

SITE ENGINEERING DESIGN CHECKLIST

(To Be Completed & Submitted along with Civil/LDP Application)

LDP # _____			
Review No.	1st _____	2nd _____	3rd _____
Project Name	_____	Project Location	_____
Reviewer	_____ Jill Bazinet _____	Email	_____ <a href="mailto:jbazinet@alpharetta.ga.us">jbazinet@alpharetta.ga.us</a> _____
Design Firm	_____	Contact	_____
Phone	_____	Email	_____
		Fax	_____

**STANDARD SUBMISSION REQUIREMENTS**

Provide this completed checklist signed, dated, sealed and certified by a Professional Engineer in the State of Georgia. Community Development will forward this checklist to the Community Development Department.

- C Denotes no action required
- X Or underline denotes action required
- ? Unable to locate on plan. Clarify.
- N/A Denotes not applicable to this project

**SUBMITTAL MUST INCLUDE A CHECKLIST THAT HAS BEEN MARKED UP BY THE ENGINEER OF RECORD SHOWING HOW AND WHERE EACH ITEM LISTED IS ADDRESSED. (For example, notes should be labeled with plan sheet and note number, other items should be labeled with plan sheet number and location on the sheet, etc. Written comment responses that do require plan revisions are to be included hereon). **PLANS WILL NOT BE REVIEWED WITHOUT THIS STEP COMPLETED.****

I, the undersigned, hereby certify that I am a Professional Engineer in the State of Georgia and that each element of this checklist was considered and addressed in accordance with all applicable regulations, codes, standards, guidelines, ordinances, and policies.

\_\_\_\_\_  
Applicant Signature & Date

\_\_\_\_\_  
Applicant Seal

Submission of this checklist does not relieve the applicant from his/her responsibility to comply with all applicable regulations, codes, standards, guidelines, ordinances, and policies.

The Department of Community Development reserves the right to revise this checklist periodically as the need arises.

**PLAN REQUIREMENTS**

## Cover Sheet

- A. \_\_\_\_\_ Vicinity Map
- 1 \_\_\_\_\_ Legible scale
  - 2 \_\_\_\_\_ Site perimeter outlined and labeled. (hatching to distinguish site)
  - 3 \_\_\_\_\_ Street names
  - 4 \_\_\_\_\_ North Arrow
- B. \_\_\_\_\_ Title Block
- 1 \_\_\_\_\_ Name of project
  - 2 \_\_\_\_\_ Name, address, phone number of firm responsible for preparing the plan
  - 3 \_\_\_\_\_ Date original plan was prepared
  - 4 \_\_\_\_\_ Scale
  - 5 \_\_\_\_\_ Sheet number
  - 6 \_\_\_\_\_ Revision date
- C. \_\_\_\_\_ General Notes
- 1 \_\_\_\_\_ Narrative stating purpose of the plan.
  - 2 \_\_\_\_\_ Site acreage
  - 3 \_\_\_\_\_ Total disturbed acreage
  - 4 \_\_\_\_\_ Percent impervious for the site
  - 5 \_\_\_\_\_ Boundary Survey date and source
  - 6 \_\_\_\_\_ Topo benchmark location and elevation (Include Datum)
  - 7 \_\_\_\_\_ Name, address, phone number of owner of record
  - 8 \_\_\_\_\_ Flood hazard statement with most current (FEMA) FIRM panel number (9/18/13).
- D. \_\_\_\_\_ Index of Sheets
- E. \_\_\_\_\_ Call Before You Dig Logo and note (cover)
- F. \_\_\_\_\_ Ensure Maps, drawings, and supportive documentation bear signature and seal of professional engineer, site surveys bear signature and seal of licensed surveyor, and erosion control plans bear signature and seal of engineer, surveyor, architect, or landscape architect in the State of Georgia.  
[Will check at final sign off.](#)
- G. \_\_\_\_\_ Provide an encroachment agreement from adjacent properties for off-site work, ingress/egress site access agreement, approval from DOT for site entrance.
- H. \_\_\_\_\_ Provide/correct hydrologic analysis and design for 1, 2, 5, 10, 25, 50, and 100-year storm events on all detention facilities and design for runoff reduction and/or water quality control devices (See Stormwater Design Checklist.)

## All Plan Sheets

- A. \_\_\_\_\_ North Arrow (on all plans) Graphic Scale (max. 1"=100')
- B. \_\_\_\_\_ Graphic Scale (max. 1"=100')

## Site Plan / Existing Conditions Plan / Survey

- A. \_\_\_\_\_ Site boundary survey and topo.
- B. \_\_\_\_\_ Legend for all symbols used
- C. \_\_\_\_\_ Date and source of survey, topo benchmark reference, boundary legal description, adjacent property owners. Include lot lines with dimensions to the nearest one-tenth foot, bearings, and distances.
- D. \_\_\_\_\_ Include all streets with names, widths, and location of R.O.W.
- E. \_\_\_\_\_ Label all existing structures and their use.
- F. \_\_\_\_\_ Locate all utilities (must be on site plan unless argument made by applicant and accepted by city) and provide the names of the utility providers.
- G. \_\_\_\_\_ Label entrance dimensions and radii.
- H. \_\_\_\_\_ Street centerline stations, vertical & horizontal curve data
- I. \_\_\_\_\_ Provide pavement details/ specifications for all public roads, including acceleration/ deceleration lanes.
- J. \_\_\_\_\_ Callout entrance details 951, utility detail 400/401, curb & gutter detail 901, handicap ramp detail 902, street sign detail 900. GDOT A4 (detectable warnings) Provide details for each.
- K. \_\_\_\_\_ Locate all existing or proposed well or septic systems.
- L. \_\_\_\_\_ Delineate and label land to be reserved or dedicated for public use.

## Grading Plan / Stormwater Management Plan

- A. \_\_\_\_\_ Existing and proposed topography at 1-foot intervals for ground slopes < 2% and 2-foot intervals for slopes > 2%. Existing topo shall extend a minimum of 50' beyond the property line.
- B. \_\_\_\_\_ Existing and proposed spot elevations at all high and low points and elsewhere as necessary with associated flow arrows to illustrate drainage patterns.
- D. \_\_\_\_\_ Base of fill slopes steeper than 3:1 must terminate a safe distance from all property lines to allow for constructability and not to affect adjacent property owners.
- E. \_\_\_\_\_ Check that the limits of grading, retaining walls, and sediment control practices are constructible within the limits of disturbance and the designated resources to be protected.
- F. \_\_\_\_\_ Delineate FEMA and City Special Flood Hazard Area and floodway. (100-year floodplain)  
Provide LOMA and compensatory cut info as required for encroachment
- G. \_\_\_\_\_ Delineate future floodplain
- H. \_\_\_\_\_ Delineate wetlands  
Provide copy of all regulatory documentation permitting any proposed impacts
- I. \_\_\_\_\_ Delineate 50-foot undisturbed buffer along non-perennial streams measured horizontally from the wretched vegetation. Delineate 100-foot undisturbed buffer along perennial streams.

- J. \_\_\_\_\_ Delineate 75-foot impervious setback along non-perennial stream measured from the wrested vegetation. Delineate 150-foot impervious setback along perennial streams.
- K. \_\_\_\_\_ If stream buffer encroachment is proposed, provide necessary variance approval from City, State and Corps of Engineers as applicable.
- L. \_\_\_\_\_ Location and labeling of Specimen trees and critical root zones. Must be on grading plan.
- M. \_\_\_\_\_ Finished floor elevation of any structure shall be a minimum of three (3) feet above the 100-year flood elevation.
- N. \_\_\_\_\_ Volume of cuts and fills
- O. \_\_\_\_\_ Minimum grade of 1% in pervious areas and ½% in impervious areas
- P. \_\_\_\_\_ Provide all necessary details for retaining walls, conc. encasement, etc. If a retaining wall is proposed over 4'-0" in revealed height, include the structural design signed, dated, and sealed by a Georgia P.E.
- Q. \_\_\_\_\_ Provide elevations for top & bottom of all retaining walls.
- R. \_\_\_\_\_ Delineate and label all existing or proposed utility easements (sanitary sewer, public service utility rights-of-way, and off-site easements, landscape buffers)
- S. \_\_\_\_\_ Existing and proposed location of sanitary sewer pipes and structures with pertinent information (pipe sizes and material, structure tops and inverts). Must be on grading plan.
- T. \_\_\_\_\_ All pipe systems
- 1 \_\_\_\_\_ Complete layout with top and invert elevations labeled on all inlets and junction boxes. (specify type of inlet or junction box) Existing and proposed
  - 2 \_\_\_\_\_ Pipe profiles including pipe size, invert elevations, structure labels, structure elevations, pipe materials, slopes, 25 year HGL, crossing utilities and horizontal & vertical scale
  - 3 \_\_\_\_\_ Minimum ground cover 1 foot or ½ the pipe diameter
  - 4 \_\_\_\_\_ Pipe chart showing design for 25-year storm event on street structures, secondary collection systems and sizing of site pipes including drainage area, coefficient of runoff, intensity, flow, velocity, hydraulic grade, and capacity
  - 5 \_\_\_\_\_ Stormwater pipe minimum 18" diameter, continuous length less than 300 feet, slope greater than 1%.
  - 6 \_\_\_\_\_ Pipe materials: RCP within public R.O.W, outside of R.O.W. all metal pipes fully bituminous, asphalt or aluminum coated with paved inverts. For HDPE pipe, provide details and installation specifications.
  - 7 \_\_\_\_\_ Catch basins and drop inlets/ drains should be at lowest collection point for runoff; open drains shall be a minimum 40 feet from any building.
- U. \_\_\_\_\_ All open channel systems
- 1 \_\_\_\_\_ Cross-section detail consistent with grading plan
  - 2 \_\_\_\_\_ Sizing criteria; depth, bottom width, top width, length, flow capacity
  - 3 \_\_\_\_\_ Lining type and detail if applicable
  - 4 \_\_\_\_\_ Grading plan showing proposed contours and location of cross-section
- V. \_\_\_\_\_ Provide headwall, discharge outside building setback or minimum 30 feet from dwelling, discharge outside of fill slopes, discharge to natural drainage or other drainage system.

- W. \_\_\_\_\_ Eliminate proposed concentrated discharge from site where existing condition is sheet flow.
- Y. \_\_\_\_\_ Location of BMPs for runoff reduction, water quality control, detention.
- Z. \_\_\_\_\_ Delineate and label of all easements needed for inspection and maintenance of drainage system, stormwater management facilities, and BMP's.
  - 1 \_\_\_\_\_ Minimum 20' wide emergency drainage easement shall be given on all drainage systems (open/closed), which lie outside the normal right-of-way.
  - 2 \_\_\_\_\_ Minimum 10' access/maintenance easement around stormwater management facility.
- AA. \_\_\_\_\_ Storm drainage structures are not allowed within the radius of a curb.
- BB. \_\_\_\_\_ Detailed construction specifications/sequence specific to the BMP
- CC. \_\_\_\_\_ Provide off-site easements from adjacent property owners affected by off-site drainage from proposed development.
- DD. \_\_\_\_\_ Additional Comments:

### Erosion and Sediment Control Plan

- A. \_\_\_\_\_ If over 1 ac use the appropriate state NPDES construction checklist
- B. \_\_\_\_\_ If under 1 ac but within 200 feet of perennial stream complete \* items

#### For projects under 1 acre and not within 200 feet of perennial stream:

- C. \_\_\_\_\_ Provide name and 24-hour telephone number of local contact responsible for the development's erosion and sediment control.
- D. \_\_\_\_\_ Delineate all State waters within 200 feet of site
- E. \_\_\_\_\_ Include construction schedule with timing of start/end dates for clearing/grading, construction activities, and erosion control maintenance.
- F. \_\_\_\_\_ Erosion and Sediment Control plans should be phased (minimum of 3 phases).
- G. \_\_\_\_\_ Limits of disturbance (on Erosion Control plans)
- H. \_\_\_\_\_ Delineate drainage basins on initial phase erosion control sheet and note acreage for each basin. Update basin acreage and delineation on intermediate and final phases as they are altered.
- I. \_\_\_\_\_ Provide 67 cubic yards per acre drained sediment storage for each stage of construction. Include specific design information and calculations for all structural measures on site, such as temporary sediment basins, retrofitted detention ponds, and excavated inlets.
- J. \_\_\_\_\_ When discharging from sediment basins and impoundments, permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface, such as skimmers, are not feasible, a written justification must be included on the plans.
- K. \_\_\_\_\_ Show 25-year storm water velocity at all headwalls and provide appropriate outlet protection to provide non-erosive conveyance (provide stone size, apron length, width, and depth for St). Aprons shall be constructed with no slope along its length (0.0% grade).
- L. \_\_\_\_\_ Include all applicable uniform structural coding symbols. Provide symbol legend.
 

Cd	Cr	Dn1	Gr	Re	Sd2	Sd3	Sk	Su
Ch	Dc	Dn2	Lv	Rt		Sd4	Sr	Tp
Co	Di	Ga	Rd	Sd1-S			St	Wt

- M. \_\_\_\_\_ Include all applicable vegetative coding symbols:  
Bf Ds1 Ds2 Ds3 Ds4 Du Ss Fl-Co Tac Sb
- N. \_\_\_\_\_ Include all necessary details for erosion control practices that conform to or exceed standards in the Manual for Erosion and Sediment Control in Georgia (most current edition).
- O. \_\_\_\_\_ Include a vegetative plan for all temporary and permanent vegetative practices including species, planting dates, seeding, fertilizer, lime and mulching rates. Vegetative plan must show options for year-round seeding.

**For projects under 1 acre and not within 200 feet of perennial stream add notes:**

- P. \_\_\_\_\_ Sediment storage volume must be in place prior to and during all land disturbing activities until final stabilization of the site has been achieved.
- Q. \_\_\_\_\_ Professional Engineer has visited the proposed site. (Include P.E. seal and signature.)
- R. \_\_\_\_\_ Additional Comments:

**Notes**

- A. \_\_\_\_\_ For sites with over 1 acre disturbed area, provide note: Two copies of the NPDES Notice of Intent must be provided to the Land Disturbance Inspector prior to initiating construction.
- B. \_\_\_\_\_ For sites requiring NPDES permit coverage, provide note: If Primary Permittee changes during the course of a project, the new Primary Permittee must submit copies of the new NOI to the City of Alpharetta Land Disturbance Inspector.
- C. \_\_\_\_\_ All areas to receive structural fill to be cleared, stripped and free of topsoil, roots, stumps, and all other deleterious material. Structural fill to be clean from organics and all other deleterious material. Fill to be placed in maximum 8" lifts and compacted to at least 95% standard proctor maximum density and to within 3%+ of the optimum moisture content, unless otherwise specified in the project geotechnical report or by the project geotechnical engineer. All fill soils to be placed under the observation of the project geotechnical engineer. Documentation of compaction testing shall be provided to Land Disturbance Activity Inspector for all roadway construction in right-of-way. (Including deceleration lane) Contact Land Disturbance Activity Inspector prior to construction for further testing requirements.
- D. \_\_\_\_\_ Failure of the contractor to perform the prescribed erosion control practices shall result in the immediate issuance of a stop-work order for the project site, pursuant to UDC 3.1.1.F.2.d.
- E. \_\_\_\_\_ Maintenance of all soil erosion and sedimentation control practices, whether temporary or permanent, shall be the responsibility of the owner.
- F. \_\_\_\_\_ All disturbed areas must be vegetated within 14 days of final grade.
- G. \_\_\_\_\_ All fill slopes shall have silt fence at the toe of the slope.
- H. \_\_\_\_\_ This site does not contain any state waters or wetlands. (if applicable)
- I. \_\_\_\_\_ The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, or concurrent with, land-disturbing activities.

- J. \_\_\_\_\_ Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source.
- K. \_\_\_\_\_ The Contractor shall remove sediment once it has accumulated to one-half the original height of the silt fence used for erosion control.
- L. \_\_\_\_\_ Maximum cut or fill slopes are 2 horizontal: 1 vertical.
- M. \_\_\_\_\_ Any disturbed area left exposed for 14 days shall be stabilized with mulch or temporary seeding.
- N, \_\_\_\_\_ All silt fence shall be Type S.
- O. \_\_\_\_\_ The construction exit shall be maintained in a condition, which will prevent tracking or flow of mud onto public right-of-way. This may require periodic top dressing with stone, as conditions demand. (All materials spilled, dropped, washed, or tracked from vehicle or site onto roadway or into storm drain system must be removed immediately by sweeping.)
- P. \_\_\_\_\_ All storm drains and drop inlets will have 4" permanent pollution prevention markers installed prior to inspection. Markers are available at City of Alpharetta Community Development Department 678-297-6070.
- Q. \_\_\_\_\_ The owner will maintain storm water runoff controls at all times. Additional controls will be installed if determined necessary by City inspection.
- R. \_\_\_\_\_ Irrigation systems are not allowed within the public right-of-way.
- S. \_\_\_\_\_ At least one person on a project or site must have completed the Level 1A Erosion Education & Training Course and be certified by GSWCC.
- T. \_\_\_\_\_ Subcontractors must complete either Level 1A Erosion Education & Training Course or attend Subcontractor Awareness seminar.
- U. \_\_\_\_\_ Landscaping, fencing, or safety benches per Georgia Stormwater Management Manual required around stormwater management facilities.
- V. \_\_\_\_\_ The City will require a maintenance bond to remain in place on all public improvements (including but not limited to curb and gutter, sidewalk, pavement and base, pavement markings and street signs or signalization, the entire project storm system both inside and outside right-of-way, detention and water quality devices) for a minimum of one (1) year after final plat sign-off or until the final certificate of occupancy is issued, whichever is longer. This bond should be granted for one-year and renewed until the final certificate of occupancy is issued.
- W. \_\_\_\_\_ No wells or septic systems are proposed or exist on site. (if applicable)
- X. \_\_\_\_\_ A separate building permit will be required. All walls over 4'-0" require fencing or acceptable dense vegetation at the top per UDC Article IV 4.4.5J.
- Y. \_\_\_\_\_ All Metal pipes to be fully bituminous, asphalt or aluminum coated with paved inverts. All storm structures in right-of-way to have paved inverts.
- Z. \_\_\_\_\_ Contractor must attend City of Alpharetta Pre-Construction Class prior to site initiation.
- AA. \_\_\_\_\_ Erosion control matting shall be installed on all slopes 3:1 and steeper.
- BB. \_\_\_\_\_ Approved plans must be kept on site at all times.

## Details

- A. \_\_\_\_\_ Design details for detention outlet control. Delineate 100-year ponding limits of detention pond. Provide details for trash rack or anti-clogging devices. Openings on trash racks should be a maximum of 50% of the size of the smallest opening to be protected.
  
- B. \_\_\_\_\_ Provide all necessary City of Alpharetta stormwater details:  
200 201 202 203 204 205 210 211 212 213 220 221 230  
231 232 233 234 235
  
- C. \_\_\_\_\_ Provide all details necessary for construction of on-site storm structures.
  
- D. \_\_\_\_\_ Provide pollution prevention marker detail.
  
- E. \_\_\_\_\_ Include all necessary details for erosion control practices that conform to or exceed standards in the Manual for Erosion and Sediment Control in Georgia (most current edition).