Aquatics Facilities Committee Agenda

Wednesday, February 9, 2022 – 7:00 P.M.

VIA ZOOM

https://us06web.zoom.us/j/87419135954?pwd=Yk1tZEo4aG9hTUxCUE95c0R0UFByZz09

Webinar ID: 874 1913 5954
Password: 236444

Join by telephone: (312) 626-6799 or (877) 853-5257 (Toll Free) / Webinar ID: 874 1913 5954

NOTICE: Upon completion of item III on the agenda or at 7:45 p.m., whichever is later, the meeting will continue via Zoom at the following link:

Feb 9, 2022 7:45 PM

https://us06web.zoom.us/j/84772316687?pwd=WU91enhDMGpZcDZVb1p4VjhiamFHZz09

Webinar ID: 847 7231 6687
Password: 179251

Join by telephone: (312) 626-6799 or (833) 548-0282 (Toll Free) / Webinar ID: 847 7231 6687

I. Call to Order

II. Pledge of Allegiance

III. Presentation and Report from Michael P. Fortuna, AIA of TLB Architecture, LLC regarding Hillcrest Pool.

IV. Public Comment

V. Discussion about Hillcrest Pool and Proposed Project

VI. New Business

VII. Adjournment

M E E T I N G R E P O R T

Date: January 20, 2022
Project Name: Hillcrest School Natatorium and Swimming Pool
TLBA Project No. 2021-012

Meeting: Presentation to Town-01
Re: Review of Findings and Conceptual Design Options

Attending:

Vicki Tesoro	Town of Trumbull, First Selectman
Dmitri Paris	Town of Trumbull, Superintendent of Parks and Recreation
George Estrada	Town of Trumbull, Public Works Director
Kathleen McGannon	Town of Trumbull, Chief Administrative Officer
Dan Martin	Town of Trumbull, Assistant Finance Director
Bill Strickland	Trumbull High School, Swimming and Diving Coach
Mike King	Trumbull High School, Athletic Director
Tom Racicot	Trumbull Pisces Swimming, President
Kal Zerfu	TLB Architecture, LLC
Mike Fortuna	TLB Architecture, LLC

Project Record: This report constitutes our understanding of topics discussed and/or conclusions reached at this meeting. If exceptions are taken to the content of this report, please notify this office immediately, as this will become a part of the project record.

1. TLBA reviewed the work completed to date and presented conceptual options for the rehabilitation of the Natatorium and Swimming Pool at Hillcrest School in Trumbull, CT. The information presented at this meeting was a summary of findings and concepts, along with anticipated costs. A complete report will follow, providing additional detail. The materials presented are attached to this report.

2. There was a brief discussion of the Work completed to date, including the original review of the structural deck above the filter room, completed in September 2021. Other reviews, completed in November 2021 – January, 2022, included pool systems, equipment and piping, pool shell structure, tile and gutter, pool decks, natatorium building envelope and mechanical, electrical and plumbing systems.

3. Leak Test: It was noted that a leak test was performed and the water level dropped approximately 7-inches over a 3-day period. Leaking slowed after this time, indicating a failure of the gutter system. This is consistent with rusting observed at the tile deck, and failure of sealant joints at the pool walls and the deck. There are signs of settlement in the deck in locations, indicating loss of fill below the deck, likely due to leaks.

4. Suspended Structural Deck over Filter Room: The concrete and tile deck over the filter room is in failure due to persistent leaks at the supply/drain converter. This area of deck, as well as portions of the supporting walls are in need of complete replacement.

5. Recirculation, Filtration and Chemical Control Systems: Existing systems are functional and well maintained, but are less than ideal for a pool of this size and type. The system includes dual recirculation pumps drawing from a balance tank. Pool filters are made up of five small diameter high-rate sand filters, manifolded together. Chemical control includes liquid acid and CO2, controlled by an automatic chemical controller. The use of five small sand filters is less

efficient and more susceptible to failure than a properly sized commercial pool filter. The decision to use the manifolded filters is a result of limited access to the filter room, which include a small areaway from the exterior and hatch from the interior. In a renovation scenario, pool systems can be improved by use of newer technology, including UV sanitization to improve pool water chemistry and indoor air-quality.

6. Camera Inspection of Piping: Camera inspection of main drains at the bottom of the pool indicated they are clean and in good condition. Deck drain piping is significantly calcified with a reduction in open area to less than half the original diameter. The converter box noted in Item 4 was inspected and it is in complete failure.

7. Structural Evaluation of Pool Shell: Concrete cores were extracted from the pool walls, pool floor and pool decks. Generally, concrete strength was acceptable for continued use. There were localized concerns at the shallow end wall and the deep end floor which may warrant further evaluation if the pool is renovated.

   It is unknown what the original concrete design strength was, but pool deck results ranged from 4,470 psi to 6,860 psi. The lowest strength is at the elevated deck which was determined to be in failure. The highest strength was at the north side, where less deck settlement was observed. At the south deck there was more deck settlement observed and the concrete strength was 75% of the north side.

   Chloride testing of the pool shell revealed some chloride penetration into the concrete, with highest concentrations at the pool floor. Levels detected are generally within acceptable limits, and not unusual given the age of the tile grout.

8. HVAC System: The HVAC system includes two air-handling/dehumidification units with duct-mounted gas heaters. The units supply about 6,500 cfm to the space, of which 3,250 cfm is outside air. While functioning, the units are undersized, and distribution is poor. There are many factors impacting the selection of HVAC systems for natatoriums, but we would anticipate likely 3-5 times the current capacity is required.

9. Lighting and Electrical: Much of the electrical equipment in the Filter Room is heavily corroded and requires replacement. Lighting throughout the natatorium is relatively new, but measured light levels were well below the 100 fc recommended at the water surface by National Federation of State High School Associations (NFHS) and US Swimming and Diving. Light levels were measured at approximately 40 fc, during the day with limited contribution of natural daylight.

10. Building Layout Issues:

    a. The main entrances to the pool require swimmers, not coming from inside the school to access the locker rooms from the pool deck, in street shoes and prior to showering. This is not an acceptable route into the locker rooms.
    b. The Boy's Locker Room enters the pool adjacent to the deep end, which is a safety concern. Access from the Boy's Locker Room is across a public corridor, shared by the Gym, which puts swimmers in an unclean environment after showering.
    c. Many spaces have handicapped accessibility issues, included HCA clearances, hardware and signage.
    d. Office is undersized and doesn't provide adequate space for coaches, lifeguards and First-Aid. The room is also not HCA.

11. Diving Requirements: The diving board at the pool has been removed due to inadequate geometry of the pool and building. The pool is too shallow and the slope in front of the board is non-compliant as well. The overhead clearance to the underside of the roof structure is too low to provide adequate overhead clearance. There is no cost-effective approach to making a Code-compliant diving facility, within the footprint of the existing building. As such, any renovation scheme which includes a diving will need to expand beyond the footprint of the existing building, where more overhead clearance can be provided.

