



Planning & Development

Engineering Inspections

2550 Operations Way
PO Box 590
Raleigh, NC 27602
Phone 919-996-2409

Pre-Construction Meeting Requirements Checklist

INVITEES
1. Engineering Inspector
2. COR Transportation and Utility Reviewer (if necessary)
3. Stormwater – Erosion Control (if they have not already had their pre-construction meeting)
4. Public Utilities
5. Contractor (preferably the foreman that will be on the job)
6. Owner/developer and/or design engineer
7. NCDOT Inspector (if project fronts on a NCDOT road)
8. Representative(s) from any other affected utilities (gas, electric cable)
9. Urban Forester
ITEMS FOR DISCUSSION
1. Ensure that all parties have approved, SIGNED construction plans, etc. with the latest revisions.
2. All applicable City of Raleigh permits (Land Disturbance, etc.) and NCDOT permits/encroachments (if applicable) shall be in place prior to starting work.
3. Ensure that contractor has taken a sufficient number of pre-construction photos and videos. All damaged items along the property frontage (asphalt, curb and sidewalk) shall be replaced and in acceptable condition prior to issuance of Certificate of Occupancy or final acceptance by the City of Raleigh.
4. All existing underground utilities shall be located prior to beginning any excavation or underground construction. All underground utility locates shall be ordered no less than 3 days prior and no more than 12 days prior to the beginning of said excavation or underground construction. Effective October 1, 2014, all newly installed subsurface utilities shall be required to be electronically locatable. The City of Raleigh shall require #12 solid bare copper wire to be installed with all new gravity sewer mains and service, reuse mains and service, force mains, and non-metallic water service tubing. Tracer wire is not required for DIP water mains or copper services.
5. The contractor shall mail letters to the area residents and businesses to inform them of the proposed project including the anticipated time and length of construction, any proposed traffic disruptions, and the responsible party's (owner, owner's agent, contractor) phone number, with a copy given to the Engineering Inspector (see attached sample).
6. City of Raleigh Engineering Inspections requests may be scheduled one of four ways: 919-996-6446, Monday through Friday from 7:30 a.m. to 3:45 p.m., for permitted and non-permitted inspections; 919-996-2500, Monday through Friday from 8:00 a.m. to 4:45 p.m., for permitted inspections; 919-857-4412 (automated scheduling system) for permitted inspections; and through the Online Development Center (www.raleighnc.gov , search "Online Development Center").
7. The City of Raleigh Engineering Inspections request phone number is 919-996-3030. ALL inspections MUST be called in the day PRIOR to the needed inspection between the hours of 8:30 a.m. and 4:30 p.m. Requests after 4:30 will not be taken or placed on the next day's schedule for inspections.
8. Inform contractor of exactly what our inspector shall witness (water and sewer mains, thrust blocking and collars, pressure tests, service taps, meter boxes, hydrants, re-bar mats at doghouse manholes, public sidewalks and accessible ramps, proof rolls, curb grades, driveways, etc.)
9. A proper construction entrance (as per the approved EC plan) shall be maintained daily. Any trash or debris tracked onto a public road shall be removed and swept immediately.
10. Portable toilets, trash receptacles and construction materials shall not be placed with the public right-of-way.
11. Curb/sidewalk removal debris, building packages, gravel, sod, etc. shall NOT be stockpiled with the public right-of-way.
12. Concrete wash-out areas shall not be located within the public right-of-way and shall not drain into the public street and/or storm drainage system.
13. Normal work hours for City of Raleigh Inspections are Monday thru Friday, 7:30 a.m. – 4:15 p.m. Any work requiring inspections outside of these hours may be allowed based on the availability of inspection personnel. However, it must be approved a minimum of 48 hours prior to the needed inspection.

14. Contractors are NOT allowed to operate any City of Raleigh water valves.
15. Contractor shall contact City of Raleigh Public Utilities to have existing valves on or near waterlines serving the proposed project located and checked for accessibility and operation no less than 48 hours prior to construction (see contacts list).
16. Concrete blocking and/or thrust collars shall not be backfilled and tamped against until the day after they are installed.
17. For 8" sanitary sewer mains, all sewer manholes over 12' deep shall be 5' diameter and over 20' deep shall be 6' diameter. One size smaller diameter manholes, to a minimum of 4' can be used if extended base manholes are used.
18. Sanitary sewer systems shall be installed beginning at the low point tie-in and working upstream. Any variances to this shall require prior written approval from the Public Utilities Department.
19. As-built drawings for new utility installations shall be submitted to the Engineering Inspections department for review and approval prior to the initial walk-thru and activation of the new water and sewer systems. As-built drawings in digital format shall be accepted prior to first Certificate of Occupancy for final site approval. However, all hydrants will be made operational as soon as all waterline testing is complete.
20. Contractor shall coordinate all water and sewer testing with the Engineering Inspector, including pressure and vacuum tests, chlorination, pulling water samples, water main pigging, mandrel tests, etc.
21. Chlorination of newly installed water lines shall be flushed to drain within the sites storm drainage system and BMP. If no BMP is present, flushing shall be filtered by a diffuser prior to entering the public storm drainage system. Flushing shall not be directed into any sanitation sewer system.
22. Contractors shall pothole any and all existing utilities that may be in conflict or cross any proposed water, sewer and/or storm drainage prior to cutting the street and such conflicts shall be brought to the attention of the Engineering Inspector. The Engineering Inspections group, in coordination with Public Utilities and Stormwater, shall determine whether a field revision is required. Situations involving a plan revision will require the engineer to obtain an approved plan revision prior to resuming that particular construction activity. All reverse taps require written approval from Public Utilities prior to being installed.
23. Contractor to verify all hydrant locations and elevations in downtown/urban areas with inspector prior to installation.
24. All stub permits (fire, water and sewer services, and hydrant legs tying into an existing main) shall be secured prior to scheduling their inspections. These permits can be obtained from the Development Services Customer Service Center at One Exchange Plaza.
25. Utility contractors completing work on any utility service stub outside of the public right-of-way or easement (beyond the water meter or sewer cleanout) shall be required to obtain a Plumbing Utility permit to complete said work. This permit can be obtained from the Development Services Customer Service Center.
26. All storm drainage to be installed within the public right-of-way shall be inspected by the project Engineering Inspector. All material shall be inspected for damage or defects prior to installation and shall be inspected during installation. HDPE storm pipe shall only be permitted when approved by the City of Raleigh Stormwater Management staff and shall be installed in strict accordance with the attached specifications.
27. No drain pipes shall be installed within the curb or outlet onto sidewalks within the public right-of-way.
28. The City of Raleigh will not inspect pavement construction associated with NCDOT facilities. In lieu of inspections, the same reports provided to NCDOT regarding pavement structure shall be provided to the City of Raleigh prior to infrastructure acceptance or issuance of a Certificate of Occupancy, whichever occurs first.
29. All public street construction shall be inspected by both the Engineering Inspector and a licensed third party geotechnical engineer. Subgrade and stone base proof rolls shall be field verified by the third party geotechnical engineer prior to being given approval. All mix designs, compaction, asphalt densities and associated reports shall be given to the City of Raleigh Engineering Inspections department prior to warranty commencement and final acceptance.
30. If new construction requires cutting an existing public road, a street cut permit shall be obtained from the Development Services Customer Service Center at One Exchange Plaza. Street cuts for extending utilities across existing roads for new single-family subdivisions do not require street cut permits. Pavement patches shall be completed in accordance with the appropriate governing body's standards and specifications.
31. Concrete forms for ALL public road accessible ramps/depressions and sidewalks shall be inspected prior to placing concrete. Ramp types and locations may vary from the way they are shown on the approved plans.
32. Street signage shall be installed prior to the first Certificate of Occupancy. Contact Mr. Rene Haagen of the City of Raleigh Transportation Field Services Division at 919-996-2483 to coordinate all signage. This coordination shall be done 2-4 weeks prior to issuance of the first Certificate of Occupancy. All street signage shall meet MUTCD standards.
33. Street lights (if applicable) shall be installed prior to final street acceptance. Streetlights shall be installed in accordance with the City of Raleigh Street Lighting Developer Requirements (section 10-3059(d)). Any questions regarding this ordinance should be forwarded to Dustin Brice of the Transportation Operations Division of Public Works at 919-996-4045. It shall be the responsibility of the owner/developer/contractor to coordinate with the Engineering Inspections staff the type of street light to be installed to ensure consistency with surrounding street lights where possible.
34. If a street closure is required, the contractor shall schedule a meeting with Mr. Rene Haagen, City of Raleigh Transportation Field Services Division, at 919-996-2483 to review the specific components of the plan and operations of

