

**A. Steps for a Drawing Review**

The following is a basic listing of steps related to project drawing reviews. Included in this section is the current version of the Drawing Review Checklist.

1. Issue notification of drawing review
2. Request that consultants complete Drawing Review Checklist for use at the Drawing Review
3. Review/Forward blank copy if necessary
4. Review drawings
5. Conduct drawing review
6. Receive preliminary wattage calculations from A/E
7. Complete Space Utilization Update Form and deliver it to the Space Planner who will review it for accuracy

**B. Drawing Review Checklist**

**Rev. 5/19/16**

**DRAWING REVIEW CHECKLIST**

**SITE**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Has A/E reviewed final drawings of parking lot layout, truck dock, etc.? (Verify Quantity) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Do the accessible parking spaces comply with ADA? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | Are accessible parking spaces located directly across from handicap ramps in close proximity to building entrances? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Do drawings indicate the required parking lot and ADA signage (Stop signs, No Parking, Fire Lane, etc.)? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Does new site lighting comply with code in terms of location of light standards and minimum illumination? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Are sidewalks free and clear of light poles, sign posts, etc.? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Have the Public Realm Lighting Design Standards been incorporated? |  |  |  |  |  |
| 8. | Have all utilities been shown, whether affected or not? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Has the responsibility for any and all utility work been clearly indicated? – Interferences? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Have any and all abandoned utility lines remaining in our building pad been specified to be removed or grouted? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. | Have legal documents been prepared for any existing easements to be abandoned? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12. | Have legal documents been prepared for any new easements? Identify setbacks | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. | Has pressure testing of utility lines been provided for, if required? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 14. | Have additional isolation valves in water/steam loop been provided to facilitate relocation of line? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 15. | Do drawings address utility switch over during non-operating hours? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 16. | Has the general extent and type of earthwork been indicated on the drawings in accordance with the Soils Report? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  -Identify any future expansion |  |  |  |  |  |
| 17. | Has backfill placement been specified to be by the general contractor? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  | Yes | No | N/A | F/U | Remarks |
| 18. | Has the source of backfill material and disposal of spoils been addressed? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 19. | Is backfill material to be provided by others? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 20. | Does new pavement design comply with a “Design Period” of 20 years? (Permits) (20 years?)  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 21. | Does new pavement design match existing? (Finish?) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 22. | Has existing paving that is to be left in place under fill areas been specified to be pulverized? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 23. | Has a Geo-Textile Fabric been specified under paved areas if required by Soils Report? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 24. | If existing paved areas to be resurfaced…. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | - Is it a true overlay where required? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | - Is it re-sealing only where required? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 25. | Is there a minimum 1’-0” elevation drop from finish floor elevation to top of perimeter sidewalk curb or adequate slope to maintain positive drainage away from building? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 26. | Has any transite (ACM) pipe been specified to be removed? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 27. | Do documents provide for pedestrian access over open trenches? (Truck Traffic?) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 28. | Has a site phasing plan been included? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 29. | Has the staging area been located? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | - Is it 15,000 SF min.?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | - Has a fence been provided? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 30. | Have permanent utility dates been specified?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 31. | Is contractor signage in place? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 32. | Are site drainage, retention & drainage inlets noted? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 33. | Has a contract limit been set? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 34. | Has construction access been identified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 35. | Have requirements for fire hydrants been set? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 36. | Removal & reinstallation of parking and/or informational signage. Provide temporary signage? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 37. | Have alternate parking locations been discussed with Owner? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 38. | Has site lighting type & color been coordinated with Owner? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 39. | Has soil sampling been addressed for contamination? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 40. | If parking is part of the design, has security card swipes & gates been discussed with Owner? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 41. | Has routing of new utility line been discussed with Owner? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 42. | If a generator unit is installed on site, is the exhaust discharge close to any mechanical intakes? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 43. | Have drains been provided in utility man-holes? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**DRAWING REVIEW CHECKLIST**

