

Green Infrastructure Ferguson Twp. Municipal Building

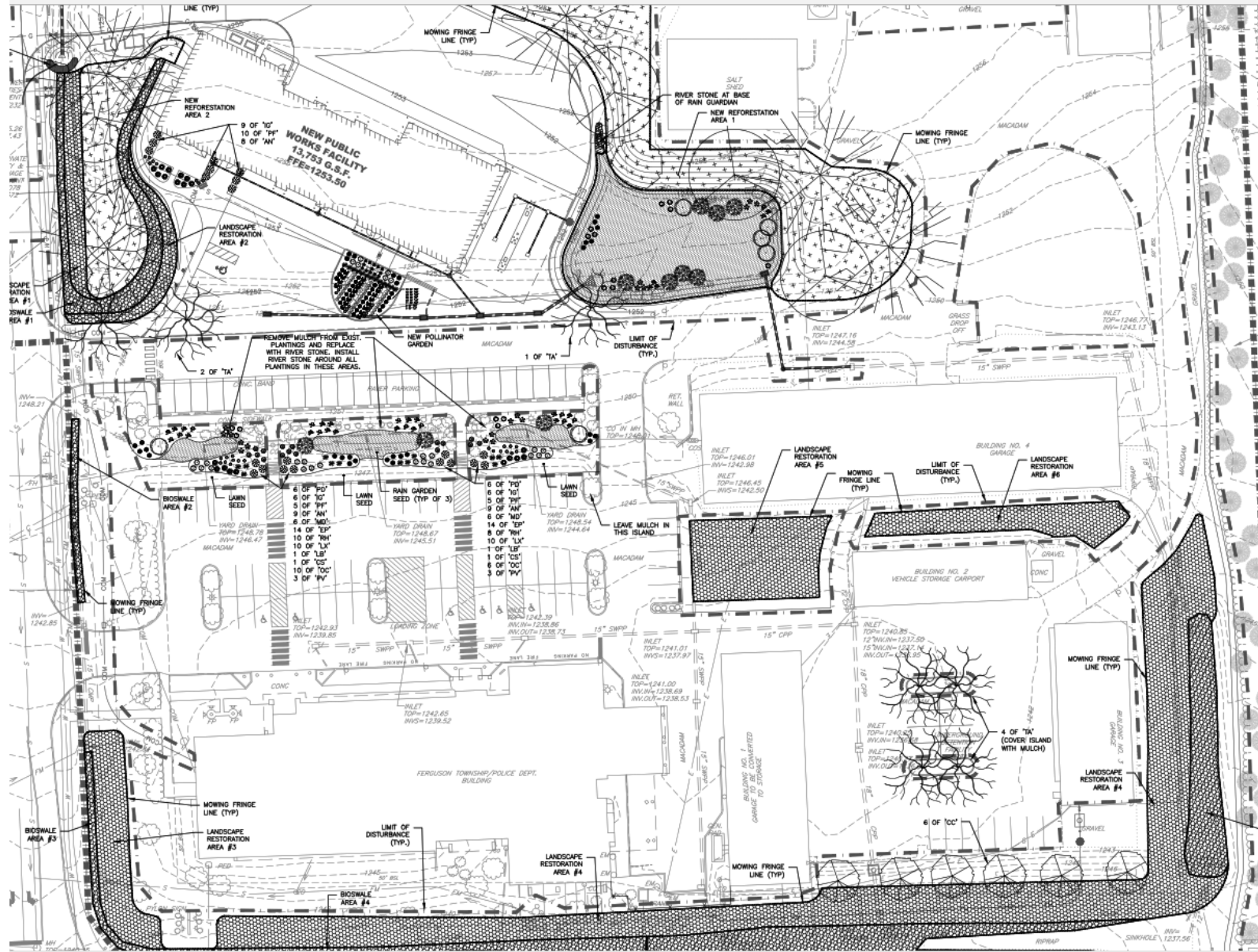


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- ▶ June 7, 2022
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Public Works Building



- ▶ From pole building to LEED Gold
- ▶ Basis of Design
- ▶ Support of elected officials
- ▶ BMPs and GSI



- ▶ Site plan to meet Township subdivision and zoning requirements
- ▶ Stormwater management plan to meet Township requirements (quantitative)
 - ▶ Peak runoff rate control
 - ▶ Stormwater pond capture volume
 - ▶ Recharge volume
 - ▶ Conveyance
 - ▶ Infiltration testing
 - ▶ Filter path for sinkhole protection
- ▶ Additional BMPs (Best Management Practices) for Stormwater
 - ▶ Bioswale, Reforestation, Naturalization of landscaping, Rain garden
 - ▶ Pervious pavers, capture at fueling, hydrodynamic separator

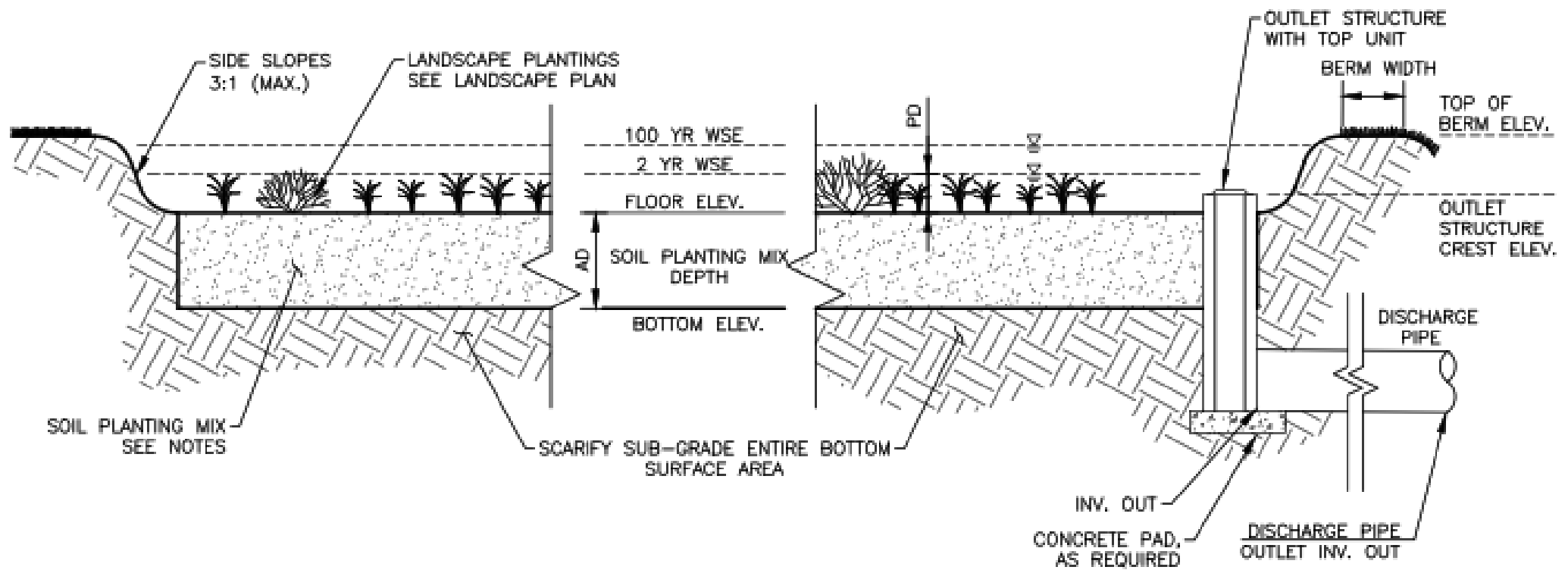
Pervious Pavement



- ▶ Proper design, ability to infiltrate into subsoils
- ▶ Typically includes stone layer below with 40% void ratio
- ▶ Maintenance to prevent clogging

- ▶ Rain Garden
- ▶ Redesigned existing rain gardens
- ▶ Riverstone and plantings
- ▶ Bentgrass on pool floor
- ▶ Emphasis on native plants





"RAIN GARDEN" SCHEDULE:

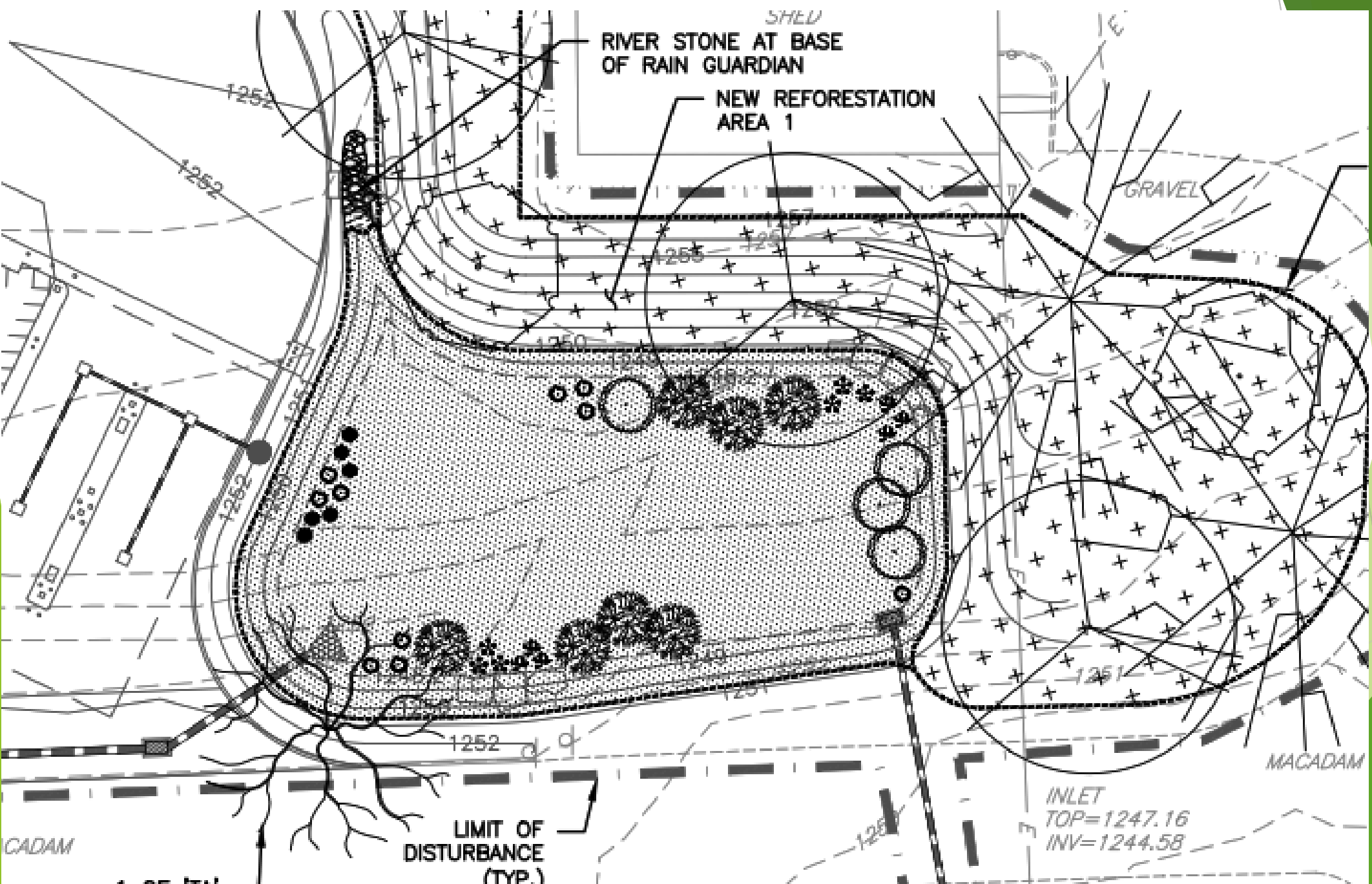


Bioswale and Landscape Restoration

- ▶ Bioswale
 - ▶ If existing, spray existing lawn grass
 - ▶ Till and amend existing soil
 - ▶ Plant with ERNMX-183
 - ▶ (Native Detention Area Mix)
 - ▶ <https://www.ernstseed.com/product/native-detention-area-mix/>
 - ▶ Seed at 20 lbs per acres
- ▶ Landscape Restoration
 - ▶ Kill turfgrass by spraying
 - ▶ Till existing soil
 - ▶ Plant with ERNMX-153
 - ▶ (Showy Northeast Native Wildflower & Grass Mix)
 - ▶ <https://www.ernstseed.com/product/showy-northeast-native-wildflower-grass-mix/>
 - ▶ Seed at 20 lbs per acre



- ▶ Educational Signs:
- ▶ Increase diversity in natural community
- ▶ Improve stormwater runoff
- ▶ Promote sustainable landscape
- ▶ Encourage observation, create learning environment
- ▶ Reduce costs and environmental impacts





- ▶ Reduce Impervious Area
- ▶ Remove existing gravel
- ▶ Installed pollinator mix low mow zone



Reforestation



Landscaping included trees and container plants

Redosier Dogwood

Shrubby Cinquefoil

Black Eyed Susan

Purple Coneflower

Spicebush

Cinnamon Fern

Dallas Blues Switchgrass

Much more

American Yellowwood

Sugar Maple

Bur Oak

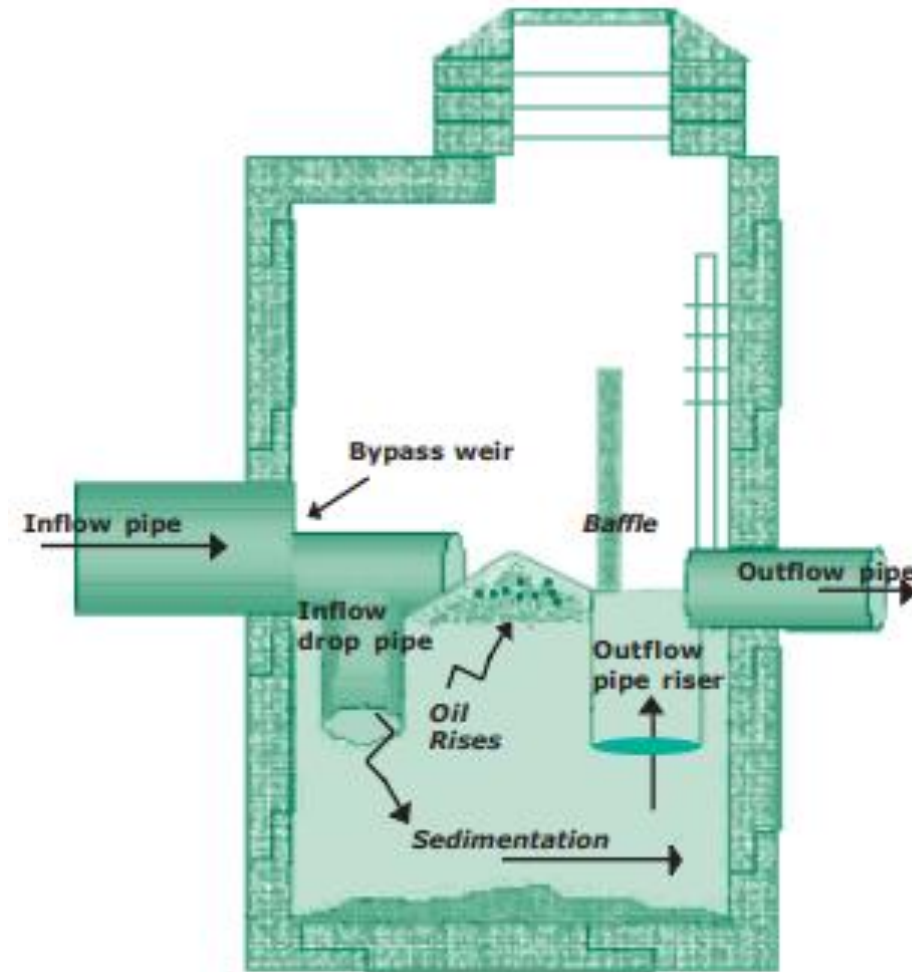
White Pine

Witch Hazel

Cockspur Hawthorn

Eastern Redbud

- ▶ **Hydrodynamic Separator**
- ▶ During normal flow or first flush, water directed by weir and drops to lower chamber
- ▶ Sediment and oil separation
- ▶ High flow stormwater passes through untreated



A photograph of a field of yellow Black-eyed Susans in the foreground. In the background, there is a brick building with a sign that partially reads "FERGUSON TOWNSHIP" and "BUILDING". The sky is blue with some light clouds. A green geometric overlay is on the right side of the image.

Questions?