

Ephemeral Stormwater Outfall Restoration

Park Drive RSC

Fort Dupont Park (National Park Service), SE Washington DC

DCWater

Project Goals:

- Provide stable conveyance of 100-year storm event through the design of boulder cascades and cobble riffles, thus minimizing sediment loading to receiving stream channel,
- Minimize impacts to well vegetated, steep slopes past the gully's top of bank
- Maximize nutrient uptake and improve water quality to the unnamed tributary of the Anacostia River by promoting infiltration, detention, and seepage through the sand/mulch fill, which increases denitrification and sediment filtering,
- Dissipate energy at the existing outfall discharge point through the design of a series of dissipation pools.

Additional Project Benefits:

- Enhance the ecological functions of the site through the recharging of groundwater and creation of riffle/pools complexes,
- Attenuate stormwater peak discharges to the downstream, unnamed tributary of the Anacostia River through the conversion of surface flow to sub-surface flow,
- Preserve valuable over story trees by minimizing construction impacts to the adjacent woodlands,
- Install a viable demonstration project to showcase cost-effective and ecologically appropriate restoration techniques.

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Anacostia Valley Area of the Western Shore Uplands Region of the Coastal Plain Province

Constructed Summer 2014

Drainage Area = 7 acres

Impervious Area = 1 acre

100 yr Q = ~35 cfs

Restoration Length = 200'

Bank Height = +15'