**DEMOLITION**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Have demolition drawings been coordinated with the Scope of Work/Final A/E documents? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Has WUSM environmental language (what is it?) been included in the documents per WUSM D&C Standards & Procedures? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | Have disposal of fluorescent light tubes and ballasts been specified per WUSM D&C / EH&S Standards & Procedures? w/ disposal receipts called out – lamps/ballasts/f.a. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Is air being supplied to adjacent area at all times without dust being drawn into the system? (Filtration of air (Hepa filter) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Have HVAC filter changes been specified during demolition (min once per phase)? Use of construction HEPA filter | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Has temporary lighting been provided where existing lighting is to be removed?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Have any reused or relocated items been clearly indicated? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Is the GC responsible for lab case work demolition? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Is the GC responsible for loose equipment relocation? (misc. equipment schedule) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Has existing concrete slab been specified to be prepared to receive new finishes? (Shotblast, chemicals, etc. to remove down to bare concrete) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. | Are there any special conditions (shoring, underpinning, etc.)? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12. | Was an evaluation for Infection Control Procedures/Protocol performed?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. | Has additional cooling or heating that will be needed during any utility outage been addressed? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 14. | GC is responsible for the extra heating and cooling.  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 15. | Has the proper sealing of holes in the exterior envelope of the building been addressed because of removal of piping, conduits, etc.? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |  |  |  |  |  |
|  |  | Yes | No | N/A | F/U | Remarks |
| 16. | Has the removal of equipment supports on roofs and mechanical rooms because of the demolition of equipment been addressed? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 17. | Has temporary dedicated power been provided for demolition equipment? Spec item. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 18. | Have utility outages been coordinated with Owner for the removal of utilities in affected areas?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 19. | Smoke detectors need to be bagged in the demolition areas to prevent false fire alarm activation. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 20. | Telephone and data removal needs to be coordinated with the appropriate entities. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 21. | Fire alarm and building automation removal needs to be coordinated with the computer room. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**DRAWING REVIEW CHECKLIST**

**STRUCTURAL STEEL**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Is steel exposed to weather specified to be galvanized? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Has prime painting of steel been included where required? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | Are field painting and touch-up of structural steel included? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Is steel required to be fire-proofed? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Will metal deck accept spray-on fire proofing, if required | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Has field painting and touch-up of metal roof deck included? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Does roof deck fluting have sufficient spacing to adequately support roof insulation? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Has the Structural Engineer investigated the seismic bracing of equipment? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Has the Structural Engineer investigated the requirements of vibration control thru the structure? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Has X-bracing been coordinated with egress locations? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. | Have all floor and roof openings for HVAC work been provided? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12. | Has cutting of deck openings been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. | Have steel drawings been coordinated with the owner’s Vertical Transportation vendor? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 14. | Have steel drawings been coordinated with the owner’s Cooling Tower vendor? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 15. | Has structural system been designed to provide for future expansion rights horizontally and/or vertically? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 16. | Has structural system been designed to accommodate fully loaded sprinkler and plumbing systems? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 17. | Have parapet and screen walls been properly braced? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 18. | Are shop drawings required to have an engineer’s seal? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 19. | Has a certified survey for building plumbness been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 20. | Have miscellaneous metal and loose lintels been included? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  | Yes | No | N/A | F/U | Remarks |
| 21. | Has the design of CMU walls been verified with the Structural Engineer?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 22. | Has demolition and/or modification of existing structural steel been clearly indicated on the structural drawings? (expansion/remodel) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 23. | Have the shear walls been verified with the Structural Engineer?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 24. | Is steel contractor responsible for confirmation of all existing elevations and details at tie-in to existing buildings (expansions)? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 25. | Has the geo-technical consultant of record reviewed the drawings for conformance with soils report? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 26. | Has the engineer verified all miscellaneous equipment & storage units’ weights? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 27. | Have davits with look-out poles been provided? Has the structural engineer provided the load capacity of such system? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 28. | Has the added load, due to the use of light weight concrete deck, been incorporated into the roof design? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**DRAWING REVIEW CHECKLIST**

