CHECKLIST
For
Erosion & Sediment Control Plans

____ **Minimum Standards** – All applicable Minimum Standards must be addressed.

NARRATIVE

____ **Project description** – Briefly describes the nature and purpose of the land-disturbing activity (Chapter 6, VESCH).
- Total acreage of site
- Total disturbed acreage
- Include how many acres will be in permanent seed
- Include all utility work (storm sewer and waterline)
- Include work in live streams as defined by DEQ

____ **Existing site conditions** – A description of the existing topography, vegetation and drainage (Chapter 6, VESCH).
- Wetland type vegetation
- Shrubs/tree line
- Include all drainage swales
- Identify any existing structures

____ **Adjacent areas** – A description of neighboring areas such as streams, lakes, residential areas, roads, etc., which might be affected by the land disturbance (Chapter 6, VESCH).
- Include all adjacent sensitive areas such as wetlands or water bodies
- Address any possible traffic issues
- Does it reflect actual conditions
- Staging areas

____ **Off-site-areas** – Describe any off-site land-disturbing activities that will occur (including borrow sites, waste or surplus areas, etc.) (4VAC50-30-80, Chapter 8, VESCH).
- Does the site balance in regards to amount of cut and fill?
- Will offsite areas be used as a borrow area or stockpile?
- Include a note that the borrow area & stockpile location has not been identified with this plan, that a plan amendment will be required along with a bond estimate for the new disturbance if the borrow area & stockpile location is not permitted.
- Offsite Soil Tracking Form

____ **Soils** – A brief description of the soils on the site giving such information as (Chapter 6, VESCH):
- Soil name
- Mapping unit
- Erodibility
- Permeability
- Depth
- Texture
- Soil structure
- Type 1 Soil Map provided
- Specify micaeous soils
- Reference soils information in narrative to plan sheet
- Specify high water table soils

Critical areas – A description of areas on the site which have potentially serious erosion problems (Chapter 6, VESCH).

- Drainfields
- Offsite SWM facility
- Micaceous soils – highly erodible soils
- Wetlands or water bodies
- Steep slopes
- Wet weather/underground springs
- Channels
- Traffic issues

____ **Erosion and sediment control measures** – A description of the methods which will be used to control erosion and sedimentation on the site. (Controls should meet the specifications in Chapter 3. VESCH)

- Controls used should be specific to the project
- List E&S controls to be used – Reference to VESCH
- Provide detail for each control – Reference to VESCH
- Include the statement that "the E&S inspector has the authority to add or delete E&S controls as necessary in the field as site conditions change. In addition, no sediment basin or trap can be removed without written authorization. "
- Stream Crossing Installation (MS-12 thru 15, Std. 3.24)
  - Type of diversion needs to be provided
  - How will the work be done in the dry?
  - What type of crossing will be used?
  - Removal process? Stabilization?

____**Coordinate a Pre-Construction Conference with the Environmental Division after receiving the Land Disturbing Permit.**

____**Management Strategies (**Chapter 6 of the VESCH)

- Discuss E&S Phase 1 and Phase 2
- Perimeter sediment trapping measures to be installed as a first step.
- Include the phasing of removal for each sediment basin & sediment trap, until all upslope areas are stabilized. Take in consideration of utility installation, roadways, building locations, etc.
- Discuss conversion of sediment basins to its permanent storm water facility for both wet and dry ponds.
  - **Procedure for Converting Dry Ponds: (MS-3)**
  - Consult with the erosion and sediment control inspector prior to beginning the conversion from sediment basin to dry pond to ensure that the timing is appropriate for the conversion to take place.
  - Pump down basin – use approved dewatering measures. Effluent must be filtered.
  - Remove accumulated sediment (as needed) to establish the final grade of the pond. Sediment must be disposed of in an approved area.
  - Grade and roughen the bottom of the pond to prepare it for seeding.
  - Install debris/trash rack device on the low-flow orifice to prevent clogging.
  - Seed, mulch, and tack jute mesh or other suitable matting to the bottom of the pond.
  - After the conversion is complete, prepare and submit as-built plans of the pond(s) to the Department of Community Development in conjunction with the bond release request.

