Protecting Water Resources When Growing and Processing Marijuana

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Protecting Water Resources When Growing and Processing Marijuana

- Programs
  - Water withdrawal
  - Land Use
    - Floodplain
    - Wetlands
  - Wastewater
    - NPDES
    - Groundwater
    - Construction Storm Water
    - Industrial storm water
Groundwater or Surface Water Withdrawals

- >100,000 gallons of water per day (GPD)
- ≥70 gallons per minute (GPM)
  - Must use Water Withdrawal Assessment Tool (WWAT)
  - [http://www.egle.state.mi.us/wwat](http://www.egle.state.mi.us/wwat)
Groundwater or Surface Water Withdrawals

- Withdrawals that can’t pass the WWAT
  - Site-Specific Review
  - Alternative analysis under MCL 324.32706c
Groundwater or Surface Water Withdrawals

• Withdrawals > 100,000 GPD are required to report their annual water use
  – MDARD (for farms)
  – EGLE (others including municipal water supplies)
Groundwater or Surface Water Withdrawals

• New or increased withdrawals >2,000,000 GPD (2 MGD) require a Part 327 permit
  – This may vary depending on depletion status of the watershed
Municipal Water

Contact the municipality

Determine if they can supply the quantity of water required
Floodplains

- Any occupation, filling, or grading below the 100-year floodplain elevation requires a permit

- Many floodplains are mapped
  - [https://msc.fema.gov/portal/home](https://msc.fema.gov/portal/home)
Floodplains

- Tiling within 100-year floodplain – no permit
- Altering topography within 100-year floodplain – permit needed
- Fill in regulated floodplains – compensating cut may be required
- Local floodplain regulations
Wetlands, Inland Lakes and Streams

- Section 404 of the federal Clean Water Act for wetlands, inland lakes and stream dredge and fill activities
- Permitted under Natural Resources and Environmental Protection Act 451 of 1994
  - Part 303 Wetlands Protection
  - Part 301 Inland Lakes and Streams
Wetlands

Part 303, Wetlands Protection

• Requires a permit to deposit or allow the placing of fill material; dredge, remove, or permit the removal of soil or minerals; construct, operate, or maintain any use or development; or drain surface water in wetlands
  – Note water discharge into a wetland may be considered maintaining a use in wetland
Part 303, Wetlands Protection

- Requires a permit to deposit or allow the placing of fill material; dredge, remove, or permit the removal of soil or minerals; construct, operate, or maintain any use or development; or drain surface water in wetlands
  - Note water discharge into a wetland may be considered maintaining a use in wetland.
Part 303, Wetlands Protection

Regulated by EGLE if ANY of the following are true:

- Connected to inland lake, pond, river, or stream
- Located within 500 feet of inland lake, pond, river, or stream
- Connected to Great Lake or Lake St. Clair
- Located within 1,000 feet of Great Lake or Lake St. Clair
- > 5 acres
- Contain documented threatened/endangered species or community identified as rare and imperiled in Part 303
- None of the above but are Waters of the United States under the federal Clean Water Rule
Inland Lakes and Streams

Part 301, Inland Lakes and Streams

Permit required

• Dredging
• Filling
• Construction or placing a structure on bottomlands
• Interfering with the natural flow of water
• Connecting a ditch or canal
• Creating a waterbody greater than 5 acres in size or within 500 feet of an inland lake or stream
Inland Lakes and Streams

Part 301, Inland Lakes and Streams

Inland Lakes and Streams defined:

• A natural or artificial lake, pond, or impoundment; a river, stream, or creek which may or may not be serving as a drain
• Having definite banks, a bed, and visible evidence of continued flow or occurrence of water
• Does not include lake/pond with surface area < 5 acres OR the Great Lakes, Lake St. Clair.
• None of the above, but is Waters of the United States
Wastewater

- **NPDES Permits**
  - Section 402 of the federal Clean Water Act National Pollutant Discharge Elimination System Permit program
  - Permitted under Part 31 Water Resources Protection
  - Regulates pollutant discharges to lakes, ponds, rivers, streams, or wetlands

- **Groundwater permits**
  - Permitted under Part 31
Wastewater

- Indirect discharge to a municipal wastewater treatment plant (WWTP)
  - May be subject to the Industrial Pretreatment Program (IPP)
Industrial Pretreatment Programs Protect Against...

