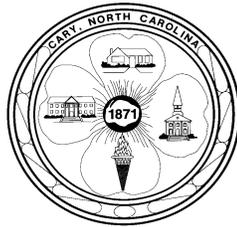


# TOWN *of* CARY

## ***INSPECTIONS & PERMITS DEPARTMENT***



## **COMMERCIAL PROJECTS PLAN SUBMITTAL GUIDE 2017**

## OVERVIEW

The following guide applies to commercial plans submitted for permitting. These are minimum guidelines only. The information requested may not be sufficient to obtain a permit or construct the building. However, due to the project scope and complexity, professional judgment must be exercised to reflect sufficient documentation necessary for plan approval and permitting. Incomplete plans may not be accepted for review.

Plans are currently reviewed using the 2012 Edition of the North Carolina State Building Code, which is modeled after the International Building Code. Plan review personnel may provide some general guidance but they cannot provide you with specific design solutions.

The [NC State Building Codes](#) are available online through the Town of Cary website. The [Applications and Forms](#) webpage also has the required applications, Building Code Summaries (standard or abbreviated) and the Statement of Special Inspections, etc. The Town of Cary [Land Development Ordinance](#) may also be accessed from the Town of Cary website.

The Town provides a free Development Liaison Service to those who need assistance with the building permit application process. Contact information is provided on the following page.

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### State of North Carolina Agencies

NC Department of Insurance 919-661-5880  
NC Department of Labor (Elevators & Boilers) 919-733-2152  
NC State Asbestos Division 919-733-0820  
NC DHHS (Institutional or Ambulatory Health Care) 800-662-7030

## NEW COMMERCIAL BUILDINGS AND ADDITIONS

**PLANS SUBMITTAL REQUIREMENTS:** The following checklist is to be used for the review of all new commercial construction as applicable to your project. Plans must be complete relative to the requirements listed below when submitted for permit review. Incomplete plans may be returned without a review. Major revisions, which could require a re-review, after permit issuance may cause the permit to become voided, and require a new submittal and be subject to additional fees. The requirements as listed below are divided into Site/Civil, General Requirements, Architectural, Structural, Plumbing, Mechanical, Electrical and Fire Protection.

### SITE/CIVIL PLANS

- Include all buildings identify the use of each building and the size of each with, both existing and proposed, with calculations for building lot coverage, and the number of stories in square feet per floor.
- Off street parking calculations, and basis for determination (including handicap spaces).
- Accessible route(s) from accessible parking spaces to the building entrance(s) inclusive of spot elevations and maximum slopes (running and cross)
- Vicinity map, north arrow, property boundaries
- Date and scale: scale must be no larger than 1:20, and no smaller than 1:50 unless otherwise approved.
- Existing easements, including width dimensions and book and page numbers.

### GENERAL REQUIREMENTS

- An original Town of Cary permit application (Appendix A) must be completed in its entirety and must accompany each package of drawings to be submitted for review.
- The permit application must indicate construction cost of all on site improvements.
- Plans submittals must include four copies of all project drawings drawn to scale with sufficient detail to fully indicate the nature and scope of work to be performed under this permit. Five sets of plans are required when Wake County Food Services is involved. Minimum plan text height shall be 3/32" actual size.
- On all new construction, a **Building Code Summary** (Appendix B) must be reproduced on the first sheet of the plans with all applicable sections filled out in their entirety.
- A Statement of Special Inspections must be completed in its entirety and sealed by the designer, when applicable.
- All plans and specifications must contain information (in the form of notes or otherwise) on the technical properties of the building materials to be used where such properties are essential to show compliance with technical building codes. Code references used shall be specific.
- Drawings must indicate the required fire resistive systems to be used in the project and their locations on the plans as well as how they are to be constructed in accordance with their UL/FM test procedures. Complete UL Design Specifications must be included on the plan sets. All fire-rated walls (both existing and new) must be shown on **ALL FLOOR PLANS** (architectural, fire protection, plumbing, HVAC and electrical). This also applies to fire-rated floor assemblies. Plans submitted without fire-rated walls shown on all sheets may be returned.
- Each discipline plan set shall include a symbols legend defining all symbols used.
- All plans must be dated and signed by the designer. Professional seals, when applicable to the project, must appear on each sheet and must be signed and dated by the designer.

## ARCHITECTURAL PLANS

Architectural Plans with the following information must be provided as the information may relate to the particular project.

