MINIMUM STANDARD CHECKLIST

Yes	No	NA		
[]	[]	[]	MS-1	Have temporary and permanent stabilization been addressed in the narrative? Are practices shown on the plan? Seed specifications? yes/no Mulching? yes/no Gravel? yes/no
[]	[]	[]	MS-2	Has stabilization of soil stockpiles been addressed in the narrative? Are sediment trapping measures provided?
[]	[]	[]	MS-3	Has maintenance of permanent stabilization been addressed?
[]	[]	[]	MS-4	Are sediment trapping facilities to be constructed as a first step in LDA?
[]	[]	[]	MS-5	Has stabilization of earthen structures been addressed?
[]	[]	[]	MS-6	Are sediment basins required where needed?
[]	[]	[]	MS-7& MS-9	Has stabilization of cut and fill slopes been adequately addressed? (i. e. Surface Roughening, Outlet Protection)
[]	[]	[]	MS-8	Are paved flumes, channels, or slope drains required where necessary?
[]	[]	[]	MS-10	Is adequate inlet protection required on all operational storm sewer inlets?
[]	[]	[]	MS-11	Are channel lining and/or outlet protection required on stormwater conveyance channels?
[]	[]	[]	MS-12	Are in-stream construction measures required so that channel damage is minimized?
[]	[]	[]	MS-13	Are temporary stream crossings of non-erodible material required where applicable?
[]	[]	[]	MS-14	(NOTE: This regulation requires that all applicable federal, state and local regulations pertaining to working in or crossing live watercourses be followed.)
[]	[]	[]	MS-15	Has restabilization of areas subject to in-stream construction been adequately addressed?
[]	[]	[]	MS-16	Is stabilization of utility trenches addressed?
[]	[]	[]	MS-17	Is the transport of soil and mud onto public roadways properly controlled? (i. e. Construction Entrances, Wash Racks, daily cleaning of road ways, transport of sediment to a trapping facility)
[]	[]	[]	MS-18	Has the removal of temporary practices been addressed?
[]	[]	[]		Has maintenance of practices been addressed? (i. e. repair of structures and removal of accumulated sediment)
[]	[]	[]	MS-19	Are properties and waterways downstream from development adequately protected from erosion and sediment deposition due to increases in peak stormwater runoff?

Plan Review Checklist

FOR EROSION AND SEDIMENT CONTROL PLANS

_____ Minimum Standards - All applicable Minimum Standards must be addressed.

- All minimum Standards must be adhered to during the entire project regardless of the phasing.
- Request for a Variance should be addressed

NARRATIVE

_____ Project description - Briefly describes the nature and purpose of the land-disturbing activity, and the area (acres) to be disturbed.

- What time of year will the project start and finish? (construction sequence)
- How long will it take to complete the project?
- How many acres will be disturbed for completion of this project?
- How much impervious area will the project have in post-developed conditions?
- What will be the ultimate developed conditions of the site?

_____ Existing site conditions - A description of the existing topography, vegetation and drainage.

- Should list percentages of slope on the site.
- Types of existing vegetation that can be used as erosion control, or areas to be left undisturbed.
- Discuss marking of areas where existing vegetation is to be preserved.
- Discuss size of drainage areas in pre-development and post-development conditions.
- Discuss any existing drainage or erosion problems and how they are to be corrected.
- Discuss orientation of slopes (north or south facing).
- Discuss how existing site conditions can be used to reduce the potential for erosion and how proposed E&S controls will be designed to "fit" the site.
- Photographs?

Adjacent areas - A description of neighboring areas such as streams, lakes, residential areas, roads, etc., which might be affected by the land disturbance.

- The potential for off-site damages must be considered and discussed
- ANY environmentally sensitive areas should be mentioned.
- Other private or public lands adjacent to the site should be described and considered for possible problems during and after construction (traffic problems, dust control, increases in runoff etc...)
- Discuss perimeter controls to be used.

Off-site areas - Describe any off-site land-disturbing activities that will occur (including borrow sites, waste or surplus areas, etc.). Will any other areas be disturbed?

- Any off-site borrow or spoil areas should have an approved plan to supplement the overall project plan.
- If off-site areas are under other permits, proof of permits should be provided.
- List specific locations of all off-site areas
- Discuss who will be responsible for final stabilization and maintenance of off-site areas.

Soils - A brief description of the soils on the site giving such information as soil name, mapping unit, erodibility, permeability, depth, texture and soil structure.

- Indicate references for soil information
- Provide a copy of soil survey map
- Indicate what sheet of site plan soils are delineated
- Check for soils with a high K factor, or poor drainage, low pH etc...

Critical areas - A description of areas on the site which have potentially serious erosion problems (e.g., steep slopes, channels, wet areas. streams, underground springs, etc.).

- Discuss any area of the project which may become critical during the project. Some areas of the site may have long or steep slopes during a certain phase of the grading.
- Indicate areas to be left alone until they can be graded and stabilized in favorable conditions.
- Discuss precautions to communicate limits of these areas to contractors and equipment operators.

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.)

- List all controls used, list specification numbers (3.02) location of practice.
- Discuss why it was selected.
- Sequence of installation, maintenance and removal for each control.
- Discuss temporary seeding as a means of erosion control, list the types to be used

Permanent stabilization - A brief description, including specifications, of how the site will be stabilized after construction is completed.

- Final stabilization needs careful review.
- Is the timing of seeding correct with the construction sequence?
- List soil testing requirements
- Provide seeding specifications (pure live seed minimums), fertilizer and liming specifications. Seeding tables and rates.
- Is the type of permanent vegetation appropriate for the site?
- Discuss all other areas to be stabilized other than vegetation (gravel, paved etc...)

Stormwater runoff considerations - Will the developed 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.

- Discuss how downstream properties and waterways will be protected (basins, channel improvements, easements)
- Discuss how increased runoff will be managed during construction
- List or discuss all other references for design of permanent facilities.

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.

- All calculations showing pre-development and post-development runoff should be provided. Worksheets, assumptions and engineering decisions should be clearly presented to assist the plan reviewer in his or her duties.
- Calculation methods should be clearly presented and organized.
- Have the calculations shown that adequate protection of down-stream properties and waterways are protected?

_____ Maintenance - A schedule of maintenance for permanent stormwater control measure should be provided.

- Should list who is responsible during construction and who will be responsible once the project is complete
- Should provide a schedule of inspections to be conducted
- List maintenance items to check and perform as well as precautions for large storm events

Checklist (continued)

SITE PLAN

_____ Vicinity map - A small map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site.

- Provide a reproduction of a topo map, road map etc…

_____ Indicate north - The direction of north in relation to the site.

- Useful tool for determining slope orientation
- Useful for communicating written inspection reports and plan review comments
- Useful in predicting areas off-site that might be effected by dust drift

_____ Limits of clearing and grading – Areas which are to be cleared and graded.

- Show all areas to be disturbed on the site plan
- Provide notes on how areas will be marked
- Provide notes and illustrations to clearly indicate areas NOT to be disturbed

_____ Existing contours - The existing contours of the site.

- Should be shown as dashed light lines in intervals from 1 to 5 feet.
- Represent pre-developed drainage areas (check these areas for accuracy)
- Show potential critical areas (slopes)
- Helps to determine cut or fill areas, low spots
- Helps to determine if E&S controls have been designed properly

_____ Final contours - Changes to the existing contours, including final drainage patterns.

- Should be shown as heavy solid lines
- Determines final drainage areas
- Check to see if pre-developed drainage areas have increased
- Check final grade of slopes to see if they will become critical (may need diversions or flumes)
- Check vegetative specifications for final grade of slopes (low or high maintenance). Are erosion controls blankets needed?

_____ Existing vegetation - The existing tree lines, grassed areas, or unique vegetation.

- Clearly indicate existing tree lines, vegetation areas to remain
- Provide notes on the plan for areas to be undisturbed

_____ Soils - The boundaries of different soil types.

- Indicate soil boundaries of all soil types on the site. List K factor and soil survey classifications.
- Provide notes of soil properties (texture, etc...)

_____ Existing drainage patterns - The dividing lines and the direction of flow for the different drainage areas. Include the size (acreage) of each drainage area.

- Should be indicated by acres and show the direction of flow for all existing drainage areas.
- Indicates the need for basins, traps or other structural measures
- Helps to determine if controls are designed correctly
- Helps to determine if off-site drainage needs to be diverted
- Useful in planning to break up drainage areas into smaller more manageable areas during construction

_____ Critical erosion areas - Areas with potentially serious erosion problems.

- All critical, environmentally sensitive or prohibited areas should be denoted on the plan and notes provided to state reasons for critical nature
- Stream considerations; temporary crossings, other permits, location of stock piles, trash & debris removal, fuel storage, etc...

_____ Site Development - Show all improvements such as buildings, parking lots, access roads, utility construction, etc.

- All improvements such as building, roads, temporary access roads, right-of-ways and temporary easements should be shown on the plan.
- Utility improvements on and off-site should be shown.

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 VESC handbook.

- The exact location of all practices including vegetation should be clearly shown on the plan.
- A legend denoting symbols, line uses and other special characters should be provided

Off-site areas - Identify any off-site land-disturbing activities (e.g., borrow sites, waste areas, etc.). Show location of erosion controls. (Is there sufficient information to assure adequate protection and stabilization?)

- Are separate plans required for off-site borrow or disposal areas?
- How will off-site areas be stabilized?
- Are there any temporary easements to be disturbed during construction?
- Who has final responsibility for off-site areas?

Detail drawings - Any structural practices used that are not referenced to the E&S handbook or local handbooks should be explained and illustrated with detail drawings.

- Details should be provided which are clearly dimensioned and reflected the ability to be "built" in the field according to the proper design criteria.
- Alternative E&S measures must have proper drawings to indicate how and where they are to be constructed.
- All plan drawings, elevations and cross section drawings should show scales used to prepare the drawings.
- Outlet protection schedules should be provided
- Sizes and materials should be shown for all pipes, flumes and slope drains.
- All details should list the specification number from the VESCH
- If more than one type of specification is being used (inlet protection) details of all practices shall be provided

Maintenance - A schedule of regular inspections and repair of erosion and sediment control structures should be set forth.

- Indicate who is responsible for maintenance and repair of all E&S measures on the project (RLD).
- Indicate who is the primary contact for emergencies, for notification of problems (owner), etc…
- Provide clean-out and maintenance specifications for all major structures such as basins, traps, silt fence etc…
- Require monitoring reports from the RLD if needed