

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. **This list is intended to give general guidelines only and is not to be considered all-inclusive. Checklist may change; website should be checked to insure most current version is being used.**

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: ____/____/____

Office Use Only

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

STAFF ONLY – STAMP PLAN RECEIPT DATE

ESC DUE DATE (15, 30 DAY) ____/____/____

Revision: July 2009

The Following Are the Minimum Sheet Requirements

See specific sheet requirements as noted below

	Applicant			Town Use	Comments
	Provided	Not Provided	N/A		
1 Title sheet\Overall Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2 Existing Conditions\Demolition Plan (include any trees to be removed)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3 Grading, Erosion Control and Storm 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, including buildings. Proposed items must be in bold or otherwise stand out from existing items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 Utility Plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5 Water Plan & Profile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6 Sewer Plan & Profiles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7 Storm Drain Profiles w/ HGL shown	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8 Landscaping (include buffer and setback information and irrigation if applicable) Include utilities on plan -in gray scale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10 Details	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11 Road Plan & Profile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12 Tree Survey if applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13 Other sheets as required for specific aspects of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

A. General Plan Requirements

	Applicant			Town Use
	Provided	Not Provided	N/A	
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	All drawings in a set of construction plans are the same size sheet, 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	Plans 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	Easements may increase in size with increasing depth.			
19	All lot lines, setback and buffers are clearly shown.			
20	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.			
21	Woodpecker and Environmental Impact Study included, if applicable.			
22	Turn around area provided for emergency and maintenance vehicles, where required.			
23	Grading in buffer and setbacks areas must be approved by Planning Department (692-4003)			
24	Plans shall be folded to approximately 8.5" x 11" in size with the project title showing in the lower right hand corner			

Comments

B. Title Sheet/Overall Site plan

	Applicant			Town Use	Comments	
	Provided	Not Provided	N/A			
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Provide an Index map with matchlines for multiple sheets for all plans as needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	Title Information - Development/site name, type of plan, section number, and phase is provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	A legend is provided of the specific graphic special symbols applicable to the project. Standard symbols are used to the fullest extent possible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	List of abbreviations applicable to the project is provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	Horizontal and vertical control references are specified (State plane, U.S. Coast & Geodetic Surveys, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	Source of the topography used for the preparation of the plans is provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	Revision block includes the date and reference of each revision.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10	Sheet index is provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11	Provide: Project Address, LRK #, Deed book & page, current zoning and proposed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12	Provide Lot Size, existing impervious area, proposed impervious area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13	Down stream receiving stream & classification, water shed, river basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14	Disturbed area clearly defined and acreage labeled.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15	Table showing public and private improvement quantities for water, sewer, streets, sidewalk, curb & gutter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16	Show and label all buffers, overlay district, easements etc, as defined by planning and zoning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17	Proposed use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18	Building type, size and construction material	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19	Parking required and provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20	Town standard notes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21	Adjacent property owner information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22	Town approval signature block	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

C Existing Conditions/Demolition

	Applicant			<u>Town Use</u>
	<u>Provided</u>	<u>Not Provided</u>	<u>N/A</u>	
1 Provide note requiring contractor to contact the NC One-Call Center prior to any construction activity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 Trees to be removed shown and clearly labeled. Trees being removed within Town rights of way require approval from Appearance committee.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 Appearance commission approval required?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Tree protection fence shown around trees to remain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Show and label all topography with a maximum of two-foot contour intervals for the development.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 Clearly label any structures, utilities etc to be removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 Flood plain boundaries (100 yr, 500 yr)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

D General Notes

		Applicant			Town Use
		Provided	Not Provided	N/A	
1	At a minimum, the following General Notes for Water and Sewer Construction shall be provided:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 constitute any waiver from the Town standards.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Contractor is responsible for maintenance of traffic on existing roadways in accordance with NCDOT Standard Specifications latest edition and Town requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

E **General Sewer Plan and Profile Requirements**

		Applicant			<u>Town Use</u>
		<u>Provided</u>	<u>Not Provided</u>	<u>N/A</u>	
1	A minimum 20 ft. utility easement width centered over the main is clearly shown and identified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Direction of flow is shown on the plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Manhole number, depth, inverts, pipe slope, length and material, flow angles between main lines and manholes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Sewer mains shall be a minimum of 24-inches below water main to prevent conflicts with service laterals and crossings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Manholes out of roadway, pavement or in low lying areas have watertight lids. Minimum of 18-inches above grade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	25 feet from private wells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Mains shall be deep enough to serve the adjoining property and allow for sufficient slope in lateral lines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Application for new water-sewer Service submitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

F Gravity Sewers

	Applicant			Town Use	Comments	
	Provided	Not Provided	N/A			
1	Pipe sizes and material type is shown on plans (SDR 35 or D.I.P. if the depth is greater than 10 feet).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	Backfill trench with wash stone to crown of pipe and full width of trench line.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	Minimum cover on gravity sewer is 3 ft from the top of pipe to finished grade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	A terminal manhole is provided at the end of each line.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	Show flow deflection angle at all manholes (max deflection angle per manhole = 90 degrees for 8"-10" pipe diameter)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10	Pipes greater than 6" must tie into a manhole.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11	All terminal reaches of sewer shall have a minimum slope of 1% .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12	Maximum distance between manholes is 400 feet or less	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13	No service connections within the cone section of the manhole	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14	Pipe diameter and or material changes must occur at manholes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15	Pipe crowns matched with minimum drop of 0.20 feet between the inverts within the manhole.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16	Meets all other design requirements as specified by NCDENR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17	NCDENR fast track sewer application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18	Flow acceptance letter from Moore County	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19	Analysis of receiving gravity sewer, lift station, forcemain etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