- Life Safety Plan of each floor showing egress routes.
- The square footage of each floor must be shown on the corresponding floor plans.
- As applicable to the project, provide all floor/ceiling, and roof/ceiling fire-rated design assembly details.
- The names and uses of each room.
- A door schedule that defines the applicable rated doors, frames and hardware.
- Elevations with dimensions defining overall building height, floor-to-floor heights, or heights to ridge and eave as applicable to the type of building construction proposed.
- A roof plan showing roof slopes, drainage system and through wall scuppers, if applicable to the project, must be provided.
- Occupancy calculations by room.
- For assembly occupancy only, provide drawings showing the seating layout for determination of occupancy posting. Occupant loads are determined by Section 1004 of the North Carolina Building Code.
- Maximum travel distances and dead end lengths.
- Provide 60" turning circles in restrooms. Show all required clear floor areas for each fixture and include door maneuvering clearances.
- Wall sections showing material, sizes, construction and fire-rated assemblies, (as applicable to the project) must be provided.
- If the plans to be submitted are for a "shell building," show all proposed plumbing, HVAC and electrical rough-in work (if any is to be included) on the plans.
- New building construction must comply with the height and area requirements of Table 503 and the fire protection requirements of Tables 601 & 602 of the 2012 North Carolina State Building Code.
- If masonry construction is proposed, include the following information:
  - Brick ties and spacing of weep holes
  - Control joints
  - Placement of wall flashing
- Show all life safety features such as exit lights, areas of rescue assistance, etc.
- For pre-engineered metal buildings, submit the manufacturer's letter of engineering certification, a Engineered sealed foundation plan and complete architectural plans. The letter of engineering certification shall state the model number, size and design loads for the building. The letter also should state that the structural integrity of the building will be maintained as shown in the architectural plans and that the building meets the 2012 North Carolina State Building Code for live and dead loads. These loads must be stated in the correspondence. The foundation plans must be designed by a registered architect or engineer and show the size and reinforcement of footings or turn-down slab and reaction loads for all columns. Also specify reinforcing, bolt pattern and bolt size for the building. Metal building drawings and columns reactions shall be submitted.
- For any building constructed with any part of the structure below the regulatory flood plain elevation, flood-proofing certification must be provided at time of plans submittal.
- If appropriate for the proposed occupancy, submit complete data on types and amounts of materials to be stored, processed, manufactured or used in the manufacturing of products in this facility. State if such materials are corrosive, poisonous, under pressure, in a liquid or gaseous state, radioactive or other relevant properties. (Ref. NCSBC Sec. 407 and NFPA 30.)
- All fabric awnings or canopies must be accompanied by a letter of certification of fire resistance from the manufacturer. Fabric awnings and canopies must meet required ground snow loads and be constructed to support all live and dead loads as specified in Chapter 16 of the North Carolina State Building Code.
- Provide on the plans the calculations for the means of egress widths for the entire floor occupancy load and the exiting capacity of all exits including all stairs, doors, corridors and ramped exits.

- Elevations from the approved site plan (bearing a signed and dated Town of Cary approval stamp) must be included for all new construction, additions and exterior modifications.
- A Schedule of Special Inspections must be provided on the plans required per Chapter 17 of the North Carolina Building Code.

## **STRUCTURAL PLANS**

Structural plans with the following information must be provided as the information relates to the particular project.

- Complete footing and foundation plans.
- A footing schedule defining footing sizes and the required reinforcing.
- The established footing depth below grade.
- The thickness of the floor slab and size of reinforcing.
- Provide location, size and amount of reinforcing steel.
- Provide design strength of concrete.
- Identify beams, joists, girders, headers and rafters with details of connections-
- The sizes, species, and design strength of structural wood members.
- All steel columns, girders, joists, purlins, beams and base plates.
- A complete veneer lintel schedule.
- Indicate the type of anchoring for steel bearing directly on masonry.
- The total of dead and live loads for floor areas roofs, balconies, porches, breezeways, corridors, stairs, mezzanines and platforms. Also show concentrated loads, such as file rooms, machinery and fork-lift areas, if greater than those shown on the Code Summary Sheet.
- Identify shear walls, bracing, strapping, fastening, reinforcement and any special anchoring required.
- Indicate on roof framing plan where concentrated loads may be placed (i.e. mechanical equipment, cranes, etc.)
- Complete structural plans for canopies over entrances, exterior exit stairs and gas pumps, if applicable.

## **FIRE PROTECTION PLANS**

Checklist for reviewing building plans for fire protection. Plans must provide the following information as it relates to the particular project if applicable.

- The fire protection plan review will encompass a review of the site, architectural, plumbing, mechanical, and electrical plans.
- The fire alarm/detection system (annunciation panels, pull stations, horns, smoke detectors, duct detectors, fire alarm relays) will be reviewed on the electrical design professional's sheets. Shop drawings will need to be submitted based upon the design professional's design.
- The suppression system plans (kitchen, pre-action, clean agent) may be deferred for later review. Please see the section regarding the submission of fire protection system plans for assistance.
- Sprinkler plans may be deferred for later review. Please see the section regarding the submission of fire protection system plans for assistance.