- **Procedure for Converting Wet Ponds: (MS-3)**
  - Consult with the erosion and sediment control inspector prior to beginning the conversion from sediment basin to wet pond to ensure that the timing is appropriate for the conversion to take place.
  - Pump down basin – use approved dewatering measures. Effluent must be filtered.
  - Remove accumulated sediment (as needed) to establish the final grade of the pond. Sediment must be disposed of in an approved area.
  - Grade and roughen the bank of the pond to prepare it for seeding.

____ **Permanent stabilization** – A brief description, including specifications, of how the site will be stabilized after construction is completed (MS-1 thru 3 & 5, and Chapter 3, VESCH).

- ☐ Specify type of seeding, matting, sod or other types of stabilization that may be used
- ☐ Include table 3.31-B (temporary seeding guidelines)
- ☐ Include table 3.32-D (permanent seeding guidelines)
- ☐ Include table 3.35-A (mulching guidelines)

____ **Storm water runoff considerations** – Will the development site cause an increase in peak runoff rates? Will the increase in runoff cause flooding or channel degradation downstream? Describe the strategy to control stormwater runoff (MS-19).

- ☐ The first paragraph of MS-19 has been included
- ☐ List what type of permanent stormwater facility that will be installed on the project

____ **Calculations** – Detailed calculations for the design of temporary sediment basins, permanent stormwater detention basins, diversions, channels, etc. Include calculations for pre- and post-development runoff (4VAC50-30-40, MS-19 and Chapter 6, VESCH).

- ☐ The following information must be submitted when a Temporary Sediment Basin (Std. 3.14, MS-6) is proposed for a project:
  - _____ • Temporary Sediment Basin Design Data Sheets
  - _____ • Time of Concentration flow path (broken up into sheet, shallow concentrated and channel flow). When a Tc of 5 minutes is used, the flow path is not required.
  - _____ • Stage/storage elevation information in graph format
  - _____ • When using TR-55, all worksheets must be included in submittal.
  - _____ • When using the Modified Rational method (for drainage areas less than 20 acres) a "C" factor of 0.6 must be used.
  - _____ • A schematic for each sediment basin must be provided showing dimensions and elevations.
  - _____ • Show the length of the flow path from the inflow at the wet pool to the outflow to ensure that the length to width ratio is adequate.
  - _____ • Emergency spillway dimensions and calculations.
  - _____ • Include this note that a stake or spray paint marker on riser for cleanout elevation will need to be in place for sediment basins & sediment traps

- ☐ The following information must be submitted with a Temporary Sediment Trap (Std. 3.13, MS-6) is proposed for a project.
  - _____ • Embankments heights (H), Outlet Height (Ho), and Minimum Top Widths (W), Weir Length
  - _____ • One detail for multiple traps is sufficient
  - _____ • Provide dimensions for wet & dry storage
  - _____ • Provide wet & dry storage elevations

_____ • Provide cleanout elevation
_____ • Include this note that a stake or spray paint marker on riser for cleanout elevation will need to be in place for sediment basins & sediment traps

- The following information must be submitted with a Temporary Stream Crossing (Std. 3.24, MS-12 thru15)
  - _____ • If a crossing is to remain in place up to 14 days, must carry a 2 year storm
  - _____ • If a crossing is to remain in place for 14 days to 1 year, it must be sized to carry a 10 year storm.
  - _____ • A profile of the crossing and all calculations used must be submitted
  - _____ • Drainage size shown
  - _____ • Does pipe diameter provided coincide with drainage area?
  - _____ • Temporary culvert crossing should not exceed 40 ft

____ **Maintenance** – A schedule of regular inspections and repair of erosion and sediment control structures should be set forth. Please include maintenance information for each control proposed to be used. (4VAC50-30-60)

- Add a note that RLD reports can be audited by the E&S inspector at any time, if RLD reports are not provided, the E&S inspector can report this to DCR. A follow-up inspection may take place by DCR. (Virginia Erosion & Sediment Control Law, Sec. 10.1-566(A))

SITE PLAN Section:

____ **Vicinity map** – A small map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site. (Chapter 6, VESCH)

- Directions

____ **Indicate north** – The direction of north in relation to the site. (Chapter 6, VESCH)

- This is to be shown on each plan sheet, including vicinity map

____ The E&S plan should be at a scale of at least 1" = 50'. (Chapter 6, VESCH)

____ **Limits of clearing and grading** – Areas which are to be cleared and graded. All areas involved in the construction of the project should be included. (Chapter 6, VESCH)

