

Baseline Design Standards For Student Housing



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INTRODUCTION

These Baseline Design Standards for Student Housing are provided as a resource for all persons engaged in the planning, design, and construction of student housing on the campuses of the University System of Georgia (USG). These guidelines represent the collective experience of the BOR and its Institutions regarding planning and design as well as the minimum quality standards and requirements for various materials and systems that may be considered.

It is not our intent to limit ingenuity; design and construction professionals are encouraged to bring forward ideas and suggestions that will improve the project. Requests for variance from these Standards must be submitted to BOR in writing and include detailed information on how the proposed variance will improve the project. **Approval of a variance must be provided in writing from BOR.**

If specific site conditions, codes, rules, regulations, or laws warrant a deviation from the Standards, the BOR should be immediately notified prior to proceeding with the design.

GENERAL REQUIREMENTS FOR PLANNING, DESIGN, AND CONSTRUCTION

1. *General Design Requirements*

a. Site Planning

- i. The location for new student housing shall be decided only after careful review of the campus master plan and guidance from the institution. Topographical and site conditions surveys, environmental site assessments, and geotechnical reports will be provided by BOR/Institution to aid in determining the optimal location for the building(s).
- ii. Buildings, roads, parking lots, detention ponds, shall be sited to minimize the loss of trees, use as little land area as possible, and must consider the campus master plan for future construction.
- iii. Roadways, sidewalks, curb cuts, stairs, and access ways shall connect the Student Housing facility with the other parts of the campus and the Institution's existing roadway and pedestrian sidewalk system as appropriate and match the construction type and width of adjacent facilities.
- iv. Pedestrian circulation and connectivity to existing pedestrian paths should be considered in relation to the campus master plan. Design shall meet ADA and the Fair Housing Act requirements for both internal and external access. Consideration shall also be made for accessibility to other areas of campus outside the limits of the site. ADA access must be provided and maintained during construction including temporary or permanent paths, ramps, etc. Patios and other outdoor areas for student congregation shall be included.
- v. Fire truck access, fire line requirements and fire appurtenances shall be coordinated with and meet the requirements of the local fire department.
- vi. A remote, secure trash disposal area with dumpsters (adequate for the number of persons to be served) is required for the facility. (May require compactor with appropriate electrical & sanitation services) The dumpsters shall be screened by an enclosure comprised of concrete filled CMU walls and gates to screen the dumpsters from view. This disposal area shall be accessible to trucks without impeding pedestrian traffic. The configuration of the enclosure and gates, as well as truck access shall be carefully coordinated with the local waste removal company.
- vii. The amount of parking required will vary based on the needs of each institution and the constraints of the project site.
- viii. Underground storm water detention is preferred. Locations for underground structures shall not be placed under permanent building or parking structures. Future development must be considered when planning the location of storm water. All stormwater designs shall be reviewed and approved by state and local agencies.
- ix. Transformers, Backflow Preventers, Dumpster Enclosures and other service structures shall be located in non-prominent locations and appropriately screened to avoid being visually distracting.
- x. Water service backflow devices and meters shall be set below grade in vaults or on a concrete pad and hotbox enclosed if required by local permit authorities. Provide landscaping to hide any above ground devices.
- xi. Temporary construction parking areas and routes into the construction site must be approved by the institution in advance.

b. Site Utilities

- i. Locations for all known utilities and a list of the utility companies will be provided by BOR/Institution.
- ii. The Design Builder is responsible for confirming all utility locations and identifying any utilities or site features not indicated on surveys or plans to assess the impact on design & construction.
- iii. The Design Builder is responsible for the permitting and payment of all tap fees, meter fees, impact fees, etc.
- iv. Water and gas lines for each facility shall connect to existing public trunk lines at the right of way and connect at primary meters that are in the Institution's account name.
 - vi. Power lines are typically connected behind the campus grid and sub-metered with usage costs paid by the Institution. Spaces that are leased to the Institution or third party shall have utilities metered separately,

d. Building Design

- i. Design is a dynamic process where information and ideas take form and are constantly refined until they meet the stated goals of the project. The BOR/Institution will provide input that shall be incorporated into the design to shape the project design.
- ii. Size, scale, proportions, and massing of new buildings must be visually compatible with the surrounding existing buildings.
- iii. Each student housing facility shall incorporate the character of the campus and shall be constructed with

- cost-effective, durable, energy efficient and easily maintained materials.
- iv. Curved design elements are to be avoided, segmented arcs will be considered if it is critical to the overall design aesthetic.
- v. Campus Aesthetic Standards: Each campus will provide a list of fixtures, furnishings, and materials that have been established as standards for the institution. Unless directed otherwise by the campus, the standards must be followed to ensure aesthetic consistency with the rest of the campus.
- vi. The design of the building and grounds must reflect the importance of student security.
- vii. Design shall facilitate student interaction through use of community spaces, multi-purpose rooms and location of stairways for vertical connection.
- viii. Designs that include exterior open-air stairways, corridors, or balconies are prohibited.
- ix. The floor-to-floor height of the building shall be sufficient to allow a minimum unrestricted ceiling height of 9'-0" on all floors. Bathrooms, MEP, closets, and lavatory spaces are permitted to have a minimum 8'-8" ceiling height.
- x. Natural light for study rooms, community rooms, and at the end of long corridors is required.
- xi. A fully furnished and equipped facility is to be provided by the Design Builder. In general, all rooms are to be furnished at a minimum quality level consistent with furnishings found in the other comparable housing on campus.
- xii. Appropriate attic stock of materials shall be provided for each project to ensure that there are adequate supplies to quickly replace essential equipment, parts, or worn and damaged finish materials.
- e. Structural System:
 - i. All applicable industry standards and code requirements must be followed
 - ii. Structural framing systems may include light gauge metal, pre-cast concrete, poured concrete, steel, masonry, and wood.
 - iii. If wood frame "stick" construction is considered, the Design Builder must comply with the requirements found in **Attachment 'A', USG Design and Construction Requirements for Wood Framed Structures**
 - iv. in addition, the industry recommendations found in the Technical References of Attachment 'A'.
- f. Building Exterior:
 - i. Unless directed otherwise by BOR/Institution the exterior wall materials must match existing facilities on campus where color palettes and materials have been adopted as campus standards. Approved materials for exterior wall finishes may include precast concrete, brick masonry, hardcoat stucco, and stone. Fiber-cement board and metal panels may be used sparingly and must not exceed 25% of the exterior wall area unless approved by BOR/Institution. Less durable materials such as vinyl siding and exterior insulation finish systems (EIFS) are prohibited.
 - ii. All exterior holes, gaps, and cracks must be sealed to prevent the intrusion of rodents, birds, and insects into attics or other spaces.
 - iii. Lintels and decorative bands are to be limestone, precast concrete, or cast stone.
 - iv. Exterior window sills are required at all windows and must be precast concrete or cast stone. Brick sills are not permitted. Fiber-cement window sills may be used where fiber-cement board siding is used.
 - v. Where masonry cavity wall construction is used, flashings shall project a minimum of one-half inch from the face of the masonry.
 - vi. Sheet metal soffits and fascia shall be prefinished and be of sufficient gauge to prevent oil-canning.
 - vii. All vinyl components that are exposed, i.e. vent covers, are to be selected from factory colors, not field painted.
 - viii. Lighting is required at all exterior doors.
 - ix. Hose bibs shall be provided at the building exterior no more than 150' apart.
- g. Interior Construction and Finishes
 - i. Floor Construction
 - 1. The minimum floor STC Rating is 52. Hard surface floor finishes shall have an acoustical underlayment that is secured to the substrate to deaden sound.
 - 2. Where gypcrete is used as a floor, topping it shall be a minimum depth of 3/4".
 - 3. Where precast concrete plank floor construction is used, a topping slab is required to level the floor prior to the installation of floor finishes. An acceptable level floor cannot be achieved with thin floor finish systems due to typical plank cambering.
 - ii. Floor Finishes
 - 1. All flooring finishes shall be commercial grade.
 - 2. Flooring in locations susceptible to moisture, such as at building entrances, public toilet rooms and student

bathrooms shall be a hard finish material and should have a minimum static coefficient of friction of 0.6 at level surfaces and 0.8 at stairs and ramps.

3. Carpet tiles, not rolled materials, shall be used for easier repair and cleaning in the event of damage or severe soiling.
 4. Recycled carpeting, carpeting that is recyclable, and low VOC carpeting is recommended.
 5. Carpet shall be commercial grade, solution dyed, tufted and/or woven with non-porous backing to prevent mold and mildew.
 6. LVT is allowed and shall be 30 mil wearing surface.
 7. Moisture testing of concrete and gypcrete surfaces is required to ensure required moisture levels are not exceeded prior to installation.
 8. Anti-static floor finish shall be provided at IDF/MDF rooms.
 9. Sealed concrete finish is acceptable in storage, utility, and service areas unless noted otherwise.
- iii. Wall Construction & Finishes
1. Impact resistant GWB to 8' AFF is required in corridors and public areas.
 2. Walls between units (apartments, suites or individual student bedrooms) are required by code to be fire rated and shall extend from the floor to the underside of the structure above.
 3. Demising walls between units and corridor walls shall have a minimum STC rating of 52. Walls within units to have a minimum STC 46 rating.
 4. Mechanical rooms shall have a minimum STC rating of 60.
- iv. Wall Finishes
1. All walls shall have a level 4 finish prior to the application of paint.
 2. Paint colors selected shall only be medium to light tones, dark tones are not compatible with a level 4 wall finish.
 3. Graffiti resistant coatings are recommended for areas that may be subject to vandalism.
 4. The selection of interior wall finishes should be made with sustainability and environmental indoor air quality in mind. Low VOC paints and coatings are recommended.
 5. Wet area walls to be ceramic, quarry, or porcelain tile over backer board.
 6. Gypsum board walls in bathrooms shall be moisture resistant.
 7. FRP finish to 8' AFF is required in Trash and Janitor rooms.
- v. Ceiling Systems
1. Approved ceiling systems include commercial grade suspended acoustical ceiling systems (tegular) and suspended gypsum board ceiling systems. The choice of system is dependent on several factors, including acoustic requirements for the space, required access to mechanical and electrical components above the ceiling and the desired appearance.
 2. "Hard" ceilings such as gypsum board shall be used in student living units for security reasons.
 3. Gypsum board ceilings to have a level 4 finish.
 4. Gypsum board ceilings in bathrooms shall be moisture resistant.
- h. Walks, Driveways and Parking Areas:
- i. Service Drives: Service drives and the paths for any delivery and trash vehicles shall be 8" reinforced concrete paving or heavy duty asphalt paving with a minimum section of 8" GAB, 1.5" binder, and 1" topping.
 - ii. Dumpster Area: The dumpsters shall sit on a thickened concrete pad have and a 30' approach apron in front of dumpsters to protect the area where the truck wheels turn and shall be constructed with a minimum 8" deep reinforced 3000 PSI concrete to prevent damage from front loader dumpster trucks. 6" embedded steel bollards shall be located in front of enclosure and behind each dumpster to protect walls. A freeze proof hose bib and slab drain are required.
 - iii. Parking Lots: Parking spaces shall be standard duty asphalt paving with a minimum section of 6" GAB, 1.5" binder, and 1" topping. Resident parking lots shall incorporate gate access control if required by the institution. Card system shall be compatible with the current student access card system.
 - iv. Sidewalks: Main sidewalks shall be minimum, 96" wide to allow access by service vehicles, 72" can be considered for less trafficked sidewalks with institution approval. Walks shall be traffic rated concrete pavers on a crusher run and sand base to accommodate light vehicular traffic, or broom-finish concrete depending on which is more appropriate to surrounding area.
- i. Utilities:
- i. All utilities shall be connected to existing public trunk lines at the right of way and brought to the new facility.

- The Design Builder is responsible for the permitting and payment of all tap fees, meter fees, impact fees, etc.
- ii. Water, gas, and power are required to be separately metered for each new student housing facility. The meters must be readable by the utility companies so that they can bill directly to the Institution for payment. Spaces within the new student housing facility that are to be leased back to the Institution i.e., Dining Halls, retail, shall be metered so that utility companies can bill the Institution directly.
 - iii. Water Shutoff: Valve closing directions shall be reviewed with the campus and written directions provided. If underground water shutoffs are provided, valve boxes and valve wrenches shall be provided. Underground valves can close with either a right hand or left hand turn, valves selected shall be reviewed with the campus for consistency with their existing valves.
 - iv. Fire service shutoff should be a post indicator valve provided with a tamper switch. Ensure each location and valve type is coordinated and approved by local and state fire officials.
 - v. Gas Meter/Shutoff: Gas shutoff must be accessible. Check with local utilities for any specific requirements. Regulators should be located away from windows as they have pressure relief valves and can vent gas. This will minimize nuisance reports of gas leaks by building occupants.
- j. Landscaping
- i. Coordinate with the institution for removal of trees and protection/saving methods for tree save areas. Local tree ordinances shall apply.
 - ii. Care shall be taken to ensure trees designated for protection are properly cared for during construction. Employ an arborist to obtain written guidance and care instructions for specimen trees and trees that are deemed important to the campus.
 - iii. Landscaping shall be appropriate to the climate and reflective of the landscaping on the remainder of the campus. Consideration should be given to plant materials that are easily maintained and attractive.
 - iv. Landscape areas must be very clear of all rocks and debris prior to beginning landscape installation.
 - v. Lawn areas must have sufficient topsoil prior to laying sod, any stone that was spread in these areas to facilitate construction will have to be removed and additional topsoil brought in.
 - vi. Grass lawns and open areas shall be sodded with turf that is consistent with the surrounding existing grassed areas or a turf that is approved by the Institution. Seeding shall only be allowed in areas determined by BOR/Institution.
 - vii. All landscaped and grassed areas shall employ an irrigation system, with controls, that will connect to the public water with separate irrigation meter. Underground storm water storage systems and well systems may also be considered as a source for irrigation water.
 - viii. All landscape material shall be warranted by the Design Builder for a period of one (1) year following the established date of Final Completion.
 - ix. An irrigation system is required and should be coordinated with the institutions current irrigation systems. As-built drawings of the irrigation system must be provided.
 - x. Site walls shall be designed consistent with campus standards and the building design.
- k. Site Lighting
- iii. The institution shall determine whether site lighting will be purchased or leased from the power company or local EMC.
 - iv. Exterior lighting shall be provided for buildings, walks, stairs, roadways, parking, etc. to ensure safety and security.
 - v. Exterior lighting should be designed to balance security and safety needs with light pollution considerations.
 - vi. All lighting must comply with existing campus standards for fixtures, poles, lamps, etc. BOR/Institution will provide the campus standards for exterior lighting fixtures.
- l. Site Furniture
- iii. Site Furniture shall be provided consistent with campus standards. BOR/Institution will provide the campus standards for site furniture.
 - iv. Provide bike racks for 15% of building residents unless designated otherwise by the BOR/Institution. Bike racks are to be evenly distributed and secured to concrete pads near the walkways.
- m. Signage
- iii. Interior and exterior wayfinding, directional, and identification signage shall be placed appropriately to direct pedestrian and vehicular traffic. Exterior and interior signage shall match the Institution's Signage System.
 - iv. All signage shall meet the requirements of ADA and other applicable codes.
 - v. Signage that contains building diagram, emergency evacuation routes, and locations of shelter shall be posted on exit door of each suite.
 - vi. Exterior signage with the building name shall be provided and match other buildings or as directed by the

institution.

2. General Requirements for Sustainable Design

- a. New student housing shall be designed and constructed in the most environmentally responsible manner possible, we encourage the exploration of all options to ensure the best outcome for each project and provide innovative solutions. The State of Georgia has set forth standards in their “Energy Efficiency and Sustainable Construction Standards for State Buildings” that are to be implemented to help achieve those goals. <http://www.dca.state.ga.us/develoBOR-PMent/constructioncodes/publications/Energy-Efficiency-and-Sustainable-Construction-Standards-FINAL.pdf>
- b. The Energy Efficiency and Sustainable Construction Standards for State Buildings serve as a set of instructions for state agencies, design professionals, contractors, and building operators. The Standards are organized into six sections. Section One, Requirements, outlines the requirements of Senate Bill 130 and provides potential technologies and strategies in addition to a recommended timeline and scope. Section Two, Commentary and Checklists, provides supplementary recommendations in achieving the requirements and examples of the deliverable checklists for the project team to demonstrate compliance with the requirements. Section Three, Resources, provides additional resources to the team to research further information about each requirement. Section Four, Recommendations, outlines additional strategies to pursue energy efficiency and sustainable construction standards. Optimizing energy performance, conserving energy, and utilizing local and renewable energy sources is encouraged and incentivized. Section Five, Incentives, provides a point scale for the Standards and an opportunity to achieve further incentives in adhering to The Energy Efficiency and Sustainable Construction Standards for State Buildings. Lastly, Section Six, Submittals, provides the deliverable checklists that must be submitted to the agency owner to demonstrate compliance with the requirements. The project team will not need to submit documentation beyond the deliverable checklists. However, the agency owner has the authority to audit each requirement and recommendation pursued by the project team to ensure compliance. Accordingly, project teams should keep all relevant documentation to prove compliance if the project is to be audited. The deliverable checklists in Section Six, Submittals, also serve to provide the necessary data to determine the level achieved in the Georgia Peach Green Building Rating System.
- c. Commissioning is a necessary process required by the Georgia Peach Green Building Rating System.
- d. Minimum ‘Two Peaches’ must be achieved for all buildings. Where multiple buildings exist, each building must be submitted separately. Application fees are to be paid by Design Builder.
- e. Life Cycle Analysis: When developing the sustainable design approach student housing, the true cost of ownership must be considered in final decisions regarding material and system selection. Durable, long-lasting materials and systems may have a higher first cost, but generally cost less over the life of the building and require less frequent replacement, cause less air quality issues, minimize construction waste and consume fewer natural resources. The life cycle analysis should include the cost, health, and environmental impact of routine maintenance, as well as the final disposition of products at the end of their useful lifespan.
- f. Appliances: Energystar™ appliances shall be provided to maximize energy savings and minimize energy costs.
- g. LED fixtures shall be used for both exterior and interior applications.

3. General Requirements for Quality Assurance

- a. Quality Standards: The Design Builder is responsible for understanding and complying with the requirements of the Baseline Design Standards.
- b. Quality Assurance: The Design Builder shall prepare and submit a plan to define the processes and activities that will be implemented to ensure that the required quality is achieved. The Design Builder is required to provide sufficient numbers of qualified on-site staff to assure that a quality control program is being carried out diligently.
- c. Quality Control: The Design Builder must provide a Quality Control Plan that establishes procedures and practices to ensure quality construction.
- d. Mockups: The selection of the most appropriate materials and systems to meet program requirements is important for achieving a quality project. Equally important in achieving a quality project, however, is ensuring that those materials and systems are installed properly to achieve optimal performance. Mockups are an important tool to confirm the constructability of the design, and to establish an agreed acceptance level of the finish product in terms of layout, application, detail, material, color, and appearance prior to wholesale production by the contractor.
 - i. Required Mockups:
 1. Interior Mockup: The mock-up unit shall be an actual unit in the new construction and shall include all

interior finishes, trim, fixtures, windows, doors, mechanical units and other equipment found in the room. Colors and finishes are to be final approved selections. Mechanical units and fixtures do not have to be active but must be fully installed. Once approved, the mockup unit shall be retained as the minimum acceptable standard for the remainder of the units in the project. This mockup must be complete within four weeks after dry-in.

2. Exterior Mockup: The exterior mockup shall simulate a typical portion of the building's exterior wall with as many features as possible replicated. The mockup(s) shall include all exterior wall types and include a typical window, vent, grille, lintels, sills, supports, framing, fascia, soffits, gutters, downspouts, trim, joint fillers, sealants, flashing, mullions, and glazing required. The approved material colors shall be used. Once approved, the mockup(s) should be kept in place as an example of the minimum acceptable standard for the actual exterior of the project. This mockup must be complete within four weeks of the commencement of framing.
- e. Required Testing and Inspections:
- i. The Building Code requires significant testing of many materials and systems, including Special Inspections, commonly used in building projects. The design professionals must evaluate testing requirements found in the code against the project scope, provide a listing and schedule of code-required testing, and incorporate the same into the design documents for each student housing project.
 - ii. The Design Builder is responsible for providing periodic inspections by the design team including architectural, structural, mechanical, electrical, plumbing, civil, and landscaping. Inspections shall be conducted progressively during each phase of work. Inspections shall be frequent enough to provide assurance that the project is being constructed in accordance with the approved plans and specifications. See Attachment 'B'. **The Design Builder's Quality Assurance Plan must provide the number of site visit inspections to be conducted by each design team consultant.** Each inspection shall be followed-up with a written inspection report prepared by the consultant and include photographic documentation and submitted to the BOR and BOR-PM. The Design Team, Testing Agency and Certified Industrial Hygienist must provide the BOR and BOR-PM written sign-offs certifying that all deficiencies noted in Deficiency Logs have been addressed prior to framing cover-up and installation of installing gypsum wallboard in each area. In addition, the 80% State Fire Marshal inspection must be complete and any deficiencies addressed by the General Contractor.
 - iii. Daily inspections and reporting is required during the installation of masonry to ensure that brick ties are installed properly.
 - iv. The Design Builder shall be responsible for employing an elevator consultant to review the design and specifications of the elevator system. The consultant will review shop drawings, conduct inspections during the installation, and prepare a punchlist to be completed prior to acceptance.
 - v. All windows and glazing shall be water tested. The Design Builder shall be responsible for employing a waterproofing consultant to review construction plans and specifications related to the building enclosure including review and inspection of envelope materials and physical testing of windows, window assemblies, curtainwall, and other waterproofing systems. Review comments and recommendations developed shall be submitted to the BOR for record along with evidence these recommendations were incorporated into the construction documents. Should a recommendation not be incorporated, the Design Builder shall provide the BOR with a written explanation why the recommendation was not followed and evidence that the design provided will provide adequate protection against the environment.
 - vi. The Design Builder is required to engage a full-service materials testing agency to perform all testing including Special Inspections and provide copies of all interim and final reports to BOR and BOR-PM(s) as they are issued. The testing agency shall also observe construction components involving the building envelope, mechanical, electrical, plumbing systems on a daily basis. Daily reports shall be submitted to BOR and the BOR-PM detailing the work accomplished that day and contain statements confirming the work completed was or was not in compliance with the approved contract documents. Any work that is found to be deficient is to be noted and tracked on a Deficiency Log, which should be updated and distributed, to the project team on a weekly basis. All reporting by the Testing Agency shall be timely. Any work found to be deficient, shall be immediately brought to the attention of the BOR and BOR-PM.
 - vii. Commissioning: Specific building systems are required to be commissioned under the State of Georgia standards in their "Energy Efficiency and Sustainable Construction Standards for State Buildings", however, it should be noted that any building system could be commissioned. The design consultant shall evaluate additional systems other than those identified that could benefit from being commissioned.

- f. Punch Process
 - i. The BOR, BOR-PM, and institution shall be provided the opportunity to participate in the punch process. The punch list shall be made available to the BOR, BOR-PM, and institution to monitor progress and for subsequent back-checks and quality review inspections.
 - ii. The Design Builder shall establish a schedule to punch all completed work for final acceptance. This schedule shall be coordinated with the architect, engineers, consultants, contractor, institution, BOR-PM, and BOR.
 - iii. Each architect, engineer, and consultant shall have the responsibility for inspecting and preparing a punchlist for their respective design. Each shall perform as many inspections as needed to verify that all of their punchlist items have been completed properly, this responsibility shall rest on the BOR or institution.
 - iv. The Design Builder shall deploy a software application specifically for punchlist that will organize and track the punchlist process. The software shall have an app that will allow the use of tablets to make notes, attach drawings, and photographs to produce punchlists in the field. It shall compile all punchlists into one composite punchlist. The software shall track completion of each punchlist item by the contractor and show when the punchlist item has been given final acceptance by the architect and engineers.

4. Project Reporting / Project Meetings

- a. The Design Builder is responsible for keeping the BOR and BOR-PM informed on the status of each project during all phases of design and construction.
- b. Monthly Reports shall be developed and issued in digital format within two weeks after the last day of each month. The reports shall provide details of all aspects of the project including but not limited to, Safety, Schedule, Budget, and Quality. The Design Builder shall report any project risks they are tracking for each said category. Monthly reports shall include written and photographic evidence of the status of each project.
- c. Aerial photos of each project shall be provided on a monthly basis as a part of the monthly report.
- d. The Design Builder shall provide a camera that allows viewing of real-time images of the project and provides time-lapsed video recording's for use by BOR & Institution.
- e. OAC Meetings: The Design Builder and his Contractor shall conduct OAC Meetings on the Project site every two weeks. The Design Builder shall prepare notes from the meeting and distribute to attendees.

5. Entitlements

- a. The Design Builder is required to obtain all required governmental approvals and permits, and pay all associated costs and fees.
- b. The State Fire Marshal will be the sole authority to conduct building plan reviews, issue construction permits, and Certificate of Occupancy.
- c. Local authorities will review plans associated with tie-ins to their water & sewer systems, curb cuts & roadways that tie into public roads, stormwater designs, truck access, and post indicator valve location.
- d. Local authorities will provide the Land Disturbance Permit for the project and will assess impact fees for water and sewer connections. All permit, tap, or impact fees are to be paid by Design Builder.
- e. The local health authority will perform plan reviews, inspections, and issue a permit for foodservice establishments and pools prior to opening to confirm that required safeguards are in place. The Design Builder is required to coordinate these inspections and permits.
- f. The Federal Aviation Administration will have jurisdiction over the maximum height of structures and temporary crane use that may obstruct established airways. The Design Builder is required to ensure buildings are in compliance and obtain an Official Clearance Letter from the FAA.

PUBLIC AREAS

6. Main Entrance

- a. Vestibule:
 - i. A vestibule is required at main entrance doors. The vestibule should be sized so that doors have sufficient clearance from one another to provide accessibility for the disabled.
 - ii. A walk-off mat or grate is required in main entrance vestibules.

- iii. ADA entrance requirements shall be incorporated.
- b. Main entrance doors:
 - i. At a minimum, one pair of double doors, each leaf a minimum of thirty-six inches wide, is required at main entrances to facilitate student move-in/out.
 - ii. Main entrance doors shall be storefront anodized aluminum double-glazed to fit the design intent.
 - iii. Swinging doors at the main entrance shall have continuous “piano” hinges.
 - iv. Automatic door openers shall be provided at the main entrance and vestibule. Check with institution to see if they have campus standards.
- c. Equipment required at Main Entrance:
 - i. Hardwired card access systems are required at each building entrance door to prevent unauthorized access to the student housing. Electric strikes shall be controlled by card readers as determined by the campus. The exterior access control system must be fully integrated with the existing campus system. Faculty, staff and students shall be able to operate the access control mechanisms in the same manner that they access systems at other campus sites, typically through their campus issued identification card.
 - ii. Fire alarm manual pull stations must be provided within 5 ft. of entrance (and all exterior) doors or as required by code. A fire alarm enunciator panel must be located at the main entry to the building as directed by the local fire department. A Knox Box, with tamper switch, is required at the main entry to allow fire department access into the building for emergencies, coordinate with the local fire department.
 - iii. Blue Light emergency phone devices to be located by Campus Police, if required by campus.

7. Main Lobby

- a. A Reception/Security desk is required at the main lobby adjacent the main entrance. The desk shall have a stone or solid surface transaction top and the knee wall on the guest side shall have impact resistant material. Coordinate with each Institution for specific requirements.
- b. Finishes in lobbies are as follows:
 - i. Flooring: Floor finishes shall be porcelain tile. Hard floor finishes shall be sealed, including grout. LVT and carpet tile are not permitted. Walk-off mats shall be placed inside and outside of all entrances and exits.
 - ii. Walls: Wall construction and finishes shall be of durable materials capable of resisting impact and gouging. Approved materials include impact-resistant gypsum board materials to 8' AFF, a level 4 finish, with an eggshell paint finish. . Wall base shall be 4" minimum wood. Abuse-resistant gypsum is not permitted as a substitute for impact-resistant gypsum board.
 - iii. Doors, trim and wood base shall get semi-gloss paint finish.
 - iv. Ceilings: Approved materials include 2x2 commercial grade, tegular, lay-in acoustical ceiling tile systems with a NRC .70 rating. The ceiling shall have painted gypsum board borders (minimum 1 foot wide with 2" reveal) with a flat paint finish.
- c. Drinking Fountains:
 - i. Drinking fountains are required in all student housing.
 - ii. Drinking fountains are to be specified with a hydration station for filling of water bottles.
 - iii. Stainless steel (no. 4 brushed finish) is required for all surface finishes.
 - iv. If water coolers are provided, electric power is required in addition to supply water and waste piping.
 - v. Drinking fountains shall be located in an alcove with heights dictated by ADA.

8. Public Toilets

- a. Finishes in public toilet rooms are as follows:
 - i. Flooring: Floor finishes shall be porcelain tile with a minimum static coefficient of friction of 0.6 at level surfaces and 0.8 at sloped surfaces.
 - ii. Walls: Materials on wet walls shall be ceramic tile wainscot on backer board to 4' AFF, moisture resistant gypsum board on all others, level 4 finish, painted with semi-gloss paint finish.
 - iii. Doors, trim and wood base shall get semi-gloss paint finish.
 - iv. Ceilings: Materials shall be moisture resistant suspended painted gypsum board, level 4 finish, with semi-gloss paint finish
- b. Public toilets shall be located in proximity to the main building entrance and lounge, multi-purpose, and community rooms. The entry/exit door shall swing out.
- c. Plumbing Fixtures: Designers shall confirm adequate fixture counts for proposed use and occupancy count. Fixture shall comply with ADA.

- i. Lavatory:
 - 1. Vitreous china drop-in bowls in stone or solid surface countertops (i.e. Quartz, Granite, cultured marble NOT acceptable).
 - 2. Color is white.
 - 3. Lavatory shall have a backsplash if no countertops are provided.
 - 4. A shelf shall be provided over the lavatory if countertops are not provided.
- ii. Lavatory Carrier:
 - 1. If wall hung lavatories are selected, floor mounted, concealed arm carriers bolted to the floor are required.
 - 2. Concealed arms shall be steel, with fixture locking lugs, leveling screws and a means of attaching, positioning and securing the fixture to the carrier.
- iii. Lavatory faucet and trim:
 - 1. Lavatory faucets shall be a solid, cast brass product.
 - 2. The faucet finish shall be polished chrome.
 - 3. Ceramic cartridges for faucets are recommended.
 - 4. Grid strainers should be used.
 - 5. Touchless faucet types are required.
- iv. Water Closet
 - 1. Vitreous china is the approved material.
 - 2. Color is white.
 - 3. Flush valves are required. Tanks are not permitted.
 - 4. Open front seats with stainless steel check hinges are required.
 - 5. Wall hung toilets are required to allow for cleaning under the bowl.
- v. Water Closet Flush Valve:
 - 1. Flush valves shall be solid cast brass.
 - 2. Finish shall be heavy chrome plating.
 - 3. Touchless flush hardware is required.
- d. Floor drain:
 - i. Floor drains are required in public toilet facilities. The floor drains serve two main functions: to handle the occasional overflow of a fixture and to facilitate floor washing.
 - ii. The floor must toward the drain.
 - iii. Trap primers are required for all floor drains.
- e. Bathroom Accessories: Commercial grade accessories required. Heights of all accessories must meet ADA requirements.
 - i. Approved toilet partition systems include systems with solid plastic panels, doors and pilasters. Systems with pilasters anchored at the floor and the ceiling are required to provide the greatest stability and durability.
 - ii. Coordinate the diameter of the toilet tissue holder with the type of toilet tissue roll normally supplied by the campus.
 - iii. Appropriate blocking is required to support accessories or grab bars that are attached to the walls.
 - iv. Electric "Air-blade" type hand dryers shall be included in all public restrooms.
 - v. Refillable soap dispenser shall be provided at each lavatory.

9. Vending Areas

- a. Each building must have at least one Vending area that has water, drain, electrical & low voltage connections. Additional locations may be required if needed based on overall occupancy of the building.
- b. One ice maker per building is required at the vending area. The ice machine shall be dispensing type, not open type.
- c. Heat build-up from coolers (such as soda, juice and cold snack vending machines) shall be addressed. Increased ventilation or air conditioning shall be considered.
- d. Signal wiring: Provide data outlets for vending machines to permit the use of student access cards.

OFFICES AND ADMINISTRATIVE AREAS

10. Offices

Offices for Residence Life staff is required in each project. The number of offices, workrooms, and conference rooms will vary based on the unique needs of each institution.

An office for a third-party Operations & Maintenance manager is required in each project unless another location for this office has been identified. A supply storage/work room is also required for the maintenance staff.

11. Mailrooms

A mailroom shall be provided on the first floor of each project unless the campus uses a central post office location. Mail may be front or back loaded and there must be a place for package pick-up short-term package storage.

CIRCULATION

12. Corridors

- a. STC 52 is required at corridors adjacent to resident units.
- b. Corridors shall not be narrower than 5'-4" at any point.
- c. Variation in the width of long corridors is preferred for visual affect.
- d. Approved finishes in corridors are as follows
 - i. Flooring: Floor finishes shall be durable, slip-resistant, easily cleaned materials. Consideration should also be given to the selected flooring's sound absorbing characteristics. Approved materials include carpet tile and LVT with 30 mil-wearing surface and sound mat. Carpet shall be commercial grade, solution dyed, tufted and/or woven with non-porous backing to prevent mold and mildew is required.
 - ii. Walls: Wall construction and finishes shall be of durable construction capable of resisting impact and gouging. Materials shall include impact resistant gypsum board to 8' AFF, level 4 finish, painted with an eggshell paint finish.
 - iii. Corner guards are required on all exterior corners to a height of 4'-0" AFF.
 - iv. Base shall be 4" minimum wood or 4" rubber base.
 - v. Doors in corridors shall be 7'-0" x 1 ¾". Doors, trim, and wood base shall get semi-gloss paint finish. Unit entry doors shall be 20 min. rated solid core wood door, MEP/storage/utility doors shall be flush hollow metal.
 - vi. Ceilings: Approved materials include 2'x2' commercial grade, lay-in acoustical ceiling tile system.
 - vii. Minimum height required in corridors is an unobstructed 9'-0"

13. Stairs

- a. Stair Flooring: Floor finishes shall be durable, slip-resistant, easily cleaned materials. Approved materials are rubber flooring and epoxy paint. Floor finishes may be omitted entirely if sealed concrete is acceptable to the campus.
- b. Walls: Wall construction and finishes shall be of durable construction capable of resisting impact and gouging. Approved materials include heavy gauge metal stud systems with impact resistant gypsum board materials to 8' AFF or concrete masonry units painted with graffiti-resistant coatings or semi-gloss or gloss paint.
- c. Ramps are preferable to stairs for small changes in elevation.
- d. Rails at stairs and ramps will experience heavy use and shall be constructed of heavy-duty materials and anchoring systems. Metal railings shall be painted with high-performance epoxy or be comprised of stainless steel to resist nicks and scratches.
- e. 120-volt receptacles shall be provided at each stair landing for cleaning equipment.
- f. CCTV cameras shall be provided at each landing.
- g. Provide hold-opens on doors to main stairs near elevators to encourage regular use by residents.
- h. Stair door shall be rated, with vision panel and panic hardware.

14. Elevators

- a. Designer shall review the requirements of these and other design guidelines and confirm compliance with current code. All elevator specs to be reviewed by a third-party elevator consultant.

- b. Elevators to comply with ANSI A17.1 and ADA/ADAG.
- c. Comply with Georgia Department of Labor laws that regulate elevators. Contractor is to pay all fees and to coordinate the inspection of the elevator system with the State Elevator Inspector.
- d. If possible, locate the elevators near the main stairs to encourage stair use. In addition to health benefits for occupants, this will minimize elevator energy use.
- e. At least two elevators are required in each building for redundancy. Elevators shall serve no more than 300 residents each.
- f. If there is a penthouse level, the elevator shall service this level as well.
- g. Non-public spaces shall be accessible by card reader or key access only.
- h. For passenger elevators, the elevator speed shall be no less than 150 FBOR-PM. For freight elevators, the speed is to be determined according to project needs. Each elevator shall have a minimum 3500 lb. capacity.
- i. The elevator manufacturer shall be regularly engaged in manufacturing elevator equipment of the type required for this project. The manufacturer or authorized agent of an elevator equipment manufacturer with not less than ten (10) years of satisfactory experience installing and servicing elevator equipment equal in character and performance to the project elevator.
- j. Each elevator cab shall have 8'-0" clear height, with finishes that are durable, vandal-resistant materials. Elevator cab lighting shall have LED light fixtures. At least one elevator cab shall be sized to allow gurney access and fully ADA compliant. Provide pads for protection of walls during move-in/out days. Elevator phone and service shall be in accordance with Institution Standards.
- k. Elevator may require elevator access control points and will require security cameras integrated with the existing campus software systems. Coordinate with Institution for specific requirements.
- l. All elevators shall be equipped with battery backup and controls to allow for automatic lowering and discharge to the approved exit floor in case of a power outage.
- m. Any welding on the site must be performed by personnel who have successfully passed an American Welding Society authorized test and whose welding work has been judged by a natural person who is fully authorized to do so by the American Welding Society. The authorized person who evaluates the welding must sign the certificate-signifying applicant has passed required tests. No substitutions will be permitted.
- n. All new elevators shall have air conditioning and humidity controls in the control cabinets or equipment rooms. Shaft ways exposed to exterior environment (i.e. parking garages) shall be provided with humidity control to prevent water condensation on rails and operating mechanisms. The spaces shall maintain a temperature range between 68 to 84 degrees Fahrenheit year-round.
- o. All elevator equipment is to be field painted with an approved enamel based paint upon completion of elevator.
- p. Provide Automatic Fireman's Recall System
- q. Provide directional lanterns in the cab jambs, both sides of the entrance columns and provide the car position indicator in the main floor of egress hall station, minimum 2" in height.
- r. All elevator controls to be microprocessor logic type
- s. Elevator control logic for electric traction elevators to be independent or component control logic.
- t. Hydraulic elevators are to be equipped with a sealed PVC cylinder sleeve.
- u. All elevator pits shall be sealed and watertight, with minor slope to the sump pit. Sump to be located in a rear wall corner. Sump pit must be a minimum of 2' x 2' x 2' with a galvanized steel grate cover.
- v. An oil cooler shall be provided as needed.
- w. Provide key locks for independent service, fire service inspection, and lighting & fan (four keys for each lock)
- x. Provide three copies of the "Certificate of Operation" – one to be posted in the elevator cab, one for the Institution, & one for the Maintenance and Operations.
- y. Provide all special diagnostic equipment, meters or monitors manuals needed to trouble shoot or repair elevators. Proprietary equipment, computer hardware and software, shall not be used. Provide all user and service codes for all diagnostic equipment with instructions.
- z. Two service and repair manuals for all elevators must be submitted. Service manual must include all diagnostic information. An owner's manual must be provided to the Institution. One of the three sets of wiring diagrams must be laminated. All items must be turned over to the Institution upon completion. After the one-year warranty period, all service records, manuals and diagnostic equipment must be turned over to the Institution and signed for by the Institution Project Lead.

- aa. The Installation Contractor must submit catalogs and show evidence that all required parts are kept in inventory within ten (10) miles of the elevator installation. The Installation Contractor must certify that he/she has a Service Office with full time employees within fifty (50) miles of the project site.
- bb. The Elevator Contractor is responsible for the expenses of the Elevator Inspector to witness all testing of the equipment. A Copy of the testing report must be turned over to the BOR/Institution. The cost of all elevator inspections and certificates are to be paid for by the Contractor. Elevator certifications shall be witnessed by the BOR/Institution.
- cc. Warranty period and maintenance period to be one year and coincide with General Contractor's warranty.

SERVICE AND UTILITY AREAS

15. Storage Rooms

- a. Wall construction shall be of durable construction capable of resisting impact and gouging. Approved materials include heavy gauge metal stud systems with full-height impact resistant gypsum board or concrete masonry units. Abuse-resistant gypsum is not a permitted substitute for impact resistant gypsum board.
- b. Finishes: Coordinate with each campus. Approved materials include sealed concrete floors or other highly durable products.
 - i. Where large or bulky materials (such as furniture) are stored, durable finish materials resistant to impact should be provided.
 - ii. Where liquids are stored, finishes should be water-resistant.
- c. Heating: Storage rooms shall have adequate heating to prevent freezing of stored materials as well as any piping that passes through the room.
- d. Ventilation: Materials being stored in the storage spaces dictate ventilation requirements.
- e. Smoke detection shall be provided within storage rooms.
- f. Fire sprinklers shall be installed per code requirements.
- g. Space should be provided for collection and storage of recyclables. Check with each campus for specific requirements and locations to coordinate with campus recycling protocols.

16. Janitor's Closets

- a. Floor finishes should be durable, slip-resistant, easily cleaned materials that are resistant to water leakage. Approved materials include quarry tile, sealed concrete, and epoxy coated concrete, pitched to floor drains. Tile shall have a minimum static coefficient of friction of 0.6 at level surfaces and 0.8 at sloped surfaces.
- b. Utility sink: Janitor's Closets shall have a utility sink installed. The utility sink shall be floor mounted and be of substantial construction.
- c. Provide commercial grade utility faucet. Faucet shall have a bucket hook, hose threads and a vacuum breaker. If the faucet is wall mounted, appropriate wall blocking is required for support of the faucet and the piping shall be well braced to support a full bucket. Wall finishes adjacent the utility sink shall be of durable, water-resistant materials, such as FRP.
- d. Floor drain:
 - i. Floor drains are required in Janitor's Closets. The floor drains serve two main functions: 1) to handle the occasional overflow of a fixture; and 2) to facilitate floor washing.
 - ii. The floor shall be sloped toward the drain.

17. Elevator Machine Rooms

- a. Elevator machine and control rooms shall not be located near classrooms or sound sensitive areas.
- b. Elevator machine rooms shall be carefully designed with mechanical cooling systems that insure the proper functioning of the elevator and prevent downtime due to overheating.
- c. Piping, conduit or equipment serving systems that are unrelated to the elevator(s) may not be contained in or pass through the elevator machine room.
- d. Access to elevator equipment rooms shall be restricted.
- e. Elevator rooms shall be sprinkled and equipped with shunt trip devices located outside of the elevator equipment room.
- f. Ensure proper fire separation at walls and ceilings.
- g. Floor drains are not permitted in elevator mechanical rooms.

18. Mechanical Equipment Room

- a. Wall construction and finishes should be of durable construction capable of resisting impact and gouging. Approved materials include heavy gauge metal stud systems with full-height impact resistant gypsum board or concrete masonry units, painted with semi-gloss or gloss paint systems. Abuse resistant gypsum is not a permitted alternative to impact resistant gypsum board.
- b. Special attention to sound reduction must be given for mechanical equipment rooms that are adjacent, above or below student living spaces. Mechanical Equipment Rooms to be a minimum STC Rating of 60.
- c. Consideration must be given to thermal insulation at mechanical equipment rooms containing heat generating equipment that are adjacent, above or below student living spaces.
- d. Ventilation: Mechanical equipment rooms must have ventilation provided in accordance with the Mechanical Code and the equipment manufacturer's installation requirements.
- e. Floor drains:
 - i. Mechanical equipment rooms including Boiler Rooms shall have floor drains. Floor drains to handle the occasional overflow and to accommodate equipment water discharge, whether it is planned or unplanned.
 - ii. Floor drains shall be located near equipment that will discharge water to the space. Floor drains must have adequate capacity for peak demand of equipment discharge.
 - iii. The floor shall pitch toward the floor drain.
 - iv. Trap primers are required at floor drains.
- f. Equipment access:
 - i. Design drawings shall indicate all service areas including equipment coil and filter pull areas. Adequate access shall be provided for equipment service per manufacturer's specifications.
 - ii. Replacement equipment will have to be brought into the space at some point in the life of the building. Suitable access for replacement equipment shall be incorporated.
 - iii. If equipment is being placed in an attic area, the design professional shall review the headroom and required maintenance and replacement access that will be available for equipment service. The Design Professional shall prepare detailed equipment access plans indicating proper access is provided for and include them in the contract documents.

19. Communications Room

- a. Terminate services for Telephone, Data, Security, and Cable TV services in a dedicated room.
- b. Coordinate with the facility and service providers to determine space requirements.
- c. All communication rooms must be cooled by an independent HVAC system.
- d. The flooring shall be static resistant.

20. Trash Collection

- a. Unless specified otherwise by campus, each floor shall have at least one trash chute and a trash collection room located on the ground floor near an exit leading to the dumpster enclosure. Doors must be sized to allow collection bins to be rolled in and out with a maintenance cart. Bin and compactor size/type must be coordinated with campus and vendor.
- b. Trash chutes shall be a minimum 30" diameter to prevent clogging. Provisions for odor control shall be provided at all interior trash areas. Washable wall and floor finishes shall be provided for easy cleaning.

- First floor trash collection rooms shall have a hose bib and a floor drain for cleaning.
- c. For larger student housing complexes a compactor may be required.
 - d. Trash room flooring shall be VT flooring with FRP walls at 8' AFF.

COMMON AREAS FOR STUDENTS

21. Lounge, Multipurpose, Community Rooms

- a. These rooms can be configured and equipped in many different ways for different uses. Consult with each campus for the specific programmatic use of these rooms and design accordingly.
- b. Provide audio visual systems appropriate for the program of each *space*. Each space should be reviewed with the campus for specific AV requirements.
- c. Secure storage shall be provided adjacent to lounges, multipurpose, and community rooms for storage of chairs and equipment. Check with each campus for specific requirements.
- d. Finishes are as follows:
 - i. Flooring: Floor finishes should be durable, slip-resistant, easily cleaned materials that can withstand water and dirt tracked into the building by occupants and visitors. Approved materials include stone tile, porcelain tile, ceramic tile, carpet tiles, and LVT with 30 mil wearing surface. Note: Large ceramic tiles installed in spaces such as lobbies and corridors that are on elevated plywood/gypcrete construction are prone to cracking due to flex and extra precautions must be taken.
 - ii. Walls: Wall construction and finishes shall be of durable materials capable of resisting impact and gouging. STC rating is 52. Approved materials include impact-resistant gypsum board materials to 8' AFF, level 4 finish, and eggshell paint finish. Base shall be 4" minimum wood.
 - iii. Doors, trim and wood base shall get semi-gloss paint finish.
 - iv. Ceilings: Approved materials include 2x2 commercial grade, tegular, lay-in acoustical ceiling tile systems with painted gypsum board borders (minimum 1foot wide with 2" reveal). Ceilings shall get flat paint finish.
- e. If a community kitchen is provided, it should be located adjacent to the Community Room and at a shall include the following unless noted otherwise.
 - i. Ceramic Tile flooring. Note: Large ceramic tiles installed in spaces such as lobbies and corridors that are on elevated plywood/gypcrete construction are prone to cracking due to flex, extra precautions must be taken.
 - ii. Solid wood base cabinets and wall cabinets
 - iii. Stone countertops (i.e. Quartz, Granite, cultured marble NOT acceptable)
 - iv. Double sink with disposal
 - v. Oven/range with vent hood and approved fire suppression system
 - vi. Refrigerator
 - vii. Ice-maker
 - viii. Microwave

22. Study Rooms

- a. Approved finishes in study rooms are as follows:
 - i. Flooring: Approved materials include luxury vinyl tile and carpet tile.
 - ii. Walls: STC 52 rating. Approved materials include gypsum board with an eggshell paint finish. Base shall be 4" rubber or wood.
 - iii. Doors, trim and wood base shall get semi-gloss paint finish.
 - iv. Ceilings: Approved materials include suspended gypsum board systems with a flat paint finish or 2' x 2' ACT.
 - v. Window Sills: Cultured marble.
 - vi. See Section 34 for technology requirements.

23. Laundry Rooms

- a. Provide a minimum of one washer for every 35 students and one dryer for every 30 students.
- b. Laundry rooms shall be located so that they are visible from well-frequented areas of the building in order to provide personal security for students using the laundry room and have doors with half-light kits.
- c. Floor finishes shall be durable, slip-resistant, easily cleaned materials that are resistant to water permeation. Approved materials include quarry tile, porcelain tile, and seamless vinyl flooring, pitched to floor drains. Tile should have a minimum static coefficient of friction of 0.6 at level surfaces and 0.8 at sloped surfaces. Note: Large tiles installed in spaces such as laundry rooms that are on elevated plywood/gypcrete construction are prone to cracking due to flex and extra precautions must be taken.
- d. Washing machine hook ups: Provide washing machine hook ups for all washers. Ensure that each washing machine has a hot and cold shut off valve and waste piping at each machine. Piping should be concealed in the wall construction and utilize commercial washing machine valve boxes.
- e. Floor drain:
 - i. Floor drains are required in laundry facilities. The floor drains serve to handle the occasional overflow and to facilitate floor washing.
 - ii. The floor must slope toward the drain.
 - iii. Trap primers are required at drains.
- f. Utility sinks: Laundry rooms shall have a utility sink. Utility sinks should be located to avoid conflicts with access/exit paths and door swings for laundry equipment. Commercial grade faucets are required. Cast iron is the required material for utility sinks.
- g. Exhaust:
 - i. Clothes dryer exhaust should be installed in accordance with the clothes dryer manufacturer's installation instructions as well as the mechanical code. For multiple dryer installation ensure the manufacturer's requirements for make-up ventilation are reviewed to ensure proper operation of dryers when one or more dryers are in operation.
 - ii. Ganging more than one dryer into an exhaust duct requires specific engineering to ensure that the lint particles are carried to the exterior of the building.
 - iii. Dryer exhaust duct must have access points to allow for scheduled cleaning.
- h. An electrical panel shall be installed for each laundry room to serve washers and dryers.
- i. Signal wiring: Sufficient data ports and equipment are required to allow for connection of the laundry machines to the residential network for remote notification services or debiting laundry fees from their student account.

RESIDENTIAL AREAS

24. Student Units and Bedrooms

- a. Student Units typically account for up to 70% of the square footage in the facility, so it is critical that the unit designs are laid out in the most efficient manner possible to maximize cost savings.
- b. Each resident will get a bedroom closet with shelving and clothes hanger bars. Each campus will decide if the closets will be open or will have lockable doors.
- c. Interior walls within units and between bedrooms shall have a minimum STC 46 as measured in accordance with ASTM E-336-16. Perimeter walls surrounding and between units shall have a minimum STC 52.
- d. Approved finishes in student living rooms and bedrooms are as follows:
 - i. Flooring: Approved materials include carpet tile and luxury vinyl tile with 20 mil-wearing surface and sound mat.
 - ii. Walls: Approved materials include gypsum board with an eggshell paint finish. Base shall be 4" rubber.
 - iii. Doors, trim and wood base shall get semi-gloss paint finish.
 - iv. Ceilings: Approved materials include suspended gypsum board systems with a flat paint finish.
 - v. Window Sills: Approved material is solid surface. Cultured marble is an acceptable alternate.
- e. Electrical: All room outlets (electrical, voice, data, CATV) shall be coordinated with proposed furniture layouts. Placement to maximize furniture location flexibility is to be emphasized.

- i. Each housing unit with a kitchen or kitchenette is to have an individual electrical service panel located in the unit.
- ii. Adequate circuitry to accommodate appliances, electronics, microwave, hair dryers, etc.
- iii. Provide a dedicated circuit for microwaves and mini-refrigerators.
- iv. Convenience Outlets: Multiple electrical outlets located on walls such that no location on a wall is greater than six feet from an outlet without crossing an opening.
- v. Arc Fault Circuit Interrupters: If an apartment is considered a dwelling unit as defined in the National Electrical Code, arc fault circuit interrupters are required for all bedroom electrical circuits by the NEC (Code requirement.).
- vi. Communications Equipment: Provide one CATV and two data drops in Living Room. Provide one CATV drop and one data drop per bed in each bedroom.
- vii. Wireless Technology: Robust wireless communications are required and accessible from any point in the building.
- viii. See Section 15E for bathroom electrical requirements.
- f. Mechanical: Thermostats in each unit shall be installed with a restricted temperature range between 70 and 75 degrees.
- g. Do not provide ceiling fans in living rooms and bedrooms.
- h. Bedroom Furnishings: The following shall be provided. Coordinate with campuses preferences.
 - i. One extra-long loft-able and stackable twin bed with anti-microbial mattress per resident.
 - ii. Loft-able beds shall be provided with guardrail kits. Provide for 15% of total beds unless directed otherwise by the institution.
 - iii. One three drawer dresser per resident
 - iv. One desk per resident with 3 drawers.
 - v. One task chair per resident, adjustable, no metal feet.
- i. Living Room Furnishings (if applicable): Coordinate with campus preferences. At a minimum, the Living Room will have seating for each resident.
 - i. Couch and chairs to accommodate unit residents.
 - ii. Coffee Table
 - iii. TV stand
- j. Provide hooks or pegs near entry door for hanging coats, umbrellas, etc.

25. Student Bathrooms

- a. Approved finishes in student bathrooms are as follows:
 - i. Flooring: Floor finishes should be durable, slip-resistant, easily cleaned materials that are resistant to water permeation. Approved materials include ceramic tile. Luxury vinyl tile atop water resistant topping may be considered. Floor joints at tub, shower, and toilets must be sealed with silicon caulk to prevent water intrusion due to overflows or spills in bathrooms.
 - ii. Walls: Approved materials include moisture resistant gypsum board with semi-gloss paint finish.
 - iii. Doors, trim and wood base shall get semi-gloss paint finish.
 - iv. Ceilings: Approved materials include suspended moisture resistant gypsum board systems with semi-gloss paint finish.
- b. Mechanical:
 - i. All bathrooms shall include exhaust ventilation. The exhaust fan shall have a motion sensor to keep fan on for at least 15 minutes post-occupancy to eliminate buildup of humidity and reduce the possibility of mold.
 - ii. If direct make up air is not introduced into the space, then door undercuts should be used to provide make up air to the room.
 - iii. Ceiling and wall registers must be aluminum construction in the shower area to reduce the potential for corrosion.
- c. Plumbing:
 - i. Vanity:
 - 1. Each room shall have a countertop and with at least one sink per two residents. Countertop will include base cabinet with drawers or freestanding drawers and a knee wall. Either option requires

- substantial construction methods to ensure the vanities are securely fastened to the walls.
- 2. Materials shall be integral bowls in solid surface countertops. Cultured marble is acceptable.
- 3. Provide two bathroom drawers per resident. Approved material is solid wood core. Plywood is an acceptable solid core.
- 4. There shall be one full-sized mirror over the sink, made of 1/4" cut glass with beveled edge.
- ii. Lavatory faucet and trim:
 - 1. Lavatory faucets shall be a solid, cast brass product.
 - 2. The faucet finish shall be polished chrome.
 - 3. Ceramic cartridges for faucets are recommended.
 - 4. Grid strainers should be used.
- iii. Water Closets:
 - 1. Vitreous china is the approved material
 - 2. Color is white.
 - 3. Tank type water closet is preferred.
 - 4. Toilets must be an elongated tank type with a consistent 2 3/8" minimum diameter fully glazed trapway to prevent clogging.
- iv. Showers/Tubs: Full height solid acrylic units or tubs with tile shower walls on backer board. Fiberglass is not permitted. Solid acrylic tub/shower units should follow the guidelines listed below:
 - 1. Minimum of one-eighth inch vacuum formed solid acrylic sheet formed to multiple layers.
 - 2. A solid support shower base in the standing area. This will prevent flex failures and failures at the drain connection due to movement.
 - 3. One-piece shower units are large units and typically do not fit through 36" doors and should be avoided.
- v. Shower Mixing Valve: The shower-mixing valve is a high use, high maintenance item. Shower mixing valves shall be the manufacturer's best quality valve.
 - 1. Mixing valves are required to be a pressure balance type-mixing valve, thermostatic or combination pressure balance/thermostatic type valves.
 - 2. Valves should be provided with integral screwdriver stop/checks.
 - 3. Valves can be provided with a high limit stop.
 - 4. The handle and escutcheon plate should be of substantial construction.
 - 5. Valves should be field adjusted once installed.
- vi. Floor drains with trap primers are required in all handicap accessible bathrooms.
- d. Electrical:
 - i. Locate at least one GFI receptacle adjacent to each sink. Coordinate with the Design Professional plans to insure that outlets are not installed in mirrors. Show the outlets on the Design Professional elevations.
 - ii. Provide motion sensor lighting controls in the bathroom area.
- e. Toilet Accessories:
 - i. Towel hooks and robe hooks are required. Towel bars are not permitted.
 - ii. Screw-out shower rods and curtain hooks are required. Mount at height to accommodate a regular length shower curtain.
 - iii. 2x4 wood blocking shall be provided behind all wall mounted fixtures and accessories.

26. Resident Assistant (RA) Units

- a. Unless directed otherwise by campus, provide single occupancy, one bedroom/one bath units for RA's. RA units shall be distributed on each floor adjacent to a cohort of approximately 25 – 30 student residents.

27. Resident Director's (RD) Apartment

- a. The location of the Resident Director's apartment shall be approved by each campus. Some campuses may prefer it be located near the building main entrance/lobby, while others may prefer a more remote location.
- b. The Resident Director's Apartment shall be ADA compliant and have the following features:
 - i. Its own separate entrance from the exterior and an entrance to the interior.
 - ii. Upgraded finishes, cabinetry, countertops, furniture and appliances
 - iii. Two bedrooms large enough to accommodate a queen sized bed in one and double bed in the other

- iv. Two bathrooms, one bath being ADA compliant and accessible to guests
- v. Full size washer and dryer
- vi. Full kitchen with refrigerator, stove/range with hood, microwave, sink with disposal, dishwasher
- vii. Fully furnished

BUILDING SYSTEMS AND COMPONENTS

28. Windows

- a. Approved window frame materials include thermally broken aluminum, steel, vinyl, aluminum clad, and vinyl clad. The color of the window frame shall be integral.
- b. Provide assemblies capable of complying with the following requirements:
 - i. Test Size: In compliance with requirements of AAMA/WDMA/CSA 101/I.S2/A440.
 - ii. Structural Requirements: Provide assemblies complying with requirements indicated:
 - 1. Performance Class: LC.
 - 2. Performance Grade: .35.
 - iii. NFRC Requirements – Provide assemblies capable of complying with the following total window ratings:
 - 1. U-Factor: .30 in accordance with NFRC 100.
 - 2. Solar Heat Gain Coefficient (SHGC): .22 in accordance with NFRC 200.
 - 3. Visible Transmittance (VT): .48 in accordance with NFRC 200.
- c. Windows must have at least a 10-year manufacturer's warranty.
- d. Windows shall be impact resistant in high wind zones or where otherwise required by code.
- e. Windows should generally match the size and style of other housing facilities on campus unless directed otherwise by BOR/Institution. Special attention must be given to the relationship of the window width to height and mullion configurations to achieve the right look.
- f. Windows are to be set back from the exterior face of the exterior wall at least two inches to provide architectural dimension, protection from weather, and to prolong sealant life at the window perimeter. Flush set windows are not acceptable.
- g. Window glazing shall be double insulated, low-e glass.
- h. Unless noted otherwise, windows in student rooms are to be operable, single-hung, side-load units with a fixed screen. Storefront systems are to be used in all other applications.
- i. Factory limit stops are required to restrict window openings at student rooms to a maximum of four inches. Limit stops shall be installed with vandal-resistant screws. Limit stops shall not reduce the amount of open area required by code. Students shall not have the ability to tilt windows out.
- j. Exterior windowsills are required at all window units. Where windows occur in masonry, the exterior windowsill must be precast concrete or cast stone. Brick windowsills are not permitted.
- k. Interior window stools are required to be cultured marble.

29. Roofing

- a. Roof slopes and materials shall be compatible and consistent with surrounding structures.
- b. Low Sloped Roofs:
 - i. Approved roof system types include multi-ply modified bitumen and built-up roofing systems and continuously adhered single-ply TPO. The minimum thickness of TPO membranes is 60 mils.
 - ii. Low Sloped Roofs must have parapets and slope inward to drains or have scuppers with rain leaders that are tied into an underground drainage system.
 - iii. Sheathing for low sloped roofs shall be ¾" min
- c. Shingle Roofs:
 - i. Roof sheathing must be 5/8" min. OSB decking with ice and water shield at valleys & eaves, roof felt, and drip caps.
 - ii. Architectural shingles shall match existing housing or surrounding architecture and must have a minimum of 30-year warranty. Lesser warranties are not permitted.
 - iii. Soffits shall be constructed with cement fiber material, perforated aluminum or with built in venting systems for attic ventilation. Materials are to be prefinished or factory primed. Design professional to provide calculations for code required ventilation.

- iv. Gutters and downspouts shall be minimum 6-inch prefinished aluminum. Downspouts shall be tied into an underground drainage system. Quantity, size, and distribution shall be engineered to comply with code based on roof area and rainfall amounts.
- v. Ensure roof pitch is compatible with manufacturer warranty.

30. Doors

- a. All doors, including living unit entry doors, shall be solid core flush, 1 3/4" thick, 3'-0" wide, and 7'-0" tall minimum. 20 gauge steel doors are to be used where appropriate.
- b. All doorframes, except doors within living units, to be minimum 18 gauge fully welded. Knockdown frames are not permitted. Double studs are required at either side of the doorframe opening in metal stud wall construction.
- c. Doors within living units shall be solid core flush, 1 3/8" thick, 2'-10" wide, and 7'-0" tall minimum and may have pre-hung wood jambs with a flush trim profile ("clamshell" trim is not permitted).
- d. Approved exterior door types include insulated hollow metal or storefront anodized aluminum double-glazed to fit the application.
- e. Corridor double doors shall open towards lobby side (exit side) unless prohibited by code. Both card access & hold open devices are required. A removable center mullion may also be required.

31. Door Hardware

- a. Suite entrance door hardware shall be Grade 2 or better, include storeroom lever set, chrome plated, cylindrical lock Corbin, Sargent, Schlage Primus, Best, Universal (or equal) cores capable of accepting Best, Core Max Master keying system. Minimum of 1" throw for deadbolt.
- b. Bathroom doors to be privacy set with emergency access unlocking on exterior side.
- c. All panic hardware RIM type. No concealed or exposed rods. Von Duprin System 800 (or equal).
- d. Mullions to be lockable and removable
- e. Closers to be LCN (or equal).
- f. Hinges to be 11/2 pair per door. No electric hinges.
- g. Kick plates shall be installed on both sides of suite entrance doors.
- h. One-piece piano hinges are to be used on high-traffic doors.
- i. Bedroom door hardware to include storeroom lever set, chrome plated, cylindrical lock Corbin, Sargent, Schlage Primus, Best, Universal (or equal) cores capable of accepting Best, Core Max Master keying system depending on the Campus standard. Minimum of 1" throw for deadbolt.
- j. Mechanical/utility door hardware (within units) to include storeroom lever set, chrome plated, cylindrical lock Corbin, Sargent, Schlage Primus, Best, Universal (or equal) cores capable of accepting Best, Core Max Master keying system depending on the Campus standard.

32. HVAC System

- a. Each new project shall have a stand-alone HVAC system, connection to existing campus central plant systems is not permitted unless specifically approved by BOR/Institution.
- b. HVAC shall be designed and installed according to applicable codes and standards to ensure a safe and healthy indoor air environment.
- c. VTAC, PTAC, PTHP and other direct through-wall or window unit systems are prohibited. Variable Refrigerant Flow (VRF), or other energy efficient HVAC systems, which provide individual unit temperature control are acceptable.
- d. Thermostats in resident units shall be installed and set with a restricted temperature range between 70 and 75 degrees.
- e. In student unit bathrooms the exhaust fan shall have a motion sensor to keep fan on for at least 15 minutes post-occupancy to eliminate buildup of humidity and reduce the possibility of mold.
- f. All telecommunication rooms must be cooled by an independent HVAC system.
- g. Bathrooms shall have exhaust ventilation. Consideration should be given to increased ventilation rates in toilet and shower rooms due to high demand periods.
- h. Exhaust ductwork and registers at bathrooms and laundry rooms exposed to high humidity shall be aluminum to provide corrosion resistance.

- i. Air distribution ductwork shall be aluminum. Flex duct may be used if prior approval from the BOR is granted and only if constrained field conditions dictate. Flex duct shall be installed per ASHRAE Guidelines and shall be properly supported.
- j. All communication rooms must be cooled by an independent HVAC system.

33. Plumbing System

- a. Piping:
 - i. Water supply lines shall be type L copper or CPVC.
 - ii. Waste, drain and vent piping shall be cast iron or schedule 40 PVC.
- b. Valves:
 - i. Typically, ball valves are required. For most campuses, this is the valve of choice. This should be confirmed with each campus personnel.
 - ii. Isolation valves shall be used to segregate bathrooms, janitor's closets, etc. from distribution piping and to isolate floors from risers. Both hot and cold piping should have isolation valves.
 - iii. Valves must be easily accessible to building maintenance staff and must be marked with high-visibility signage for easy location in case of emergency.
- c. Water Heater: A redundant centralized system with boilers and zoned loops per floor is preferred for domestic hot water. Dual water heaters with 100% backup and circulating pumps.
- d. Generators: If generators are required, they shall be natural gas. Verify that the gas utility service to the campus is classified as non-interruptible.

34. Electrical System

- a. Underground primary to be concrete encased PVC. Underground secondary feeders to be run in PVC and encased in concrete where crossing walks and parking lots. All work must be coordinated with Georgia Power or local EMC and meet or exceed their standards.
- b. Building Short Circuit & Coordination Study: Perform a short circuit and coordination study to determine equipment short circuit ratings and to provide for a properly coordinated electrical system design.
- c. Voltage & Campus Configuration: Verify the campus primary system voltage and primary feeder configuration and show on the drawings.
- d. Main Transformer: Provide transformers on a ground mounted pad. Transformers must meet or exceed Georgia Power or the local EMC standards. Consult with each campus to place the transformer in a non-prominent location.
- e. Primary Switching: Primary switching shall be outdoors; pad mounted, and meet or exceed Georgia Power or the local EMC standards.
- f. Primary Switching for Sub-panels and Motor Control/Equipment Center shall be a metal enclosed switchgear located indoors with a stand-alone HVAC system.
- g. Single Line Diagram: Provide a single line diagram on the contract drawings. Indicate all major equipment and connections.
- h. Grounding Details: Include grounding details to show grounding of electrical services and generators.
- i. Site Lighting Conduits: PVC conduits are to be used for site lighting circuits.
- j. Attic Junction Boxes: Coordinate with the Design Professional and make sure any junction boxes installed in an attic will be accessible.
- k. Lighting Fixtures: Use energy saving LED fixtures and lamps
 - i. Acceptable light levels for specific areas shall be in accordance with the ANSI/IESNA Lighting Handbook.
 - ii. Lighting at vanity mirrors must be sufficient to facilitate grooming needs of the students.
- l. Lightning Protection:
 - i. Perform a risk assessment to determine the risk for lightning. Provide a lightning protection system for campuses determined to be classified as high or extreme risk.
 - ii. If lightning protection is included in the project, the drawings must show the design. Show and detail roof penetrations.
- m. Electrical device trim to be stainless steel throughout. Thermoplastic device trim is not permitted.
- n. In student unit bathrooms the exhaust fan shall have a motion sensor to keep fan on for at least 15 minutes

post-occupancy to eliminate buildup of humidity and reduce the possibility of mold.

35. Communications Systems

- a. Residential Network (Resnet):
An 802.11ac wireless network will be provided with sufficient router coverage to provide a reliable connection in all areas of the building. A minimum of one data port with connectivity to resnet will be provided in each bedroom and suite common area, in addition to any data ports necessary to connect wireless routers. The number of ports with connectivity to resnet in all other areas of the building will be determined during the design process.
- b. Cable Television:
The number of television stations provided should be equal or greater than the number of stations currently provided by the institution in on campus housing. Each bedroom and suite common room will have a minimum one coaxial connection. The number of cable connections in all other areas will be determined during the design process.
- c. Analog Phone:
Provide sufficient analog phone services and handsets as required for fire protection systems supervision, emergency call box communication, and courtesy phones as determined during the design process. No phone lines are required in student unit/bedrooms.
- d. Campus Network Systems:
The campus will purchase and install headend equipment to connect the Design Builder provided surveillance cameras, card access points, and designated wired data ports to the campus network. The campus will provide all VOIP phones, credit card machines, computers, printers, and copy machine equipment for campus staff office and front desk reception areas. The number of data ports required for connectivity to the campus network system will be determined during the design process.
- e. Connection to Institution Data Center:
 - i Install all necessary conduit and fiber to provide a connection between the campus network head end equipment in the residence hall and the institutions data center. Collaborate closely with institutions chief information technology and facilities officer on route design, installation, and fiber requirements.
 - ii Service conduits are required for the service provider cables.
 - iii Provide a main communications service room for termination of system services.
 - iv Provide communications system closets strategically located throughout the building so as not to exceed recommended cable lengths.
 - v Provide riser raceways and cables.
 - vi Design a pathway for cabling from the communications system devices to the service room.
 - vii Include riser diagrams on the contract documents for communications and security systems.

36. Security Systems

All security systems shall integrate with the existing campus system. A comprehensive security plan will include:

- a. Emergency call stations, adequate lighting levels, and open landscaping at all parking areas and building exteriors. Emergency call boxes must match existing call boxes on Campus. Follow standards and coordinate locations with Public Safety Department on each campus.
- b. Access control with a single point of entry into the building, door locking systems that restrict access for non-residents, and alarm systems for service and egress only doors. Operable windows shall include integrated stops to restrict opening and windows shall not have tilt capability.
- c. Access control system shall match the standard currently utilized on each campus or meet the specific requirements set forth by the Public Safety Department on each campus.
- d. A manned control desk to monitor the entrance and enforce visitation policies is required unless specified otherwise.
- e. Glazed openings are required at all common spaces and stairwells so that people can be seen inside.
- f. Interior video surveillance to cover all public spaces, stairwells, elevators, and corridors. Exterior video surveillance shall cover all exterior doors. Video surveillance system shall match the standards being utilized on campus.
- g. Access Control Systems: Purchase and install a complete ACS include all associated costs and required customized programming per the requirements of each campus. Consult with each campus to determine

type, locations, features, and functions so that the system will integrate with existing systems and facilitate access by the campus. The Institution is responsible for upgrading/expanding software and hardware as needed in the future.

- h. Card Access Controlled Doors: Card access is required at all exterior entry doors, resident corridor doors, suite entry doors, all common room doors, and designated high security rooms where campus network headend equipment is located. Connect and integrate with existing access control system on campus. Resident Director's Office shall have a key cabinet with wired and/or wireless technology that is sufficient to connect to the campuses headend network equipment.
- i. Video Surveillance System: Purchase and install a complete VSS, include all associated costs and required customized programming per the requirements of the Institution. Consult with each campus to determine type, locations, features, and functions so that the system will integrate with existing systems and facilitate access by the campus. The Institution is responsible for costs related to expansion/upgrades to VSS system hardware and software and all software-licensing fees.
- j. Exterior Emergency Phones: Exterior emergency phone systems are provided on some campuses to allow a person to call for help in an emergency. Check with each campus for preferences.
- k. Hallway Emergency Phones: Hallway emergency phones are provided on some campuses to allow a person to call for help in an emergency. Check with each campus for preferences.
- l. Mass notification systems are becoming an integral part of both emergency and non-emergency communications for many colleges. Consult with each campus for preferences and standards.

37. Fire Alarm System

- a. Scope:
 - i. All student housing shall be equipped with fully addressable fire alarm systems that comply with NFPA 72 (National Fire Alarm Code).
 - ii. The fire alarm system design should conform to the following requirements:
 - iii. Integrated Fire/Smoke Detection and Alarm System: A complete fire and smoke detection and alarm system that is fully addressable with addressable devices. It shall include a manual fire alarm system in public spaces and automatic fire/smoke detection installed in all areas of the building, including but not limited to dwelling units, sleeping units, recreation rooms, lounges, dining rooms, laundry rooms, mechanical equipment rooms, storage rooms, corridors, and exits.
 - iv. The Design Professional shall consult with each campus to determine if a campus fire alarm standard exists. The Design Professional shall determine whether a sole source fire alarm system manufacturer is required based on the campus standards.
 - v. The Design Professional should consult with each campus to determine what doors shall be provided with hold-open devices (stair doors, corridor doors, etc.).
- b. Reporting/Annunciation:
 - i. The equipment will automatically actuate audible and visual alarms throughout the building when an automatic initiating device is alarmed or when the system is manually activated.
 - ii. Fire alarm systems shall be monitored at a supervising station for retransmission of alarms to the fire department. A supervising station recognized by NFPA 72 National Fire Alarm Code could include a constantly attended Institution Public Safety communication center, commercial fire alarm central station or fire department communication center (i.e. 911). The Design Professional shall consult with the campus to determine the supervising station location. The fire alarm system shall be monitored by an approved supervising station.
 - iii. The Design Professional shall determine if common building alarm, trouble, and supervisory annunciation or point specific annunciation is required.
 - iv. The Design Professional shall determine if the municipality requires a direct interconnection with the fire alarm system.
 - v. Provide a remote annunciator or the fire alarm control panel (FACP) at the entrance normally used by responding emergency personnel. This may be located in a building vestibule and/or lobby.

38. Fire Protection System

- a. Scope:
 - i. All new facilities shall be fully sprinklered throughout with a system that complies in all respects to NFPA 13 (Installation of Sprinkler Systems) or 13R (Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height) as applicable to the specific occupancy classification and project specific construction requirements.
 - ii. Standpipes shall be provided as required by the applicable building code. Standpipes shall be located in areas not frequented by students. Valves and control devices shall be installed as high above finished floor a code permits to minimize student access.
 - iii. Applicable seismic requirements must be fully detailed on the design drawings.
- b. Design:
 - i. The Design Professional is required to hydraulically design the sprinkler system as part of the design process. Hydraulic calculations shall be provided for review as required.
 - ii. The Design Professional shall determine if the existing water supply and pressure is adequate for the fire protection system. The Institution is responsible for any required system upgrades.
 - iii. The drawings shall indicate all piping and pipe sizes. A pipe schedule system alone is not permitted.
- c. Emergency power shall be provided for all electric fire pumps.
 - i. The fire pump test header shall be located at the building exterior and shall be readily accessible to testing personnel.
 - ii. The building fire alarm system shall monitor the fire pump for Pump Running, Phase Reversal, Loss of Phase, and Alternate Power Source Transfer.
- d. Installation:
 - i. A sprinkler floor control valve assembly (control valve with tamper switch, water flow switch, combination inspector's test connection/drain) shall be provided on each floor. The floor control valve assembly shall be readily accessible for maintenance and test personnel.
 - ii. A post indicating valve (PIV) should be provided outside the building in the fire service connection to the municipal or site water supply as required by local fire department.
 - iii. Fully recessed sprinkler heads shall be used in all areas accessed by residents (i.e. units, common areas, etc.). Provide concealed covers to match painted ceilings or ceiling features.
 - iv. Pendant or semi-recessed sprinkler heads are permitted in areas not accessed by residents (i.e. janitor, mechanical, attic, etc.).
 - v. An exterior sprinkler alarm bell shall be provided.
 - vi. The Design Professional shall coordinate the interconnection of all fire protection devices such as water flow switches, tamper switches, low air switches, and fire pumps with the building fire alarm system.
 - vii. The location of the fire department connection(s) shall be coordinated with the local fire department.
 - viii. Ensure that drain piping discharges to a suitable receptor, i.e. mop sink, or to the exterior. Drain piping should not discharge to a floor drain.
 - ix. Fire protection piping in unconditioned areas such as attics shall be insulated or supplied with heat tape to prevent freezing.
 - x. Standpipe hose connections within stairs shall be located at intermediate landings as required by NFPA 14.

LAWS PERTAINING TO STUDENT HOUSING

39. *Building Codes*

- a. The Georgia Department of Community Affairs promulgates the current State of Georgia construction codes. These may be found at the Georgia Department of Community Affairs' website at <http://www.dca.state.ga.us> under Construction Codes.
- b. For a listing of current State of Georgia fire safety standards, rules, regulations and codes, go to the Georgia Insurance and Safety Fire Commissioner's website at <http://www.oci.ga.gov/FireMarshal/Rules%20and%20Regulations.aspx>

40. *Americans with Disabilities Act*

As covered public entities under Title II of the Americans with Disabilities Act (ADA), the Board of Regents and its member institutions must ensure that its services, programs, and activities do not discriminate against individuals with disabilities. Housing constructed and/or operated on behalf of the Board of Regents and its institutions is subject to Title II's requirements, including the 2010 ADA Standards. The 2010 Standards for Accessible Design contain new scoping and technical requirements for "housing at places of education." The standards can be found at:

<http://www.ada.gov/regs2010/2010ADASTandards/2010ADASTandards.htm#titleII>

41. *Fair Housing Act*

In addition to title II of the ADA, public universities and colleges that receive Federal financial assistance are subject to Section 504 of the Rehabilitation Act of 1973, [which contains its own accessibility requirements through the application of UFAS]. Residential housing in an educational setting is also covered by the Fair Housing Act, which requires newly constructed multifamily housing to include certain features of accessible and adaptable design. Covered entities subject to the ADA must always be aware of, and comply with, any other Federal or State statutes or regulations that govern the operation of residential properties.

Contact Information

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ATTACHMENT A

USG Design and Construction Requirements for Wood Framed Structures

1. General Design Criteria

1.1. Per Adopted Georgia State Minimum Standard Building Code

1.2. Minimum Live Loads

Dormitory rooms and corridors serving them:

Live Load: 40 PSF

Partitions: 15 PSF (Including demising walls)

Public rooms and corridors serving them:

Live Load: 100 PSF

Storage rooms, mechanical rooms and Kitchens:

Live Load: 125 PSF

1.3. Minimum Superimposed Dead Loads (Self weight additional)

Typical unless noted:

Dead Load: 5 PSF

Above Kitchens and Mechanical Rooms:

Dead Load: 15 PSF minimum

Equipment: In addition to the above load, account for the weight of all equipment (mechanical, electrical and plumbing units; including piping, piping risers, kitchen hoods, elevators, etc.

1.4. Account for anticipated future build-out or occupancy changes.

1.5. Deflection Criteria:

Roofs: Live Load: L/240 (1" max.)

Total Load: L/180

Floors: Live Load: Total Load: L/480 (0.5" max.) L/240

1.6. Wood Shrinkage

Per IBC Section 2304.3.3, for structures with wooden walls supporting more than two floors and a roof, prepare and submit calculations and details, signed and sealed by a GA Professional Engineer, indicating that shrinkage or differential movement of wood framing will not have adverse affects on the following:

- Structure
- Plumbing, Electrical, or Mechanical Systems or Other Equipment
- Roof Drainage

2015 International Building Code

(Third Printing: Oct 2015)

CHAPTER 23 WOOD

2304.3.3 Shrinkage.

Wood walls and bearing partitions shall not support more than two floors and a roof unless an analysis satisfactory to the *building official* shows that shrinkage of the wood framing will not have adverse effects on the structure or any plumbing, electrical or mechanical systems or other equipment installed therein due to excessive shrinkage or differential movements caused by shrinkage. The analysis shall also show that the roof drainage system and the foregoing systems or equipment will not be adversely affected or, as an alternate, such systems shall be designed to accommodate the differential shrinkage or movements.

Furthermore, the calculations and details by a GA Professional Engineer must indicate that shrinkage or differential movement of wood framing will not have adverse affects on the following:

- Equipment (including piping risers, elevator guiderails, etc.).
- Architectural finishes (including interior walls, doors and finishes).
- Exterior walls doors, windows and veneers.
- Structural levelness (including floors and roof drainage systems).

Provide details to accommodate computed differential movements. For brick veneer, details should accommodate brick veneer expansion as well as wood shrinkage.

2. Materials/Specifications

2.1. Exterior and Loadbearing Wall Framing:

- Studs: Min. 2x6 So. Pine or SPF, No. 2., **19%** max. moisture content @ 24"o/c max.
- Plates: Min. So. Pine or SPF, No. 2, **15%** max. moisture content. Provide double top plates to support floor & roof trusses.

Handling and storage of material shall be such that these moisture contents are not exceeded at the time of installation. **Testing Agency confirmation of proper moisture content is required prior to installation and coverup.**

2.2. Floor Framing:

- Floor Joists: Wooden trusses or engineered wood products @ 24" o/c max. Dimension lumber is allowed for special framing conditions.

- Rim Bands and Blocking at Loadbearing Walls: Use of low shrinkage engineered wood rim bands and loadbearing blocking (such as OSB or LSL products) to minimize cross-grain shrinkage. LVL products shall not be assumed to minimize cross grain shrinkage.

2.3 Roof Framing:

Wooden trusses or engineered wood products @ 24" o/c max. Dimension lumber is allowed for special conditions.

2.3. Sheathing:

- Floor Sheathing: APA Rated Sheathing (Plywood or OSB), min. 3/4" T&G, Exposure 1. Place sheathing with face grain perpendicular to the supporting framing. Splice panels only over supporting joists. Provide blocking at non-T&G joints that occur perpendicular to supporting joists.
All floor sheathing shall be glued and screwed to all supporting framing members.
- Roof Sheathing: APA Rated Sheathing (Plywood or OSB), min. 5/8", Exposure 1. Place sheathing with face grain perpendicular to the supporting framing.

2.4. Masonry Veneer Anchors: Secure directly to framing (not sheathing) with stainless steel screws and in accordance with manufacturer's recommendations (nails not allowed). **Testing Agency confirmation of proper anchor installation is required throughout the installation.**

2.5. All wooden framing including beams, studs, plates and blocking that are in contact with concrete or masonry or that are exposed to weather or water shall be pressure treated (PT) lumber.

2.6 All connectors and hangers shall be galvanized.

3. Structural Layout

3.1. Design stacking unit demising walls as loadbearing elements wherever possible. Stacking demising walls will act as loadbearing elements whether or not they are assumed to be. Not accounting for this may result in unintended structural behavior and distress. Where non-loadbearing demising walls are unavoidable, provide connections that allow vertical slip between the wall top plate and the floor or roof structure above and detail finishes accordingly.

3.2. Avoid offsetting loadbearing walls between levels. If stacking of loadbearing wall is not feasible, provide LVL, steel or similar heavy structural support instead of support on typical floor framing.

3.3. Minimize cross grain shrinkage within floor systems at loadbearing elements. Use low shrinkage rim bands and loadbearing blocking.

3.4. For loadbearing walls, avoid offsetting studs between floors. Where more studs are required at a lower story than at an upper story, it is preferred to have lower floor studs directly beneath upper floor studs plus additional lower floor studs. At special conditions where offsetting studs must be used, explicitly design wall top plates to transfer load between studs above and below without excessive stress or deflection.

3.5. Where floor joists or trusses run parallel to a girder, loadbearing wall, or other stiff structural element, place the first joist or truss at 6" max. from the adjacent stiff element (in order to minimize differential displacement).

3.6. Avoid spread or strip footing founded on fill wherever possible. Where unavoidable, limit soil settlement to ½" max. Step strip footings at 1V: 2H max. at grade transitions.

4. Structural Design

4.1. Account for differential vertical movement at intersections of loadbearing and non-loadbearing walls.

4.2. Account for differential vertical movement at interface of steel, masonry, and wood elements.

4.3. Design wall headers to support load from all levels above unless openings stack exactly from floor to floor.

4.4. Design for the transfer of shearwall lateral loads through the floor system. Indicate required blocking, nailing and connectors to provide a continuous load path.

4.5. Trusses and their connection design calculations and shop drawings shall be prepared by registered Specialty Engineer and shall be submit for approval.

5. Structural Drawings

5.1. Draw structural framing plans at 1/8" = 1'-0" min

5.2. Show all members on main framing plan. Avoid reference to sub- framing plans as much as possible.

5.3. Indicate all non-typical joist hangers and connectors on framing plans.

5.4. Clearly indicate all required vertical loadbearing walls and columns on framing plans. Show loadbearing elements below the floor plane vs above.

5.5. Clearly indicate shear walls and lateral load elements on framing plans, including locations of hold owns. Distinguish between shearwalls and gravity walls. Provide full height shearwall elevations keyed to framing plans indicating sheathing,

nailing, stud placement, blocking, chords, and hold owns, etc.

5.6. Account for and describe special conditions, such as transfer beams where loadbearing elements do not align above and below a floor.

6. Construction Requirements

6.1. Finish installation sequence:

- Delay installation of masonry veneer and other brittle finishes as long as possible to minimize differential movement between them and the wooden wall structure. In any case, do not begin installation until the structure in the affected area has been topped out.
- Install gypsum board from the top story down, after the structure has been topped out. Provide wall blocking and diagonal bracing to ensure lateral stability of loadbearing wall studs prior to gypsum board installation.

6.2. Store all wood members a minimum of 3" above grade and keep continuously covered to prevent exposure to rain and water. Higher than specified moisture content at time of installation shall be cause for rejection.

7. Inspection Requirements

7.1. The following inspections are required in addition to those required by Chapter 17 of the IBC, and shall be added to the Statement of Special Inspections for the project: Performance of the indicated construction activities must be observed before the work is covered by finishes (gypsum board, sheathing, veneers, gyp-crete)

Wood Framing and Connections:

- Frequent inspection by a Georgia Professional Engineer to verify compliance with Drawings, Specifications, Shop Drawings and manufacturer's requirements, including the following:
 - Grade of lumber, manufactured wood products and sheathing.
 - Details of wood framing including member types, sizes, spacing, blocking, bridging and bearing.
 - Wood connections including nailing, bolting, tie downs, hangers and anchors.
 - Diaphragm sheathing thickness, fastener size and spacing. Metal-plate-connected wood trusses.
 - Temporary and permanent restraint/bracing in accordance with the approved truss submittal package.
- Frequent Inspections by a Testing Agency to verify compliance with requirements for:
 - Masonry Veneer Anchors: Daily inspections to verify compliance with Drawings, Specifications and manufacturer's requirements.
 - Foundation subgrade: Hand auger tests and a dynamic cone penetrometer tests at each spread footing and at 20 ft. o/c at each strip footings in order

to verify that fill soils conform to geotechnical report requirements and limit settlement to ½” maximum at footings on fill.

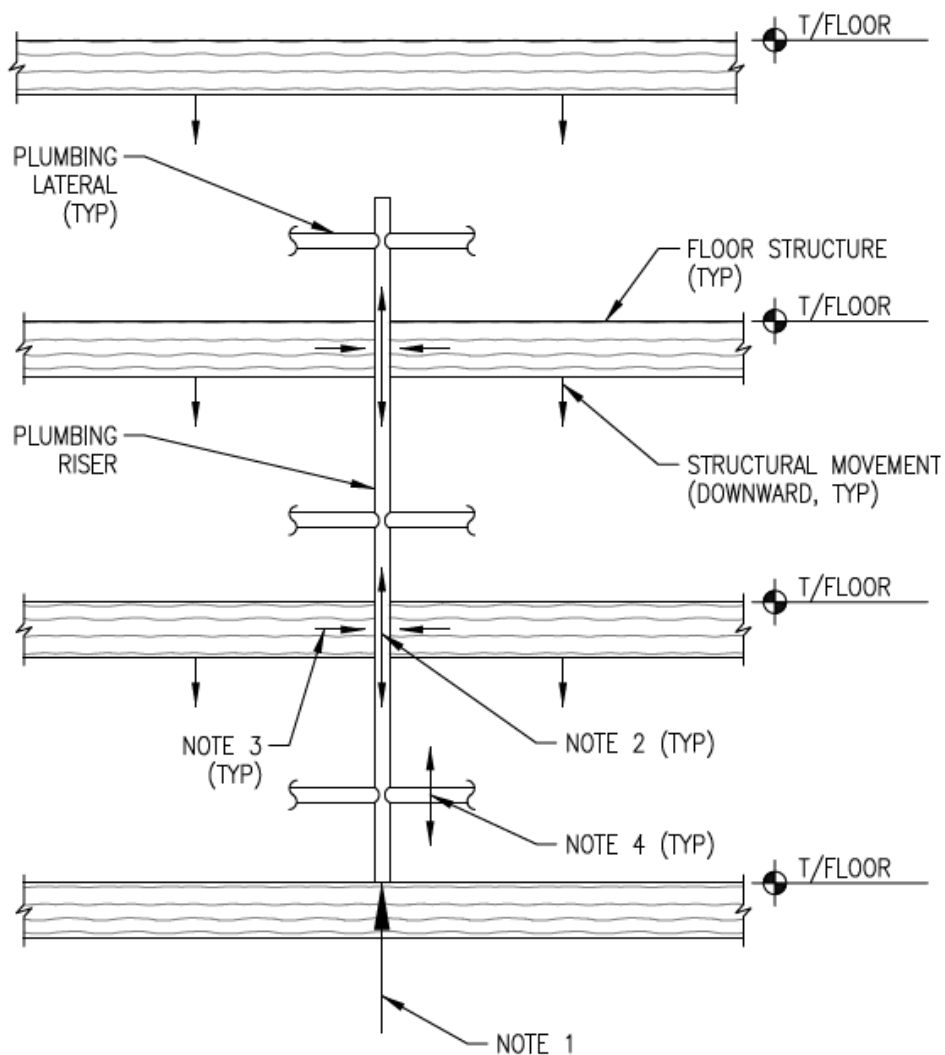
- Moisture Content: Periodic inspection of installed studs, plates, rim bands and blocking to verify that moisture content is less than specified value.

8. Technical References

- USDA Wood Handbook http://www.fpl.fs.fed.us/documnts/fplgtr/fpl_gtr190.pdf
- Wood Products Council publication “Accommodating Shrinkage in Multi-Story Wood-Frame Structures”. <http://www.woodworks.org/wp-content/uploads/Accomodating-Shrinkage-Multi-Story-Wood-Frame-Structures-WoodWorks.pdf>
- Wood Products Council “Detailing for Wood Shrinkage”. <http://www.woodworks.org/wp-content/uploads/2014-OR-WSF-STEIMLE-Detailing-for-Wood-Shrinkage.pdf>
- Accommodating Movement in High-Rise Wood Frame Building Construction <http://www.structuremag.org/article.aspx?articleID=1269>
- BIA TN-18: Volume Changes - Analysis and Effects of Movement

9. Typical Details

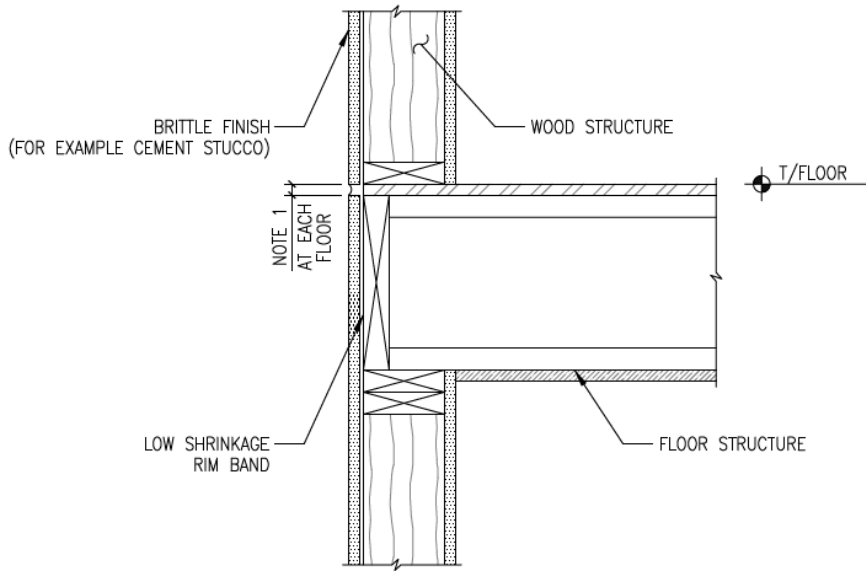
1. Typical Plumbing Riser Requirements
2. Typical Floor Level Compression Joint for Brittle Finishes
3. Typical Detail at Window Head in Brick Veneer
4. Typical Detail at Window Sill in Brick Veneer



1 TYPICAL PLUMBING RISER REQUIREMENTS

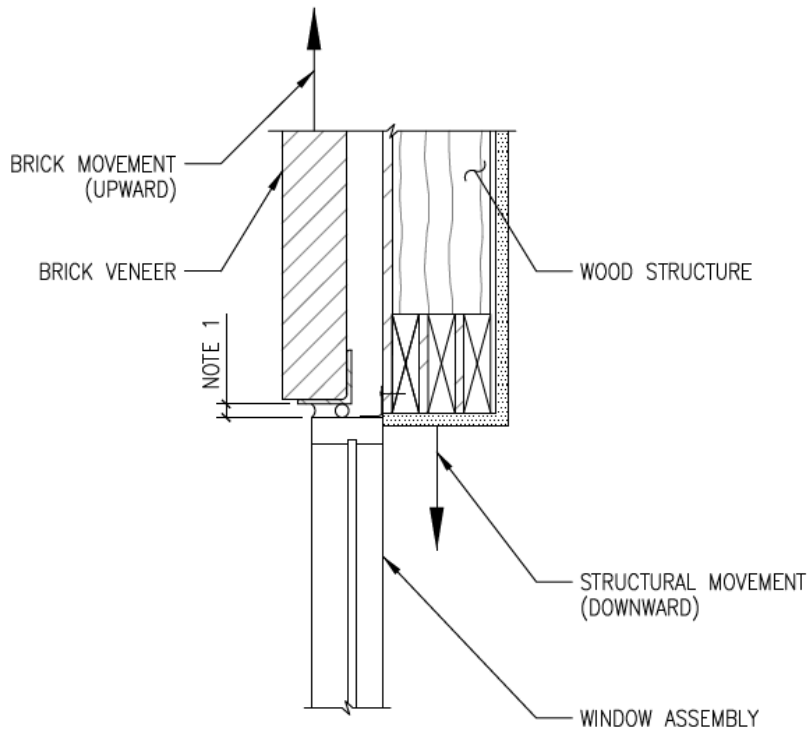
NOTES:

1. SUPPORT ENTIRE PLUMBING RISER WEIGHT (INCLUDING CONTENTS) AT LOWEST FLOOR LEVEL
2. DETAIL RISER SUPPORT TO ACCOMMODATE COMPUTED STURTURAL MOVEMENT. DO NOT ASSUME VERTICAL SUPPORT AT UPPER LEVELS.
3. PROVIDE RISER LATERAL SUPPORT AT EACH FLOOR.
4. DETAIL LATERALS TO ACCOMMODATE COMPUTED STRUCTURAL MOVEMENT (PROVIDE OVERSIZED HOLES IN WOOD MEMBERS WITH GAP BETWEEN TOP OF LATERALS AND WOODEN STUDS).



2 TYP. FLOOR LEVEL COMPRESSION JOINT FOR BRITTLE FINISHES

NOTE:
 1. DETAIL JOINT TO ACCOMMODATE COMPUTED STORY STRUCTURAL SHORTENING.
 ACCOUNT FOR SEALANT COMPRESSIVE CHARACTERISTICS.
 FLASH AS REQUIRED.



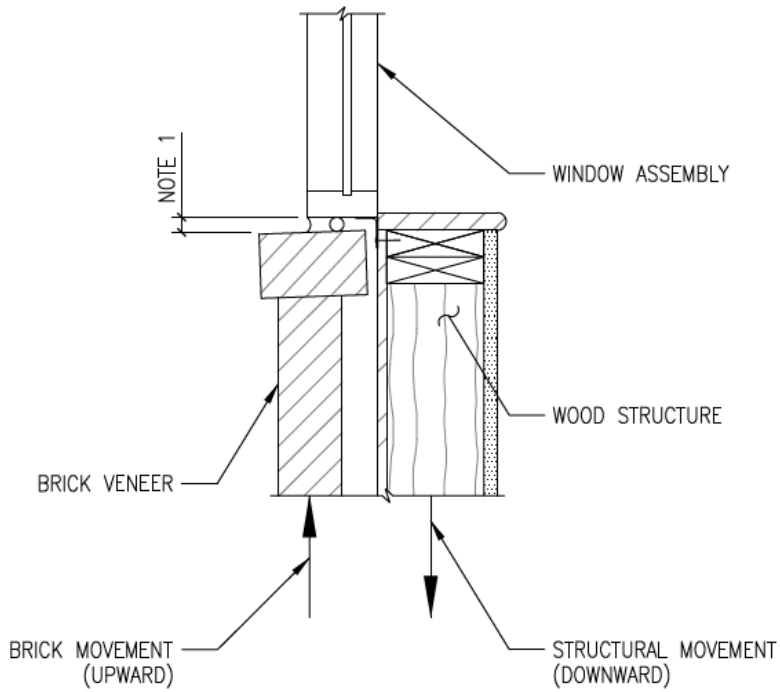
3

TYP. DETAIL AT WINDOW HEAD IN BRICK VENEER

(DETAIL AT WINDOW JAMB SIM.)

NOTE:

1. DETAIL JOINT TO ACCOMMODATE COMPUTED STRUCTURAL AND BRICK MOVEMENTS. ACCOUNT FOR SEALANT TENSION AND SHEAR CHARACTERISTICS. FLASH AS REQUIRED.



4

TYP. DETAIL AT WINDOW SILL IN BRICK VENEER

NOTE:

1. DETAIL JOINT TO ACCOMMODATE COMPUTED STRUCTURAL AND BRICK MOVEMENTS. ACCOUNT FOR SEALANT COMPRESSION CHARACTERISTICS. FLASH AS REQUIRED.

ATTACHMENT B

MINIMUM QA/QC INSPECTION REQUIREMENTS

QA/QC Inspection Requirements													
Inspecting Authorities	Types of Inspections	Sitework	Framing	Roofing	Skin	Dry-in	Rough-in	Coverup	Finishes	Comissioning	FFE	Landscape	Punchlist
Architect	Bi-weekly field visits with reports	X	X	X	X	X	X	X	X	X	X	X	X
Testing Agency	Materials, Special Inspections, P.E. Wood Framing (interim)	X	X	X	X								
Civil Engineer	Bi-weekly field visits with reports during grading and sitework	X											X
Structural Engineer	Bi-weekly field visits with reports during foundations and framing		X	X	X		X						X
Exterior Wall Mock-up	Approval required prior to beginning exterior skin		X										
Envelope	Inspection of mock-up, monthly field visits with reports during ext. skin		X	X	X								
Window Water Test	Third-party testing according to AAMA standards				X								
Unit Mock-up	Approval required prior to beginning finishes					X							
MEP Engineer	Bi-weekly visits during equipment installation, rough-in's, startup, and commissioning						X	X	X	X			X
IT	Visits as needed during rough-in, equipment installation						X	X	X	X			X
Interiors / FF&E	Visits as needed								X		X		X
Landscape Architect	Weekly field visits with reports during landscape work											X	X
Elevator Consultant	Conduct inspections during installation and commissioning						X			X			X