

Sediment Basin Cha(lle)nges

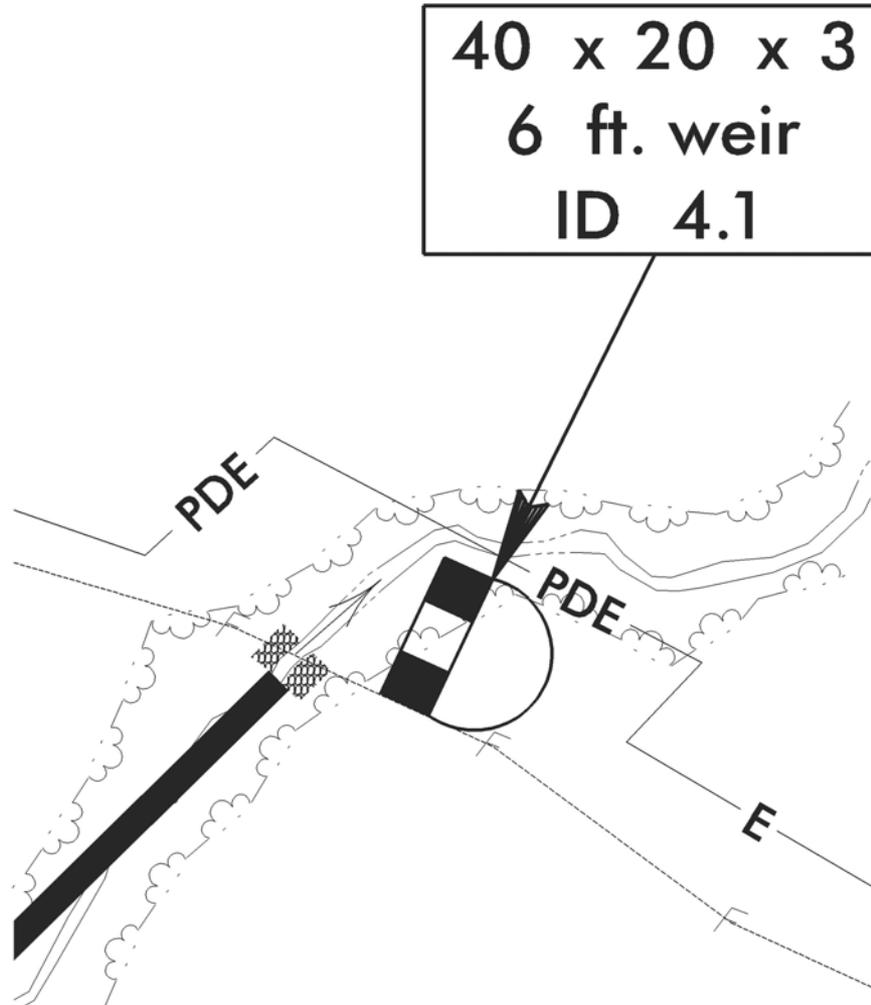
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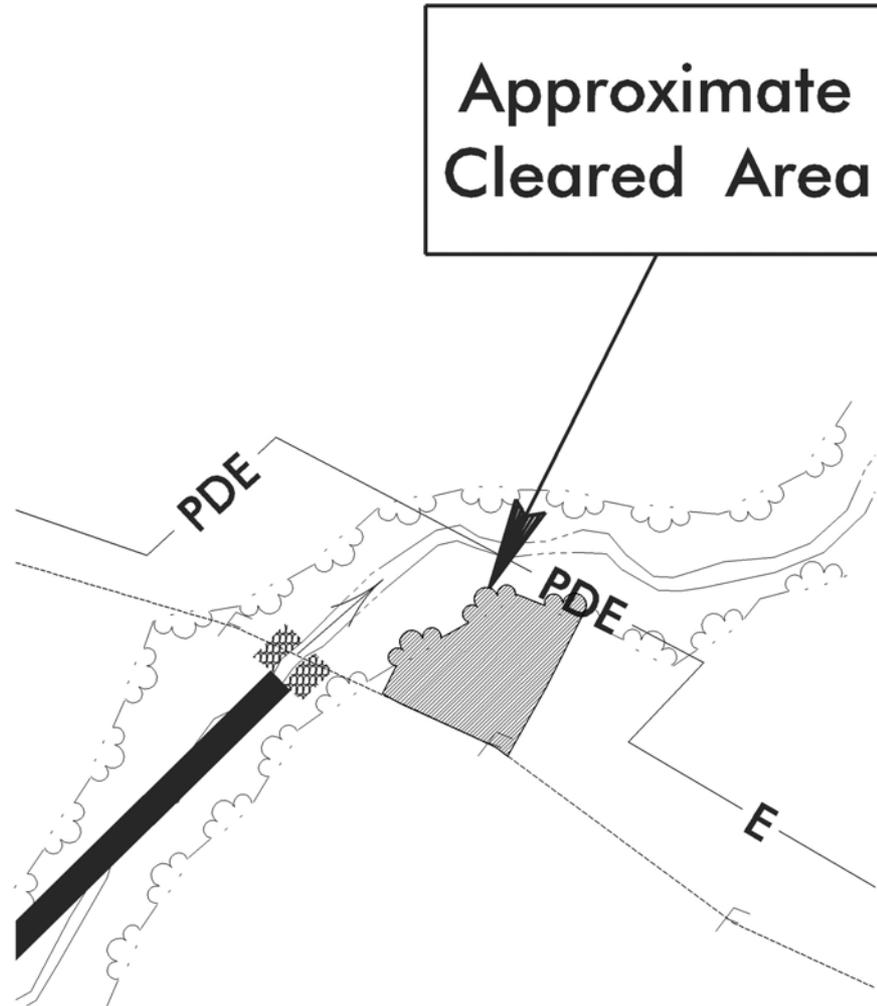
Clearing for Basins

Challenge: The Contractor did not clear enough trees to install the sediment basin because the symbol on the EC Plans is not to scale

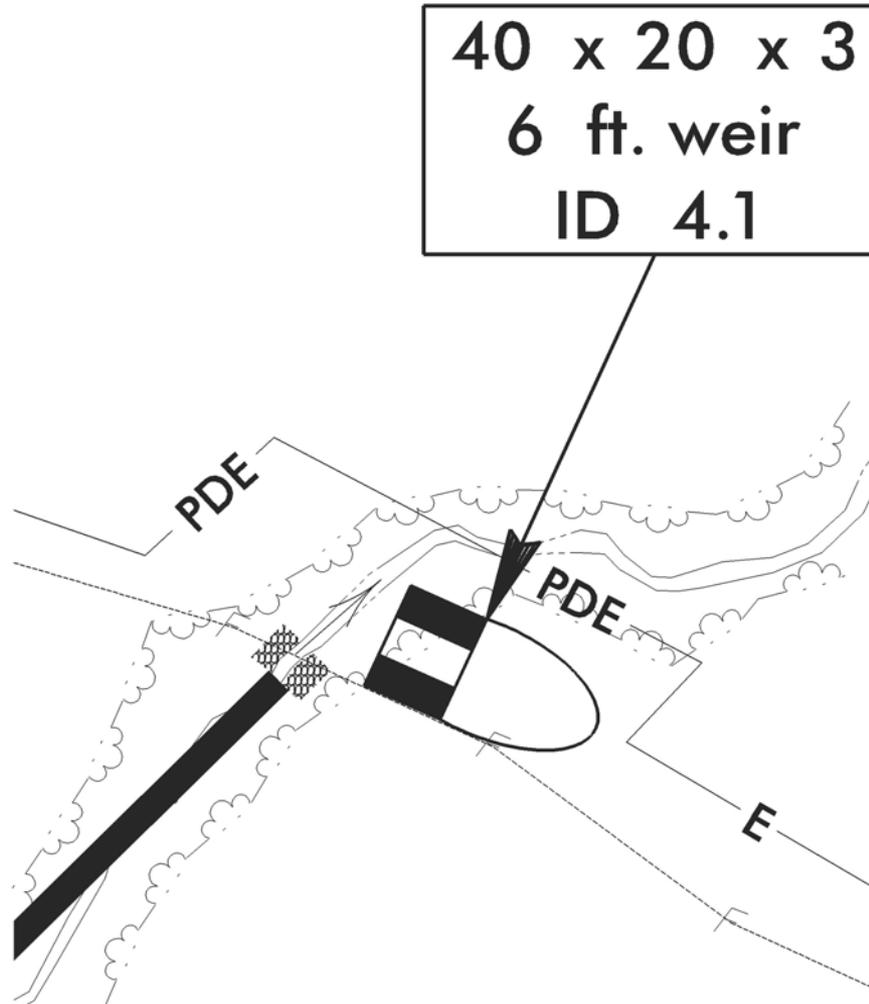
Old EC Plans