Slope = 20%

Design/Build Cost = \$300,000

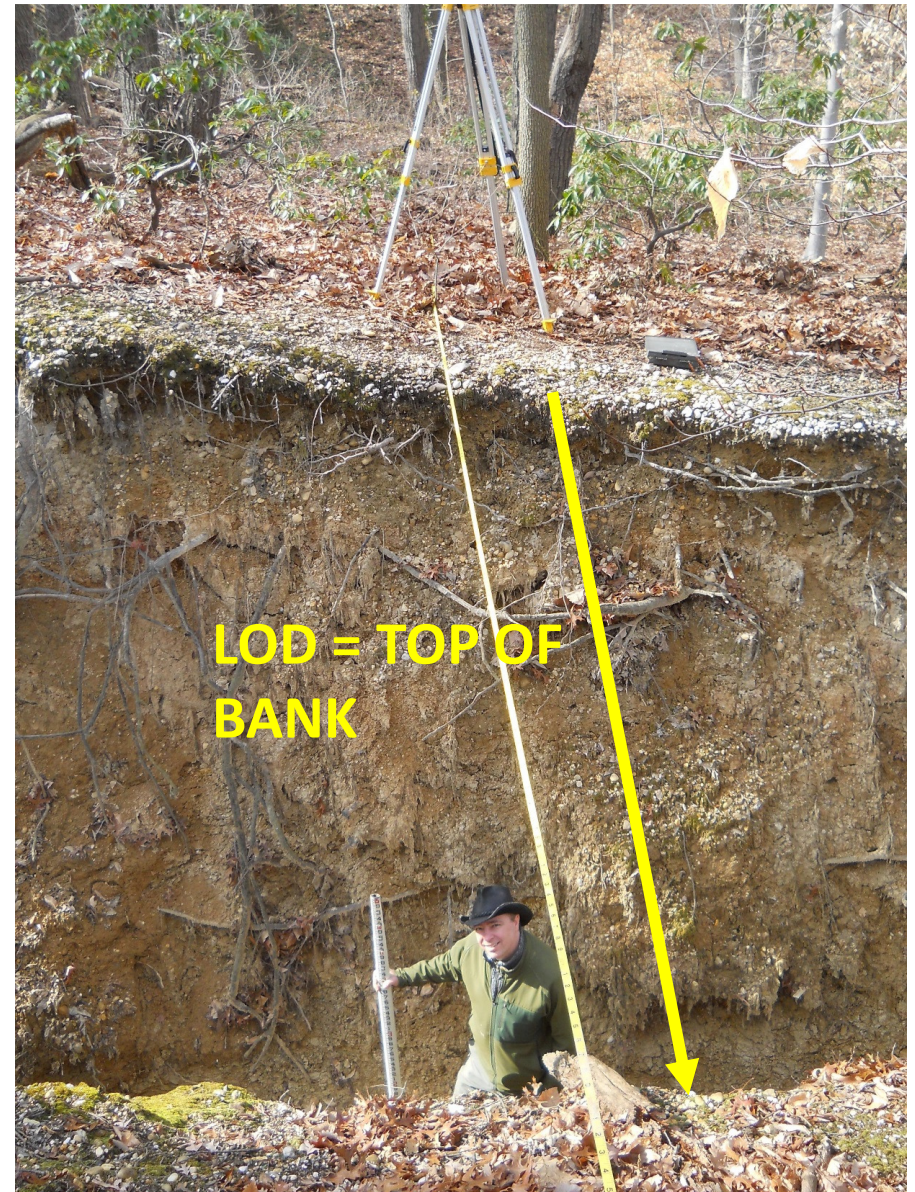
Drainage Area



Pre-Restoration Condition



Pre-
Restoration
Condition



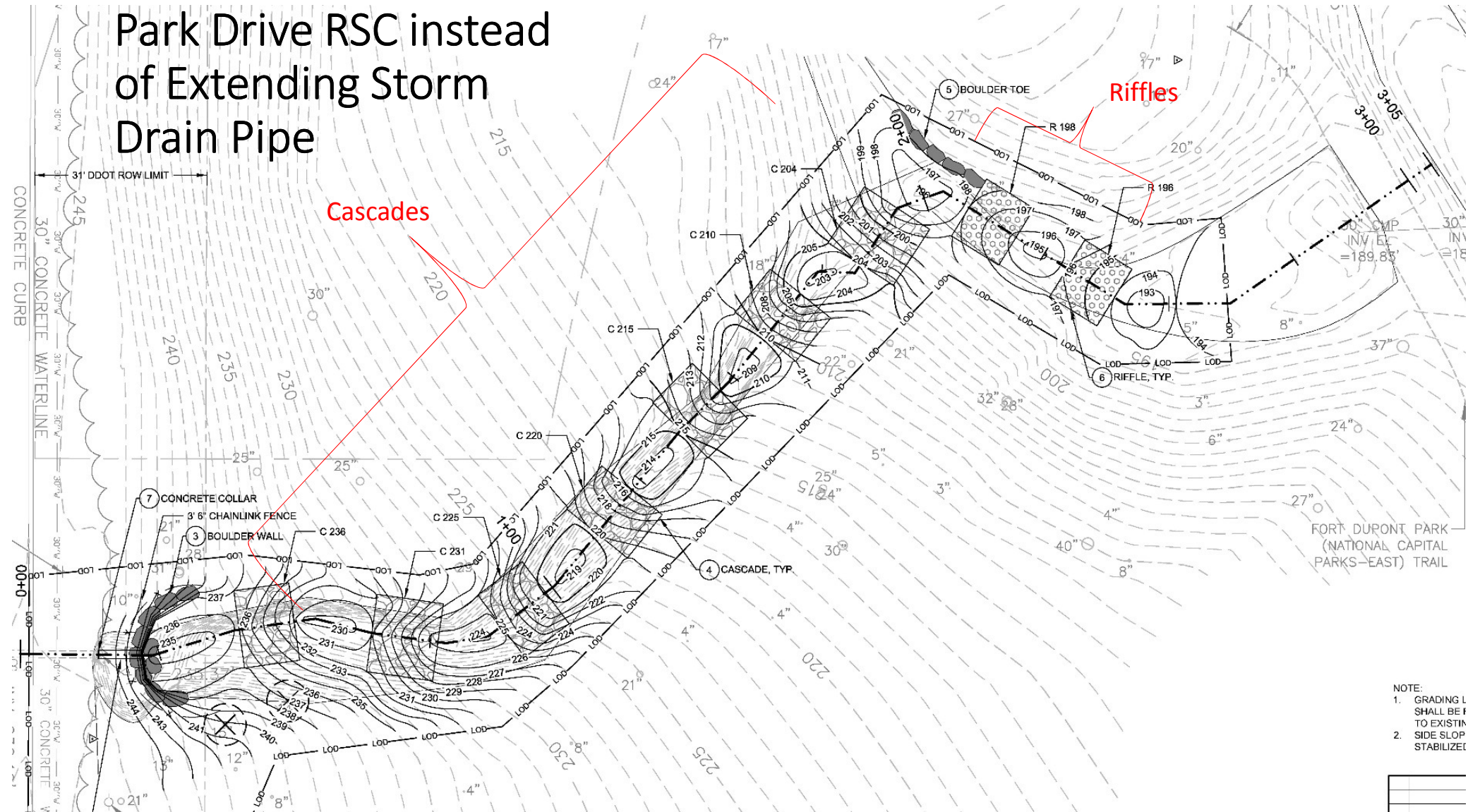
Pre-Restoration Condition



Park Drive RSC instead of Extending Storm Drain Pipe

Cascades

Riffles

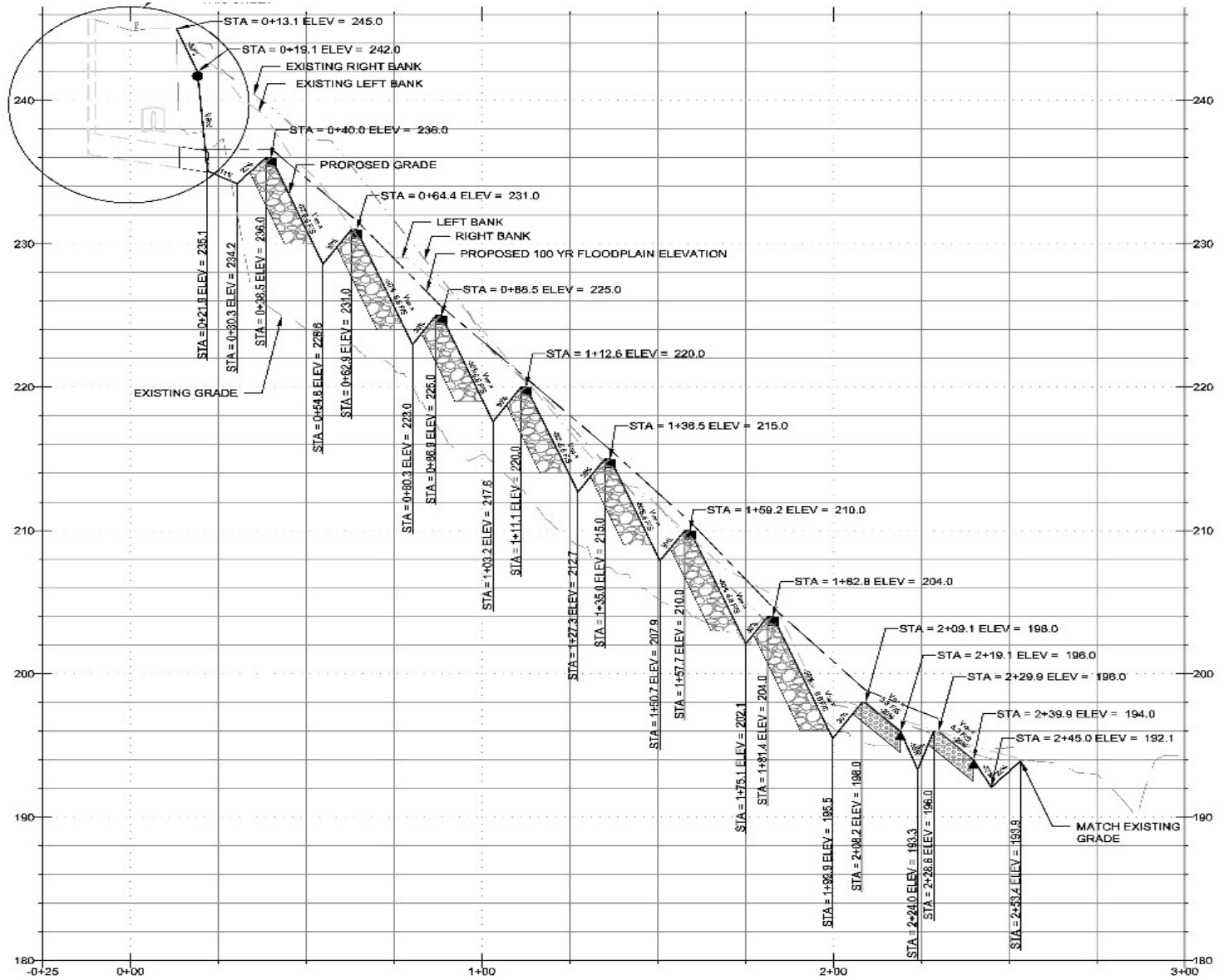


FORT DURONT PARK
(NATIONAL CAPITAL
PARKS-EAST) TRAIL

- NOTE:
1. GRADING L SHALL BE F TO EXISTIN
 2. SIDE SLOP STABILIZET



Park Drive RSC



ELEVATION (FT)

Construction



Heavy Rain During Construction



Park Drive RSC

Sand/Mulch
Seam doubled
as haul road



Park Drive RSC

Series of
Cascades



Park Drive RSC

Tie-Out Riffles



Park Drive RSC

Boulder
Headwall