G Sewers, Force Main (Pressure Sewers)

		Applicant			Town Use	Comments
		Provided	Not Provided	N/A		
1	All force main sewer pipe is either PVC (DR-9, C-900), or Ductile Iron Pipe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	Minimum cover above force mains is 3 ft.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	An automatic air and vacuum relief valve is placed at each high point along the force main pipeline.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	Pump station shall be designed with two (2) pumps of equal capacity, each of which is at a minimum 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	Pump stations shall have on-site standby power (engine generator set) with automatic switching.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	Minimum size for public force main is 4 inch.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	Flow velocity within force main shall be between 2.5 and 5.0 fps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11	Telemetry system/auto-dialer, audible and visual alarms are provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

H Water Plan and Profile Requirements

	Applicant			Town Use
	Provided	Not Provided	N/A	
1 Water main sizes are indicated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 Water main materials are indicated (C900 or DIP).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 No dead end mains allowed unless no practical alternative exist.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Water valves are spaced at determined location to be approved by Town.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 Fire hydrants spacing shall be approved by Town. The bury depth is provided on the profile.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 Minimum of 3 feet clearance around all fire hydrants.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 Water lines that serve hydrants shall be at least six inch lines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9 Where a water main is in a casing under a roadway or crosses under a stream bed, valves are placed on each side.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10 All valves, tees, bends, fire hydrants, etc. are shown with a symbol and called-out with size, type and station.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11 Prefer no 90 degree bends shown on any water main.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14 System demand shall include: fire flow, peak domestic demand, sprinkler demand, and any other flow demand on the system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15 Fire sprinkler design and calculation as required by the Fire Marshal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16 Minimum cover of 3-ft. for water mains is maintained as measured from top of pipe to finished grade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17 Public water supply systems located under streets must be DIP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18 Prefer three (3) valves are provided at each water main tee and four (4) valves at each water main cross.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19 Location of FDC, within 50 feet of fire hydrant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20 Location, make and model of Back flow preventer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23 No service connections are to be made on fire hydrant branches or fire lines.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24 Direct service connection shall be allowed on mains 16" and smaller.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26 Gate valves for water mains 12" and less and Butterfly valves or gate valves for 16" or larger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27 Services connections are perpendicular to main.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28 NCDENR –Public Water Supply Section water extension application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29 Engineers Report (Report shall include requirements listed in itmes 12,13,15 above)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30 Application for new water-sewer Service submitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

I Erosion Control

	Applicant			Town Use	
	Provided	Not Provided	N/A		
1	General plan requirements as noted above.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Financial Responsibility/Ownership Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Review fee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Certificate of assumed named, if partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Name of Registered Agent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Copy of the most current Deed for the site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Narrative describing the nature and purpose of the construction activity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Color copy of USGS Quadrangle map with site indicated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Copy of County Soils map	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	General Site Features (plan elements)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Existing and planned drainage patterns (include OFF-SITE areas that drain through project)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Limits of disturbed area (provide acreage total, delineate limits, and label)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Existing contours and Existing conditions (buildings, roads etc) including any demo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	Proposed contours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Proposed building and road locations and elevations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Land use of surrounding areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Rock outcrops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	Seeps or springs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22	Wetland limits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	Easements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	Streams, lakes, ponds, drainage ways, dams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	Stockpiled topsoil or subsoil locations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26	Property lines of total tract	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27	Erosion control legend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28	Location of temporary and permanent measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

	<u>Provided</u>	<u>Not Provided</u>	<u>N/A</u>	<u>Town Use</u>	<u>Comments</u>
29	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
31	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
34	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
35	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
36	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
37	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
38	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
39	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
41	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
42	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
43	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
44	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
45	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
46	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
47	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
48	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
49	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
51	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
52	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
53	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
54	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

J Streets

		Applicant			Town Use
		Provided	Not Provided	N/A	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Driveway grades a maximum of 10%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Sight distance triangles at intersections and driveways (include any landscaping, signs etc. that may interfere with sight triangles)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Label proposed street classification as dictated per Planning Department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Traffic study as required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Dumpster location, size and access (show turning radii)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Fire access to all units and/or fire lanes as required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Sidewalk within public right of way	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Pavement marking and street signage included.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	NCDOT right of way encroachment (two party)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	NCDOT right of way encroachment (three party)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	NCDOT driveway permit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Town of Southern Pines -encroachment agreement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Street design meets NCDOT and Town minimum requirements for CL grades, cut/fill slopes sight distance etc. based on classification type	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Show CL road data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Provide gutter spread calcs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	Heavy Duty Pavement design minimum: 2" SF 9.5 (A or B), 3" I19, 8" Aggregate Base Course-- All depths compacted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Light Duty Pavement design minimum: 2" SF 9.5 (A or B), 6" Aggregate Base Course-- All depths compacted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

K Stormwater

	Applicant			Town Use
	Provided	Not Provided	N/A	
1 For areas up to 200 acres, the Rational Method shall be used and the Kirpich equation used to determine Tc. Show all calculations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 Storm Drainage schedule (include in tabular form: Structure ID, inverts, rim elevation, slope, length, pipe size, pipe material, pipe cover/depth, inlet type)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Provide HGL calculations for the 10yr storm (25 yr for road crossings). HGL calculations shall follow methods as describe by NCDOT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 Pre and Post development drainage area maps provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 Min slope on Storm sewer is 0.50%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 Min. drop in a MH is 0.1'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments