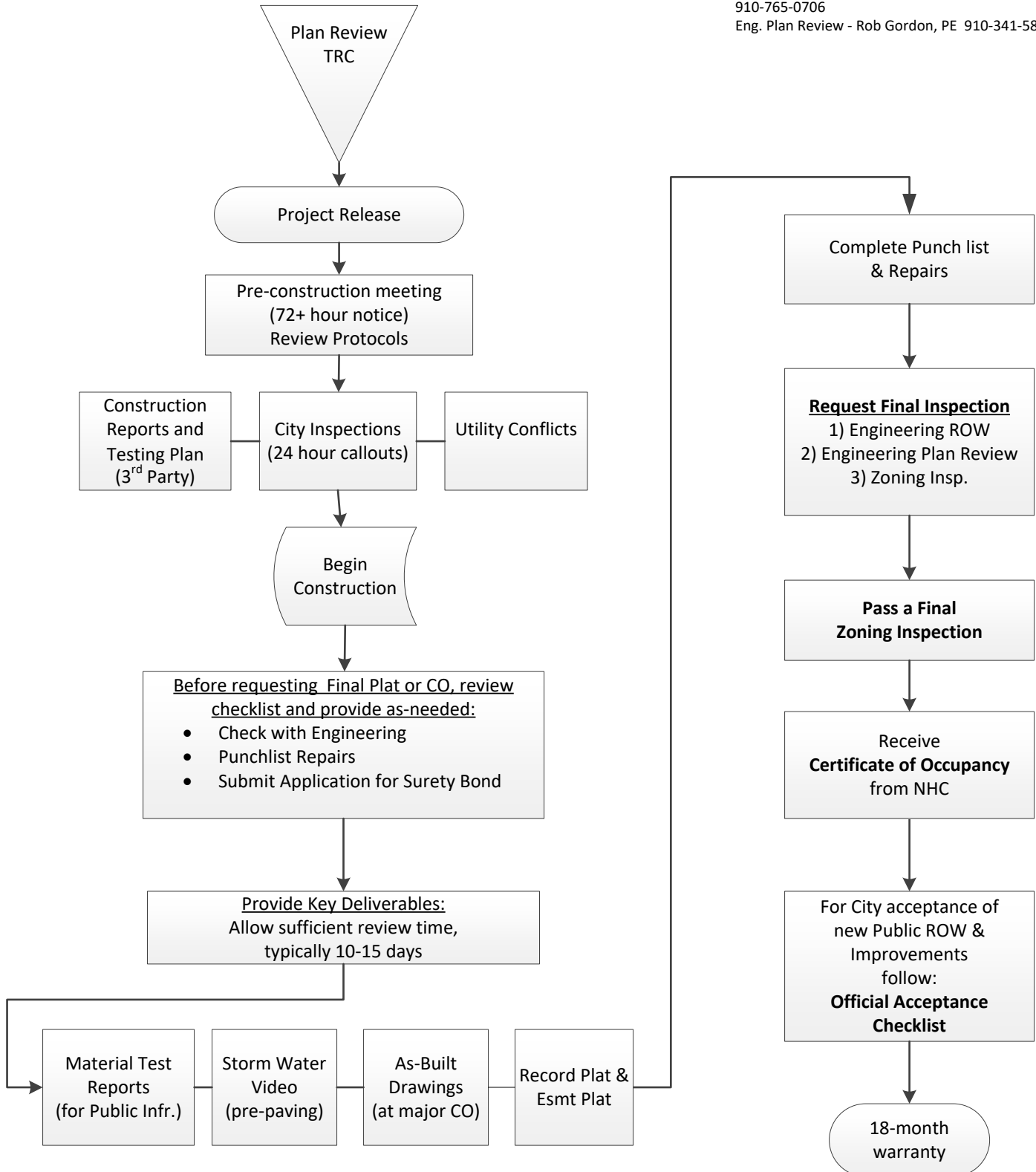


Construction Phase Sequence Private Development

For questions contact:

Constr. Inspections - Sean Winbourne
910-765-0706

Eng. Plan Review - Rob Gordon, PE 910-341-5856



Conditions of Construction in Right-of-Way

All new public infrastructure shall be built to current City Standards with acceptable quality workmanship. Contractors working in the City Right-of-Way (ROW) shall reference this guide and associated policies during construction and prior to requesting final inspection. Corresponding information can be found at: <https://www.wilmingtonnc.gov/Government/Departments-Divisions/Engineering>

PUBLIC ROW CONSTRUCTION REQUIREMENTS:

- ☐ CONTRACTOR IS REQUIRED TO COORDINATE WITH THE CITY ROW INSPECTOR FOR ALL PUBLIC INFRASTRUCTURE. THIS INCLUDES NOTIFICATION BEFORE EXCAVATION, UTILITY WORK, SOIL PLACEMENT, CONCRETE AND FORM WORK, ASPHALT PAVING, ETC. THE PROTOCOL FOR REQUESTING INSPECTIONS IS A 24-HOUR CALLOUT.
- ☐ GENERAL CONTRACTOR/DEVELOPER IS REQUIRED TO PROVIDE THE SAME PERMIT INFORMATION TO SITE CONTRACTORS & SUB-CONTRACTORS AND TO FACILITATE COORDINATION. ANY ITEMS NOT INSPECTED DURING CONSTRUCTION MAY BE SUBJECT TO REMOVAL.
- ☐ TEMPORARY CLOSURES OF A SIDEWALK/LANE/ROAD ARE SUBJECT TO TRAFFIC CONTROL AND DAILY PERMIT FEES. MAJOR ROADS AND SCHOOL ZONES IN THE CITY HAVE TIME RESTRICTIONS. See the city GIS gallery for reference.
- ☐ UTILITY AND EXCAVATION WORK IN THE STREET REQUIRES A ROW PERMIT.
- ☐ STREET CUTS ARE GUIDED BY THE CITY STREET CUT POLICY. ALL CUTS MUST BE SQUARE, OUT OF WHEELPATH, TO THE NEAREST LANE LINE AND HAVE A MIN. 12-INCH CUTBACK.
- ☐ TO HELP AVOID UNDERGROUND UTILITY CONFLICTS AND STRIKES, CONTRACTOR SHALL CALL NC811 BEFORE EXCAVATION, AND SPOT LOCATE OR EXPLORE FOR EXISTING UTILITIES IN ADVANCE OF THE WORK. Areas of concern on this project are....(to be discussed with Inspector)
- ☐ 3RD PARTY CONSTRUCTION MATERIALS TESTING IS REQUIRED BY POLICY AND ALL REPORTS SHALL BE CHECKED BY PROJECT ENGINEER AND SUBMITTED TO THE CITY.
The CMT requirements for this project are....(to be discussed with Inspector)
- ☐ CHANGES IN PROJECT DESIGN SHALL REQUIRE RESUBMITTAL TO CITY FOR PLAN REVIEW.



SITE WORK STANDARDS:

Contractor(s) shall reference this list during construction and complete all work with a quality of workmanship prior to requesting a walkthrough with Inspectors. Contractor shall coordinate in a timely manner to allow review and repairs for all punch list items prior to receiving a final CO.

- ☐ ALL CONCRETE FORMS SHALL BE INSPECTED PRIOR TO POUR. CONCRETE SHALL HAVE CORRECT THICKNESS, FINISH, EXPANSION AND TOOL JOINTS.
- ☐ CONTRACTOR SHALL REPLACE THE EXISTING OR NEWLY POURED CONCRETE WHICH IS NON-ADA COMPLIANT, NON-STANDARD, OFF- GRADE, CRACKED OR UNDERMINED SIDEWALK, DRIVEWAY OR CURB & GUTTER (5-FOOT MINIMUM).
- ☐ STORM WATER STRUCTURES SHALL BE BUILT TO GRADE, WITH PROPER CONCRETE MORTAR AND JOINT ALIGNMENT. PUBLIC STORM SYSTEMS ARE TO BE CLEANED AND VIDEOED, GENERALLY PRIOR TO PAVING, WITH A VIDEO AND FINDINGS REPORT CHECKED BY THE PROJECT ENGINEER AND DELIVERED TO THE CITY.
- ☐ ALL METER BOXES, CLEANOUTS, HANDHOLES, POLES, CABINETS, VALVES, HYDRANTS, ETC. IN THE RIGHT OF WAY OR CITY EASEMENTS SHALL NOT BE LOCATED IN SIDEWALK OR DRIVEWAYS AND A MINIMUM OF 18-INCHES OFF BACK OF CURBLINE AND ADJUSTED TO FINISHED GRADE.
- ☐ STREETS, SIDEWALKS, GUTTER, PLAZA AREAS AND CASTINGS SHALL BE CLEAR AND CLEANED OF ANY CONSTRUCTION DEBRIS, ROCKS, TRASH, SEDIMENT AND ALL EXCESS ASPHALT AND TACK.
- ☐ A WALKTHROUGH IS REQUIRED PRIOR TO ALL PAVEMENT MARKINGS.
- ☐ A WALKTHROUGH IS REQUIRED PRIOR TO ALL TRAFFIC SIGN INSTALLATIONS.
- ☐ A WALKTHROUGH IS REQUIRED PRIOR TO ALL SIGNAL & LIGHT POLE INSTALLATIONS.
- ☐ PLAZA AREAS SHALL BE BACKFILLED TO TOP OF SIDEWALK AND CURB, ALSO FERTILIZED AND SEEDED.

PROJECT: _____ **CONTRACTOR:** _____

NOTES: _____



City of Wilmington
Engineering
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Construction Material Testing and Documentation Policy

The City of Wilmington promotes the development of sustainable infrastructure and provides the following guidance on construction materials testing (CMT) and documentation practices for roadway and underground utility construction.

Materials Testing and Documentation Guide

This policy guides the required quality control (QC) efforts during construction by providing the minimum expectations for testing types and frequencies. Generally, CMT services shall be provided by the Utility/Owner separate from the construction contractor, i.e. 3rd party. The various testing reports and materials documents shall be complimentary so as to provide complete assurance. Other unique conditions or design specifications such as NC DOT may apply and would supersede this policy. Without other specific instructions, the following guidelines include:

- ❑ Table 1 is attached as a minimum guide to assist with a CMT plan and managing testing resources on a project. Other needs not listed may exist.
- ❑ Utility/Owner must coordinate CMT plan for review by the City.
- ❑ Utility/Owner shall ensure coordination of test schedules and outcomes with City Inspector or other responsible personnel.
- ❑ Utility/Owner shall manage failing/non-passing tests to rectify situation with contractor(s) and ensure a passing result is obtained.
- ❑ Where failing tests occur or no conclusive passing tests exist, the City reserves the right to require further testing or retests, at no costs to the City.
- ❑ As part of construction deliverables, copies of test reports and documents shall be furnished to the City. Such reports shall be professional, organized and shall typically contain the following:
 - Written Summary of Results
 - Test Reports- (compiled/quantified by test type, time, etc)
 - Materials Received Reports – (submittals, certifications, truck tickets, etc)
- ❑ This guide does not release the utility, owner or contractor from completing all the necessary construction steps, inspection and testing necessary to meet the standard details, policies and specifications required for materials.

Table 1 - Materials Testing and Documentation Guide				
Test Type:	Location For:	Test Target:	Min. Frequency :	Test requirements//Comments
Soils				
Proofroll(s)	Subgrade	Loaded Tandem Axel truck. Visual check of stability / moisture	each roadbed; where soils change	
Soil Density - Nuclear Gauge	Embankments	≥ 95% compaction	1 / block or every 500'	
	Pipe trench(s) and overfill	≥ 95% compaction	Per lift (12" max) every 100'	
	Subbase (final 8" fill)	100% compaction	4 / block or every 500' where pvmt ≤ 32' width or 8 / block or every 500' where pvmt > 32' width	
Stone Base				
Stone Density (Nuclear Gauge)	road base (ABC)	each ≥ 95% with avg. ≥ 98%	4 / block or every 500' where pvmt ≤ 32' width or 8 / block or every 500' where pvmt > 32' width	
	curblines (ABC)	each ≥ 95% with avg. ≥ 98%	4 / block or every 500'	
Proofroll	stone base at grade	visual check of stability / moisture	all areas under road	
Concrete				
Compressive Strength	curbing, sidewalks, driveways	breaks results ≥ required strength (i.e 3000psi Class A) 7 day break (typ ≥ 75% of strength), 28 day break ≥ design strength	5 cylinders per day/batch for every 50 Cubic Yards	
	Curbing			
	Sidewalks Driveways			
Asphalt				
Asphalt Temperature	air / surface temperature	40° in the shade and rising,	test before placement Also, no wet pavement affecting bonding	
Density - Nuclear Gauge Control with Core checks	roadway/path	90% compaction - S9.5B	QC = 5 Nuclear Gauge shots per 500'/each paver laydown width / lot QA = verification, test requests and location	
(Core control and control strips when needed)		92% - S9.5C, S9.5D, I19.0C, B25.0C	QC = 1 core check per 500'/each paver laydown width. Primarily in base layers. Use core control when requested.	

REQUIREMENTS FOR VIDEO INSPECTION and REPORTING OF STORM SEWER SYSTEMS

General

1. All stormwater video formatting and reporting shall be completed in accordance with NASSCO Pipeline Assessment and Certification Program (PACP) guidelines. <https://www.nassco.org/pipeline-assessment-and-certification-program>.
2. Generally, the public storm pipe and structures shall be videoed a minimum 20-30 days after installation and 45 days prior to construction of curbing, streets or sidewalks, allowing sufficient time to assemble reports, conduct engineering review and make repairs as needed.
3. Pipe cleaning operations shall be performed prior to the video inspection, and shall fully clean the pipes and structures as to remove all sediment, debris, etc. This may require dewatering of pipes.
4. The City of Wilmington (COW) reserves the right to refuse any recording or reports on the basis of improper formatting, substandard quality or compatibility with technology.
5. In the event of needed repairs to the pipe or structures, the contractor shall obtain written approval by the City Engineer for all site-specific repair methods before proceeding.
6. Certain conditions may warrant equipment beyond what is specifically noted herein. Failure to adhere to COW requirements, the identification of defects or concerns with any repairs made, may result in the contractor being required to conduct additional video-inspection(s).

Execution

1. All equipment used for cleaning and video inspection shall be specifically designed for the work described herein. All cameras shall be self-powered units with color, pan-and-tilt, minimum resolution of 640x480 min., and the ability to operate in 100% humidity (wet) conditions. The lens shall have not less than a 65-degree viewing angle with either automatic or remote focus and iris controls
2. Inspections of each pipe segment shall run from center of the starting drainage structure to the center of the ending drainage structure. The camera shall be moved through the line in either direction at a uniform rate but not greater than 30 feet per minute (0.5 ft/sec).
3. The camera shall be stopped at each pipe joint, structure, defect, etc. At these locations, the camera shall be panned, tilted and rotated to fully view and document the condition of the joints, defects, etc.
4. CCTV software shall be a commercially available product. CCTV video shall be captured in MPEG format with a clear and stable image and be compatible with Windows Media Player. Still pictures shall be captured in JPEG format at 640x840 min. resolution.
5. Videos shall follow NASSCO standard formatting and codes for file naming, screen text including start, stop and running screens, header displays and observation codes. For each file, a constant overlay display of the street name, drainage structure designations (i.e. MH start#/ CB end#), date and distance shall appear on the screen. The inspector shall move the constant overlay display, so it does not interfere with the inspection review. Observation(s) and defect(s) text shall display for a minimum of 4 seconds.
6. A video inspection report produced from the CCTV software shall be submitted in a separate file for each pipe segment videoed. At a minimum, observation/defect notes shall include general info and codes, distance within the pipe segment, description, a severity rating, and a still photograph. In situations where reverse inspection is necessary, the reverse inspection shall be provided in a separate video file.

Deliverables

1. Video inspection files (MPEG) along with electronic written reports (JPEG) shall be delivered to the City, preferably on a flash drive. These reports shall typically be delivered 30 days prior to any roadway construction. See above. These deliverables shall be provided with correspondence from the Engineer of Record confirming that he/she has reviewed the video inspection package for compliance, made an evaluation and provided recommendations for repair.