## **PLUMBING PLANS**

Plumbing plans with the following information must be provided as the information relates to the particular project:

- Indicate all supply, waste vent piping on the plans for each floor, with riser diagrams.
- Indicate roof drainage plan including secondary drainage system on the roofing as well a calculations for leaders, with riser drawing.
- A fixture and equipment schedule must be provided for all units on all floor levels.
- The number of water closets must be shown for each sex with their locations indicated on each floor plan. Calculations must be shown for fixture distribution for each floor area.
- Grease interceptors (as applicable to project) shall be provided and sized per the Town's Grease Interceptor Sizing Spreadsheet for total wetted capacity. Approved by Town of Cary Utilities Pretreatment Division (919-414-8052).
- Provide grease interceptor details, inlet/outlet tee details (as applicable to project), and sample vault details (as applicable to project)
- All **fire-rated walls** must be shown on each applicable floor plan with a corresponding wall legend.
- All applicable UL penetrating procedure used to maintain integrity of rated assemblies shall be detailed for each type of penetration. The penetration details must be exactly as tested by an approved testing laboratory or agency and they must include their system numbers.
- Water system load calculations in gallons per minute for water meter sizing.
- Sewer flow calculations in gallons per day for meters larger than 1".
- Minimum facilities calculations.
- Drawings must illustrate *either* the hydraulic elevator's sump pit pump piped indirectly to a required oil/water separator (sized to hold 1.5 times the total hydraulic fluid capacity per Pretreatment Division) or continuing into a 4 inch sanitary sewer serving the building *or* the traction elevator's sump pit pump piped indirectly into a 4 inch sanitary sewer serving the building.

## MECHANICAL PLANS

Mechanical plans with the following information must be provided as the information on the plans relates to the particular project.

- Mechanical floor plans must be provided for each floor.
- The size of all duct runs must be clearly labeled and delineated on the drawings
- The location and installation details of all fire dampers, smoke dampers and fire doors.
- **All fire-rated walls** must be shown on each applicable floor plan with a corresponding all legend.
- Show permanent access to any equipment installed on roofs or elevated structures at heights in excess of 16'.
- All applicable UL/FM penetrating procedures used to maintain the integrity of the rated assemblies must be detailed for each type of penetration. The penetration details must be exactly as tested by an approved testing laboratory or agency and they must include their system.
- Required systems and ventilation rates (note number of people to be per ASHRAE62). Show all calculations.
- Refrigerant system requirements.
- Commercial kitchen equipment drawings, if submitted, shall be sealed by a design professional, when required. Show air balance calculations.

## ELECTRICAL PLANS

Electrical plans with the following information must be provided as the information relates to the particular project:

- Power plans for each area. Indicate all device and equipment locations/direct hook-ups.
- Identify and size all equipment disconnects.
- Lighting plans (or reflected ceiling plans) for each area. Indicate control locations, fixture & lamp types, number of lamps and ballasts, and voltage of operation (N.C. Energy Code).
- Locations and clearances of all services, service disconnects, panels, transformers and distribution equipment (NEC 110-26,240-21).
- All panel schedules. Include branch wiring and O.C. device size(s). Provide A/C rating.
- Both “connected” and “code” load calculations for all panels, busses, feeders, generators, and services, per NEC 220, 700, 701, 702.
- A single line-riser diagram (NEC 215-5), showing service and feeder wire, equipment grounds, conduit, and O.C. device sizes, fuse types, maximum available fault current, and equipment and device bracing. Include transformer sizes, grounding electrode conductors and grounding bonding jumper sizes and identify grounding electrodes to be used.
- Location of all services (NEC 230-2) with identification (labeling) as required.
- Wiring methods to be used including conductor material and insulation types, and conduit types. If applicable, add note that all wire terminations and equipment is rated for 75 degrees C minimum.
- **All fire-rated walls, ceiling-floor assemblies, ceiling-roof assemblies, or other fire-rated elements** on each electrical floor plan with a corresponding legend. All applicable UL/FM penetrating procedures used to maintain the integrity of the rated assemblies must be detailed for each type of penetration. The penetration details and fixture “tenting” details must be complete and exactly as tested by the approved testing laboratory or agency and they must include their system numbers.
- Compliance with N.C. Energy Code, copy of compliance statements/Appendix B on plans.
- All life safety requirements, such fire alarm systems and special power requirements with locations of exit signs and emergency egress illumination.
- If applicable, a note on plans indicating that no hazardous materials are stored or used on premises and that no area is deemed a hazardous area per NEC definitions.
- If applicable, a note on the plans indicating the wiring method and grounding means of Patient Care Areas in Health Care Facilities (NEC 517.13).

## PROCEDURE FOR SPRINKLER, FIRE ALARM, AND SUPPRESSION SYSTEM PLAN REVIEW

The procedure for obtaining fire protection system permits is as follows:

Drawings and the required submittal documentation is required to be submitted to the Town of Cary Inspections & Permits Department along with a completed application and/or project modification form. Four (4) sets of plans are required for all fire protection system plan reviews.

### Fire Alarm Plan Review Submittal

Fire alarm shop drawings shall include the following information in accordance with the 2012 NC Fire Code (Section 907.1.2).

- Floor plan indicating the use of all rooms.
- Location of alarm initiating devices.
- Locations of alarm notification appliances, including candela ratings for visible alarm notification devices.
- Location of fire alarm control unit, transponders and notification power supplies.
- Annunciators

- Power connection.
- Battery calculations.
- Conductor type and sizes.
- Voltage drop calculations.
- Manufacturers' data sheets indicating model numbers and listing information for equipment, devices, and materials.
- Details of ceiling height and construction.
- Interface of fire safety control functions.
- Classification of the supervising station.

Fire alarm plans are required to be sealed by a licensed NC Professional Engineer. Fire alarm shop drawings shall be directly designed using the sealed construction drawings, or the shop drawings must be sealed by a NC Professional Engineer. When using a sealed drawing to submit shop drawings, please submit one (1) copy of the engineers sealed drawings for reference. Any deviation from the engineer of record will be disapproved. Coordinate any and all deviations from sealed drawing with the designer prior to submittal.

### Sprinkler Plan Review Submittal

- Scaled and detailed floor plan.
- Classification of commodity to be protected must be identified and the storage height must be provided to ensure correct classification.
- Hydraulic calculations for the system(s). Per the Town of Cary Standard Specifications, hydraulic calculations are required for the following; all new installations, 20 sprinkler heads or more are modified or added to an existing sprinkler system. If any modifications occur in the hydraulically calculated remote area, or the hazard classification changes.
- Square footage of each riser(s) protected area.
- Specifications for all system components.
- Type of system to be installed (NFPA 13, 13R, Standpipe)
- An approved site plan showing the approved fire hydrant locations and fire department connection (FDC) locations.
- Town of Cary Standard Detail Drawings for the FDC (wall-mount or curbside), Riser Detail (NFPA 13 or 13R). Standard detail drawings may be accessed on the Town of Cary website, [www.townofcary.org](http://www.townofcary.org).
- Freeze protection detail (to be installed by the Sprinkler Contractor).

### Suppression System Plan Review Submittal

- Indicate the type of system to be installed. Please provide the manufactures information and listings. For pre-engineered fixed fire suppression systems, include the total number of flow points available and/or used.
- The name of the business and address shall be included on the plans.
- Include a copy of the installer's name and certification and/or training from the manufacture.
- Layout and dimensions for all cooking equipment. Identify all cooking appliances by name and type of fuel.
- Piping diagram indicating nozzle heights in accordance with the manufactures installation manual for the appliances to be protected.
- Hood size(s), duct size(s), and plenum size(s)
- Manual pull station location(s).
- Location and temperature rating for detection devices.

Upon approval by the fire code official, one (1) set of plans and submittal documents will be retained, and the remaining three (3) sets are submitted to the permit technicians to issue to the customer. The completed application is then processed, with the permit fee calculated at \$0.01 per square foot of gross floor area, or the Town of Cary approved fee for a basic permit; whichever is greater. When the payment is received, the applicant will be given three (3) sets of drawings. Note: If the fire protection plan submittal is disapproved, the applicant will be notified and the plans will be returned to the applicant at his/her request. A copy of the approved plans shall be on site for the inspection.

**Restaurants and other food handling establishments must submit a Wake County Food Service Establishment Plan Review application and provide the following supporting documentation:**

- Plans drawn to scale showing the placement of each piece of food service equipment (new and existing)
- Manufacturer specification sheets for each piece of new equipment
- Plans must include general plumbing, electrical, mechanical, lighting, storage areas, trash can wash facilities and water heaters
- Room finish schedule
- Site plan locating exterior equipment such as dumpsters and walk-in equipment
- Proposed menu

**EXPRESS REVIEW**

Contact Sue Wall to schedule an Express Review Session at 919-460-4992.

See our [Express Review Guide](#) for more information.

**ALTERATIONS & RENOVATIONS TO COMMERCIAL BUILDINGS**

The following checklist is to be used for all commercial alterations and renovations as applicable to your project. Plans must be complete relative to the requirements listed below when submitted for permit review. Incomplete plans may be returned without a review. Major revisions which require a re-review after permit issuance may cause the permit to be voided, require a new submittal, and be subject to additional fees. The requirements as listed below are divided into the following categories Site, Architectural, General Requirements, Plumbing, Mechanical, Electrical and Fire Protection,

**SITE**

- Provide a scale drawing of the entire building showing
  - The occupancy classification of each tenant space in the building
  - Location of fire-rated walls used to create fire areas or tenant separation
  - The square footage of each tenant space in the building
- Site plan inclusive of the accessible parking spaces and accessible route to the building entrance(s)

## GENERAL REQUIREMENTS

- Provide four copies of all project drawings drawn to scale with sufficient detail to indicate the nature and character of work to be done. Five sets of plans are required when Wake County Food Services are involved.
- An original Town of Cary permit application completed in its entirety including
  - Tenant suite number (if applicable)
  - Name of the proposed tenant and a description of the business activities of same
  - Construction cost.
- Provide a completed Building Code Summary (Appendix B) on the first plan sheet.
- In a multi-tenant structure, the Building Code Summary shall include building data from the shell building that is independent of the tenant data.
- All plans and specifications must contain information (in the form of notes or otherwise) on the technical properties of the building materials to be used where such properties are essential to show compliance with technical building codes. Code references used shall be specific.
- Each discipline plan set shall include a symbols legend defining all symbols used.
- Minimum plan text height shall be 3/32" actual size.
- Clearly delineate all new and existing work.
- All plans must be dated and signed by the designer. Professional seals, with signature and date, when applicable to the project, must appear on each sheet of the drawings.
- If the work involves only a portion of a building, a key plan must be provided showing the entire building with the area of new construction highlighted (see SITE above).
- All fire-rated walls (existing and proposed) must be shown on ALL PLANS (architectural, fire protection, mechanical (M), plumbing (P), electrical (E) and Fire Protection. A wall legend for each type of rated wall system shall be provided. This also applies to fire-rated floor assemblies.
- Identify floor loading (if PSF) and the location of concentrated loads (if applicable).
- Provide a compliance evaluation of the 2015 NC Existing Building Code Section 410, Accessibility for Existing Buildings based upon the project type.
- For projects involving a change of occupancy from the last approved use (based upon a previously issued Certificate of Occupancy) provide a site plan or sketch identifying the location of the existing parking spaces and all other and access to building entrances along with the information necessary for the plans examiner to verify compliance with Section 410.4.2 (i.e. sidewalks, ramps, landings, etc.).
- Incomplete plans may be returned without a review.

## ARCHITECTURAL PLANS

Architectural plans with the following must be provided as the information relates to the particular project:

- Architectural floor plans for each floor of proposed construction showing existing construction and new construction must be provided with sufficient detail to indicate the nature and character of work to be done. Identify all new construction.
- The name and use of each room.
- Sufficient dimensions to calculate areas and size of each room.
- Provide 60" turning circles in restrooms. Show all required clear floor areas for each fixture and include door maneuvering clearances
- A door schedule that defines the applicable rated and non-rated doors, frames and hardware.
- A Building Code Summary Sheet – must be reproduced on the first or second sheet of the plans with all applicable sections filled out in their entirety (copy available on the website).
- If the building has more than one type of occupancy, indicate the occupancies and the hourly rating separating those occupancies. Provide the applicable fire-rated design for the required separations.

- All applicable UL/FM penetrating procedures used to maintain the integrity of the rated assemblies must be detailed for each type of penetration. The penetration details must be exactly as tested by an approved testing laboratory or agency and they must include their system numbers.
- Provide a Life Safety Plan showing egress routes out of the suite or space.

## PLUMBING PLANS

Plumbing plans with the following information must be provided as the information relates to the particular project:

- Indicate all supply, waste vent piping on the plans for each floor, with riser diagrams.
- Indicate roof drainage plan including secondary drainage system on the roofing as well a calculations for leaders, with riser drawing.
- A fixture and equipment schedule must be provided for all units on all floor levels.
- The number of water closets must be shown for each sex with their locations indicated on each floor plan. Calculations must be shown for fixture distribution for each floor area.
- Grease interceptors (as applicable to project) shall be provided and sized per the Town's Grease Interceptor Sizing Spreadsheet for total wetted capacity. Approved by Town of Cary Utilities Pre-Treatment Division (919-414-8052).
- All fire-rated walls must be shown on each applicable floor plan with a corresponding wall legend.
- All applicable UL penetrating procedure used to maintain integrity of rated assemblies shall be detailed for each type of penetration. The penetration details must be exactly as tested by an approved testing laboratory or agency and they must include their system numbers.
- Provide water system load calculations in gallons per minute for water meter sizing.
- Provide sewer flow calculations in gallons per day. (For meter larger than 1")
- Provide minimum facilities calculations.
- Elevator drain to be plumbed to sanitary sewer via indirect connection to mop sink. Oil/water separator required sized to hold 1.5 times the total hydraulic fluid capacity per Pretreatment Division.

## MECHANICAL PLANS

Mechanical plans with the following information must be provided as the information relates to the particular project.

- Mechanical floor plans must be provided for each floor.
- The size and length of all duct runs must be clearly labeled and delineated on the drawings.
- Controls for fan shut-down must be indicated.
- The location and installation details of all fire dampers, smoke dampers and fire doors must be provided.
- **All fire-rated walls** (both existing and new) must be shown on each applicable floor plan with a corresponding wall legend.
- All applicable UL/FM penetrating procedures used to maintain the integrity of the rated assemblies must be detailed for each type of penetration. The penetration details must be exactly as tested by an approved testing laboratory or agency and they must include their system numbers.
- Commercial kitchen equipment drawings shall be sealed by a Design Professional when required.

## ELECTRICAL PLANS

Electrical plans with the following information must be provided as the information relates to the particular project.

- Power plans for each area. Indicate all device and equipment locations/direct hook-ups. Show and size all equipment disconnects.
- Lighting plans (or reflected ceiling plans) for each area. Indicate control locations, fixture & lamp types, number of lamps and ballasts, and voltage of operation (See NC Energy Code).
- Locations and clearances of all services, service disconnects, panels, transformers and distribution equipment (NEC 110.26.).
- All panel schedules. Include branch wiring and overcurrent device size(s).
- Both 'connected' and 'code' load calculations for all panels, busses, feeders, generators, and services, per NEC 220.
- A single line-riser diagram showing service and feeder wire, equipment grounds, conduit, and overcurrent device sizes, fuse types, maximum available fault current, and equipment and device bracing. Include transformer sizes, grounding electrode conductors and grounding bonding jumper sizes and identify grounding electrodes to be used.
- Location of all services (NEC 230-2) with identification placards if required
- Wiring methods to be used including conductor material and insulation types, and conduit types. If applicable, add note that all wire terminations and equipment is rated for 75 degrees C minimum.
- **All fire-rated walls, ceiling-floor assemblies, ceiling-roof assemblies, or other fire-rated elements** on each electrical floor plan with a corresponding legend. All applicable UL penetrating procedures used to maintain the integrity of the rated assemblies must be detailed for each type of penetration. The penetration details and fixture 'tenting' details must be complete and exactly as tested by the approved testing laboratory or agency and they must include their system numbers.
- Compliance with N.C. Energy Code per NC State Building Code Appendix B)
- All life safety requirements, such fire alarm systems and special power requirements with locations of exit signs and emergency egress illumination.
- If applicable, a note on plans indicating that no hazardous materials are stored or used on premises and that no area is deemed a hazardous area per NEC definitions.
- If applicable, a note on the plans indicating the wiring method and grounding means of Patient Care Areas in Health Care Facilities (NEC 517.13).

## **FIRE PROTECTION PLANS**

Checklist for reviewing building plans for fire protection. Plans must provide the following information as it relates to the particular project if applicable.

- The fire protection plan review will encompass a review of the site, architectural, plumbing, mechanical, and electrical plans.
- The fire alarm/detection system (annunciation panels, pull stations, horns, smoke detectors, duct detectors, fire alarm relays) will be reviewed on the electrical design professional's sheets. Shop drawings will need to be submitted based upon the design professional's design.
- The suppression system plans (kitchen, pre-action, clean agent) may be deferred for later review. Please see the section regarding the submission of fire protection system plans for assistance.
- Sprinkler plans may be deferred for later review. Please see the section regarding the submission of fire protection system plans for assistance.

## **PROCEDURE FOR SPRINKLER, FIRE ALARM, AND SUPPRESSION SYSTEM PLAN REVIEW**

The procedure for obtaining fire protection system permits is as follows:

Drawings and the required submittal documentation is required to be submitted to the Town of Cary Inspections & Permits Department along with a completed application and/or project modification form. Four (4) sets of plans are required for all fire protection system plan reviews.

### Fire Alarm Plan Review Submittal

Fire alarm shop drawings shall include the following information in accordance with the 2012 NC Fire Code (Section 907.1.2).

- Floor plan indicating the use of all rooms.
- Location of alarm initiating devices.
- Locations of alarm notification appliances, including candela ratings for visible alarm notification devices.
- Location of fire alarm control unit, transponders and notification power supplies.
- Annunciators
- Power connection.
- Battery calculations.
- Conductor type and sizes.
- Voltage drop calculations.
- Manufacturers' data sheets indicating model numbers and listing information for equipment, devices, and materials.
- Details of ceiling height and construction.
- Interface of fire safety control functions.
- Classification of the supervising station.

Fire alarm plans are required to be sealed by a licensed NC Professional Engineer. Fire alarm shop drawings shall be directly designed using the sealed construction drawings, or the shop drawings must be sealed by a NC Professional Engineer. When using a sealed drawing to submit shop drawings, please submit one (1) copy of the engineers sealed drawings for reference. Any deviation from the engineer of record will be disapproved. Coordinate any and all deviations from sealed drawing with the designer prior to submittal.

### Sprinkler Plan Review Submittal

- Scaled and detailed floor plan.
- Classification of commodity to be protected must be identified and the storage height must be provided to ensure correct classification.
- Hydraulic calculations for the system(s). Per the Town of Cary Standard Specifications, hydraulic calculations are required for the following; all new installations, 20 sprinkler heads or more are modified or added to an existing sprinkler system. If any modifications occur in the hydraulically calculated remote area, or the hazard classification changes.
- Square footage of each riser(s) protected area.
- Specifications for all system components.
- Type of system to be installed (NFPA 13, 13R, Standpipe)
- An approved site plan showing the approved fire hydrant locations and fire department connection (FDC) locations.
- Town of Cary Standard Detail Drawings for the FDC (wall-mount or curbside), Riser Detail (NFPA 13 or 13R). Standard detail drawings may be accessed on the Town of Cary website, [www.townofcary.org](http://www.townofcary.org).
- Freeze protection detail (to be installed by the Sprinkler Contractor).

### Suppression System Plan Review Submittal

- Indicate the type of system to be installed. Please provide the manufactures information and listings. For pre-engineered fixed fire suppression systems, include the total number of flow points available and/or used.
- The name of the business and address shall be included on the plans.
- Include a copy of the installer's name and certification and/or training from the manufacture.
- Layout and dimensions for all cooking equipment. Identify all cooking appliances by name and type of fuel.
- Piping diagram indicating nozzle heights in accordance with the manufactures installation manual for the appliances to be protected.
- Hood size(s), duct size(s), and plenum size(s)
- Manual pull station location(s).
- Location and temperature rating for detection devices.

Upon approval by the fire code official, one (1) set of plans and submittal documents will be retained, and the remaining three (3) sets are submitted to the permit technicians to issue to the customer.

The completed application is then processed, with the permit fee calculated at \$0.01 per square foot of gross floor area, or the Town of Cary approved fee for a basic permit; whichever is greater.

When the payment is received, the applicant will be given three (3) sets of drawings.

Note: If the fire protection plan submittal is disapproved, the applicant will be notified and the plans will be returned to the applicant at his/her request. A copy of the approved plans shall be on site for the inspection.

### **Restaurants and other food handling establishments must submit a Wake County Food Service Establishment Plan Review application and provide the following supporting documentation:**

- Plans drawn to scale showing the placement of each piece of food service equipment (new and existing)
- Manufacturer specification sheets for each piece of new equipment
- Plans must include general plumbing, electrical, mechanical, lighting, storage areas, trash can wash facilities and water heaters
- Room finish schedule
- Site plan locating exterior equipment such as dumpsters and walk-in equipment
- Proposed menu

## **CHANGE OF OCCUPANCY ONLY NO WORK INVOLVED**

The following checklist is to be used as applicable to your project. Plans must be complete relative to the requirements listed below when submitted for permit review. Incomplete plans may be returned without a review. The requirements as listed below are divided into the following categories: Site, General Requirements, Architectural, Plumbing, Mechanical, Electrical and Fire Protection.

### **SITE**

- Provide a scale drawing of the entire building showing dimensions
  - The occupancy classification of each tenant space in the building
  - Location of fire-rated walls used to create fire areas or tenant separation
  - The square footage of each tenant space in the building
- Site plan inclusive of the accessible parking spaces and accessible route to the building entrance(s)

### **GENERAL REQUIREMENTS**

- Contact the Town of Cary Development Liaison Service to confirm the propose use is appropriate for the Zoning District and/or any limitations approved with the Site Plan. A change in use as identified in the Cary Land Development Ordinance may require a review of the existing parking.
- Provide a completed Town of Cary Permit Application. The scope of the work must include “change of occupancy”.
- Provide a completed Building Code Summary (NC State Building Code Appendix B) based upon the one of the North Carolina Building Codes.
- Provide a compliance evaluation of the 2015 NC Existing Building Code, Section 410, Accessibility for Existing Buildings based upon the project type.
- For projects involving a change of occupancy from the last approved use (based upon a previously issued Certificate of Occupancy) provide a site plan or sketch identifying the location of the existing parking spaces and all other and access to building entrances along with the information necessary for the plans examiner to verify compliance with Section 410.4.2 (i.e. sidewalks, ramps, landings, etc.).
- Provide structural evaluation of raised wood floor system and other structural systems if necessary
- Be advised that additional Development Fees may be assessed based upon the new occupancy classification

### **ARCHITECTURAL**

- Provide a floor plan of the tenant area (drawn to scale) inclusive of the following information:
  - The overall dimensions of the tenant space
  - The rating of tenant separation wall(s), if applicable. Walls not specified will be considered as unrated.
  - The rating of corridor walls. Walls not specified will be considered unrated.
  - Identify all rooms in the space by a description of use (i.e. office, break room, rest room, storage, conference room, manufacturing, warehouse, etc.)
  - Provide the dimensions and the square footage of each room
  - Indicate the direction of the door swing for all doors
  - The location of the exit doors and the lineal distance (in feet) to exits from the most remote location in the room or space (the route should be shown on the plan using right angles only)
  - The location of exit signs
  - The location of required emergency lighting (with battery backup)
  - Fire extinguisher locations

- Provide distance between exits as measured in a line from center of door to center of door (show line on drawing)
- Other information required specific to the proposed occupancy classification
- Identify construction materials utilized in the building including interior wall framing (i.e. wood or metal studs).
- Provide the number of occupants per room based on the NC Building Code Table 1004.1.1
- Show all new work on the plan including addition of interior non-bearing walls, shelving, point of sale counters, customer seating, etc.

## **MECHANICAL**

- Provide mechanical fresh air calculations based on occupancy from NC Mechanical Code Table 403.3. This information may be provided by a licensed mechanical contractor.

## **PLUMBING**

- Provide plumbing fixture calculations from NC Plumbing Code Table 403.1 based upon the occupancy count (NCBC Table-1004.1.1)
- Provide dimensions of the existing restrooms and the location of the plumbing fixtures and grab bars
- All existing work must be compliant with the code in effect at the time of installation
- All plumbing fixtures must be commercial (i.e. elongated toilets, lever action faucets, lavatories open below with plumbing piping protected, etc.)
- Identify any new work

## **ELECTRICAL**

- Provide the location of the main electrical service and the location of any electrical subpanels serving this tenant space
- Identify any new electrical work

## **FIRE PROTECTION PLANS**

Checklist for reviewing building plans for fire protection. Plans must provide the following information as it relates to the particular project if applicable.

- The fire protection plan review will encompass a review of the site, architectural, plumbing, mechanical, and electrical plans.
- The fire alarm/detection system (annunciation panels, pull stations, horns, smoke detectors, duct detectors, fire alarm relays) will be reviewed on the electrical design professional's sheets. Shop drawings will need to be submitted based upon the design professional's design.
- The suppression system plans (kitchen, pre-action, clean agent) may be deferred for later review. Please see the section regarding the submission of fire protection system plans for assistance.
- Sprinkler plans may be deferred for later review. Please see the section regarding the submission of fire protection system plans for assistance.

**CHANGE OF TENANT ONLY  
NO WORK INVOLVED – WITH PERMIT HISTORY**

The following checklist is to be used as applicable to your project.

**GENERAL REQUIREMENTS**

- Identify the new tenant and the intended occupancy classification.
- Provide a floor plan layout and the square footage of the space.

**CHANGE OF TENANT ONLY  
NO WORK INVOLVED – WITHOUT PERMIT HISTORY**

If, in reviewing the application, it is determined that the address does not have any building permit history, provide the following information to determine code compliance and to process the application:

**GENERAL REQUIREMENTS**

- Key plan of the building.
- Floor layout of your suite, (show exits, electrical panel locations, and toilet facilities).
- Completed Building Code Summary (Abbreviated).

Once the proper building and tenant data is provided, additional measures may be required to attain code compliance that could require application for plumbing, electrical, or mechanical permits.

## REQUIREMENTS FOR SUBMITTING SUITE LAYOUTS

### SUITE LAYOUTS ARE NEEDED WHEN:

- Submitting plans for a shell building that will be occupied by more than one tenant. This includes apartments, condos (both commercial and residential), office buildings, strip malls and shopping centers.
- Submitting plans for interior completion.
- Submitting plans for alteration on an existing space.
- The suite numbers are not in the Town of Cary data system or there is no approved suite layout on file.
- A suite layout for all existing floors of the building must be submitted when dividing or combining existing suites.

### **SUITE LAYOUT SUBMISSION PROCEDURE:**

- Submit two (2) copies on plain paper no larger than 11 x 17 for every floor in the building (i.e. two copies for the first floor, two copies for the second floor, etc.). Ensure the suite numbers are clearly indicated. The building address and north symbol must show on each floor layout. The main entry along with the street the entry is facing must be on each floor layout. When copies are approved they will be stamped and initialed by the approver. One copy of the suite layout will be attached to the owner's approved set of building plans and returned to the client. The second approved copy will be kept on file by the Commercial Permit Specialist.
- When submitting plans for an interior completion, the owner must provide a copy of the stamped, approved suite layout in the application package. Distinguish the suites by hatching or highlighting.
- Incidental areas such as lobbies, janitor's rooms, electrical/mechanical rooms, etc. are not given suite numbers; only spaces that can be occupied.
- **COMMERCIAL SPACE:** When assigning suite numbers for commercial space, allow room for change. If any suite can be divided into smaller suites, be sure to skip numbers to allow for this type of change in the future, i.e. suite number 100, 104 skipping 102 and allowing for expansion. The best rule is to decide the size of the smallest suite that can be constructed and how many of these suites can be placed in the building and then number them in sequential order starting at the main entrance (facing the street of the building address) of the building. This will allow for numbering options when suites are combined. **RESIDENTIAL:** Start with 100 or 101 at the main entrance with each floor mirroring the next. Odd suite numbers will be on one side with even suite numbers on the opposite side for both Commercial and Residential.
- Suite numbers can be numbered either clockwise or counter-clockwise from the main entrance of the building. A suite number must be assigned to every possible suite.
- Basement suite numbers begin with 010 and continue through 019. This would be considered for a building that has suites on a lower level in the back.
- Sub-basement suite numbers begin with 001 and continue through 009
- First floor or single story numbers will be in the 100 series; they may begin with either 100 or 101.
- Second floor suite numbers will be the 200 series; third floor will be the 300 series continuing in sequential order according to the number of floors. All suites on floors above the 1<sup>st</sup> floor should have the same number location as the first floor. For example, 1<sup>st</sup> floor suite 102 would have 2<sup>nd</sup> floor suite 202, 3<sup>rd</sup> floor suite would have 302, all stacking in sequential order.

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