



Helping People Help the Land

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**TECHNICAL GUIDE
NOTICE #249 (electronic)**

Purpose: To transmit information regarding the electronic NRCS Field Office Technical Guide (eFOTG).

Effective Date: This notice is effective upon receipt.

Notice of Changes

SECTION IV Practice Standards and Specifications

Conservation Practices

REVIEW ONLY

The practice standards below are only being reviewed this year. There are no changes to the recently updated national version of this practice standard, but the 5-year cycle requires that we at least review it. There were no changes at all made to the Michigan standard, O&M Plan, and Statement of Work.

- **Recreation Land Grading and Shaping (566)**

NEW STANDARDS

- **Karst Sinkhole Treatment (527)**
- **Vertical Drain (630)**
- **Milking Center Wastewater Treatment (796) new interim state standard**

UPDATED STANDARDS

- **Access Road (560)**
- **Diversion (362)**

-MORE -

DIST: All Holders of the Field Office Technical Guide

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

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- **Dry Hydrant (432)**
- **Lined Waterway or Outlet (468)**
- **Livestock Pipeline (516)**
- **Pond Sealing or Lining, Flexible Membrane (521A)**
- **Stream Crossing (578)**
- **Subsurface Drain (606)**
- **Water Well (642)**
- **Water Well Decommissioning (351)**

Access Road (560) - Criteria were added to locate away from bodies of water. Overland flow is also to be avoided. Added following to O&M Plan:

10. Conservation practices that limit particulate matter emissions should be incorporated into long-term maintenance plans.

Diversion (362) – Adopted updated national Definition, Purposes, and Conditions Where Practice Applies. Adopted national revisions to Criteria, which included allowing an effective stress approach in design for stability and capacity of the diversion. Also, added some other clarifications to Criteria and Consideration and added References section.

- Updated O&M Plan to be consistent with new national practice standard and to provide additional clarification.
- No changes to Statement of Work

Dry Hydrant (432) – Adopted updated national standard in which the Criteria section was clarified and a Reference was added. Added following to O&M Plan:

2. Keep the site clear of obstruction and mow the dry hydrant access area regularly to maintain ready access to the hydrant for emergency use. When feasible, schedule mowing to take place outside of the primary nesting season for grass-nesting birds.
3. Pump test the dry hydrant annually at the maximum designed flow rate to verify site usability. Back flush the system before testing. Inspect the hydrant each spring and fall and back flush if necessary to remove silt or sediment debris that may have accumulated on the screen.
4. Regularly clear the intake screen of excess aquatic growth that may limit full operation of the dry hydrant.

Karst Sinkhole Treatment (527)

- New practice standard for Michigan
- Adopted most recent national standard in its entirety with the exception of the Plans & Specifications and Operation & Maintenance sections. Used the standardized Michigan text for those sections.
- New O&M Plan
- New Statement of Work following standardized Michigan format.

Lined Waterway or Outlet (468).— Changes to the standard include revision in the range in Manning’s roughness, expansion of the “Considerations” section to include fish and wildlife and soil bioengineering, etc., and more references. Added following to O&M Plan:

6. Avoid using waterways as field roads or turn-rows during tillage and cultivation operations
8. When applying herbicides, avoid areas where forbs have been established
9. Control noxious weeds

Livestock Pipeline (516) – Adopted updated national standard revisions to Definition, Purposes, and Conditions Where Practice Applies. The standard’s name was changed from Pipeline to Livestock Pipeline. Criteria were added per national practice standard changes:

- Capacity
- Friction and Other Losses, pipe support, joints and connections, Valves and Other Appurtenances
- Plastic Pipe design & Metal Pipe design
- Filling & Flushing criteria

Additional criteria on backflow prevention devices and ASSE standards to be used based on guidance from the Michigan Department of Environmental Quality. Added reference design source NEH, Part 636, Chapter 52. Added Safety & Economics to Considerations. Added “Monitor any cathodic protection system” to O&M Plan.

Milking Center Wastewater Treatment (Code 796) – This is a new interim state standard that addresses application of the Michigan filter mound, an alternative milking center wastewater treatment system developed through research and demonstration efforts of the Michigan conservation partnership. The basic functional principles of the Michigan filter mound may be summarized as follows:

1. Milking center wastewater passes through a series of settling tanks to filter and capture solids and milk fats - - pretreatment. The solids are periodically pumped out of the tanks typically and land applied at agronomic rates. Commercial size effluent filters located at the outlets to the settling tanks enhance their pretreatment function.
2. Settled wastewater is dispersed through pressure dosing within the bark media into an infiltration area sized according to water volume generated and soil type. The bark media:
 - treats the wastewater prior to infiltration into the top soil
 - permits oxygen penetration to promote aerobic microbial treatment,
 - insulates the infiltration area to prevent freezing, and
 - minimizes offensive odor generation due to sorption by the organic matter
3. The soil column beneath the mound, including the top soil, provides further treatment (filtration, sorption, and microbial degradation) as the water progresses downward.

Documents developed include:

- New interim practice standard for Michigan
- New O&M Plan
- New Statement of Work following standardized Michigan format
- Companion document entitled “Design Guide: Michigan Filter Mound for Treating Milking Center Wastewater” must be following in planning, design, and construction.

Pond Sealing or Lining, Flexible Membrane (521A) – Adopted updated national standard in which the material requirements have been revised to conform to industry-wide practice and to the most current versions of accepted generic standards, such as American Society for Testing Materials (ASTM) and other industry standards.

- Added leak detection system monitoring to O&M Plan to be consistent with new national practice standard
- No changes to Statement of Work

Stream Crossing (578) – Adopted updated national standard. Criteria include more details related to passage of aquatic organisms and hydraulic criteria. Added References. Added “Remove any accumulation of organic material, woody material, or excess sediment.” to O&M Plan.

Subsurface Drain (606) – Adopted updated national standard that revised Purposes, expanded Conditions Where Practice Applies, revised Criteria, expanded Considerations, revised Operation and Maintenance, and added References.

Vertical Drain (630).

- New practice standard for Michigan
- Adopted most recent national standard in its entirety with the exception of the Plans & Specifications and Operation & Maintenance sections. Used the standardized Michigan text for those sections
- New O&M Plan
- New Statement of Work following standardized Michigan format

Water Well (642) - Adopted updated national standard revisions to Definition and Purposes. The purpose was clarified to exclude human consumption. Screen entrance velocity criteria were changed in accordance with the American Water Works Association standard. No changes to O&M Plan and Statement of Work. Construction Specification MI-130, Well, revised to exclude human consumption.

Water Well Decommissioning (351) - Adopted updated national standard revisions to Definition and Purposes. The standard’s name was changed from Well Decommissioning, distinguishing Water Well Decommissioning from industry practices for closure of other purposed wells (oil, injection, etc.). No changes to Criteria to ensure consistency with State of

Michigan Water Well Construction and Pump Installation Code. No changes to O&M Plan and Statement of Work other than name change.

Technical questions should be directed to Steve Davis, State Conservation Engineer, at (517) 324-5232.

Questions regarding eFOTG content management should be directed to Ruth Shaffer, Water Quality Specialist, at (517) 324-5239.

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