**BUILDING & CORE SHELL**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Has Facilities Engineering provided building core &shell review comments? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Has the roof type been verified & has roof warranty research been performed?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | Is the GC responsible for restoring the staging area upon removal? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Has a fence been specified around entire construction site? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Have landscaping beds been provided with adequate drainage away from the building? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Has topsoil been specified for planting areas? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Have landscaping beds been provided with an irrigation system? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Have sleeves been provided under concrete walks for irrigation line? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Will the irrigation system stop operation during rain? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Will the exterior wall section at planting beds prevent water infiltration into the building? What about the rest of the exterior wall section? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. | Have foundation bearing elevations been provided on foundation drawings? (Floor loads, Davit Loads) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12. | Has a perimeter foundation drain been provided? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. | Have definitive bidding quantities and parameters for deep foundation system been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 14. | Has the exterior wall system (brick veneer, EIFS, etc.) been detailed to be above grade. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 15. | Has the curtain wall system been fully designed by the A/E? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 16. | Have all reveals, control joints in the exterior wall, etc. been designed & detailed in strict accordance with the approved curtain wall design? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 17. | Has “Dens-Glas” only been specified for the building sheathing? Alternate? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 18. | Has Tyvek, wrap or spray foam only been specified for brick veneer wall systems?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |  |  |  |  |  |
|  |  | Yes | No | N/A | F/U | Remarks |
| 19. | Have galvanized relief angles been provided in masonry walls? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 20. | Have stainless steel fasteners been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 21. | Has the back of parapets been detailed with metal panels?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 22. | Has the roofing system design been coordinated with the height of the parapet?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 23. | Has building signage been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 24. | Has the dock seal been detailed to be sealed tight to the wall? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 25. | Has coping been detailed? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 26. | Have concrete admixtures been specified as unacceptable in the concrete mix design without owner’s approval? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 27. | Verify with Owner the use of flyash in the concrete mix design.  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 28. | Have roof details been provided in accordance with WUSM Standards? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 29. | Has the current WUSM roof warranty been included? (10 year roof) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 30. | Has roof hatch & access system been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 31. | Has a hand-crank jib hoist been provided at upper level penthouse? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 32. | Has a ship’s ladder been provided to roof? – Is there access to all roofs? Caged? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 33. | Have roof walkway pads been provided from roof hatches to penthouse and cooling tower only? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 34. | Have the specifications been coordinated with WUSM D&C’s Testing and Inspection program? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 35. | Have the toilet rooms been designed per current WUSM D&C standards? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 36. | Have the current toilet room finishes and colors been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 37. | Have all walls of toilet rooms been drawn in elevation? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 38. | Has Denz Deck drywall been specified for wet wall? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 39. | Have all toilet room accessories been coordinated with WUSM FMD? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 40. | Are permanent building hardware cores to be furnished & installed by the GC? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 41. | Will the drawings be submitted for building permit after bids are received? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 42. | Are there glass cleaning & requirements in place?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 43. | Has Dow Corning 795 Silicone Sealant been specified for all glazing, metal to metal, & metal to glass joints? (When going from the above to masonry, must prime masonry first.) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |  |  |  |  |  |
|  |  | Yes | No | N/A | F/U | Remarks |
| 44. | Has Dow Corning 790 Silicone Sealant been specified for all stone to stone, stone to brick, & brick to brick joints? (When going from the above to metal, must prime metal first.) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 45. | Are end dams provided at all relief angles? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 46. | Are relief angles called out to be continuous at the same elevations and not at multiple heights in a “stair step” fashion? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 47. | Are relief angles called out to be continuous and that the flashing covers the complete angle? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 48. | Has it been called out that the EIFS system must be completely finished on the bottom edge? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 49. | Have inserts been laid out for hangers for utilities and mechanical equipment on post-tensioned construction? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 50. | Have proper supports been called out for any piping or electrical that will be routed on the roof and do they comply with the roofing manufactures recommendation? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 51. | Has temporary construction power been provided to erect the shell & core? (Spec item) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 52. | Have spare sleeves to the outside of the building been installed in an accessible location for the installation of future systems? Have sleeves been sealed and capped? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 53. | Have access panels/doors been sized in mechanical/electrical and elevator machine rooms so that equipment can be easily removed and replaced? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 54. | Does the building receive and ground ring electrode? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 55. | Does the building receive a lightning protection system, and if so, is it tied to the ground ring electrode? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 56. | Are the electrical ground, telephone ground, data ground, structural steel, water piping and lightning protection all tied together? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 57. | Are the electrical, data/phone closets aligned on multi story buildings whenever possible? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 58. | Have mechanical risers (piping & ductwork) been installed away from electrical and communication closets? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 59. | Have sump pumps been installed in elevator pits and at the lowest building level? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 60. | Have 120/208V risers for receptacle loads and 277/480V risers been installed for lighting loads for new construction? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**DRAWING REVIEW CHECKLIST**

**BUILDING INTERIORS**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Has the Special System meeting been held? (date?) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Has a Special Systems meeting report been published? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | Have any and all items which will be exposed in the ceiling plenum been specified for use in a plenum? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Is there an ADA accessible path of travel from parking lot to inside of building? (Remodels) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Are all toilet rooms ADA accessible? (Remodels) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Has the door hardware been coordinated with any card reader access functions? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Is there adequate space at fire alarm panel location for firemen access? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Are permanent building hardware cores furnished & installed by the GC?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Are the floor patterns laid out? (VCT, CT, CR, etc.) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Are the locations of M, E, P, FP items in public areas (lobby, atrium area, etc.) approved? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. | Have the fire extinguisher cabinet’s locations been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12. | Are any “Areas of Refuge” needed, and clearly spelled out? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. | Have the electrical loads been checked so that panels installed under the shell & core are not overloaded? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 14. | No emergency battery lighting units to be used on buildings with an emergency generator. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 15. | Have all conduit, cable tray, piping ductwork, etc. that penetrate a fire rated wall been sealed with U.L. listed fire rated material or assembly? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 16. | Have all conduit, cable tray, ductwork, etc. that penetrate a standard rated wall been sealed? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 17. | Are there any single stall restrooms and have they been labeled with signage as for unisex use? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**DRAWING REVIEW CHECKLIST**

**DRYWALL/ACOUSTICAL**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Is toilet room chase wall deep enough to allow for WC carriers? Toilets with auto flush valves specified without toilet seat covers? Has grab bar height been coordinated w/ flush valve height? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Has plywood been specified in all electrical / data room’s fire rated? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | Have control joints been detailed in drywall ceilings and soffits? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Has water resistant Denz Deck drywall been provided at toilet rooms and janitor’s closet? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Has fire retardant wood and/or metal plate blocking been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Has all concealed blocking been specified as fire-retardant? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Have all required fire-rated partitions been provided and detailed? (Provide tested assembly #’s) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Has all drywall been standardized to be 5/8” thick? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Has the existing drywall thickness been verified? (Remodels) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Has it been clearly specified that the contractor is responsible for all hanger wires, wall angles, clips etc. required to install the ACT ceiling? And all seismic bracing? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. | Has it been clearly specified who is to furnish and install the hanger wires for the 2x2 light fixtures? – Seismic support – verify details? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12. | Have all partitions requiring sound batts been identified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. | Have the following finishes for conformance to standards been reviewed? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Floor types – VCT, seamless, epoxy, carpet (roll, tile), other – wood by exception
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Wall finishes – paint types – low VOC
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Wallcovering – by exception only
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Glass – thickness – film type – no etching
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Wall base – type – height
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  | Yes | No | N/A | F/U | Remarks |
|  | * Marker boards
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Bulletin boards
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Coordination of light switch, thermostat, fire alarm devices – outlets, data
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Clearances and service locations related to furniture and equipment
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Wall protection in high-abuse areas
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Interior signage
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 14. | Have access panels been provided for equipment that will be covered by drywall? (i.e., values, regulators, VAVs) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 15. | Have light fixtures been coordinated with ceiling layout and type of ceiling? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 16. | Has the acoustical ceiling layout been coordinated between the light fixtures, mechanical grills, sprinkler heads, fire alarm and motion sensors? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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**DRAWING REVIEW CHECKLIST**

**MECHANICAL**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Has the Systems Commissioning program been incorporated into the documents in accordance with WUSM D&C Standards and Procedures? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Have temporary mechanical system controls been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | Have an adequate amount of filter changes been specified (one per phase minimum)? (Comply with LEED) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Has a minimum relative humidity been specified at the start of Drywall work? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Is ductwork and piping specified to be tight to structure/high as possible? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Are insulated supply ducts required? Is no internally lined ductwork specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Is seismic bracing required for duct work or piping? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Have fire dampers been provided at all rated walls? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Have outside air/air change requirements been provided for? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Has the mechanical system been designated to provide for any future expansion? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. | Has propylene glycol been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12. | Will all exterior piping be painted (gas, oil, water, etc.)? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. | Has refrigerant leak protection been provided in the mechanical room? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 14. | Has local thermostatic control been provided in the general offices? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 15. | Has access been provided for all fire, smoke and volume dampers? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 16. | Has a maximum flex duct length of 5’-0” been detailed and specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 17. | Have VFD’s been provided for all appropriate mechanical components? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 18. | Has perimeter heat been provided where required? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 19. | Has toilet room exhaust been adequately sized? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |  |  |  |  |  |
|  |  | Yes | No | N/A | F/U | Remarks |
| 20. | Have exhaust fans been located a sufficient distance from outside air intakes?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 21. | Has the height of roof curbs and exhaust fans been coordinated with parapet heights? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 22. | Do specifications clearly indicate how HVAC system will be controlled prior to BAS system complete? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 23. | Does turning vane detail refer to SMACNA standards and/or specify cut off point for 2” and 4 ½” vanes? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 24. | Has new duct work installation been coordinated with existing steel heights (Remodels)? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 25. | Have supply diffusers been located away from smoke detectors? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 26. | Have clearances & access to all equipment & replacement parts been evaluated for ongoing maintenance? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 27. | Has access been provided to all valves? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 28. | Have louver locations & sizes been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 29. | Are roof drain pipes insulated? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 30. | Are AHU condensate drains insulated? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 31. | Stairwell pressurization fans accessible for maintenance? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 32. | Is all building equipment serviceable without scaffolding? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 33. | Are all AHU bird screens accessible for periodic cleaning? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 34. | Has mechanical equipment been isolated to prevent noise & vibration transmission? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 35. | Are closing dampers provided for any louvers installed in mechanical spaces to prevent line freezes? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 36. | Mechanical coordination – Do we have a minimum of 5’ clearance for access to interstitial equipment space MEPFS? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 37. | Has the HVAC equipment serving offices/labs/etc. been properly located for maintenance purposes? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 38. | Has all outdoor hot & cold water piping, condensate return, drain, tower piping shall be heat traced, and have an extra trace installed but not wired? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 39. | Do all heat trace lines not connected to a main control panel have end of line pilot light, to verify their functionality? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 40. | Has the supply diffuser location been coordinated with motion sensor locations? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 41. | Vestibule/air control/air curtain – Is there air control / air curtain in the vestibule entrance? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 42. | On remodels with return air, is dust control in place? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**DRAWING REVIEW CHECKLIST**

**ELECTRICAL**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Have the current electrical design criteria sheets been incorporated? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Have the requirement & specifications for emergency power been reviewed with the Owner? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | Is voice/data cable specified to be furnished and installed by the electrical contractor? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Is voice/data cable specification per WUSM D&C Standards & Procedures? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Have occupancy sensors been provided per WUSM D&C Standards & Procedures?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Is a separate telephone required at the fire alarm panel? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Has an allowance of extra “Exit” lights been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Is any seismic bracing required for light fixtures?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Is there any seismic bracing for all electrical pipe, equipment, lights, etc? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Have electrical rooms been designed to accommodate all panels, equipment, etc. w/ proper clearing and some room for expansion? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. | Are there any provisions for temporary HVAC controls? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12. | Is conduit specified to be tight to structure/high as possible? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. | Have lighting plans been submitted to WUSM D&C? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 14. | Have electrical room numbers been provided? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 15. | Have the roof drains and plumbing lines been coordinated with the electrical drawings? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 16. | Is it clearly specified as to who furnishes and installs light fixture hanger wires (EC or DW)? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 17. | Will the BAS drawings be required to be sealed? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 18. | Have all the Special Systems requirements been incorporated into the documents? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 19. | Are electrical panel schedules complete? Specified to be neatly typed panel listings in each breaker panel, plus a copy of each legend in the final documents given to us? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  | Yes | No | N/A | F/U | Remarks |
| 20. | Have voltage and horsepower requirements been coordinated with the mechanical drawings? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 21. | Is it specified for the architect to approve all devices in public spaces (lobby, atrium area, etc.) | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 22. | Do roof lighting requirements meet FAA (height of building)? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 23. | Has lighting protection been provided? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 24. | If emergency power is needed, has the equipment and outlet locations been identified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 25. | Have grounding risers for tele/data & power been separated and all been tied together at main electrical ground bar? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 26. | Are elevator shafts and machine room’s air conditioned? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 27. | Is GFI in pit(s) and near elevator controller? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 28. | Is conduit installed from ATS to elevator controller for pre transfer signal from ATS to elevator controller? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 29. | No in slab conduit? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 30. | Have the light fixtures been reviewed by D&C & user? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 31. | Have lamp types been compared to light bulb stock list? Deviation by exception. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 32. | Have the size and design of voice/data closets been signed off and approved by TFC/Networking Services? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 33. | Are the new building voltages 5Kv primary, 480 volt secondary, with the lab/office voltages of 208/120? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 34. | Depending on the building usage, is the main substation double ended with automatic tie capabilities? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 35. | Do outdoor and building substations have arc fault mitigation? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 36. | Are all building electrical substations, transformers, distribution gear, MCC, disconnects and panels manufactured by Eaton or Square D? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 37. | Do new building substations have draw-out style main and tie breakers?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 38. | Is electrical metering by Square D/Power Logic? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 39. | Does all new electrical work have a coordination study by a third party? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 40. | Is all new (substantially sized) electrical work commissioned by a third party? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 41. | Does all new (substantial sized) electrical work have a set of each type of fuse used in such electrical gear and a wall hung fuse cabinet? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 42. | Do all 208/120 volt panels have 20 amp breakers as their minimum size?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 43. | Are all new electrical rooms with and without transformers air conditioned? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |  |  |  |  |  |
|  |  | Yes | No | N/A | F/U | Remarks |
| 44. | For new construction projects, was the following color coded EMT (conduit) used? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | Emergency ckts:                                Red | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | Security & special ckts:                    Purple | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | Low voltage ckts:                              Blue | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | Health Care ckts:                              Green | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 45. | Are all receptacles and switches hospital grade? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 46. | Are all receptacles & switches 20 amp? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 47. | Are all lab wire ways aluminum Wiremold or Versa-Duct? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 48. | Do all pre-wired wire ways use wire nuts or wing nuts for all wire splices? No crimp connectors should be used. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 49 | If new/tall building, is it verified if there is a need for aircraft warning lights? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 50. | Have building standards been referred to for fixture style in offices, labs, hallways etc.? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 51. | Have fluorescent T8 lamps with 28 watt electronic ballast been used for all standard ceiling lighting? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 52. | Are lamps specified to meet our standard lamp rating at 4100 Kelvin? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 53. | Are all recessed can fixtures fluorescent? LED to be used in hard to access locations. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 54. | Does all hallway, restroom lighting have ultrasonic/infrared switching sensors? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 55. | Do all branch circuits have dedicated neutrals? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 56. | Has the type and size of cable tray been coordinated with WUSM? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 57. | Do all buildings have a minimum of two automatic transfer switches, a life safety ATS and an optional standby ATS? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 58. | Are motion sensors used in offices, labs and corridors? Are countdown timers used in mechanical and electrical rooms? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |  |  |  |  |  |
| 59. | Does the main electrical substation(s) have Square-D power logic metering for logging data? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 60. | On new building construction. Has a Schneider Electric WAGES system been installed which meters the buildings chilled water, steam and electrical usage? System to be tied into the North building basement Struxtureware system and programmed. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 61. | On new building construction. Are the double ended Substation(s) Main & Tie breakers the rack-out type? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 62. | On new building construction. Has an ALERTUS system been installed that connects into the building fire alarm system for mass notification? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**DRAWING REVIEW CHECKLIST**

**PLUMBING**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Has all piping been specified to be tight to structure/high as possible? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Is seismic bracing required for piping? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | Has a floor drain been omitted at water treatment chemical storage area? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Has a splash block/concrete been provided at through-wall storm drain overflow outlet? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Is the elevator sump piped to sanitary system? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Has the roof drain piping been coordinated with the M, E, FP drawings? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Has exposed gas piping been specified to be painted/touched up? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Has a high water / loss of power alarm contact been provided at the elevator sump? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Has landscape irrigation system been coordinated with the plumbing drawings? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Are all lavatories and faucets ADA compliant/touchless? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. | Are horizontal runs of roof drains specified to be insulated? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12. | Has piping been specified in accordance with soils report (corrosion resistance, etc.)? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. | Has location of clean outs at sink and toilets been coordinated w/ FE? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 14. | Is power shown for the locations of hand free faucets? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 15. | Are there any devices or equipment that can either use or produce extremely high water temperatures and are they connected to any drains that are made of plastic? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 16. | Has the building reduced pressure zone back-flow device been located in an area for ease of testing and maintenance and is no higher than 6’ above the floor? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 17. | Have drains and vents been installed in liquid pipes that have low spots? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**DRAWING REVIEW CHECKLIST**

**FIRE PROTECTION**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Is piping specified to be installed as high as possible? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Is seismic bracing required for piping? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | Have glass bulb or fusable link sprinklers been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Has sprinkler head location tolerances within acoustical ceiling tiles been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Has sprinkler head centerline alignment criteria been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Have the FM contacts been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Have the flow alarms and tamper switches been coordinated with the mechanical and electrical drawings and specifications? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Has water flow test data been incorporated onto the specifications? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Has a schedule 40 sprinkler piping been specified? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Is there an express drain installed for flow testing? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 11. | Has a 286 degree temperature rated sprinkler head been called out for in an autoclave area? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12. | Are duct detectors monitoring smoke for Air Handlers connected to the building fire alarm system? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 13. | Is the building fire alarm system communicating with the Facilities Engineering Control Room in the North building? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 14. | Was the system designed around a Siemens or Notifier standard system? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 15. | Has fire pump been sized properly? If connected to a generator, provide with internal ATS. | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 16. | Do the temperature control cabinets have dedicated electrical power? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 17. | Is all of the Animal Facility temperature control equipment on emergency power? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 18. | Is C&C Group installing a BACnet or LONworks Building Automation System? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 19. | Is Johnson Controls installing a BACnet or LONworks Building Automation System? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  | Yes | No | N/A | F/U | Remarks |
| 20. | Has an Ethernet drop installation been requested through the Central I.T. website for the Building Automation System? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 21. | Is the Building Automation System communicating with the Facilities Engineering Control Room in the North Building? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 22. | Are any of the existing Honeywell Building Automation Controls being replaced with C&C Group LONworks system in 4444 Forest Park building? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 23. | Are any of the existing C&C Group Network 8000 Building Automation Controls being upgraded to either BACnet or LONworks by either C&C Group or Johnson Controls? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 24. | Has the University received As-Builts for the temperature control work? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 25. | Are there graphics representing the building automation system in the Control Room? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 26. | Is the climate room monitored by the building automation system? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**DRAWING REVIEW CHECKLIST**

**ELEVATORS**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Are all elevators/escalators non proprietary?  | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2. | Have WUSM elevator standards been reviewed for specific qualifications? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3. | For any elevator equipment room, shaft that is not directly related to the elevator, are there any penetrations of piping or conduit? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4. | Have all elevators had a sump for a sump pump installed, including emergency receptacle for pump and control/alarm conduit to nearest BMS panel? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5. | Does elevator have a PASS security system installed for floor access? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6. | Is the elevator machine room HVAC on emergency power if the elevator is on emergency power? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7. | Is a Bussmann power module used for shunt trip of the elevator power before discharge of sprinkler head? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Has an Innovative Technologies surge suppressor been connected into the Bussmann power module for protection of the elevator controller? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9. | Has a sprinkler system been installed in the elevator machine room and shaft? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. | Has fire alarm smoke and detectors been installed to coordinate with sprinkler head locations? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**DRAWING REVIEW CHECKLIST**

**SPECIAL INSPECTIONS & TESTING**

**PROJECT:**

**CONSULTANT:**

**PROJECT MANAGER:**

**DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Yes | No | N/A | F/U | Remarks |
| 1. | Have special inspections & testing been completed for the following? | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Steel, concrete and masonry, wood, foundations, fire proofing and seismic components
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Design strength of materials
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Structural aspect of exterior walls
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Ceilings supports details
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Interior stud wall attachments
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Non load bearing interior CMU walls
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | * Seismic anchorage of light fixtures, diffusers, ducts, piping, and equipment
 | 🗆 | 🗆 | 🗆 | 🗆 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |