1 General

.1 Codes and Standards

- .a Comply with local building codes and N.C. Accessibility Code.
- .b Where applicable comply with Department of Labor and latest OSHA requirements.

.2 Submittals

- .a Samples
  - i. Provide samples as specified in contract documents.
  - ii. Submit three (3) samples of door finish showing complete range of variation in finish.
- .b Warranty:
  - i. Life of Installation

2 Products

.1 Hollow Metal Doors and Frames

- .a Fabricate frames from minimum 14-gauge cold-rolled steel.
- .b Exterior door frames shall be galvanized. Prep for finish (preprimed).
- .c Frames shall be welded construction for new openings. In existing openings or where welded frames are not feasible knock down frames may be used.
- .d Frames Anchorage:
  - i. Jamb anchors at masonry wall openings shall be standard wire anchors. Frames at masonry walls shall be filled with grout. Jamb anchors for plaster and gypsum wallboard partition openings shall be a minimum of 18 gauge steel. Provide floor anchors at all frames.
- .e Exterior doors and frames with associated security devices must be prepped by door manufacturer.
- .f Interior Doors: ANSI/SDI-100, Grade III, extra heavy duty, Model 4, minimum 16-gauge cold-rolled sheet steel faces.
- .g Exterior Doors: ANSI/SDI-100, Grade III, extra heavy duty, Model 4, minimum 16-gauge cold-rolled sheet steel faces; exterior doors shall be galvanized and insulated.
- .h Tolerances: Comply with SDI 117 “Manufacturing Tolerances Standard Steel Doors and Frames”.
- .i Finish Hardware Reinforcement:
  - i. Door reinforcement shall be a minimum of 12 gauge for hinges and be a continuous channel for the full height of door, 12 gauge for closers and be a continuous channel for the full length of the header and 14 gauge for strikes and be a continuous channel for the full height of the door. 7 gauge reinforcements shall be used for hinges on frames. 26 gauge steel plaster guards or mortar boxes welded to the frame shall be provided at hardware cutouts where installed in concrete, masonry or plaster openings.

.2 Aluminum Frame Assemblies & Steel Frames Wrapped in Aluminum

- .a Use aluminum frames at low-impact areas only.
- .b Use Steel frames with aluminum wrap in areas where doors will experience high use but the aluminum frame look is still desirable.
- .c Reference Security Section and prep frame for security devices.

.3 Flush Wood Doors

- .a Face Veneer Species: As selected by the Architect and approved by owner.
- .b AWI Grade: Premium.

.c Construction: DCL-1 or DCL-20 Structural Composite Lumber core; 5-ply max (7-ply not acceptable).
.d Fire-Rated Construction: Manufacturer's standard core construction as required to provide indicated fire-resistance rating.
.e Factory Applied Stained Finish: AWI System TR-6 catalyzed polyurethane; satin sheen.
.f Painted Finish: Premium grade AWI conversion varnish or catalyzed polyurethane finish. Color: Designer preference with Owner approval.
.g Doors with associated security devices must be prepped by door manufacturer.
.h Doors must be sealed on all 6 faces.

.4 Overhead Coiling Doors

.a Material: Stainless steel, steel or galvanized cold-rolled structural steel sheet.
.b Panel Thickness: 2 inches minimum.
.c Finish and Color: If color finish desired—two coat baked-on finish, interior and exterior.
.d Insulation: Fully encapsulated CFC-free and HCFC-free polyurethane door shall meet or exceed current energy requirements of the NC Building Code.
.e Thermal Break: PVC Thermal Break must be part of door construction.
.f Hardware: Galvanized or stainless steel hinges and fixtures. Ball bearing rollers with hardened steel races.
.g Lock: Interior mounted side lock with interlock switch for automatic opener.
.h Operation:
  i. Manual Operation: Pull rope or chain.
  ii. Electric Motor:
    (a) UL listed electric motor.
    (b) Electric sensing edge.
    (c) Operator controls: flush mounted, interior location with open, close, and stop buttons.
    (d) Vehicle detector operation.
  iii. Door operation equipment must function with Wake County EMS vehicle's remote control.
.i Security:
  i. Door operation to be coordinated with Wake County security consultants.

.5 Overhead Coiling Grilles

.a Consultant selected owner approved location.
.b Grille Material: Stainless steel rods.
.c Jamb Guides: Stainless steel with continuous integral wear strips.
.d Hood Material: Galvanized or stainless steel removable for equipment access.
.e Bottom Bar: Electric sensing edge with replaceable continuous compressible gasket.
.f Lock: Spring-loaded cylinder lock to engage slots in track. For key refer to section .10.j.
  i. Safety interlock switch must be provided.
.g Operation:
  i. Manual: Pull rope or chain.
  ii. Electric Motor:
    (a) UL listed electric motor.
    (b) Electric sensing edge.
    (c) Operator controls: flush mounted, interior location with open, close, and stop buttons.
    (d) Vehicle detector operation.
  iii. Trailer Speed: Not less than 16"/second and no more than 20"/second.
.h Security:
  i. Door operation to be coordinated with Wake County security consultants.

.6 High Speed Overhead Coiling Doors

- .a Consultant selected owner approved locations.
- .b Slat Material: High-strength clear anodized aluminum with nylon wind-lock end caps.
- .c Insulation: Slats to be filled and utilized with CFC-free and HCFC-free high-density insulation.
- .d Jamb Guides: Stainless steel with continuous integral wear strips.
- .e Hood Material: Galvanized or stainless steel removable for equipment access.
- .f Lock: Spring loaded cylinder lock accessible from outside or inside that engages slots in jamb.
  - i. Safety interlock must be provided.
- .g Operation:
  - i. Manual Operation: Pull rope or chain
  - ii. Electric Motor:
    - (a) U.L. listed electric motor.
    - (b) Electric sensing edge.
    - (c) Operator Controls: Flush mounted, interior location with open, close, and stop buttons.
    - (d) Vehicle detector operation.
    - (e) Audible and visual signals must be provided to meet regulatory requirements for accessibility.
  - iii. Travel Speed: Up 42”/seconds opening and 21”/seconds closing.
- .h Security:
  - i. Door operation to be coordinated with Wake County security consultant.

.7 Access Doors

- .a Frames:
  - i. 16-gauge steel.
  - ii. Frames to have perimeter flange
- .b Doors: 14-gauge sheet steel.
- .c Hinges: Continuous piano hinges set to open 175-degrees.
- .d Locks:
  - i. Screwdriver operated cam locks in low security areas.
  - ii. High security locks to be used in detention areas and areas where security is required. Areas to be determined by owner.
  - iii. Medeco locks required on exterior access doors.
  - iv. Medeco locks required for access doors located in internal high security areas. Areas to be determined by owner.
- .e Keys:
  - i. Due to the high security risks involved, all end user keys and factory bitting information required to be sent directly to Wake County GSA Safety & Security.
- .f Finish:
  - i. Provide powder-coated finish color as approved by architect.

.8 Aluminum Entrances, Storefronts and Curtain Walls

- .a Framing System: Shop fabricated from extruded aluminum members.
- .b No balanced doors.
- .c System must be thermally broken.
- .d Doors: Minimum Medium stile (5-inches nominal width); 1-3/4-inches thick.
- .e Finishes: Prefinished High performance organic coating; Clear or color anodized.
- .f Add security Note here.

.9 Glazing

- .a Exterior: Insulated Low-E to meet Wake County and NCBC requirements.
- .b Provide tempered safety glass for hazardous areas and where required by codes. Safety laminated glass shall be used in horizontal and slopped applications.
- .c Fire-Rated Openings: Wired glass. Fire rated glass may be used upon approval by the owner.
- .d Where color is desired, tinting is Wake County preference in lieu of film.
- .e Interior: Clear float glass; tempered where required.
- .f Security glazing addressed in specialty building appendix.

.10 Hardware

- .a Hinges:
  - i. Full Mortise, 5-knuckle type, ball bearings with non-rising stainless steel pin.
  - ii. Electrified security (access) control hinges.
    - (a) Coordinate with owner's security consultant.
    - (b) Power transfer: concealed PTFE-jacketed wires, secured at each leaf and continuous through hinge knuckle.
    - (c) Where indicated and as approved by owner provide concealed magnetic monitoring switch. Provide extra heavy magnets at openings with metal doors.
  - iii. Fasteners:
    - (a) Machine screws for metal doors and frames. Install into drilled and tapped holes.
    - (b) Wood screws for wood doors and frames.
    - (c) Threaded to the head wood screws for fire rated wood doors.
    - (d) Finish screw heads to match surface of hinges.
- .b Kick plates:
  - i. Where requested by the owner, provide Stainless Steel kick plates on push side of selected doors. 16 gauge min, thickness.
- .c Locks and Latches:
  - i. Mechanical Locks:
    - (a) Locks shall be field reversible without opening the lock case.
    - (b) Mortise locks shall be stamped steel case with steel or brass parts.
  - ii. Electromagnetic and Electromechanical Locks:
    - (a) Provide full exterior or full interior as required by application indicated and owner approved.
    - (b) Locks shall be electrically powered with electromagnet attached to frame and armature plate attached to door.
- .d Strikes:
  - i. Dustproof Strikes:
    - (a) Finish to match hardware.
    - (b) Curved lip to protect frame.
    - (c) Strike box shall be provided.
  - ii. Electric Strikes:
    - (a) Coordinate with owners security consultant to determine failsafe or fail secure strike configuration.
- .e Flush Bolts:
  - i. Minimum ½" diameter rods
  - ii. Brass, bronze or stainless steel to match hardware set acceptable.
  - iii. 12" long rids for doors up to 84" in height.
- .f Exit Devices:
  - i. Consultant selected owner approved.
  - ii. Panic exit devices.
  - iii. Fire exit devices.
  - iv. Electromechanical exit devices.

(a) Coordinate with owners security consultant.
(b) Latch retraction devices shall function using a linear motor with self-adjusting timer in rail.

v. Outside trim shall match material and finish of locksets.

.g Cylinders:

i. Standard tumbler type, constructed from brass, bronze, stainless steel or nickel silver.
ii. Cylinders and keying shall be compatible with and tied to owners system.
iii. Cylinders for exterior openings and electronic access control locations will be furnished and installed by owner.
iv. Provide temporary cylinders at exterior openings with construction keys until replaced by owner with permanent cylinders.

.h Keys:

i. Consult with owner to determine master key quantities, keying, and master keying requirements.
ii. Supplier shall obtain a letter of authorization from owner prior to ordering cylinders.
iii. Permanent keys shall be nickel-silver, factory issued.
iv. Bitting list and permanent keys shall be shipped directly to:
Wake County Lock Shop
401 Capital Blvd.
Raleigh, NC 27601

.i Closers:

i. Multi-sized, non-handed closers, adjustable to meet filed conditions and requirements for opening force.
ii. Surface closers are owner preference but concealed closers can be used in liminted circumstances with approval by owner.

.j Base Mount Pivots.

i. Bass mount pivots are owner preference for oversized or heavy doors.

.k Stops and Bumpers:

i. Coordinate with owner for type of stop to be utilized.
ii. Do not mount floor stops where they will impede traffic.
iii. Where wall stops or floor stops are not appropriate, provide overhead holders.

.l Silencers:

i. Provide minimum ½" diameter neoprene or rubber material, fabricated for drilled-in application to frame.

.m Door Gasketing:

i. Continuous weather-strip gasketing on exterior doors.
ii. Smoke-labeled and fire-labeled gasketing as required to meet required rated construction.

3 Execution

.1 Wood Doors

.a **Do not** hang doors until the building is enclosed, the permanent heating and cooling systems are in operation and residual moisture from plaster, concrete, masonry or terrazzo work has dissipated.

.b DELIVERY, STORAGE AND HANDLING: No doors shall be delivered to the building until weatherproof storage space is available. Store doors in a space having controlled temperature and humidity range between 30 and 60 percent (conditioned air). Stack doors flat and off the floor, supported to prevent warpage. Protect doors from damage and direct exposure to sunlight. Do not walk or place other material on top of stacked doors. Do not drag doors across one another. Contractor shall use all means necessary to protect doors from damage prior to, during, and after installation. All damaged doors shall be repaired or replaced by the contractor at no cost to the owner. Door edges shall be protected with heavy corner guards.

.2 Hollow Metal Doors and Frames

.a DOOR AND FRAME STORAGE:

i. Contractor shall store doors and frames properly at job site off ground and protected from moisture.