

Cost Estimate Study

For The Proposed Conversion Of Lourdes Hall
At The College Of St. Teresa
Into A Residential College

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615 State Office Building
Saint Paul, Minnesota 55155

Presented to Winona State University

December 1, 1989



JUN 1 8 1990

Pursuant to 1989 Laws, Chapter 293,
Section 5, Subd 3, Para #3

Consultant's Report prepared for the
State University Board
Volume 2 of 2 Volumes

architectural environments

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12-01-89

Mr. John Burros
Director of Facilities Management
2nd Floor Somsen Hall
Winona State University
Winona, Minnesota 55987

Re: Lourdes Hall Cost Estimate Study

Dear Mr. Burros:

We are pleased to submit the following Cost Estimate Study for the proposed conversion of Lourdes Hall at the College of St. Teresa into a residential college. The purpose of this study is to identify major renovation costs associated with such a conversion of the building, which would be required for the first five years of occupancy.

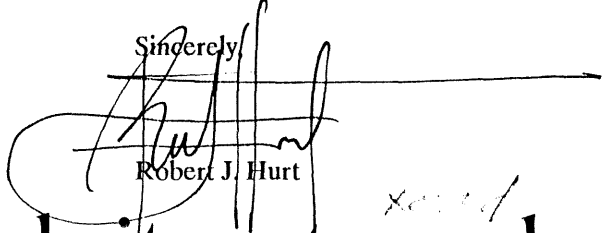
Since many of these costs have already been identified (either in our study dated December 1, 1988, or in your Cost Analysis dated August 22, 1988), we have not attempted to duplicate this work, but have instead focussed on the additional costs that might be expected during the first five years of operation.

The study is divided into two parts - a **Scope of Additional Work**, and a **Cost Estimate Summary**. Our 1988 study identified and estimated costs for components that would need major repair or replacement within three years of occupancy. The Scope of Additional Work in this study generally identifies components which may be expected to need replacement by the fourth and fifth years of operation. In some cases we have included more immediate costs that became apparent since the initial analysis. This section also includes work necessary to incorporate design changes which you have identified.

The Cost Estimate Summary lists all costs already identified in the first two studies, as well as the additional costs. Both parts of this study essentially follow the format of our 1988 study. We wish to point out that, with a few exceptions, this study is primarily a condition evaluation. Beyond the changes you have identified as necessary to accommodate the residential college, and the ones you have asked us to estimate (primarily the upgrading of the bath/shower rooms), we have assumed that the design of the building will remain as it is.

Please let us know if you have any questions regarding this information. Thank for the opportunity to work with you on this exciting project.

Sincerely,


Robert J. Hurt

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SCOPE OF ADDITIONAL WORK

The following costs are for required renovation work to Lourdes Hall over the first five years of occupancy, and which have not been identified in either the December 1, 1988 study by Architectural Environments, or in the August 22, 1989 study by John Burros.

BUILDING AND FIRE CODE REQUIREMENTS

No additional costs.

OSHA REQUIREMENTS

No additional costs.

BUILDING CONDITION REQUIREMENTS

Part A - Primary Structure

We have included an additional \$4000 to cover additional incidental repair of cracked or damaged plaster on the walls and ceilings.

Part B - Exterior Finishes

We have included an additional \$7000 to cover additional repair to the stone veneer at the foundation, incidental tuckpointing, and caulking. This amount might be considered a result of maintenance that was deferred in the past.

It should be noted that spalling of the foundation's stone veneer appears to be caused by rusting of the anchors that hold the stone on. This spalling occurs more frequently on the south and west facing walls (presumably because they are subject to more thermal stresses), and is at this point more of an aesthetic concern than a functional one. However, this will likely be an ongoing maintenance situation. We have included an optional cost for spraying a waterproof coating on the foundation, since this was recommended by a local masonry contractor. This might slow down the rate of spalling, but this is an option which should be investigated further, since it would have to be repeated every 5 to 10 years.

Part C - Interior Finishes

We have included \$29,350 for painting an additional 10% of the walls and ceilings, an additional \$10,000 for replacing the existing carpeting, and an additional \$11,250 for

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Part E - Roofing

In discussing the roof with the contractor who has been responsible for ongoing maintenance and repair of the roof, we have learned that around \$2,000 - \$3,000 per year has been required to maintain all of the tile roofs at the entire College of St. Teresa, and have confirmed that the roof at Lourdes Hall is in generally good shape.

We have, however, included a conservative estimate of \$5000 for flashing and \$5000 for roof covering to cover what maintenance has been deferred. While the existing gutters and downspouts are also in generally good shape considering their age - one downspout is missing, and the wood trim behind the gutters has not been maintained. \$40,000 has been included to replace the trim with sheet metal, and repair or replace damaged gutters and downspouts. The trim and gutters are inaccessible except by scaffolding, which accounts for the relatively high cost of this item.

