGROUND WORK IS COMPLETED.

WHERE TO APPLY:

APPLY ON CONSTRUCTION SITES WHERE APPROPRIATE OR ANYWHERE ELSE DEWATERING IS MEEDED

- 1) CLEAN WATER SHOULD BE PUMPED FROM THE GROUND AND DISCHARGED THROUGH HOSES TO DEWATERING BAGS OR OTHER ADEQUATE ENERGY DISSIPATION PRIOR TO DISCHARGING TO RECEIVING WATERS. THESE BEST MANAGEMENT PRACTICES (BMPS) SHALL BE EMPLOYED AS APPROPRIATE AND APPLICABLE ACCORDING TO LOCAL PERMITS AND REGULATIONS.
- b) WHEN CONSTRUCTION ENCOUNTERS UNCONTAMINATED EXCAVATION DEWATERING: CLEAN WATER SHOULD BE DISCHARGED TO A VEGETATED AREA, DITCHES OR OTHER CONVEYANCE VIA HOSE, ENERGY DISSPATION SHOULD BE APPLIED TO THE DISCHARGE LOCATION TO MINIMIZE SCOUR, ALTERNATIVELY, UNCONTANINATED WATER COULD BE DISCHARGED TO RECEIVING WATERS AS ALLOWED BY LOCAL PERMITS AND REGULATIONS OR AS LONG AS POSITIVE DRAININGS IS PROVIDED. THE WATER COULD BE DISCHARGED INTO THE SURROUNDING AGRICULTURAL FIELDS AND ALLOWED TO INFLITRATE OR DRAIN ALONG EXISTING DRAINAGE PATTERNS PROVIDED THAT THE WATER DOES NOT CAUSE FLOODING OR CROP DAMAGE

BELATIONSHIP WITH OTHER RMPS

- DELIDINGHIE WHI OF HER DIRES.

 DEWATERING IS OFTEN IMPLEMENTED IN CONJUNCTION WITH DEEP FOUNDATION INSTALLATION. SEDMENT BASINS AND FILTERS SHOULD BE CONSIDERED TO HELP FILTER THE DEWATERED WATER BEFORE IT IS DISCHARGED TO A SURFACE WATER WITHIN UPLANDS.
- UTILIZE EROSION BLANKETS, EROSION CONTROL FENCING, STRAW BALES, LEVEL SPREADERS, SILT FENCING, ETC., WHERE NECESSARY TO MITIGATE OTENTIAL EXCESSIVE EROSION AND SEDIMENTATION, ENSURE ANY MATERIALS PLACED IN SURFACE WATER BODIES ARE FREE FROM SILT AND OTHER
- SUCH PARTICLES, KEEP EXTRA EROSION AND SEDIMENT CONTROL MATERIALS ON SITE (E.G., HEAVY DUTY SILT FENCING, STRAW BALES). CHITOSAN AND CHITIN BASED ADDITIVES HAVE BEEN SHOWN TO SIGNIFICANTLY INCREASE THE EFFECTIVE NESS OF FILTRATION AND SETTLING. CHITOSAN POLY-D-GLUCOSAMINE) IS A LOW-TOXICITY PRODUCT EXTRACTED FROM CHITIN (POLY-N-ACETYL-D-GLUCOSAMINE). A BY-PRODUCT OF THE SHELLFIS INDUSTRY, OTHER PRODUCTS SUCH AS ANIONIC POLYACRYLAMIDE (ANIONIC PAM) ARE COMMERCIALLY AVAILABLE TO INCREASE SETTLING, OFTEN THESE ARE LITHIZED THROUGH WET OR DRY DOSING MECHANISMS OR AS WATER RUNS OVER A GEL BLOCK LIPSTREAM OF A SETTLING OR FILTRATION PRACTICE
- EACH PRODUCT SHOULD BE UTILIZED WITHIN THE MANUFACTURERS' SPECIFICATIONS AND TAILORED TO THE SOIL AND SITE CONDITIONS PARTICULATE FILTER UNITS UTILIZING CARTRIDGES OR ENCLOSED FILTER BAGS CAN REMOVE SMALLER PARTICLES DEPENDING ON THE FILTER SIZE. THIS TYPE OF MEASURE IS USUALLY NECESSARY TO TREAT CLAYS. BUTERS MAY NEED TO BE CHANGED DAILY OR MORE REPOUNTLY
- OHECK THAT BERGION COMPIGE TROCKS ARE IN GOOD REPAIR AND PROPERLY FUNCTIONING DESIGN PRICE TO CONDUCTING DALLY WORK AND RE-INSTALL OR REPAIR AS REQUIRED PRIOR TO COMMENCING DALLY CONSTRUCTION ACTIVITIES.

 REFERENCE AS REQUIRED PRIOR TO COMMENCING DALY CONSTRUCTION ACTIVITIES.

 REFERENCE AND REPORT OF CONTROL PRICE STABILIZED (I.E., RE-VEGETATED).

DESIGN SPECIFICATIONS:

- THE PROPERTY OF THE PROPERTY OF THE DISCHARGED WHITE DOSS NOT CAUSE SCOURING OF THE RECEIVING AREA IF THE RECEIVING AREA IS A STRUCTURAL BMP (IE. BASIN OR SUMP), THE DESIGN OF THE BMP SHOULD BE BASED ON THE ANTICIPATED FLOW FROM THE DEWATERS DARK.
- DEWLITERO AREA. SEDIMENT-LADEN WATER FROM COFFERDAMS, TRENCHES, FOUNDATION EXCAVATIONS, AND OTHER AREAS WHICH NEED TO BE DEWLITERD SHOULD BE PUMPED HOUGH A GEOTERILE MATERIAL BEFORE THE WATER IS DISCHARGED TO A SURFACE WATER BODY. THE PILITER BAG SHOULD BE DISPOSED OF BY THE CONTRINCTOR AT AN UPLANS LOT.
- IF THE DEWATERED WATER IS DISCHARGED THROUGH A FILTER TO A COUNTY OR INTER COUNTY DRAIN, PERMISSION MUST BE OBTAINED FROM THE DRAIN
- COMMISSIONER OR DRAIN BOARD. A TEMPORARY SUMP AND ROCK BASE SHOULD BE USED WHERE A TEMPORARY PUMP IS INSTALLED TO DEWATER AN AREA OF ACCUMULATED WATER. IF A
- BOCK BASE CANNOT BE USED. THE PUMP INTAKE SHALL BE ELEVATED TO DRAW WATER FROM THE TOP OF THE WATER COLUMN TO LIMIT SEDIMENTATION IMPLEMENT DEWATERING OF FOUNDATIONS AS NEEDED. A TEMPORARY SUMP AND ROCK BASE SHOULD BE USED WHERE A TEMPORARY PUMP IS INSTALLED TO DEWATER AN AREA OF ACCUMULATED WATER.
- ENERGY DISSIPATION (RIPPAP) SHOULD BE APPLIED TO THE DISCHARGE AREA OF THE PUMP HOSE. THE WATER SHOULD BE DISCHARGED TO A
 LARGE FLAT VEGETATED AREA FOR FLITATION I INFILITATION PRIOR TO FLOWING WITO RECEIVING WATERS OF CONVEYANCES) DIOTHEST
 DISCHARGE WATER IS TURBIOL. DEWATERINGBROST EMPORARY TRAPS AND ROCK WEEPERS OR OTHER ADCIDATE BUT BY ISEDED TO CONTROL.

7 PROPOSED RMPS AND WATER TREATMENT

- 1) GEOTEXTILE FILTER BAGS REMOVE SEDIMENT FROM DEWATERING DISCHARGE AND ARE PUMPED INTO A FILTER BAG CHOSEN FOR THE PREDOMINANT SEDMENT SIZE. FILTER BAGS ARE MANUFACTURED PRODUCTS MADE TYPICALLY FROM WOVEN MONOFILAMENT POLYPROPYLENE TELECOARSE MATERIALS, E.O. SANDS) OR NON-MOVEN GEOTEXTILE (SILTS/CLAYS). THEY ARE SINGLE USE PRODUCTS THAT MUST BE REPLACED WHEN THEY BECOME CLOGGED OR HALF-FULL OF SEDMENT:
- 2) GEOTEXTILE FILTER BAGS ARE GENERALLY CONSIDERED HIGH FLOW PRODUCTS, WHICH HAVE LIMITED ABILITY TO TREAT FINE-GRAINED SEDMENTS, GRAVITY DRAKED FILTER BAGS SHOULD APPLY THE FOLLOWING. 11 THE FILTER BAGS SHOULD BE PACED OUTSIDE OF A VEGETATION FILTER RACE AND NOT IN CLOSE PROXIMITY OF THE STREAM OF WATER RESCURICE, 2) THE WINDS STON AS RETAINEY FALT GROOT TO PREVENT BROSON CAUSED BY WATER LEAVING THE BAG. 3) THE PACEMENT OF THE BAG OVERLAIN A FAIT BED OF AGGREGATE WILL MANURIZE THE FLOW AND LISERTLY SURFACE APRIA OF THE BAG. 3 THEY SHOULD BE USEDN IN COLLINION WITH A LARGE VEGETATIVE BLIFTER AND ADDITIONAL OF THE PACEMENT OF THE PACEMENT OF THE BAG OVER A DISTRICT OF THE PACEMENT OF THE BAG OVER A DISTRICT OF THE PACEMENT OF THE BAG OVER A DISTRICT - OR SECONDARY POND AND/OR BARRIER. 3) FILTER BAGS SHOULD BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH DOUBLE-STITCHED "J" TYPE SEAMS CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
- 4) FILTER BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREAS AND DISCHARGE ONTO STABLE, EROSION RESISTANT SURFACES/AREAS. BAGS SHALL NOT BE PLACED ONTO SLOPES GREATER THAN 5%.
- 5) THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE FILTER BAG IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME HALF FULL. SPARE REPLACEMENT BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED ANDON ARE HALF FULL.
- THE MONITORING FOR TURBIDITY OF THE FILTER BAG DISCHARGE SHOULD OCCUR ON A REGULAR BASIS. IF TURBID WATER IS OBSERVED PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM HAS BEEN RESOLVED. BAGS SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF PUMPING ACTIVITIES.

MAINTENANCE-

THE DEWATERING SITE SHOULD BE INSPECTED SEVERAL TIMES DAILY TO ENSURE THAT THE PUMPING PROCEDURE IS ADEQUATELY CONTROLLING THE EXCESS WATER. TO ENJURIE THE FLITER BAG IS NOT CLOGGED, AND THAT THE VEGETATIVE FILTER, WHERE USED, IS STILL RETAINING SEDIMENT. IF THE FILTER BAG BECOMES CLOGGED, REPLACE WITH A NEW ONE.









MEADOWLA ECHE IMPACT **GONS TRU**

06/25/2019

PEVISIONS R. JB CH. .M. DB NA

JOB 18002735 64

SEEDING SPECIFICATION

SHALL ALSO BE APPLIED DURING THE APPLICATION OF THE PERMANENT SEED MIX TO ENSURE TIMELY VEGETATIVE COVER OF EXPOSED AREAS

IMMEDIATELY AFTER SEEDING, MULCH ALL SEEDED AREAS WITH UNWEATHERED SMALL GRAIN STRAW OR HAY UNIFORMLY AT THE RATE OF 1-1/2 TONS TO 2 TONS PER ACRE OR 100 POUNDS PER 1000 SQUARE FEET. ANCHOR MULCH WITH DISC-TYPE ANCHORING TOOL OR OTHER MEANS APPROVED BY THE LOCAL REGULATORY AGENCY.

SEEDING MIXTURES SEE SEED MIXES IN TEMPORARY & PERMANENT SEED CHARTS.

SLOPES FLATTER THAN 3:1 (NOT INCLUDING BASINS)
APPLY 17-17-17 COMMERCIAL ORGANIC FERTILIZER AT A RATE OF 20 LBS PER 1000 SQIFT. SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

TEMPORARY SEEDINGPLANTING DATES IMMEDIATELY FOLLOWING LAST DISTURBANC WITHIN 14 DAYS

SEED VARIETY (SEE CHART BELOW)

APPLICATION RATE 60 LBS PER ACRE

PERMANENT SEEDING PLANTING DATES PREFERABLE EARLY SPRING OR EARLY FALL

SEED VARIETY (SEE CHART BELOW)

APPLICATION RATE

SLOPES 3:1 OR GREATER (NOT INCLUDING BASINS)
APPLY 17-17-17 COMMERCIAL ORGANIC FERTILIZER AT A RATE OF 20 LBS PER 1000 SQ/FT.
AND SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

TEMPORARY SEEDING PLANTING DATES IMMEDIATELY FOLLOWING

SEED VARIETY (SEE CHART BELOW)

APPLICATION RATE 60 LBS PER ACRE

LAST DISTURBANCE OR WITHIN 5 DAYS

SEED VARIETY (SEE CHART BELOW) APPLICATION RATE 80 LBS PER ACRE

PERMANENT SEEDING PLANTING DATES PREFERABLE EARLY SPRING

40% SEED OATS 25% KENTUCKY 31 TALL FESCUE 25% KENTUCKY 31 TALL FESC 22% CREEPING RED FESCUE 11% TIMOTHY 1.0% INERT MATTER 1.0% OTHER CROP

0.01% WEED SEED

PERMANENT SEED SEED 80 LBS PER ACRE 70% TRUE BLUE KENTUCKY (BROOKLAWN, BOUTIOUS O WN BOLITIQUE GROME AND H92-203 KENTUCKY BLUEGRASS 30% PERENNIAL RYE GRASS (MANHATTAN 4, CHARGER, CITATION 4, AND PIZZAZZ PERENNIAL RYE GRASS)

SED BED PREPARATION PERMANENT SEEDING).
SHAPE WATER OCKTION CHRONIC ANSWERS SHALL BE IN PLACE. AREA TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL. TOTAL SEEDED PREPARED DEPTH SHOULD BE AT LEAST 4 INCHES. LOOSE BOOKS, BOOTS AND OTHER DESTRUCTIONS NEED TO BE REMOVED FROM THE SUPPLIED AND STRUCTIONS NEED TO BE REMOVED FROM THE SUPPLIED AND STRUCTIONS. SHEEP OF PIRAL SEEDED AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH, SHEEP AND ANTENDANCE OF PERSTANDISH SHEEP AND ANTENDANCE OF PERST PREPARATION SHOULD BE AT FINISH GRADE AND BE REASONABLY SMOOTH AND UNIFORM

IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME SHOULD BE USED ACCORDING TO SEEDING SPECIFICATIONS. IF SOIL TEST IS TAKEN, APPLY FERTILIZER AND LIME ACCORDING TO SOIL TEST REPORT, FERTILIZER AND LIME SHALL BE APPLED UNFORMAT AND MIXED WITH THE SOIL DURING SEEDIED PREPARATION. WEBSITS, SEED SPECIES AND PRECENTAGE OF PURITY AND GERMANDIAN MIXED ECHOECHE POPROT TO SEEDING.

SEEDING SHALL BE ACCOMPLISHED IN TWO DIRECTIONS AND AT RIGHT ANGLES TO EACH OTHER. LAWN AREAS SHALL BE SEEDED AT THE RATE SECOND SYNAL BE ACCOUNT OPERAL IN 10 DIRECTIONS AND AT INDIA MINISTER. TOWN THE ACCESS ESCENE SYNAL BE SECRED AT I'RE AN INDICATED ON THE DRAWNING SYNAM SEVENIL WITH AN APPROVED MECHANICAL CULTIPACKER SECRET TO COVER THE ADD AND FORM THE SECORED IN ONE OPERATION. IF BROADCAST SECRET IS USED THE SECOND RATE SHALL BE TWO (2) TIMES THE DRILL BRITE. IN INACCESSIBLE. AREAS, THE SECOND HALL BE LIVED WATER BALLAST ROLLER. AFTER BOX SECRED AND ASSET AND AREAS, THE SECOND HALL BE LIVED WATER BALLAST ROLLER. AFTER BOX SECRED AND ASSET AND ASSET AND ASSET AND ASSET AND ASSET AND ASSET AND ASSET AND ASSET AND ASSET AND ASSET ASS ARE TO BE MULCHED ACCORDING TO SPECIFICATION. IF HYDRO-SEED OPERATION IS USED, SEEDING RATE SHALL BE FIVE (5) TIMES THE DRILL RATE INDICATED ON THE DRAWINGS.

IF SEEDIN CALL NOT BE ACCOMEDISED DUE TO SEASONAL CONSTRUMES, APPLY STOWN MULCH AND TAGRISET TO ALL SLOPES AND DISTURBED. AREAS WITH PERMANENT SEEDINGS ALL OWEN ON THE SETHING OCCURS OUT OF SEASON, MANTEMANCE SHALL OCCUR AND CONTINUE INTO THE FOLLOWING GROWING SEASON OR WITH A UNIFORM STAND OF THE SPECIFIED PERMANENT GRASSES HAVE BEEN ESTABLISHED AND THE STET HAS PERCHED ON STABLISHATION. PERMANENT AND TEMPORARY SEEDING SHALL BE ACCOMPANISED THROUGHOUTH THE CONSTRUCTION.

INSPECTION
INSPECT SECRED AREAS FREQUENTLY. IF SEEDED AREAS FAIL TO GERMINATE, OR TO PROVIDE ADEQUATE GROUND COVERAGE, THE AREA SHALL BE RE-SEEDED UNTIL FINAL STABILIZATION IS ACHIEVED.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE PLANS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION. BEST MANAGEMENT PRACTICES (BMS), AND CONTROLS SHALL LONGORN OF DEDERAL, STATE, OR LOCAL REQUIREMENTS OF MANALLO, OF PRACTICE, AS APPLICABLE, CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING ADENCY OF OWNER. CONTRACTOR SHALL IMMINIZE CLEARING TO THE MANAMUM EXTEMP PRACTICE. ON AS REQUIRED BY THE GENERAL, PERMIT
- ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR
- DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST

- DUST ON HE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OLD, AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSED OF TOXIC LIQUIDS FOR DUST PROPRIED THAN SO, ARRANGE LITTER, OR OTHER SUCH MATERIALS, SHALL BE EXPOSITED INTO SOLECE CONTAMERS, AND ARTERIALS SHALL BE REPORTED THAN SOLECE CONTAMERS, AND ARTERIALS SHALL BE REPORTED THAN SOLECE THAN S
- SHALL BE PROMIFTED REMOVED BY THE CONTINUED OF THE CONTIN
- IMPLEMENTATION OF BEST MANAGEMENT PRACTICES, STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT RECORDENENTS.

 ALL STOCKPILES SOLES SHALL BE MANTAINED IN SUCH A WAY AS TO PREVENT EROSION FROM THE WORK AREA.
- ALL STOCKPILED SOILS SHALL BE MANTANED IN SUCH A WAY AS TO PREVENT EROSION FROM THE WORK AREA.

 CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STREET CACCOMMACE WITH FROSION CONTROL SECURIZATION OF OWN TO THIS PLAN. NO
 UNINECESSARY OR IMPROPERLY SECURIZED CLEARING AND OR GRADING SHALL BE PERMITTED.

 EROSION AND ANY SEGIMENTATION FROM WORK ON THIS SITE SHALL BE CONTRIBED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY
 OFF-SITE AREAS OR IN WAITERWAYS. WATERWAYS INCLUDE BOTH MATURIAL AND MAN-MAKE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES
 CONTRIBATIONS HALL APPLY TEMPORARY REGIONAL AND EMEMBRICATION CONTRIBED. MEASURE WHITE POLICIPATION CONTRIBED.

 TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, STOCKPILES AND OTHER EARTH CHANGES HAVE BEEN
 ACCOMPUSIBLED.
- ACCOMPLISHE
- ACCOMPLISHED.

 LOW GROUND PRESSURE FOLIPMENT SHALL BE USED TO MINIMIZE LAND DISTURBANCE RETWEEN STRUCTURES.

COTADT | END

- LOW GROUND PRESSURE OF SERVING THE STATE OF THE WASHTENAM CERTIFICATION OF THE WASHTENAM COUNTY WATER SOURCES CONTINUE OF THE WASHTENAM COUNTY WATER RESOURCES COMMENTED AND SERVING THE WASHTENAM COUNTY WATER RESOURCES COMMENTED AS NOT TO OBSTRUCT UPSTREAM DRAINAGE.

 ALL DRAINANT OF SERVING THE WASHTENAM AND SERVING THE STREAM DRAINAGE.

 SITES WILL BENEFICED THE WASHTENAM AREAS OF OTH-SITE FRODOWN WILL BE CORRECTED WITHIN 25 BUSINESS DAYS. THISSEN COUNTY WASHEST OF THE WASHTENAM AND SERVING THE WASHTENAM AREAS.

SEQUENCE OF CONSTRUCTION FOR SOIL EROSION CONTROL (FOR EACH SITE)

Ľ	DAY	DAY	*SCHEDULE TO BE FILLED OUT BY CONTRACTOR,		
			PULL ALL NECESSARY PERMITS & LICENSES.		
Γ			2. INSTALL SILT AND PROTECTIVE FENCING.		
Γ			3. CLEAR AND GRUB WORK AREA		
Γ			COMPLETELY REMOVE EXISTING STRUCTURE & FOUNDATION.		
			5. STRIP AND STOCKPILE TOPSOIL.		
L			EXCAVATE FOR PROPOSE STRUCTURE, STOCKPILE SPOILS AND GRADE ACCORDINGLY		
L			7. BEGIN FOUNDATION CONSTRUCTION OF NEW STRUCTURE.		
			REPLACE TOPSOIL, SEED AND STABILIZE DISTURBED AREAS.		
L			REMOVE SILT FENCE, REPAIR DISTURBED AREAS AS NECESSARY.		
			10. COORDINATE WITH PERMITTING AGENCIES FOR CLOSEOUT INSPECTION		

NOTE:

15 SEEDING CAN NOT BE ACCOMPLISHED DUE TO SEASONAL CONSTRAINTS. APPLY STRAW MULCH AND TADDIFFER TO ALL
SLOPES AND DISTURBED AREAS UNTIL PERMANENT SEEDING IS ALLOWED. IN THE EVENT SEEDING OCCURS OUT OF
SEASON MAINTENANCE SHALL OCCUR AND CONTINUE BOTT OF FOLLOWING SERSON. FOR ALLAPEAS LEFT
UNSTABILIZED DUE TO SEASONAL CONSTRAINTS, FINAL STABILIZATION SHALL BE ACHIEVED BY APRIL 15TH.

811 Call before you Call before you di







MEADOWLARK EGHE IMPACT "PLANS

06/25/2019

REVISIONS

R. JB CH. -.m. DB NA JOB 18002735

05

MEMO

DATE: December 9, 2020, 2020

TO: Superior Township Wetlands Board

FROM: Richard Mayernik, Building/Zoning Official

RE: 5728 Geddes Wetlands Appeal

Please review the following information and attachments relating to the wetlands appeal by Mr. Schuster.

In 2019, I was contacted by Rebecca Lussier of Meadowlark Construction to discuss wetlands at the subject property. The Atwell Group had prepared a wetland survey of the property and Ms. Lussier had contacted me to discuss step required by the Township. I facilitated setting up a site meeting between Mr. Chris Nordstrom (Township Wetlands Administrator) and Ms. Lussier. That site visit occurred on March 15, 2019 and Mr. Nordstrom prepared a memo (see attached) dated March 18, 2019 which essentially concurred with the Atwell Group's findings relating to the extent of wetlands on the property. It was clear that wetlands existed on the property which would be under the jurisdiction of both EGLE and Superior Township.

On October 9, 2019, EGLE issued Permit No. WRP018893 v.1 (see attached) which authorized work necessary to construct a driveway, raingarden, and grading for the construction of a home. As I understand it, the property owner may be revising the proposed location of the home so, a new or modified EGLE permit may be required.

On July 31, 2020, EGLE issued permit no. WRP023919 v1.2 (see attached) which authorized work necessary to construct a boardwalk and stairs in the wetland.

On November 16, 2020, Snyder Contracting, LLC submitted a building permit application to construct a boardwalk and stairs at the subject property. The drawings submitted did not exactly dimensionally locate the position of the boardwalk, but it was apparent that some portions of the boardwalk would be closer than 20 foot from the side yard property line. I advised the contractor that any portions of the boardwalk that exceeded 18 inches above grade would need to comply with the 20-foot side yard setback requirement. The contractor submitted a letter agreeing to the 20-foot set back (see attached). Upon receipt of the permit application, I contacted our Wetlands Administrator (Mr. Nordstrom) and asked him to review the EGLE drawings and let me know if he saw any issues. Mr. Nordstrom responded to my email (see attached) on November 19, 2020 and indicated he saw no issue with the proposed boardwalk.

On November 23,2020, Building and Wetlands permits were processed (copies attached) and the contractor was advised that the permit were available for pick up.

On November 27, 2020, I was copied on an email from Mr. Schuster which indicated he wished to appeal the decision to issue the wetlands permit. A letter dated November 25, 2020 was attached to the email. (copies of the email and letter are attached).

Upon receipt of the appeal by Mr. Schuster, I advised the contractor in writing (copy attached) of the appeal and that per the Wetland Ordinance, his permit was suspended until such time as the Wetlands Board took action on the appeal. At that time, I did not realize that the contractor had not picked up or paid for his permits (no contact lobby drop off and pick up) so, the permits were not yet actually valid.

After the receipt of the appeal, I contacted our Wetlands Administrator to discuss the appeal. Since his November 19,2020 email was very brief, I ask that he prepare a more detailed memo relating to his reasoning relating to the permit application. I received his memo dated December 3, 2020 which is attached.

On Monday, December 7, 2020 Mr. Schuster sent three additional emails to the Township which included addition information for the Boards consideration. These documents are included in your packet.

It appears to me that the main point of Mr. Schuster's appeal is the relocation of the boardwalk to comply with Zoning setback requirements. Much like the contractors plan submission, the EGLE drawings also did not give exacting dimensions of the boardwalk location. Reviewing the EGLE drawings, it was apparent to me that placement of the boardwalk to comply with setbacks would involve no more and no less wetlands than originally considered by EGLE for their permit and as such, I was comfortable issuing the permit. In my view, the minor change in the boardwalk's location is a distinction without a difference.



117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

To:

Rick Mayernik, Superior Township Building and Zoning Official

From:

Chris Nordstrom, Township Wetland Consultant

Ben Carlisle, Township Planner

Date:

March 18, 2019

RE:

Wetlands Inspection for 5728 Geddes Road

As requested by the Township, Chris Nordstrom of CWA completed a site inspection on Friday, March 15, 2019, to evaluate the accuracy of a wetlands survey prepared by the Atwell Group on February 12, 2019. Chris was accompanied by Rebecca Lussier of Meadowlark Construction.

The site contains relatively steep slopes leading down to the Huron River. The site contains a sizeable plateau that roughly corresponds to the position of an abandoned cottage in the center of the parcel. We noted standing water across most of the property, with running streams in at least two locations. While it was still early in the season, we also spotted a number of plants that are indicative of wetlands, including skunk cabbage, red-twig dogwood, and green ash.

Based on this inspection, we are confident that the Atwell survey, dated February 12, 2019 provides an accurate representation of the site conditions and wetland boundaries. Per Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), these wetlands would be considered protected by the Michigan Department of Environmental Quality as they are connected or are within 500 feet of the Huron River.

Please let me know if you have any questions.

CARLISLE/WORTMAN ASSOC., INC.

Chris Nordstrom, PLA, ASLA

Landscape Architect



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY WATER RESOURCES DIVISION PERMIT

Issued To:		
Jean-Marie Moulie	ere	
5123 Buckley Driv	' e	
Ypsilanti, Michiga	n 48197	
Permit No:	WRP018893 v.1	
Submission No.:	HNQ-EGNG-7DEA2	
Site Name:	81-5728 Geddes Road-Ann	Arbor
Issued:	October 9, 2019	
Revised:		
Expires:	October 9, 2024	
(EGLE), Water Res Protection Act, 19	sources Division, under the 194 PA 451, as amended (NR	epartment of Environment, Great Lakes, and Energy provisions of the Natural Resources and Environmental EPA); specifically: Part 323, Shorelands Protection and Management
☐ Part 315, Dam Safety ☐ Part 353, Sand Dunes Protection and Manage		
Part 31, Water F	Resources Protection (Floodp	lain Regulatory Authority)
	eby granted, based on perm permit conditions, to:	ittee assurance of adherence to State of Michigan
Authorized Activit	:y:	
wetland for the co Restore approximal raingarden. Instal	nstruction of a driveway, a rair ately 16 linear feet of stream to Il a bottomless 12 foot long, 3 t	rial and place approximately 86 cubic yards of fill in nagarden, and grading for the construction of a home. o existing conditions following the construction of a foot by 2 foot culvert in an unnamed stream and on top of the culvert to create a stream crossing.

Waterbody Affected: Wetland, Huron River, and Unnamed Tributaries to the Huron River

Install an 8 foot wide by 385 foot long, elevated, open pile boardwalk in wetland. Install an 8 foot

All work shall be completed in accordance with the approved plans dated October 9, 2019 and the

Property Location: Washtenaw County, Superior Township, Town 02S, Range 07E, Section 30,

Property Tax No. J-10-30-400-061

Authority granted by this permit is subject to the following limitations:

wide by 30 foot long, elevated, open pile boardwalk in regulated floodplain.

specifications of this permit.

A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.

WRP018893 v1.0

- B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.
- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify EGLE within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of EGLE.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
- L. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).
- M. In issuing this permit, EGLE has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, EGLE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
- N. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
- O. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, EGLE may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
- P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from EGLE. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by EGLE prior to being implemented.
- Q. This permit may be transferred to another person upon written approval of EGLE. The permittee must submit a written request to EGLE to transfer the permit to the new owner. The new owner must also submit a written request to EGLE to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all the above information may be provided to EGLE. EGLE will review the request and, if approved, will provide written notification to the new owner.
- R. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work93 v1.0 authorized by the permit.

Issued On:10/09/2019 Expires On:10/09/2024

- S. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.
- T. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).
- U. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.
- V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
- W. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
- X. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources, Fisheries Division.
- Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

Site Isolation

- 1. Prior to the initiation of any permitted construction activities, a sedimentation barrier shall be constructed immediately down gradient of the construction site. Sedimentation barriers shall be specifically designed to handle the sediment type, load, water depth, and flow conditions of each construction site throughout the anticipated time of construction and unstable site conditions. The sedimentation barrier shall be maintained in good working order throughout the duration of the project. Upon project completion, the accumulated materials shall be removed and disposed of at an upland (non-wetland, non-floodplain) site and stabilized with seed and mulch. The sedimentation barrier shall then be removed in its entirety and the area restored to its original configuration and cover.
- 2. Prior to the initiation of any permitted construction activity, a sedimentation barrier shall be installed along the entire route of the disturbed wetland area and maintained in good working order until permanent stabilization and re-vegetation of all disturbed areas has occurred. The sedimentation barrier shall be removed after re-vegetation.
- 3. Construction must be undertaken and completed during the dry period of the wetland, or when frozen.
- 4. If the area does not dry out or freeze, construction shall be done on equipment mats to prevent compaction of the soil.
- 5. Upon completion of the project, the disturbed wetland areas shall be restored to the original contour elevation, revegetated and reseeded with species native to Michigan appropriate to the site, and mulched to prevent erosion.
- 6. All raw areas in uplands resulting from the permitted construction activity shall be effectively stabilized with sod and/or seed and mulch (or other technology specified by this permit or project plans) in a sufficient quantity and manner to prevent erosion and any potential siltation to surface waters or wetlands. Temporary stabilization measures shall be installed before or upon commencement of the permitted activity, and shall be maintained until permanent measures are in place. Permanent measures shall be in place within five (5) days of achieving final grade.

7. All raw earth within 100 feet of a lake, stream, or wetland that is not brought to final stabilization by the end of the active growing season (October 10th) shall be temporarily stabilized with mulch blankets.

Threatened and Endangered Species

8. The following federally threatened or endangered species are known to occur on or near this project site and may be impacted by your activities: Eastern Massasauga Rattlesnake (EMR) (*Sistrurus catenatus*) and Indiana Bat (Myotis sodalist). Please be advised that any activity that would cause harm to these species may require a federal permit under the Endangered Species Act or other federal regulations. The permittee shall continue Endangered Species Act Consultation with the U.S. Fish and Wildlife Service, 2651 Coolidge Road, East Lansing, Michigan 48829.

Indiana Bat

9. To avoid take of Indiana Bat, any trees larger than five (5) inches dbh on the project site shall not be cut between April 1 and September 30 in any permit year.

Eastern Massasauga Rattlesnake

- 10. When working during the EMR active season (generally April 15 through October 15), exclusionary fencing shall be used to separate EMR habitat from the work site to prevent EMR from accessing the disturbance area.
- 11. Any areas using exclusionary fencing shall first be "cleared" by a qualified individual before beginning construction activities. Fencing shall be installed a minimum of 1 day before construction activities occur and walked weekly to ensure the integrity of the fence. If snakes are seen within the work zone, activity shall stop until the snake can be safely moved by a qualified individual, and the fence examined for breeches.
- 12. Fencing materials that can entangle or injure snakes shall not be used for exclusionary fencing.
- 13. When working during the EMR inactive season, protentional hibernation areas shall be avoided to the extent possible.
- 14. Exclusionary fencing is not necessary if the work can be conducted entirely within the inactive season.
- 15. Water levels in known/presumed occupied habitats shall not be artificially manipulated during the inactive season.
- 16. Wildlife-safe materials shall be used for erosion control and site restoration throughout the project area. Erosion control products containing plastic mesh netting or other similar material that could entangle EMR shall not be used.
- 17. Best management practices shall be used to prevent the spread of invasive species into EMR habitat. Equipment and vehicles shall be inspected and cleaned between work sites as needed to prevent the spread of invasive plant materials.
- 18. All imported fill material shall be free from contaminants or invasive species. Exclusionary fencing shall be used around areas to be filled and must be inspected for EMR by a qualified individual prior to placing fill.

- 19. Vehicle activity shall be minimized in known/presumed occupied EMR habitat to the extent possible. When feasible, vehicle activity will be limited to after mid-October but before mid-April. After mid-April and before mid-October, travel speeds will be reduced to give vehicle operators adequate time to identify and avoid EMR and other wildlife. Speeds should be below 15 MPH.
- 20. To increase human safety and awareness of EMR, those implementing the project should first watch Michigan Department of Natural Resources "60-Second Snakes: The Eastern Massasauga Rattlesnake" video (available at https://youtu.be/~PFnXe_e02w), or review the EMR factsheet (available at https://www.fws.gov/midwest/endangered/reptiles/eama/pdf/EMRfactsheetSep2016.pdf), or call 517-351-2555.
- 21. Any EMR observations, or observation of any other listed threatened or endangered species, during project implementations shall be reported to the USFWS within 24 hours.
- 22. All disturbed habitat areas shall be restored with appropriate, native plant species.
- 23. Upon completion of the project, the exclusionary fencing shall be removed.

Wetland Fill

24. All fill/backfill shall consist of clean inert material that will not cause siltation nor contain soluble chemicals, organic matter, pollutants, or contaminants. All fill shall be contained in such a manner so as not to erode into any surface water, floodplain, or wetland. All raw areas associated with the permitted activity shall be stabilized with sod and/or seed and mulch, riprap, or other technically effective methods as necessary to prevent erosion.

Culvert Installation

- 25. The placement of the new culvert and the initial placement of fill in the stream shall be done in the dry or in such a manner that all flow is immediately passed through the culvert. The major placement of fill shall be done in the dry or in still water where erosion and siltation will be minimized. The fill material used in this initial placement shall be washed gravel, coarse aggregate, or rock and shall be placed at both ends of the culvert above normal water level before backfill material is placed.
- 26. The culvert shall be installed to align with the center line of the existing stream at both the inlet and outlet ends.
- 27. If the project, or any portion of the project, is stopped and lies incomplete for any length of time (other than that encountered in a normal work week) every precaution shall be taken to protect the incomplete work from erosion, including the placement of temporary gravel bag riprap, temporary seed and mulch, or other acceptable temporary protection.
- 28. No work shall be done in the stream during periods of above-normal flows except as necessary to prevent erosion.
- 29. Exposed streambanks resulting from this construction shall be stabilized with temporary measures in accordance with appropriate Best Management Practices based on site conditions, and if necessary, may be riprapped extending above the ordinary high water mark, to provide adequate erosion protection. Temporary stabilization measures shall be maintained until permanent measures are in place.

30. All other exposed slopes, ditches, and other raw areas draining directly to the stream may be protected with riprap, sod and/or seed and mulch as may be necessary to provide effective erosion protection. The placement of riprap shall be limited to the minimum necessary to ensure proper stabilization of the side slopes and fill in the immediate vicinity of the structure.

Boardwalk

31. Additional attachments to permitted structures, including but not limited to roofs, sidewalls, benches, decks, docks, piers, or extensions thereof, are not authorized by this permit.

Floodplain

- 32. The design flood or one percent (1%) annual chance (100-year) floodplain elevation at this location on the Huron River is approximately 738 feet N.A.V.Datum of 1988.
- 33. The structure(s) shall be firmly anchored to prevent flotation or lateral movement.
- 34. Any other filling, grading, or construction within the 100-year floodplain will require a separate EGLE permit before starting the work.
- 35. No fill, excess soil, or other material shall be placed in the 100-year floodplain, any wetland or surface water area not specifically authorized by this permit, its plans, and specifications.
- 36. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.

General Permit Conditions

- 37. Authority granted by this permit does not waive permit or program requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA or the need to acquire applicable permits from the CEA. To locate the Soil Erosion Program Administrator for your county, visit www.mi.gov/deqstormwater and select "Soil Erosion and Sedimentation Control Program" under "Related Links."
- 38. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state, or federal approval or authorization necessary to conduct the activity.
- 39. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
- 40. The permit placard shall be kept posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.

41. This permit is being issued for the maximum time allowed and no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by EGLE, will be for a five-year period beginning on the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.

Issued By:

Melissa Letosky Jackson District Office Water Resources Division 517-416-7001

Melissa Letasay

cc: Superior Township Clerk
Washtenaw County SESC
Ms. Carrie Tansy, USFWS
Mr. Don Berninger, Atwell, LLC

PROJECT DEVELOPER

MEADOWLARK 3250 W. LIBERTY ROAD ANN ARBOR, MI 48103 ATTN: REBECCA LUSSIER

PROJECT CONSULTANTS

ATWELL, LLC
TWO TOWNE SQUARE, SUITE 700
SOUTHFIELD, MI 48076
PHONE: 248.447.2000
FAX: 248.447.2001
ATTN: BOURKE THOMAS

MOULIERE PARCEL - 5728 GEDDES RD.

SUPERIOR TOWNSHIP, WASHTENAW COUNTY EGLE IMPACT PLANS



VICINITY MAP

NOT TO SCALE

VERTICAL DATUM

ELEVATIONS ARE BASED ON THE NAVD 88 DATUM.

BASIS OF BEARING

STATE PLANE, MICHIGAN SOUTH, NAD 83 BASED UPON GPS OBSERVATIONS ALONG WITH SOLUTIONS PROVIDED BY O.P.U.S.

SHEET INDEX

O1 COVER SHEET
O2 PROPOSED SITE PLAN
O3 IMPACT CROSS SECTIONS

04 BMP & CONSTRUCTION DETAILS

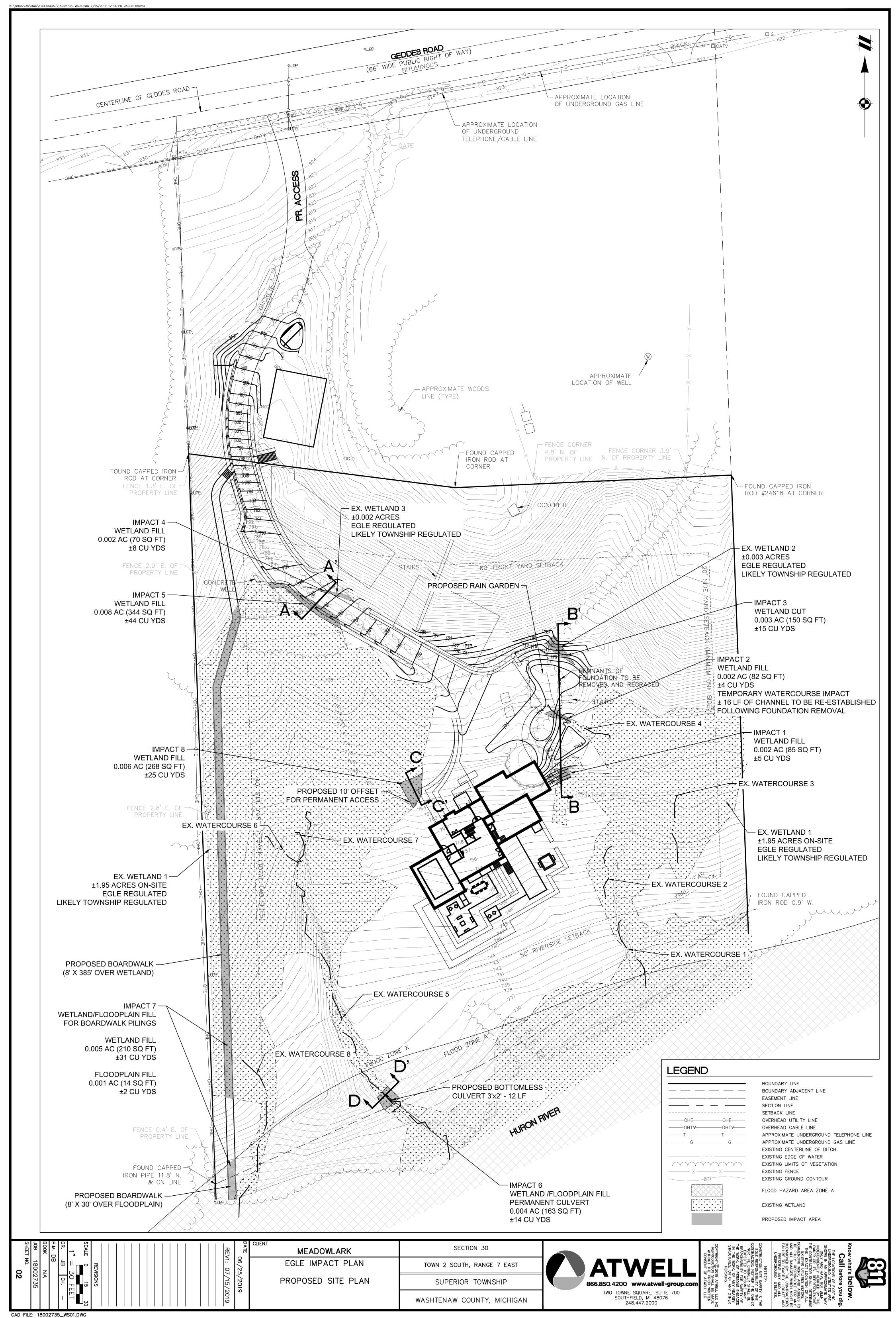
D5 SESC NOTES

Call before you dig MOULIERE PARCEL EGLE IMPACT PLANS DATE 06/25/2019 DR. BS CH. CK

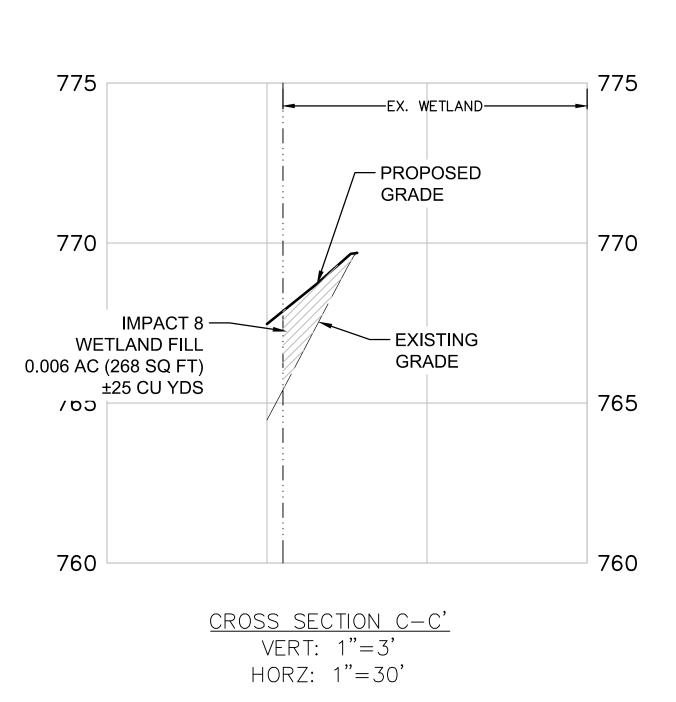
> WR P918893 v1.0 Approved ssued On:10/09/2019 xpires On:10/09/2024

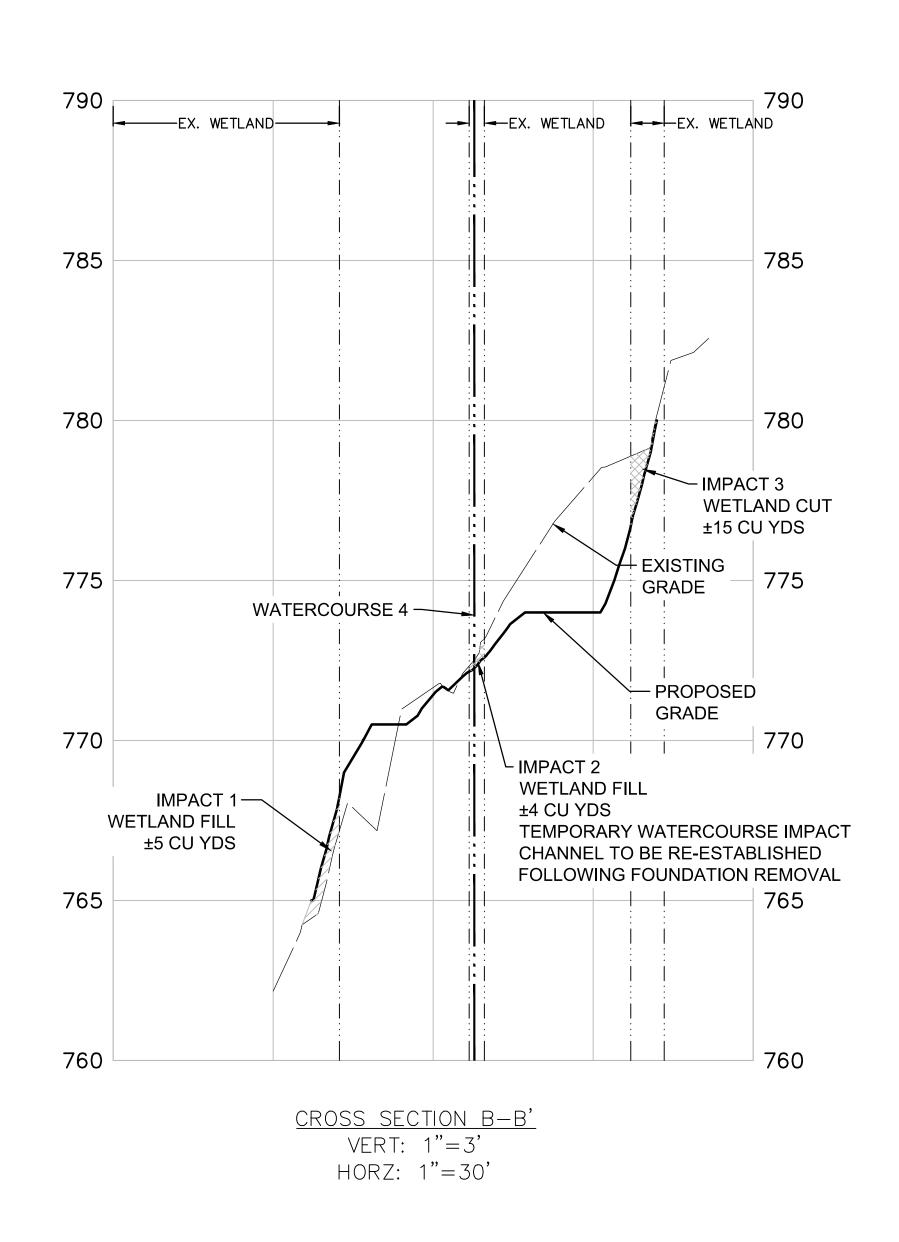
BOOK NA

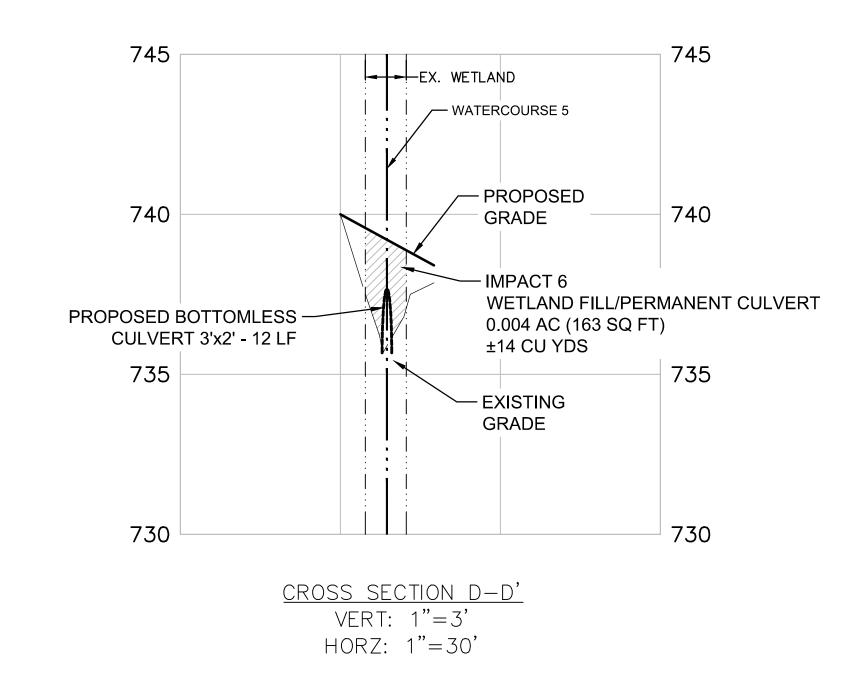
JOB 18002735

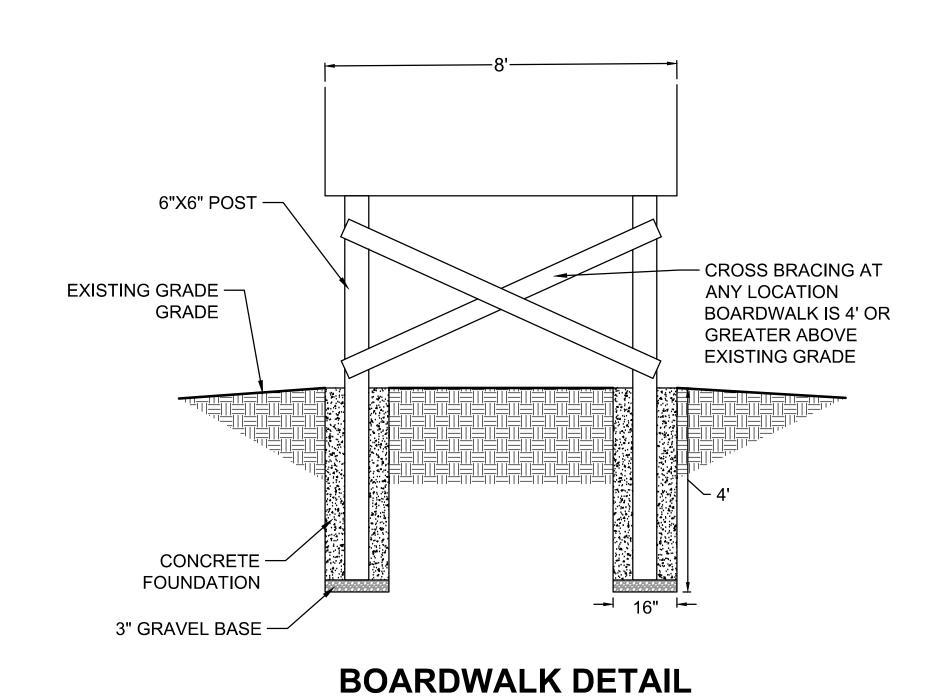


HORZ: 1"=30'









NOT TO SCALE

Know what's **below**. Call before you dig THE LOCATIONS OF EXISTING
UNDERGROUND UTILITIES ARE
SHOWN IN AN APPROXIMATE WAY
ONLY AND HAVE NOT BEEN
INDEPENDENTLY VERIFIED BY THE
OWNER OR ITS REPRESENTATIVE.
THE CONTRACTOR SHALL DETERMINE
THE EXACT LOCATION OF ALL
EXISTING UTILITIES BEFORE
COMMENCING WORK, AND AGREES TO
BE FULLY RESPONSIBLE FOR ANY
AND ALL DAMAGES WHICH MIGHT BE
OCCASIONED BY THE CONTRACTOR'S
FAILURE TO EXACTLY LOCATE AND
PRESERVE ANY AND ALL
UNDERGROUND UTILITIES. NOTICE: NOTICE:

CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS. COPYRIGHT © 2019 ATWELL LLC NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC MEADOWLARK
EGLE IMPACT PLANS
IMPACT CROSS SECTIONS 06/25/2019 REV1: 07/15/2019 REVISIONS 1" = 30 FEET JB CH. — P.M. DB воок NA JOB 18002735

SHEET NO.

03

LOCAL AND STATE CONDITIONS AND CLARIFICATIONS:

- 1. THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL AUTHORITY AND THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY (EGLE), IN FORCE ON DATE OF APPROVAL SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATION, OR BY THE CONSTRUCTION DETAILS SET FORTH HEREIN
- 2. THE CONTRACTOR (AND ALL SUBCONTRACTORS) SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR TO INITIATE,
- MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH WORK. 3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY LICENSES AND PERMITS PRIOR TO THE START OF CONSTRUCTION. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS AND SPECIAL CONDITIONS OF THE APPROVALS ISSUED FOR THE PROJECT.
- 4. THE CONTRACTOR SHALL CAUSE NOTICE TO BE GIVEN TO MISS DIG (811) A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- 5. ALL DRAIN TILE AND STORM SEWERS NOT NOTED TO BE REMOVED/RE-ROUTED WHICH ARE DAMAGED, DISTURBED, OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH THE SAME QUALITY PIPE OR BETTER, MAINTAINING THE SAME GRADIENT AS EXISTING. REPLACED DRAIN TILE SHALL BE LAID ON COMPACTED BEDDING EQUAL IN DENSITY TO SURROUNDING STRATUM. REPLACEMENT SHALL BE DONE AT THE TIME OF THE BACKFILL OPERATION.
- 6. THE FLOW IN ALL SEWERS, DRAINS, AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND WHENEVER SUCH WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING THE PROSECUTION OF THE WORK, THEY SHALL BE RESTORED BY THE CONTRACTOR AT HIS OWN COST AND EXPENSE.
- 7. THE CONTRACTOR SHALL RETURN ALL GRADES ALONG THE LIMITS OF DISTURBANCE TO ORIGINAL CONDITION, MATING UNDISTURBED
- AREAS, SO AS TO MAINTAIN ORIGINAL DRAINAGE. 8. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES AND ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCIES SHALL BE CORRECTED BY THE CONTRACTOR WITHIN
- 9. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSPECTED BY A CERTIFIED STORM WATER OPERATOR AT LEAST ONCE EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF A OF EVERY PRECIPITATION EVENT THAT RESULTS IN A DISCHARGE FROM THE SITE OR MORE FREQUENTLY IF REQUIRED BY GOVERNING NPDES GENERAL PERMIT. ALL MAINTENANCE REQUIRED BY INSPECTION SHALL COMMENCE
- WITHIN 24 HOURS AND BE COMPLETED WITHIN 48 HOURS OF REPORT. 10. ALL PRACTICES MUST BE MONITORED AND MAINTAINED BY A TRAINED REPRESENTATIVE OF THE CONTRACTOR. THE CONTRACTOR MUST KEEP WRITTEN RECORDS OF SELF-MONITORING AND PROVIDE THEM TO THE LOCAL AUTHORITIES, EGLE, OR OTHER INSPECTING AUTHORITY
- 11. ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS.
- 12. APPROPRIATE MEASURES SHALL BE PUT IN PLACE TO PREVENT POLLUTANTS SEDIMENT, TRASH, FUEL, SOLVENTS, ETC. FROM LEAVING THE WORK SITE AND/OR ENTERING SURFACE OR GROUND WATER. PROPER HANDLING AND STORAGE OF ALL HAZARDOUS MATERIALS SHALL BE MAINTAINED AT ALL TIMES AND SPILL PREVENTION AND CLEAN-UP PLANS SHALL BE IN PLACE PRIOR TO BRINGING HAZARDOUS MATERIALS
- 13. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. HE/SHE SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION (90% VEGETATIVE COVER) HAS BEEN
- 14. STRAW MULCH BLANKETS MUST BE USED ON 3:1 SLOPES OR GREATER.
- 15. ALL EXPOSED AREAS SHALL BE STABILIZED AS SPECIFIED IMMEDIATELY FOLLOWING THE CONCLUSION FINAL GRADING IN THE DESIGNATED
- 16. AREAS OF DISTURBED SOIL THAT REMAIN INACTIVE FOR 14 DAYS MUST HAVE TEMPORARY OR PERMANENT STABILIZATION IN PLACE. USUALLY, THIS CONSISTS OF GRASS SEED AND MULCH, BUT IT CAN ALSO INCLUDE AGGREGATE COVER, EROSION CONTROL BLANKETS, TURF REINFORCEMENT MATS, OR OTHER APPROPRIATE STABILIZATION PRACTICE.
- 17. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT AND/OR POLLUTANTS FROM LEAVING THE SITE.
- 18. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION.
- 19. GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
- 20. SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT IS 1/3 THE HEIGHT OF THE FENCE.
- 21. CLEANUP WILL BE DONE IN A MANNER TO ENSURE THAT EROSION CONTROL MEASURES ARE NOT DISTURBED.
- 22. CONTRACTOR SHALL PAY ALL FEES AND POST AN EROSION CONTROL PERFORMANCE BOND, IF REQUIRED, PRIOR TO ANY EARTH CHANGE. 23. CONSTRUCTION OPERATION SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING
- BACKFILLING OPERATIONS. 24. BORROW AND FILL DISPOSAL AREAS WILL BE SELECTED BY THE CONTRACTOR WITH FULL CONSIDERATION FOR SOIL EROSION AND SEDIMENT
- 25. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION 26. PERMANENT STABILIZATION IS ACHIEVED ONCE THE LOCAL AUTHORITIES PERFORM A FINAL INSPECTION OF THE COMPLETED PROJECT. ONCE THE PROJECT HAS PASSED LOCAL INSPECTION, A NOTICE OF TERMINATION (NOT) SHALL BE FILED BY THE CONTRACTOR WITH THE EGLE AND NO FURTHER EARTH DISRUPTION ACTIVITIES MAY OCCUR WITHOUT A NEW PERMIT.
- 27. CONTRACTOR SHALL DENOTE LOCATION OF CONCRETE WASHOUT AREAS (IF USED) ON THE SWPPP.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY

CONSTRUCTION PERMITTEE(S) THAT HAS AUTHORIZATION TO DISCHARGE UNDER A NATIONAL PERMIT (NPDES) SHALL COMPLY WITH THE FOLLOWING PROVISIONS (DEVELOPMENT AGREEMENT REQUIREMENTS MAY BE MORE STRINGENT):

- 1. NOT DIRECTLY OR INDIRECTLY DISCHARGE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LUBRICANTS, FUELS, LITTER, SANITARY WASTE, OR ANY OTHER SUBSTANCE AT THE CONSTRUCTION SITE INTO WATERS OF THE STATE IN
- VIOLATION OF PART 31 OF THE 1994 PA 451, MCL 324.3101 ET SEQ., AND RULES PROMULGATED UNDER THE ACT. 2. BE IN COMPLIANCE WITH A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT FOR THE SITE OR, IF THE CONSTRUCTION ACTIVITY IS CARRIED OUT BY AN AUTHORIZED PUBLIC AGENCY, THE APPROVED CONTROL PLAN, INCLUDING THE SELECTED CONTROL MEASURES THAT ARE APPLICABLE TO THE SITE.
- 3. PROPERLY MAINTAIN AND OPERATE THE SOIL EROSION CONTROL MEASURES.
- 4. HAVE THE SOIL EROSION CONTROL MEASURES UNDER THE SPECIFIC SUPERVISION AND CONTROL OF A STORM WATER OPERATOR WHO HAS BEEN CERTIFIED BY THE DEPARTMENT AS PROPERLY QUALIFIED TO OPERATE THE SOIL EROSION CONTROL MEASURES. THE CERTIFICATION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF R 323.1251 ET SEQ.
- 5. CAUSE THE CONSTRUCTION ACTIVITY TO BE INSPECTED BY A CERTIFIED STORM WATER OPERATOR ONCE PER WEEK. AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT RESULTS IN A DISCHARGE FROM THE SITE, AND ENSURE THAT ANY NEEDED CORRECTIVE ACTIONS ARE CARRIED OUT. A LOG OF THE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE MAINTAINED ON FILE BY THE CONSTRICTION PERMITTEE FOR REVIEW AND SHALL BE RETAINED BY THE CONSTRUCTION PERMITTEE FOR A PERIOD OF THREE (3) YEARS FROM THE DATE OF
- THE INSPECTION OR CORRECTIVE ACTION 6. IN ACCORDANCE WITH THE REQUIREMENTS FOR ON-LAND FACILITIES AS SET FORTH IN SPILLAGE OF OIL AND POLLUTING MATERIALS, BEING PART 5 OF THESE (MICHIGAN PERMIT-BY-RULE) RULES, PROVIDE FACILITIES AND COMPLY WITH REPORTING PROCEDURES FOR CONTAINMENT
- OF ANY ACCIDENTAL LOSSES OF OIL OR OTHER POLLUTING MATERIALS. 7. DISPOSED OF SOLIDS, SEDIMENT, FILTER BACKWASH, OR OTHER WASTE THAT IS REMOVED FROM OR RESULTS FROM THE TREATMENT OF CONTROL OF STORM WATER IN COMPLIANCE WITH APPLICABLE STATE LAWS AND REGULATIONS AND IN A MANNER THAT PREVENTS ANY WASTE FROM ENTERING WATERS OF THE STATE.
- 8. ALLOW THE DEPARTMENT TO ENTER UPON THE SITE AT ANY REASONABLE TIME BEFORE THE EXPIRATION OF THE AUTHORIZATION TO DISCHARGE AS SET FORTH IN SUBRULE (5) OF THIS RULE, UPON PRESENTATION OF CREDENTIALS AND OTHER DOCUMENTS AS MAY BE REQUIRED BY LAW, FOR THE PURPOSE OF INSPECTING CONDITIONS RELATING TO THE POLLUTION OF ANY WATERS OR DETERMINING COMPLIANCE WITH THE PROVISIONS OF THIS RULE.
- 9. UPON REQUEST, MAKE AVAILABLE FOR PUBLIC INSPECTION OR PROVIDE TO THE DEPARTMENT ALL REPORTS OR LOGS PREPARED PURSUANT TO THE PROVISIONS OF THIS RULE.
- 10. FILE A REVISED NOTICE OF COVERAGE IN COMPLIANCE WITH THE PROVISIONS OF SUBRULE (1) OF THIS RULE BEFORE ANY EXPANSION OF THE CONSTRUCTION ACTIVITY OR CHANGE IN THE SOIL EROSION CONTROL MEASURES THAT REQUIRES A CHANGE IN THE SOIL EROSION AND SEDIMENTATION PERMIT.

PROHIBITED CONSTRUCTION ACTIVITIES:

THE CONTRACTOR SHALL NOT USE CONSTRUCTION ACTIVITIES, PROCEEDINGS, OR OPERATIONS THAT MAY UNNECESSARILY IMPACT THE NATURAL ENVIRONMENT OR THE PUBLIC HEALTH AND SAFETY. PROHIBITED CONSTRUCTION ACTIVITIES, PROCEEDINGS OR OPERATIONS INCLUDE BUT ARE NOT

- LIMITED TO: 1. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIALS IN WETLANDS OR FLOODPLAINS, EVEN WITH THE
- PERMISSION OF THE PROPERTY OWNER(S) WITHOUT WETLAND AND/OR FLOODPLAIN FILL PERMIT. 2. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDOR, TRIBUTARY, WATERS,
- WETLANDS, OR ANY AREAS OUTSIDE OF THE PROPOSED WORK AREA. 3. PUMPING OF SEDIMENT-LADEN WATER FROM EXCAVATIONS INTO ANY SURFACE WATERS, STREAM CORRIDORS, WETLANDS,
- OR STORM DRAINS 4. DISCHARGING OF POLLUTANTS SUCH AS CHEMICALS, FUEL, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE, AND
- OTHER HARMFUL WASTE INTO OR ALONGSIDE STREAM, RIVERS, IMPOUNDMENT, OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.
- PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW-LINE OF A STREAM.