12. Building Envelope: The existing natatorium shares a wall with the Gym to the north and the School to the east. The west and south walls are exterior walls. The basic building envelope assemblies include concrete columns supporting a thin-shell concrete, barrel vault roof. Walls are concrete masonry. The exterior walls have a brick veneer.

    The concrete roof has a troweled or spray-applied acoustical plaster ceiling. The roofing appears to be a hot-mopped asphalt roofing, which appears near the end of its useful life. There appears to be no insulation in the roof assembly and there is likely no vapor control layer.

    Walls appear to have minimal, if any insulation and there is no evidence to suggest a functioning cavity wall assembly for management of water and moisture.

    Any significant renovation will require the envelope to be upgraded to comply with current Building Codes for seismic restraint, live loads and energy efficiency. This type of assembly will require significant work to make it compliant.

13. Conceptual Design Options: Two options were presented that represent a range of possibilities. The minimum scope of work to make a fully compliant facility which accommodates a 6-lane, 25-yard swimming pool with no diving as presented is Option 1. Option 2 represents an expanded pool to accommodate diving, as well as expanded program offering, including additional lanes. It was noted that within this option, pool configurations can include a lap pool with diving, combined with a separate warm water pool, a 25-yard stretch pool, or other combinations depending on pool program needs.

    Option 1 has an estimated construction cost of $6M with Project costs of $7.6M. Option 2 has an estimated construction cost of $13.5M with Project Cost of $17M. These were described as Rough Order of Magnitude Costs, meaning they may vary +-20% depending on a number of factors.

    It was also noted that these estimates consider the relatively difficult working conditions within an occupied school and the need to maintain bus, student pick-up and pedestrian safety during construction. It anticipates a high level of finish for durability and aesthetics, typical of what may be planned in current school renovation projects. Pool structures are estimated as Myrtha Pool Systems. It was estimated that Design, Bid and Construction of either scenario is likely about a 2 to 2 ½ year process.

14. There was discussion regarding whether the existing facility can be “repaired” and brought back into operation in its current configuration. At a minimum, this would require that the structural deficiencies be addressed, as well as the failing gutter system and decks. This approach would not address the myriad other issues present in the facility and would require input from the local Building Official, Fire Marshal, State and Local Health Departments and BOE to determine the minimal scope of work that would be acceptable to all Authorities Having Jurisdiction. The cost and duration of this approach would require further discussion and definition and is not a long-term solution.

15. The Architect noted that one option that may be worth consideration is to install a "Spung Instant Structure" over Tashua Pool, essentially turning it into a temporary indoor pool. This approach would require a fair amount of work, but may be quicker than other alternatives, and give the Town time to plan the long-term solution. Attached to this report is some information on the Sprung Instant Structure for review. The Architect noted that this concept was not studied and was offered off the cuff at this meeting, without the benefit of analysis.

16. TLBA will complete the report based on information already obtained. No additional field work will be completed at this time, until the Town decides otherwise, including additional invasive structural evaluation, hazardous materials testing or conceptual planning.

ATTACHMENTS:

1. 01/20/22 Meeting Exhibits, 7-Pages, dated 01/18/22.

2. Manufacturer's information on Sprung Instant Structures, Pool Facilities. (Note: Information provided by Manufacturer and not vetted by TLBA)

Respectfully Submitted,
TLB Architecture, LLC

Michael P. Fortuna, AIA
Principal

c: Attendees, file

T:\2021-012_Hillcrest School Pool-Trumbull\SD\Meetings\Pool Committee Meeting_2022-01-20\Meeting Report_01 2022-01-20.docx

TILED WALL SURFACES NEED MISC. REPAIRS AND REGROUTING.

ACOUSTICAL CEILING TREATMENTS AND WALL PANELS NEED REFURBISHMENT AND/OR REPLACEMENT

ELECTRICAL PANELS AND DISTRIBUTION REQUIRES COMPLETE REPLACEMENT

GUTTER CONVERTER HAS FAILED RESULTING IN EXTENSIVE DAMAGE TO POOL DECK AND SUPPORTING FOUNDATION WALLS

LIMITED ACCESS TO FILTER ROOM PREVENTS PROPERLY SIZED COMMERCIAL POOL EQUIMENT FROM BEING INSTALLED.

ELEVATED POOL DECK, WHICH FORMS THE CEILING OF THE MECHANICAL ROOM BELOW IS IN COMPLETE FAILURE AND NEEDS TO BE REPLACED. TOPS OF FOUNDATION WALLS NEED TO BE REBUILT.

FIRE ALARM SYSTEM REQUIRES REPLACEMENT

DIVING HOPPER IS NON-COMPLIANT. THERE IS INSUFFICIENT HEADROOM IN THE BUILDING TO ALLOW 1-METER DIVING, EVEN IF MODIFICATIONS WERE MADE TO INCREASE DEPTH.

POOL TILE AND GROUT NEEDS REPAIR AND REGROUT - TILE BELOW GUTTER IS IN FAILURE

POOL GUTTERS ARE IN POOR SHAPE AND ARE LEAKING INTO CONCRETE BELOW AND BEHIND THE STAINLESS STEEL

CONDITION OF POOL DECK VARIES, WITH VISIBLE SETTLEMENT IN SOME AREAS. SOME AREAS REQUIRE REPLACEMENT, OTHERS REQUIRE CLEANING AND REGROUT. HOWEVER, DECK DRAIN PIPING IS IN POOR SHAPE AND MAY PRECIPATE ADDITIONAL DECK REPLACEMENTS.

CONCRETE STRENGTH RESULTS;

