

**Town of Pittsboro  
Standard Specifications**

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# Town of Pittsboro Standard Specifications

## SECTION 1 DEVELOPMENT PERMITTING AND PROJECT ACCEPTANCE

This section contains requirements for the submittal of Construction Drawings to obtain approval for construction and acceptance of the project by the Town of Pittsboro. Prior to Construction Drawing submittal, proposed development shall meet the requirements of the Town of Pittsboro Planning Department as defined in Section 10.4.2 of the Unified Development Ordinance – Site Plan Procedures.

### 1.01 PROJECT SUBMITTAL PROCEDURES

Plans for proposed projects shall be prepared by a professional engineer registered in the State of North Carolina and submitted to the Town of Pittsboro Engineering Department for review and approval as follows.

#### 1. DEVELOPMENT REVIEW AND APPROVAL PROCESS

- A. Owner/Developer shall provide the Town of Pittsboro with an electronic file and one (1) full-size set of Construction Drawings for proposed projects titled or stamped to indicate “PRELIMINARY”. The initial submittal should include the following, if applicable to the project scope:
- Construction Drawing Review Application and Review Fee
  - Stormwater Discharge Permit Application and Review Fee
  - Riparian Buffer Authorization Application and Review Fee
  - Surface Water Origin Verification and Review Fee
  - Floodplain Development Permit Application and Review Fee
  - Traffic Impact Analysis and Review Fee – Traffic Impact Analysis is required if the development generates 100 peak hour trips or 1000 daily trips. If connection to NCDOT roadways, submit TIA to both Town of Pittsboro and NCDOT Division 8 for review
  - Driveway Permit Application and Review Fee – If driveway connection is proposed to NCDOT roadway, no Town of Pittsboro Driveway application is required. Submit NCDOT Driveway Permit application for Town review/signature and review fee
  - Encroachment Agreement and Review Fee - If encroachment is proposed to NCDOT right-of-way, submit NCDOT Encroachment Agreement for Town review/signature and review fee
  - Land Disturbing Permit application and erosion control plan shall be submitted to Chatham County Watershed Protection concurrently

- B. Town staff will review the preliminary Construction Drawings and either approve or return comments for modification and resubmittal. In either case, the response from the Town of Pittsboro will be in writing. Review fees cover two (2) plan reviews. If additional reviews are required by Town staff to achieve approval, an additional review fee will be required at the time of the third submittal.
- C. Once plans are approved by Town staff, the Owner/Developer will then furnish three (3) final sets of corrected and final plans titled or stamped "Approved for Construction". The plans shall include a signature block on the cover sheet for departmental approvals from the Town of Pittsboro and Chatham County.
- D. The Town Engineering Director will issue an "Approval of Construction Drawings" letter to the Owner/Developer. One (1) set of the signed plans will be returned to the Owner/Developer.
- E. The only official "Approved for Construction" plans will be those signed and dated by the Town of Pittsboro.
- F. The "Approval of Construction Drawings" letter will include any outstanding permits/fees (see *Checklist for Construction Drawing Approval*) prior to Construction Authorization and advise the Owner/Developer of the mandatory pre-construction meeting. The pre-construction meeting shall be scheduled and organized by the Owner/Developer and include all applicable parties, including Town of Pittsboro and Chatham County staff. At least seven calendar days' notice is required for appropriate Town/County staff to attend.
- G. Upon completion of the pre-construction meeting and any outstanding approvals/fees, the Town Engineering Director will issue a letter for "Authorization to Construct". Only then may construction begin.
- H. A Town approved set of project plans and permits shall be maintained on the construction site for the duration of construction and shall be available for review upon request.
- I. Modifications/amendments to Approved Plans shall be reviewed and approved by the Town Engineering Department and shall not be incorporated into the project until approved. The Owner/Developer shall submit minor amendments to the Engineering Director along with the minor amendment review fee for review.
- J. Modifications/amendments shall be reflected on project "As-Built Record Drawings" following construction completion.

## **2. PLAN CONTENTS**

Construction Drawings shall be presented both electronically and on 24" by 36" sheets and shall include:

- A. Title Sheet with all pertinent project and design information including but not limited to Project Name, Location, Owner, Primary Engineering Firm Name and Logo, Design Engineer's Professional Seal, Developer, Sheet Index, Revision Block that is kept up to date
- B. Vicinity Map and Project Layout (may be included on Title Sheet if space permits)
- C. Horizontal and Vertical Scale, Accurate North Arrow, Accurate Legend of line types and symbols
- D. Design drawings shall clearly show all property limits, all public rights of way, dedicated easements, and adjacent property owners

- E. Plan and profile of all public and private utilities: sanitary sewers, storm sewers and water mains. Provide a separate plan sheet for each utility
- F. Grading, Stormwater Management Plan, Sedimentation and Erosion Control Plan with applicable standard details
- G. Landscape Plans and planting schedules with applicable standard details
- H. Surface water features, FEMA 100-year Special Flood Hazard Area and Riparian Buffers, where present
- I. All streets (including cross-sections and standard details), right of ways, buildings and outdoor structures
- J. Detailed, scaled drawings of all infrastructure accurately showing spatial relation of all interconnecting piping, valves, and appurtenances
- K. Proposed structures and features shown on drawings shall have distinct labels and unique identifiers. For example, all pipes shall be clearly labeled as to service, material and size and all structures such as catch basins, manholes and fire hydrants shall possess a unique identifier (e.g., MH#22A, CB#01, FHA#35)
- L. Standard detail sheets showing all features included in the design. Details shall be consistent with the Town of Pittsboro specifications and shall be the Town of Pittsboro standard details unless approved by the Town. Standard details which do not apply to the project shall not be included
- M. Specification statements included in plans shall reference the Town of Pittsboro Standard Specifications and requirements

### **3. SUPPORTING SUBMITTAL DOCUMENTS**

- A. Supporting calculations for all applicable development, including complete storm drainage calculations provided in a separate booklet as required by the *Stormwater Management Administrative Manual*.
- B. Shop drawings shall be submitted for all piping, valves, mechanical and electrical equipment, wiring diagrams, castings, manholes and vaults, access hatches, water service appurtenances, etc. The proposed materials shall be specified on the Town Approved Materials list or as specified in the Town's Standard Specifications. Alternative materials must be reviewed and approved by the Town Engineering Director in accordance with the *Manufacturer and Product Approval Guidelines for Town of Pittsboro Infrastructure* prior to construction.
- C. If applicable, the Operations and Maintenance (O&M) Manual for all mechanical and electrical equipment shall be furnished to the Town. This does not include the copy normally shipped with the equipment. O&M Manuals shall be updated to include any changes or revisions made to the "Construction Submittals". Startup of mechanical equipment or pump stations will not take place until all O&M Manuals have been reviewed by the Town.
- D. **Potable Water Systems:** Designs for potable water system infrastructure shall meet the requirements of the NCDEQ Rules Governing Public Water Systems (15A NCAC 18C .0100 through .2100) along with

any superseding requirements of the Town of Pittsboro. *See Section 3 - Potable Water Distribution Systems* for complete public water minimum standards and specifications.

Design of water mains, booster pumps and water storage facilities shall consider build-out capacity and incorporate the long-term planning requirements of the Town of Pittsboro.

A review of water system modeling may be required to confirm that adequate pressure and flow exists for domestic water supply and fire flow. In such cases, modeling output shall be submitted to the Town of Pittsboro Engineering Department for review. The model will be subjected to rigorous review by the Town and shall thoroughly meet with the Town's full approval before project plans are developed. In addition, all required fire flow models shall be submitted to the Chatham County Fire Marshall for review and approval.

Water Extension Permit shall be submitted to the Town for review/signature prior to submittal to NCDEQ Division of Water Resources Public Water Supply Section, along with the Water Permit Processing Review fee.

- E. Sanitary Sewer Systems:** Designs for sanitary sewer infrastructure shall meet the requirements of the NCDEQ Administrative Code, Section 15A NCAC 2T .0200) along with any superseding requirements of the Town of Pittsboro. *See Section 4 – Sanitary Sewer Distribution Systems* for complete sewer minimum standards and specifications. Design of sanitary sewers, force mains and sewer lift stations shall consider build-out capacity and incorporate the long-term planning requirements of the Town of Pittsboro. The Engineer's calculations provided shall demonstrate that all design requirements have been considered.

At the point of discharge into downstream portions of the gravity collection system, the Owner/Developer shall perform a hydraulic evaluation to show that the receiving system has ample capacity to accept the discharge from the proposed pump station and force main.

Wastewater Collection Extension Permit shall be submitted to the Town for review/signature prior to submittal to NCDEQ Division of Water Resources, along with the Wastewater Permit Processing Review fee.

- F. Reclaimed Water Systems:** Designs for reclaimed water infrastructure shall meet the requirements of the NCDEQ Administrative Code, Section 15A NCAC 2U .0200 (RECLAIMED WATER) along with any superseding requirements of the Town of Pittsboro. *See Section 6 - Reclaimed Water Distribution Systems* for complete reclaimed water distribution system minimum standards and specifications.

Design of reclaimed water systems shall consider build-out capacity and incorporate the long-term planning requirements of the Town of Pittsboro. The Engineer's calculations shall demonstrate that all design requirements have been considered.

Reclaimed Water Collection Extension Permit shall be submitted to the Town for review/signature prior to submittal to NCDEQ Division of Water Resources, along with the Reclaimed Water Permit Processing Review fee.

## 1.02 PROJECT APPROVAL & CONSTRUCTION AUTHORIZATION

### 1. CHECKLIST FOR CONSTRUCTION DRAWING APPROVAL

Upon approval of Construction Drawings, construction will not be authorized without first receiving all required permits and authorizations to construct in accordance with the laws of the State of North Carolina and the Town of Pittsboro Unified Development Ordinance. These requirements may include, but are not limited to:

- A. NCDEQ Division of Water Resources - Wastewater Collection Extension Permit (sanitary sewer)
- B. NCDEQ Division of Water Resources Public Water Supply Section - Authorization to Construct (potable water)
- C. NCDEQ Division of Water Resources - Reclaimed Water Distribution Permit (reclaimed water)
- D. Chatham County Land Disturbance Permit
- E. NCDOT Driveway Permit and/or Encroachment Agreements
- F. Town of Pittsboro Stormwater Discharge Permit
- G. Town of Pittsboro Riparian Buffer Authorization Certificate (If applicable)
- H. Town of Pittsboro Floodplain Development Permit (If applicable)
- I. Inspection Fees for public infrastructure, including utility lines and taps, streets, etc.
- J. Projects with special conditions previously approved by the Town must be met
- K. Documentation received that any off-site easements associated with the project have been recorded

Project construction shall not be approved by the Town of Pittsboro until the Town has either provided or has been provided with copies of all applicable permit applications, permits, certifications and authorizations to construct. permits and certifications shall be maintained on site at all times during construction and be available for review upon request.

Certain projects may require meeting environmental regulations such as Sections 401 and 404 Water Quality Certifications for water impacts and FEMA Regulatory Floodplain authorization. The Owner/Developer shall be responsible for all design considerations and permits necessary to meet the requirements of such environmental regulations. The Town of Pittsboro will not be held responsible for permit conditions not met by the Owner and will not assume operation of any projects for which all required permitting concerns are not properly met.

If the Owner/Developer proceeds with construction prior to obtaining all required permits and authorizations, they shall be held liable for any and all resulting actions taken, including possible prosecution by the State, Chatham County or the Town of Pittsboro.

## **2. CONSTRUCTION AUTHORIZATION**

Once outstanding permits/fees have been obtained and the pre-construction meeting has been held, the Town will issue a letter confirming “Authorization to Construct”. Construction shall commence in accordance with standard specifications. Coordination with the Town Engineering Inspector will be required to comply with testing/inspection requirements.

## **1.03 PROJECT COMPLETION**

Prior to the Town of Pittsboro accepting a project as complete, all testing as outlined in the construction specifications and all mechanical equipment start up procedures shall be completed and approved by the Town of Pittsboro. All required materials shall be submitted to the Town of Pittsboro as follows:

### **1. TESTING**

The Owner/Developer shall submit all documents providing proof of testing for items including but not limited to geotechnical reports relating to roadway construction, concrete, water models, bacteriological testing of water mains, and CCTV and air testing of sanitary sewers. All infrastructure testing shall be completed prior to approval of as-built record drawings. See Standard Specifications for inspection and testing requirements.

### **2. ENGINEER’S CERTIFICATIONS**

At completion of construction the Owner/Developer shall furnish the Town with a copy of all required Engineer’s Certifications and associated documentation, including but not limited to the following:

- A. Engineer’s Certification documenting proper construction of the sanitary sewer systems, including pump stations
- B. Engineer’s Certification documenting proper construction of the potable water distribution systems
- C. Engineer’s Certification documenting proper construction of the reclaimed water distribution systems
- D. Other Engineer’s Certifications as may be required in the provisions of other permits such as Floodplain Development, Stormwater management, riparian buffers and 401/404 Water Quality certifications.

### **3. RECORD DRAWINGS**

The Owner/Developer shall submit surveyed Record Drawings of the project including any modifications made to the Approved Plans maintained at the construction site. Record Drawing submittals require the Record Drawing Review fee. Upon approval, the Town Engineering Director will issue a letter confirming approval. See the *Town of Pittsboro Record Drawings Checklist*.

Final surveyed Record Drawings submitted to the Town shall be prepared and sealed by a Professional Engineer or Professional Land Surveyor registered in the State of North Carolina. The owner will not be released from responsibility for the project and the Town of Pittsboro will not assume operation of the

facilities until approved Record Drawings are submitted and the additional requirements of final acceptance are met.

For projects applicable to Stormwater Discharge Permits, As-Built Record Drawings are required for the permitted Stormwater Control Measure once conversion has been completed. SCM Record Drawing submittals require the SCM Record Drawing Review fee. Upon approval, the Town Engineering Director/Stormwater Administrator will issue a letter confirming approval.

## **1.04 PUBLIC INFRASTRUCTURE ACCEPTANCE PROCESS**

All improvements intended for public maintenance are eligible for acceptance by the Town of Pittsboro following these procedures. Public infrastructure improvements (water, sewer, storm drainage, roadways, greenways, multi-use paths, sidewalks, landscaping) that are within the Town of Pittsboro public right of way or public easement and to be maintained by the Town of Pittsboro must adhere to the plan approval process in accordance with the Town Unified Ordinance and Standard Specifications. Installation of the improvements must be inspected and approved during the installation process by the Town inspector and by the design engineer (Engineer of Record) certifying construction.

Infrastructure improvements are eligible for acceptance following the procedures outlined below:

### **1. ONE (1) YEAR WARRANTY PERIOD**

- A.** After the installation of improvements in accordance with approved plans and Specifications, and upon approval of the Record Drawings (including utility certifications), the Owner/Developer shall contact the Town and request an inspection to start the One-Year Warranty Period.
- B.** Following an inspection, the Engineering Department will accept the improvements or respond with a punch list within fourteen (14) days of the request.
- C.** The Owner/Developer must complete all items indicated on the punch list and any additional items noted within 60 days or the punch list will be void. The Owner/Developer must then submit a request in writing to the Town for reinspection.
- D.** Upon the acceptable completion of all punch list items and payment of any outstanding fees the Owner/Developer will receive a letter from the Town that indicates the improvements are satisfactory to start the One-Year Warranty Period for the improvements.



- E. During the Warranty Period for pump stations, the Permittee develop and implement a routine pump station inspection and maintenance program which shall include the following maintenance activities:
- Cleaning and removing debris from the pump station structure, outside perimeter, and wet well
  - Inspecting and exercising all valves
  - Inspecting and lubricating pumps and other mechanical equipment
  - Verifying the proper operation of the alarms, telemetry system and auxiliary equipment
- F. During the Warranty Period for infrastructure other than pump stations, the Town will be responsible for routine maintenance. This includes mowing, vegetation and debris removal, and other operations classified as “routine maintenance”. The Owner/Developer will be responsible for repairs or replacement of infrastructure as a result of poor workmanship or material failures or defects for not less than one year.

## **2. FINAL ACCEPTANCE (END OF WARRANTY PERIOD)**

- A. No more than 30 days prior to expiration of the Warranty Period, The Owner/Developer shall request in writing a final inspection from the Town.
- B. Following an inspection, the Town Engineering Department will accept the improvements with the issuance of a “Letter of Final Acceptance” or provide a punch list within fourteen (14) days of the request.
- C. The Owner/Developer must complete all items indicated on the punch list and any additional items noted within sixty (60) days or the punch list will be void. The Owner/Developer must then submit a request in writing to the Town for reinspection.
- D. Upon the acceptable completion of all punch list items, the Owner/Developer will receive a “Letter of Final Acceptance” issued by the Town Engineering Director. Until final acceptance, all materials and workmanship are the responsibility of the Owner/Developer.

## **3. ACCEPTANCE OF DEDICATION OFFERS**

- A. Acceptance of formal offers of dedication of public areas, easements, infrastructure and right-of-way shall be approved by the Town Engineering Director in the “Letter of Final Acceptance” upon acceptable completion of the final inspection. The approval by the Town Board of a subdivision plat shall not be deemed to constitute or imply the acceptance by the Town of any easements/ right of way shown on said plat. All applicable approvals and outstanding fees must be obtained prior to the issuance of the “Letter of Final Acceptance” for dedication offers.
- B. Public street lighting within dedicated Town of Pittsboro right-of-way or dedicated street light easement shall be accepted by the Town at the time the public right-of-way dedication is accepted by the “Letter of Final Acceptance”. For NCDOT streets, the Town will accept public street lighting upon Final Acceptance by NCDOT provided in writing by the District Engineer.

- C. The Town will begin all inspection and maintenance as of the date of the “Letter of Final Acceptance”. Until this letter has been issued, all materials and workmanship repairs are the responsibility of the Owner/Developer regardless of the amount of time that has passed.
- D. Public greenways and multi-use paths with boardwalks, retaining walls, etc. may be accepted along with other infrastructure within a project/phase, or separately once the trail connection has been completed across multiple project phases, whichever is advantageous to the Town and progress of the project.

## **1.05 INSPECTION REQUIREMENTS**

### **1. START OF WARRANTY**

#### **A. Streets, Curbs, Greenways and Sidewalks**

- The first lift of asphalt must be installed prior to the request for the Warranty Period inspection.
- Cracked curbs and sidewalk (with cracks larger than ¼”) will be evaluated for trip hazards and determined if the crack could create further damage to the infrastructure. Such cracks shall be corrected as directed by the Town inspector prior to warranty acceptance.
- Cracked curbs and sidewalk deemed as non-hazardous may be replaced at the end of the Warranty Period prior to Final Acceptance, as directed by the Town inspector.
- Greenway shoulders shall have adequate drainage and be stabilized with permanent vegetation within the public easement prior to warranty acceptance unless otherwise directed by the Town inspector.

#### **B. Hydrant and Valve Inspection**

- All tracer wire shall be tested by the contractor during this inspection.
- All valves and hydrants will be visually inspected and exercised during this inspection. All valves shall be open and readily accessible prior to inspection. Extenders shall be installed on valves with depths greater than 5 feet with centering rings.
- If valves are not open and readily accessible at the time of inspection, the contractor may be required to reschedule the inspection to a time when this can be achieved.
- Manholes shall have grouted inverts and grout around rings. Manhole shall be free of debris and be covered with a lid displaying the Town logo as specified in the Standard Specifications.

#### **C. Third Party CCTV Gravity Sanitary Sewer**

- As a final measure required for acceptance, the contractor shall clean and televise all newly installed sewer mains prior to acceptance by the Town. The first lift of asphalt must be down before the CCTV inspection is requested. All sewer tests must be completed and mainline and service laterals cleared prior to inspection.

#### **D. Bridges and Other Structures**

- Inspection of construction work and materials testing shall be performed by a developer hired NCDOT-prequalified inspector/inspection firm (not the designer firm) with written documentation provided to the Town.
- Developer's engineer of record certification that construction has been completed in substantial compliance with the approved plans and specifications with supporting record drawings; and that construction inspection documentation is complete and NCDOT standards have been met.

## **2. FINAL ACCEPTANCE**

### **A. Streets, Curbs, Greenways and Sidewalks**

- The final lift of asphalt must be installed prior to the request for the inspection for Final Acceptance.
- All repairs to streets, curb and sidewalk shall be completed prior to Final Acceptance.
- Greenway shoulders shall have adequate drainage and established permanent vegetation within the public easement prior to Final Acceptance.

### **B. Hydrant and Valve Inspection**

- All valve boxes, sanitary sewer manholes and storm drain junction boxes must be adjusted flushed with the riding surface.
- All valves and hydrants will be visually inspected and exercised during this inspection. All valves shall be open and readily accessible prior to inspection. Extenders shall be installed on valves with depths greater than 5 feet with centering rings.
- If valves are not open and readily accessible at the time of inspection, the contractor may be required to reschedule the inspection to a time when this can be achieved.

## **1.06 METHODS OF ASSURANCE FOR COMPLETION OF IMPROVEMENTS**

### **1. PERFORMANCE BONDS**

When seventy-five (75%) percent of the total cost of improvements have been completed and when the public health and/or safety will not be endangered, the Town may waive the requirement that the Owner/Developer complete all public improvements prior to the signing of the subdivision plat, and that, as an alternative, the Owner/Developer shall post a performance bond, including labor and material cost, at the time of application for final subdivision approval. Other methods of assurance for completion and maintenance of improvements may be considered by the Town. The methods which may be considered for acceptance are cashier's check, certified check, money in escrow, and irrevocable letter of credit. The terms of these alternatives shall be satisfactory to the Town Attorney and Town Manager. The amount of the bond or alternative assurances shall not be less one hundred twenty five percent (125%) of the reasonable estimated cost of completion of the improvements at the time the bond is issued. The cost estimate shall be provided by a registered professional architect or engineer licensed in the State of North Carolina.

All required improvements shall be made by the Owner/Developer, at owner's expense, without reimbursement by the Town of Pittsboro. The performance bond shall be in the amount of the approved written estimate.

## **2. FAILURE TO COMPLETE IMPROVEMENT**

In those cases, where a performance bond has been posted and required improvements have not been installed within the terms of such performance bond, the Town there upon shall declare the bond to be default and require that all the improvements be installed regardless of the extent of the building development at the time the bond is declared to be in default. The Town may take such actions necessary to collect on the defaulted bond or other form of security and provide for the completion of the required improvements.

## **3. RELEASE OR REDUCTION OF PERFORMANCE BOND**

- A. Release of Performance Bond:** The Town of Pittsboro will not accept dedication of required improvements, nor the release of a performance bond, until the Town has issued a "Letter of Final Acceptance" stating that all required improvements have been satisfactorily completed.
  
- B. Reduction of Performance Bond:** A performance bond may be reduced upon actual completion of public improvements and then only to the ratio that the public improvements completed bears to the total public improvements for the project. In no event shall a performance bond be reduced below twenty-five percent (25%) of the principle amount. The performance bond shall not be reduced below the cost to install the final lift of asphalt. The reduction shall reflect the amount of the approved written estimate provided by the Engineer of Record and must be approved by the Town Engineering Director.

## **4. DEFERRAL OR WAIVER OF REQUIRED IMPROVEMENTS**

- A. Conditions:** The Town of Pittsboro may defer or waive at the time of final approval, subject to appropriate conditions, the provision of any or all such improvements as, in its judgement, are not requisite in the interests of the public health, safety, and general welfare, or which are inappropriate because of inadequacy or lack of connecting facilities.
  
- B. Payment in Lieu of Improvements:** Whenever it is deemed necessary by the Town of Pittsboro to defer the construction of any improvement required herein because of incompatible grades, future planning, inadequate or lack of connecting facilities, or for other reasons, the Owner/Developer may be required to pay his share of the costs of the future improvements to the Town prior to signing of the final subdivision plat, or the Owner/Developer may post a bond insuring completion of said improvements upon demand of the Town.

**END OF SECTION 1.**