



Policy Title: Directive 1A-8 Constructability Review

Responsible Office: Design & Construction

Last Revised Date: September 2019

Summary

The Consultant will perform a constructability review with the Campus, Fund's Coordinator(s) for Design and Construction, and its subconsultants. The Consultant will modify its documents to reflect the directions given at the constructability review(s).

Overview

The constructability review will identify risks, special requirements and other factors that a Contractor must address during the work of the Project. The design approach may mitigate the impact of these factors, and the design documents and cost estimate must include provisions for addressing these factors.

Responsibility

The Fund Coordinator will facilitate the constructability review meeting. The Campus will identify special requirements, conditions and other factors that must be addressed during the work. The Consultant and its subconsultants will identify other design risks, special requirements, including permitting and other factors and consider all special requirements, conditions and factors identified when performing and completing design services. This Directive/Checklist will be distributed at the approval of the Schematic Design Phase by the Fund.

Procedures - Instructions/Guidelines for Constructability Review Meeting

- I. The Constructability Review meeting should/will take place at a half-way point during the Design Manual phase following the acceptance of the Schematic Design Phase Submission where the Consultant would have received instruction from that acceptance to prepare and schedule this meeting appropriately with the completion of the SUCF Directive 1A-8 and its corresponding Checklist.
- II. The completed Checklist should/will have been submitted in advance of the scheduled Constructability Review meeting to the Campus & Fund.
- III. Coordination between the applicable Division I – General Requirements and drawings to the responses of the completed Constructability Checklist should/will be executed prior to the meeting.
- IV. The Consultant following the completion of the meeting should/will generate an action items list with the documented meeting minutes which both items shall be deliverables required for the pending Design Manual Phase submission.
- V. Unless otherwise directed by the Fund Coordinator, an additional constructability review meeting will take place prior to the submission of the Pre-Bid documents, preferably at 60% Construction Documents. The Consultant will be responsible for updating the checklist and distributing same prior to the review meeting.
- VI. Meeting may/shall be held at the Campus and attendees shall review work in all impacted spaces.

- VII. Refer to the Constructability Checklist contained herein for recommended agenda items and content. In the interest of time, where an item is checked “yes” but key stakeholders are missing, it may be appropriate to table discussion for a later meeting with the appropriate stakeholders.
- VIII. After or as part of the meeting, it may convenient to begin the editing of the Fund’s standard *Section 01 00 00 General Requirements* to reflect the “yes” check boxes agreed to at the Constructability meeting. *Section 01 00 00 General Requirements* will be sent to the Consultant by the Fund’s Coordinator.

Agenda of Constructability Review Meeting

State University of New York {*CAMPUS*} SUCF Project No. XXXXX {*PROJECT TITLE*}

Project Information Summary:

I. Introductions

1. Meeting was opened with introductions, roles and responsibilities. An attendance sign-in sheet shall be completed for inclusion of the recorded meeting minutes by the Consultant.
2. Confirmation that the project has completed design review at the Schematic level, comments by Campus and Fund were distributed and that the Consultant team have reviewed and replied to those comments.
3. Confirmation that the Consultant team in preparing for this meeting have reviewed SUCF Directive 1A-8, completed the associated checklist and submitted that completed item to the Campus and Fund for review as preparation for this meeting.
4. The Consultant team shall confirm that in completing the checklist that the design documentation reflects those responses and that the Division I – General Requirements and associated reference documents are coordinated with the checklist responses and project documentation. Exceptions should be identified and discussed.
5. Following completion of the Constructability Review Meeting, the Consultant team shall document the action plan through meeting minutes for distribution for acceptance by the Campus and Fund. These minutes, along with the completed checklist (incorporating revisions as applicable), shall be part of the pending Design Manual Phase submission.

II. Division I – General Requirements: Applicable Review Topics

1. **01 18 13**, Utility Shutdowns & Cutovers: Discuss utility shutdowns and cutovers of all types and how they will be specified and shown on the drawings.
2. **01 26 43**, Amendments: Discuss the need for a full-time Project Manager in addition to the full-time superintendent.
3. **01 31 13 10**, Exploratory Demolition: Discuss if test pits and other exploratory demolition should be performed by the Contractor and how this will be shown on the drawings.
4. **01 31 13 20**, Existing Conditions: If multiple bid packages or ongoing work by others is a factor, discuss hand off procedures.
5. **01 31 19 10**, Mock-ups: Discuss if exterior walls, interior finishes and other systems will benefit from mock-ups and how they will be shown on the drawings.

