

SECTION 2000
GENERAL PROVISIONS
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2010 GENERAL

Construction and associated landscaping of (1) Cary projects by contractors hired by Cary; (2) infrastructure, including but not limited to streets, greenways, and utilities, to be dedicated to or maintained by Cary or another governmental entity; (3) private streets that are open to the public; and (4) private greenway connections to public greenways shall conform to the Specifications and Code. Designs of streets, utility 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 Chapters 83A, 89A, and 89C.

All construction shall comply with all relevant provisions of the Code, including but not limited to Sections 22-102 – 22-112 (“Noise”) and Section 36-1 (“Tampering with water or sewer systems--Protection of systems on certain days”), as they may be amended from time to time. Section 36-1 prohibits performing “any excavation or other work adjacent to or near” Cary’s water or sewer system (including reclaimed water system) or the making “of any street or other repairs which might endanger said water or sewer system on any legal holidays of Cary or on Saturdays or Sundays without prior written permission of the town manager.”

Cary recognizes that there may be limited circumstances in which strict adherence to the Specifications is not feasible or desirable. Upon written request for a modification, the applicable Director, or their assigns, with expertise and holding any required certifications or licenses in the respective subject area, may approve construction drawings which do not conform to the technical standards, technical specifications, or numerical values set forth in the Specifications; provided, however, such approval of modifications may be granted only if the requested modification (i) will not adversely impact public safety or Cary infrastructure, and (ii) will maintain the intent and purpose of the Specifications. A request for modification must be made by formal written request to the Director of the appropriate department with supporting information that justifies the modification.

The person requesting the modification may appeal from the decision of the Director, or their assigns, as provided in Section 1-14 of the Code. Approval of a modification request does not constitute Cary assurance that the requested modification is sufficient or appropriate.

2015 QUALITY OF WORK

Safe working conditions shall be maintained at all times on actively used public infrastructure. Cary reserves the right to correct safety problems and charge the Contractor or responsible party that obtained the permit.

2016 PRECONSTRUCTION CONFERENCE

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

2020 QUALITY OF MATERIALS

Materials shall be of the highest quality and free from defects. Materials not specified herein may be used upon written approval by Cary.

2025 SUBMITTALS

All Contractors performing work on or installing new public infrastructure shall submit one (1) electronic copy of engineer & contractor reviewed and stamped (see below) submittals /shop drawings to Infrastructure Field Services for record purposes. Any substitutions of material not meeting requirement or not on the approved products list shall be clearly marked and require Cary approval. 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 Cary. 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 Cary 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.

2030 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 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 Cary staff's normal work hours or during the weekend or Cary Holidays shall comply with the Code and shall include only such tasks that do not require observation by an Inspector.

2040 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.

2050 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 sub-base 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. Owner shall provide geotechnical testing/verification of all subgrade evaluations / proof rolls, fill areas and trench backfill. Testing personnel shall be required on site during all subgrade evaluations, proof rolls, fill and backfilling operations. Copies of all test reports shall be provided to Cary prior to acceptance of the public infrastructure.

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.

2060 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.

During construction activities and incomplete projects, temporary measures will be required to provide and maintain pedestrian accessibility. If a development project requires the removal of existing sidewalk or prevents access to existing sidewalks, as part of the development plan, a pedestrian traffic control plan shall be required to be designed to address the safe re-routing and detouring of pedestrians around the development site.

B. MATERIALS

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

All enclosed lens (Engineer's 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 Cary. Cary's Infrastructure Field Technician assigned to project must be contacted BY THE CONTRACTOR A MINIMUM OF 24 HOURS before any streets are closed or partially closed or any Maintenance of Traffic related work in order to coordinate applicable Traffic Alert notifications through Cary.

The 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.

2070 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 Cary.

2080 PERMITS

A. CARY 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.
- 2) Driveway Permit - A Cary and/or NCDOT Driveway permit is required for all new driveway construction on public streets. See Section 3055 for more information.
- 3) Burning Permit – An Open Burning Permit shall be obtained from the Inspections & Permits Department prior to burning. A site inspection is required, and all open burning shall comply with all local and state requirements.
- 4) Blasting Permit - A Blasting Permit is required for the manufacture, storage, handling, sale, transportation or use of any quantity of explosives or 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 Cary. A preliminary site inspection must be completed before the permit will issue, and proof of liability insurance is required. When a blasting permit is obtained from another jurisdiction for work to be done (i) adjacent to Cary corporate limits; (ii) adjacent to any Cary-owned property, including Cary water, sewer or reclaimed infrastructure and easement interests; or (iii) within or upon any Cary-owned property, including easement interests, the permit holder shall notify the Inspections and Permits Department a minimum of 5 days in advance of any use of blasting materials. Notification shall include a copy of the approved blasting permit from the appropriate jurisdiction. Fireworks or pyrotechnic special effects permits shall be obtained from the Wake County Fire Marshal's Office.
 - a. Cary Blasting Permit
 1. Provide a copy of the Certificate of Liability Insurance naming the Town of Cary as additional insured. (Section VII below)

2. A legible sketch of the blast site showing measured distances to adjacent buildings, streets, utilities, wells, and other facilities.
 3. A blasting plan to include a description of the proposed blasting procedures, an estimate of the total number of cubic yards of material to be removed by blasting, an estimate of the number of blasts to be detonated, the quantity and type of explosives to be used, the maximum amount of explosives per delay, the maximum number of holes per delay, and the proposed placement of seismographs. (Delay shall mean a period of eight milliseconds or greater.)
 4. A safety plan to include general safety measures, blasting procedures, explosives storage, traffic control, barricading, warning signs and signals, and an adverse weather operation plan.
 5. The proposed hours during which the blasting operations will be conducted.
 6. Any other studies or information deemed necessary by the Fire Marshal, which may include, but is not limited to:
 - A. A pre-blast assessment, prepared by a geotechnical engineer or other blasting professional, which would assess the potential for damage to adjacent structures and facilities.
 - B. A pre-blast inspection of all structures and facilities located within 500 feet of the proposed blast location. As part of the inspection, the structures and facilities would be videotaped and/or digitally photographed to document any pre-existing damage so that any claims for post-blast damages could be compared to the pre-blast inspection report. A complete pre-blast report shall be submitted with this documentation for a permit.
 - C. Hydrological study, Geological Study, Test Wells
 - D. Provide NC 811 Locate ticket if requested.
www.nc811.org
- b. Any blasting permit may be revoked for (1) failure to comply with the provisions of the State and local codes; (2) failure to comply with any of the provisions of the Cary Blasting permit; or (3) for any other cause if the Fire Marshal determines that the continuance of the permit is not consistent with the provisions of the Code or applicable National Fire Protection Association (NFPA) standard.
 - c. Before a permit is issued, the Applicant must file with the jurisdiction a corporate surety bond in the principal sum of \$1,000,000 or a public liability insurance policy for the same amount, for the purpose of the payment of all damages to persons or property which arise from, or are caused by, the

conduct of any act authorized by the permit upon which any judicial judgment results. The fire code official is authorized to specify a greater or lesser amount when, in his or her opinion, conditions at the location of use indicate a greater or lesser amount is required. Government entities shall be exempt from this bond requirement. The insurance policy shall state, "For blasting operations". The policy shall name the Town of Cary and any Sub-Contractors as an additional insured.

- d. Blasting operations shall be conducted only by approved, competent operators familiar with the required safety precautions and the hazards involved and in accordance with the provisions of NFPA 495.

This permit shall not be transferable whether by operation of law or otherwise, either from one location to another or from one person to another.

- e. All blasting operations shall be covered in such manner as to prevent fragments of rock, gravel, earth, trees, or other substances or materials from being thrown against or upon lots, buildings, utility lines, or any street or highway.
- f. Whenever blasting is being conducted in the vicinity of gas, electric, fire alarm, telephone, telegraph, or steam utilities, the blaster shall notify the appropriate representative of such utilities at least 24 hours in advance of blasting specifying the location and intended time of such blasting.
- g. Whenever blasting is being conducted in the vicinity of potable water, reclaimed water, gravity sewer or pressure sewer, whether in Cary or Morrisville, the blaster shall notify Cary Director of Utilities at least 5 days in advance of blasting specifying the location and intended time of such blasting. The charge shall not be placed any closer than 50-ft to any Cary owned utility and the vibration shall be limited to 2 in/sec.
- h. Hours of detonation shall be limited to daylight hours, no earlier than 8:00 a.m. or later than 5:00 p.m., Monday through Friday, except by special exception specifically authorized by the Fire Marshal. Blasting shall also be prohibited on all Cary, State and Federal holidays.
- i. During the time that holes are being loaded or are loaded with explosive materials, blasting agents or detonators, only authorized persons engaged in drilling and loading operations or otherwise authorized to enter the site shall be allowed at the blast site. The blast site shall be guarded or barricaded and posted. Blast site security shall be maintained until after the post-blast inspection has been completed.
- j. Water is a precious resource and measures shall be taken to protect ground water quality as found in the nearest well within 500 feet of the blasting location. Post blast testing shall be done

no sooner than 24 hours or no later than 48 hours following a blast. Turbidity in wells tested shall be no greater than that which existed prior to the blasting as established in the pre-blast assessment.

- k. Any person detonating explosives shall first notify Cary Emergency Communications Center at 311 or (919) 469-4000 that a blast is planned. Such notification shall be received at least twenty-four (24) hours prior to the planned detonation and shall give the time (within 30 minutes) of the planned detonation and the location where the blasting is to be done. The person detonating the explosives shall give an equivalent notice to each property owner that is located within 500 feet of the proposed blasting location.
 - l. Persons responsible for blasting operations shall maintain a record of each blast. All original blasting records shall be retained by the persons responsible for the blasting operations for at least five years following the cessation of the blasting operations and shall be available for inspection by the Fire Marshal upon request.
- 5) Cary Encroachment Agreement - An Encroachment Agreement is required for any work proposed within the right of way of Cary maintained streets, within any Cary property, or within Cary easements such as but not limited to utility and pipeline easements for utility systems, utility and street light easements, greenway easements, and sight distance easements. Right-of-way encroachments are further defined in section 3040 H.
- 6) Utility System Extension - Cary has the delegated authority to issue extension permits for public water mains, reclaimed water mains, sanitary sewer mains and public pump stations and force mains which do not require an Environmental Assessment. An extension permit is required for any extension of Cary's utility system. The application for the permit should be submitted to Cary during the development plan review process, upon request by the reviewing engineer. Permits will be issued when utility design has been reviewed and deemed acceptable in general. The permit data must be added to the permit block on the development plan cover.

The Professional Engineer's Certification that the project was constructed in accordance with the approved plans must be submitted as part of the record drawing submittal process.

Private water and sewer extensions, large public, and all private pump stations and force mains require approval by NCDEQ.

B. NCDOT PERMITS

2010-10

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

- 1) Encroachment Agreement - Any project which will encroach on 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, Cary and NCDOT is required. These forms are to be completed by the applicant and turned in to the reviewing engineer in the Utilities Department for Cary signature. The signed 3-party agreement 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 Transportation 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.

2090 ACCEPTANCE PROCEDURES

All improvements intended to be dedicated to and maintained by Cary or another public entity are eligible for acceptance following the procedures outlined below:

A. CORRECTIONS PERIOD

- After the installation of improvements in accordance with approved plans and Specifications, the Owner/Developer shall contact the Infrastructure Field Services and request an inspection.
- The Infrastructure Field Services will respond with a punch list.
- 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, payment of any outstanding fees, and submittal of a complete record drawing set in accordance with Section 10000, the Owner/Developer will receive a letter from Cary that indicates the corrections period for the improvements has started. During the corrections period, 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. Cary may perform routine maintenance during the corrections period only for infrastructure that is to be ultimately maintained by Cary.

B. FINAL ACCEPTANCE

- No more than 30 days prior to expiration of the Corrections Period, the Owner/Developer shall request a final inspection from Infrastructure Field Services.
- The Infrastructure Field Services will respond with acceptance, Certificate of Completion or a punch list.
- 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 Certificate of Completion from Cary. Final acceptance of Cary-maintained improvements occurs when the Certificate of Completion is issued. Until final acceptance, all materials and workmanship are the responsibility of the Owner/Developer.

2100 ENCROACHMENTS WITHIN CARY UTILITY EASEMENTS

No part of any structure, permanent equipment, private utility line (including water, irrigation, and sewer lines) or impoundment may be placed, and no grading may occur within any Cary easement, prior to obtaining full site plan approval, a building permit, or an encroachment agreement from the Utilities, and/or Public Works Department(s). Duke Energy Street Lights located in a “Cary Utility and Street Light Easement” are exempt from the above requirements.

Any application for an encroachment agreement must include plans to facilitate access and maintenance of the utility and must include any documentation which Cary needs to determine that no damage will occur to the utility. An encroachment agreement may allow

fences to cross easements provided that appropriate access gates have been installed to allow maintenance. No more than a 3-ft encroachment will be granted for fences or plantings paralleling a utility. Ground covers or grasses may be planted within the easement. No trees or shrubbery of any size shall be placed within 5-ft of any manhole or within any Cary easement because of the need for access and to prevent line damage that tree and shrub roots can cause.

Any improvements installed within a Cary easement are subject to disturbance or damage during Cary's use of the easement and may be removed by Cary and not replaced (does not apply to Duke Energy street lights located in a "Cary Utility and Street Light Easement"). Cary will not be held liable for damage to any encroachment during the maintenance of the Cary facility or structure.

2110 CONTRACTOR LICENSE REQUIREMENTS

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

2120 RETAINING WALLS

Retaining walls providing vertical relief greater than 5 feet in height, within a horizontal distance of 50 feet or less, shall be designed by either a licensed NC Professional Engineer or Architect in accordance with N.C. General Statute 89C. Retaining walls less than 5 feet in cumulative vertical relief and supporting a structure located closer than the vertical relief shall also meet the same design criteria. Both structure types will be required to obtain a building permit in accordance with the 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 Cary right-of-way or easements.

2130 OSHA STANDARDS

Contractors and their employees must comply with OSHA standards.

2140 SAFETY AND HEALTH HAZARDS

The operations of any Contractor shall not expose Cary employees to any hazardous chemicals or other occupational safety and health hazards. All contractors working on Cary projects or on Cary 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 Cary of the appropriate control measures to be used by Cary employees to prevent exposure and to minimize risk of exposure.

END OF SECTION 2000