Part F - HVAC

During a follow-up site visit on 11-21-89, it was observed that two exhaust fans were not operating because they were manually turned off. These fans should have been operating. Also, it was observed that the kitchen/cafeteria air handling unit was tripped off on the low temperature safety thermostat. No one in the building was aware of these problems. For this reason, a minimal energy management system is recommended. This energy management system will be able to turn equipment on and off from a central point within the building and will monitor the operating status of all equipment. We have included \$25,000 for this system.

It was also observed that the filters in the kitchen/cafeteria air handling unit were not installed and were not operational. (These filters are motor-operated roll filters.) In addition, one of the steam coil valves was leaking badly. These problems should be corrected immediately, and we have included \$2,000 for this item.

The costs for temperature control and steam heating systems were increased \$3,000 and \$5,000 respectively for normal repairs and upgrades expected to occur in years 4 and 5.

Part G - Plumbing

We have included \$50,000 for a new water service and new domestic hot water generating equipment which must be installed if this building is separated from the Power Plant. A new water service will be connected to the city water mains and new water heaters and storage tanks will be installed in the new boiler room.

We have also included \$15,000 for new water softening equipment which must be installed to serve this building if it is separated from the Power Plant.

Part H - Electrical

No additional costs are estimated for primary electrical service as much of the primary service was replaced and upgraded in the 1960's Kitchen/Cafeteria remodeling project.

The costs listed in our 1988 study include all new secondary distribution including new circuit breaker panelboards on all floors, new conductors and new power outlets. (An additional two duplex outlets per dormitory room were included.) We have added an additional \$12,000 to provide another duplex outlet per dorm room - making a total of four duplex outlets per room (counting the existing outlets).

The "Previously Identified Cost" for lighting included new corridor, toilet room and dormitory lighting fixtures on floors two through four and the dormitory rooms on the first floor. Costs were for minimal work and generally included one-for-one lighting fixture replacement. The "Additional Cost" of \$50,000 is to add two task lights per dormitory room (in addition to the one general lighting fixture already included).

Part I - Energy Efficiency

No additional basic costs have been included. The average of ranges for Energy Management, Automatic Control Valves, and Swimming Pool Cover, which were included in our 1988 study, are listed here as Optional Costs. As we stated in that study, insulation of exterior walls does not appear to be justifiable on energy considerations alone, based on energy audits performed on similar buildings. Similarly, additional attic insulation is at best marginally justifiable. We have included an optional cost of \$39,000 to add 6" of batt insulation to the attic spaces. Replacement of exterior windows and weatherstripping of exterior doors are included under other categories.

Part J - Accessibility

In our 1988 study we noted that it is not possible to get from the elevator to the dining hall or to the rest of the ground floor without going through the kitchen, which is often locked. We included an allowance of \$50,000 for correcting the problem. It appears that what is now a circulation space within the kitchen could be converted to a public corridor, without adversely affecting the functioning of the kitchen. We estimate that this can be done well within the \$50,000, and have not included any additional amount.

Part K - Grounds

We have included an additional \$7,000 for replacing three sets of concrete steps, and repairing damage to the stone entry steps. We have also included an additional \$1000 for improving drainage away from the building.

It has come to our attention that the main entry stair is typically closed off during the winter because of snow and ice that falls from the roof. One possible explanation is that since the roof has been insulated, the snow does not melt off quickly, but rather builds up until it is heavy enough to fall off. The solution to this problem is beyond the scope of this study but we have included an allowance of \$10,000 to correct it.

Part L - Food Service

The food service equipment is generally over twenty years old, and much is nearing the end of its useful life. Our 1988 study identified those items that will need to be replaced during the first three years of occupancy, and costs for their replacement amounted to approximately \$129,000.

While this figure assumes that the kitchen will be used essentially in the same manner as it is now, it is not clear at this point if that assumption is appropriate. Lourdes Hall has been used only two months as a dormitory solely for Winona State University students. In addition, there is insufficient information at this time to determine how the food service will be used in its relationship to the proposed residential college, or how other changes on the main campus will affect this satellite facility.

When such information becomes available, a detailed study should be conducted of the food service program, to determine the ultimate function and capacity of the kitchen. The study would identify the most efficient kitchen design, including a detailed list of all new equipment and its location. It would also determine if the new kitchen should be phased in according to a long range master plan, or if it should be totally renovated at one time. It would seem that such a study should be completed at the earliest possible time to avoid investing in equipment that would not work into the ultimate design.

For budgetary purposes, we have included an additional \$25,000 per year for years 4 and 5, under the original assumption of replacing equipment as it becomes unusable, but we wish to make it clear that this would not totally upgrade the entire kitchen.

RENOVATION COSTS DUE TO DESIGN & PROGRAM CHANGES

We have included \$125,000 to renovate 18 tub/shower rooms. This includes the costs to remove 50 bathtubs and replace them with approximately 18 lavatories and 57 shower stalls, along with related ventilation, plumbing, electrical, and architectural work.

We have also included costs given to us by Winona State University for computer hardware (\$50,000), and initial phone system costs (\$21,767). Phone system costs are based on installation of 30 administrative lines, and 356 room lines, using a U.S. West Centron Service system, and include purchase of 400 phones, common equipment, feature package, CCRS for local moves and changes, line installation, and order writing.

1000 We have reviewed the budget of \$300,000 included in the August, 1989 analysis for the boiler room, and found it sufficient to install three 150 horsepower Cleaver-Brooks high pressure steam boilers, with all necessary boilerwater feed pumps, chemical injection, safety devices, etc. All required electrical service equipment, normal plumbing systems required for the new boiler room, and architectural changes needed to enclose the room can be included within this room. We are assuming that the chimney for the boiler could be routed in existing closet space within the building. Therefore we have not included additional costs for the boiler room. However refer to Part G for domestic hot water, and water treatment costs that would also be required if the building is separated from the existing Power Plant.

OPTIONAL COSTS

Air Conditioning

We have included \$1,100,000 to install a two-pipe chilled water fan-coil system with one fan-coil per dormitory room. Water-cooled chiller(s) will be installed in the new boiler room in the basement. A cooling tower will be installed on grade. System controls are minimal.

If an air conditioning system will be planned in the near future, it may be more cost effective to change the existing steam heating system to hot water. The fan-coils which would be required for the air conditioning system could be used for both heating and cooling. Temperature controls required for the air conditioning could also control the heating for very little added cost. The total installed cost of a new combination system will be substantially less than the total of repairing the steam system and installing a separate air conditioning system.

Parking

Parking for 200 cars, estimated at \$108,500, could possibly be provided in what is now a pedestrian way on a closed off street. The cost includes demolition of the existing sidewalk.

Carpet

We have included an optional cost of carpet for 359 dorm rooms at \$20 per square yard making a total of \$120,000.

Foundation Waterproofing

Finally we have included \$4000 as an optional cost for spray-applied waterproofing for the foundation. (See Part B above).

COST ESTIMATE SUMMARY

	Previously Identified Costs	Additional Costs	Total Costs
BUILDING AND FIRE CODE REQUIREMENTS			
Required Items	\$531,200		
(Optional Items Included Below)			
Fire Escapes (From 8-89 Study)	\$105,000		
Total Required Code Requirements	\$636,200	\$0	\$636,200
OSHA REQUIREMENTS			
Total OSHA Requirements	\$775	\$0	\$775
BUILDING CONDITION REQUIREMENTS			
Part A - Primary Structure			
A-1 Foundations	\$0		
A-2 Exterior Walls/Columns	\$200		
A-3 Interior Walls & Partitions	\$250	\$2000	
A-4 Floor System	\$0		
A-5 Ceilings	\$250	\$2000	
A-6 Exterior Windows	\$620,000		
A-7 Stairways	\$0		
Part A - Total	\$620,700	\$4000	\$624,000
Part B - Exterior Finishes			
B-1 Foundations	\$400	\$3500	
B-2 Exterior Walls	\$3,000	\$3500	
B-3 Exterior Trim Finish	\$0		
Part B - Total	\$3,400	\$7000	\$10,400
Part C - Interior Finishes			
C-1 Wall Finishes	\$20,250	\$20,250	
C-2 Doors/Frames	\$500	\$11,250	
C-3 Floor Finishes	\$2,400	\$10,000	
C-4 Ceiling Finishes	\$9,100	\$9,100	
C-5 Equipment & Casework	\$0		
Part C - Total	\$32,250	\$50,600	\$82,850
Part D - Elevators	\$80,000	\$0	\$80,000

	Previously Identified Costs	Additional Costs	Total Costs
Part E - Roofing			
E-1 Roof Covering	\$0	\$5,000	
E-2 Flashing	\$0	\$5,000	
E-3 Soffits	\$0		
E-4 Fascia	\$2,200		
E-5 Interior Drains	\$0		
E-6 Exterior Drains	\$0	\$40,000	
Part E - Total	\$2,200	\$50,000	\$52,200
Part F - HVAC			
F-1 Energy Management System	\$0	\$25,000	
F-2 Temperature Control System	\$60,000	\$3,000	
F-3 Piping Insulation	\$5,000		
F-4 Duct Insulation	\$0		
F-5 Air Handling Equipment	\$0	\$2,000	
F-6 Air Conditioning Equipment	\$0		
F-7 Exhaust Fans and Equipment	\$2,000		
F-8 Steam Heating Equipment	\$75,000	\$5,000	
Part F - Total	\$142,000	\$35,000	\$177,000
Part G - Plumbing			
G-1 Fixtures and Trim	\$15,000		
G-2 Domestic Water Piping and Equip.	\$0	\$50,000	
G-3 Fire Sprinkler System	\$0		
G-4 Water Supply Treatment Equipment	\$0	\$15,000	
G-5 Medical/Laboratory Gases	\$0		
G-6 Domestic Waste Piping and Equip.	\$0		
G-7 Pipe Insulation	\$5,000		
G-8 Handicapped Accessibility	\$35,000		
G-9 Swimming Pool	\$20,000		
Part G - Total	\$75,000	\$65,000	\$140,000
Part H - Electrical			
H-1 Primary Service	\$0		
H-2 Electric Service Equipment	\$0		
H-3 Electrical Distribution System	\$128,000	\$12,000	
H-4 Lighting	\$64,000	\$50,000	
H-5 Standby Emergency Lighting	\$0		
H-6 Communications Systems	\$8,500		
H-7 Alarm Systems	\$0		
H-8 Lightning System	\$0		
Part H - Total	\$200,500	\$62,000	\$262,500
Part I - Energy Efficiency			
I-1 - I-3 are included in Optional Costs below			
I-4 Exterior Walls	\$0		
I-5 Windows	\$0		

	Previously Identified Costs	Additional Costs	Total Costs
I-6 Exterior Doors	\$0		
I-7 Roof (See Optional Costs Below)	\$0		
Part I - Total (See Optional Costs Below)	\$0	\$0	\$0
Part J - Accessibility			
J-1 Entrance Accessibility	\$50,000		
J-2 Vertical Circulation	\$0		
J-3 Toilets/Rest Rooms	\$5,000		
J-4 Miscellaneous Provisions	\$1,000		
Part J - Total	\$56,000	\$0	\$56,000
Part K - Grounds			
K-1 Sidewalks/Steps	\$3,000	\$7,000	
K-2 Roadways	\$0		
K-3 Parking Lots	\$0		
K-4 Trees, Shrubs, Lawns	\$200		
K-5 Lawn Sprinklers	\$0		
K-6 Drainage	\$500	\$1,000	
Allowance for Entry (See note under Part K above)		\$10,000	
Part K - Total	\$3,700	\$18,000	\$21,700
Part L - Food Service			
L-1 Bakery	\$36,500		
L-2 Freezer and Coolers	\$20,000		
L-3 Salad Area	\$60		
L-4 Dish Room and Pot Room	\$3,700		
L-5 Preparation Kitchen	\$67,700		
L-6 Servery	\$1,200		
Two Year Allowance (Years 4 and 5) (See Part L above for further explanation)		\$50,000	
Part L - Total	\$129,160	\$50,000	\$179,160

RENOVATION COSTS DUE TO DESIGN & PROGRAM CHANGES

Minimal Renovation (From 8-89 Analysis)	\$488,750		
Renovate Bath/Shower Rooms		\$125,000	
Computer Hardware		\$50,000	
Phone System		\$21,767	
Total Design & Program Changes	\$488,750	\$196,767	\$685,517

	Previously Identified Costs	Additional Costs	Total Costs
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BASIC COSTS SUMMARY

The Basic Costs Summary is the total of all of the above categories which include Building and Fire Code Requirements, OSHA Requirements, Building Condition Requirements (Parts A through L), and Renovation Costs due to Design and Program Changes.

SUBTOTAL BASIC COSTS	\$2,470,635	\$538,367	\$3,009,002
8% PROFESSIONAL FEES	\$197,651	\$43,069	\$240,720
10% CONTINGENCY	\$247,063	\$53,837	\$300,900
TOTAL BASIC COSTS	\$2,915,349	\$635,273	\$3,550,622

OPTIONAL COSTS SUMMARY

Optional Costs include the following:

Building & Fire Code	\$68,800		
Energy Efficiency (Average of ranges given in 1988 study.)			
I-1 Energy Management	\$112,500		
I-2 Automatic Control Valves	\$107,500		
I-3 Swimming Pool Cover	\$11,000		
Air Conditioning		\$1,100,000	
Parking for 200 Cars		\$108,500	
Carpet for Dorm Rooms		\$120,000	
Foundation Waterproofing		\$4,000	
Attic Insulation		\$39,000	
SUBTOTAL OPTIONAL COSTS	\$299,800	\$1,371,500	\$1,632,300
8% PROFESSIONAL FEES	\$23,984	\$109,720	\$130,584
10% CONTINGENCY	\$29,980	\$137,150	\$163,230
TOTAL OPTIONAL COSTS	\$353,764	\$1,618,370	\$1,972,134

TOTAL COST SUMMARY

TOTAL BASIC COSTS			
PLUS OPTIONAL COSTS	\$3,269,113	\$2,253,643	\$5,522,756