

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---

Two of the methods we use in NY to restore a degraded wetland are ditch plugs and drain plugs

The NY NRCS webpage has standard drawings available:

[www.ny.nrcs.usda.gov/technical/engineering/drawings/wetlands.html#Ditchplug](http://www.ny.nrcs.usda.gov/technical/engineering/drawings/wetlands.html#Ditchplug)

[www.ny.nrcs.usda.gov/technical/engineering/drawings/wetlands.html#Drainplug](http://www.ny.nrcs.usda.gov/technical/engineering/drawings/wetlands.html#Drainplug)

---

---

---

---

---

---

---

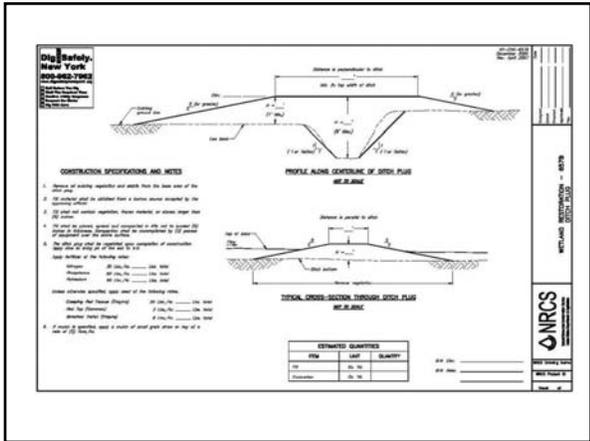
---

---

---

---

---




---

---

---

---

---

---

---

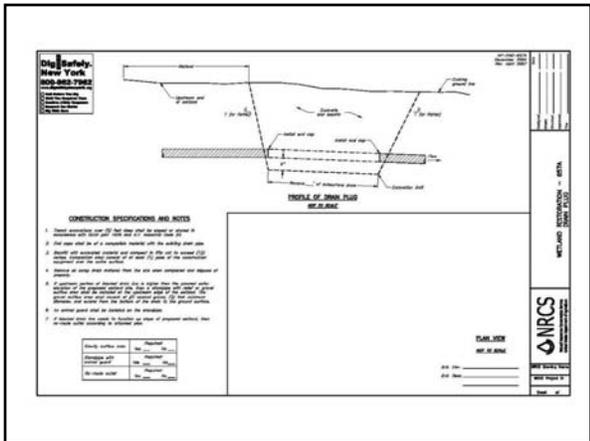
---

---

---

---

---




---

---

---

---

---

---

---

---

---

---

---

---

Other methods include low embankments



---

---

---

---

---

---

---

---

...and potholes



---

---

---

---

---

---

---

---

**A low embankment**

is an earthen berm across a ditch or along a field edge that is intended to help restore the hydrology by impounding water

usually has a water control structure (WCS) to allow managers to adjust water level and to drain the wetland for maintenance of structure or vegetation

may also include an earthen or rock spillway

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---

**A pothole**  
is an excavated area within a wetland that will be a permanent pool  
should have irregular edges  
should have good drainage in

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---

There are two types of earthen embankments

**Type A low embankment**  
Primarily for smaller and less steep drainage areas

**Type B low embankment**  
Primarily for larger steeper drainage areas

---

---

---

---

---

---

---

---

**Type A low embankments**

Must safely pass a 10 year storm

Shall have a WCS if frequent flows occur (in other words, in NY it shall have a WCS)

other criteria are described in the 657 standard

---

---

---

---

---

---

---

---

**Type B low embankments**

Must safely pass a 25 year storm, with a single or combination of spillways

May have a WCS (in NY it is strongly recommended)

other criteria are described in the 657 standard

---

---

---

---

---

---

---

---

**Other options besides earthen low embankments**



---

---

---

---

---

---

---

---

**Lessons Learned**

1. Design of water level with WCS
2. PVC versus HDPE
3. Use of anti seep collars
4. Compaction of soil
5. Dry versus wet conditions

---

---

---

---

---

---

---

---

**Lessons Learned**

6. Watch the landowner/contractor
7. Placement of spoil piles
8. Protection of inlets
9. Wave erosion
10. Grade of sheet pile
11. Installation of sheet pile

---

---

---

---

---

---

---

---

**1. Design of Water level with a WCS**

Pay attention to base flow into your wetland

For example: If you have a base flow of 2.7 cfs coming into your wetland from a spring or interflow for a 12 inch weir with an 8 inch pipe, the actual flow depth over your weir will be a foot higher than the weir

---

---

---

---

---

---

---

---

**2. PVC versus HDPE**

HDPE conduit floats, *USE* PVC

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---

### 3. Use of anti seep collars

Anti seep collars are a good idea

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---

### A better anti seep collar



---

---

---

---

---

---

---

---

Help prevent your pipe from being washed out. Install a NO-SEEP® anti-seep collar around your next new pipe job, or an existing pipe.

Collars are made of polyethylene, 1/2" thick, flexible polyethylene plastic. They make an airtight seal with most pipe sizes, 4" to 36".

The collars are best results are seen by installing during new pipe installation or around an existing pipe.

Can be used in three foot, four, six, and ten foot pipe sizes 4" to 36". They can be used on any type of pipe from corrugated plastic, PVC or cast.

When ordering, please specify what size and type of pipe you need the collars for.

Please call  
**Scheib Drainage Products**  
 1-800-279-3575 • Fax: 1-650-446-2329  
 or write to us at  
 P.O. Box 466, Oregon, MO 64473

Control and avoid all pipe for the United States for the next 15 years.

---

---

---

---

---

---

---

---

---

---

---

---

### 4. Compaction of soil

Proper compaction of soil in an earthen berm is *critical*

---

---

---

---

---

---

---

---

---

---

---

---

### How to achieve good compaction

- Soil moisture
- Small lift thickness
- Multiple passes of construction equipment

---

---

---

---

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

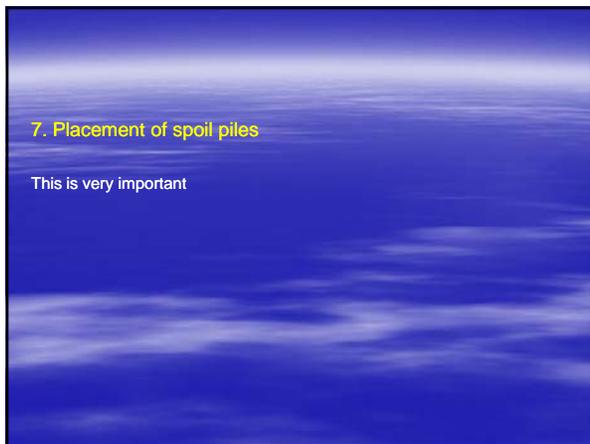
---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---

**8. Protection of inlets**

Sometimes the inflow to a wetland may be an intermittent ditch we have to pay attention to the potential high flows that may come in

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

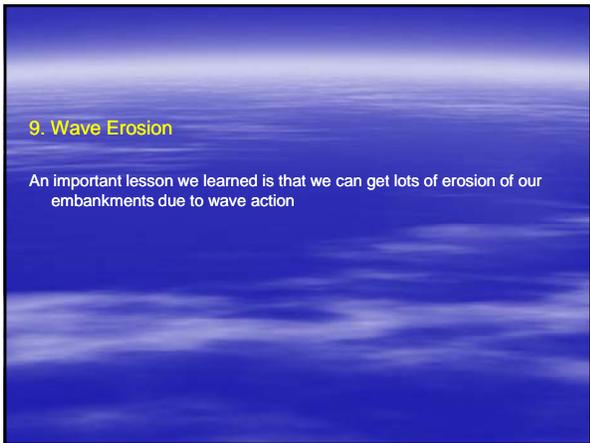
---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---

**10. Grade of sheet pile**

I learned the hard way that when using vinyl sheet pile, the heavier the grade the better

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

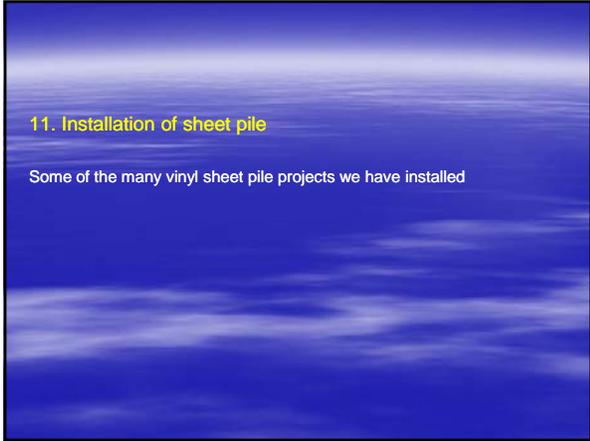
---

---

---

---

---



---

---

---

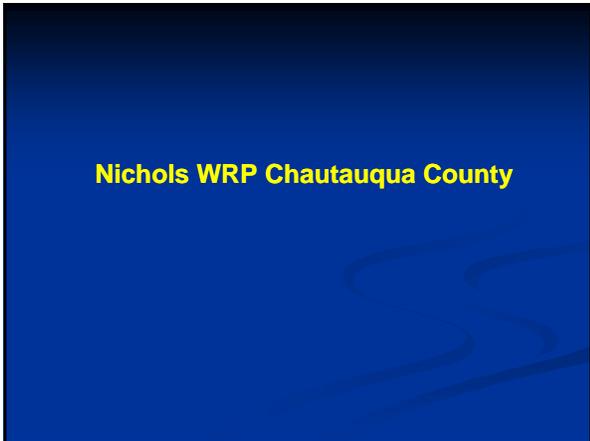
---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

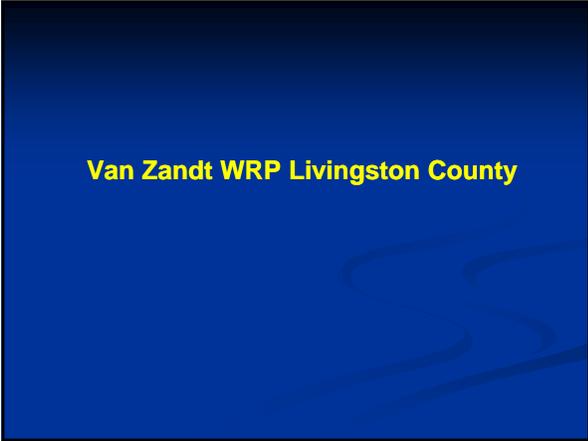
---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

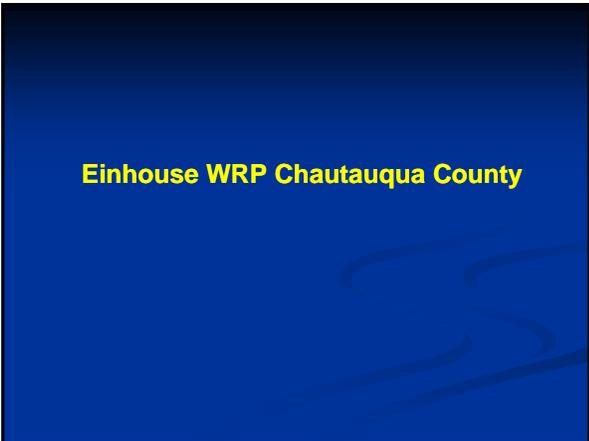
---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---

**Parzych WRP Allegany County**

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---