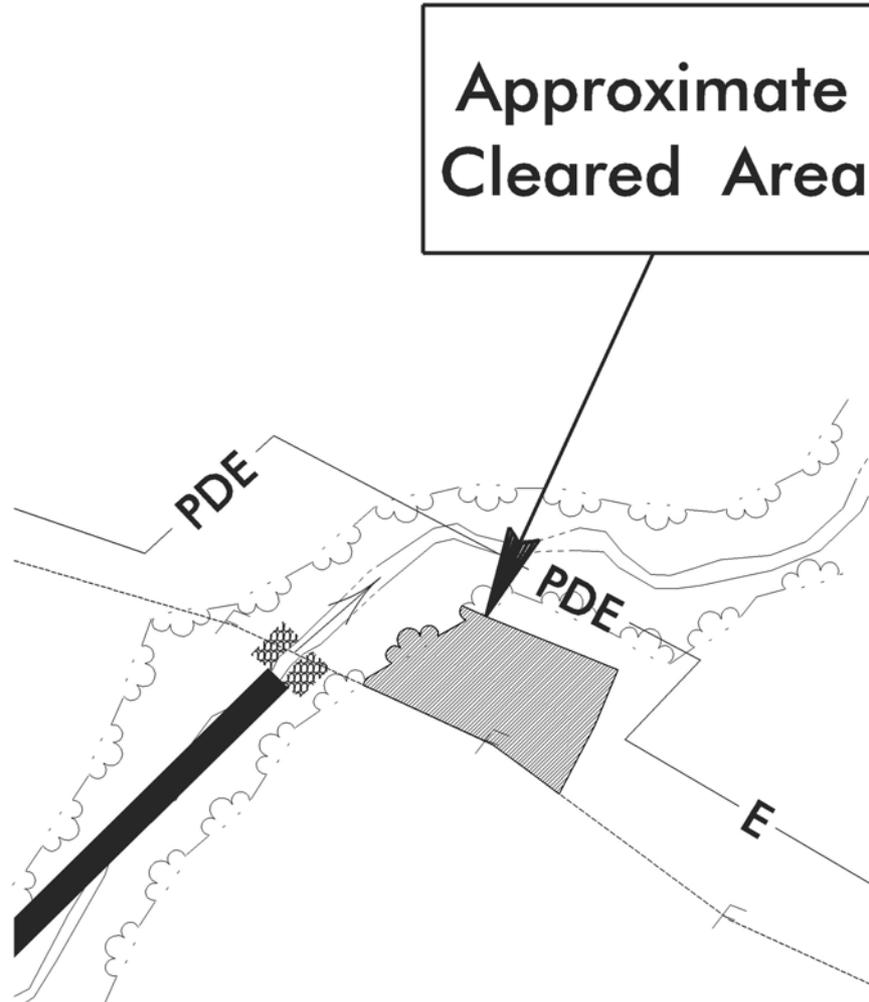
Potential Clearing Zone



New EC Plans



Needed Clearing Zone



Basin Sizes

Challenge: The basin(s) shown on the EC Plan is too large and cannot be constructed to the designed dimensions

