

December 10, 2012

Attention: Carey S. Meyer, P.E., MPA
Public Works Director
3575 Heath Street
Homer, AK 99603

RE: HERC Building Analysis

Dear Mr. Meyer.

We have been charged with the task of evaluating the condition of the existing HERC Building, located at the corner of Pioneer Avenue and the Sterling Highway. The lower level of the HERC Building is currently occupied by the Boys and Girls Club. You have asked for a report of our findings to indicate building modifications that would be required to make the building code compliant and ADA accessible based on the proposed future use. A rough order of magnitude cost estimate for making the proposed building modifications has also been requested.

It is our understanding that the proposed future use of this facility includes continued use of the lower level by the Boys and Girls Club as well as use of the upper level as a community recreation and education facility. The community recreation and education facility may include office space, classrooms for public use, public weight / exercise rooms, and rental rooms for community projects. The upper level would also house the Community Schools Program. It has also been discussed that the Parks and Recreation Department for the City of Homer could make use of office space on the upper level.

On December 4, 2012 a member from our office visited the HERC Building. We have also received several documents to review including a condition overview completed in April 2007, an ADA Compliance Report of the lower level completed in 1999, a few drawings from the 1997 remodel of the upper level for the Kachemak Bay Campus and a few drawings from the 1985 remodel of what was then called the Homer Middle School. The purpose of reviewing these documents and making the site visit was to assess the general condition of the building and determine what upgrades would be required to make the building code compliant and ADA accessible.

The building consists of three distinct spaces: the gymnasium wing (lower level), the classroom wing (upper level), and the central core (a two story space that connects the two wings). The building is sited on a hillside which allows for both the upper level and the lower level to be accessed from grade. Both levels have an entry at grade and the central core has a "split level" entry where one can enter the building at a stair landing and proceed up the upper run of stairs to the upper level or down the lower run of stairs to the lower level. Current configuration of this stairwell allows access to the upper and lower levels separately.

The Lower Level of the building is currently occupied by the Boys and Girls club and consists of a gymnasium, a boys locker room, a girls locker room, a warming kitchen, a computer room, a community room, and a boiler room that services the entire building.

The Upper Level of the building is currently unoccupied. This level has recently been used as classroom and office space for the Kachemak Bay Campus of UAA, as well as temporary office space for City employees during remodel work on other buildings. The Upper Level consists of five classrooms, a former library that has been divided into two rooms to be used as offices, a former science lab and teachers lounge that have been combined into an office suite containing six individual offices, a former teachers restroom that has been converted into an ADA accessible restroom, a women's restroom, a men's restroom, a janitor / mechanical closet, a fan room, a storage closet that is also being used as an IT closet, a former principal's office and nurse's office that have been combined into an office suite containing three individual offices and a common area, and the former school front office.

At this time, we have not had sufficient time to perform a complete review of the building to discover all of the specific items that would be required to make the building code compliant and ADA accessible. In order to give you a rough idea of the items that may need to be addressed in order to bring the building into compliance, we are providing you with the following preliminary list.

Potential Code and ADA Accessibility Upgrade Requirements

- Site
 - Access from the lower parking lot to the lower level is not currently ADA compliant. An area in the lower parking lot would need to be paved and designated for accessible parking and a path from that area to the building would need to be graded and paved for an accessible route to the building entrance.
 - The concrete stoop outside the gymnasium emergency exit door needs to be demolished and a new stoop installed.
- Lower Level
 - The gymnasium will require a sprinkler system. This is a major item that would require installation of a lot of equipment and piping inside the building, but may also require that the water service line connecting the building to the water main be upgraded as well.
 - The boys locker room currently serves as the only men's restroom on the lower level. It only contains one toilet, one urinal, and one lavatory. This space would need to be completely renovated to add additional fixtures and to make the space ADA compliant.
 - The girls locker room currently serves as the only women's restroom on the lower level. It only contains one toilet and two lavatories. This space would need to be completely renovated to add additional fixtures and to make the space ADA compliant.
 - If the Kitchen is to be used for preparing food, then several modifications would need to be made including the installation of a vent hood with an ansul fire suppression system.
 - The interior entry door and door frame to the gymnasium are not currently fire rated and are not ADA compliant. The door and frame need to be replaced with a fire rated door and door frame that is also ADA compliant.
 - The door and door frame between the boys locker room and the gymnasium are not currently fire rated and are not ADA compliant. The door and frame need to be replaced with a fire rated door and door frame that is also ADA compliant.
 - The arctic entry doors are not currently ADA compliant. These doors will need to be replaced and reconfigured.
 - The door into the girls locker room is not currently ADA compliant. The door needs to be replaced with a door that is ADA compliant.
 - The gymnasium emergency exit door is not ADA compliant and needs to be replaced.
 - An additional emergency exit door from the gymnasium may need to be added depending on the occupant load calculation of this space.
- Upper Level
 - The doors into each classroom will need to be reconfigured in order to be ADA compliant. This will require the removal of some of the existing lockers in the hallway. Some of the doors may need to be replaced entirely.
 - The arctic entry doors are not currently ADA compliant. These doors will need to be replaced and reconfigured.
 - The doors into both the men's and women's restrooms are not currently ADA compliant; however, a separate ADA accessible restroom has been provided on the upper level. Some minor items will need to be addressed in the ADA accessible restroom to meet current ADA standards.
- Mechanical (based on the 2007 report, a mechanical engineer should review the existing conditions to indicate other items that may not be code compliant)
 - The existing low slope roof contains interior roof drains; however, it does not include the overflow roof drains that are required by code. These drains would need to be installed.
 - The existing ventilation and exhaust system should be checked to ensure that the code required amount of ventilation is being met for each space.

- Electrical (based on the 2007 report, an electrical engineer should review the existing conditions to indicate other items that may not be code compliant)
 - The emergency egress lighting system needs to be checked for code compliance.
 - The exit signs in the building need to be upgraded to meet the current code requirements.
- General Items
 - The door hardware for each door needs to be reviewed to ensure that it is ADA compliant.
 - All three arctic entries to do not have sufficient space between the sets of doors to make them ADA compliant. Either moving the interior set of doors further into the building, or moving the exterior set of doors further out would not only make these entries compliant, but would also improve their function to minimize the amount of cold air that enters the building when the exterior set of doors is open.
 - The handrails for both the interior and the exterior stairs at the split level entry are not currently code compliant.
 - Both locker rooms on the lower level are currently being utilized as storage spaces. If the locker rooms are remodeled, then another space would need to be dedicated for storage of this equipment.

Potential Energy Efficiency Upgrades

Another major item to consider in planning for the future use of the HERC building is energy conservation. According to the 2007 report, the insulation in the exterior wall assembly has an r-value of no more than R-5 and the insulation in the roof assembly has an r-value of no more than R7. The 2009 International Energy Conservation Code recommends an R-21 for wood framed wall assemblies and an R-49 for roof assemblies for current construction in our region. In order to efficiently operate this building as a public use facility, major modifications would have to be made to the roof structure so that the R-value of the roof could be increased. The existing windows appear to be original and new energy efficient windows would greatly enhance the buildings energy performance. The 2007 report also recommended upgrading the buildings heating and ventilation controls, ventilation and exhaust equipment, plumbing fixtures and faucets, and lighting system to make the building more energy efficient.

Potential Structural Upgrade Requirements Due to Increased R-Values

A limited structural inspection of the HERC facility was performed on February 26, 2007. The purpose of the visit was to assess the general condition of the building and to determine if structural upgrades will be required to provide increased energy efficiency and to convert the space to house City government functions.

The 2007 report was re-evaluated in light of the proposed continued use of the lower level by the Boys and Girls Club and use of the upper level as a community recreation and education facility instead of converting the space to house City government.

The increased snow load requirement and provision of an improved thermal envelope will result in the need to increase the structural capacity of the roof framing.

Class Room Wing 99' x 63'

In the classroom area, this could be accomplished by adding additional lines of beams and columns to reduce the tributary load area for existing beams.

The structural capacity of the roof diaphragm will need to be augmented by adding a layer of plywood sheathing over the existing tongue and groove sheathing. Existing roofing materials and roof insulation will need to be removed in order to apply the new plywood sheathing directly to the existing decking.

The shear capacity of the existing interior corridor bearing walls will need to be increased in order to handle the increased seismic loading. Gypsum wallboard will need to be removed in order to expose the wood framing and to apply plywood sheathing and seismic hold downs.

Central Core 25' x 111'

The snow load capacity of the roof in the central core area will need to be increased if additional insulation is added to the roof in order to reduce energy consumption. The most practical way to provide additional capacity may be to add a vaulted roof over the central core. The roof could be vaulted with wood trusses designed to span across the 25 foot dimension of the core. The trusses would be supported on existing concrete walls.

Gymnasium 97'x63'

The load capacity of the gymnasium roof could be increased by adding bar joists between the existing bar joists. Adding joists between the existing joists will reduce the tributary loading area and will increase the load capacity of the roof. The new joists will need to be supported at each end by new structural steel columns located under each joist at the interior face of the perimeter walls. It would also be necessary to remove the existing roof membrane and insulation and then overlay the existing decking with a layer of plywood sheathing to create a roof diaphragm to support increased seismic loads. The new columns would be supported by new square concrete pad footings cut into the existing floor slab.

The lateral load capacity of the existing walls is probably adequate to meet current codes.

Potential Structural Upgrade Summary

1. Increased snow load will require structural upgrades to roof framing in the Classroom, Central Core and Gymnasium areas.
 - a. Classroom:
 - Add:
 - (24) glulam beams, 36' long, 6 3/4" x 24" (Under exist roof decking)
 - (48) Wood Posts 6x6
 - (48) footings 3'x3'x12" with (4) #5 rebar each way
 - 3/4" T&G plywood sheathing. 97'x 63' (Added over existing roof decking)
 - 100 lf plywood shear walls.-remove gypboard, add plywood add ne gypboard
 - b. Central Core: Vaulted Roof Structure
 - Add:
 - Vaulted trussed roof with 3/4" plywood sheathing. 4:12 pitch, 25' span length gable trusses at 24" o/c. 56 required at 24" o/c to cover 111'. Add metal roofing over plywood sheathing.
 - c. Gymnasium:
 - Add:
 - (12) 32LH 09 Bar Joists at 8' o/c
 - (24) HS8x8x3/8 columns
 - (24) 4'x4'x16" thick concrete footings with (5) #5 rebar each way, cut into existing slab.
 - Add 3/4" plywood sheathing over existing roof decking

Summary

Due to the age of the building, a Hazardous Materials study and testing will need to be completed prior to making any modifications to the building. We recommend that this study be completed as soon as possible as it could have major implications on planning the future use of this facility.

The Condition Overview and Order of Magnitude Cost Estimate completed in 2007 was a study of what upgrades would be required to convert the existing HERC building to house City Government functions.

This was a fairly major change from the buildings existing layout as a school building to a civic office building. Our task now in 2012 is to investigate what it would take to give the building new life without much change to the existing building layout. Converting the building to house City Government functions did not prove to be very economical according to the 2007 report; however, repurposing the facility for a use compatible with its current layout would not require as many changes and may prove to be more economical.

In compiling this report, we have only been able to offer limited time, effort and resources and do not feel we have adequate information to offer a final recommendation. In order to determine if this project should be pursued further, a more detailed level of study needs to be completed to better understand actual costs involved. In addition to more carefully defining actual costs, an assessment of the political environment for available funding needs to be considered. The cost of a complete renovation of this building will most likely be the same cost per square foot for construction of a new building. If this turns out to be the case we would recommend construction of a new facility. However, if funding is available for renovation projects and is not available for new construction then that would need to be considered in the decision process. In conclusion, it is too early for us to make a final recommendation, but we believe this project is worthy of a more detailed study, if funding is available for renovation projects.

Sincerely,



Peter Klauder, President and Principal Architect
Klauder & Company Architects, Inc.

Bill Nelson of Nelson Engineering also contributed to this preliminary report letter.

Attachments:

- 1227 HERC Building Analysis - Order of Magnitude Cost Estimate

**HERC Building Analysis
Order of Magnitude Cost Estimate**

December 10, 2012

Building Areas

Gym Area	5,700 SF
Lower Level Area	2,800 SF
Upper Level Area	8,300 SF
Total Building Area	16,800 SF

Description	Quantity	Units	Unit Cost	Totals	Total Required for	
					Code and ADA Compliance	Building Performance
Sitework						
Walkway	625	SF	\$9.48	\$5,926	\$5,926	\$0
HCP Paving	1,000	SF	\$4.48	\$4,481	\$4,481	\$0
Stoop	28	SF	\$10.00	\$280	\$280	\$0
Regrading	3,750	SF	\$0.50	\$1,875	\$1,875	\$0
Sitework Subtotal				\$12,562	\$12,562	\$0

Replace Siding & Insulation	11,880	SF	\$52.80	\$627,264	\$0	\$627,264
Windows	683	SF	\$92.00	\$62,873	\$0	\$62,873
Renovations: Gym	5,700	SF	\$82.07	\$467,775	\$93,555	\$374,220
Renovations: Lower Level	2,800	SF	\$120.00	\$336,000	\$67,200	\$268,800
Renovations: Upper Level	8,300	SF	\$120.00	\$996,000	\$199,200	\$796,800
Replace Roofing Assembly, Complete	15,200	SF	\$28.00	\$425,600	\$0	\$425,600
Architectural Subtotal				\$2,915,512	\$359,955	\$2,555,557

Structural

Upgrade Roof Structure	15,200	SF	\$20.00	\$304,000	\$0	\$304,000
Upgrade Shear Walls: Upper Level	480	LF	\$126.72	\$60,826	\$0	\$60,826
Upgrade Shear Walls: Lower Level	230	LF	\$126.72	\$29,146	\$0	\$29,146
Structural Subtotal				\$393,971	\$0	\$393,971

Mechanical

New Sprinkler System	16,800	SF	\$4.50	\$75,600	\$75,600	\$0
New Heating Distribution System	16,800	SF	\$27.00	\$453,600	\$0	\$453,600

**HERC Building Analysis
Order of Magnitude Cost Estimate**

December 10, 2012

New Air Handlers & VAV Air Distribution System	16,800 SF	\$30.00	\$504,000	\$0	\$504,000
New Bathrooms: Lower Level	2 EA	\$91,200.00	\$182,400	\$0	\$0
Add Roof Overflow Drain System With Heat Trace	15,200 SF	\$4.00	\$60,800	\$60,800	\$0
Mechanical Subtotal			\$1,276,400	\$318,800	\$957,600

Electrical					
Replace Power Distribution System	16,800 SF	\$14.00	\$235,200	\$47,040	\$188,160
Replace All Lighting	16,800 SF	\$20.95	\$351,900	\$70,380	\$281,520
New Fire Alarm System	16,800 SF	\$3.50	\$58,800	\$58,800	\$0
New Telecom Distribution System	16,800 SF	\$6.45	\$108,300	\$0	\$108,300
Electrical Subtotal			\$754,200	\$176,220	\$577,980

Subtotal			\$5,352,645	\$867,537	\$4,485,108
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General Contractor Costs					
General Conditions	15%		\$802,897	\$130,131	\$672,766
Hazmat Abatement (allowance)	1 LS		\$336,000	\$336,000	\$336,000
Contractor Overhead & Profit	5%		\$324,577	\$66,683	\$274,694
Estimating Contingency	10%		\$681,612	\$140,035	\$576,857
Total Estimated Construction Cost (2013 Dollars)			\$7,497,731	\$1,540,387	\$6,345,425
Total Construction Cost Per Square Foot (2013 Dollars)			\$446	\$92	\$378

Project Costs					
Permits and Fees	2% of Const Cost		\$149,955	\$30,808	\$126,908
Design	10% of Const Cost		\$749,773	\$154,039	\$634,542
Construction Admin & Management	6% of Const Cost		\$449,864	\$92,423	\$380,725
Furniture, Fixtures, Equipment	5% of Const Cost		\$374,887	\$77,019	\$317,271
1% For Art	1% of Const Cost		\$74,977	\$15,404	\$63,454
Project Contingency	10% of Const Cost		\$749,773	\$154,039	\$634,542
Total Estimated Project Cost (2013 Dollars)			\$10,047,406	\$2,064,210	\$8,503,247
Total Project Cost Per Square Foot (2013 Dollars)	16,800 SF		\$598	\$123	\$506