- Construction entrances must be included at all access points.
- Include 'staging areas'.
- Include stockpile / borrow areas
- Areas that may have safety fence but will not be disturbed
- Phase I E&S controls-give spot elevation to show drainage
- Offsite stockpile areas
- Trails
- Well installation
- Storm sewer installation
- Waterline installation
- Power line installation
- Stream crossings
- Drainfields
- Drip lines for trees to be retained

____ **Existing contours** – The existing contours of the site. (Chapter 6, VESCH)

- Does this reflect the actual current condition of the site?
- Show sufficient elevations

____ **Final contours** – Changes to the existing contours, including final drainage patterns. (Chapter 6, VESCH)

____ **Existing vegetation** – The existing tree lines, grassed areas, or unique vegetation. (Chapter 6, VESCH)
- Does this reflect the actual current condition of the site?

____ **Soils** – The boundaries of different soil types. (Chapter 6, VESCH)
- Show on the E&S Phase 1.

____ **Existing drainage patterns** – The dividing lines and the direction of flow for the different drainage areas. Include the size (acreage) of each drainage area. (Chapter 6, VESCH)
- Show drainage areas & acreage for pre-development on phase 1
- Show drainage areas & acreage for post-development on phase 2

____ **Critical erosion areas** – Areas with potentially serious erosion problems. (See Chapter 6 for criteria).
- Identify critical areas with * on the Phase 1 & 2 E&S plan.

____ **Site Development** – Show all improvements such as buildings, parking lots, access roads, utility construction, etc. (Chapter 6, VESCH)

** On smaller subdivisions where lots are to be sold to individuals prior to home construction and individual contractors are obtained by the homeowners, then the buildings and driveways do not need to be shown on the plans.*

- *The following information needs to be included in the plan and on each plat. "At the time of building permit application, the individual lot owner is responsible for preparing an erosion and sediment control plan for review or applying for an agreement-in-lieu-of at the discretion of the County prior to any land disturbing activities beyond what is shown and bonded on the approved final construction plans".*
- *The following language needs to be included in the construction plan. "No erosion and sediment control plan review was done for the individual lot improvements beyond what is shown on the approved final construction plans. At time of building permit application, the individual lot owner is responsible for preparing an erosion and sediment control plan for review or applying for an agreement-in-lieu-of at the discretion of the County prior to any land disturbing activities".*

- Sediment basins & sediment traps need to stay in place until upslope areas are stabilized, take in consideration of utility installation, lots, and buildings
- Roads & Lots need to be shown on phase 1 & 2
- Actual lot numbers & road names need to be shown on phase 2
- Target areas to be stabilized ASAP
- Consider phasing of a project
- All engineered plans require a phase 1 & 2 E&S plan
- Sanitary sewer, water line and storm sewer must be shown on the Phase 2 E&S plan. Structure numbers must also be shown. While these are not required to be shown on the Phase 1 E&S plan, the perimeter E&S controls for Phase 1 must take the construction of these utilities into account.
- Keep all of phase 1 E&S controls on phase 2 E&S plans
- Show stockpiles – with appropriate E&S controls
- Are stockpiles located above sensitive areas?

____ **Location of practices** – The locations of erosion and sediment controls and stormwater management practices used on the site. Use the standard symbols and abbreviations in Chapter 3 of the Virginia Erosion and Sediment Control Handbook.

- Use standard symbols to identify controls
- Provide a legend
- When micaceous soils are found on a site, rock check dams and silt fence should be used in conjunction with sediment traps and sediment basins in those areas.

____ **Off-site areas** – Identify any off-site land-disturbing activities (e.g., borrow sites, waste areas, etc.) (4VAC50-30-80, Chapter 8, VESCH).

- Does the site balance in regards to the amount of cut and fill required?
- Is it on the same property as the project? If so, it needs to be included in the LOC. Show access.
- Show offsite stockpile
- Show location of erosion controls.
- Offsite Soil Tracking Form

____ **Detail drawings** – Any structural practices used that are referenced to the E&S handbook or local handbooks should be explained and illustrated with detail drawings. (Chapter 3, VESCH)

- Include details of structural practices and reference them to the VESCH.
- If any E&S structural practices are proposed that are not included in the VESCH, then a detail and a request for a variance must be submitted to the County (plan approval authority).

_____**Provide Comment Response letter.** Please provide a comment-response letter identifying how each comment is addressed with the current plan submission. This will greatly assist in the review of all future plan submissions.