New Basin Design Methods

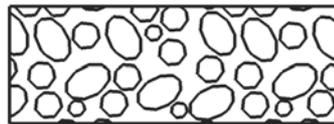
- Time of Concentration (T_c) Analysis on Drainage Areas
 - As T_c increases, Rainfall Intensity Factor and Surface Area decrease!
- Drainage Outlet Basins are currently being designed to only **Surface Area** requirement
 - Additional Sediment Storage is provided upstream

Check Dam Sediment Storage

- For flat grade ditches, sediment storage in the ditch line will be considered using:
 - Temporary Rock Silt Check Type A



- Temporary Rock Sediment Dam Type A



Basins & Traffic

Challenge: The basin(s) shown on the EC Plan is too close to maintained traffic and creates a safety hazard

Basin Offset from Traffic

- Limit proximity of Sediment Basins to a minimum of **10 ft.** from travel lanes
 - Location of Basin on EC Plan
 - Dimensions of Basin

Utility Conflicts with Basins

Challenge: The basin(s) shown on the EC Plan is located above an underground utility line and cannot be excavated to the dimension depth

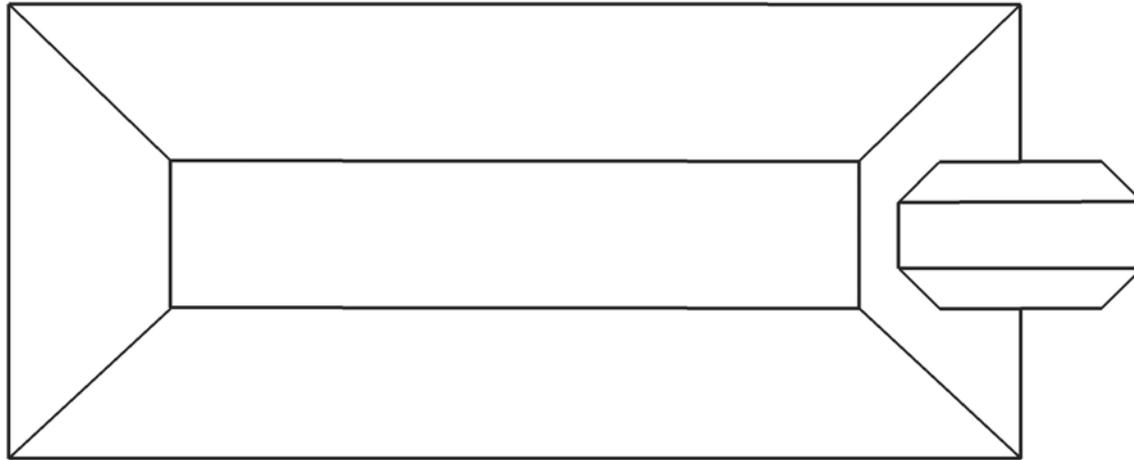
Utility Considerations

- Basins will not be placed at locations of underground utilities where feasible
- If Basins must be placed at underground utility locations, the dimension depth will be limited to **2 ft.**
 - Minimum depth requirement for Basins is 2 ft. (NCDENR-Land Quality Design Manual)

Projects with Flat Slopes

Challenge: The basin(s) on the project will not drain because there is little or no grade breaks

Infiltration Basin



Infiltration Basin Criteria

- Must be able to dewater in **3** days or less
 - North Carolina experiences a rain event every 2 to 3 days on average (Data from NC State)
- Do not excavate below Water Table
- Cheap to Build!!

QUESTIONS??

