SITE ENGINEERING DESIGN CHECKLIST

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

	LDP #	
1 st Review	2 nd Review	Date Approved
Project Name		Project Location
Reviewer <u>Osmany Ordóñe</u>	ez (678) 297-6218	email: oordonez@alpharetta.ga.us
Designer		Contact
Phone	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 Engineering / Public Works Department. ✓ Denotes no action required X Or underline denotes action required 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.). 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.		
Signature and Seal of App	dicant	

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 Engineering / Public Works reserves the right to revise this checklist periodically as the need arises.

PLAN REQUIREMENTS

ALL CHECKLISTS MUST BE PROPERLY ANNOTATED AND SUBMITTED PRIOR TO REVIEW

Cover She	eet	
A	Vicin	ity Map
	1	Legible scale
	2	Site perimeter outlined and labeled. (hatching to distinguish site)
	3	Street names
	4	North Arrow
В	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
С	Genei	ral 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). Include firmette.
D	Index	of Sheets
E	Call H	Before You Dig Logo and note (cover)

Site Plan	
A	North Arrow (on all plans) Graphic Scale (max. 1"=100")
В	Graphic Scale (max. 1"=100')
C	Site boundary survey and topo.
D	Legend for all symbols used
E	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.
F	Include all streets with names, widths, and location of R.O.W.
G	Label all existing structures and their use.
Н	Locate all utilities (on site plan) and provide the names of the utility providers.
I	Label entrance dimensions and radii.
J	Street centerline stations, vertical & horizontal curve data
K	Provide pavement details/ specifications for all public roads, including acceleration/ deceleration lanes.
L	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.
М	Locate all existing or proposed well or septic systems. Or add a note stating "No wells or septic systems are proposed or exist on site."
N	Delineate and label land to be reserved or dedicated for public use.
Grading Pla	<u>n</u>
0	Existing and proposed topography at 1-foot intervals for ground slopes $<$ 2% and 2-feet intervals for slopes \ge 2%. Existing topo shall extend a minimum of 50' beyond the property line.
P	Existing and proposed spot elevations at all high and low points and elsewhere as necessary with associated flow arrows to illustrate drainage patterns.
Q	Delineation and labeling of natural site features and land cover including drainage channels, water bodies, wetlands, flood plains, steep slopes, stream buffers, etc.
R	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.
S	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.

T	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. (Add the following note to the plans "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.")
U	Provide elevations for top & bottom of all retaining walls.
V	Delineate and label all existing or proposed easements including sanitary sewer, public service utility rights-of-way, and off-site easements, etc. Include landscape buffers. Must be on grading plan.
W	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.
X	Existing and proposed location of all storm drainage pipes and structures with rim and invert elevations. Must be on grading plan.
Y	Location and labeling of Specimen trees and critical root zones. Must be on grading plan.
Stormwater	<u>Management</u>
A	All proposed grading (based on appropriate datum), development, drainage and stormwater management facilities (provide reference to all necessary details).
В	Location of BMP's for runoff reduction and/or water quality control including temporary and permanent vegetative and structural measures.
C	Detailed construction specifications/sequence specific to the SWM practice proposed.
D	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.
E	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)
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	Add notes: All Metal pipes to be fully bituminous, asphalt or aluminum coated with paved inverts. Row-lock inverts required on all storm structures in right-of-way.	
	8	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.	
F	All o	pen 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	
G		hed floor elevation of any structure shall be a minimum of three (3) feet e the 100-year flood elevation.	
Н	Volu	Volume of cuts and fills	
I	Mini		
J	(doci	Show all existing water courses and delineate limits of 100-yr flooding (document source). Provide formal delineation of waters of the U.S. by a qualified professional and written verification by the USACE.	
K		neate and label of all easements needed for inspection and maintenance of age 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.	
L	dwel	ide headwall, discharge outside building setback or minimum 30 feet from ling, discharge outside of fill slopes, discharge to natural drainage or other age system.	
M		Eliminate proposed concentrated discharge from site where existing condition is sheet flow.	
N	Storr	n drainage structures are not allowed within the radius of a curb.	
	Prov	ide off-site easements from adjacent property owners affected by off-site age from proposed development.	
P		vide all necessary City of Alpharetta details: 200, 201, 202, 203, 204, 205, 211, 212, 213, 220, 221, 230, 231, 232, 233, 234 and/or 235.	
Q	Prov	ide all details necessary for construction of on-site storm structures.	
		ide pollution prevention marker detail	

S	All information and details included in the plans are consistent with the design included in the report.			
T	Additional Comments:			
Erosion and	Erosion and Sediment Control Plan			
Sheet Require	ements			
A	Provide name and 24-hour telephone number of local contact responsible for the development's erosion and sediment control.			
В	Provide soil information such as names, erodibility, permeability, and mapping units. Delineate soil types on plans.			
C	Delineate all State waters within 200 feet of site or provide statement: "This site does not contain any state waters or wetlands."			
D	Delineate 100-year floodplains.			
E	Delineate future conditions floodplains. Provide modeling and mapping data if within watershed of 100-640 acres.			
F	Delineate all wetlands. Provide copy of all regulatory documentation permitting any proposed impacts and wetlands delineation report.			
G	Provide a description of neighboring areas such as streams, lakes, residences, roads etc. that might be affected by the proposed land disturbance. Include critical areas.			
Н	Include construction schedule with timing of start/end dates for clearing/grading, construction activities, and erosion control maintenance.			
I J	Erosion and Sediment Control plans should be phased (minimum of 3 phases) and limits of disturbance should be clearly shown for each phase. Limits of disturbance (on Grading and Erosion Control plans)			
K	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.			
L	Accurate description of the sequence of construction.			
M	Delineate 50-foot undisturbed buffer along non-perennial streams measured horizontally from the wrested vegetation. Delineate 100-foot undisturbed buffer along perennial streams.			
N	Delineate 75-foot impervious setback along non-perennial stream measured from the wrested vegetation. Delineate 150-foot impervious setback along perennial streams.			
O	If stream buffer encroachment is proposed, provide necessary variance approval from City, State and Corps of Engineers as applicable.			
P	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.
Q	Add note: Sediment storage volume must be in place prior to and during all land disturbing activities until final stabilization of the site has been achieved.
R	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.
S	Show that the required 2:1 L/W ratio in Sediment basins and impoundments from the points of inflow to the riser/outlet is met. In any case where baffles are required, show how the baffle length was determined so that it provides the effective length (Le).
T	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).
U	Include all applicable uniform structural coding symbols Cd, Ch, Co, Cr, Dc, Di, Dn1, Dn2, Ga, Gr, Lv, Rd, Re, Rt, Sd1-S,Sd2, Sd3, Sd4-type, Sk, Sr, St, Su, Tp, and Wt. Provide symbol legend.
V	Include all applicable vegetative coding symbols Bf, Ds1, Ds2, Ds3, Ds4, Du, Ss Fl-Co, Tac, and Sb.
W	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).
X	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.
Y	Erosion control matting shall be installed on all slopes 3:1 and steeper. (Provide Note.)
Z	Provide note: Approved plans and NPDES Daily Log must be on site at all times
AA	Provide note stating Professional Engineer has visited the proposed site. (Include P.E. seal and signature.)
BB	Provide note: Contractor must attend City of Alpharetta Pre-Construction Class prior to site initiation.
CC	If common development – Provide typical erosion control plan for each individual lot or outparcel.
DD	If alternative BMP is proposed submit documentation including one page summary, documentation of side by side testing, proof of previous installation in like condition and all specifications for installation and maintenance.

EE	If alternative BMP is proposed include the following note: The use of the alternative BMP for(type of BMP, i.e. silt fence) has been reviewed and has been determined to be allowable only for this ES&PC Plan. This review was site specific based on the documentation submitted and certified by the Design Professional and required by the Georgia Environmental Protection Division and the Georgia Soil and water Conservation Commission.
FF	Any construction activity which discharges stormwater into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of a Biota Impaired Stream Segment must comply with Part III.C. of the Permit. Include the completed Appendix 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Stream. (Foe Killer Creek)
GG	If a TMDL implementation plan for sediment has been finalized for the Impaired Stream Segment at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan.
НН	Limits of disturbance shall be no greater than 50 acres for each individual permittee (i.e. Primary, Secondary, Tertiary) at any one time and nor more than 50 contiguous acres at one time without prior written authorization from the EPD district Office. If EPD approves a request to disturb 50 acres or more at any one time, the Plan must include at least 4 BMPs listed in Appendix 1.
II	Additional Comments:
EPD ES&PC	Checklist items
JJ	Provide Erosion Control and Pollution Prevention Plan.
KK	Design Professional certification statement and signature
-	"I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan r an appropriate and comprehensive system of best management practices required gia Water Quality Control Act and the document "Manual for Erosion and
<u> </u>	Control in Georgia" (Manual) published by the State Soil and Water Conservation
	n as of January 1, of the year in which the land-disturbing activity was permitted,
-	r the sampling of the receiving water(s) or the sampling of the storm water outfalls
	designed system of best management practices and sampling methods is expected
to meet the	requirements contained in the General NPDES Permit No. GAR 10000x."
LL	A note describing practices used to reduce the pollutants in storm water discharges.
MM	Plan includes BMPs for all phases of common development including individual building lots and out-parcels, etc. regardless of who owns or operates the individual sites.

NN	A note indicating that the applicable portion of ES&PC Plan is to be provided to each secondary permittee prior to the secondary conducting any construction activity and in the event of any change to the plan. Should include signature block for secondary permittee.
OO	A note indicating that the design professional who prepared the ES&PC Plan is to inspect the installation of BMPs within 7 days after the construction activity begins. The note should indicate that proof of site visit should be kept on site.
PP	Primary Permittee certification statement and signature
prepared un that qualifie inquiry of th for gathering belief, true,	"I certify under penalty of law that this document and all attachments were der my direction or supervision in accordance with a system designed to assure ad personnel properly gather and evaluate the information submitted. Based on my ne person or persons who manage the system, or those persons directly responsible g the information, the information submitted is, to the best of my knowledge and accurate, and complete. I am aware that there are significant penalties for false information, including the possibility of fine and imprisonment for knowing
QQ	A note indicating that any changes to the ES&PC Plan which have significant effect on the BMPs with a hydraulic or design component must be certified by the design professional and must be approved by the City of Alpharetta.
RR	A note must be added that provides the estimated runoff coefficient or peak discharge flows of the site prior to and after construction activities are completed. This should match the information shown in the storm water management manual.
SS	A site map showing drainage patterns, surface waters including wetlands, and locations where storm water is discharged to surface water.
TT	List of the names and addresses of all secondary permittees.
UU	If not including sediment basins during all phases of construction, a note explaining the rational for this decision must be included.
VV	A note describing the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed.
WW	A note indicating that waste materials shall not be discharged to waters of the State except as authorized by a Section 404 permit.
XX	A note documenting that the ES&PC Plan is in compliance with waste disposal, sanitary sewer, or septic tank regulations.
YY	Indicate the BMPs for the remediation of all petroleum spills and leaks or add a note indicating why none are necessary.
ZZ	Details on required inspections and record keeping by the primary permittee, secondary permittees, and tertiary permittees.
AAA	_Sampling locations.

BBB	Description of the analytical methods used to collect and analyze the samples from each location.
CCC	If applicable – Appendix B Rationale for outfall sampling points.
DDD	Information on sampling frequency and reporting requirements.
EEE	A note stating that 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.
FFF	Show BMPs for concrete wash down areas. If not allowed on site add note to plans.

ADDITIONAL REQUIREMENTS

A	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.
В	Provide design professional's Level 2 Erosion Education and Training Course certification number and expiration date.
C	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.
D	Provide an encroachment agreement from adjacent properties for off-site work, ingress/egress site access agreement, approval from DOT for site entrance.
E	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.)
F	Provide the following notes on the plan (notes in bold must be bold on plan):
1	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.
2	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.
3	Maintenance of all soil erosion and sedimentation control practices, whether temporary or permanent, shall be the responsibility of the owner.
4	All disturbed areas must be vegetated within 14 days of final grade.
5	All fill slopes shall have silt fence at the toe of the slope.
6	This site does not contain any state waters or wetlands. (if applicable)
7	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.
8	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.
9	The Contractor shall remove sediment once it has accumulated to one-half the original height of the silt fence used for erosion control.
10	Maximum cut or fill slopes are 2 horizontal: 1 vertical.
11	Any disturbed area left exposed for 14 days shall be stabilized with mulch or temporary seeding.
12	All silt fence shall be Type S.
13	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.)
14	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.
15	The owner will maintain storm water runoff controls at all times. Additional controls will be installed if determined necessary by City inspection.
16	Irrigation systems are not allowed within the public right-of-way.
17	At least one person on a project or site must have completed the Level 1A Erosion Education & Training Course and be certified by GSWCC.
18	Subcontractors must complete either Level 1A Erosion Education & Training Course or attend Subcontractor Awareness seminar.
19	Landscaping, fencing, or safety benches per Georgia Stormwater Management Manuel required around stormwater management facilities.
20	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.