DECK: 4,470 PSI TO 6860 PSI

POOL STRUCTURE: 4,990 PSI TO 6,440 PSI

EXISTING FLOOR PLAN - SWIMMING POOL ISSUES- DECK LEVEL

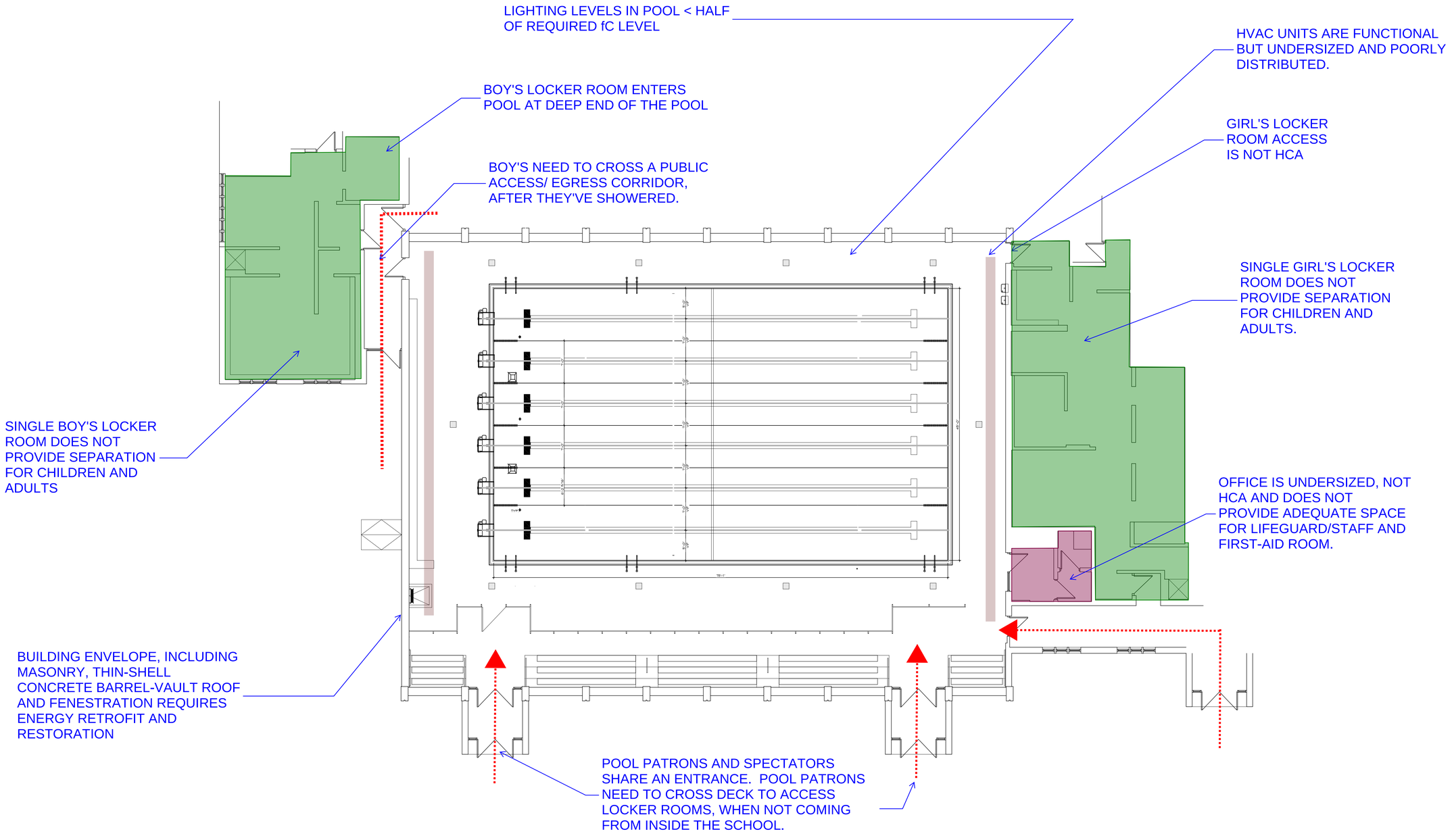
0 4 8 16 32 64 FT

HILLCREST SCHOOL POOL

TLBA PROJECT NO. 2021.012

DATE: 01/18/22

TLB ARCHITECTURE 92 WEST MAIN STREET, CHESTER, CT 06412



EXISTING FLOOR PLAN - LOCKER ROOM AND SUPPORT SPACES ISSUES

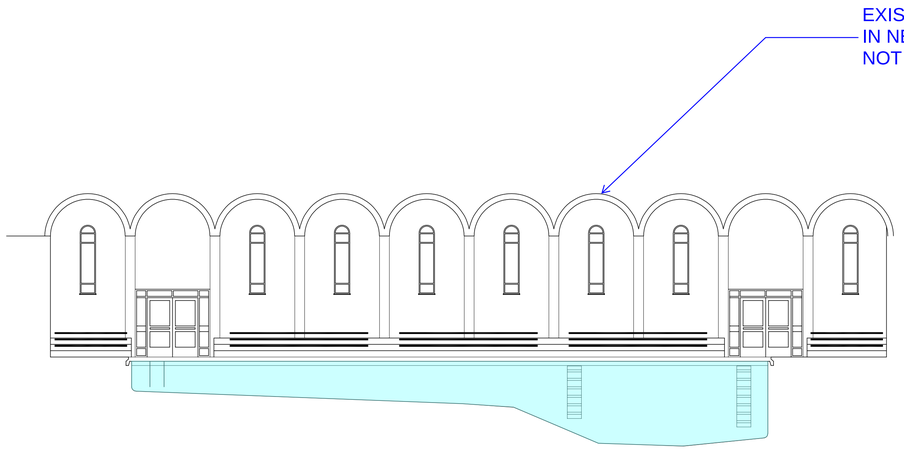
0 4 8 16 32 64 FT

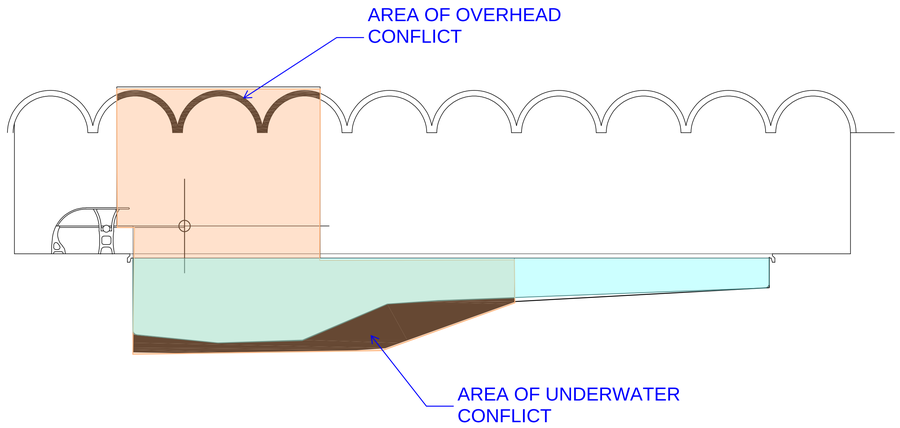
HILLCREST SCHOOL POOL

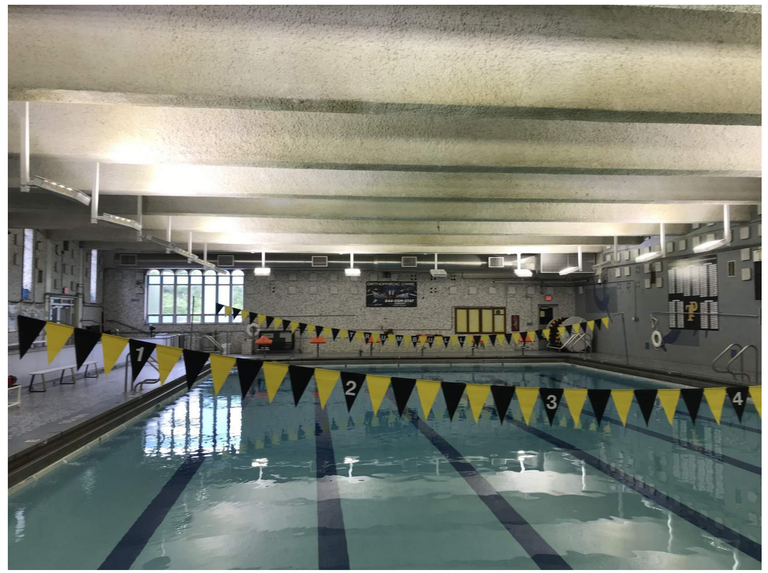
TLBA PROJECT NO. 2021.012

DATE: 01/18/22

TLB ARCHITECTURE 92 WEST MAIN STREET, CHESTER, CT 06412







EXISTING BUIDLING SECTIONS AND DIVING DEFICIENCIES

0 4 8 16 32 64 FT

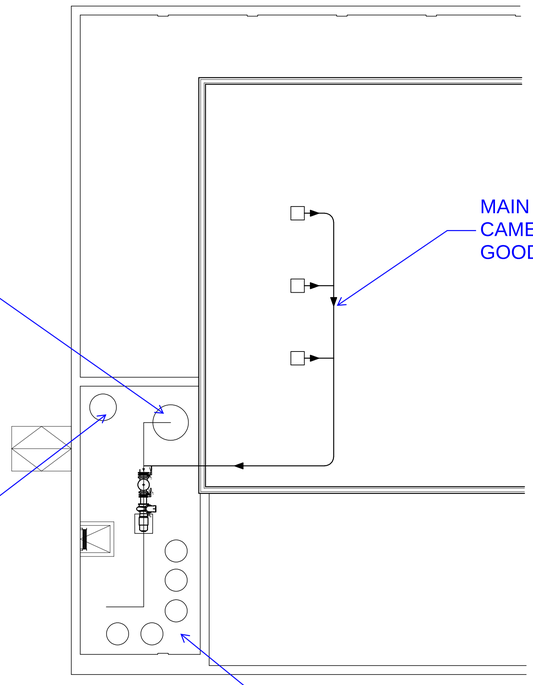
HILLCREST SCHOOL POOL

TLBA PROJECT NO. 2021.012

DATE: 01/18/22

TLB ARCHITECTURE 92 WEST MAIN STREET, CHESTER, CT 06412

BALANCE TANK EMPLOYED AS THERE IS NO SURGE CAPACITY FOR THE GUTTER OVERFLOW. IT IS UNDERSIZED, AS ARE THE SURGE WEIRS IN THE GUTTER. AS A RESULT, SURFACE WATER WILL NOT SKIM EFFECTIVELY.



MAIN DRAIN SUMPS AND PIPING CAMERA INSPECTED AND ARE IN GOOD CONDITION.

LIQUID CHLORINE ON UNSTABLE BASE AND WITHOUT SECONDARY CONTAINMENT POSES A SAFETY/HEALTH HAZARD.

FILTERS ARE A SET OF FIVE 36" SAND FILTERS AS OPPOSED TO A SINGLE, PROPERLY SIZED FILTER. THIS IS LESS THAN IDEAL BUT A RESULT OF LIMITED ACCESS.

EXISTING FLOOR PLAN - LOWER LEVEL PLAN - POOL SYSTEM ISSUES

0 4 8 16 32 64 FT

HILLCREST SCHOOL POOL

TLBA PROJECT NO. 2021.012

DATE: 01/18/22

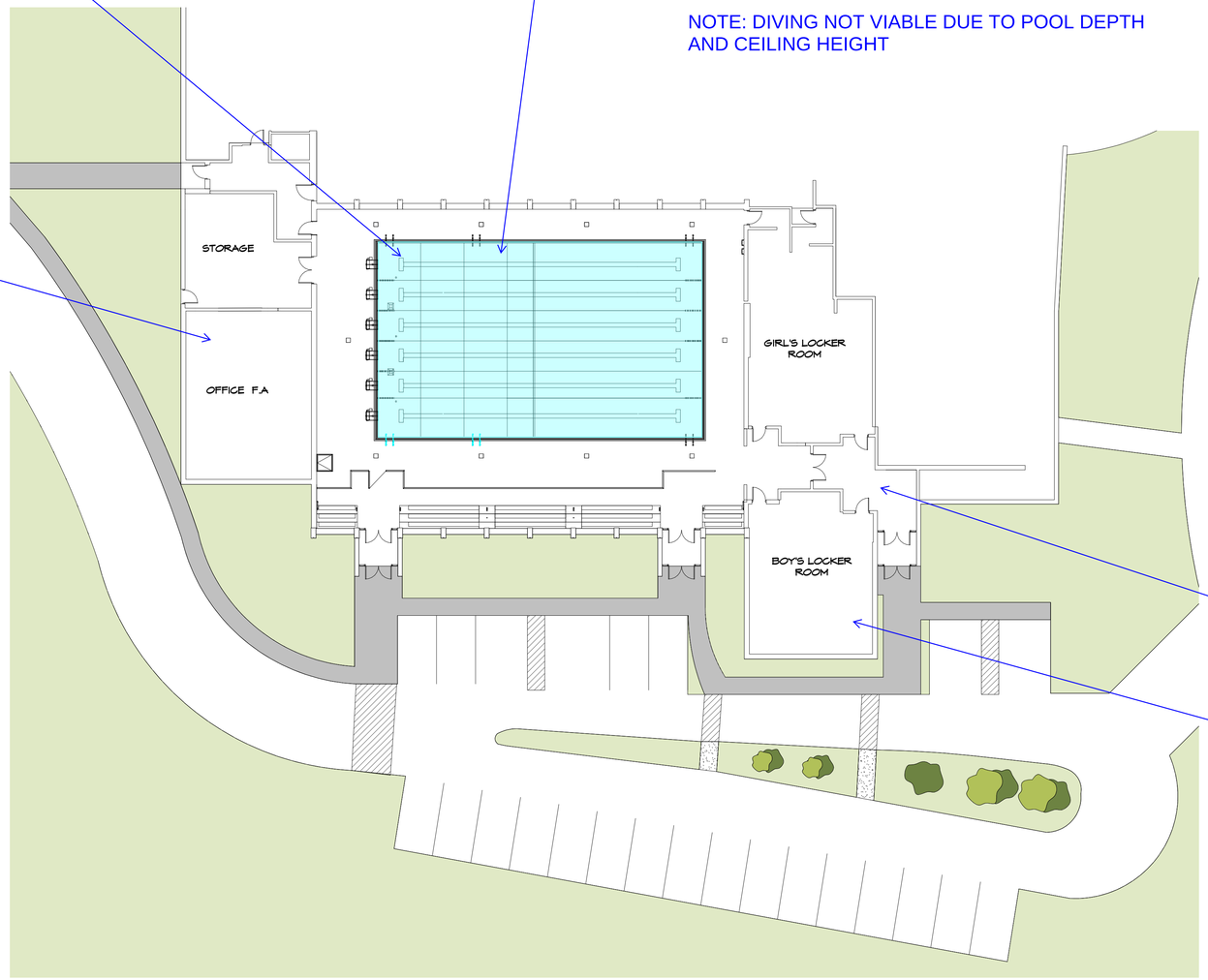
TLB ARCHITECTURE 92 WEST MAIN STREET, CHESTER, CT 06412

NO VIABLE OPTION EXISTS FOR PROVIDING 1-METER DIVING WIHIN THE FOTPRINT OF THE EXISTING BUIDLING, DUE TO OVERHEAD HEIGHT RESTRICTIONS.

