

Plan Name: _____ Plan #: _____
 Submitting Firm: _____ Contact Engineer: _____
 Review Date: _____ ESI Team: _____

**ENGINEERS & SURVEYORS INSTITUTE
 PEER REVIEW CHECKLIST
 CITY OF ALEXANDRIA**

**EROSION & SEDIMENT CONTROL (E&S) CHECKLIST
 VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK**

Item #	Description	Sheet #	OK	NO	N/A
1	Limits of clearing and grading match on all appropriate sheets				
2	Construction entrance provided with source of water and silt trap indicated				
3	Show the total disturbed area on all phases of E&S plans and grading plan				
4	Silt fence used where maximum drainage area is 1 acre or less and size of drain area is no more than 0.25 acre per 100' of silt fence				
5	Inlet protection provided where drain area is no greater than 1 acre				
6	Culvert inlet protection (silt fence) provided where maximum drainage area is 1 acre				
7	Culvert inlet protection (sediment trap) provided where maximum drainage area is 3 acres				
8	Maximum drainage area for diversion dike is 5 acres				
9	Silt trap computations shown with storage of 134 cubic feet per acre				
10	Pipe outlet required on silt trap of 1 to 3 acres				
11	The use of diversion dikes to break up drainage divides to support the use of silt traps shall only be allowed when maintenance of dike can be accomplished				
12	Computations provided for sediment basin – VESCH standard format				
13	Rock check dams shall be used in small open channels draining 10 acres or less				
14	Tree save areas with drip lines within 25' of limits of disturbance delineated and tree protection limits shown on the plan				
15	Show all soil stockpiling areas staging areas and temporary parking areas with adequate erosion controls and adequate sequencing. This applies to both on-site and off-site areas				
16	Drainage areas to silt fence conform to the VESCH				
17	Outlet protection conforms to the VESCH				
18	Special instructions for the handling of any contaminated soils are included				
19	Two phased narrative description. Narrative organized to the order as outlined in the checklist of the VESCH				
20	Phase one controls complete and correct				
21	Phase two controls complete and correct				

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**STORM DRAINAGE DESIGN (SD) CHECKLIST
 (1 of 2)**

Item #	Description	Sheet #	OK	NO	N/A
1	Adequate storm drainage outfall with computations. Provide cross-section of off-site channel or show connection to existing storm sewer				
2	Storm drainage design honors natural drainage divides. Drainage areas denoted on divides				
3	Appropriate coefficients of runoff shown				
4	Minimum size storm sewer main is 18"				
5	Minimum size storm sewer catch basin lead is 15"				
6	All storm sewers in the public right of way shall be concrete. Minimum class IV				
7	Minimum pipe slope shall be 0.50%				
8	Minimum velocity in pipe shall be 2 fps, Maximum velocity in pipe shall be 20 fps				
9	Minimum cover for storm sewer pipe is 2'				
10	Concrete pipe under 36", use "n" = 0.015, Concrete pipe 36" and larger, use "n" = 0.013				
11	Design computations for closed and open systems provided				
12	All construction information (i.e. inverts, pipe size, pipe class, length and slope shall be shown on plan and/or profile)				
13	Inlet design computations provided				
14	Culvert pipe size shall be determined by hydraulic computations (provide the standard headwater/tailwater computations)				
15	The ends of any storm drainage pipe shall be provided with an appropriate appurtenance				
16	Inlet/outlet protection (Rip-rap) shall be provided. Length calculations shall be shown based on VESCH, Chapter III charts				
17	All open channels will be in a minimum drainage easement of 15'				
18	Minimum grade on open channels shall be 1.0% with grass lining and 0.50% w/ armored lining				

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BEST MANAGEMENT PRACTICES (BMP) CHECKLIST

Item #	Description	Sheet #	OK	NO	N/A
1	BMP plans and calculations shall be designed in accordance with the Northern Virginia and City of Alexandria BMP Handbook requirements				
2	The BMP plan has the pre and post development non-point source pollutant loadings with supporting documentation of all utilized coefficients and calculations				
3	BMP phosphorus removal efficiency calculations provided for the development site				
4	Calculations provided for Water Quality Volume (Calculations on worksheet A or B and worksheet C) for the development site				
5	Calculations provided for the BMP device using the appropriate worksheet in the Northern Virginia Handbook or the City of Alexandria Supplement to the Handbook				
6	BMP drainage divide map provided with 2' contour delineating pervious and impervious surfaces (1' contour map required for flat sites)				
7	BMP maintenance and operation schedule provided				
8	Standard BMP notes included				
9	A master plan provided for the overall BMP coverage if applicable				
10	Watershed and receiving body of water identified				
11	Total area of development site (parcels) listed				
12	Existing and proposed total impervious site areas listed				
13	Total area contributing to the water quality volume listed				
14	% Treated of the area contributing to water quality volume included				
15	List area treated by each BMP as: 1. On site impervious 2. On site pervious 3. Off site impervious 4. Off site pervious 5. Total				
16	Construction details included for all BMP structure and appurtenance				
17	The BMP plan shall establish a long term schedule for inspection and maintenance that includes all maintenance requirements and persons responsible for performing maintenance				

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STAGE II GENERAL REQUIREMENTS (GR) CHECKLIST

Item #	Description	Sheet #	OK	NO	N/A
1	All sanitary sewer easements must be recorded prior to the plan approval				
2	Provide two benchmark locations on the plan with elevations on USC&GS datum and descriptions				
3	North arrow provided with reference to source of meridian				
4	24" X 36" sheet size				
5	All plan sheets sealed and signed by a professional engineer or licensed surveyor				
6	Name and address of the developer				
7	Scale and date of plan – no less than 1"=40'				
8	Index to plan sheets provided				
9	Key to plan sheets if more than one sheet is required to show the entire site				
10	Property lines with course and distance for each				
11	Total land area				
12	Present zoning of site and all abutting properties				
13	All easements, reservations, rights-of-way and conservation easements				
14	Deed Book and Page Nos. for all existing easements				
15	Topography with 2' contour interval except for the BMP drainage divide map				
16	Provide signature approval block in the lower right quadrant (see standard notes for the recommended format)				
17	A location map				
18	A complete narrative description of the proposed development				
19	List of SUP conditions provided on plans with response letter under separate cover				
20	Plan is in compliance with SUP conditions				
21	A list of all modifications and waivers of the applicable zoning regulations on cover sheet				
22	Water mains with their size and fire hydrants identified				
23	Building restriction lines, highway setback lines, zone transition lines				
24	Dimensions of front, side and rear yards				
25	Recreation areas and swimming pools depicted				
26	Standard construction notes included				
27	Completed and signed ESI Checklist included				

Comments: _____