6. **01 32 13**, Special Project Schedule/Phasing: Discuss any special requirements for the Scheduling and/or Phasing of the Project and how it will be shown on the drawings and specified. If fixed end dates for completion of phases are requested, identify fallback dates, contingency plans and other steps that may be considered if the fixed dates are not achieved. If second or third shift work is proposed, discuss who will be on site to watch the work.
7. **01 35 23**, Safety and Protective Facilities
 - a. Discuss temporary partitions, barriers, temporary exist paths, mechanical ventilation systems required for fire code compliance, the containment of dust and debris and/or for proper separation of the contractor from other occupied spaces and how they will be shown on the drawings.
 - b. Confirm that work shown on MEP drawings fits within temporary partitions shown on architectural drawings.
 - c. Discuss the type and known extent of utilities that need to be traced and how this will be shown on the drawings.
 - d. For Hospital or other projects with infection control procedures, discuss Section 01 35 33 Infection Control Procedures and what needs to be shown on the drawings.
8. **01 51 13**, Temporary Power for Construction Purposes: Discuss power sources, metering, isolation, transition to permanent power, and other temporary electrical work and how it will be shown on the drawings.
9. **01 51 16**, Temporary Fire Protection and Fire Separation of Work from Occupied Space: Discuss fire watches, variances, temporary fire protection systems, modifications to the existing systems and other work and how it will be shown on the drawings.
10. **01 51 23**, Temporary Heating and Cooling for Construction Purposes: Discuss heat sources, metering, isolation, transition to permanent systems, and other temporary heating and cooling work and how it will be shown on the drawings. If there is interior work or need to record interior temperatures, discuss how the data loggers in Section 01 51 23 will be used.
11. **01 51 26**, Temporary Lighting for Construction Purposes
12. **01 51 36**, Temporary Water for Construction Purposes
13. **01 52 19**, Temporary Sanitary Facilities for Construction Purposes
14. **01 55 29**, Staging and Storage of Materials for Construction Purposes: Discuss staging areas, storage areas, access roads, delivery points, building access points, scaffold stairs and hoists to upper levels, fencing, fire department access, and other temporary construction activities and how they will be shown on the drawings. Confirm if the Campus' Oil Spill Prevention Control and Countermeasure (SPCC) Plan is affected by the work.

15. **01 56 19**, Noise Mitigation Measures During Construction: Discuss the risk of nuisance of noise and vibration to occupants of adjacent spaces and what measures will be specified in Section 01 56 19.
16. **01 64 00**, Campus-furnished products for construction/installation.
17. **01 71 36**, Non-destructive building examination: If this section is required, discuss where it should be noted on the Drawings.

III. Review Checklist in appropriate detail as required by the scope to be bid.

A. General			
1. Does the project site location have limitations that may create construction hardships and/or Campus operation issues? (i.e. utility congestion, limited project site for staging and parking, located in unfavorable area (such as side of embankment, near wetlands, or near Campus sensitive areas)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
2. Are the locations of all hazardous materials shown and is the Campus aware of the required containment and shutdown requirements?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
a. Has the asbestos checklist been reviewed (see 1D-6 Asbestos Abatement)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
3. Is project location easily accessed without major Campus disruption (roadways)? What considerations will be required/necessary?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. Will there be special Campus requirements? (i.e. parking, access, work hours, background checks, inoculations)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5. Will there be major utility interruptions for tie-ins? Has Campus agreed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
a. Has the Consultant prepared a well-thought-out utility tie-in scenario?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
b. Does Campus understand and concur? Provide written concurrence.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
8. Has project sign been tentatively located? Construction trailers? Staging/storage? Checked against <u>NFPA 241 Table 4.2.1</u> ?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
9. Will there be a need for temporary utilities (gas, electric, water, sewer, HTHW, steam, telephone) and can the project site support this? Are the plans clear? Does Section 01 00 00 General Requirements address this?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
10. Have existing services been impacted? Are these addressed in design and documents? Have existing systems been inspected/analyzed for functionality and compatibility with new system interfacing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
11. Will there be a need to access parts of other existing buildings not in this project for other work or accessing this project?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
12. Verify that the Campus as-built information is available and the same has been reviewed.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
13. Does the as-built information incorporate recent changes, subsequent projects as well as Campus modifications?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
14. Has a topographic/utility survey been completed? (use of aerials for contract documents not permitted)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
15. Has the Campus identified any Campus activities, phasing or limitations that may impact construction activities during the period prior to project acceptance? (i.e. graduation, alumni weekend, community events, Campus power plant annual shutdowns, testing and study periods, renting of space) Has the Consultant captured these constraints in Section 01 00 00 General Requirements?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

16. What odors, dust, noise, vibrations will occur during the construction and how will their effects be mitigated and monitored?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
17. If project is a rehab, gut-reno or addition, is there adequate power to accommodate the new design and equipment? Are panels and sub-panels adequately sized?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Fire Code Compliance			
Has Fire Safety been reviewed with Campus Fire Prevention Program Superintendent?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
a. Show fire apparatus access roads per Section D105 of the FCNYS?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
b. Show a staging area layout, gates, Knox box and appropriate signage that complies with Section D103 of the FCNYS?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
c. Show pavement designed to support a 75,000 lb. vehicle?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
d. Show the temporary roads needed before the permanent roads are installed.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
e. Show the temporary partitions required by <u>NFPA 241</u> on the Drawings (1 hr-rated partitions with 45-minute opening protectives) unless sprinklers are always active?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
f. Show a clear separation between Campus occupied spaces and contractor occupied spaces.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
g. Show the closed exits, the temporary alternate routes that replace closed exits, or note the reduced occupancy if exits are not temporarily replaced.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
h. Show the extent of temporary protection and other temporary work required to permit continued occupancy by the Campus.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
i. Show egress details that comply with Section 1009 of the Code.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
j. Discuss mitigation/signage/education program for potential Campus users.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
k. For demolition of existing work that is more than 50 feet above grade, show catch platforms or other special temporary protection.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
l. Discuss use of existing stairs during roofing work, asbestos abatement, or other, similar "dirty" work.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
m. Discuss the type and known extent of utilities that need to be traced by the contractor to permit Campus occupancy.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
n. Obtain copies of typical Campus permits and conditions if they are not available on a public web site that can be listed in the documents.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
o. For hot work, show combustible construction, if any, on the drawings per <u>NFPA 51B</u> .	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
p. Show temporary valves and plugs for sprinkler systems required to separate the portion of the system used by the Campus.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
q. For demolition work, show the temporary plugs and valves required to keep the sprinkler system operational for the longest time possible.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
r. Determine if a fire watch may be required during any part of the work and who will provide the trained staff.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
B. Site Work			
1. Have permits been secured (i.e. DOT, DEC, local requirements as applicable)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
2. Has the Consultant verified all underground existing utilities for conflicts? If needed, have any test pits been performed during design for utility verification?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
3. Have the capacities of those utilities been confirmed for the new design and new power requirements (i.e. gas pressures, water flows/pressures, pipe capacities)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. Any unusual soil conditions known on Campus? Have test borings been done? Are test pits necessary for determining foundation design parameters?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

5. Do documents address rock and ground water?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6. Have recommendations of a geotechnical report been incorporated into drawings and technical specifications?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
7. Does the Campus have special requirements for utility tie-ins? (i.e. notification requirements, utility company approval and involvement, safety issues)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
8. Is an erosion and pollution control plan required? Is there any Campus feature that requires further protection to minimize project impact to areas "outside of the Contract"?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
9. Is the disturbed land area more than one (1) acre, and has a Storm Water Pollution Prevention Plan (SWPPP) been completed? Review constructability of the proposed erosion and sediment control plans.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
10. Should cleaning of roadways, storm drainage structures, etc. be required?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
11. Has project fencing been reviewed for protecting Campus from construction activities? Has Campus provided concurrence? Are there existing trees, monuments, etc. in need of protection?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
12. Have pedestrian movements during construction been considered? Have temporary walks and ramps been considered?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
13. Does the Campus desire to have any existing materials salvaged and delivered to "other locations"? (i.e. granite curb, signs, grates and frames, landscaping items) are the items noted? Is the location for delivery identified?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
14. Does the Consultant's anticipated construction schedule account for landscape planting limitations as relating to the time of year?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
C. Structural (Concrete, Steel, Masonry)			
1. Does the foundation design have any impact on surrounding structures? (i.e. vibration, depth of new footings, roadways, existing utilities)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
2. Are construction tolerances clearly spelled out and practical for the project at hand? Will existing slabs/decks require cutting to accommodate new features, mechanicals? Will slab/deck need to be modified to accommodate same?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
3. In reviewing the steel reinforcement requirements, are there any areas within slabs that will have overlapping reinforcement that may limit cover requirements?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. If this occurs, do the documents indicate how to handle?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5. Are there any structural, sprinkler, window wall, precast, etc., components that have had the design delegated to the contractor?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6. If so, has the Fund been advised and concurred?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
7. Do the documents adequately address the requirements for formwork, shoring, and the allowable stripping or removal time?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
a. Are slab edge details adequately designed/noted?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

8. Is there any camber designed into concrete beams to calculate for a level floor? Have adequate pitches been accounted for in roof deck designs to allow for proper drainage?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
9. If not, has the allowable floor deflection been determined and how that might affect other Contact work to be installed on them?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
10. Do floors pitch to drains? Has this been coordinated with plumbing and site?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
11. Do the documents adequately address hot weather and cold weather construction? (i.e. subbase preparation, concrete, masonry)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
12. Does design address items related to OSHA? Have design criteria been included in documents?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
13. Does the design account for work that might be exposed to frost heave during construction?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
14. Are the specified mix designs compatible with specified floor finish systems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
D. Finishes			
Are the finishes specified readily available? Are they extravagant, exotic in nature?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
1. Do the contract documents adequately state the environmental conditions required for finishes to be installed and that the same will need to be maintained until project acceptance? Have provisions been defined for the early use of new/permanent systems to control environmental conditions?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
2. Do the building systems provide for humidity control if extensive wood finish (case) work will be installed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
3. Have the contract documents adequately addressed the prep of concrete floors prior to the installation of floor finishes (i.e. grinding and/or filling)? Have moisture mitigation techniques been considered?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. Do the finish floor base materials shown in the Contract documents account for floor deflection that may require extensive scribing and thus a larger base size to accommodate scribing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5. Have finish woodwork materials been identified as to type and degree of AWWA quality?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6. Where flooring materials abut non-finished floor areas, do the Contract documents provide for proper trip resistant transitions? (i.e. concrete, tile, carpet)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
E. Thermal and Moisture			
1. Have building areas requiring dry conditions been identified and a determination made as to whether a special waterproofing of these areas will be necessary?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
2. Does the specified system create odors that may be ingested into building intakes?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
3. Do roofing details adequately show project specific details vs. manufacturers' suggested details? Lighting protection addressed? Fall protection addressed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

Window washing equipment addressed? (see the checklist in Directive 7-1 Roofing and Reroofing for more items)			
4. Have warranties been properly addressed in specification for roofing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5. Have roof cores, sampling been taken to confirm existing conditions, have mastics and flashings been identified? Tested?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
F. Doors and Windows			
Is direction clear in regard to mock-up/testing requirements for building envelope systems? Have slab-edge details been coordinated with curtain/window wall systems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
1. Do entrance doors comply with Directive 8-2?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
2. Have all window and door hardware finishes been coordinated between new and existing hardware as well as throughout the entire project?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
3. Has the Consultant reviewed new construction for the necessary access doors to allow future maintenance activities? Has the Campus been consulted?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. Have the door locks (minimum of three manufacturers) been coordinated with the Campus wide keying and lock system?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5. Can the cores of an equal manufacturer be changed out to be compatible with the Campus current system?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6. Are glazing tints/shading compatible with the interior program of the building? Has the Campus been consulted?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
G. Specialties/Equipment			
1. Have the locations of chalk and/or display boards been reviewed as it relates to fire alarm visual enunciator locations?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
2. Have the toilet and bath accessories been reviewed with the Campus as some outsource this service and will provide same upon substantial completion. Has the Consultant verified and coordinated same? Is in-wall blocking identified? Are ADA requirements in regard to dimensioning/tolerances addressed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
3. Has the Consultant reviewed the types of signs that will be part of the Contract and what will not? (There should be a note that on large-scale projects the room numbers may be reassigned by the Campus and will require close coordination.)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. Have distinctions been made in NIC equipment?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5. Have all the ADA requirements for accessibility to operating controls been adhered to in the Contract documents?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
H. Plumbing			
1. If floor drains are used, what provisions have been made for dry trap during low usage periods? (i.e. some use self-priming traps)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
2. Have wall and floor penetrations been adequately addressed for fire safety?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

3. Has the steam pressure serving the project been checked/verified for adequacy?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. Has the gas pressure serving the project been checked/ verified for adequacy?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5. Has the water pressure serving the project been checked/ verified for adequacy?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6. Have connection points to existing systems been shown and have their shut-off or isolation valves (if any) been tested?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
7. Does the Campus have any plumbing interior or exterior standards?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
8. Have local Water Board standards for backflow prevention devices been followed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
9. Does piping in project meet Fund Directive 15H-10 Piping Types and Materials?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
I. HVAC			
1. Has existing conditions of ductwork and equipment not to be replaced been evaluated as to condition and as it relates to new work? (i.e. pressure test existing duct, check existing air handler capacities as compared to as-built information, asbestos containing materials present, hazardous materials in ductwork, damper locations known and function) Any applied coatings specified?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
2. Are all dampers and fire dampers required to balance system shown? Are they accessible?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
3. Has the Campus been asked to share HVAC maintenance concerns as demonstrated through past work orders or shop personnel feedback?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. Has the Consultant walked the project to determine if the new ductwork and equipment will fit in ceiling, walls and existing equipment rooms?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5. There should be a coordination set of drawings required on significant HVAC projects to demonstrate the utilities can be installed. (See Fund Section 01 00 00 General Requirements)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6. Is the HVAC BMS specified compatible with and properly coordinated with the energy management system on the respective Campus?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
7. Have three manufacturers been specified for the BMS? Have listed manufactures certified compatibility with existing systems?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
8. Have connection points to existing systems been shown and have their shutoff valves (if any) been tested?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
J. Electrical			
1. If the project includes cable trays for communication and data, does the specification have installation requirements to comply with the required Category of wiring?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
The Campus (under Equipment 3) usually does the wiring, but the cable tray should be installed as part of a major project to allow it to be fitted in ceilings with other utilities.			

2. Special care needs to be taken to position cable tray properly in relationship to ceiling florescent light fixtures and motors to prevent harmonic disturbance. The horizontal and vertical transitions need to be made so the wiring maximum radius is not violated.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
3. Continuous grounding of the cable trays is required as stated under <u>NEC 250</u> .	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. Installations shall be in conformance with <u>ANSI/EIA/TIA-569</u> - "Commercial Building Standard for Telecommunication Pathways and Spaces".	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5. Has the Consultant coordinated any (all) building security, electronic door control, monitoring system, additions, etc., with the current Campus system (if any)? Has the Consultant confirmed compatibility?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6. Has the Consultant coordinated any building fire alarm security additions with the Campus current system?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
7. Electrical identification in panels should be coordinated with the final room numbering system as provided by the Campus.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
8. Any spare conduit being reused? Have they been inspected and mandreled? Inspected for ACM?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
9. Will power shutdown of feeders serving this and other buildings be required? Does the Campus understand and concur? If existing gear, breakers and switches for project related equipment are impacted, do the same function? Have they been exercised and maintained?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
10. Will full Campus electrical power shutdown be required? Have existing breakers/switches been exercised? Do they function?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
11. Has emergency power been provided?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
12. Have lighting levels (controls) (interior and exterior) been discussed? Does Campus/Fund concur? Has lighting control been discussed with Campus?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
K. Building Code Compliance			
1. Are code compliance issues up to date?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
2. Are variances or interpretations required?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
3. Are all Special Inspections and Testing listed on the Statement of Special Inspections required?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4. Who will be the Special Inspector?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5. For ADA compliance, does the design meet the "Dimensional Tolerances in Construction and for Surface Accessibility" recommendations published by the United States Access Board?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
L. Specifications/Equipment Submittals			
1. Is there specialized mechanical or electrical equipment using performance-type specifications which should be reviewed by Engineering Services during construction?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

Engineering Services will identify the specialized equipment for which a copy of the submittal (with comments) should be sent to Engineering Services. This submittal copy shall not be included in the “submittal review process”.

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| 2. Is there a specifications section dedicated to telecommunications infrastructure? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| 3. Is there Elevator work in this project? Have (do) shaft sizes (existing and new) been designed to accommodate the three listed manufactures? Shunt trip required? Dedicated phone line to Campus EMS/BMS required? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |