

DEVELOPING FLEXIBLE SEQUENCES OF CONSTRUCTION

Laura Ridler, P.E.
Deputy Director
MDOT SHA Office of Highway Development

February 18, 2020



QUALITY ASSURANCE DIVISION

- QAD must enforce the approved ESC plans
- Contractor changes require a field modification request, review, and approval
- 1,000 Field Modification requests in 2019
- SOC's are dictating contractor methods and means
- MDOT SHA and designers are accepting risk that should belong to the contractor

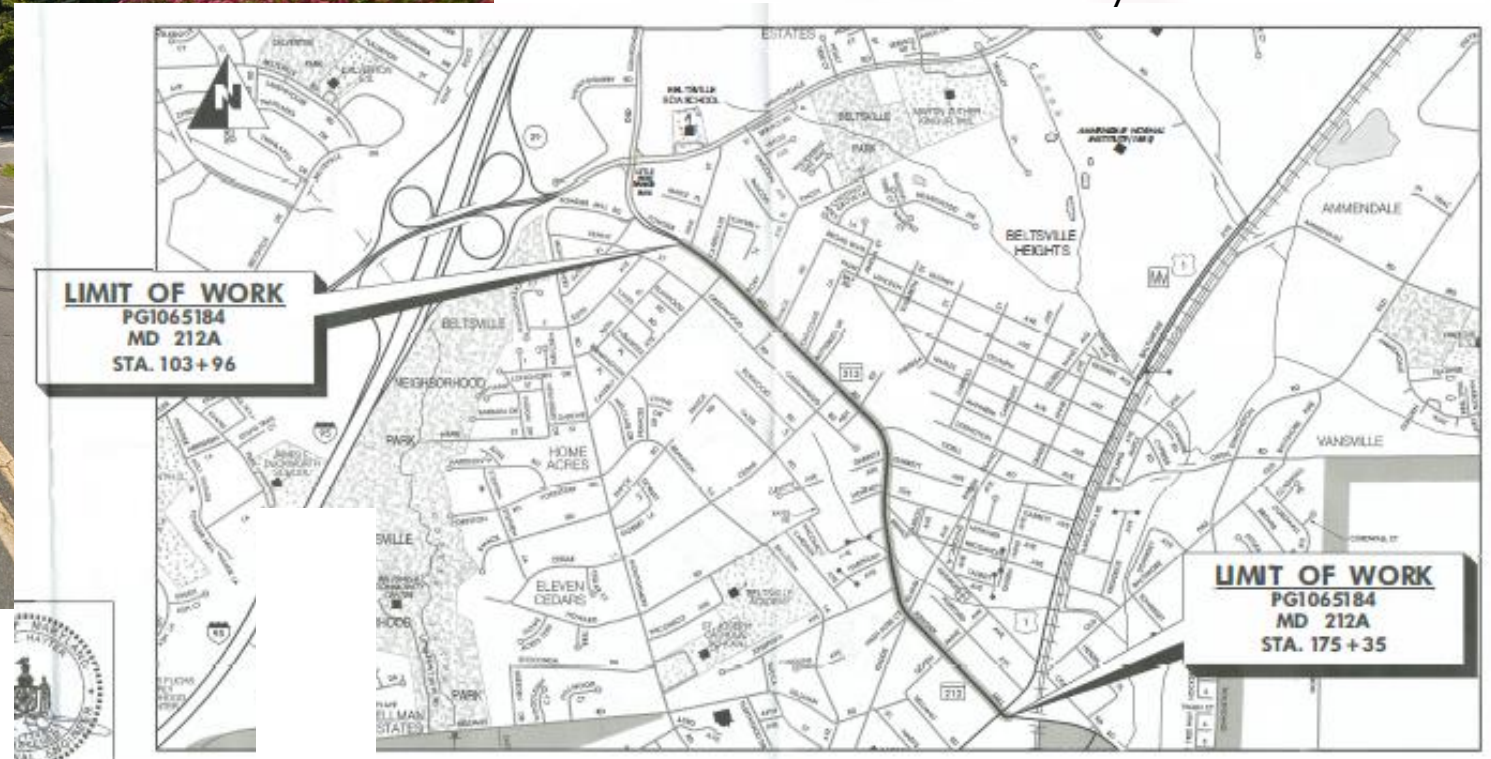


PG1065184, 17-PR-0087 PROJECT OVERVIEW



Google

- Powder Mill Road, Beltsville
- 1.35 mile road transfer project
- Work Includes:
 - Curb/gutter
 - Drainage system
 - Sidewalks
 - Concurrent utility relocations





PG1065184
17-PR-0087
REVISED
SOC


EROSION AND SEDIMENT CONTROL – GENERAL NOTES

SEQUENCE OF CONSTRUCTION:

1. NOTIFY SHA'S REC PER DWG ESN-01, NOTE 1.
2. STAKEOUT LOD AND INSTALL TOCF. CLEAR AND GRUB TO INSTALL PERIMETER CONTROLS. WHERE TREE ROOT PRUNING IS SPECIFIED, PERFORM TREE ROOT PRUNING CONCURRENTLY WITH INSTALLATION OF CONTROLS.
3. CLEAR AND GRUB TO INSTALL REMAINING PERIMETER CONTROLS AND INSTALL PERIMETER CONTROLS FOR EACH PHASE PRIOR TO PERFORMING WORK IN THAT PHASE. WORK MAY BE PERFORMED IN AREAS COVERED BY SAME DAY STABILIZATION PRIOR TO INSTALLATION OF PERIMETER CONTROLS AND INDEPENDENTLY OF THE SPECIFIED PHASES.
4. CLEAR AND GRUB TO INSTALL ALL REMAINING ESC FOR EACH PHASE PRIOR TO PERFORMING WORK IN THE RESPECTIVE PHASE.
5. WORK IN EACH PHASE MAY BE PERFORMED CONCURRENTLY AND IN ANY ORDER. POSITIVE SURFACE RUNOFF AND STORM DRAIN FLOWS MUST BE MAINTAINED, AND THE SPECIFIED CONTROLS MUST BE INSTALLED.
6. PRIOR TO CONSTRUCTING SWM FACILITIES, BMPS 162512, 162510, 162511, 162514, 162515, 162513, 162516, AND BIORETENTION INLET OPENINGS (E.G. F-1-2), PERMANENTLY STABILIZE ALL DISTURBED AREAS DRAINING TO THE SWM FACILITIES, ENSURE ALL PIPES AND INLETS HAVE BEEN CLEANED, THAT ALL ASSOCIATED DRAINAGE STRUCTURES HAVE BEEN CONSTRUCTED, AND ALL INLETS FLOWING INTO THE SWM FACILITIES ARE TEMPORARILY BLOCKED. CONSTRUCT SWM FACILITIES, PERMANENTLY STABILIZE, AND CONNECT TO STORM DRAIN SYSTEM, UNBLOCKING ANY STRUCTURES THAT WERE TEMPORARILY BLOCKED.
7. PERMANENTLY STABILIZE ALL REMAINING DISTURBED AREAS. WITH THE APPROVAL OF THE REC, REMOVE ESC MEASURES AND PERMANENTLY STABILIZED THOSE AREAS.

BY: 00374

PLATTEN 10/18/2018



MDOT
MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY
ADMINISTRATION

HIGHWAY HYDRAULICS DIVISION
MD 292A (POWDER MILL ROAD)
FROM PINE STREET TO
US 1 (BALTIMORE AVENUE)
URBAN RECONSTRUCTION PROJECT

EROSION AND SEDIMENT CONTROL GENERAL NOTES

SCALE: NTS ADVERTISED DATE: 09/11/2018 CONTRACT NO.: PS00000000

DESIGNED BY: JS	COUNTY: PRINCE GEORGE'S
DRAWN BY: LT	LOGSILE
CHECKED BY: SP	HORIZONTAL SCALE
DATE/REV: 09/11/2018/001	VERTICAL SCALE

DRAWING NO. ESN-02	OF 06	SHEET NO. 190	OF 200
--------------------	-------	---------------	--------

PRESCRIPTIVE VS. FLEXIBLE

- **Prescriptive:** Detail the most likely order contractor will construct project
- **Flexible:** Limit the SOC to critical ESC restrictions and procedures needed to maintain ESC compliance



GUIDELINES FOR FLEXIBLE SOC'S

- Determine critical ESC related restrictions in the construction process and develop the SOC based on those.
- Designate ESC “Areas” or “Zones”, rather than “Stages” or “Phases”.
- Allow enough room in the LOD for the contractor to work and maneuver equipment.
- Include ESC information only
- Indicate environmental restrictions or commitments in the general notes on the same plan sheet as the SOC. (e.g. stream restrictions)

GUIDELINES FOR FLEXIBLE SOC'S

- Limit Same Day Stabilization (SDS) to areas where work can be completed in a single day.
- SDS works well in areas of utility installation on pavement where the excavation area will be covered by steel plates.
- Mulch or matting temporary stabilization paired with disturbance the next working day is not acceptable. Consider perimeter ESC measures instead.
- Exclude SDS areas from initial cleaning and grubbing.

GUIDELINES FOR FLEXIBLE SOC'S

For projects with multiple ESC work zones:

- Does one zone need to be completed before another can be started?
- Are there sections of storm drain that must be installed in earlier phases for connections in later phases?
- Can work in separate zones be performed independently?
- Allow the contractor to move between ESC work zones if possible. Clearly identify restrictions or points of conflict.
- Material may need to be moved between ESC work zones to balance cut/fills. Can this be done without interim stockpiling?

WHAT'S NEXT?

- Draft Guidance
- ASCE presentation March 2020 (Matt Keenan)
- Designer training workshops (May/June 2020)
- Ask for individual project guidance from PRD or HHD



QUESTIONS?