- Corrosion of sewer & WWTP
- Explosion hazards
- Hazardous fumes injuring workers
- Pass through of pollutants
- Limitations on solids management
- Interference with treatment

Wastewater Treatment Plant (WWTP)

Industry

Residential Homes

Sludge/Biosolids

River
Wastewater NPDES Permits

• NPDES permit – direct discharge to lake, pond, river, stream, or wetland
  – Requires limits and monitoring of effluent
• Vary by process and effluent type
Wastewater Groundwater Permits

• Part 31
  – Separate sewage from process water
    • Sewage can be permitted by Local Health Department
  – Processing of marijuana
    • likely not be permitted by EGLE
    • Local Health Departments do not have authority to permit
    • Process wastewater must be collected, stored, then pumped and hauled
Wastewater
Groundwater
Permits

Part 31

Growing operations

- Local Health Departments do not have authority to permit wastewater
- Wastewater can be collected, stored, then pumped and hauled
Wastewater
Groundwater Permits

- Part 31
  - Growing operations
    - If not pumped and hauled
      - Treatment of irrigation water
        » Reverse osmosis, softening, filtration
      - Humidifier and HVAC use and wastewater
      - Irrigation system design
      - Additive/chemical/pesticide use
      - Water flow diagrams
Construction

Storm Water

Any earth movement activity requires permits from local enforcing agencies and possibly EGLE.
Construction Storm Water

Soil Erosion and Sedimentation Control Program (SESC) – Part 91

- Permit is issued by County or Municipality
- Earth change of 1 or more acres of land
- Earth change is within 500 feet of a lake or stream

Construction Storm Water Program (NPDES)

- A NPDES Notice of Coverage (NOC) is required for earth change activity over 5 acres with a storm water discharge to surface waters
Soil Erosion and Sedimentation Control Program and Construction Storm Water Program

1. Contact the County or Municipality where earth change will occur.
2. Submit required information and obtain the SESC Permit.
3. Once you have obtained the SESC permit, then you can apply for the NPDES NOC.
Construction Storm Water
NPDES Notice Of Coverage

• Disturbing one to five acres
  – Automatic storm water coverage with a Part 91 (SESC) permit

• Disturbing over 5 acres
  – Apply for a NPDES Notice of Coverage (NOC)
  – Must submit a copy of the SESC permit, approved SESC plan, NOC application and $400 fee.

❖ All sites over 1 acre in size must follow Permit-By-Rule requirements
NPDES Industrial Storm Water

- Regulations apply to wide variety of industrial and municipal facilities
  - Consider primary industrial activity and industrial exposure
  - Requires a certified operator
  - Requires development of a Storm Water Pollution Prevention Plan
NPDES Industrial Storm Water Permits

- The processing of marijuana (SIC code 2833) is a regulated activity
- Processing facilities discharging storm water to surface waters of the state:
  - NPDES ISW discharge permit; or
  - No Exposure Certification
MiWaters

MiWaters – Water Resources Information and Forms
Create and manage Permit Applications and Service Requests

Why Create a MiWaters Account?
If you are planning on any of the following:
- Building on a sensitive area, such as a dune or a wetland?
- Discharging wastewater of any kind?
- Applying pesticides to a water body?

... or similar activities, you’ll need to create a MiWaters account.

CREATE AN ACCOUNT  
SIGN IN WITH AN EXISTING ACCOUNT
Resources

• Land Use
  – Floodplain
    www.michigan.gov/floodplainmanagement
  – Wetlands
    www.mi.gov/wetlands

• Wastewater
  – NPDES
    www.mi.gov/eglenpdes
  – Groundwater permits
    www.mi.gov/groundwaterdischarge

• Wastewater
  – Construction Storm Water
    • SESC Agencies
    • Construction storm water and SESC Web page
      https://www.michigan.gov/egle/0,9429,7-135-3311_4113---,00.html
  – Industrial storm water
    www.mi.gov/industrialstormwater
Flush Discharge vs. IPP Limits (Conc.)

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Conc. (mg/l)