these facilities during construction. Full street closures require City Council approval and thus must be coordinated well in advance of the requested need.
35. All lane closures of an existing public road will require a lane closure permit from the Transportation Field Services Division of Public Works. Please contact Mr. Rene Haagen at 919-996-2483 no less than 48 hours prior to the lane closure.
36. All construction traffic shall adhere to the City of Raleigh Truck Route Ordinance (section 11-2132). Any questions regarding this ordinance shall be forwarded to the Transportation Operations Division/Public Works department.
37. All sidewalk closures shall have a sidewalk closure plan prepared by the engineer and approved by Public Works Transportation Field Services review staff. Sidewalk closure permits can be obtained from the Development Services Customer Service Center at One Exchange Plaza. All required signage must meet MUTCD and ADA requirements, and shall be erected prior to and maintained during the closure.
38. Please contact the Transit Planner if bus service will be affected by construction or if a new bus stop is required as part of the project (see contacts list).
39. ALL pavement striping shall be approved by and coordinated through the Transportation Operations department prior to installation. Do not assume striping shown on the plans is correct.
40. It shall be the responsibility of the owner/developer/contractor to coordinate with Public Works/Parking Management on the installation of designated on-street parking and accompanying meter.
41. Installation and inspection of all required street trees shall be coordinated with a City of Raleigh Urban Forester. Contact Zach Manor of Parks, Recreation, and Cultural Resources at 919-996-4115 prior to starting any work associated with street tree installation.
42. All utilities (new and existing) are required to be located to the right-of-way line. Utility conflicts with proposed right-of-way infrastructure improvements shall be coordinated prior to construction of said improvements by the engineer and/or contractor with the respective utility.
43. Contractor shall provide traffic and/or pedestrian access during construction, where applicable. Loading and unloading areas shall be properly identified and not obstruct traffic and/or pedestrians.
44. Standard hours for construction related activities are 7:00 a.m. – 8:30 p.m., seven days a week for on-site work and 9:00 a.m. – 4:00 p.m., Monday thru Saturday, within a public road right-of-way.
45. At or near the end of construction, the contractor shall coordinate with the Engineering Inspector and perform a preliminary walk-thru of the new utilities and public roads and sidewalks. After necessary repairs are made, the contractor shall schedule an official walk-thru with the Engineering Inspector and Engineering Inspections Coordinator.
46. Final acceptance of a project will not be issued without the final lift of asphalt installed.
47. Go to the City of Raleigh website, www.RaleighNC.gov , and enter "Transportation Field Services" in the search box for additional information regarding inspections, details, services, etc.
CONTACTS AND RESOURCES
City of Raleigh website: www.RaleighNC.gov
City of Raleigh Online Development Center: www.RaleighNC.gov/OnlineDevelopmentCenter
Permit Information: Development Services Customer Service Center, One Exchange Plaza, Suite 400 919-996-2495
Transportation Field Services website: www.RaleighNC.gov/services/content/PublicWorks/Articles/TransportationFieldServices
Public Works, Scheduling Engineering Inspections: 919-996-6446, Monday through Friday from 7:30 a.m. to 3:45 p.m., for permitted and non-permitted inspections; 919-996-2500, Monday through Friday from 8:00 a.m. to 4:45 p.m., for permitted inspections; 919-857-4412 (automated scheduling system) for permitted inspections; and through the Online Development Center (www.raleighnc.gov , search "Online Development Center").
Engineering Inspections Supervisor: Kenneth Ritchie, 919-996-2409
Engineering Inspections Coordinators: Tom Higgins, 919-996-6814; Richard Grudzinski, 919-996-6824
Public Utilities, Operation of City of Raleigh gate valves, etc.: Robert Verbal, 919-996-5937
Street Signage and Lane/Street Closure Permits: Rene Haagen, 919-996-2483
Erosion Control: 919-857-4412
Street Lights: Dustin Brice, 919-996-4045
Urban Forester, Street Tree installation and inspections, Zach Manor, 919-996-4115
NCDOT: Scott Wheeler and Phillip Picerno, 919-733-3213
Fire Protection: Steve Berry, Deputy Fire Marshall, 919-996-5972
Water Meters: Main phone line, 919-996-2742; Lorenzo Holloway, 919-996-2400

Cross Connection: Joanie Hartley, 919-996-5923, cross.connection@raleighnc.gov
Transit Planner, Bus stops/Shelters: Carmalee Scarpitti, 919-996-2291
Duke Energy Progress: Gary Bryant (Relocations) 919-431-4753 or Patrick Grimmett (Construction) 919-218-5239
Time Warner Cable: Herbert Boyd, 252-265-4164
AT&T: Pat Cofrancesco (Raleigh East) 919-876-7570 or Dwight Parrish (Raleigh West) 919-831-2465
PSNC
REQUIRED INSPECTIONS – PUBLIC STREETS
Curb and gutter – proof rolls for both sub-grade and ABC, string lines (by City inspector for City maintained roads, by state inspector for NCDOT maintained roads)
Asphalt roadways – proof rolls for both sub-grade and ABC, placement
Sidewalks and accessible ramps – locations, forms and sub-grade
Driveways – locations, forms and sub-grade
REQUIRED INSPECTIONS – WATER AND SEWER
Installation and backfilling of water and sewer mains and force mains
Asphalt patching, curb and sidewalk repairs for utility cuts in public roads
Installation of water and sewer services, including water meters, boxes and vaults, and first cleanout from sewer mains or manholes
Tie-ins with existing mains, tapping sleeves, thrust collars, blocking, rebar cages, threaded rods, cores, etc.
Hydrant installations
Air release valve installations
Manhole installations and doghouse manhole foundations
Piers for aerial crossings, encasement pipes (including vents and drains), carrier pipes with spiders
Water & sewer mains crossing each other or storm drain pipes, to verify minimum clearance or concrete cradle installation
REQUIRED INSPECTIONS – STORM DRAINAGE
All storm drainage pipe installations within the public right-of-way (see City specs)
UTILITY TESTING REQUIREMENTS
Water main and sewer force main pressure tests – 200 psi for 2 hours
“Pigging” of water mains and services
Turbidity and bacteria tests for water system
Sewer manhole vacuum tests
Sewer main air pressure tests
Sewer main mandrel tests (pvc only) to be completed a minimum of 30 days after installation
Tracer wire tested and functional
WALK THRU CHECKLIST
Paper copy of “as-builts” submitted to Engineering Inspections Supervisor or Engineering Inspections Coordinator(s) prior to walk-thru
Cracked or broken curb or sidewalk in public roads
Asphalt failures, ponding water in asphalt or curb lines in public roads
Storm drainage structures in public roads clear of debris, pipes cut smooth with inside wall, castings align with box and curb, steps, 2” drains
Water meter vault lids bolted down to vault, doghouse openings blocked up and mortared , min. 3” washed stone in bottom of vault
All gate valves accessible and open, hydrants operable, blow-offs in place, concrete collars around castings
Water meters and sewer clean-outs located at right-of-way line

Sanitary sewer outfalls shall be smooth graded, mowed and accessible by Public Utilities Department. All manholes in outfalls shall have locking lids.

Street signage in place along with striping and pavement markings (i.e. stop bars, turn arrows)

FIELD CLOSE-OUT ITEMS

Contractor to request and perform preliminary walk-thru of public roads, sidewalks, storm drainage and public or private water and sanitary sewer mains (and service) with inspector.

After repairs, contractor shall schedule a walk-thru with the inspector and Inspections Coordinator. A punch list will be created and given to owner and contractors with five (5) business days.

Punch items shall be corrected within 60 days of punch list date and second walk-thru shall be requested by contractor.

INFRASTRUCTURE ACCEPTANCE PACKAGE REQUIREMENTS

The developer, contractor, or engineer shall provide to the City a statement of cost for the public facilities in question.

"Paper As Built" plans and profiles for review and comment shall be submitted to the Engineering Inspections Supervisor or Engineering Inspections Coordinator(s) prior to walk-thru inspection. The "as built" plans shall have the NC Geodetic Survey grid coordinates" (State plane NAC 83 feet North Carolina FIPS 3200), to all meter boxes, cleanouts, valves, manholes, catch basins, junction boxes and mains along with the depth information. The water and sewer permit numbers must also be included. This information will need to be reviewed prior to submittal of "as built mylar" plans.

Upon completion of the sanitary sewer installation, preliminary as built drawings must be prepared showing the location of each manhole using the NC Geodetic Survey grid coordinates. These coordinates must be displayed in a table format. The drawings must also show the size, material, length, and slope of each pipe run. This information must be provided to the City of Raleigh Public Utilities GIS Division before the sewer system can be inspected by camera.

"As built mylar" plans and profiles and "as built" plans and profile in a digital format (.dwg, .shp, .pdf and text file of survey data) shall be furnished by the engineer upon completion and prior to commencement of the warranty period by the City. The "as built" plans shall have the NC Geodetic Survey grid coordinates: (State plane NAD 83 feet North Carolina FIPS 3200), to all meter boxes, cleanouts, valves, manholes, catch basins, junction boxes and mains along with the depth information. The water and sewer permit numbers and approval dates must also be included along with the signed engineer's certification statement:

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (___periodically, ___weekly, ___full-time) the construction of the project, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that by my inspection of the constructed improvements and my review of the "as built" survey data, I hereby certify that the (1) public improvements, (2) private improvements, and (3) public safety of the above reference project as constructed are in compliance with the requirements of the improvements as prescribed in the approved Construction Drawings, approved design documents, and/or any approved modifications, except as noted in red on the "as built" drawings. Furthermore, I certify that the red-noted exceptions do not adversely affect the required performance of public safety aspects of the improvements.

Name: _____ Date: _____

NCPE Seal:

The developer is responsible for submittal of a one-year written warranty, commencing on the date of the City of Raleigh warranty commencement letter, to the City of Raleigh.

A release of liens statement is also required from the owner/developer stating that all material and workmanship associated with the public streets, water and/or sewer utilities have been paid in full.

Asphalt mix design and asphalt density/thickness reports for all public and private streets.

A letter of credit is required for any outstanding improvements (i.e. final lift of asphalt, sidewalk). Contact Debbie Wyatt at 919-996-2410 or debbie.wyatt@raleighnc.gov.

A digital copy (pdf) of all required acceptance package documents.

SAMPLE NOTIFICATION LETTER

DEVELOPER COMPANY LETTERHEAD

DATE

SUBJECT

PROJECT NAME

Dear Sir/Ma'am,

[Developer Name] is currently developing the [Project Name] which has been approved by the City of Raleigh and is located at [Address]. The company and its contractors are working diligently to complete the project in a timely, efficient, and clean manner; however, the activities associated with construction of this project may cause some disruptions and inconveniences. These construction activities are set to begin on [Date] and hopefully conclude by [Date].

We sincerely apologize for any disruptions or inconveniences these activities may cause and sincerely appreciate your patience and understanding. Questions or comments may be directed to the undersigned at [Phone Number] or [E-mail Address].

Sincerely,
[Signature]

DEVELOPER CONTACT NAME

TITLE

DEVELOPER COMPANY