Town of Southern Pines

Public Works Department
140 Memorial Park Court
Southern Pines, North Carolina 28387

Construction Project Plan Review Checklist

Forms are available at: www.southernpines.net

Instructions: All Construction Plan submissions shall at a **minimum** contain the requirements stated within. Any construction plan submissions with missing or incomplete information may be rejected and not reviewed until all necessary information has been provided. It should be noted that not all items contained within will necessarily be required for every project.

The Engineer shall place a check mark in one of the boxes (as appropriate) on each item:
☐ provided or (**N/A)** not applicable

Note: The following checklist is provided to assist the design engineer in developing a complete plan set to expedite our review process. Compliance with the checklist in no way is meant to relieve the design professional of his or her responsibility for project design. All construction plans submitted for review are to include a copy of this checklist signed by a NC registered Professional Engineer and/or Architect. Project submittals without a completed checklist will not be reviewed.

PROJECT NAME: _____

ENGINEER: _____

ENGINEERING COMPANY: _____

COMPANY ADDRESS: _____

COMPANY PHONE: _____ FAX: _____

EMAIL: _____

PROJECT PROPERTY OWNER: _____

PROJECT ADDRESS/LOCATION _____

DATE SUBMITTED: _____/_____/_____ ESC DUE DATE (15, 30 DAY) _____/_____/_____

	Reviewed By	Date Reviewed
ESC		
WATER		
SEWER		
PLANNING		
STREET		
FIRE		
STM WTR		

STAFF ONLY – STAMP PLAN RECEIPT DATE

The Following Are the Minimum Sheet Requirements

See specific sheet requirements as noted below

		Engineer	N/A	Town
1	Title sheet\Overall Plan	☐	☐	☐
2	Existing Conditions\Demolition Plan (include any trees to be removed)	☐	☐	☐
3	Grading, Erosion Control and Strom Drainage Plan(s). These plans may be submitted together or separately but all must show existing and proposed grades and all existing and proposed utilities as well as other existing and proposed structure, includeing buildings. Proposed items must be in bold or otherwise stand out from existing items	☐	☐	☐
4	Utility Plans	☐	☐	☐
5	Water Plan & Profile	☐	☐	☐
6	Sewer Plan & Profiles	☐	☐	☐
7	Storm Drain Profiles w/ HGL shown	☐	☐	☐
8	Landscaping (include buffer and setback information and irrigation if applicable) Include utilities on plan -in gray scale	☐	☐	☐
9	Drainage Area map (include ponds and storm drain system with individual drainage areas for each device) Include all off-site areas draining to site.	☐	☐	☐
10	Details	☐	☐	☐
11	Road Plan & Profile	☐	☐	☐
12	Tree Survey if applicable	☐	☐	☐
13	Other sheets as required for specific aspects of the project	☐	☐	☐

A. General Plan Requirements

		Engineer	N/A	Town
1	Each page is signed, sealed and dated by a NC Registered Professional Engineer and/or Architect.	☐	☐	☐
2	A minimum of three (3) sets of construction plans are enclosed.	☐	☐	☐
3	Prefer that all drawings in a set of construction plans are the same size sheet, typically 36 in. wide by 24 in. high.	☐	☐	☐
4	North arrow provided on each plan sheet.	☐	☐	☐
5	Plans and Profiles contain sufficient vertical and horizontal references and information to allow stakeout and construction of proposed work by reference to the plans alone.	☐	☐	☐
6	Prefer profiles have a horizontal scale not less than 1in. = 50ft. and a vertical scale of 1in. = 5ft. or to a scale clearly marked.	☐	☐	☐
7	Profiles are located under the corresponding plans on the same sheet.	☐	☐	☐
8	Profiles for all water and sewer mains are shown.	☐	☐	☐
9	Stationing is shown on plans. Stationing on plans should increase from left to right across the drawing. (Road centerline stationing can be used when water/sewer lines are located in/along roads).	☐	☐	☐
10	Call-out locations are provided for fire hydrants, meter settings, blow-offs, manholes, clean-outs, tees, bends, valves, reducers, connections, etc.	☐	☐	☐
11	Existing and proposed grade over the mains are indicated on the profile.	☐	☐	☐
12	Minimum of 10ft. of horizontal separation between sanitary sewer and water lines is maintained.	☐	☐	☐
13	Minimum 10ft. horizontal separation from storm drain structures or other utility structures is maintained.	☐	☐	☐
14	Minimum vertical clearance from all crossing utilities is maintained.	☐	☐	☐
15	All details are provided.	☐	☐	☐
16	Proposed and existing water and sewer utilities are accurately and clearly shown on the plan and profiles using standard symbols and proposed utilities are accentuated by bold, heavy line weight to distinguish it from other utilities.	☐	☐	☐
17	All public right-of-ways and easements are shown and dimensioned. Where water and/or sewer mains leave the public road right-of-way, an all weather access roadway and a minimum 20-foot Town utility easement is provided.	☐	☐	☐
18	All lot lines, setback and buffers are clearly shown.	☐	☐	☐
19	All specifications, design data and calculations, are provided on an 8 ½ x 11 in. sheet, bound in a folder suitable for filing, and labeled for identification by the title.	☐	☐	☐
20	Woodpecker and Environmental Impact Study included, if applicable.	☐	☐	☐
21	Turn around area provided for emergency and maintenance vehicles, where required.	☐	☐	☐
22	Grading in buffer and setbacks areas must be approved by Planning Department (692-4003)	☐	☐	☐
23	Town approval signature block	☐	☐	☐

B. Title Sheet/Overall Site plan	Engineer	N/A	Town
1 Prefer Vicinity Map minimum scale 1 in. = 2000 ft., with clearly labeled intersecting roadway names major streams, towns, north arrow, etc. and the site location. Shade site to be constructed. Place in upper right hand corner of the sheet.	☐	☐	☐
2 Site Plan shows overall subdivision/site layout to scale, section limits, phases, right-of-ways, adjacent subdivisions, property owners, existing and proposed street names, and at least two (2) permanent bench mark locations and descriptions. The section to be constructed is clearly labeled	☐	☐	☐
3 Provide an Index map with matchlines for multiple sheets for all plans as needed.	☐	☐	☐
4 Title Information – Development/site name, type of plan, section number, and phase is provided.	☐	☐	☐
5 A legend is provided of the specific graphic special symbols applicable to the project. Standard symbols are used to the fullest extent possible.	☐	☐	☐
6 List of abbreviations applicable to the project is provided.	☐	☐	☐
7 Horizontal and vertical control references are specified (State plane, U.S. Coast & Geodetic Surveys, etc.).	☐	☐	☐
8 Source of the topography used for the preparation of the plans is provided.	☐	☐	☐
9 Revision block includes the date and reference of each revision.	☐	☐	☐
10 Sheet index is provided.	☐	☐	☐
11 Provide: Project Address, LRK #, Deed book & page, current zoning and proposed	☐	☐	☐
12 Provide Lot Size, existing impervious area, proposed impervious area	☐	☐	☐
13 Down stream receiving stream & classification, water shed, river basin	☐	☐	☐
14 Disturbed area clearly defined and acreage labeled.	☐	☐	☐
15 Table showing public and private improvement quantities for water, sewer, streets, sidewalk, curb & gutter.	☐	☐	☐
16 Show and label all buffers, overlay district, easements etc, as defined by planning and zoning	☐	☐	☐
17 Proposed use	☐	☐	☐
18 Building type, size and construction material	☐	☐	☐
19 Parking required and provided	☐	☐	☐
20 Town standard notes.	☐	☐	☐
21 Adjacent property owner information	☐	☐	☐

Existing Conditions/Demolition	Engineer	N/A	Town
1 Provide note requiring contractor to contact the NC One-Call Center prior to any construction activity.	☐	☐	☐
2 Trees to be removed shown and clearly labeled. Trees being removed within Town rights of way require approval from Appearance committee.	☐	☐	☐
3 Appearance commission approval required?	☐	☐	☐
4 Tree protection fence shown around trees to remain	☐	☐	☐
5 Show and label all topography with a maximum of two-foot contour intervals for the development.	☐	☐	☐
6 Show all water lines, sanitary sewer lines, services, cleanouts, valves, hydrants within 500', water meters vaults, backflow preventers, storm sewer systems, catch basins, headwall, junction boxes and other structures, ditches and swale, all other utilities, buildings, parking, mail boxes, etc.	☐	☐	☐
7 Clearly label any structures, utilities etc to be removed	☐	☐	☐
8 Flood plain boundaries (100 yr, 500 yr)	☐	☐	☐

C	General Notes	Engineer	N/A	Town
1	At a minimum, the following General Notes for Water and Sewer Construction shall been provided:	☐	☐	☐
2	All water and sewer construction shall be done in accordance with the Town of Southern Pines Standards and Specifications for Water and Sewer Construction. Contractor shall contact the Construction Inspector at least forty-eight (48) hours prior to start of construction. Phone number 910-692-1983. Contractor shall also contact the Construction Inspector before restarting work after work has stopped	☐	☐	☐
3	Contractor shall immediately contact the Town if there is a conflict between these plans and the published standards of the Town. Approval of these plans does not consititue any waiver from the Town standards.	☐	☐	☐
4	All fire hydrants that are installed, that are not yet operational, shall be bagged. It shall be the responsibility of the Contractor to furnish and install the required materials at their cost.	☐	☐	☐
5	Contractor shall not tap or otherwise penetrate existing water or sewer main lines without prior approval from NCDENR Public Water Supply Section and the Town. Contractor is responsible to avoid spillage of raw sewage. Contractor shall provide all sewer plugging and pumping equipment necessary to avoid spillage. Violations are subject to fines and penalties and will be enforced to the full extent of the Law	☐	☐	☐
6	Contractor is responsible for maintenance of traffic on existing roadways in accordance with NCDOT Standard Specifications latest edition and Town requirements	☐	☐	☐
7	Water and sewer main construction shall not commence until involved roadways, storm drains, and utility easements have been graded and contoured to approximately final grade. Property corners of all lots are required to be staked by a licensed surveyor prior to installing water and sewer service connections	☐	☐	☐
8	Only the amount of trench that can be opened, worked in and then stabilized in a work day shall be done so. If stabilization does not occur at the end of the work day, then appropriate erosion, sediment, and safety controls shall be installed.	☐	☐	☐
9	A Pre-Construction meeting is required prior to start of construction. Materials submittal shall be delivered and approved by the Town of Southern Pines for water and sewer construction prior to start of work.	☐	☐	☐
10	All pipes shall be cleaned before they are laid and shall be kept clean until acceptance of the completed work by the Town. Open ends of pipes shall be fitted with water tight devices to prevent entrance of foreign matter when pipe-laying operations are interrupted	☐	☐	☐
11	All public sanitary sewer mains shall be installed in dedicated street right of way or in dedicated utility easements. Mains installed in Town right of way shall be located in the center of pavement	☐	☐	☐

D	General Sewer Plan and Profile Requirements	Engineer	N/A	Town
1	A minimum 20 ft. utility easement width centered over the main is clearly shown and identified.	☐	☐	☐
2	Direction of flow is shown on the plans.	☐	☐	☐
3	Manhole number, depth, inverts, pipe slope, length and material, flow angles between main lines and manholes	☐	☐	☐
4	The following sewer main data and calculations are enclosed: wastewater flow projections (average, peak and design flows); projected velocities and pressures within the force mains; pumping station and wet well design (if applicable).	☐	☐	☐
5	Maintain Minimum velocity as detailed by the NCDENR. Minimum velocities are based on the average flow, including infiltration for gravity sewer. Force main velocities are determined by pump performance and pipe sizes.	☐	☐	☐
6	All sewer main crossings with other utilities are properly shown and called-out (include material) with minimum clearance dimensioned. Minimum vertical clearance of 24-inches from other utilities and/or storm drains is shown.	☐	☐	☐
7	Sewer mains shall be a minimum of 24-inches below water main to prevent conflicts with service laterals and crossings.	☐	☐	☐
8	Manholes out of roadway, pavement or in low lying areas have watertight lids. Minimum of 18-inches above grade.	☐	☐	☐
9	Mains must be 100 feet from any private or public water supply source, including wells, WS-1 waters or Class I or II impounded reservoirs used as a source of drinking water	☐	☐	☐
10	Mains a minimum of 50 feet from any waters classified WS-II, WS-III, B,SA, ORW, HQW or SB (and meet any NCDENR requirements)	☐	☐	☐
11	25 feet from private wells	☐	☐	☐
12	Sewer line easements shall be graded smooth, free from rocks, boulders roots, stumps and other debris, and seeded and mulched upon completion of construction. Easements across sloped areas shall be graded uniformly across the slope to no steeper than a 5 to 1 ratio.	☐	☐	☐
13	Mains shall be deep enough to serve the adjoining property and allow for sufficient slope in lateral lines	☐	☐	☐

E	Gravity Sewers	Engineer	N/A	Town
1	Pipe sizes and material type is shown on plans (SDR 35 or D.I.P. if the depth is greater than 10 feet).	☐	☐	☐
2	Collecting sewers are a minimum of 8 inches in diameter and are designed to carry present and projected future flows for natural drainage basin.	☐	☐	☐
3	Gravity sewer is placed at a minimum of 0.5% grade and a maximum of 10%. (Grades greater than 10% may be approved on a case-by-case basis only.)	☐	☐	☐
4	Backfill trench with wash stone to crown of pipe and full width of trench line.	☐	☐	☐
5	Minimum cover on gravity sewer is 3 ft from the top of pipe to finished grade.	☐	☐	☐
6	A 4 in. water tight clean-out is provided at the Right of Way or easement for each sewer service connection. A road bearing clean-out is provided in areas of vehicular traffic.	☐	☐	☐
7	50 ft maximum clean-out spacing on 4 inch service line. 6 inch service lines may have clean outs spaced at 75 feet intervals.	☐	☐	☐
8	A terminal manhole is provided at the end of each line.	☐	☐	☐
9	Show flow deflection angle at all manholes (max deflection angle per manhole = 90 degrees for 8”-10” pipe diameter)	☐	☐	☐
10	Pipes greater than 6” must tie into a manhole.	☐	☐	☐
11	All terminal reaches of sewer shall have a minimum slope of 1% .	☐	☐	☐
12	Maximum distance between manholes is 400 feet or less	☐	☐	☐
13	No service connections within the cone section of the manhole	☐	☐	☐
14	Pipe diameter and or material changes must occur at manholes.	☐	☐	☐
15	Pipe crowns matched with minimum drop of 0.20 feet between the inverts within the manhole.	☐	☐	☐
16	Meets all other design requirements as specified by NCDENR	☐	☐	☐
17	NCDENR fast track sewer application	☐	☐	☐
18	Flow acceptance leter from Moore County	☐	☐	☐
19	Analysis of receiving gravity sewer, lift station, forcemain etc.	☐	☐	☐

F	Sewers, Force Main (Pressure Sewers)	Engineer	N/A	Town
1	All force main sewer pipe is either PVC (DR-9, C-900), or Ductile Iron Pipe.	☐	☐	☐
2	Minimum cover above force mains is 3 ft.	☐	☐	☐
3	An automatic air and vacuum relief valve is placed at each high point along the force main pipeline.	☐	☐	☐
4	Force mains enter the gravity sewer system at a point not more than 2 ft. above the receiving manhole invert or approved on case-by-case basis. Must be aligned w/ downstream receiving sewer to minimize turbulence and sulfide generation	☐	☐	☐
5	Pump station shall be designed with two (2) pumps of equal capacity, each of which is at a mimimum capable to handle the design flow and any expected peak flow and 2.5 times the average daily flow. Must also meet all other DWQ requirements	☐	☐	☐
6	Pump stations shall have on-site standby power (engine generator set) with automatic switching.	☐	☐	☐
7	Minimum size for public force main is 4 inch.	☐	☐	☐
8	Flow velocity within force main shall be between 2.5 and 5.0 fps	☐	☐	☐
9	Calculations showing complete system curves, showing one and two pump operation. Total dynamic head calculations for all applicable pumping situations. Pump station cycle and pump run times covering the high, low and average flows over the entire expected operating period of the pump station. Pump station flotation/buoyancy calculations. Minimum velocity calculations. Evaluation of the capability of receiving sewer to handle peak flow discharge from the facility in addition to receiving sewers existing or future peak flow. Calculations for the sizing of the backup power generator.	☐	☐	☐
10	Summary of number of lots or units served, off-site drainage area, average daily flow, peak daily flow, and the rated capacity of pumps at a specified total dynamic head.	☐	☐	☐
11	Telemetry system/auto-dialer, audible and visual alarms are provided	☐	☐	☐

G Water Plan and Profile Requirements

		Engineer	N/A	Town
1	Water main sizes are indicated.	☐	☐	☐
2	Water main materials are indicated (C900 or DIP).	☐	☐	☐
3	No dead end mains allowed unless no practical alternative exist.	☐	☐	☐
4	Water valves are spaced at determined location to be approved by Town.	☐	☐	☐
5	Single water services are provided to each dwelling, business, warehouse or proposed lots, buildings and parcels. Backflow devices shall be installed at approved locations.	☐	☐	☐
6	Fire hydrants spacing shall be approved by Town. The bury depth is provided on the profile.	☐	☐	☐
7	Minimum of 3 feet clearance around all fire hydrants.	☐	☐	☐
8	Water lines that serve hydrants shall be at least six inch lines	☐	☐	☐
9	Where a water main is in a casing under a roadway or crosses under a stream bed, valves are placed on each side.	☐	☐	☐
10	All valves, tees, bends, fire hydrants, etc. are shown with a symbol and called-out with size, type and station.	☐	☐	☐
11	Prefer no 90 degree bends shown on any water main.	☐	☐	☐
12	The following water main data and design calculations are enclosed: average day, maximum day, and peak hour demands, fire flow requirements (ISO calculations, future requirements, probable pressures, losses, and computations for determining pipe sizes. Provide a written report summarizing the water design calculations, include junction/pipe node report and diagram clearly indicating each node and pipe, summary table showing each hydrant is capable of providing required flow, and indicate all assumptions and methods used for design.	☐	☐	☐
13	Mains sized to provide a minimum system pressure of 20 psi at all points of the system during fire flow conditions with peak system demands and 40 psi at average daily demand conditions.	☐	☐	☐
14	System demand shall include: fire flow, peak domestic demand, sprinkler demand, and any other flow demand on the system.	☐	☐	☐
15	Fire sprinkler design and calculation as required by the Fire Marshal.	☐	☐	☐
16	Minimum cover of 3-ft. for water mains is maintained as measured from top of pipe to finished grade.	☐	☐	☐
17	Public water supply systems located under streets must be DIP.	☐	☐	☐
18	Prefer three (3) valves are provided at each water main tee and four (4) valves at each water main cross.	☐	☐	☐
19	Location of FDC, within 50 feet of fire hydrant	☐	☐	☐
20	Location, make and model of Back flow preventer.	☐	☐	☐
21	Irrigation system must have privately maintained reduced pressure principle backflow prevention installed in accordance with the NC Plumbing Code. RPZ must be installed above ground and within an insulated box.	☐	☐	☐
22	BFP may be installed inside building as long as there are no unprotected taps between the street and building. Must provide positive drainage capable of handling discharge from RPZ.	☐	☐	☐
23	No service connections are to be made on fire hydrant branches or fire lines.	☐	☐	☐
24	Direct service connection shall be allowed on mains 16” and smaller.	☐	☐	☐
25	Main line valves on straight runs between intersection shall be spaced at not less than 600’ for 6” lines and 900’ for 8” lines	☐	☐	☐
26	Gate valves for water mains 12” and less and Butterfly valves or gate valves for 16” or larger.	☐	☐	☐
27	Services connections are perpendicular to main.	☐	☐	☐
28	NCDENR –Public Water Supply Section water extension application	☐	☐	☐
29	Engineers Report (Report shall include requirements listed in itmes 12,13,15 above)	☐	☐	☐

H	Erosion Control	Engineer	N/A	Town
1	General plan requirements as noted above.	☐	☐	☐
2	Financial Responsibility/Ownership Form	☐	☐	☐
3	Review fee	☐	☐	☐
4	Certificate of assumed named, if partnership	☐	☐	☐
5	Name of Registered Agent	☐	☐	☐
6	Copy of the most current Deed for the site	☐	☐	☐
7	Narrative describing the nature and purpose of the construction activity.	☐	☐	☐
8	Color copy of USGS Quadrangle map with site indicated	☐	☐	☐
9	Copy of County Soils map	☐	☐	☐
10	Construction sequence related erosion and sediment control (include critical measures prior to the initiation of the land-disturbing activity & removal of measures after areas they serve and permanently stabilized)	☐	☐	☐
11	Is there flood plain associated with project? State on plan if there is or is not and give elevation and location on plans. (if not state in narrative that it is not required)	☐	☐	☐
12	Required Army Corps 404 permit and Water Quality 401 certification (stream disturbances over 150 linear feet) (if not needed state in narrative that it is not required)	☐	☐	☐
13	General Site Features (plan elements)	☐	☐	☐
14	Existing and planned drainage patterns (include OFF-SITE areas that drain through project	☐	☐	☐
15	Limits of disturbed area (provide acreage total, delineate limits, and label)	☐	☐	☐
16	Existing contours and Existing conditions (buildings, roads etc) including any demo	☐	☐	☐
17	Proposed contours	☐	☐	☐
18	Proposed building and road locations and elevations	☐	☐	☐
19	Land use of surrounding areas.	☐	☐	☐
20	Rock outcrops	☐	☐	☐
21	Seeps or springs	☐	☐	☐
22	Wetland limits	☐	☐	☐
23	Easements	☐	☐	☐
24	Streams, lakes, ponds, drainage ways, dams	☐	☐	☐
25	Stockpiled topsoil or subsoil locations	☐	☐	☐
26	Property lines of total tract	☐	☐	☐
27	Erosion control legend	☐	☐	☐
28	Location of temporary and permanent measures	☐	☐	☐
29	Construction drawings and details for temporary and permanent measure	☐	☐	☐
30	Maintenance requirements during construction	☐	☐	☐
31	Borrow Source or waste destination.	☐	☐	☐
32	Size and location of culverts and sewers	☐	☐	☐
33	Name and classification of receiving water course or name of municipal operator (only where storm water discharges are to occur.	☐	☐	☐
34	Soil info: type, special characteristics	☐	☐	☐
35	Design calculation and construction details for culverts and storm sewers	☐	☐	☐

H	Erosion Control	Engineer	N/A	Town
36	Design calculations cross sections, and method of stabilization of existing and planned channels (including temporary linings)	☐	☐	☐
37	Discharge and velocity calculations for open channel and ditch flows	☐	☐	☐
38	Pre-construction runoff calculations for each outlet from the site (at peak discharge points)	☐	☐	☐
39	Design calculations for peak discharges of runoff (including the construction phase and final runoff coefficients of the site) for each outlet point on the site.	☐	☐	☐
40	Design calculations and construction details of energy dissipaters below culverts and storm sewer outlets (for riprap aprons, include stone sizes and apron dimensions)	☐	☐	☐
41	Design calculations and construction details to control groundwater, i.e. seeps, high water table, etc.	☐	☐	☐
42	Design calcs and dimension of sediment basins and traps. (include pre and post drainage area maps, surface area requirements and volume requirements)	☐	☐	☐
43	Design calcs for other erosion control measures.	☐	☐	☐
44	Vegetative Stabilization	☐	☐	☐
45	Area and acreage to be vegetatively stabilized	☐	☐	☐
46	Method of soil preparation	☐	☐	☐
47	Seed type and rates (temp. and permanent)	☐	☐	☐
48	Mulch and fertilizer type and rates	☐	☐	☐
49	Watering Requirements	☐	☐	☐
50	Plan should include provisions for groundcover on exposed slopes within 21 calendar days following completion of any phase of grading' permanent groundcover for all disturbed areas within 15 working days or 90 calendar days (whichever is shorter) following completion of construction or development. For HQW Zones, ground cover shall be provided within 15 working days or 60 calendar days following completion of construction or development, whichever is shorter.	☐	☐	☐
51	Storm Drainage schedule (include in tabular form: Structure ID, inverts, rim elevation, slope, length, pipe size, pipe material, pipe cover/depth, inlet type)	☐	☐	☐
52	Storm drain sizing calculations including HGL calculations included.	☐	☐	☐
53	Min pipe size with Public Right of Way is 15"	☐	☐	☐
54	All storm pipes within the Public Right of Way shall be RCP	☐	☐	☐

I Streets

		Engineer	N/A	Town
1	Define with details typical roadway cross-sections for all proposed public or private streets/alleys. Details should include typical pavement structure, size of curbing, shoulders, sidewalks, pavement widths and right-of-way widths as applicable.	☐	☐	☐
2	Driveway grades a maximum of 10%	☐	☐	☐
3	Sight distance triangles at intersections and driveways (include any landscaping, signs etc. that may interfere with sight triangles)	☐	☐	☐
4	Label proposed street classification as dictated per Planning Department	☐	☐	☐
5	Traffic study as required	☐	☐	☐
6	Dumpster location, size and access (show turning radii)	☐	☐	☐
7	Fire access to all units and/or fire lanes as required	☐	☐	☐
8	Sidewalk within public right of way	☐	☐	☐
9	Pavement marking and street signage included.	☐	☐	☐
10	NCDOT right of way encroachment (two party)	☐	☐	☐
11	NCDOT right of way encroachment (three party)	☐	☐	☐
12	NCDOT driveway permit	☐	☐	☐
13	Town of Southern Pines -encroachment agreement	☐	☐	☐
14	Street design meets NCDOT and Town minimum requirements for CL grades, cut/fill slopes sight distance etc. based on classification type	☐	☐	☐
15	Show CL road data	☐	☐	☐
16	Provide gutter spread calcs.	☐	☐	☐

J Stormwater

		Engineer	N/A	Town
1	For areas up to 200 acres, the Rational Method shall be used and the Kirpich equation used to determine Tc. Show all calculations.	☐	☐	☐
2	The peak post development stormwater runoff discharge rate shall be controlled such that the rate is equal to or less than the peak pre-development stormwater runoff discharge rate for the 10 yr storm.	☐	☐	☐
3	Storm Drainage schedule (include in tabular form: Structure ID, inverts, rim elevation, slope, length, pipe size, pipe material, pipe cover/depth, inlet type)	☐	☐	☐
4	Provide HGL calculations for the 10yr storm (25 yr for road crossings). HGL calculations shall follow methods as describe by NCDOT	☐	☐	☐
5	Provide culvert caluations. 25yr design storm for any road crossings. Use methods as described in the Bureau of public roads Headwater Depth for Concrete Culverts Charts.	☐	☐	☐
6	Pre and Post development drainage are maps provided	☐	☐	☐