

Attachment 12

**HARBORVIEW
MEDICAL
CENTER**



Bond Project

**Scope, Schedule & Budget Review
of Proposed Changes to
Ninth and Jefferson Building**

Final Report



July 10, 2003

VANIR

Harborview Medical Center Bond Project

Ninth and Jefferson Building Proposed Additions Scope, Schedule and Budget Review

Intent

Vanir Construction Management was contracted to review the scope, schedule and budget for proposed additions to the Ninth and Jefferson Building Project (NJB) prior to review by the Bond Oversight Committee and forwarding to the King County Council.

This report is a review of work products describing the proposed additions to the Ninth and Jefferson Building Project. The original proposed optional additions reviewed include:

- An additional full level of parking in the below grade garage
- Two floors of unfinished shell and core space as future research office area
- Tenant improvements to the two floors listed above

The current proposed scope of additional work excludes tenant improvements to the two floors of future research office area. The additional full level of parking and the two floors of unfinished shell and core space are proposed as the change in scope of the NJB project.

The intent is to document our findings and provide recommendations to the Bond Oversight Committee and King County Council with respect to the proposed additions to the NJB Project.

Background

During the spring of 2003 the Predesign Phase of the Harborview Medical Center Bond Project, including the Ninth and Jefferson Building Project, was completed and approved by the Bond Oversight Committee and the King County Council. The Bond Oversight Committee and the King County Council approved the commencement of the Schematic Design Phase. HMC proposed additions to the Ninth and Jefferson Building Project. UW, NBBJ and Turner Construction Company developed the scope, schedule and construction budget impact of the proposed additions. The University of Washington Capital Projects Office modified the approved C-100 for the Harborview Medical Center Bond Project to determine the impact on project costs including consultant services, construction contracts and project management costs.

Documents Considered

Members of the project team revised or developed documents that defined scope, schedule and budget for the proposed additions to the NJB. These documents were revised based on our draft comments during the early portion of our review. In addition to information gained by various e-mail messages and verbal conversations, documents considered by the Vanir review team include:

- Explanatory Information for Spreadsheet costs and Time, dated May 18, 2003, by University of Washington
- Ninth and Jefferson Building Summary of Increased Cost Impact – July 31 Start, Revised Preliminary C-100 Modified Format, Dated May 21, 2003, by University of Washington
- Ninth and Jefferson Building Options for Adding two Floors Above Grade and One Floor of Parking Below Grade, dated May 28, 2003, by University of Washington
- Revised HMC Bond Project Report (Including revised Bond Program Budget C-100 Forms for complete project and NJB, revised project schedule, GCCM cost estimates, A/E cost estimates and CPO cost estimates), dated June 27 and July 9 2003, by University of Washington
- Revised revenue and financing plans including Parking Revenue Projections and bond financial assumptions
- Harborview Medical Center (HMC) Bond Program “White Paper” with 7-16-03 revision date
- Scope, schedule and budget documents previously reviewed during the Predesign Phase

Scope Review

The current proposed additions to NJB include:

A fifth level of below grade parking that will provide 157 additional parking spaces within a 60,000 square foot area and 54,000 square foot on two floors of above grade unfinished shell and core space as future medical research office area. The added project cost is approximately \$20,110,000.

The functional types of spaces previously approved for the NJB are not changed by the proposed additions to the project. Parking is expanded by one level and medical office shell space is expanded by two floors.

Scope observations and recommendations:

- The proposed additions to NJB are in compliance with the Major Institution Master Plan (MIMP) requirements but are changes to the scope recently submitted and approved by the King County Council.

- The justification for the additional building and garage space seems reasonable.
- The parking and the core and shell are being considered as one project. The tenant improvements would be dependent on completing the core and shell work, but have been deferred at this time.
- We are concerned about the possible cost and schedule impact of deciding to add the TI work later in the contract period. If funding this work is delayed, consideration should be given to making this a separate lump sum bid contract.
- The Northeast corner of the site (Block 81) has been included within the scope of work since that property is now being purchased.

Schedule Review

The current project schedule has revised some earlier assumptions and re-sequenced individual project activities. More excavation for the additional level of parking and identification of greater existing soil contamination, not directly related to additional building area, has increased activity durations. This was originally predicted to extend the total project schedule by two months. However, more recent schedule revisions have reduced this delay to just a few weeks.