FLOW TO ANY SURFACE WATER, STREAM CORRIDOR, OR WETLAND.

- 6. DAMAGING OF VEGETATION OUTSIDE OF THE PROPOSED WORK LIMITS, WITHIN NO-BUILD, TREE PRESERVATION AND GREEN
- 7. DISPOSAL OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, WETLANDS SURFACE WATERS, OR ANY OTHER UNSPECIFIED LOCATION WITHOUT A PERMIT.
- 8. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT
- 9. STORING OF CONSTRUCTION EQUIPMENT AND VEHICLES AND/ OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE. NOT PREVIOUSLY SPECIFIED AND APPROVED FOR THE SAID PURPOSE.
- 10. DISPOSAL OF CHIP WOOD IN SUCH A MANNER THAT WOULD ALLOW CHIP WOOD DECOMPOSITION AND LEACHATE WATER TO
- 11. TRACKING OF MUD AND OTHER CONSTRUCTION RELATED DEBRIS ONTO ROADWAY OR FLUSHING SEDIMENT FROM ROADWAY WITH WATER.

BMP MAINTENANCE NOTES TO CONTRACTOR:

AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

ALL MEASURES STATED ON THIS PLAN SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION. SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS (WHO IS ALSO A CERTIFIED STORM WATER OPERATOR),

- 1. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE
- FERTILIZED, WATERED, AND RESEEDED AS NEEDED. 2. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE
- SILT FENCES WHEN IT REACHES ONE-THIRD THE HEIGHT OF THE SILT FENCE. NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF
- 4. ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST CONFORM TO THE REQUIREMENTS OF MICHIGAN'S PERMIT-BY-RULE FOR CONSTRUCTION ACTIVITIES. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
- REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE BY A CERTIFIED STORM WATER OPERATOR ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT RESULTS IN A DISCHARGE FROM THE SITE. PROVIDED WILL BE THE NAME OF STORM WATER OPERATOR, CERTIFICATION NUMBER, MAJOR OBSERVATIONS, DATE OF INSPECTION AND CORRECTIVE MEASURES TAKEN. AN EGLE "SOIL EROSION AND SEDIMENTATION CONTROL INSPECTION LOG" SHALL BE FILLED OUT FOR EACH INSPECTION.
- 6. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE CHECKED ON A DAILY BASIS BY THE CONTRACTOR AND MISSING OR DEFICIENT MEASURES SHALL BE REPLACED OR REPAIRED IMMEDIATELY.
- 7. THE CONSTRUCTION ACCESS POINTS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY.
- 8. EXCESS DIRT/FILL IS NOT TO BE PLACED ON ANY AREAS ON OR ADJACENT TO THE SITE BEYOND THE LIMITS OF DISTURBANCE SHOWN ON THE SOIL EROSION PLANS UNLESS WRITTEN AUTHORIZATION IS PROVIDED BY THE ACCEPTING LAND OWNER AND AGREED TO BY THE DEVELOPER.
- 9. DUST CONTROL WILL BE EXERCISED AT ALL TIMES WITHIN THE PROJECT BY THE CONTRACTOR.
- 10. PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. ANY DEBRIS AND/OR SEDIMENT REACHING THE PUBLIC STREET SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

BEST MANAGEMENT PRACTICES SEQUENCE:

NOTE: THE FOLLOWING SESC SEQUENCE AND MEASURES ARE GENERAL TO EACH STRUCTURE LOCATION. ADDITIONAL MEASURES AND PHASING MAY BE REQUIRED DEPENDING ON THE INDIVIDUAL CONDITIONS AT THE LOCATION WORK IS BEING PERFORMED. FOUNDATION SPOIL LOCATIONS SHOWN ON THE PLAN(S) ARE FOR REFERENCE ONLY, CONTRACTOR MAY ADJUST ACTUAL LOCATION AS NECESSARY TO BEST MAINTAIN EXISTING DRAINAGE COURSES AND MINIMIZE IMPACTS TO THE EXISTING CONDITIONS SURROUNDING EACH WORK AREA. ALL EARTH DISTURBANCES ARE TO OCCUR ONLY WITHIN THE PERMITTED EASEMENT.

- PULL ALL NECESSARY LOCAL, COUNTY, AND STATE PERMITS. THE CONTRACTOR SHALL CONTACT THE EGLE, IF NECESSARY, TO AMEND THE NOTICE OF COVERAGE (NOC) WITH THE NAME AND CERTIFICATION NUMBER OF THE STORM WATER OPERATOR CHARGED WITH CONDUCTING THE REQUIRED INSPECTIONS. WRITTEN NOTIFICATION FROM THE EGLE APPROVING THE CHANGE TO THE NOC SHALL BE INCLUDED IN THE INSPECTION LOG.
- INSTALL SILT FENCING AS CALLED FOR ON PLANS OR AS SPECIFIC SITE CONDITIONS DICTATE. ONLY CLEAR AREAS NECESSARY TO INSTALL FENCING. FENCING SHALL BE ERECTED PRIOR TO DEMOLITION OF THE EXISTING STRUCTURE(S) AND SHALL BE MAINTAINED UNTIL THE DISTURBED AREAS AND SPOIL STOCKPILE AT THE INDIVIDUAL LOCATION ARE STABILIZED (90%
- VEGETATIVE COVER). SILT FENCE SHALL NOT BE PLACED ACROSS ANY ACCESS ROAD. CLEAR AND GRUB AREA AS NECESSARY TO ALLOW FOR PLACEMENT OF FOUNDATION SPOILS. DEMOLISH EXISTING STRUCTURE(S) & FOUNDATION(S) AS NECESSARY. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF
- MATERIALS/CONCRETE AT AN APPROVED AND LICENSED OFF-SITE LOCATION. STOCKPILE TOPSOIL AND EXCAVATE FOUNDATION. STOCKPILE SPOIL MATERIAL AND GRADE ADJACENT TO EXCAVATION AS SHOWN ON THE SITE DETAILS. NO DEWATERING OF EXCAVATED AREAS ARE ANTICIPATED, HOWEVER IF NECESSARY, PLANS
- PLACE TOPSOIL AND SEED SOIL STOCKPILE AS SPECIFIED. PLACE EROSION BLANKETS OVER ANY EXPOSED RAW EARTH WITHIN 100 FT OF A DRAIN OR WATERCOURSE.

COMPLETE CONSTRUCTION OF NEW STRUCTURE AND REPAIR SURROUNDING AREAS AS NECESSARY. INSPECT DISTURBED AREA WEEKLY FOR VEGETATIVE GROWTH, RESEED AS NECESSARY

- ONCE THE AREA HAS ACHIEVED A MINIMUM OF 90% VEGETATIVE COVER, REMOVE SILT FENCE (AND/OR OTHER REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES). STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF BMPS. SILT FENCE AND OTHER BMPS WHICH ARE STILL IN A SERVICEABLE CONDITION MAY BE RE-USED AS WORK PROGRESSES.
- IF IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE THE EARTH CHANGE. THEN MAINTAIN TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IN PLACE AND THE AREA IS STABILIZED. AREAS TEMPORARILY STABILIZED DURING THE NON-GROWING SEASON WILL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING THE COMMENCEMENT OF THE NEXT PLANTING SEASON. ALL STRAW OR HAY MULCH WILL BE REMOVED OR DEEPLY INCORPORATED INTO THE SOIL BEFORE PROVIDING PERMANENT STABILIZATION. DORMANT SEEDING IS
- ALSO RECOMMENDED FOR EARLY SPRING GROWTH. LANDOWNER WILL BE RESPONSIBLE FOR PERMANENT STABILIZATION OF DISTURBED AREAS FOR ONE YEAR.

FINAL PROJECT CLOSEOUT (ALL PROPOSED IMPROVEMENTS ARE COMPLETE)

- ONCE ALL PERMANENT SOIL EROSION CONTROL MEASURES ARE COMPLETED AND PERMANENT VEGETATION ESTABLISHED, THE CONTRACTOR SHALL CONTACT THE GOVERNING AUTHORITIES FOR A FINAL INSPECTION. ONCE THE SITE HAS PASSED ITS FINAL INSPECTION, THE S.E.S.C. PERMIT IS CLOSED AND NO FURTHER EARTH DISRUPTION CAN OCCUR WITHOUT A NEW PERMIT.
- THE NOTICE OF COVERAGE PERMITTEE SHALL FILE A NOTICE OF TERMINATION (NOT) WITH THE EGLE AND RETAIN S.E.S.C. LOGS (HARD COPIES & ELECTRONICALLY) FOR A MINIMUM OF 5 YEARS.

TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITHIN 50 FEET OF A STREAM AND NOT AT FINAL GRADE	IMMEDIATELY FOLLOWING (2 DAYS MAX) THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A STREAM	DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY IS SCHEDULED TO BE INACTIVE FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED OR STABILIZED IN ANOTHER APPROPRIATE WAY AS SOON AS POSSIBLE.
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER (NOVEMBER 1)

WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED. THIS CAN INCLUDE AGGREGATE COVER, EROSION CONTROL BLANKETS, TURF REINFORCEMENT MATS, OR OTHER STABILIZATION PRACTICE.

PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN FIVE (5) CALENDAR DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A STREAM AND AT FINAL GRADE	WITHIN 2 CALENDAR DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN FIVE (5) CALENDAR DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

CONSTRUCTION DEWATERING PLAN

DEFINITION: DEWATERING CONSISTS OF THE REMOVAL OF SURFACE WATER AND/OR GROUNDWATER BY DIVERTING AND/OR REMOVING CONSTRUCTION AREAS WITHIN WATER FEATURES (I.E. WETLANDS, WATERCOURSE, AND/OR WATERSHED), AS NEEDED FOR CONSTRUCTION.

- 1. DEWATERING ACTIVITIES SHALL CONFORM TO APPLICABLE PART 91, SOIL EROSION AND SEDIMENTATION CONTROL (SESC), OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (NREPA), 1994 PA 451, AS AMENDED.
- 2. DURING DEWATERING ACTIVITIES, THE SEDIMENT LADEN WATER CANNOT BE DIRECTLY DISCHARGED TO SURFACE WATERS. OPTIONS FOR REDUCING THE TURBIDITY OF THE WATER INCLUDE:
- a) CONSTRUCTING A TEMPORARY SEDIMENT TRAP FOR TURBID WATER DISCHARGE PRETREATMENT.
- b) USE OF A PORTABLE SEDIMENT CONTAINMENT SYSTEM SUCH AS DUMPSTERS.
- c) APPLICATION OF NATURAL BASED FLOCCULENT TECHNOLOGY SUCH AS CHITOSAN IN SEDIMENT TRAPS OR A SERIES OF DITCH CHECKS TO CONTAIN
- d) DISCHARGE WATER THROUGH A SERIES OF FIBER LOGS OR A ROCK WEEPER INTO A LARGE VEGETATED BUFFER AREA.
- e) ENERGY DISSIPATION SHOULD BE PROVIDED AT ALL DISCHARGE POINTS
- DEWATERING OR BASIN DRAINING ACTIVITIES SHOULD NOT CAUSE EROSION IN RECEIVING CHANNELS OR ADVERSELY IMPACT WETLANDS.

POLLUTANTS CONTROLLED AND IMPACTS:

SEDIMENTATION TO RECEIVING WATERS.

1. PROPER DEWATERING TECHNIQUES WILL FILTER WATER OF SEDIMENT, OILS, AND OTHER CHEMICALS, THUS PREVENTING THESE POLLUTANTS FROM ENTERING THE SURFACE WATERS.

DEWATER ACCUMULATED GROUND WATER OR STORMWATER VIA PUMP, DEWATERING BAG AND ENSURE DISCHARGED WATER DOES NOT CONTRIBUTE

C. APPLICATION:

1. APPLY AT THE BEGINNING OF AND DURING CONSTRUCTION WHEN IT IS NECESSARY TO LOWER THE WATER LEVELS WITHIN THE CONSTRUCTION AREA.

PUMPING NEEDS TO BE MAINTAINED TO KEEP UTILITY DITCHES AND COFFERDAMS DRY UNTIL ALL UNDERGROUND WORK IS COMPLETED.

WHERE TO APPLY: 1. APPLY ON CONSTRUCTION SITES, WHERE APPROPRIATE, OR ANYWHERE ELSE DEWATERING IS NEEDED.

- a) WHEN CONSTRUCTION ENCOUNTERS UNCONTAMINATED GROUND WATER / SPRING WATER:
- 1) CLEAN WATER SHOULD BE PUMPED FROM THE GROUND AND DISCHARGED THROUGH HOSES TO DEWATERING BAGS OR OTHER ADEQUATE ENERGY DISSIPATION PRIOR TO DISCHARGING TO RECEIVING WATERS. THESE BEST MANAGEMENT PRACTICES (BMPS) SHALL BE EMPLOYED AS APPROPRIATE AND APPLICABLE ACCORDING TO LOCAL PERMITS AND REGULATIONS.
- b) WHEN CONSTRUCTION ENCOUNTERS UNCONTAMINATED EXCAVATION DEWATERING:

REPLACED WHEN THEY BECOME CLOGGED OR HALF-FULL OF SEDIMENT.

1) CLEAN WATER SHOULD BE DISCHARGED TO A VEGETATED AREA, DITCHES OR OTHER CONVEYANCE VIA HOSE. ENERGY DISSIPATION SHOULD BE APPLIED TO THE DISCHARGE LOCATION TO MINIMIZE SCOUR. ALTERNATIVELY, UNCONTAMINATED WATER COULD BE DISCHARGED TO RECEIVING WATERS AS ALLOWED BY LOCAL PERMITS AND REGULATIONS OR AS LONG AS POSITIVE DRAINAGE IS PROVIDED, THE WATER COULD BE DISCHARGED INTO THE SURROUNDING AGRICULTURAL FIELDS AND ALLOWED TO INFILTRATE OR DRAIN ALONG EXISTING DRAINAGE PATTERNS PROVIDED THAT THE WATER DOES NOT CAUSE FLOODING OR CROP DAMAGE

- 1. DEWATERING IS OFTEN IMPLEMENTED IN CONJUNCTION WITH DEEP FOUNDATION INSTALLATION. SEDIMENT BASINS AND FILTERS SHOULD BE CONSIDERED
- TO HELP FILTER THE DEWATERED WATER BEFORE IT IS DISCHARGED TO A SURFACE WATER WITHIN UPLANDS. 2. UTILIZE EROSION BLANKETS, EROSION CONTROL FENCING, STRAW BALES, LEVEL SPREADERS, SILT FENCING, ETC., WHERE NECESSARY TO MITIGATE POTENTIAL EXCESSIVE EROSION AND SEDIMENTATION. ENSURE ANY MATERIALS PLACED IN SURFACE WATER BODIES ARE FREE FROM SILT AND OTHER SUCH PARTICLES. KEEP EXTRA EROSION AND SEDIMENT CONTROL MATERIALS ON SITE (E.G., HEAVY DUTY SILT FENCING, STRAW BALES).
- CHITOSAN AND CHITIN BASED ADDITIVES HAVE BEEN SHOWN TO SIGNIFICANTLY INCREASE THE EFFECTIVE-NESS OF FILTRATION AND SETTLING. CHITOSAN (POLY-D-GLUCOSAMINE) IS A LOW-TOXICITY PRODUCT EXTRACTED FROM CHITIN (POLY-N-ACETYL-D-GLUCOSAMINE), A BY-PRODUCT OF THE SHELLFISH INDUSTRY. OTHER PRODUCTS SUCH AS ANIONIC POLYACRYLAMIDE (ANIONIC PAM) ARE COMMERCIALLY AVAILABLE TO INCREASE SETTLING. OFTEN THESE ARE UTILIZED THROUGH WET OR DRY DOSING MECHANISMS OR AS WATER RUNS OVER A GEL BLOCK UPSTREAM OF A SETTLING OR FILTRATION PRACTICE. EACH PRODUCT SHOULD BE UTILIZED WITHIN THE MANUFACTURERS' SPECIFICATIONS AND TAILORED TO THE SOIL AND SITE CONDITIONS.
- 4. PARTICULATE FILTER UNITS UTILIZING CARTRIDGES OR ENCLOSED FILTER BAGS CAN REMOVE SMALLER PARTICLES DEPENDING ON THE FILTER SIZE. THIS TYPE OF MEASURE IS USUALLY NECESSARY TO TREAT CLAYS. FILTERS MAY NEED TO BE CHANGED DAILY OR MORE FREQUENTLY.
- CHECK THAT EROSION CONTROL TOOLS ARE IN GOOD REPAIR AND PROPERLY FUNCTIONING PRIOR TO CONDUCTING DAILY WORK AND RE-INSTALL OR
- REPAIR AS REQUIRED PRIOR TO COMMENCING DAILY CONSTRUCTION ACTIVITIES. 6. KEEP SEDIMENT AND EROSION CONTROL MEASURES IN PLACE UNTIL DISTURBED AREAS HAVE BEEN STABILIZED (I.E., RE-VEGETATED).

DESIGN SPECIFICATIONS:

- DEWATERING MUST BE DONE SO THAT THE VELOCITY OF THE DISCHARGED WATER DOES NOT CAUSE SCOURING OF THE RECEIVING AREA. IF THE RECEIVING AREA IS A STRUCTURAL BMP (I.E. BASIN OR SUMP), THE DESIGN OF THE BMP SHOULD BE BASED ON THE ANTICIPATED FLOW FROM THE DEWATERED AREA.
- SEDIMENT-LADEN WATER FROM COFFERDAMS, TRENCHES, FOUNDATION EXCAVATIONS, AND OTHER AREAS WHICH NEED TO BE DEWATERED SHOULD BE PUMPED THROUGH A GEOTEXTILE MATERIAL BEFORE THE WATER IS DISCHARGED TO A SURFACE WATER BODY. THE FILTER BAG SHOULD BE DISPOSED OF BY THE CONTRACTOR AT AN UPLAND SITE.
- 3. IF THE DEWATERED WATER IS DISCHARGED THROUGH A FILTER TO A COUNTY OR INTER COUNTY DRAIN, PERMISSION MUST BE OBTAINED FROM THE DRAIN COMMISSIONER OR DRAIN BOARD.
- 4. A TEMPORARY SUMP AND ROCK BASE SHOULD BE USED WHERE A TEMPORARY PUMP IS INSTALLED TO DEWATER AN AREA OF ACCUMULATED WATER. IF A ROCK BASE CANNOT BE USED, THE PUMP INTAKE SHALL BE ELEVATED TO DRAW WATER FROM THE TOP OF THE WATER COLUMN TO LIMIT SEDIMENTATION.
- IMPLEMENT DEWATERING OF FOUNDATIONS AS NEEDED. A TEMPORARY SUMP AND ROCK BASE SHOULD BE USED WHERE A TEMPORARY PUMP IS INSTALLED TO DEWATER AN AREA OF ACCUMULATED WATER. 6. OUTLETS PUMPS SHALL BE PROTECTED FROM SCOUR EITHER BY RIPRAP PROTECTION, FABRIC LINER, AND/OR OTHER ACCEPTABLE METHODS FOR OUTLET
- a) ENERGY DISSIPATION (RIPRAP) SHOULD BE APPLIED TO THE DISCHARGE AREA OF THE PUMP HOSE. THE WATER SHOULD BE DISCHARGED TO A LARGE FLAT VEGETATED AREA FOR FILTRATION / INFILTRATION PRIOR TO FLOWING INTO RECEIVING WATERS OF CONVEYANCES / DITCHES. IF
- 7. PROPOSED BMPS AND WATER TREATMENT

SEDIMENT DISCHARGE.

a) GEOTEXTILE FILTER BAGS

1) GEOTEXTILE FILTER BAGS REMOVE SEDIMENT FROM DEWATERING DISCHARGE AND ARE PUMPED INTO A FILTER BAG CHOSEN FOR THE PREDOMINANT SEDIMENT SIZE. FILTER BAGS ARE MANUFACTURED PRODUCTS MADE TYPICALLY FROM WOVEN MONOFILAMENT POLYPROPYLENE TEXTILE (COARSE MATERIALS, E.G. SANDS) OR NON-WOVEN GEOTEXTILE (SILTS/CLAYS). THEY ARE SINGLE USE PRODUCTS THAT MUST BE

DISCHARGE WATER IS TURBID: DEWATERINGBAGS.TEMPORARY TRAPS AND ROCK WEEPERS OR OTHER ADEQUATE BMP IS NEEDED TO CONTROL

- 2) GEOTEXTILE FILTER BAGS ARE GENERALLY CONSIDERED HIGH FLOW PRODUCTS, WHICH HAVE LIMITED ABILITY TO TREAT FINE-GRAINED SEDIMENTS. GRAVITY DRAINED FILTER BAGS SHOULD APPLY THE FOLLOWING: 1) THE FILTER BAGS SHOULD BE PLACED OUTSIDE OF A VEGETATED FILTER AREA AND NOT IN CLOSE PROXIMITY TO THE STREAM OR WATER RESOURCE; 2) THEY MUST SIT ON A RELATIVELY FLAT GRADE TO PREVENT EROSION CAUSED BY WATER LEAVING THE BAG; 3) THE PLACEMENT OF THE BAG OVERLAIN A FLAT BED OF AGGREGATE WILL MAXIMIZE THE FLOW AND USEFUL SURFACE AREA OF THE BAG; 4) THEY SHOULD BE USED IN CONJUNCTION WITH A LARGE VEGETATIVE BUFFER OR SECONDARY POND AND/OR BARRIER.
- 3) FILTER BAGS SHOULD BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH DOUBLE-STITCHED "J" TYPE SEAMS CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
- 4) FILTER BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREAS AND DISCHARGE ONTO STABLE, EROSION RESISTANT SURFACES/AREAS. BAGS SHALL NOT BE PLACED ONTO SLOPES GREATER THAN 5%.
- 5) THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE FILTER BAG IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. 6) A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME HALF FULL. SPARE REPLACEMENT BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE
- FAILED AND/OR ARE HALF FULL. 7) THE MONITORING FOR TURBIDITY OF THE FILTER BAG DISCHARGE SHOULD OCCUR ON A REGULAR BASIS. IF TURBID WATER IS OBSERVED PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM HAS BEEN RESOLVED. BAGS SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF PUMPING ACTIVITIES.

MAINTENANCE:

1. THE DEWATERING SITE SHOULD BE INSPECTED SEVERAL TIMES DAILY TO ENSURE THAT THE PUMPING PROCEDURE IS ADEQUATELY CONTROLLING THE EXCESS WATER, TO ENSURE THE FILTER BAG IS NOT CLOGGED, AND THAT THE VEGETATIVE FILTER, WHERE USED, IS STILL RETAINING SEDIMENT. IF THE FILTER BAG BECOMES CLOGGED, REPLACE WITH A NEW ONE.



(now what's **below** Call before you dig

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE E CONTRACTOR SHALL DETERMIN THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES
BE FULLY RESPONSIBLE FOR A ND ALL DAMAGES WHICH MIGHT CCASIONED BY THE CONTRACTOR AILURE TO EXACTLY LOCATE PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

CONSTRUCTION SITE SAFETY IS SOLE RESPONSIBILITY OF THE CONTRACTOR: NEITHER THE OWNEI
NOR THE ENGINEER SHALL BE
EXPECTED TO ASSUME ANY
RESPONSIBILITY FOR SAFETY OF
THE WORK, OF PERSONS ENGAGEL IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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SEEDING SPECIFICATION

GENERAL

SEEDING CAN BE USED FOR TEMPORARY OR PERMANENT STABILIZATION. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED. AREAS WHERE FINAL GRADING HAS BEEN COMPLETED SHALL BE TEMPORARILY AND/OR PERMANENTLY SEEDED IMMEDIATELY FOLLOWING THE CONCLUSION OF GRADING ACTIVITIES (WEATHER PERMITTING) AND MUST BE COMPLETED WITHIN FIVE (5) DAYS. TEMPORARY AND PERMANENT SEED MIXTURES ARE SPECIFIED BELOW. TEMPORARY SEED MIX SHALL ALSO BE APPLIED DURING THE APPLICATION OF THE PERMANENT SEED MIX TO ENSURE TIMELY VEGETATIVE COVER OF EXPOSED AREAS.

IMMEDIATELY AFTER SEEDING, MULCH ALL SEEDED AREAS WITH UNWEATHERED SMALL GRAIN STRAW OR HAY UNIFORMLY AT THE RATE OF 1-1/2 TONS TO 2 TONS PER ACRE OR 100 POUNDS PER 1000 SQUARE FEET. ANCHOR MULCH WITH DISC-TYPE ANCHORING TOOL OR OTHER MEANS APPROVED BY THE LOCAL REGULATORY AGENCY.

SEEDING MIXTURES

SEE SEED MIXES IN TEMPORARY & PERMANENT SEED CHARTS.

SLOPES FLATTER THAN 3:1 (NOT INCLUDING BASINS)

APPLY 17-17-17 COMMERCIAL ORGANIC FERTILIZER AT A RATE OF 20 LBS PER 1000 SQ/FT. SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

TEMPORARY SEEDINGPLANTING DATES
IMMEDIATELY FOLLOWING
LAST DISTURBANCE OR
WITHIN 14 DAYS

SEED VARIETY
(SEE CHART BELOW)

PERMANENT SEEDING PLANTING DATESSEED VARIETYAPPLICATION RATEPREFERABLE EARLY SPRING(SEE CHART BELOW)80 LBS PER ACREOR EARLY FALL

SLOPES 3:1 OR GREATER (NOT INCLUDING BASINS)

APPLY 17-17-17 COMMERCIAL ORGANIC FERTILIZER AT A RATE OF 20 LBS PER 1000 SQ/FT. AND SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

TEMPORARY SEEDING PLANTING DATES SEED VARIETY

IMMEDIATELY FOLLOWING LAST DISTURBANCE OR WITHIN 5 DAYS

PERMANENT SEEDING PLANTING DATESSEED VARIETYAPPLICATION RATEPREFERABLE EARLY SPRING(SEE CHART BELOW)80 LBS PER ACREOR EARLY FALL

(SEE CHART BELOW)

TEMPORARY SEED
SEED: 60 LBS PER ACRE
MIX:

40% SEED OATS
25% KENTUCKY 31 TALL FESCUE
22% CREEPING RED FESCUE
11% TIMOTHY
1.0% INERT MATTER
1.0% OTHER CROP
0.01% WEED SEED

PERMANENT SEED
SEED 80 LBS PER ACRE
MIX:
70% TRUE BLUE KENTUCKY
(BROOKLAWN, BOUTIQUE, GROME, AND
H92-203 KENTUCKY BLUEGRASS)
30% PERENNIAL RYE GRASS
(MANHATTAN 4, CHARGER, CITATION 4,
AND PIZZAZZ PERENNIAL RYE GRASS)

60 LBS PER ACRE

APPLICATION RATE

60 LBS PER ACRE

SEED BED PREPARATION (PERMANENT SEEDING)

SURFACE WATER CONTROL MEASURES SHALL BE IN PLACE. AREA TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL. TOTAL SEEDBED PREPARED DEPTH SHOULD BE AT LEAST 4 INCHES. LOOSE ROCKS, ROOTS AND OTHER OBSTRUCTIONS NEED TO BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH THE ESTABLISHMENT AND MAINTENANCE OF VEGETATION. SURFACE FOR FINAL SEEDBED PREPARATION SHOULD BE AT FINISH GRADE AND BE REASONABLY SMOOTH AND UNIFORM.

IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME SHOULD BE USED ACCORDING TO SEEDING SPECIFICATIONS. IF SOIL TEST IS TAKEN, APPLY FERTILIZER AND LIME ACCORDING TO SOIL TEST REPORT. FERTILIZER AND LIME SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED PREPARATION. WEIGHTS, SEED SPECIES AND PERCENTAGE OF PURITY AND GERMINATION MUST BE CHECKED PRIOR TO SEEDING.

SEEDING SHALL BE ACCOMPLISHED IN TWO DIRECTIONS AND AT RIGHT ANGLES TO EACH OTHER. LAWN AREAS SHALL BE SEEDED AT THE RATE INDICATED ON THE DRAWINGS BY SOWING EVENLY WITH AN APPROVED MECHANICAL CULTI-PACKER SEEDER TO COVER THE SEED AND FORM THE SEEDBED IN ONE OPERATION. IF BROADCAST SEEDER IS USED THE SEEDING RATE SHALL BE TWO (2) TIMES THE DRILL RATE. IN INACCESSIBLE AREAS, THE SEED SHALL BE LIGHTLY RAKED WITH FLEXIBLE RAKES AND ROLLED WITH A WATER BALLAST ROLLER. AFTER ROLLING SEEDED AREAS ARE TO BE MULCHED ACCORDING TO SPECIFICATION. IF HYDRO-SEED OPERATION IS USED, SEEDING RATE SHALL BE FIVE (5) TIMES THE DRILL RATE INDICATED ON THE DRAWINGS.

IF SEEDING CAN NOT BE ACCOMPLISHED DUE TO SEASONAL CONSTRAINTS, APPLY STRAW MULCH AND TACKIFIER TO ALL SLOPES AND DISTURBED AREAS UNTIL PERMANENT SEEDING IS ALLOWED. IN THE EVENT SEEDING OCCURS OUT OF SEASON, MAINTENANCE SHALL OCCUR AND CONTINUE INTO THE FOLLOWING GROWING SEASON OR UNTIL A UNIFORM STAND OF THE SPECIFIED PERMANENT GRASSES HAVE BEEN ESTABLISHED AND THE SITE HAS REACHED 90% STABILIZATION. PERMANENT AND TEMPORARY SEEDING SHALL BE ACCOMPLISHED THROUGHOUT THE CONSTRUCTION PROCESS.

INSPECTIO

INSPECT SEEDED AREAS FREQUENTLY. IF SEEDED AREAS FAIL TO GERMINATE, OR TO PROVIDE ADEQUATE GROUND COVERAGE, THE AREA SHALL BE RE-SEEDED UNTIL FINAL STABILIZATION IS ACHIEVED.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- 1. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE PLANS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- 2. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
- 3. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
 4. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR
- DISPOSED.

 5. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST
- SUPPRESSION OPERATIONS IS PROHIBITED.

 6. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR
- 7. ALL DENUDED AREAS THAT WILL BE INACTIVE FOR 14 DAYS OR MORE, MUST BE STABILIZED TEMPORARILY WITH THE USE OF
- FAST-GERMINATING ANNUAL GRASS/GRAIN VARIETIES, STRAW/HAY MULCH, WOOD CELLULOSE FIBERS, TACKIFIERS, NETTING OR BLANKETS.

 8. ALL MUD/DIRT/MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO PUBLIC ROADWAYS OR INTO WATER COURSES SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- 9. ON-SITE & OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
- 10. ALL STOCKPILED SOILS SHALL BE MAINTAINED IN SUCH A WAY AS TO PREVENT EROSION FROM THE WORK AREA.
- 11. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.
- 12. EROSION AND ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS
- 13. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURE WHEN REQUIRED. HE SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, STOCKPILES AND OTHER EARTH CHANGES HAVE BEEN ACCOMPLISHED.
- 14. LOW GROUND PRESSURE EQUIPMENT SHALL BE USED TO MINIMIZE LAND DISTURBANCE BETWEEN STRUCTURES.
- 15. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE WASHTENAW COUNTY WATER RESOURCES COMMISSIONER.
- 16. ALL GRADING TO BE PERFORMED AS NOT TO OBSTRUCT UPSTREAM DRAINAGE.
- 17. SITES WILL BE INSPECTED WEEKLY- ANY AREAS OF OFF-SITE EROSION WILL BE CORRECTED WITHIN 2 BUSINESS DAYS.
- 18. TIMBER CROSSING MATS WILL BE USED AS SHOWN TO MINIMIZE DISRUPTION TO WETLAND AREAS.

SEQUENCE OF CONSTRUCTION FOR SOIL EROSION CONTROL (FOR EACH SITE)

START DAY	END DAY	*SCHEDULE TO BE FILLED OUT BY CONTRACTOR.	
		1. PULL ALL NECESSARY PERMITS & LICENSES.	
		2. INSTALL SILT AND PROTECTIVE FENCING.	
		3. CLEAR AND GRUB WORK AREA	
		4. COMPLETELY REMOVE EXISTING STRUCTURE & FOUNDATION.	
		5. STRIP AND STOCKPILE TOPSOIL.	
		6. EXCAVATE FOR PROPOSE STRUCTURE, STOCKPILE SPOILS AND GRADE ACCORDINGLY	
		7. BEGIN FOUNDATION CONSTRUCTION OF NEW STRUCTURE.	
		8. REPLACE TOPSOIL, SEED AND STABILIZE DISTURBED AREAS.	
		9. REMOVE SILT FENCE, REPAIR DISTURBED AREAS AS NECESSARY.	
		10. COORDINATE WITH PERMITTING AGENCIES FOR CLOSEOUT INSPECTION.	
		<u>NOTE:</u> IF SEEDING CAN NOT BE ACCOMPLISHED DUE TO SEASONAL CONSTRAINTS, APPLY STRAW MULCH AND TA SLOPES AND DISTURBED AREAS UNTIL PERMANENT SEEDING IS ALLOWED. IN THE EVENT SEEDING OCCUP	

IF SEEDING CAN NOT BE ACCOMPLISHED DUE TO SEASONAL CONSTRAINTS, APPLY STRAW MULCH AND TACKIFIER TO ALL SLOPES AND DISTURBED AREAS UNTIL PERMANENT SEEDING IS ALLOWED. IN THE EVENT SEEDING OCCURS OUT OF SEASON, MAINTENANCE SHALL OCCUR AND CONTINUE INTO THE FOLLOWING GROWING SEASON. FOR ALL AREAS LEFT UNSTABILIZED DUE TO SEASONAL CONSTRAINTS, FINAL STABILIZATION SHALL BE ACHIEVED BY APRIL 15TH.



Know what's **Delow.**Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:

CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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866.850.4200 www.atwell-group.con
TWO TOWNE SQUARE, SUITE 700
SQUARFIELD, MI 48076



CLIENT MEADOWLARK

BECLE IMPACT PLANS

COUNTY, MICHIGAN SCUIENT MICHIGAN SESC NOTES

WASHTENAW COUNTY, MICHIGAN WASHTENAW COUNTY,

REVISIONS

DR. JB | CH. —
P.M. DB
BOOK NA
JOB 18002735
SHEET NO.

Approved
Issued On:10/09/2019
Expires On:10/09/2024



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY WATER RESOURCES DIVISION PERMIT

Issued To:		
Jean-Marie Moulie 5123 Buckley Driv Ypsilanti, Michiga	е	
Permit No: Submission No.: Site Name: Issued: Revised: Expires:	WRP023919 v1.2 HP2-BCP8-1P3FW 81-5728 Geddes Road-Ar July 31, 2020 September 29, 2020 July 31, 2025	
(EGLE), Water Res		Department of Environment, Great Lakes, and Energy e provisions of the Natural Resources and Environmenta REPA); specifically:
Part 301, Inland	Lakes and Streams	Part 323, Shorelands Protection and Management
🔀 Part 303, Wetlaı	nds Protection	Part 325, Great Lakes Submerged Lands
Part 315, Dam Safety		Part 353, Sand Dunes Protection and Management
Part 31, Water F	Resources Protection (Floor	dplain Regulatory Authority)
	eby granted, based on per permit conditions, to:	mittee assurance of adherence to State of Michigan
Authorized Activit	y:	
Construct a perm wetland.	nanent 8-foot-wide by 105	-foot-long, elevated, open pile boardwalk in
	completed in accordance tions of this permit.	with the attached approved plans

Waterbody Affected: wetland

Property Location: Washtenaw County, Superior Township, Town 02S, Range 07E, Section 30,

Property Tax No. J-10-30-400-061

Authority granted by this permit is subject to the following limitations:

- A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
- B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.

- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify EGLE within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of EGLE.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
- L. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).
- M. In issuing this permit, EGLE has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, EGLE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
- N. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
- O. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, EGLE may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
- P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from EGLE. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by EGLE prior to being implemented.
- Q. This permit may be transferred to another person upon written approval of EGLE. The permittee must submit a written request to EGLE to transfer the permit to the new owner. The new owner must also submit a written request to EGLE to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all the above information may be provided to EGLE. EGLE will review the request and, if approved, will provide written notification to the new owner.
- R. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.

EGLE-WRD WRP023919 v1.2 Approved Issued On:07/31/2020 Expires On:07/31/2025

- S. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.
- T. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).
- U. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.
- V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
- W. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
- X. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources, Fisheries Division.
- Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:
 - Authority granted by this permit does not waive permit or program requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA or the need to acquire applicable permits from the CEA. To locate the Soil Erosion Program Administrator for your county, visit www.mi.gov/deqstormwater and select "Soil Erosion and Sedimentation Control Program" under "Related Links."
 - 2. Prior to the start of construction, all adjacent non-work wetland areas shall be protected by properly trenched sedimentation barrier to prevent sediment from entering the wetland. Orange construction fencing shall be installed as needed to prohibit construction personnel and equipment from entering or performing work in these areas. Fence shall be maintained daily throughout the construction process. Upon project completion, the accumulated materials shall be removed and disposed of at an upland site, the sedimentation barrier shall then be removed in its entirety and the area restored to its original configuration and cover.
 - 3. Additional attachments to permitted structures, including but not limited to roofs, sidewalls, benches, decks, docks, piers, or extensions thereof, are **not** authorized by this permit.
 - 4. Dredging is not authorized by this permit.
 - 5. Filling is not authorized by this permit.
 - 6. No fill, excess soil, or other material shall be placed in any wetland, floodplain, or surface water area not specifically authorized by this permit, its plans, and specifications.
 - 7. The following federally threatened or endangered species are known to occur on or near this project site and may be impacted by your activities: Eastern Massasauga Rattlesnake (EMR) (*Sistrurus catenatus*) and Indiana Bat (Myotis sodalist). Please be advised that any activity that would cause harm to these species may require a federal permit under the Endangered Species Act or other federal regulations. The permittee shall continue Endangered Species Act Consultation with the U.S. Fish and Wildlife Service, 2651 Coolidge Road, East Lansing, Michigan 48829.

Indiana Bat

8. To avoid take of Indiana Bat, any trees larger than five (5) inches dbh on the project site shall not be cut between April 1 and September 30 in any permit year.

Eastern Massasauga Rattlesnake

- 9. When working during the EMR active season (generally April 15 through October 15), exclusionary fencing shall be used to separate EMR habitat from the work site to prevent EMR from accessing the disturbance area.
- 10. Any areas using exclusionary fencing shall first be "cleared" by a qualified individual before beginning construction activities. Fencing shall be installed a minimum of one (1) day before construction activities occur and walked weekly to ensure the integrity of the fence. If snakes are seen within the work zone, activity shall stop until the snake can be safely moved by a qualified individual, and the fence examined for breeches.
- 11. Fencing materials that can entangle or injure snakes shall not be used for exclusionary fencing.
- 12. When working during the EMR inactive season, protentional hibernation areas shall be avoided to the extent possible.
- 13. Exclusionary fencing is not necessary if the work can be conducted entirely within the inactive season.
- 14. Water levels in known/presumed occupied habitats shall not be artificially manipulated during the inactive season.
- 15. Wildlife-safe materials shall be used for erosion control and site restoration throughout the project area. Erosion control products containing plastic mesh netting or other similar material that could entangle EMR shall not be used.
- 16. Best management practices shall be used to prevent the spread of invasive species into EMR habitat. Equipment and vehicles shall be inspected and cleaned between work sites as needed to prevent the spread of invasive plant materials.
- 17. All imported fill material shall be free from contaminants or invasive species. Exclusionary fencing shall be used around areas to be filled and must be inspected for EMR by a qualified individual prior to placing fill.
- 18. Vehicle activity shall be minimized in known/presumed occupied EMR habitat to the extent possible. When feasible, vehicle activity will be limited to after mid-October but before mid-April. After mid-April and before mid-October, travel speeds will be reduced to give vehicle operators adequate time to identify and avoid EMR and other wildlife. Speeds should be below 15 MPH.
- 19. To increase human safety and awareness of EMR, those implementing the project should first watch Michigan Department of Natural Resources "60-Second Snakes: The Eastern Massasauga Rattlesnake" video (available at https://youtu.be/~PFnXe_e02w), or review the EMR factsheet (available at https://www.fws.gov/midwest/endangered/reptiles/eama/pdf/EMRfactsheetSep2016.pdf), or call 517-351-2555.
- 20. Any EMR observations, or observation of any other listed threatened or endangered species, during project implementations shall be reported to the USFWS within 24 hours.

- 21. All disturbed habitat areas shall be restored with appropriate, native plant species.
- 22. Upon completion of the project, the exclusionary fencing shall be removed.
- 23. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state, or federal approval or authorization necessary to conduct the activity.
- 24. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
- 25. The permit placard shall be kept posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.
- 26. This permit is being issued for the maximum time allowed and no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by EGLE, will be for a five-year period beginning on the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.

Issued By:

Melissa Letosky Jackson District Office Water Resources Division 517-416-7001

Melisser Letassaz

cc: Superior Township Clerk
Washtenaw County SESC
Mr. Don Berninger, Atwell, LLC
Mr. Chris Kunkle, Atwell, LLC

PROJECT DEVELOPER

MEADOWLARK 3250 W. LIBERTY ROAD ANN ARBOR, MI 48103 ATTN: REBECCA LUSSIER

PROJECT CONSULTANTS

ATWELL, LLC
TWO TOWNE SQUARE, SUITE 700
SOUTHFIELD, MI 48076
PHONE: 248.447.2000
FAX: 248.447.2001
ATTN: BOURKE THOMAS

MOULIERE PARCEL - 5728 GEDDES RD.

SUPERIOR TOWNSHIP, WASHTENAW COUNTY EGLE IMPACT PLANS



VICINITY MAP

NOT TO SCALE

VERTICAL DATUM

ELEVATIONS ARE BASED ON THE NAVD 88 DATUM.

BASIS OF BEARING

STATE PLANE, MICHIGAN SOUTH, NAD 83 BASED UPON GPS OBSERVATIONS ALONG WITH SOLUTIONS PROVIDED BY O.P.U.S.

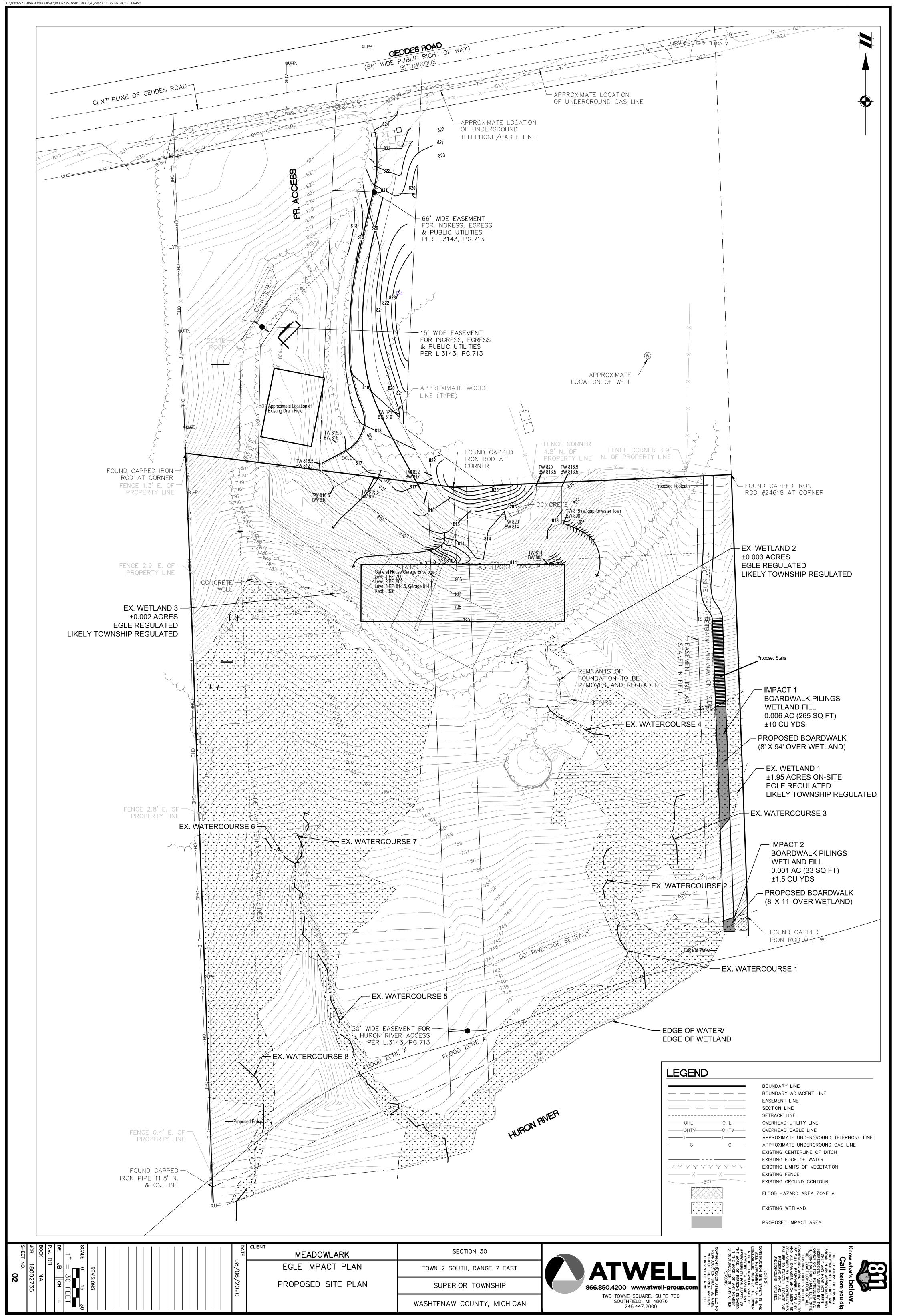
SHEET INDEX

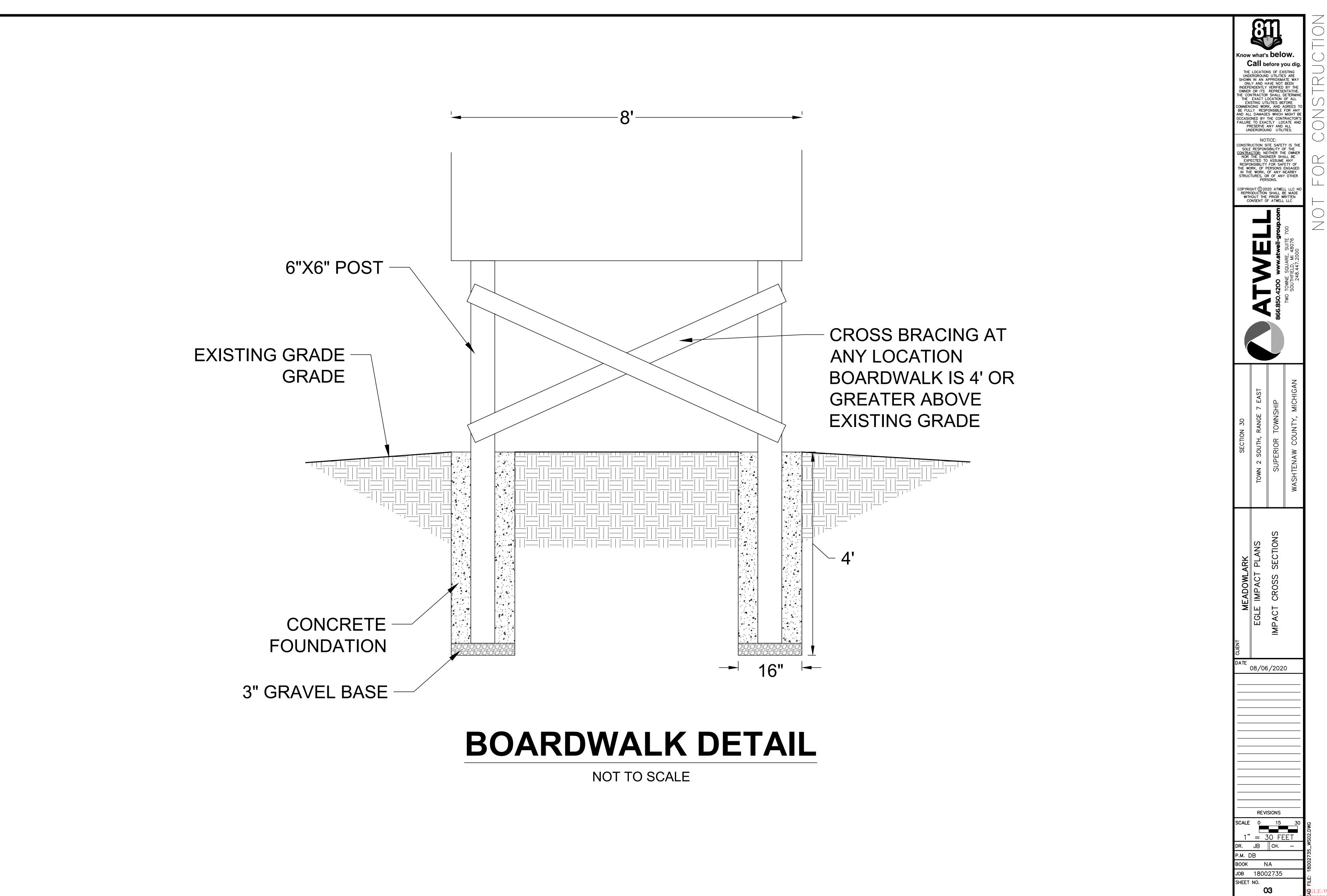
O1 COVER SHEET
O2 PROPOSED SITE PLAN
O3 IMPACT CROSS SECTION
O4 BMP & CONSTRUCTION DETAILS

D5 SESC NOTES

Call before you dig MOULIERE PARCEL EGLE IMPACT PLANS DATE 08/06/2020

DR. BS CH. CK
P.M. DB
BOOK NA
JOB 18002735





Approved Ssued On:07/31/2020 Spires On:07/31/2020

LOCAL AND STATE CONDITIONS AND CLARIFICATIONS:

- 1. THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL AUTHORITY AND THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY (EGLE), IN FORCE ON DATE OF APPROVAL SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATION, OR BY THE CONSTRUCTION DETAILS SET FORTH HEREIN
- 2. THE CONTRACTOR (AND ALL SUBCONTRACTORS) SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR TO INITIATE,
- MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH WORK. 3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY LICENSES AND PERMITS PRIOR TO THE START OF CONSTRUCTION. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS AND SPECIAL CONDITIONS OF THE APPROVALS ISSUED FOR THE PROJECT.
- 4. THE CONTRACTOR SHALL CAUSE NOTICE TO BE GIVEN TO MISS DIG (811) A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- 5. ALL DRAIN TILE AND STORM SEWERS NOT NOTED TO BE REMOVED/RE-ROUTED WHICH ARE DAMAGED, DISTURBED, OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH THE SAME QUALITY PIPE OR BETTER, MAINTAINING THE SAME GRADIENT AS EXISTING. REPLACED DRAIN TILE SHALL BE LAID ON COMPACTED BEDDING EQUAL IN DENSITY TO SURROUNDING STRATUM. REPLACEMENT SHALL BE DONE AT THE TIME OF THE BACKFILL OPERATION.
- 6. THE FLOW IN ALL SEWERS, DRAINS, AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND WHENEVER SUCH WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING THE PROSECUTION OF THE WORK, THEY SHALL BE RESTORED BY THE CONTRACTOR AT HIS OWN COST AND EXPENSE.
- 7. THE CONTRACTOR SHALL RETURN ALL GRADES ALONG THE LIMITS OF DISTURBANCE TO ORIGINAL CONDITION, MATING UNDISTURBED
- AREAS, SO AS TO MAINTAIN ORIGINAL DRAINAGE. 8. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES AND ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY, DEFICIENCIES SHALL BE CORRECTED BY THE CONTRACTOR WITHIN
- 9. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSPECTED BY A CERTIFIED STORM WATER OPERATOR AT LEAST ONCE EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF A OF EVERY PRECIPITATION EVENT THAT RESULTS IN A DISCHARGE FROM THE SITE OR MORE FREQUENTLY IF REQUIRED BY GOVERNING NPDES GENERAL PERMIT. ALL MAINTENANCE REQUIRED BY INSPECTION SHALL COMMENCE
- WITHIN 24 HOURS AND BE COMPLETED WITHIN 48 HOURS OF REPORT. 10. ALL PRACTICES MUST BE MONITORED AND MAINTAINED BY A TRAINED REPRESENTATIVE OF THE CONTRACTOR. THE CONTRACTOR MUST KEEP WRITTEN RECORDS OF SELF-MONITORING AND PROVIDE THEM TO THE LOCAL AUTHORITIES, EGLE, OR OTHER INSPECTING AUTHORITY
- 11. ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS.
- 12. APPROPRIATE MEASURES SHALL BE PUT IN PLACE TO PREVENT POLLUTANTS SEDIMENT, TRASH, FUEL, SOLVENTS, ETC. FROM LEAVING THE WORK SITE AND/OR ENTERING SURFACE OR GROUND WATER. PROPER HANDLING AND STORAGE OF ALL HAZARDOUS MATERIALS SHALL BE MAINTAINED AT ALL TIMES AND SPILL PREVENTION AND CLEAN-UP PLANS SHALL BE IN PLACE PRIOR TO BRINGING HAZARDOUS MATERIALS
- 13. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. HE/SHE SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION (90% VEGETATIVE COVER) HAS BEEN
- 14. STRAW MULCH BLANKETS MUST BE USED ON 3:1 SLOPES OR GREATER.
- 15. ALL EXPOSED AREAS SHALL BE STABILIZED AS SPECIFIED IMMEDIATELY FOLLOWING THE CONCLUSION FINAL GRADING IN THE DESIGNATED
- 16. AREAS OF DISTURBED SOIL THAT REMAIN INACTIVE FOR 14 DAYS MUST HAVE TEMPORARY OR PERMANENT STABILIZATION IN PLACE. USUALLY, THIS CONSISTS OF GRASS SEED AND MULCH, BUT IT CAN ALSO INCLUDE AGGREGATE COVER, EROSION CONTROL BLANKETS, TURF REINFORCEMENT MATS, OR OTHER APPROPRIATE STABILIZATION PRACTICE.
- 17. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT AND/OR POLLUTANTS FROM LEAVING THE SITE.
- 18. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION.
- 19. GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
- 20. SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT IS 1/3 THE HEIGHT OF THE FENCE.
- 21. CLEANUP WILL BE DONE IN A MANNER TO ENSURE THAT EROSION CONTROL MEASURES ARE NOT DISTURBED.
- 22. CONTRACTOR SHALL PAY ALL FEES AND POST AN EROSION CONTROL PERFORMANCE BOND, IF REQUIRED, PRIOR TO ANY EARTH CHANGE. 23. CONSTRUCTION OPERATION SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN
- PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS. 24. BORROW AND FILL DISPOSAL AREAS WILL BE SELECTED BY THE CONTRACTOR WITH FULL CONSIDERATION FOR SOIL EROSION AND SEDIMENT
- 25. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION 26. PERMANENT STABILIZATION IS ACHIEVED ONCE THE LOCAL AUTHORITIES PERFORM A FINAL INSPECTION OF THE COMPLETED PROJECT. ONCE THE PROJECT HAS PASSED LOCAL INSPECTION, A NOTICE OF TERMINATION (NOT) SHALL BE FILED BY THE CONTRACTOR WITH THE EGLE AND
- NO FURTHER EARTH DISRUPTION ACTIVITIES MAY OCCUR WITHOUT A NEW PERMIT. 27. CONTRACTOR SHALL DENOTE LOCATION OF CONCRETE WASHOUT AREAS (IF USED) ON THE SWPPP.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY

CONSTRUCTION PERMITTEE(S) THAT HAS AUTHORIZATION TO DISCHARGE UNDER A NATIONAL PERMIT (NPDES) SHALL COMPLY WITH THE FOLLOWING PROVISIONS (DEVELOPMENT AGREEMENT REQUIREMENTS MAY BE MORE STRINGENT)

- 1. NOT DIRECTLY OR INDIRECTLY DISCHARGE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LUBRICANTS, FUELS, LITTER, SANITARY WASTE, OR ANY OTHER SUBSTANCE AT THE CONSTRUCTION SITE INTO WATERS OF THE STATE IN
- VIOLATION OF PART 31 OF THE 1994 PA 451, MCL 324.3101 ET SEQ., AND RULES PROMULGATED UNDER THE ACT. 2. BE IN COMPLIANCE WITH A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT FOR THE SITE OR, IF THE CONSTRUCTION ACTIVITY IS CARRIED OUT BY AN AUTHORIZED PUBLIC AGENCY, THE APPROVED CONTROL PLAN, INCLUDING THE SELECTED CONTROL MEASURES THAT ARE APPLICABLE TO THE SITE.
- 3. PROPERLY MAINTAIN AND OPERATE THE SOIL EROSION CONTROL MEASURES.
- 4. HAVE THE SOIL EROSION CONTROL MEASURES UNDER THE SPECIFIC SUPERVISION AND CONTROL OF A STORM WATER OPERATOR WHO HAS BEEN CERTIFIED BY THE DEPARTMENT AS PROPERLY QUALIFIED TO OPERATE THE SOIL EROSION CONTROL MEASURES. THE CERTIFICATION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF R 323.1251 ET SEQ.
- 5. CAUSE THE CONSTRUCTION ACTIVITY TO BE INSPECTED BY A CERTIFIED STORM WATER OPERATOR ONCE PER WEEK. AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT RESULTS IN A DISCHARGE FROM THE SITE. AND ENSURE THAT ANY NEEDED CORRECTIVE ACTIONS ARE CARRIED OUT. A LOG OF THE INSPECTIONS AND CORRECTIVE ACTIONS SHALL BE MAINTAINED ON FILE BY THE CONSTRICTION PERMITTEE FOR REVIEW AND SHALL BE RETAINED BY THE CONSTRUCTION PERMITTEE FOR A PERIOD OF THREE (3) YEARS FROM THE DATE OF
- THE INSPECTION OR CORRECTIVE ACTION 6. IN ACCORDANCE WITH THE REQUIREMENTS FOR ON-LAND FACILITIES AS SET FORTH IN SPILLAGE OF OIL AND POLLUTING MATERIALS, BEING PART 5 OF THESE (MICHIGAN PERMIT-BY-RULE) RULES, PROVIDE FACILITIES AND COMPLY WITH REPORTING PROCEDURES FOR CONTAINMENT
- OF ANY ACCIDENTAL LOSSES OF OIL OR OTHER POLLUTING MATERIALS. 7. DISPOSED OF SOLIDS, SEDIMENT, FILTER BACKWASH, OR OTHER WASTE THAT IS REMOVED FROM OR RESULTS FROM THE TREATMENT OF CONTROL OF STORM WATER IN COMPLIANCE WITH APPLICABLE STATE LAWS AND REGULATIONS AND IN A MANNER THAT PREVENTS ANY WASTE FROM ENTERING WATERS OF THE STATE.
- 8. ALLOW THE DEPARTMENT TO ENTER UPON THE SITE AT ANY REASONABLE TIME BEFORE THE EXPIRATION OF THE AUTHORIZATION TO DISCHARGE AS SET FORTH IN SUBRULE (5) OF THIS RULE, UPON PRESENTATION OF CREDENTIALS AND OTHER DOCUMENTS AS MAY BE REQUIRED BY LAW, FOR THE PURPOSE OF INSPECTING CONDITIONS RELATING TO THE POLLUTION OF ANY WATERS OR DETERMINING COMPLIANCE WITH THE PROVISIONS OF THIS RULE.
- 9. UPON REQUEST, MAKE AVAILABLE FOR PUBLIC INSPECTION OR PROVIDE TO THE DEPARTMENT ALL REPORTS OR LOGS PREPARED PURSUANT TO THE PROVISIONS OF THIS RULE.
- 10. FILE A REVISED NOTICE OF COVERAGE IN COMPLIANCE WITH THE PROVISIONS OF SUBRULE (1) OF THIS RULE BEFORE ANY EXPANSION OF THE CONSTRUCTION ACTIVITY OR CHANGE IN THE SOIL EROSION CONTROL MEASURES THAT REQUIRES A CHANGE IN THE SOIL EROSION AND SEDIMENTATION PERMIT.

PROHIBITED CONSTRUCTION ACTIVITIES:

THE CONTRACTOR SHALL NOT USE CONSTRUCTION ACTIVITIES, PROCEEDINGS, OR OPERATIONS THAT MAY UNNECESSARILY IMPACT THE NATURAL ENVIRONMENT OR THE PUBLIC HEALTH AND SAFETY. PROHIBITED CONSTRUCTION ACTIVITIES, PROCEEDINGS OR OPERATIONS INCLUDE BUT ARE NOT

- LIMITED TO: 1. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIALS IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER(S) WITHOUT WETLAND AND/OR FLOODPLAIN FILL PERMIT.
- 2. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDOR, TRIBUTARY, WATERS, WETLANDS, OR ANY AREAS OUTSIDE OF THE PROPOSED WORK AREA.
- 3. PUMPING OF SEDIMENT-LADEN WATER FROM EXCAVATIONS INTO ANY SURFACE WATERS, STREAM CORRIDORS, WETLANDS, OR STORM DRAINS
- 4. DISCHARGING OF POLLUTANTS SUCH AS CHEMICALS, FUEL, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE, AND OTHER HARMFUL WASTE INTO OR ALONGSIDE STREAM, RIVERS, IMPOUNDMENT, OR INTO NATURAL OR MAN-MADE
- CHANNELS LEADING THERETO. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW-LINE OF A STREAM.
- 6. DAMAGING OF VEGETATION OUTSIDE OF THE PROPOSED WORK LIMITS, WITHIN NO-BUILD, TREE PRESERVATION AND GREEN
- 7. DISPOSAL OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, WETLANDS SURFACE WATERS, OR ANY
- OTHER UNSPECIFIED LOCATION WITHOUT A PERMIT. 8. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT
- 9. STORING OF CONSTRUCTION EQUIPMENT AND VEHICLES AND/ OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE. NOT PREVIOUSLY SPECIFIED AND APPROVED FOR THE SAID PURPOSE.
- 10. DISPOSAL OF CHIP WOOD IN SUCH A MANNER THAT WOULD ALLOW CHIP WOOD DECOMPOSITION AND LEACHATE WATER TO
- 11. TRACKING OF MUD AND OTHER CONSTRUCTION RELATED DEBRIS ONTO ROADWAY OR FLUSHING SEDIMENT FROM
- FLOW TO ANY SURFACE WATER, STREAM CORRIDOR, OR WETLAND. ROADWAY WITH WATER.

BMP MAINTENANCE NOTES TO CONTRACTOR:

ALL MEASURES STATED ON THIS PLAN SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION. SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS (WHO IS ALSO A CERTIFIED STORM WATER OPERATOR), AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

- 1. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE
- FERTILIZED, WATERED, AND RESEEDED AS NEEDED. 2. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE
- SILT FENCES WHEN IT REACHES ONE-THIRD THE HEIGHT OF THE SILT FENCE. NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF
- 4. ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST CONFORM TO THE REQUIREMENTS OF MICHIGAN'S PERMIT-BY-RULE FOR CONSTRUCTION ACTIVITIES. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY
- REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE BY A CERTIFIED STORM WATER OPERATOR ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT RESULTS IN A DISCHARGE FROM THE SITE. PROVIDED WILL BE THE NAME OF STORM WATER OPERATOR, CERTIFICATION NUMBER, MAJOR OBSERVATIONS, DATE OF INSPECTION AND CORRECTIVE MEASURES TAKEN. AN EGLE "SOIL EROSION AND SEDIMENTATION CONTROL INSPECTION LOG" SHALL BE FILLED OUT FOR EACH INSPECTION.
- 6. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE CHECKED ON A DAILY BASIS BY THE CONTRACTOR AND MISSING OR DEFICIENT MEASURES SHALL BE REPLACED OR REPAIRED IMMEDIATELY.
- 7. THE CONSTRUCTION ACCESS POINTS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY.
- 8. EXCESS DIRT/FILL IS NOT TO BE PLACED ON ANY AREAS ON OR ADJACENT TO THE SITE BEYOND THE LIMITS OF DISTURBANCE SHOWN ON THE SOIL EROSION PLANS UNLESS WRITTEN AUTHORIZATION IS PROVIDED BY THE ACCEPTING LAND OWNER AND AGREED TO BY THE DEVELOPER.
- 9. DUST CONTROL WILL BE EXERCISED AT ALL TIMES WITHIN THE PROJECT BY THE CONTRACTOR.
- 10. PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. ANY DEBRIS AND/OR SEDIMENT REACHING THE PUBLIC STREET SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

BEST MANAGEMENT PRACTICES SEQUENCE:

DUE TO ENVIRONMENTAL CONDITIONS.

NOTE: THE FOLLOWING SESC SEQUENCE AND MEASURES ARE GENERAL TO EACH STRUCTURE LOCATION. ADDITIONAL MEASURES AND PHASING MAY BE REQUIRED DEPENDING ON THE INDIVIDUAL CONDITIONS AT THE LOCATION WORK IS BEING PERFORMED. FOUNDATION SPOIL LOCATIONS SHOWN ON THE PLAN(S) ARE FOR REFERENCE ONLY, CONTRACTOR MAY ADJUST ACTUAL LOCATION AS NECESSARY TO BEST MAINTAIN EXISTING DRAINAGE COURSES AND MINIMIZE IMPACTS TO THE EXISTING CONDITIONS SURROUNDING EACH WORK AREA. ALL EARTH DISTURBANCES ARE TO OCCUR ONLY WITHIN THE PERMITTED EASEMENT.

- PULL ALL NECESSARY LOCAL, COUNTY, AND STATE PERMITS. THE CONTRACTOR SHALL CONTACT THE EGLE, IF NECESSARY, TO AMEND THE NOTICE OF COVERAGE (NOC) WITH THE NAME AND CERTIFICATION NUMBER OF THE STORM WATER OPERATOR CHARGED WITH CONDUCTING THE REQUIRED INSPECTIONS. WRITTEN NOTIFICATION FROM THE EGLE APPROVING THE CHANGE TO THE NOC SHALL BE INCLUDED IN THE INSPECTION LOG.
- INSTALL SILT FENCING AS CALLED FOR ON PLANS OR AS SPECIFIC SITE CONDITIONS DICTATE. ONLY CLEAR AREAS NECESSARY TO INSTALL FENCING. FENCING SHALL BE ERECTED PRIOR TO DEMOLITION OF THE EXISTING STRUCTURE(S) AND SHALL BE MAINTAINED UNTIL THE DISTURBED AREAS AND SPOIL STOCKPILE AT THE INDIVIDUAL LOCATION ARE STABILIZED (90%
- VEGETATIVE COVER). SILT FENCE SHALL NOT BE PLACED ACROSS ANY ACCESS ROAD. CLEAR AND GRUB AREA AS NECESSARY TO ALLOW FOR PLACEMENT OF FOUNDATION SPOILS. DEMOLISH EXISTING STRUCTURE(S) & FOUNDATION(S) AS NECESSARY. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF
- MATERIALS/CONCRETE AT AN APPROVED AND LICENSED OFF-SITE LOCATION. STOCKPILE TOPSOIL AND EXCAVATE FOUNDATION. STOCKPILE SPOIL MATERIAL AND GRADE ADJACENT TO EXCAVATION AS SHOWN ON THE SITE DETAILS. NO DEWATERING OF EXCAVATED AREAS ARE ANTICIPATED, HOWEVER IF NECESSARY, PLANS
- PLACE TOPSOIL AND SEED SOIL STOCKPILE AS SPECIFIED. PLACE EROSION BLANKETS OVER ANY EXPOSED RAW EARTH WITHIN 100 FT OF A DRAIN OR WATERCOURSE.
- COMPLETE CONSTRUCTION OF NEW STRUCTURE AND REPAIR SURROUNDING AREAS AS NECESSARY. INSPECT DISTURBED AREA WEEKLY FOR VEGETATIVE GROWTH, RESEED AS NECESSARY
- ONCE THE AREA HAS ACHIEVED A MINIMUM OF 90% VEGETATIVE COVER, REMOVE SILT FENCE (AND/OR OTHER REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES). STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF BMPS. SILT FENCE AND OTHER BMPS WHICH ARE STILL IN A SERVICEABLE CONDITION MAY BE RE-USED AS WORK PROGRESSES.
- IF IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE THE EARTH CHANGE. THEN MAINTAIN TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IN PLACE AND THE AREA IS STABILIZED. AREAS TEMPORARILY STABILIZED DURING THE NON-GROWING SEASON WILL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING THE COMMENCEMENT OF THE NEXT PLANTING SEASON. ALL STRAW OR HAY MULCH WILL BE REMOVED OR DEEPLY INCORPORATED INTO THE SOIL BEFORE PROVIDING PERMANENT STABILIZATION. DORMANT SEEDING IS
- ALSO RECOMMENDED FOR EARLY SPRING GROWTH. LANDOWNER WILL BE RESPONSIBLE FOR PERMANENT STABILIZATION OF DISTURBED AREAS FOR ONE YEAR.

FINAL PROJECT CLOSEOUT (ALL PROPOSED IMPROVEMENTS ARE COMPLETE)

- ONCE ALL PERMANENT SOIL EROSION CONTROL MEASURES ARE COMPLETED AND PERMANENT VEGETATION ESTABLISHED, THE CONTRACTOR SHALL CONTACT THE GOVERNING AUTHORITIES FOR A FINAL INSPECTION. ONCE THE SITE HAS PASSED ITS FINAL INSPECTION, THE S.E.S.C. PERMIT IS CLOSED AND NO FURTHER EARTH DISRUPTION CAN OCCUR WITHOUT A NEW PERMIT.
- THE NOTICE OF COVERAGE PERMITTEE SHALL FILE A NOTICE OF TERMINATION (NOT) WITH THE EGLE AND RETAIN S.E.S.C. LOGS (HARD COPIES & ELECTRONICALLY) FOR A MINIMUM OF 5 YEARS.

TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS		
ANY DISTURBED AREAS WITHIN 50 FEET OF A STREAM AND NOT AT FINAL GRADE	IMMEDIATELY FOLLOWING (2 DAYS MAX) THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS		
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A STREAM	DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY IS SCHEDULED TO BE INACTIVE FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED OR STABILIZED IN ANOTHER APPROPRIATE WAY AS SOON AS POSSIBLE.		
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER (NOVEMBER 1)		

WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED. THIS CAN INCLUDE AGGREGATE COVER, EROSION CONTROL BLANKETS, TURF REINFORCEMENT MATS, OR OTHER STABILIZATION PRACTICE.

PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS					
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN FIVE (5) CALENDAR DAYS OF THE MOST RECENT DISTURBANCE					
ANY AREAS WITHIN 50 FEET OF A STREAM AND AT FINAL GRADE	WITHIN 2 CALENDAR DAYS OF REACHING FINAL GRADE					
ANY OTHER AREAS AT FINAL GRADE	WITHIN FIVE (5) CALENDAR DAYS OF REACHING FINAL GRADE WITHIN THAT AREA					

CONSTRUCTION DEWATERING PLAN

DEFINITION: DEWATERING CONSISTS OF THE REMOVAL OF SURFACE WATER AND/OR GROUNDWATER BY DIVERTING AND/OR REMOVING CONSTRUCTION AREAS WITHIN WATER FEATURES (I.E. WETLANDS, WATERCOURSE, AND/OR WATERSHED), AS NEEDED FOR CONSTRUCTION.

- 1. DEWATERING ACTIVITIES SHALL CONFORM TO APPLICABLE PART 91, SOIL EROSION AND SEDIMENTATION CONTROL (SESC), OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (NREPA), 1994 PA 451, AS AMENDED.
- 2. DURING DEWATERING ACTIVITIES, THE SEDIMENT LADEN WATER CANNOT BE DIRECTLY DISCHARGED TO SURFACE WATERS. OPTIONS FOR REDUCING THE TURBIDITY OF THE WATER INCLUDE:
- a) CONSTRUCTING A TEMPORARY SEDIMENT TRAP FOR TURBID WATER DISCHARGE PRETREATMENT.
- b) USE OF A PORTABLE SEDIMENT CONTAINMENT SYSTEM SUCH AS DUMPSTERS.
- c) APPLICATION OF NATURAL BASED FLOCCULENT TECHNOLOGY SUCH AS CHITOSAN IN SEDIMENT TRAPS OR A SERIES OF DITCH CHECKS TO CONTAIN
- d) DISCHARGE WATER THROUGH A SERIES OF FIBER LOGS OR A ROCK WEEPER INTO A LARGE VEGETATED BUFFER AREA.
- e) ENERGY DISSIPATION SHOULD BE PROVIDED AT ALL DISCHARGE POINTS
- DEWATERING OR BASIN DRAINING ACTIVITIES SHOULD NOT CAUSE EROSION IN RECEIVING CHANNELS OR ADVERSELY IMPACT WETLANDS.

POLLUTANTS CONTROLLED AND IMPACTS:

1. PROPER DEWATERING TECHNIQUES WILL FILTER WATER OF SEDIMENT, OILS, AND OTHER CHEMICALS, THUS PREVENTING THESE POLLUTANTS FROM ENTERING THE SURFACE WATERS.

C. APPLICATION: DEWATER ACCUMULATED GROUND WATER OR STORMWATER VIA PUMP, DEWATERING BAG AND ENSURE DISCHARGED WATER DOES NOT CONTRIBUTE SEDIMENTATION TO RECEIVING WATERS.

1. APPLY AT THE BEGINNING OF AND DURING CONSTRUCTION WHEN IT IS NECESSARY TO LOWER THE WATER LEVELS WITHIN THE CONSTRUCTION AREA. PUMPING NEEDS TO BE MAINTAINED TO KEEP UTILITY DITCHES AND COFFERDAMS DRY UNTIL ALL UNDERGROUND WORK IS COMPLETED.

WHERE TO APPLY:

- 1. APPLY ON CONSTRUCTION SITES, WHERE APPROPRIATE, OR ANYWHERE ELSE DEWATERING IS NEEDED.
- a) WHEN CONSTRUCTION ENCOUNTERS UNCONTAMINATED GROUND WATER / SPRING WATER:
- 1) CLEAN WATER SHOULD BE PUMPED FROM THE GROUND AND DISCHARGED THROUGH HOSES TO DEWATERING BAGS OR OTHER ADEQUATE ENERGY DISSIPATION PRIOR TO DISCHARGING TO RECEIVING WATERS. THESE BEST MANAGEMENT PRACTICES (BMPS) SHALL BE EMPLOYED AS APPROPRIATE AND APPLICABLE ACCORDING TO LOCAL PERMITS AND REGULATIONS.
- b) WHEN CONSTRUCTION ENCOUNTERS UNCONTAMINATED EXCAVATION DEWATERING:

REPLACED WHEN THEY BECOME CLOGGED OR HALF-FULL OF SEDIMENT.

UPON COMPLETION OF PUMPING ACTIVITIES.

1) CLEAN WATER SHOULD BE DISCHARGED TO A VEGETATED AREA, DITCHES OR OTHER CONVEYANCE VIA HOSE. ENERGY DISSIPATION SHOULD BE APPLIED TO THE DISCHARGE LOCATION TO MINIMIZE SCOUR. ALTERNATIVELY, UNCONTAMINATED WATER COULD BE DISCHARGED TO RECEIVING WATERS AS ALLOWED BY LOCAL PERMITS AND REGULATIONS OR AS LONG AS POSITIVE DRAINAGE IS PROVIDED, THE WATER COULD BE DISCHARGED INTO THE SURROUNDING AGRICULTURAL FIELDS AND ALLOWED TO INFILTRATE OR DRAIN ALONG EXISTING DRAINAGE PATTERNS PROVIDED THAT THE WATER DOES NOT CAUSE FLOODING OR CROP DAMAGE

- 1. DEWATERING IS OFTEN IMPLEMENTED IN CONJUNCTION WITH DEEP FOUNDATION INSTALLATION. SEDIMENT BASINS AND FILTERS SHOULD BE CONSIDERED
- TO HELP FILTER THE DEWATERED WATER BEFORE IT IS DISCHARGED TO A SURFACE WATER WITHIN UPLANDS. 2. UTILIZE EROSION BLANKETS, EROSION CONTROL FENCING, STRAW BALES, LEVEL SPREADERS, SILT FENCING, ETC., WHERE NECESSARY TO MITIGATE POTENTIAL EXCESSIVE EROSION AND SEDIMENTATION. ENSURE ANY MATERIALS PLACED IN SURFACE WATER BODIES ARE FREE FROM SILT AND OTHER SUCH PARTICLES. KEEP EXTRA EROSION AND SEDIMENT CONTROL MATERIALS ON SITE (E.G., HEAVY DUTY SILT FENCING, STRAW BALES).
- CHITOSAN AND CHITIN BASED ADDITIVES HAVE BEEN SHOWN TO SIGNIFICANTLY INCREASE THE EFFECTIVE-NESS OF FILTRATION AND SETTLING. CHITOSAN (POLY-D-GLUCOSAMINE) IS A LOW-TOXICITY PRODUCT EXTRACTED FROM CHITIN (POLY-N-ACETYL-D-GLUCOSAMINE), A BY-PRODUCT OF THE SHELLFISH INDUSTRY. OTHER PRODUCTS SUCH AS ANIONIC POLYACRYLAMIDE (ANIONIC PAM) ARE COMMERCIALLY AVAILABLE TO INCREASE SETTLING. OFTEN THESE ARE UTILIZED THROUGH WET OR DRY DOSING MECHANISMS OR AS WATER RUNS OVER A GEL BLOCK UPSTREAM OF A SETTLING OR FILTRATION PRACTICE. EACH PRODUCT SHOULD BE UTILIZED WITHIN THE MANUFACTURERS' SPECIFICATIONS AND TAILORED TO THE SOIL AND SITE CONDITIONS.
- 4. PARTICULATE FILTER UNITS UTILIZING CARTRIDGES OR ENCLOSED FILTER BAGS CAN REMOVE SMALLER PARTICLES DEPENDING ON THE FILTER SIZE. THIS
- TYPE OF MEASURE IS USUALLY NECESSARY TO TREAT CLAYS. FILTERS MAY NEED TO BE CHANGED DAILY OR MORE FREQUENTLY. CHECK THAT EROSION CONTROL TOOLS ARE IN GOOD REPAIR AND PROPERLY FUNCTIONING PRIOR TO CONDUCTING DAILY WORK AND RE-INSTALL OR
- REPAIR AS REQUIRED PRIOR TO COMMENCING DAILY CONSTRUCTION ACTIVITIES. 6. KEEP SEDIMENT AND EROSION CONTROL MEASURES IN PLACE UNTIL DISTURBED AREAS HAVE BEEN STABILIZED (I.E., RE-VEGETATED).

DESIGN SPECIFICATIONS:

- DEWATERING MUST BE DONE SO THAT THE VELOCITY OF THE DISCHARGED WATER DOES NOT CAUSE SCOURING OF THE RECEIVING AREA. IF THE RECEIVING AREA IS A STRUCTURAL BMP (I.E. BASIN OR SUMP), THE DESIGN OF THE BMP SHOULD BE BASED ON THE ANTICIPATED FLOW FROM THE DEWATERED AREA.
- SEDIMENT-LADEN WATER FROM COFFERDAMS, TRENCHES, FOUNDATION EXCAVATIONS, AND OTHER AREAS WHICH NEED TO BE DEWATERED SHOULD BE PUMPED THROUGH A GEOTEXTILE MATERIAL BEFORE THE WATER IS DISCHARGED TO A SURFACE WATER BODY. THE FILTER BAG SHOULD BE DISPOSED OF BY THE CONTRACTOR AT AN UPLAND SITE.
- 3. IF THE DEWATERED WATER IS DISCHARGED THROUGH A FILTER TO A COUNTY OR INTER COUNTY DRAIN, PERMISSION MUST BE OBTAINED FROM THE DRAIN COMMISSIONER OR DRAIN BOARD.
- 4. A TEMPORARY SUMP AND ROCK BASE SHOULD BE USED WHERE A TEMPORARY PUMP IS INSTALLED TO DEWATER AN AREA OF ACCUMULATED WATER. IF A ROCK BASE CANNOT BE USED, THE PUMP INTAKE SHALL BE ELEVATED TO DRAW WATER FROM THE TOP OF THE WATER COLUMN TO LIMIT SEDIMENTATION.
- IMPLEMENT DEWATERING OF FOUNDATIONS AS NEEDED. A TEMPORARY SUMP AND ROCK BASE SHOULD BE USED WHERE A TEMPORARY PUMP IS INSTALLED TO DEWATER AN AREA OF ACCUMULATED WATER.
- 6. OUTLETS PUMPS SHALL BE PROTECTED FROM SCOUR EITHER BY RIPRAP PROTECTION, FABRIC LINER, AND/OR OTHER ACCEPTABLE METHODS FOR OUTLET
 - a) ENERGY DISSIPATION (RIPRAP) SHOULD BE APPLIED TO THE DISCHARGE AREA OF THE PUMP HOSE. THE WATER SHOULD BE DISCHARGED TO A LARGE FLAT VEGETATED AREA FOR FILTRATION / INFILTRATION PRIOR TO FLOWING INTO RECEIVING WATERS OF CONVEYANCES / DITCHES. IF DISCHARGE WATER IS TURBID: DEWATERINGBAGS.TEMPORARY TRAPS AND ROCK WEEPERS OR OTHER ADEQUATE BMP IS NEEDED TO CONTROL SEDIMENT DISCHARGE.

7. PROPOSED BMPS AND WATER TREATMENT

a) GEOTEXTILE FILTER BAGS

- 1) GEOTEXTILE FILTER BAGS REMOVE SEDIMENT FROM DEWATERING DISCHARGE AND ARE PUMPED INTO A FILTER BAG CHOSEN FOR THE PREDOMINANT SEDIMENT SIZE. FILTER BAGS ARE MANUFACTURED PRODUCTS MADE TYPICALLY FROM WOVEN MONOFILAMENT POLYPROPYLENE TEXTILE (COARSE MATERIALS, E.G. SANDS) OR NON-WOVEN GEOTEXTILE (SILTS/CLAYS). THEY ARE SINGLE USE PRODUCTS THAT MUST BE
- 2) GEOTEXTILE FILTER BAGS ARE GENERALLY CONSIDERED HIGH FLOW PRODUCTS, WHICH HAVE LIMITED ABILITY TO TREAT FINE-GRAINED SEDIMENTS. GRAVITY DRAINED FILTER BAGS SHOULD APPLY THE FOLLOWING: 1) THE FILTER BAGS SHOULD BE PLACED OUTSIDE OF A VEGETATED FILTER AREA AND NOT IN CLOSE PROXIMITY TO THE STREAM OR WATER RESOURCE; 2) THEY MUST SIT ON A RELATIVELY FLAT GRADE TO PREVENT EROSION CAUSED BY WATER LEAVING THE BAG; 3) THE PLACEMENT OF THE BAG OVERLAIN A FLAT BED OF AGGREGATE WILL MAXIMIZE THE FLOW AND USEFUL SURFACE AREA OF THE BAG; 4) THEY SHOULD BE USED IN CONJUNCTION WITH A LARGE VEGETATIVE BUFFER OR SECONDARY POND AND/OR BARRIER.
- 3) FILTER BAGS SHOULD BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH DOUBLE-STITCHED "J" TYPE SEAMS CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
- 4) FILTER BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREAS AND DISCHARGE ONTO STABLE, EROSION RESISTANT SURFACES/AREAS. BAGS SHALL NOT BE PLACED ONTO SLOPES GREATER THAN 5%.
- 5) THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE FILTER BAG IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. 6) A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE

REPLACED WHEN THEY BECOME HALF FULL. SPARE REPLACEMENT BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE

FAILED AND/OR ARE HALF FULL. 7) THE MONITORING FOR TURBIDITY OF THE FILTER BAG DISCHARGE SHOULD OCCUR ON A REGULAR BASIS. IF TURBID WATER IS OBSERVED PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM HAS BEEN RESOLVED. BAGS SHALL BE REMOVED IMMEDIATELY

MAINTENANCE:

1. THE DEWATERING SITE SHOULD BE INSPECTED SEVERAL TIMES DAILY TO ENSURE THAT THE PUMPING PROCEDURE IS ADEQUATELY CONTROLLING THE EXCESS WATER, TO ENSURE THE FILTER BAG IS NOT CLOGGED, AND THAT THE VEGETATIVE FILTER, WHERE USED, IS STILL RETAINING SEDIMENT. IF THE FILTER BAG BECOMES CLOGGED, REPLACE WITH A NEW ONE.



(now what's **below**

Call before you dig THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE
SHOWN IN AN APPROXIMATE WAY
ONLY AND HAVE NOT BEEN
INDEPENDENTLY VERIFIED BY THE
OWNER OR ITS REPRESENTATIVE E CONTRACTOR SHALL DETERMIN THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES
BE FULLY RESPONSIBLE FOR A ND ALL DAMAGES WHICH MIGHT CCASIONED BY THE CONTRACTOR AILURE TO EXACTLY LOCATE PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

CONSTRUCTION SITE SAFETY IS SOLE RESPONSIBILITY OF THE CONTRACTOR: NEITHER THE OWNEI
NOR THE ENGINEER SHALL BE
EXPECTED TO ASSUME ANY
RESPONSIBILITY FOR SAFETY OF
THE WORK, OF PERSONS ENGAGEL IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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08/06/2020

REVISIONS

DR. JB || CH. P.M. DB BOOK NA OB 18002735 SHEET NO.

04

Issued On:07/31/2020

SEEDING SPECIFICATION

SEEDING CAN BE USED FOR TEMPORARY OR PERMANENT STABILIZATION. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED. AREAS WHERE FINAL GRADING HAS BEEN COMPLETED SHALL BE TEMPORARILY AND/OR PERMANENTLY SEEDED IMMEDIATELY FOLLOWING THE CONCLUSION OF GRADING ACTIVITIES (WEATHER PERMITTING) AND MUST BE COMPLETED WITHIN FIVE (5) DAYS. TEMPORARY AND PERMANENT SEED MIXTURES ARE SPECIFIED BELOW. TEMPORARY SEED MIX SHALL ALSO BE APPLIED DURING THE APPLICATION OF THE PERMANENT SEED MIX TO ENSURE TIMELY VEGETATIVE COVER OF EXPOSED AREAS.

IMMEDIATELY AFTER SEEDING, MULCH ALL SEEDED AREAS WITH UNWEATHERED SMALL GRAIN STRAW OR HAY UNIFORMLY AT THE RATE OF 1-1/2 TONS TO 2 TONS PER ACRE OR 100 POUNDS PER 1000 SQUARE FEET. ANCHOR MULCH WITH DISC-TYPE ANCHORING TOOL OR OTHER MEANS APPROVED BY THE LOCAL REGULATORY AGENCY.

SEEDING MIXTURES

SEE SEED MIXES IN TEMPORARY & PERMANENT SEED CHARTS.

SLOPES FLATTER THAN 3:1 (NOT INCLUDING BASINS)

APPLY 17-17-17 COMMERCIAL ORGANIC FERTILIZER AT A RATE OF 20 LBS PER 1000 SQ/FT. SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

(SEE CHART BELOW)

TEMPORARY SEEDINGPLANTING DATES IMMEDIATELY FOLLOWING LAST DISTURBANCE OR

WITHIN 14 DAYS

PERMANENT SEEDING PLANTING DATES APPLICATION RATE (SEE CHART BELOW) **80 LBS PER ACRE** PREFERABLE EARLY SPRING OR EARLY FALL

SLOPES 3:1 OR GREATER (NOT INCLUDING BASINS)

APPLY 17-17-17 COMMERCIAL ORGANIC FERTILIZER AT A RATE OF 20 LBS PER 1000 SQ/FT. AND SEED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

TEMPORARY SEEDING PLANTING DATES IMMEDIATELY FOLLOWING

60 LBS PER ACRE (SEE CHART BELOW) LAST DISTURBANCE OR WITHIN 5 DAYS

APPLICATION RATE PERMANENT SEEDING PLANTING DATES PREFERABLE EARLY SPRING (SEE CHART BELOW) 80 LBS PER ACRE OR EARLY FALL

> **TEMPORARY SEED** SEED: 60 LBS PER ACRE 40% SEED OATS 25% KENTUCKY 31 TALL FESCUE 22% CREEPING RED FESCUE 11% TIMOTHY 1.0% INERT MATTER 1.0% OTHER CROP

> > 0.01% WEED SEED

PERMANENT SEED SEED 80 LBS PER ACRE 70% TRUE BLUE KENTUCKY (BROOKLAWN, BOUTIQUE, GROME, AND H92-203 KENTUCKY BLUEGRASS) 30% PERENNIAL RYE GRASS (MANHATTAN 4, CHARGER, CITATION 4, AND PIZZAZZ PERENNIAL RYE GRASS)

60 LBS PER ACRE

APPLICATION RATE

SEED BED PREPARATION (PERMANENT SEEDING)

SURFACE WATER CONTROL MEASURES SHALL BE IN PLACE. AREA TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL. TOTAL SEEDBED PREPARED DEPTH SHOULD BE AT LEAST 4 INCHES. LOOSE ROCKS, ROOTS AND OTHER OBSTRUCTIONS NEED TO BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH THE ESTABLISHMENT AND MAINTENANCE OF VEGETATION. SURFACE FOR FINAL SEEDBED PREPARATION SHOULD BE AT FINISH GRADE AND BE REASONABLY SMOOTH AND UNIFORM.

IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME SHOULD BE USED ACCORDING TO SEEDING SPECIFICATIONS. IF SOIL TEST IS TAKEN, APPLY FERTILIZER AND LIME ACCORDING TO SOIL TEST REPORT. FERTILIZER AND LIME SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED PREPARATION. WEIGHTS, SEED SPECIES AND PERCENTAGE OF PURITY AND GERMINATION MUST BE CHECKED PRIOR TO SEEDING.

SEEDING SHALL BE ACCOMPLISHED IN TWO DIRECTIONS AND AT RIGHT ANGLES TO EACH OTHER. LAWN AREAS SHALL BE SEEDED AT THE RATE INDICATED ON THE DRAWINGS BY SOWING EVENLY WITH AN APPROVED MECHANICAL CULTI-PACKER SEEDER TO COVER THE SEED AND FORM THE SEEDBED IN ONE OPERATION. IF BROADCAST SEEDER IS USED THE SEEDING RATE SHALL BE TWO (2) TIMES THE DRILL RATE. IN INACCESSIBLE AREAS, THE SEED SHALL BE LIGHTLY RAKED WITH FLEXIBLE RAKES AND ROLLED WITH A WATER BALLAST ROLLER. AFTER ROLLING SEEDED AREAS ARE TO BE MULCHED ACCORDING TO SPECIFICATION. IF HYDRO-SEED OPERATION IS USED, SEEDING RATE SHALL BE FIVE (5) TIMES THE DRILL RATE INDICATED ON THE DRAWINGS.

IF SEEDING CAN NOT BE ACCOMPLISHED DUE TO SEASONAL CONSTRAINTS, APPLY STRAW MULCH AND TACKIFIER TO ALL SLOPES AND DISTURBED AREAS UNTIL PERMANENT SEEDING IS ALLOWED. IN THE EVENT SEEDING OCCURS OUT OF SEASON, MAINTENANCE SHALL OCCUR AND CONTINUE INTO THE FOLLOWING GROWING SEASON OR UNTIL A UNIFORM STAND OF THE SPECIFIED PERMANENT GRASSES HAVE BEEN ESTABLISHED AND THE SITE HAS REACHED 90% STABILIZATION. PERMANENT AND TEMPORARY SEEDING SHALL BE ACCOMPLISHED THROUGHOUT THE CONSTRUCTION PROCESS.

INSPECT SEEDED AREAS FREQUENTLY. IF SEEDED AREAS FAIL TO GERMINATE, OR TO PROVIDE ADEQUATE GROUND COVERAGE, THE AREA SHALL BE RE-SEEDED UNTIL FINAL STABILIZATION IS ACHIEVED.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- 1. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE PLANS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
- CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR
- 5. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST
- SUPPRESSION OPERATIONS IS PROHIBITED. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE
- PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR
- 7. ALL DENUDED AREAS THAT WILL BE INACTIVE FOR 14 DAYS OR MORE, MUST BE STABILIZED TEMPORARILY WITH THE USE OF
- FAST-GERMINATING ANNUAL GRASS/GRAIN VARIETIES, STRAW/HAY MULCH, WOOD CELLULOSE FIBERS, TACKIFIERS, NETTING OR BLANKETS. 8. ALL MUD/DIRT/MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO PUBLIC ROADWAYS OR INTO WATER COURSES SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- 9. ON-SITE & OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
- 10. ALL STOCKPILED SOILS SHALL BE MAINTAINED IN SUCH A WAY AS TO PREVENT EROSION FROM THE WORK AREA.
- 11. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.
- 12. EROSION AND ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES
- 13. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURE WHEN REQUIRED. HE SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, STOCKPILES AND OTHER EARTH CHANGES HAVE BEEN ACCOMPLISHED.
- 14. LOW GROUND PRESSURE EQUIPMENT SHALL BE USED TO MINIMIZE LAND DISTURBANCE BETWEEN STRUCTURES.
- 15. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE WASHTENAW COUNTY WATER RESOURCES COMMISSIONER.
- 16. ALL GRADING TO BE PERFORMED AS NOT TO OBSTRUCT UPSTREAM DRAINAGE.
- 17. SITES WILL BE INSPECTED WEEKLY- ANY AREAS OF OFF-SITE EROSION WILL BE CORRECTED WITHIN 2 BUSINESS DAYS.
- 18. TIMBER CROSSING MATS WILL BE USED AS SHOWN TO MINIMIZE DISRUPTION TO WETLAND AREAS.

SEQUENCE OF CONSTRUCTION FOR SOIL EROSION CONTROL (FOR EACH SITE)

START DAY	END DAY	*SCHEDULE TO BE FILLED OUT BY CONTRACTOR.
		1. PULL ALL NECESSARY PERMITS & LICENSES.
		2. INSTALL SILT AND PROTECTIVE FENCING.
		3. CLEAR AND GRUB WORK AREA
		4. COMPLETELY REMOVE EXISTING STRUCTURE & FOUNDATION.
		5. STRIP AND STOCKPILE TOPSOIL.
		6. EXCAVATE FOR PROPOSE STRUCTURE, STOCKPILE SPOILS AND GRADE ACCORDINGLY
		7. BEGIN FOUNDATION CONSTRUCTION OF NEW STRUCTURE.
		8. REPLACE TOPSOIL, SEED AND STABILIZE DISTURBED AREAS.
		9. REMOVE SILT FENCE, REPAIR DISTURBED AREAS AS NECESSARY.
		10. COORDINATE WITH PERMITTING AGENCIES FOR CLOSEOUT INSPECTION.
		NOTE: IF SEEDING CAN NOT BE ACCOMPLISHED DUE TO SEASONAL CONSTRAINTS, APPLY STRAW MULCH AND TA SLOPES AND DISTURBED AREAS UNTIL PERMANENT SEEDING IS ALLOWED. IN THE EVENT SEEDING OCCUPANT OF A SEASON MAINTENANCE SHALL OCCUPANT CONTINUE INTO THE FOLLOWING GROWING SEASON, FOR ALLOWING SEASON.

ACKIFIER TO ALL URS OUT OF SEASON, MAINTENANCE SHALL OCCUR AND CONTINUE INTO THE FOLLOWING GROWING SEASON. FOR ALL AREAS LEFT UNSTABILIZED DUE TO SEASONAL CONSTRAINTS, FINAL STABILIZATION SHALL BE ACHIEVED BY APRIL 15TH.

Know what's **below.** Call before you dig THE LOCATIONS OF EXISTING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT RICH. CCASIONED BY THE CONTRACTOR FAILURE TO EXACTLY LOCATE A PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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| | MEADOWLARK
LE IMPACT PLANS 08/06/2020

REVISIONS

DR. JB || CH. P.M. DB BOOK NA OB 18002735 SHEET NO.

05

Issued On:07/31/2020



Superior Township Hall 3040 N Prospect Rd Superior Charter TWP, MI 48198

To whom it may concern,

On the east easement located on 5728 Geddes Rd. We will keep the stairs and boardwalk at least 20' away from the easternmost property line.

The provided plot plan shows a house and boat house which are not correct representations of the actual house and no boat house is currently proposed.

We are currently only proposing to build a boardwalk and stairs on the east easement at this time. No other work outside of necessary site clearing will take place at this time.

Dan Snyder

11/19/2020

Snyder Contracting LLC (734)545-4840

Snyder Contracting LLC

Rick Mayernik

From: Chris Nordstrom <cnordstrom@cwaplan.com>

Sent: Thursday, November 19, 2020 7:14 AM

To: Rick Mayernik
Cc: Laura Bennett

Subject: RE: EGLE Revised Permit No. WRP023919 v1.2

I have no issues with the proposed boardwalk; any disturbance created by it will be minimal. They're showing a house envelope on the plan, however, and I would have the same concerns here as I did previously. The permit is specifically for the boardwalk, though, so maybe that's something they're considering for the future?

From: Rick Mayernik <rmayernik@superior-twp.org>
Sent: Wednesday, November 18, 2020 4:14 PM
To: Chris Nordstrom <cnordstrom@cwaplan.com>
Cc: Laura Bennett <planning@superior-twp.org>
Subject: FW: EGLE Revised Permit No. WRP023919 v1.2

Chris,

Back in March of 2019, you did a site visit at this property with Rebecca Lussier of Meadowlark Construction and issued a letter dated 3-18-19. Quite a bit of time has passed and I don't think Meadowlark is still involved. A new contractor has requested a permit to build a boardwalk and stairs at the far eastern side of the property. EGLE has issued a permit for this work which is attached. Can you please review the EGLE permit and let me know if you have any issues with it??

If not, I will issue a Township wetland permit referencing the EGLE permit and issue the building permit. I think they still plan on building the house and will be submitting for a revised EGLE permit for that portion of the construction.

Regards,

Rick Mayernik

From: Coffey, Kristina (EGLE) < COFFEYK@michigan.gov>

Sent: Tuesday, September 29, 2020 10:47 AM

To: jeanmarie@mouliere.fr

Cc: Lynette Findley < lynettefindley@superior-twp.org>; leek@ewashtenaw.org; engelhardb@ewashtenaw.org;

dberninger@atwell-group.com; Chris Kunkle < ckunkle@atwell-group.com>

Subject: EGLE Revised Permit No. WRP023919 v1.2

Please see attached EGLE issued revised permit for your records.

If you have any questions, please contact Melissa Letosky directly at <u>LetoskyM@Michigan.gov</u> or 517-416-7001.

Thank you,

Kris Coffey
Secretary
Water Resources Division/Jackson District Office
Michigan Department of Environment, Great Lakes, and Energy (EGLE)
517-780-7904 | coffeyk@michigan.gov
Follow Us | Michigan.gov/EGLE

SUPERIOR CHARTER TOWNSHIP

Wetlands Permit No: PW20-0003

Building and Zoning Department 30		3040 North Prospect		Yp	Ypsilanti, Michigan 48198		
Phone: (734) 482-6099		Fax: (734) 482-3842		Hours: Monday-Friday 8:30 am - 4:30 pm			
5728 GEDDES RD Location J -10-30-400-061 Issued: 11/23/20			LIERE JE HILL ST ARBOR	EAN-MARIE L & ING	GRID D 48104	Owner	
PLEASE CALL (7	734) 482-6099 FOR AN HOURS IN ADVANCE. Construct a stair and I Permit #WRP023919	boardwalk in v	vetland at	the east side of the	e property	Contractor as per EGLE	
Permit Item		Work Type		No. of Iten	าร	Item Total	

Administrative Fee

Richard Mayernik - Building Official

Administrative Fee

Fee Total:

1.00

\$0.00

\$0.00

I agree this permit is only for the work described, and does not grant permission for additional or related work which requires separate permits. I understand that this permit will expire, and become null and void if work is not started within 180 days, or if work is suspended or abandoned for a period of 180 days at any time after work has commenced; and, that I am responsible for assuring all required inspections are requested in conformance with the applicable code. I hereby certify that the proposed work is authorized by the owner, and that I am authorized by the owner to make this application as his authorized agent. I agree to conform to all applicable laws of the State of Michigan and the local jurisdiction. All information on the permit application is accurate to the best of my knowledge.

Payment of permit fee constitutes acceptance of the above terms.

SUPERIOR CHARTER TOWNSHIP

Building Permit No: PB20-0199

Building and Zoning Department 3040 North Prospect Ypsilanti, Michigan 48198

Phone: (734) 482-6099 Fax: (734) 482-3842 Hours: Monday-Friday 8:30 am - 4:30 pm

5728 GEDDES RD Location

MOULIERE JEAN-MARIE L & INGRID D

2107 HILL ST

ANN ARBOR MI 48104

Issued: 11/23/20

J-10-30-400-061

PLEASE CALL (734) 482-6099 FOR AN INSPECTION 24 HOURS IN ADVANCE.

Snyder Contracting LLC

Contractor

Owner

8650 Huron River Dr

Dexter MI 48130

Work Description: Construct stairs and boardwalk at east side of property. Stairs and boardwalk to maintain

minimum 20 foot setback from east property line. EGLE Permit - WRP023919 v1.2

Permit Item Work Type No. of Items Item Total

Permit Fee Standard Item 1.00 \$100.00

Richard Mayernik - Building Official

Fee Total: \$100.00

I agree this permit is only for the work described, and does not grant permission for additional or related work which requires separate permits. I understand that this permit will expire, and become null and void if work is not started within 180 days, or if work is suspended or abandoned for a period of 180 days at any time after work has commenced; and, that I am responsible for assuring all required inspections are requested in conformance with the applicable code. I hereby certify that the proposed work is authorized by the owner, and that I am authorized by the owner to make this application as his authorized agent. I agree to conform to all applicable laws of the State of Michigan and the local jurisdiction. All information on the permit application is accurate to the best of my knowledge.

Payment of permit fee constitutes acceptance of the above terms.

Rick Mayernik

From: Matt Schuster < mattaschuster@yahoo.com>

Sent: Friday, November 27, 2020 11:35 PM

To: Lynette Findley
Cc: Rick Mayernik

Subject: Appeal of Wetland Permit - 5728 Geddes **Attachments:** Appeal of Wetland Permit 5728.docx

Hello,

I attempted to deliver this appeal to the township office on Wednesday, 11/25 but I found the office closed due to the holiday.

Please accept this email as evidence of an appeal request for an issued wetland permit at the property 5728 Geddes Rd. I have attached a copy of a letter citing my reasons based on information available thus far. Please contact me with any questions or to facilitate further discussion.

Best Regards,

Matt Schuster 5766 geddes (248) 790-5650 I am writing to appeal the issuance of a wetland permit issued by the township relating to:

Property Tax No. J-10-30-400-061 aka 5728 Geddes Rd

I understand the permit was issued on or about 11/20/20.

I am an adjacent parcel owner located within 300 ft of the proposed activity. I am also the holder of a dominant easement over access through the same parcel.

I have not had the opportunity to review the issued permits. To my understanding, the same parcel has been identified by its owners and/or their agents as having wetlands regulated by EGLE (formerly MDEQ). The owners and/or their agents have also identified the wetlands as regulated under Superior Township Wetland Ordinance. The parcel owner has previously caused and provided notice to the township of the EGLE wetlands determination. It is my understanding that EGLE regulation should designate the identified wetlands as "Protected Wetlands" under the Superior township wetland ordinance. I further believe that finding should result in the parcel being included in the Superior Township Wetlands Map, which I am not aware of occurring. The wetlands are contiguous with and within 500 ft of the Huron river and/or its impoundment. The wetlands should receive the full protection and evaluations afforded the 'protected wetland' status.

I am appealing the issuance of the permit to allow for a fuller review of the related submitted materials by myself, adjacent parcel owners, and the wetlands board. Upon initial review of information provided to me, the Superior Township Building Permit and wetlands permit do not match the location of the activity approved by EGLE in the wetlands per the drawing. The EGLE approved plans identify the entire activity LESS than 20 ft from the parcel border. The building permits stipulate any activity occur entirely MORE than 20 ft from the parcel border (outside the side yard setback) unless the activities extend less than 18" from the ground (which is not as shown in building plans). These location changes also alter the amount of impacted wetland in linear feet, and appear to necessitate an additional review by EGLE.

Please contact me at your convenience to discuss next steps and/or facilitate information review for further evaluation of the appeal.

Best Regards,

Matt Schuster

5766 Geddes Rd



TOWNSHIP HALL
3040 NORTH PROSPECT STREET
COR, PROSPECT & CHERRY HILL RDS.
YPSILANTI, MICHIGAN 48198
TELEPHONE: (734) 482-6099
FAX: (734) 482-3842

CHARTER TOWNSHIP OF SUPERIOR

WASHTENAW COUNTY, MICHIGAN

Snyder Contracting LLC Attn: Daniel Snyder 8650 Huron River Dr. Dexter, MI 48130

Mr. Snyder,

Please be advised that my office has received a written appeal relating to the issuance of the wetland permit for the boardwalk construction at 5728 Geddes Road. This appeal was received within ten calendar days of the issuance of the permit. Per Section 178-07.4(A) of the Wetlands Ordinance, this letter is your notification that an appeal has been received and that your Wetland Permit # PW20-0003 is now suspended until the outcome of the appeals process is known. A hearing will be scheduled within 60 days of the receipt of the appeal.

Since the Wetlands Permit has been suspended, your Building Permit # PB20-0199 is likewise suspended and no work may be performed under it until such time as the Wetlands Board takes action on the appeal.

Please contact me if you have any questions.

Regards,

Richard Mayernik, CBO Building/Zoning Official

734-482-6099



117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

To: Rick Mayernik, Superior Township Building and Zoning Official

From: Chris Nordstrom, Township Wetland Administrator

Ben Carlisle, Township Planner

Date: December 3, 2020

RE: Boardwalk Installation at 5728 Geddes Road

CWA prepared a report in March of 2019 evaluating the presence and quality of wetlands at the subject site. We determined that the site survey prepared by Atwell Hicks in February 2019 provided an accurate depiction of the wetland boundaries. Because of the subject site's location within 500 feet of the Huron River, we noted that the wetlands would be considered protected by the Michigan Department of Environment, Great Lakes, and Energy (EGLE, formerly Department of Environmental Quality). On September 29, 2020, EGLE issued a permit authorizing construction of an 8-foot wide by 105-foot long elevated open pile boardwalk in the wetland.

An "open pile" system refers to the driven columns that support the elevated walkway. Because interaction with the soil is limited to the support points, open pile systems are considered minimally disruptive. Per EGLE, an open pile boardwalk minimizes soil disturbance, reduces the potential for soil erosion, and does not impede surface or ground water movement. Open pile boardwalks are very common across southeast Michigan, and are used to allow visitor access to otherwise inaccessible natural areas.

In our opinion, boardwalk construction is a reasonable alternative for this site. While the topography and proximity to the river make it an unusual wetland worthy of protection, we did not see any rare or endangered plants or animals during our inspection that suggest the site should be completely free from development.

The current drawings include generic details that are not appropriate for construction in a wetland setting, e.g. using turf grass seed as an erosion technique. We suggest that the Township reserve the right to approve final construction details to ensure that the construction is as sustainable and minimally disruptive as possible.

Please let me know if you have any questions.

CARLISLE/WORTMAN ASSOC., INC.

Chris Nordstrom, PLA, ASLA

Landscape Architect