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ARCHITECTURE DESIGN

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MEMORANDUM

August 3, 2015

To: **Jeff Friesner**
City of Longmont, Community Services Dept.
700 Longs Peak Ave.
Longmont, CO 80501
303.651.8393

RE: **Centennial Pool Building Evaluation**

Project: **City of Longmont Pool + Ice Study**

Project #: **1442**

CC:

From: **Chris Kastelic**

General

Sink Combs Dethlefs and the consulting engineering team have performed a basic facility evaluation of the Longmont Centennial Pool building located at 1201 Alpine Street in Longmont, Colorado. The purpose of our investigation was to observe the general physical condition of the building in order to document items potentially affecting the safety, durability, maintenance, or performance of the building, and to provide any general recommendations that may be necessary to evaluate remediation or renovation of the building under consideration.

In addition to architectural professionals, structural, mechanical and plumbing engineering consultants also attended a building and site walk-through that was conducted on June 10, 2015. Our work consisted of a visual examination of the building where we were able to access most sections of the building, including the roof and above-ceiling space over the natatorium. During our site visit, original construction drawings (dated 01/31/1972) were also found.

The building is a two story structure that houses the natatorium entry and locker rooms on the first floor and activity and storage areas on the second floor. The pool area is lower than the entry level and has no second floor area above the pool. The pool area is open to the high roof ceiling above. There is a basement area on the north side of the building that contains the mechanical equipment for the building and the pool. The south side of the building has a paved sun deck that is enclosed by fencing.

Architectural / Structural

The building structure consists of concrete and concrete masonry walls, and steel-framed superstructure with non-structural metal stud infill. Foundations are a combination of drilled piers and continuous grade-beam footings. Floor structures are a combination of concrete and precast concrete systems. The roof appears to be a built-up system with aggregate topping and insulated skylight systems. There does not appear to be any structural or architectural degradation of any walls, floors or roofs, other than minor rusting on some of the roof trusses.

It should be noted that in the mechanical room below the pool deck, there are several precast concrete bearing assemblies with steel members. These members appear to have rusted away previously and others have been installed in their place. We recommend these assemblies be monitored and replaced as necessary in the future.

Other than minor finish issues with the exterior stucco system, an area of concern in the building envelope pertains to the roof fascia/coping where birds, etc. appear to have caused recurrent damage. We recommend remedial repairs be made as needed to maintain weather-tightness.

475 Lincoln Street, Suite 100 | Denver, CO 80203
tel 303 308 0200 | toll 866 535 5653
web sinkcombs.com

DON DETHLEFS, AIA
ANDY BARNARD, AIA, LEED AP
CHRIS KASTELIC, AIA, LEED AP

MICHAEL HARVEY, AIA
ERNEST JOYNER, AIA, LEED AP
JENNIFER STEPHENS

Likewise, in the existing drawings it appears the exterior sloped walls and attic space were designed to be cold, ventilated spaces. It also appears there is not a proper air/moisture barrier between the pool and high-bleacher/office areas. High and low wall vents were seen during our walk-through. Also in the attic space the existing insulation is either in poor condition or is missing entirely. We recommend constructing an appropriate air/moisture barrier between the pool and the rest of the building. This significantly impacts the current visibility of the high-bleacher/office space and will have significant cost impacts. We also recommend installing ceiling insulation to meet current Energy Code standards. This in turn will require more work to keep the existing water piping on the warm side of the new insulation.

Architecturally, the high-bleacher/office space ceilings and finishes show evidence of corrosion. Providing an air/moisture barrier from the pool would help remediate rusting as currently seen in the ceiling and curtain system. The natatorium's glazed and painted wall and floor systems appear to be in good condition, considering the age of the structure.

Accessibility to the high-bleacher/office area is provided through a chair lift system. Currently the ramps down into the lower level locker areas do not meet accessibility code and doing so would be cost-prohibitive. Likewise, the current railing and door hardware systems are also not per current code standards. These could be replaced without undue disruption.

Neither the existing lift nor ramp into the pool itself meets current accessibility code standards. Modifying these systems will incur major cost and disruption to the facility and its users.

Mechanical / Plumbing

The existing boilers and pumps are in good to fair condition and no additional work is recommended other than normal maintenance. Concerning the solar array system, a more active and efficient means of rejecting the solar heat is necessary in order to eliminate wasting potable water. We recommend a series of fan coil units could be added to the system to reject the unwanted heat during summer seasons.

Likewise, we recommend replacing the original heating piping systems. This will cause considerably expense and disruption, so a more thorough investigation would be warranted. All corroded valves should also be replaced. Lastly, existing heating pipe insulation should be repaired/replaced.

Regarding HVAC, we recommend a controls retrofit to change out the existing system to new, and integrate all controls into a front-end system. This would enable staff to address occupant concerns more efficiently, monitor the system operation remotely (including troubleshooting), and also allow for implementation of energy efficiency measures.

The existing Pool Pac is six years old. Despite multiple refrigeration leaks, this should remain a viable option for the immediate future. We recommend replacing existing supply and return grilles and exhaust fans. The existing heaters under the stairs should be demolished since they are no longer required with the addition of the vestibule.

Most of the original hot and cold waterline valving in the pool is corroded. We recommend replacing these in the immediate future. Additionally, the waste and vent piping in the pool equipment room is corroded and should be replaced.

Existing plumbing fixtures are not low-flow nor do the existing shower drainage systems meet code. We recommend replacing the fixtures with low-flow and add automatic controls. The electric water cooler should also be replaced. A second hose bibb would be a convenience added to the pool deck. The existing shower drainage should be reworked to meet code.

Regarding stormwater controls, the roof leaders need to be replaced and insulated in the pool environment. A condensate line should also be run below grade and discharge into a dry well.

The existing pool deck is drained to a slot drain at the gutter and is routed to a backwash pit in the mechanical room. We recommend relocating the deck drainage to a trench drain, if the pool deck was ever replaced. This would eliminate the possibility of deck water entering the pool.

Gas piping is rusted and should be reprimed and painted.

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Remediation/Renovation Potential:

If the City elects to invest in the remediation/renovation of the existing Centennial Pool building, the consultant team has developed two potential options for improvements. In each case, to improve accessibility and meet current code for access, a new entry containing an elevator and expanded offices is included. The lower level locker room spaces that do not meet either ADA accessibility or clearances, as well as health department codes in the showers are also replaced rather than renovated as a more cost effective and prudent solution.

Option 1 seeks to expand the aquatic opportunities in the existing natatorium by expanding the pool shell providing more lap lanes.

Option 2 demonstrates how the building could be repurposed into a recreational/fitness facility if a new aquatic facility were constructed at another location.

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Centennial Renovation option 1:

The renovation of the current Centennial Pool could include lap lane expansion into the existing dive well and peninsula area. The pool could still continue to include diving, but would contain additional lap lanes for training and competition. The natatorium would be very costly to expand, so for the purposes of this analysis, the existing enclosure area and deck space are maintained. All pool mechanical equipment including pumps, filtration and controls would be replaced to modern standards within the current mechanical room. The upper level viewing area would remain, so seating capacity would remain.

Renovations would include the cost to demolish the existing pool peninsula and recast the pool shell with new gutter systems. Also included in the pool modifications would be replacement of existing pool mechanical filtration, pumps and controllers, as well as the addition of modern filtration technologies, UV sanitation and energy efficient equipment. The remaining building would receive upgraded mechanical, plumbing and electrical systems, new finishes, remediated structure, and all modifications necessary to bring the building up to current code and ADA accessibility.

Cost Range estimate of Probable Cost for Improvements

Renovated Area:	17,600 sq. ft. (approx.)
New Area:	5,500 sq. ft.
Construction Cost Range:	$5,200,000-6,000,000

Costs assume construction escalation at 5% through 2016. All costs are expresses as a “total project cost” including the direct cost for construction, design fees, equipment budget, contingency and miscellaneous development expenses.

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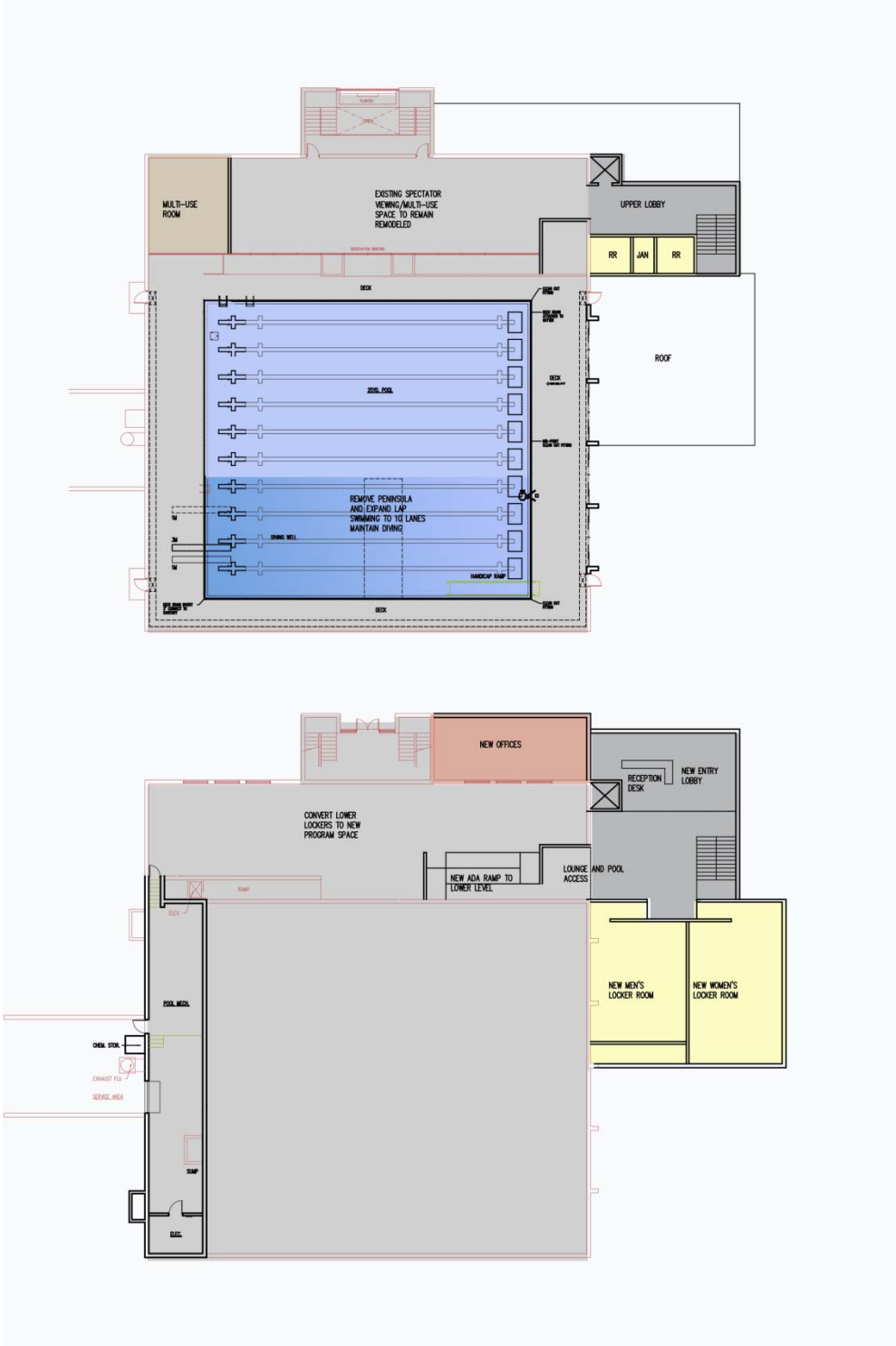
Centennial Renovation Option 1 Floor Plan Illustrations



Centennial Renovation Option 2:

If the City elects to invest in a new aquatic facility at another location, it would be operationally costly to continue to invest in the Centennial pool for swimming. Renovation option 2 demonstrates how the current building could be repurposed for other recreational uses to maximize community benefit of an existing asset. If the pool shell were filled in, the natatorium that contains the lap pool is dimensionally identical to a gymnasium housing 2 regulation basketball courts including appropriate headroom clearance. The upper level viewing area could be repurposed for fitness equipment or group exercise space. Other activity areas could be expanded in the future, but the exhibit plan illustrates how the current building could be converted with reasonable expense.

Renovations would include the cost to infill the existing pool shell, pour a new slab and install wood gymnasium court surfaces and all necessary sport equipment. The overall building would receive upgraded mechanical, plumbing and electrical systems, new finishes, remediated structure, and all modifications necessary to bring the building up to current code and ADA accessibility.

Cost Range estimate of Probable Cost for Improvements

Renovated Area:	17,600 sq. ft. (approx.)
New Area:	5,500 sq. ft.
Construction Cost Range:	$4,300,000-5,000,000

Costs assume construction escalation at 5% through 2016. All costs are expresses as a “total project cost” including the direct cost for construction, design fees, equipment budget, contingency and miscellaneous development expenses.

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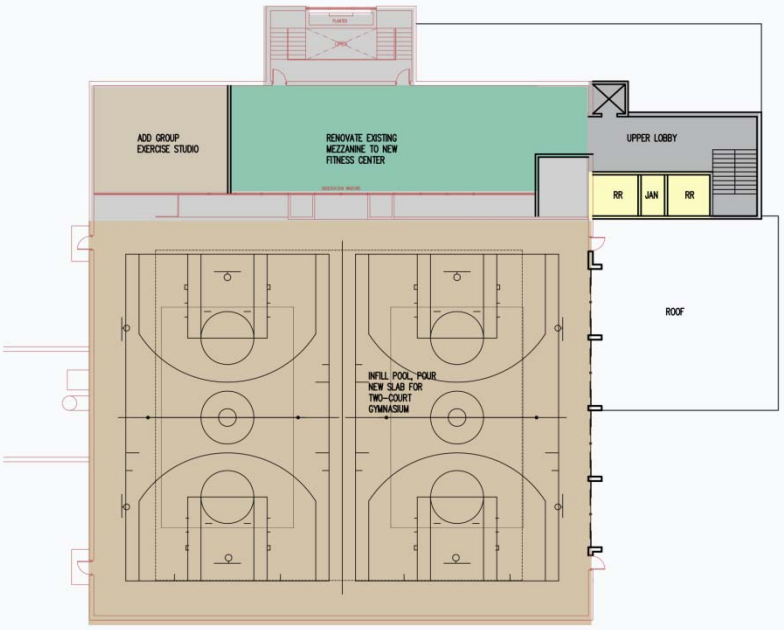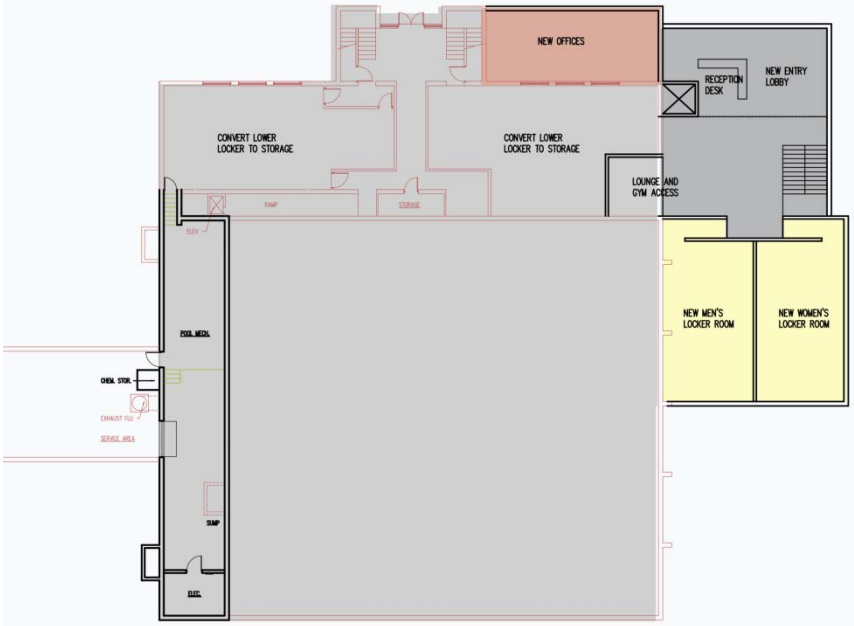
Centennial Renovation Option 2 Floor Plan Illustrations