Design & Construction durations and activities have been adjusted and take into consideration the allowable hours of operation, impact on the operation and the rate for processing of the soils on the NJB Site. Turner Construction Company acknowledges the work up of the cost and schedule is dependent on a July 31, 2003 amendment approval to add additional scope, two floors & parking to the North Jefferson Building.

Schedule observations and recommendations:

- Total project completion is extended by only three weeks. This is an excellent result for such a significant change.
- Design and construction activities have been revised to mitigate schedule impacts. Key schedule revisions include implementing phased permitting and starting work on the IEB first as opposed to starting NJB first.
- Schematic Design Phase completion has been extended based on a July 31, 2003 notice to proceed, with this proposed change to the Ninth and Jefferson Building.
- Additional time required to complete Site Preparation is attributed to additional excavation, shoring & soil remediation.
- The approved Baseline schedule has not been used by the project team to make analysis of the impact of the proposed NJB changes. This caused difficulty in attempting to compare the approved schedule with the new schedule provided for review because of changes in activity numbers and descriptions. It is recommended that the current MS Project schedule changes be made to the approved Primavera P-3 schedule so a more precise comparison can be made with the Baseline P-3 schedule. It is also recommended that the approved Baseline schedule be used to manage the HMC project.

- The impact of delaying a potential decision to add the proposed work will increase over time. The existing cost and schedule impacts are predicated on a decision by July 31st and a decision by that date is recommended.

Budget Review

The budget presented in the revised C-100 format is an estimate of costs and is not reflective of costs that are yet to be negotiated with the architect and contractor should the scope changes be approved. Budget increases and the percent of increases are shown on the two right hand columns of Attachment 1. The total estimated increase of \$20.1M is apportioned approximately as follows:

		<u>New Contingency Included</u>
Construction -	\$16.7M	\$2.18M
Design & Consultants -	\$2.77M	\$0.6M
Project Management -	\$0.31M	
Other Costs -	\$0.28M	

Budget observations and recommendations:

- The construction costs per square foot for parking and core and shell are conservative and in line with the original construction budget.
- Costs for potential future tenant improvements were not included in this review.
- Estimated design costs are higher than expected and we believe that when the fees are negotiated with the architect that the final costs may well be lower. While construction costs are estimated to rise 18.8% the design costs are budgeted for a 26.4% increase.
 - Some of the increase reflects costs for rework of the schematic design.
 - The Basic design fees are estimated using 6.66% which was derived for the original fee negotiation for NJB based on a \$40M building. Now that the building will cost about \$50M the state fee schedule calls for a lower fee.
 - Additional Services fees are budgeted proportional to the original design budget. Ordinarily the new parking and shelled floors would require less additional design services than the rest of the building. However, the redesign effort may cause additional service work to be higher than ordinarily expected.
 - \$300,000 has been added to the design contingency (a 51.7% increase). This is a place holder for the possibility of additional fees associated with several developing design issues, such as an early structural permit package for the Inpatient Expansion Building. Thus this additional contingency is not based on a detailed estimate.

- The contractor's Bid General Conditions and Risk Contingency budgets have been increased disproportionately to the increase in construction cost and are still subject to negotiation.
- The Management Reserve has been increased proportionately for the increase in construction cost but an additional \$500,000 has also been added. These additional funds are set aside to cover a potentially renegotiated fee for the contractor's work that would pertain to all the construction in the HMC seismic/expansion project, not just the additional construction covered by this proposed change to the NJB. As currently envisioned HMC revenues would fund the fee increase for the whole program.
 - It is suggested that the Bond Oversight Committee consider the appropriateness of this approach.
 - It may not be advisable to carry all the funds in the budget for the NJB as the money will potentially be used to pay additional fee for the other projects in the program. The protocol for transferring funds between Council approved project budgets is unclear to us. If Council approval is required this would be a good time to address the changes in Management Reserve budgets for the other projects.
- Although we understand that a renegotiation of the contractor's fee is required when the MACC increases by 15% (\$23.4M) we do not agree with the expectation that the fee percentage would necessarily go up. Although there could be some added risk to the contractor in executing the work we believe that risk would be compensated for by providing this \$15.9M in new work with no marketing cost or acquisition risk. This proposed change has value to the contractor equivalent to acquiring a good sized new project.
- The Project Management budget has gone up moderately because of economies of scale. However, the budgeted costs are a function of project duration and were estimated based on an earlier schedule iteration that indicated the entire project would be delayed over two months. So the current estimate is probably conservative.
- Overall the budget numbers are conservative for the scope of additional work at this planning level. It is expected that they will be refined through negotiations with the architect and contractor if the decision is made to move forward with the changes.
- It is recommended that a detailed review of the budget for all components of the program be undertaken at the completion of the Schematic Design and Design Development Phases.
- The revised revenue and financing plans were reviewed with no exceptions taken.
- The magnitude of the proposed additional work is such that it may well change the overall project risk. Since the selected project management approach has thus far included performing risk analysis to determine the expected probability of meeting the budget, it initially seemed reasonable to include an assessment of risk in weighing the impact of these proposed NJB changes on the project success. However, the conservativeness of the proposed budget increases indicates that the additional risks are likely well covered.

Conclusions and Recommendations

- If such a major change in the work is to be undertaken this is the time to deal with it. The longer one waits more impact on design and construction costs, schedule and risk can be anticipated.
- The cost and schedule impacts presented are valid only if direction to move forward is made by July 31st. If the decision is delayed past that date a new analysis will be required.
- We're concerned that potentially adding the TI work to the design and GC/CM contract at some point later may have disproportionate impacts that have not been assessed in this exercise. Also, given the high soft costs for this project, it may be more cost effective to design and bid the TI work as a separate project.
- It is suggested that the Bond Oversight Committee consider if, as currently planned, HMC revenues should fund all of the potential contractor's fee increase if the total of changes on the program reach 15% of the originally estimated MACC.
- Regardless of what party funds the potential contractor's fee increase, consideration should be given to making appropriate increases to the Management Reserves in each project budget rather than putting it all in the NJB budget.
- It is recommended that the approved Master Baseline schedule be updated and used to manage the project.
- The proposed additions are in accordance with the HMC project scope as defined in the approved Long Range Capital Improvement Program.
- The budget is sufficient and looks conservative for the scope and duration of the proposed additional work. The budgeted design fees and GC/CM indirect costs appear to be particularly conservative.
- The duration of the project will only increase by three weeks – a very positive result for such a significant change, achieved by diligent scheduling efforts by the project team.

UNIVERSITY OF WASHINGTON PROJECT REQUEST (APR 94 - 11)				07:29 PM	10-20-03		
AGENCY:	University of Washington		ANALYSIS TYPE:	Agency Request			
PROJECT TITLE:	HMC Bond Program - 9th and Jefferson Bldg		ANALYSIS DATE:	25-Jun-03			
LOCATION:	Main Campus		ANALYSIS BY:	JDM/WSS			
	Alternative Procurement		FILE NAME:	10351.xls			
	Primary	Secondary	SCHEDULE & ESCALATION FACTORS:				
PROJECT TYPE:	2	2	1. START PREPLANNING:	Mar-2002			
G.S.F.:	0	0	2. START DESIGN:	Apr-2003			
N.S.F.:	0	0	3. DESIGN MIDPOINT:	Apr-2004			
EFFICIENCY:	0.00%	0.00%	4. START CONST:	Jan-2005			
EST. COSTS/F.:	\$0.00	\$0.00	5. DURATION:	41 Months			
MACC:	\$80,649,284	\$0	6. END CONST:	Jun-2007			
FEE CATEGORY:	C	A	7. CONST. MIDPOINT:	Aug-2006			
A/E FEE (%):	6.66%	0.00%					
TAX RATE:	8.80%	8.80%					
TOTAL PROJECT BUDGET:			INFLATION RATE:				
BASE MONTH PROJ. TOTAL:			CONTINGENCY RATE:				
ESCALATED PROJ. TOTAL:			BASE MONTH:				
			Jun-07				
HMC Bond Program - 9th and Jefferson Bldg			BASE MO	TOTAL TO	ADJ. ESCALATED		
ITEM	(%)	COST	SUBTOTAL	C-1 FORM	FACTOR	INCREASE \$	INCREASE %

A. ACQUISITION							
Total Acquisition Costs						0	

B. CONSULTANT SERVICES							
1.	Pre-design Consultant Services						
	Subtotal Pre-design Services					0	
2.	A/E Basic Design Services						
a.	Primary Facility	6.66%	4,886,417			4,886,417	\$873,109 17.9%
b.	Secondary Facility	0.00%	0			0	
	Subtotal Basic Design Services		4,886,417			4,886,417	
3.	A/E Extra Services/Reimbursables						
m.	Proportioned Additional Services		4,743,701			4,743,701	\$1,006,572 21.2%
	Subtotal Extra Services/Reimbursables		4,743,701			4,743,701	
4.	Other Services						
h.	Hazardous Materials Consultant		145,000			145,000	
n.	Quality Control Consultant		83,200			83,200	\$18,200 21.9%
p.	Geotechnical Investigation		513,000			513,000	\$63,000 12.3%
q.	Commissioning		228,000			228,000	\$28,000 12.3%
f.	Testing		427,680			427,680	\$127,680 29.9%
aa.	Small Contracts		288,000			288,000	\$63,000 21.9%
	Subtotal		1,684,880			1,684,880	
5.	Design Service Contingency		1,522,381			1,522,381	\$519,054 51.7%
a.	Change Order Design Alk	6.85%	420,332			420,332	\$76,914 18.3%
	Subtotal Other Services		3,627,593			3,627,593	
	Total Consultant Services			13,257,711		13,257,711	\$2,775,529 26.4%

C. CONSTRUCTION CONTRACTS							
1.	Site Work						
	Subtotal Site Work					0	
2.	COMPLETE FACILITY						
a.	Primary Facility		60,649,284			0	\$10,974,641 18.1%
b.	Secondary Project		0			0	
c.	Other		0			0	
	Subtotal Complete Facility		60,649,284			60,649,284	
3.	Other Contracts						
	Subtotal Other Contracts					0	
4.	GC/CM Risk Contingency		0			0	
	Subtotal GC/CM or Design Build Costs		0			0	
MACC	Subtotal Maximum Allowable Construction Cost		60,649,284			60,649,284	\$10,974,641 18.1%
5.	GC/CM or Design Build Costs						
a.	Preconstruction Services		358,141			0	\$100,000 27.9%
b.	Fee		2,372,803			0	\$406,457 17.1%
c.	Bid General Conditions		2,372,935			0	\$748,682 31.6%
d.	GC/CM Risk Contingency		1,244,233			0	\$274,233 22.0%
e.	Reimbursables/Div 1 Buyout		5,193,511			0	\$705,737 13.6%
	Subtotal GC/CM or Design Build Costs		11,541,623			11,541,623	\$2,235,109 19.4%
6.	Construction Contingency						
a.	Management Reserve		3,416,026			0	\$1,056,780 30.9%
b.	Allowance for Change On	8.50%	6,136,956			0	\$1,123,215 18.3%
	Subtotal		9,552,982			9,552,982	\$2,179,995 22.8%
7.	Sales Tax	8.80%	7,193,463			0	\$1,354,298 18.8%
	Total Construction Cost			88,937,352		88,937,352	\$16,744,043 18.8%

D. EQUIPMENT							
1.	E10 - Fixed Equipment		0			0	
2.	E10 - Movable Equipment		1,500,000			0	
3.	E20 - Furnishings		0			0	
4.	Other		0			0	
	Subtotal Equipment		1,500,000			0	
5.	Sales Tax	8.80%	132,000			0	
	Total Equipment Cost			1,632,000		1,632,000	

E. ARTWORK							
1.	Project Artwork	0.00%	0			0	
	Total Artwork Cost			0		0	

F. OTHER COSTS							
5.	Master Use Permits (Owner)		182,633			0	\$32,633 17.9%
6.	Building Permit (Contractor)		492,280			0	\$62,280 12.7%
9.	Builders Risk		1,182,195			0	\$182,195 18.2%
10.	Metro Connection Fees		67,000			0	
	Total Other Costs		1,924,108			1,924,108	\$277,108 16.8%

G. CONTRACT ADMINISTRATION/CAPITAL BUDGET & PLANNING							
1.	Agency		3,368,571			3,368,571	\$313,062 9.3%
	Total Management			3,368,571		3,368,571	\$313,062 9.3%

H. RELATED PROJECTS							
1.	Mitigation		120,000			0	
2.	Relocate Power Poles/ Trolley Lines		350,000			0	
3.	Sea City Light Connection Fees		200,000			0	
4.	Relocate Quest Line		120,000			0	
	Total Related Projects			790,000		790,000	

GRAND TOTAL			\$109,900,000	\$109,900,000	\$20,109,742	18.3%
				original =	\$89,800,000	