

Construction Management at Risk Procurement Review Submittal Form

General Project Information

Agency Name:	Virginia Polytechnic Institute and State University		
Is the agency a covered institution per §2.2-4379?			Yes
Project Name:	Hitt Hall & New Dining		
Project Number:	208-L00049-000		

Other Project Information

Advising A/E Name:	Travis Jesse, AIA, NCARB	License Number:	0401014776
COV Sections: §2.2-4380.B.2, §2.2-4381.C.2			
Attach written determination for use of CM at Risk.			
COV Sections: §2.2-4380.C.2, §2.2-4380.B.1; §2.2-4381.D.2, §2.2-4381.C.1			
Is the procurement process proposed a two-step process?			
			Yes
COV Sections: §2.2-4380.C.2, §2.2-4380.B.7; §2.2-4381.D.2, §2.2-4381.C.7			

Agency Reasons for Use of CM at Risk

Construction Cost (COV Sections: §2.2-4381.B.1, §2.2-4380.C.3, §2.2-4381.D.3)	Yes
Building Use (COV Sections: §2.2-4381.B.1, §2.2-4380.C.3, §2.2-4381.D.3)	Yes
Project Timeline (COV Sections: §2.2-4381.B.1, §2.2-4380.C.3, §2.2-4381.D.3)	No
Need for Project Phasing (COV Sections: §2.2-4380.C.5, §2.2-4381.D.5)	Yes
Project Complexity (COV Sections: §2.2-4381.B.1, §2.2-4380.C.4, §2.2-4381.D.4)	Yes
Value Eng. and/or Constructability Analysis Concurrent with Design (COV Sections: §2.2-4381.A)	Yes
Need for Quality Control/Vendor Prequalification	Yes
Need for Cost/Design Control (COV Sections: §2.2-4380.C.5, §2.2-4381.D.5)	Yes

Supporting Information for Procurement Method Selection

Project Use (i.e. lab, classroom, office, etc.): (COV Sections: §2.2-4380.C.3; §2.2-4381.D.3)				
Hitt Hall/New Dining Facility will be the epicenter of a new group of facilities in the North Academic District of campus that are integral to Virginia Tech's strategic growth plan. The facility will be located off of West Campus Drive on a very challenging and highly concentrated site between the existing New Classroom Building, Derring Hall, and Bishop-Favrao Hall.				
The building will be 101,000 SF spanning three floors (plus penthouse) and will provide a cutting edge, technology-based platform to support doubling the enrollment of the Myers-Lawson School of Construction (MLSoC) while simultaneously providing a 600-seat full service dining facility and general assignment/flexible classrooms supporting a variety of modes of instructional delivery methods. The building will include a high-bay material testing/build lab, technology-heavy classrooms, and faculty spaces as well as all supporting functions associated with a large, multi-floor dining facility with a variety of in-house dining venues. The surrounding exterior plaza, referred to as the "Innovation Plaza," will provide outdoor teaching space, demonstration areas for the MLSoC, and outdoor seating for dining.				
Construction Cost:	\$60,000,000	(COV Sections: §2.2-4380.C.3; §2.2-4381.D.3)		
Project schedule: (COV Sections: §2.2-4380.C.3; §2.2-4381.D.3)	Design Start Date	9/24/2020	Design Compl. Date	7/28/2021
	Const. Start Date	10/1/2021	Const. Compl. Date	9/6/2023
	Attach bar chart schedule to illustrate fast tracking or other schedule complexities. (COV Sections: §2.2-4380.C.3, §2.2-			

Additional description to highlight key attributes that affect the project complexity, need for value engineering/constructability analysis, quality control/vendor prequalification, and cost/design control as indicated by "Yes" answers above:

Construction Cost

Collaborative involvement by the CMaR with the A/E throughout the preliminary design and working drawing phases, well before construction, begins will better inform design processes, enhance project cost estimation, ensure sequencing of work is efficiently planned and budgeted, and provide constructability analysis—all of which are critical to the maintaining overall project costs within budget. Value engineering and constructability analysis will enhance project quality through elimination of costly and time consuming change orders. The creation, evaluation and pricing of alternative solutions to complex technical constraints will optimize construction of the complicated and specialized systems envisioned within this building.

Building Use

Hitt Hall and the New Dining Facility are adjoined and share key infrastructure components and features including centralized HVAC systems and controls, and IT-infrastructure. Extensive zoning of the HVAC systems, controls, and lighting will be incorporated and will be expected to seamlessly integrate the variety of academic, dining and support spaces inherent to the building. Dining facilities have inherently complex building systems and circulation requirements; and due to a variety of site constraints, the New Dining Facility will be concentrated across two levels/floors and will be adjacent to and under academic space. Early coordination between the A/E and CM regarding building MEP, life safety systems, and vertical circulation will be acute to ensure acoustic and life safety requirements are maintained while still providing the necessary vertical and horizontal conveyance of building systems and operations.

Project Complexity

Given the overall size of the building, the foundation intended includes deep rammed-aggregate piers with concrete spread footing systems including significant foundation/below grade excavation. However, the site location is also a known area of underground karst formations and sub-surface bedrock may drive the need for additional alternative foundation systems and below grade building characteristics. Use of CMaR, particularly during the design phase, will ensure optimal construction techniques are identified early on thus optimizing cost and time.

Additionally, site complexity for this project will be intense. Extensive existing underground utilities immediately within the site of the Hitt Hall/New Dining project drive unusually impactful site constraints. CM input is critical to finding the best solution from a cost and constructability standpoint given the multitude of constraints. Challenges that must be overcome include:

(1) The project site is within the 100-year non-regulatory floodplain. In accordance with the Town of Blacksburg's requirements, the post-development condition must be outside of this floodplain. Additionally, the site must accommodate stormwater capacity such that the post-development floodplain elevation is no higher than the pre-development elevation. The solution will require:

- a. Rerouting two existing underground 60-inch concrete stormwater conveyance pipes that run diagonally across the site and convey Stroubles Creek from Stanger Street to the Duck Pond opposite West Campus Drive. Both pipes will have to be re-routed to the northern edge of the project site, outside the building footprint, while maintaining flow of Stroubles Creek.
- b. Construction of a depressed lawn and weir wall into a covered channel that connects into the two rerouted 60-inch stormwater pipes.

(2) The project site is heavily congested and bound at its perimeter by critical existing utility infrastructure, primary pedestrian circulation routes, heavily occupied existing buildings, and other ongoing construction projects. A CM's input on staging, phasing, and constructability will greatly inform the design approach such that maintaining existing utility services, pedestrian flow, and adjacent building operations will be possible.

(3) Additional unique site complexities include a primary electrical duct bank that supports a significant portion of the northern campus runs immediately adjacent to the southern perimeter of the building footprint. The duct bank must remain intact and operational throughout construction. Additionally, critical primary utility infrastructure serving the adjacent New Classroom Building runs north-south on the western edge of the project site. CM constructability input is imperative to effectively routing the project's utilities as well as the two relocated 60-inch stormwater pipes, which must cross these utilities.

Need for Quality Control/Vendor Prequalification

Use of two-step procurement procedures will help ensure selection of a builder with the qualifications, expertise and experience best suited for this project. Due to budget constraints and complexity of this project, subcontractor pre-qualification by the CM for select scope (i.e. kitchen equipment, deep foundations, etc.) will be essential to managing the budget and schedule.

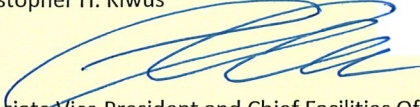
(COV Sections: §2.2-4380.C.4; §2.2-4381.D.4)

Submitted by:

Signature:

Title:

Christopher H. Kiwus



Date:

4/29/2020

Associate Vice President and Chief Facilities Officer

(Agency Head or Authorized Representative)

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Based upon the information provided by the Agency, the use of Construction Management at Risk	
IS recommended for this project.	
Recommended by:	W. M. Coppa
W. Michael Coppa, RA	2020-04-30
Director, Division of Engineering and Buildings	