

02010 GENERAL

All construction shall conform to the plans, Specifications, and Code. Designs of streets, water systems, sanitary sewer systems, storm drainage systems, and grading plans shall be signed and sealed by a licensed NCPE, PLS, Architect or Landscape Architect in accordance with N.C. General Statute 89.

02015 QUALITY OF WORK

Safe work condition shall be maintained at all times on actively used public infrastructure. The Town of Cary reserves the right to correct safety problems and charge the contractor or responsible party that obtained the permit.

02016 PRECONSTRUCTION CONFERENCE

All Contractors performing work on or installing new public infrastructure shall contact the Engineering Department to set up a Preconstruction Conference prior to beginning any construction activities.

02020 QUALITY OF MATERIALS

It is the intent of this specification to provide materials which are of the highest quality and free from defects. Materials not specified herein may be used upon written approval by the Town Engineer.

02025 SUBMITTALS

All Contractors performing work on or installing new public infrastructure shall first submit three (3) copies of submittals/shop drawings to the Engineering Department for all construction materials. The Contractor shall thoroughly check all submittals for accuracy and conformance to the intent of the specifications, and make any necessary changes, prior to submitting them to the Engineer. All submittals/shop drawings shall bear the Contractor's certification stating that they have been so checked. This certification shall include the following statement: "By this Submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers, and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all contract requirements." **SUBMITTALS WITHOUT THE CONTRACTOR'S CERTIFICATION WILL BE RETURNED TO THE CONTRACTOR WITHOUT REVIEW.**

No material shall be ordered, fabricated or shipped or any work performed until the Town receives the appropriate submittal/shop drawing.

Where manufacturer's publications in the form of catalogs, brochures, illustrations or other data sheets are submitted, items for which approval is requested shall be specifically indicated. Submittals showing only general information shall not be acceptable.

02030 INSPECTIONS

The Contractor shall provide the necessary manpower and equipment required for inspections. The presence of the Engineer or Inspector at the work site shall in no way lessen the Contractor's responsibility for conforming to the plans and specifications. Should the Engineer or Inspector accept materials, or work that does not conform with plans and specifications, whether from lack of discovery or for any other reason, it shall in no way prevent later rejection of, or corrections to, the unsatisfactory materials or work when discovered. The Contractor shall have no claim for losses suffered due to any necessary removals or repairs resulting from the unsatisfactory work. Any work which has been covered without the Inspector's approval, shall, at the Inspector's request, be uncovered and be made available for inspection at the Contractor's expense. Work performed before or after Town staff's normal work hours or during the weekend or Town Holidays shall comply with the Code and shall include only such tasks that do not require observation by an Inspector.

02040 CLEARING AND GRUBBING

The work of clearing and grubbing consists of the cutting, removal, and satisfactory disposal of all vegetation and surface debris. Clearing and grubbing shall be conducted in a manner to prevent damage to adjacent property and vegetation that is intended to remain growing.

02050 EARTHWORK

Earthwork consists of the removal of earth from its natural location or the depositing of such material into the proper fill areas as designated on the plans.

Fill material shall be free from construction material, debris, frozen material, organic matter or unstable material. Fill material shall weigh a minimum of 100 pounds per cubic foot, and be free of stones greater than 4 inches.

The top twelve (12) inches of subbase under a proposed roadway, and the entire base course, shall be compacted to a density of 100 PERCENT maximum Standard Proctor dry density as determined by AASHTO method T99. For that portion of fill under roadways and extending at a slope of 1 to 1 beyond the back of curb, and for areas under proposed sidewalks, compact to a density of NO LESS THAN 95 PERCENT of the maximum Standard Proctor dry density as determined by AASHTO method T99. Fill material shall be placed in lifts of 8 inches or less of uncompacted soil.

Other fill material shall be compacted to a density of NO LESS THAN 90 PERCENT of the maximum Standard Proctor dry density as determined by AASHTO method T99. Backfill material shall be placed in lifts of 12 inches or less of uncompacted soil.

In areas where landscaping and vegetation is proposed, within the median or behind the back of curb, the top 12" shall be prepared to support installation and growth of landscaping and vegetation.

02060 MAINTENANCE OF TRAFFIC

A. GENERAL

When construction occurs in a traffic zone, traffic control devices must be erected, maintained, relocated, and removed in accordance with the plans, specifications, NCDOT Supplement to the MUTCD, or MUTCD. This requirement shall apply for all construction occurring on public streets, including installation and rehabilitation by landscaping contractors, and construction or repairs by utility companies.

B. MATERIALS

Materials used in the fabrication and installation of construction traffic control devices shall be in accordance with the MUTCD.

All enclosed lens (Engineers Grade) sheeting required for use on traffic control devices shall have an identification mark on the surface. This mark signifies that the sheeting meets the requirements of Federal Specification L-S-300C for Minimum Reflectivity 1 Sheeting and Tape. The identification mark shall not interfere with the function of the device, but shall be visible in both daylight and under illumination without the use of special devices.

C. INSTALLATION AND MAINTENANCE

Existing public streets or highways shall be kept open to traffic at all times unless permission to close the street, or portions thereof, is granted by the Town Engineer. The Town Communications Division of the Police Department must be contacted BY THE CONTRACTOR A MINIMUM OF 24 HOURS before any streets are closed or partially closed.

Work on any project shall not start until all traffic control devices required for the particular work activity are properly installed.

Traffic control devices shall be properly maintained, relocated as necessary, cleaned and operated during the time they are in use. During periods when use of the devices is not warranted, they shall be removed from the work area, covered, or otherwise positioned so that they do not convey their message to the traveling public.

Weeds, brush, trees, construction materials, equipment, etc. shall not be allowed to obscure any traffic control device in use.

Competent and properly trained, attired and equipped flaggers using "stop" and "slow" paddles shall be provided when two-way traffic cannot be maintained.

The Contractor shall assume full responsibility for the continuous and expeditious maintenance or replacement of all construction warning signs, barricades, and other traffic control devices. The Contractor shall continuously review and maintain all traffic control measures to assure that adequate provisions have been made for the safety of the public and workers. Failure to maintain all traffic control devices in a satisfactory condition shall be cause for suspension of construction operations until proper traffic control is re-established.

02070 CONCRETE

Concrete shall be only plant-mixed or transit-mixed concrete conforming to ASTM C33 for aggregates and to ASTM C94 for ready-mixed concrete. Any concrete poured that has a slump over 4 inches per ASTM C143, or has a batched time of more than 90 minutes, will be considered unacceptable. Concrete shall not be deposited on frozen subgrade. Concrete shall not be poured when the air temperature is falling below 40°F, and the predicted low temperature for the succeeding 24 hour period is less than 32°F.

All concrete when placed in the forms shall have a temperature of between 50 and 90°F and shall be maintained at a temperature of not less than 50°F for at least 72 hours for normal concrete and 24 hours for high early strength concrete, or for as much time as is necessary to secure proper rate of curing and designed compressive strength.

Concrete shall be air entrained with 5-7% air. Retarders and accelerators shall be used only as directed by the Town Engineer.

02080 PERMITS

A. TOWN PERMITS

- 1) Environmental Permit - An Environmental Permit is required whenever the denuded area on a project is to be 12,000 square feet or greater. An Environmental Permit must be issued prior to any grading or site work. This permit is obtained from the Engineering Department for a fee.
- 2) Work Permit - It is unlawful in any residentially zoned area of Town or within three hundred (300) feet of any occupied residential structure in all zoning districts of the Town to perform construction work or operate construction machinery other than between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday, and between the hours of 8:00 a.m. and 6:00 p.m. on Saturdays or holidays, except in the case of urgent necessity in the interest of public health and safety, and then only with a permit good for seven (7) days. This permit is issued by the Inspections and Permits Department in accordance with Section 13-14(a)(2) of the Code. The permit application shall designate an individual person or persons in control of the construction who shall be responsible for seeing that the activity complies with the terms of the permit.
- 3) Driveway Permit - A Town of Cary Driveway permit is required for all new driveway construction on Town maintained streets. When a building permit is obtained simultaneously the drive shall be indicated on the plot plan. When no building permit is being obtained additional information may be required as part of the permit process. This permit is obtained from the Inspections and Permits Department for a fee.

- 4) Burning Permit - A Burning Permit shall be obtained a minimum of 24 hours prior to any burning. This permit may be obtained from the Fire Department for a fee. Only air curtain burning is allowable. Certificate of Liability Insurance is required.
- 5) Blasting Permit - A Blasting Permit is required any time there is to be transportation, use or storage of explosive materials. This permit is required a minimum of 24 hours in advance of any explosive material or blasting agents being transported into the Corporate Limits of the Town and can be obtained from the Fire Department for a fee. Certificate of Liability Insurance required.
- 6) Town of Cary Encroachment Agreement - An Encroachment Agreement shall be obtained from the Engineering Department for any work proposed within the right of way of Town maintained streets or Town owned easements such as but not limited to water line easements, sanitary sewer line easements, greenway easements and sight distance easements.
- 7) Street Cut Permits/ Sidewalk Cut Permits - All street cut permits and sidewalk cut permits shall be obtained from the Inspections and Permits Department. All work shall be in conformance with Town Specifications. A fee will be charged for these permits. Work shall be inspected by the Town of Cary Engineering Department.
- 8) Sanitary Sewer System Extension - A Gravity Sewer Extension Permit shall be obtained from the Engineering Department. Any extension of the public sanitary sewer requires a Gravity Sewer Extension Permit. The application for the permit should be submitted to the Town after final plan approval. The P.E.'s certification that the project was constructed in accordance with the approved plans must be received by the Development Inspector prior to the sanitary sewer system being placed in service. There is a fee for this permit.

Regional and private pump stations and force mains require approval by DENR.

- 9) Water System Extension - A Water System Extension Permit shall be obtained from the Engineering Department for any extension of the public water system. The

application for the permit should be submitted to the Town after final plan approval. The P.E.'s certification that the project was constructed in accordance with the approved plans must be received by the Development Inspector prior to the water system being placed in service. There is a fee for this permit.

B. NCDOT PERMITS

It is the responsibility of the Owner/Developer to obtain NCDOT permits.

1) Encroachment Agreement - Any project which will encroach NCDOT right of way requires an encroachment agreement. All encroachment submittals must be submitted to NCDOT and be accompanied by five (5) sets of plans and five (5) copies of the agreement. Fee schedules and encroachment forms are available from the NCDOT.

a) For the installation of utilities or landscaping, a 3-party agreement between the developer, the Town and NCDOT is required. These permits are to be completed and turned into the Engineering Department for signature and shall be submitted to NCDOT by the applicant.

b) For roadway widening, sidewalk installation, curb and gutter, and storm drainage, a 2-party agreement between the developer and NCDOT is required. The fee is determined by NCDOT.

2) Driveway Permit - Any project which requires a new access to an NCDOT roadway requires a driveway permit. These permits are to be completed and turned into the Engineering Department for signature and shall be submitted to NCDOT by the applicant. All submittals must be accompanied by five (5) sets of plans and five (5) copies of the permit. The fee is determined by the NCDOT.

02090 ACCEPTANCE PROCEDURES

All improvements intended for public maintenance are eligible for acceptance by the Town following the procedures outlined below:

A. WARRANTY PERIOD

- After the installation of improvements in accordance with approved plans and Specifications, the Owner/Developer shall contact the Engineering Department and request an inspection.
- The Engineering Department will accept the improvements or respond with a punch list within 30 days of the request.
- 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 request another inspection.
- Upon the acceptable completion of all punch list items and payment of any outstanding fees, the Owner/Developer will receive an acceptance letter from the Town. This acceptance begins a warranty for materials and workmanship for not less than one year from the date of acceptance. The warranty will be to the Town from the Owner/Developer. The Town will perform routine maintenance during the warranty period; however, until a letter of final acceptance has been issued, all defects in materials and/or workmanship are the responsibility of the Owner/Developer.

B. FINAL ACCEPTANCE

- No more than 30 days prior to expiration of the warranty period, the Owner/Developer shall request a final inspection from Engineering Department.
- The Engineering Department will respond with final acceptance or a punch list within 30 days of the request.
- 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 request another final inspection.
- Upon the acceptable completion of all punch list items, the Owner/Developer will receive a letter of acceptance from the Engineering Department. The Town will begin total maintenance as of the date of the final acceptance letter. Until a letter of final acceptance has been issued, all materials and workmanship are the responsibility of the Owner/Developer.

02100 ENCROACHMENTS WITHIN TOWN UTILITY EASEMENTS

No part of any structure, pavement, permanent equipment, private utility line (including water, irrigation, and sewer lines) or impoundment may be placed, and no grading may occur within any Town of Cary easement prior to either obtaining full site plan approval or obtaining an encroachment agreement from the Engineering Department. An encroachment agreement may allow fences to cross easements provided that appropriate access gates have been installed to allow maintenance. Any application for an encroachment agreement must include plans to facilitate access and maintenance of the utility, and must include any documentation which the Town needs to determine that no damage will occur to the utility. The Town of Cary will not be held liable for damage to any encroachment during the maintenance of the utility.

Ground covers or grasses may be planted within the center 20 feet of an easement. Small trees (under 30 feet in height at maturity) and shrubs may be planted a minimum of 10 feet from the centerline of the closest pipe within the easement or 10 feet from the center of the easement, whichever is greater. Large trees shall not be placed within any Town utility easement.

A reasonable effort shall be expended to avoid the damage or destruction of plantings within an easement during the course of servicing. In the event that plantings are damaged or destroyed during servicing, the Town will not be liable for the damage or destruction of plantings. The Town will reseed as necessary for erosion control.

02110 CONTRACTOR LICENSE REQUIREMENTS

Contractors performing construction involving the Town utility street systems shall be licensed to practice general contracting in the State of North Carolina and have procured a Town of Cary Privilege License. Contractors shall only perform construction within the limitations of their State license.

02120 RETAINING WALLS

Retaining walls higher than 4 feet shall be designed by either a licensed NCPE or Architect in accordance with N.C. General Statute 89C and be required to obtain a building permit in accordance with the Town of Cary Land Development Ordinance. The design shall be submitted to the Planning Department for approval prior to construction, and a building permit may be required from the Inspections and Permits Department as well. Safety rails or fencing may also be required. Retaining walls, including supports, foundations, reinforcement, and any other wall appurtenances are not allowed within Town of Cary right-of-way or easements.

02130 OSHA STANDARDS

Contractors and their employees must comply with OSHA standards.

02140 SAFETY AND HEALTH HAZARDS

The operations of any Contractor shall not expose Town employees to any hazardous chemicals or other occupational safety and health hazards. All contractors working on Town projects or on Town property shall comply with OSHA standards concerning the handling and storage of hazardous chemicals, specifically, the visible display of warning and information placards for use by emergency services. The contractor shall also advise the Town of the appropriate control measures to be used by the Town employees to prevent exposure and to minimize risk of exposure.

END OF SECTION 02000