SWIMMING POOL OPTIONS INCLUDE:
- 6 LANE 25y
- REDUCE DEPTH TO MAX 5-FEET, OR LEAVE AT +- 10-FEET

NOTE: DIVING NOT VIABLE DUE TO POOL DEPTH AND CEILING HEIGHT

ADDITION TO ACCOMMODATE COACHES/LIFEGUARD OFFICES, FIRST-AID AND DECK STORAGE



SWIMMER ENTRANCE, SEPARATE FROM SPECTATOR ENTRANCE

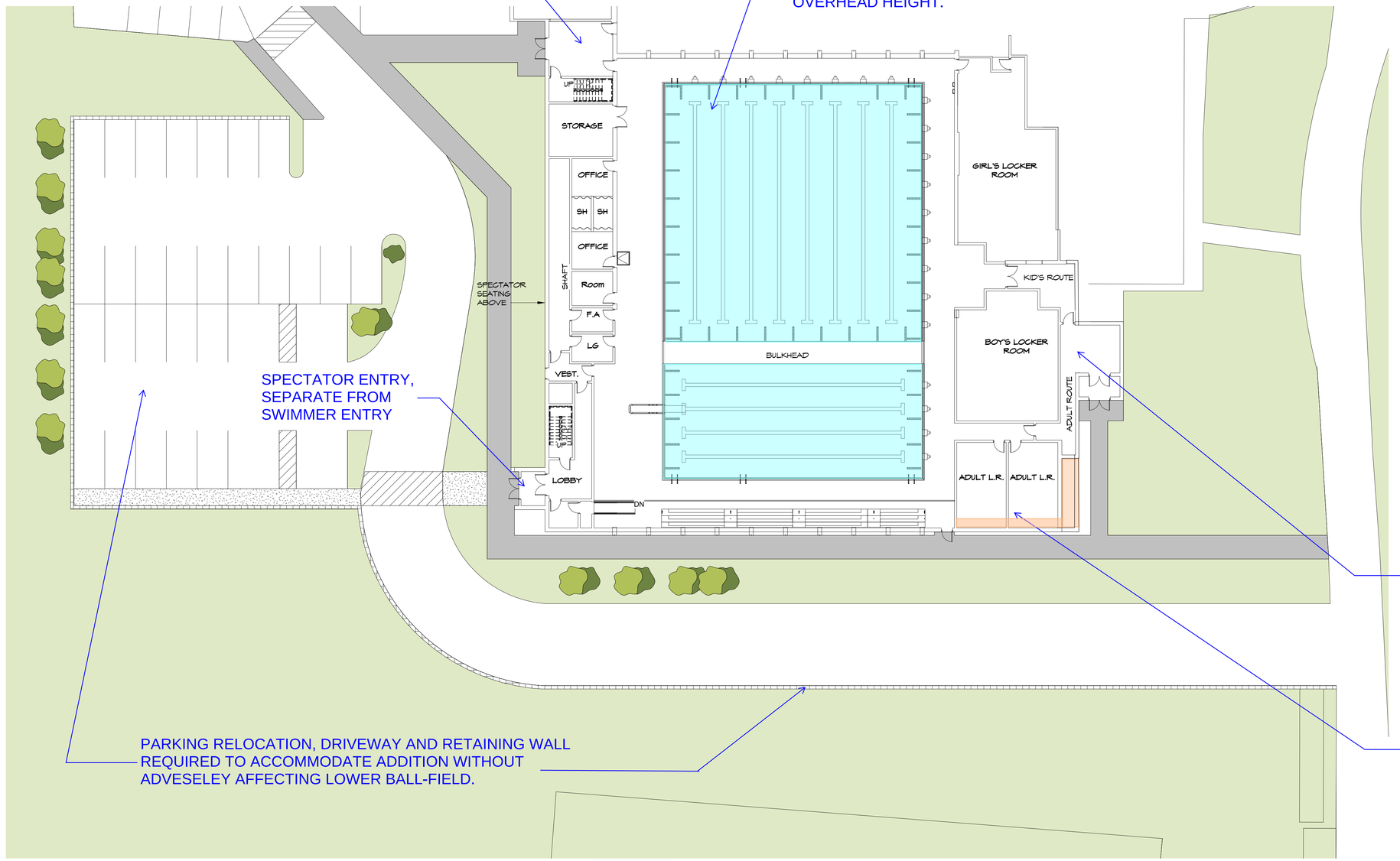
SMALL ADDITION TO LOCATE LOCKER ROOMS ON THE SHALLOW END OF POOL AND WITH IMPORVED CIRCULATION.

FLOOR PLAN OPTION 1 - NO DIVING - EXISTING POOL REFURBISHED

0 4 8 16 32 64 FT

HILLCREST SCHOOL POOL

01/18/22 • TLB ARCHITECTURE • 92 WEST MAIN STREET • CHESTER, CT 06412



FLOOR PLAN OPTION 2 - EXPANDED FOOTPRINT - PROGRAM DRIVEN POOL PLAN

0 4 8 16 32 64 FT

HILLCREST SCHOOL POOL

TLBA PROJECT NO. 2021.012

DATE: 01/18/22

TLB ARCHITECTURE 92 WEST MAIN STREET, CHESTER, CT 06412

Hillcrest Pool
Trumbull, CT
OPTION 1 - EXISTING POOL PROGRAMS
TLBA No. 2021-012

January 20, 2022

Item			Total Cost
Selective Demolition and Hazmat Abatement			$175,000
Swimming Pool Retrofit with Myrtha System			$600,000
Swimming Pool Systems Replacement			$145,000
Natatorium Structural Repairs			$120,000
Natatorium Renovation (7,300 sf at $300/sf)			$2,190,000
Locker Room Renovations (2560 sf at $400/sf)			$1,024,000
Additions (1,653 sf at $525/sf)			$870,000
HVAC Upgrades			$425,000
Plumbing and Electrical Upgrades			Incl. in Reno Cost
Sitework			$400,000
Total Construction Cost - Option 1:			$5,949,000
Contingency (15%):			$892,350
A/E Fees (12%):			$820,962
PROBABLE PROJECT COST:			**$7,662,312**

NOTES:

1. COSTS ARE IN 2022 DOLLARS. ASSUME 4% PER YEAR FOR ESCALATION TO MIDPOINT OF CONSTRUCTION.
2. COSTS ASSUME 8% GENERAL CONDITIONS AND 8% GENERAL CONTRACTOR O&P.
3. THERE ARE PREMIUMS TO MEET PROGRAMATIC REQUIREMENTS AND CODE REQUREMENTS, PARTICULARLY WITH REGARD TO ENERGY CODE GIVEN THE TYPE OF CONSTRUCTION OF THE ORIGINAL BUILDING.
4. ADDITIONAL COSTS MAY BE INCURRED IF THE DESIRE IS TO HAVE FACILITY OPERATE FULLY INDEPENDENTLY OF THE SCHOOL, DURING SCHOOL HOURS.
5. ESTIMATE ASSUMES EXISTING UTILITY SERVICES TO THE BUILDING (GAS, WATER, POWER, SEWER) ARE SUFFICIENT FOR PLANNED RENOVATIONS AND EXPANSION. NEW UTILITIES ARE NOT ANTICIPATED IN THE COSTS.

ROUGH ORDER OF MAGNITUDE - ESTIMATES OF PROBABLE COST

Hillcrest Pool
Trumbull, CT
OPTION 2 - EXPANDED NATATORIUM with DIVING
TLBA No. 2021-012

January 20, 2022

Item			Total Cost
Selective Demolition and Hazmat Abatement			$300,000
Swimming Pool - 25-Yard Stretch with Bulkhead			$1,250,000
Swimming Pool Systems Replacement			$200,000
Natatorium Structural Repairs			$120,000
Natatorium Renovation (7,300 sf at $300/sf)			$2,190,000
Locker Room Renovations (2560 sf at $400/sf)			$1,024,000
Locker Room Additions (3050 sf at $525/sf)			$1,677,500
Office area Additions w/ seating above (2,025 sf at $500/sf)			$1,012,500
Natatorium Addition (6,300 sf at $625/sf)			$3,938,000
HVAC Upgrades			$625,000
Plumbing and Electrical Upgrades			Incl. in Additions & Reno Cost
Sitework			$1,000,000
Total Construction Cost - Option 1:			$13,337,000
Contingency (15%):			$2,000,550
A/E Fees (12%):			$1,840,506
PROBABLE PROJECT COST:			**$17,178,056**

0 4 8 16 32 64 FT

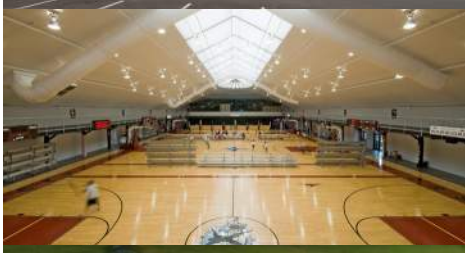
HILLCREST SCHOOL POOL

TLBA PROJECT NO. 2021.012

DATE: 01/18/22

TLB ARCHITECTURE 92 WEST MAIN STREET, CHESTER, CT 06412





A Better Way to Build

Immediate Delivery:

Typically ships within 2 weeks from firm order.
2 million square feet in inventory.

Optional Insulation Package:

Superior performance R28 Johns Manville fiberglass blanket insulation.

Limited or No Foundation:

If concrete pad not required, most structures can be erected without foundations. Pre Engineered widths 30' - 200' by any length.

Expandability:

Modular in design makes it easy and economical for future expansion.

Relocate-ability:

Easy and Economical to dismantle and relocate after use.

Resale-ability:

Structures can easily be resold and relocated, recapturing a percentage of your investment.

Lease-ability:

Free up capital. Lease/rent up to 5 years.
45-70% of lease payments credited towards purchase, depending on term of lease.

sprung Since 1887

U.S. GREEN BUILDING COUNCIL

Sprung: environmental stewardship by design

ISO 9001:2008 REGISTERED FIRM

www.sprung.com

ALLENTOWN ATLANTA CALGARY DUBLIN HOUSTON LOS ANGELES MANAMA SALT LAKE CITY SAN FRANCISCO TORONTO

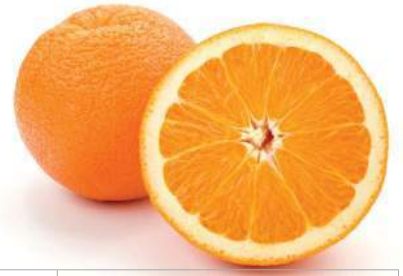
SPRUNG VS. PRE-ENGINEERED METAL BUILDINGS

Oranges vs. Oranges

How does a Sprung structure really compare?

When you compare feature by feature, you'll quickly see how your Sprung structure out-performs pre-engineered metal buildings.

Quality starts with intelligent design and choice of materials. When you consider the rapid construction time, superior energy efficiency, long term flexibility and lower overall costs, you'll agree that a Sprung structure is the right choice.



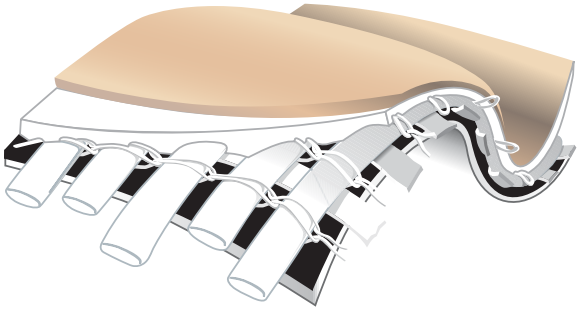
FEATURE	SPRUNG STRUCTURE	PRE-ENGINEERED METAL BUILDING	CONVENTIONAL CONSTRUCTION
Engineering	Structures are engineered to meet hurricane force winds and by design shed snow	Can be designed on a case by case basis	Can be designed on a case by case basis
Delivery	Available immediately from inventory from our West Jordan, Utah manufacturing and distribution center. A Sprung structure can generally be ready to ship within three weeks from receipt of order.	6 - 8 weeks	2-4 months
Foundation Requirements	Provided appropriate soil conditions exist, foundations are not required on structures up 160' wide	Foundations required	Foundations required
Construction Time	Structures can be erected at a rate of up to 1000 sq ft per day. Sprung structures can be erected much faster then metal or conventional construction. An entire project can be completed in 1-4 months from start to finish.	9 - 12 months	Minimum 1 year
Insulation	Continuous 8-inch thick R25 insulation from ground to peak. Johns Manville formaldehyde free fiberglass insulation. (9-inch R30 on 100' to 200' wide structures)	6-inch R20 wall squeezed to R14, 6-inch R20 roof squeezed to R11	R20 wall R20 roof
Lighting Levels	The highly tensioned white interior membrane reduces number of light fixtures required	Requires more lighting fixtures	Requires more lighting fixtures
Maintenance Schedule	Aluminum substructure is virtually maintenance-free Self-cleaning exterior architectural membrane	Standing seam metal roof prone to large thermal movements and requires continuous maintenance, especially at penetrations	Regular maintenance is required
Flexibility to Relocate	Yes	No	No
Airtight Building Envelope Efficiency	Air Permeability almost 0*, which means excellent energy performance	Poor airtightness	Moderate airtightness
Energy Savings And Operating Costs	Up to 20% energy savings over pre-engineered metal buildings	Moderate energy performance	Moderate energy performance
Natural Light	A translucent section of skylight membrane provides the optimum amount of natural light. Balance of the structure includes an opaque membrane that prevents solar gain which provides climate control during summer and winter months	Not available	Costly addition
Acoustics	Excellent acoustics properties with our comprehensive insulation package and "soft wall" interior membrane	Significant additional costs associated with acoustic treatments needed to make a metal building acceptable for any application were acoustics are a concern (gymnasiums, public assembly, churches, casinos, offices etc.	Limited performance
Lifespan	60+ years	60+ years	60+ years
Guarantee	30 years on aluminum substructure, up to 20 years on architectural membrane	Limited warranty	Limited warranty
Service	Established in 1887, Sprung has over 250 employees ready to assist a moments notice	Available	Available
Proven Technology	12,000 structures erected in over 90 countries worldwide	Wide range of product	Wide range of product

Sprung Performance Pool Enclosures

Sprung's high quality, corrosion proof, aluminum substructure, encapsulated pool insulation, and mold and mildew resistant membranes are ideally suited for swimming pool environments.

Aluminum Beam

Encapsulated Insulation



Architectural Membrane

Sprung Performance Pool Enclosures

1 800 528 9899

www.sprung.com

Kearns Oquirrh Park Fitness Center

www.kopfc.com

October 27, 2014

Sprung Instant Structures Ltd.
Phil Sprung, President
PO Box 62
Maple Leaf Road
Aldersyde, AB. Canada

Dear Phil,

In 2011, following significant exploration of options to cover our outdoor 50-meter pool, the Kearns Oquirrh Park Fitness Center chose to cover this pool with a permanent Sprung Instant Structure. Our primary objectives included:

- covering the pool for year-round use,
- making certain the air quality was comfortable for both swimmers and spectators; and
- minimizing the operating/maintenance costs associated of the facility
- providing the feel during the summer months that you are outdoors, with shading overhead.

Working closely with Sprung Instant Structures, and Van Boerum & Frank Associates, Inc., (Consulting Engineers), this pool is now operated on a year-round basis which has significantly enhanced the programs, activities and events we offer during the winter months. With the expertise which Van Boerum & Frank offers in designing mechanical systems to deal with the complexities of a pool environment, we have outstanding control of the temperature, humidity and condensation. Both swimmers and spectators have commented on how "comfortable" the facility is not only in the cold winter months, but also during the summer where we simply control the temperature by opening doors to the outside and exhausting air thru exhaust fans. As a permanent structure, we have eliminated the costs associated with erecting and taking down the structure each year in addition to storing it during the summer months. We were also committed to making this facility work well not only during the winter, but also during the summer. To accomplish this, Sprung provided several roll-up doors, some as tall as 14' that has made it possible for swimmers inside the structure to see the beautiful mountains, trees, outdoor pools, and other swimmers outside the structure. We have clearly created an atmosphere where our patrons feel like they are outdoors, with shading overhead!

We have been very happy with the outcome of the project we completed in partnership with Sprung Instant Structures and Van Boerum & Frank.

Respectfully,

Brent D. Sheets, Executives Director

5624 South 4800 West • Kearns, Utah 84118
801.966.5555 801.966.3670 (FAX)
Oquirrh Recreation and Parks District

WINNER BEST OF STATE UTAH 2010

Innovative Building Solutions

Engineered & Manufactured by Sprung Instant Structures

Centennial Aquatic Centre

Collingwood, Ontario
Pool Enclosure

Project Report:

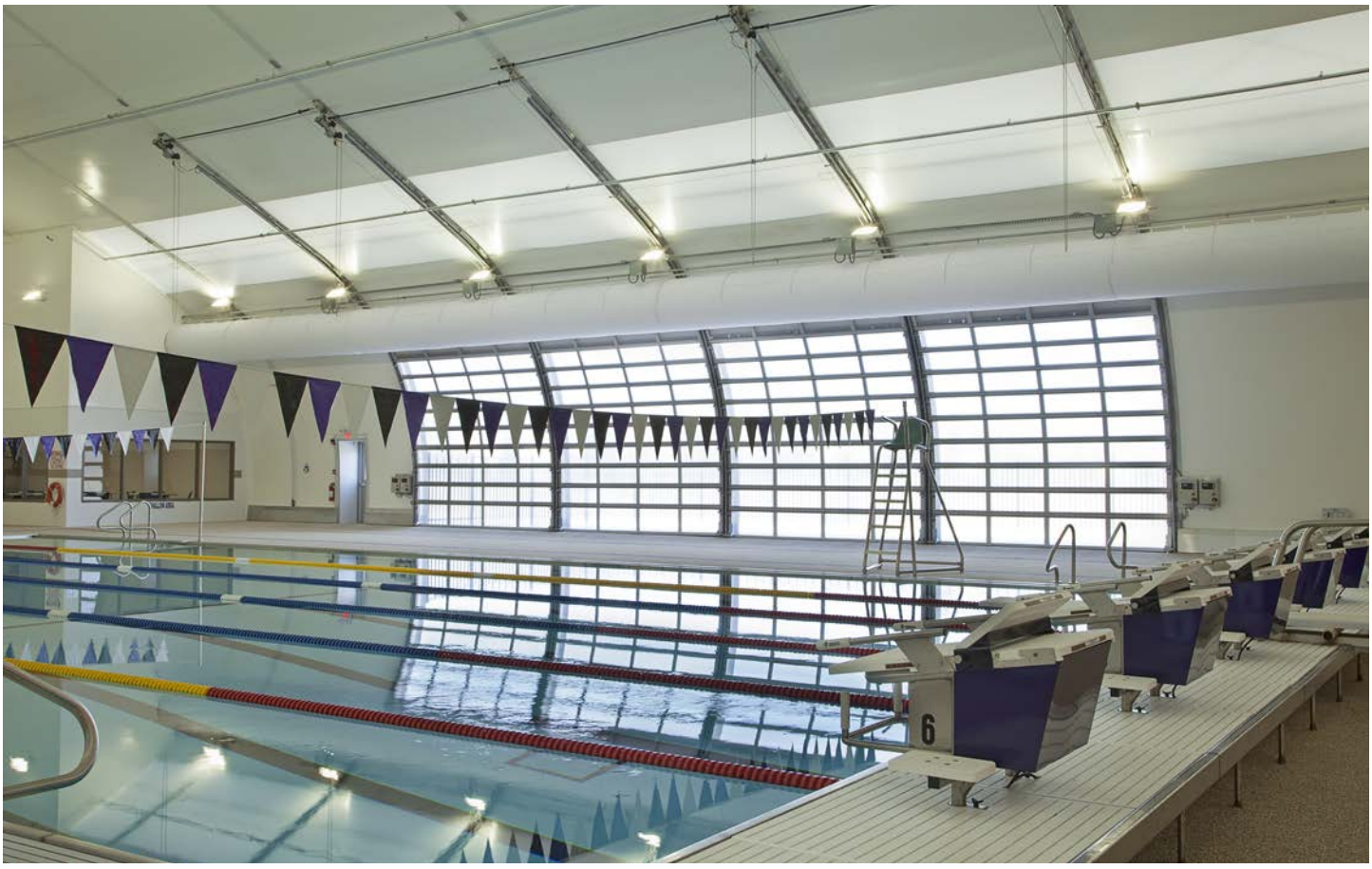
The outdoor pool in Collingwood Ontario was built in 1967, and in 2013, was enclosed with a new high-tech Sprung structure, allowing it to be used year-round. An additional accessible warm-water pool was also added to enhance the facility.

The pool is 25m long by 12m wide, with a water capacity of 540,000 litres. The Aquatic Centre is located in Heritage Park at the corner of Third and Spruce Street. (451 Third Street). It is operated by the Town of Collingwood Parks, Recreation and Culture Department.

A 90’ x 210’ Sprung structure was erected in a 6 month timeframe and features a specially designed pool insulation system that performs extremely well in high humidity environments, while translucent daylight panels and sunshine doors add natural daylight to enhance the swimming experience.

Features of the new facility include:

- New accessible warm-water pool
- Viewing room that overlooks both pools
- Interior spectator seating for 250 people
- Multi-purpose room
- Family change room
- Daylighting roof panels to maximize natural light
- Four insulated doors to allow for an open environment in favourable weather
- HVAC system throughout the facility



Mayor's Message – Centennial Aquatic Centre

The Town of Collingwood is growing, and as a municipality we need to ensure that our infrastructure and facilities meet the needs of our current and future residents, at a cost we can afford.

In our community we had an outdoor, summer-only swimming pool, however we have heard from our residents and visitors that a four-season aquatic facility was needed.

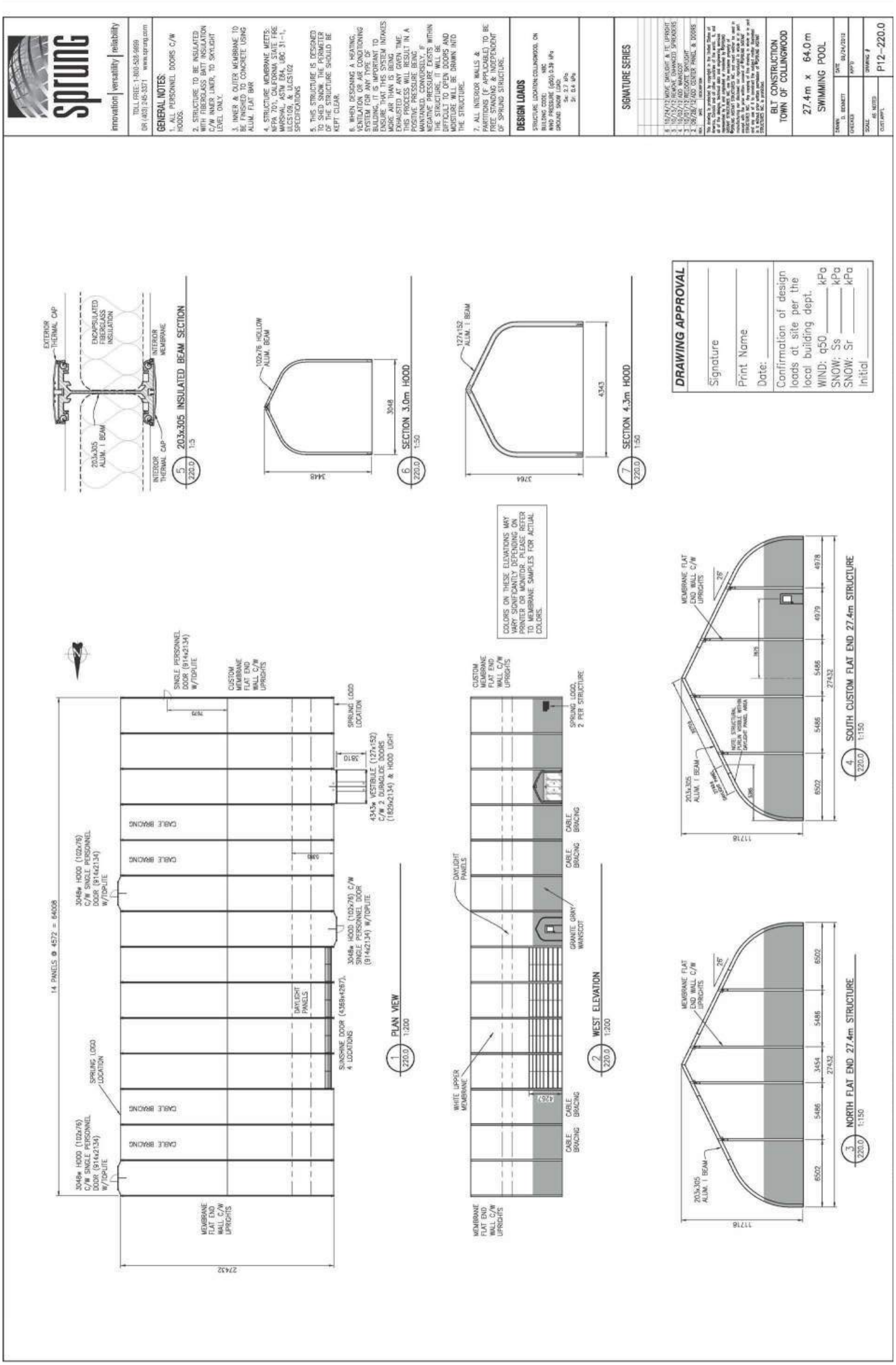
Collingwood's new, four-season Centennial Aquatic Centre – A Sprung Structure!

Sprung Structures were a great solution: a unique, patented, energy efficient, ready to use structure to house our outdoor pool, allowing us to turn it into a four-season aquatic facility. We were also able to include a warm-water pool to replace a previous one that had been decommissioned.

Day-lighting roof panels to maximize natural light and eight insulated doors to allow for an open environment in favourable weather ensure the building is energy efficient. The positive aspects of an outdoor pool will not be lost. Our users have told us they are thrilled at the fact that they can continue their aquatic fitness programs throughout the winter!

The Sprung Company has provided Collingwood with a showcase, state-of-the-art facility, which is the envy of many communities.

Mayor Sandra Cooper
Town of Collingwood


sprung
innovation | versatility | reliability
GENERAL NOTES:
DESIGN LOADS
SIGNATURE SERIES
BLT CONSTRUCTION
TOWN OF COLLINGWOOD
27.4m x 64.0 m
SWIMMING POOL
P12-220.0
203x305 INSULATED BEAM SECTION
SECTION 3.0m HOOD
SECTION 4.3m HOOD
DRAWING APPROVAL
Signature
Print Name
Date:
Initial
PLAN VIEW
WEST ELEVATION
SOUTH CUSTOM FLAT END 27.4m STRUCTURE
NORTH FLAT END 27.4m STRUCTURE