

BELMONT ICE RINK SITE STUDY

05.12.2021



SITE PLAN : SATELLITE



SITE PLAN : CURRENT



STUDY BACKGROUND & GOALS

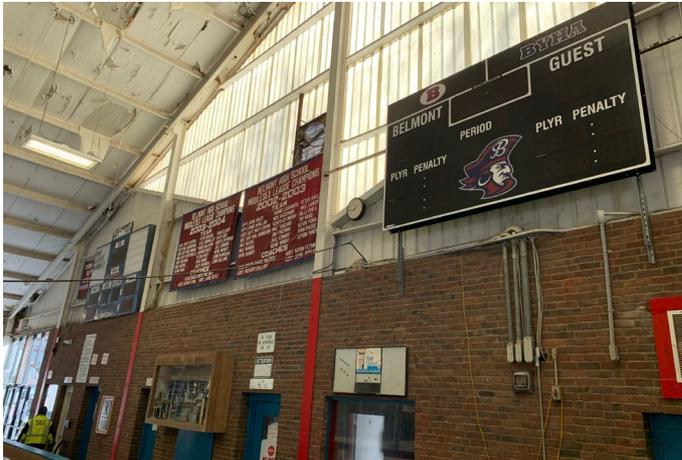
1. Site study for 5.5-acre parcel West of Harris Field HS property
2. Study undertaken due to extremely poor condition of existing rink
3. Two study scenarios:
 - A. New ice rink and reconfigured site (fields, parking, infrastructure, landscape and demolition of existing)
 - B. Renovate, if possible, existing rink with additions and reconfigured site as required
4. Develop site concept design that is responsive to the HS and Town's program and requirements
5. Create a report with conceptual estimates for design and construction costs

STUDY BACKGROUND & GOALS

6. Program assumptions for study:
 - A. Single sheet ice rink with locker rooms, spectator and support spaces, including DPW storage.
 - B. Soccer, baseball and softball JV fields (NFHS minimum requirements)
 - C. Two throwing areas (shot put and discus)
 - D. Site parking for 110 vehicles (90 for HS and 20 for rink use)
 - E. Tennis courts for HS to be accommodated at Winn Brook School but evaluate including courts if all other site program are maintained
 - F. Adequate pedestrian site circulation, drop-off area for passengers and access from Concord Ave.

EXISTING CONDITIONS

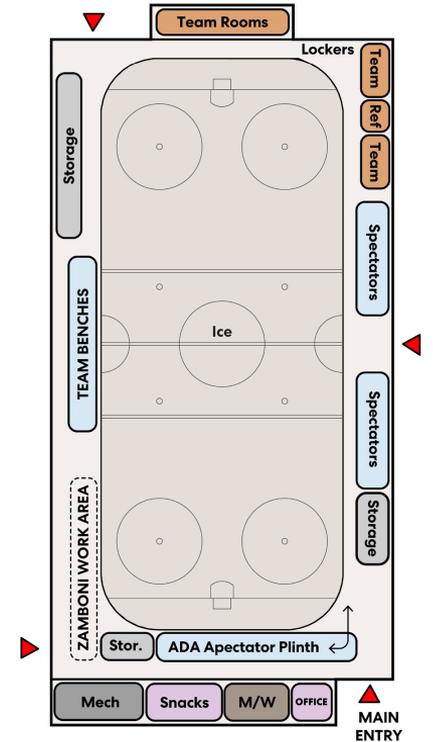
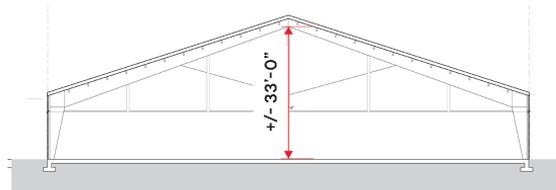
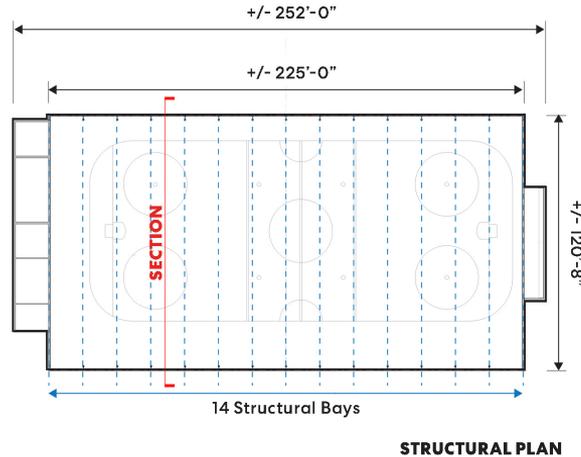
INTERIOR PHOTOS



EXISTING CONDITIONS – BEYOND USEFUL LIFE

Building Footprint – 29,500 SF

- Does not meet current building codes, fire & life safety requirements or accessibility regulations
- Not climate controlled
- No mechanical ventilation
- Exterior enclosure failing and needs to be replaced
- Lacks sufficient space to accommodate uses
- Moisture/water issues throughout
- Structural steel corroded and rusting
- Secondary roof/wall structure failing
- Fire-alarm systems need to be updated
- Beyond expected life-span
- Cost of renovation will exceed replacement value



EXISTING CONDITIONS

EXTERIOR PHOTOS



RINK PROGRAM DETAIL

Proposed Ice Rink - 45,208 SF

| Division / Space Type | | SPACE PROGRAM | | | | | | Comments |
|-----------------------|--------------------------------|---------------|-----|--------------------------|---------------------|-------------------|-----------------------------------|---|
| | | OCC ea | Qty | Net Area/Unit (sq.ft) | Net Area (sq.ft) | Efficiency Factor | Net Assignable Area (sq.ft) | |
| Arena | | | | | | | | |
| | Recommended NFHS rink | | 1 | 17,000 | 17,000 | 1.00 | 17,000 | 200' x 85' |
| | Benches Boxes & Apron | | 1 | 6,135 | 6,135 | 1.00 | 6,135 | team benches, penalty box, timekeeper, circulation |
| | Home Locker Rooms | 40 | 4 | 1,000 | 4,000 | 1.11 | 4,440 | 30" wide bench & shelf, includes 1 WC, 1 sink, 2 showers per room |
| | Field Sport Locker Rooms | 75 | 2 | 1,800 | 3,600 | 1.11 | 3,996 | 24" wide lockers, includes 3 WC, 2 sink, 4 showers per room |
| | Visitor Locker Rooms | 40 | 2 | 680 | 1,360 | 1.11 | 1,510 | benches and hooks, includes 1 WC, 1 sink, 1 shower per room |
| | Referee/Coaches Locker Room | 4 | 2 | 280 | 560 | 1.11 | 622 | lockers and 2 inclusive change rooms, 1 WC, 1 sink, 1 shower per room |
| | Family Locker Room | 4 | 1 | 280 | 280 | 1.11 | 311 | lockers and 2 inclusive change rooms, 1 WC, 1 sink, 1 shower per room |
| | Spectator Seating Area | 175 | 1 | 1,400 | 1,400 | 1.00 | 1,400 | rink or second level, 150-200 bench seats anticipated |
| | Arena Skate Rental/Sharpening | | 1 | 120 | 120 | 1.11 | 133 | |
| | First Aid Room | | 1 | 120 | 120 | 1.11 | 133 | |
| | Ice Resurfacing Room | | 1 | 300 | 300 | 1.11 | 333 | ice melt pit, zamboni |
| | Video/Sound Booth/AV Space | 2 | 1 | 75 | 75 | 1.11 | 83 | back of seating |
| | Arena Storage | | 1 | 500 | 500 | 1.00 | 500 | dasher boards, nets, goals, maintenance equipment |
| | Area Totals | | | | 35,450 | | 36,596 | |
| | Ice Plant and Mechanical | | 1 | 1,200 | 1,200 | 1.00 | 1,200 | |
| | Electrical/Comm. Room | | 1 | 400 | 400 | 1.00 | 400 | |
| | Support Area Totals | | | | 1,600 | | 1,600 | |
| | Assigned Area Sub-Total | | | | 37,050 | | 38,196 | |

RINK PROGRAM DETAIL

Proposed Ice Rink - 45,208 SF

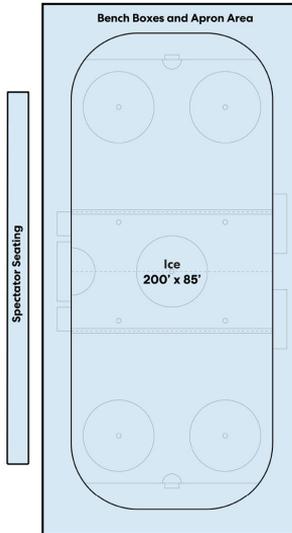
| Division / Space Type | | SPACE PROGRAM | | | | | | Comments |
|----------------------------------|--|---------------|-----|--------------------------|---------------------|----------------|-----------------------------------|---|
| | | OCC ea | No. | Net Area/Unit (sq.ft) | Net Area (sq.ft) | Effency Factor | Net Assignable Area (sq.ft) | |
| Public and Support Spaces | | | | | | | | |
| | Main Lobby | | 1 | 300 | 300 | 1.00 | 300 | |
| | Reception Counter and Support | | 1 | 80 | 80 | 1.11 | 89 | information and entry control |
| | Warm Room | 24 | 1 | 600 | 600 | 1.11 | 666 | multipurpose room, behind seating or off lobby |
| | Arena Management Office | | 1 | 120 | 120 | 1.11 | 133 | off main lobby, security, lost & found |
| | Retail Space/Ticketing | | 1 | 100 | 100 | 1.11 | 111 | team and/or booster club use, field access |
| | Concession/snack bar | | 1 | 150 | 150 | 1.11 | 167 | no cooking, warm and prepare, sinks and refridgerator, field access |
| | Public Spcae Area Totals | | | | 1,350 | | 1,466 | |
| | Facility General Storage | | 1 | 100 | 100 | 1.00 | 100 | |
| | Jantiorial Supply Closet | | 2 | 50 | 100 | 1.00 | 100 | |
| | Recycling/Garbage | | 1 | 80 | 80 | 1.00 | 80 | LEED requirement |
| | Inclusive WC | | 1 | 64 | 64 | 1.11 | 71 | family/gender neutral rest-room, 1 WC and 1 sink |
| | Public Restrooms | | 2 | 300 | 600 | 1.11 | 666 | spectator use, field access, 3 WC and 2 sinks per room |
| | IT Server Closet | | 1 | 50 | 50 | 1.00 | 50 | |
| | Support Area Totals | | | | 994 | | 1,067 | |
| | Assigned Area Sub-Total | | | | 2,344 | | 2,533 | |
| | Arena | | | | 37,050 | | 38,196 | |
| | Public and Support Spaces | | | | 2,344 | | 2,533 | |
| | Subtotal | | | | 39,394 | | 40,728 | |
| | Total Building Gross Floor Area | | | | | 1.11 | 45,208 | 90% building efficiency |

PROJECT PROGRAM

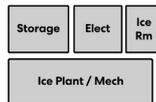
Proposed Ice Rink - 45,208 SF (Two Levels)

Existing Ice Rink - 29,500 SF

SINGLE ICE SHEET & SEATING



ICE SUPPORT



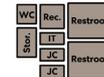
LOCKER ROOMS



LOBBY AMENITIES



LOBBY SUPPORT

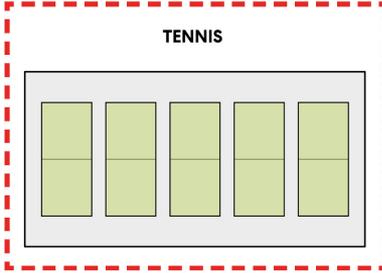


PROJECT PROGRAM

NFHS Standards

Alternate Program

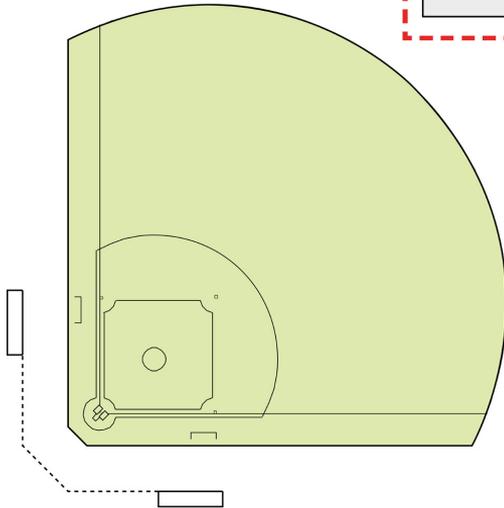
TENNIS



DISCUS

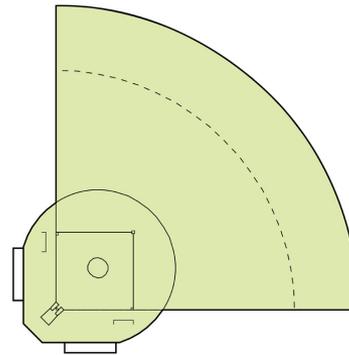


SHOT PUT



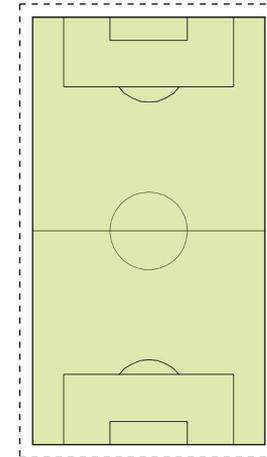
BASEBALL FIELD

300' (FOUL LINE) , 300' (CENTER FIELD)



SOFTBALL FIELD

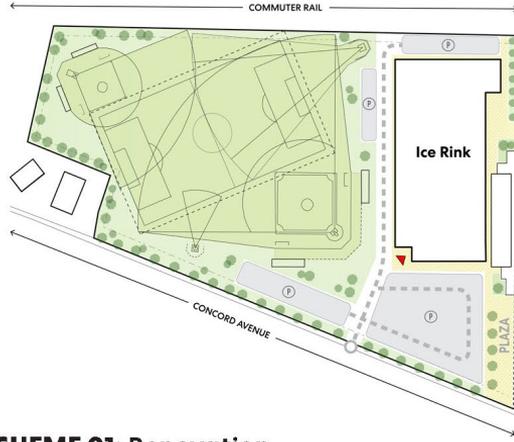
(FAST PITCH): FOUL LINE (185'-235'), CENTER FIELD (185'-350')



SOCCER FIELD

SOCCER : 180' X 300'

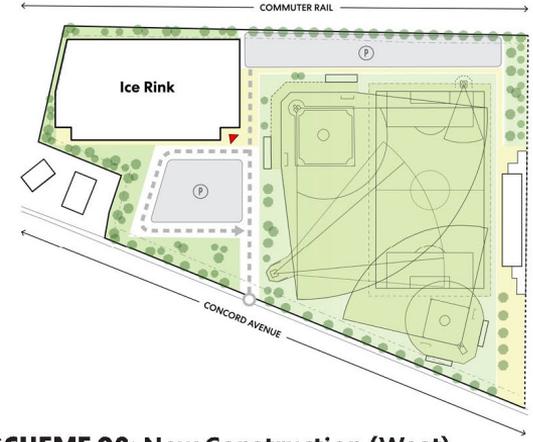
TEST FITS – THREE SCHEMES



SCHEME 01: Renovation



SCHEME 02: New Construction (East)
PREFERRED SCHEME



SCHEME 03: New Construction (West)



SITE CONCEPT EVALUATION

| ATTRIBUTES | SCHEME 01: Renovation | SCHEME 02: New Construction (East) | SCHEME 03: New Construction (West) |
|---|--------------------------|--|--|
| Carbon Footprint | + | ○ | ○ |
| Efficient Parking Layout | - | + | ○ |
| Field Configuration | ○ | ○ | - |
| Construction Duration | - | ○ | ○ |
| Construction Phasing | - | - | + |
| Pedestrian Circulation | ○ | ○ | - |
| Vehicular Circulation / Drop-Off | ○ | + | ○ |
| Rink Optimization | - | + | + |
| Building Orientation / Natural Lighting | - | + | + |
| Lowest Cost / Value | - | + | ○ |
| TOTAL | -5 | 4 | 1 |

- + Positive Attribute
- Negative Attribute
- Neutral

PREFERRED SCHEME 2

Aerial Rendering : New Construction (East) Scheme

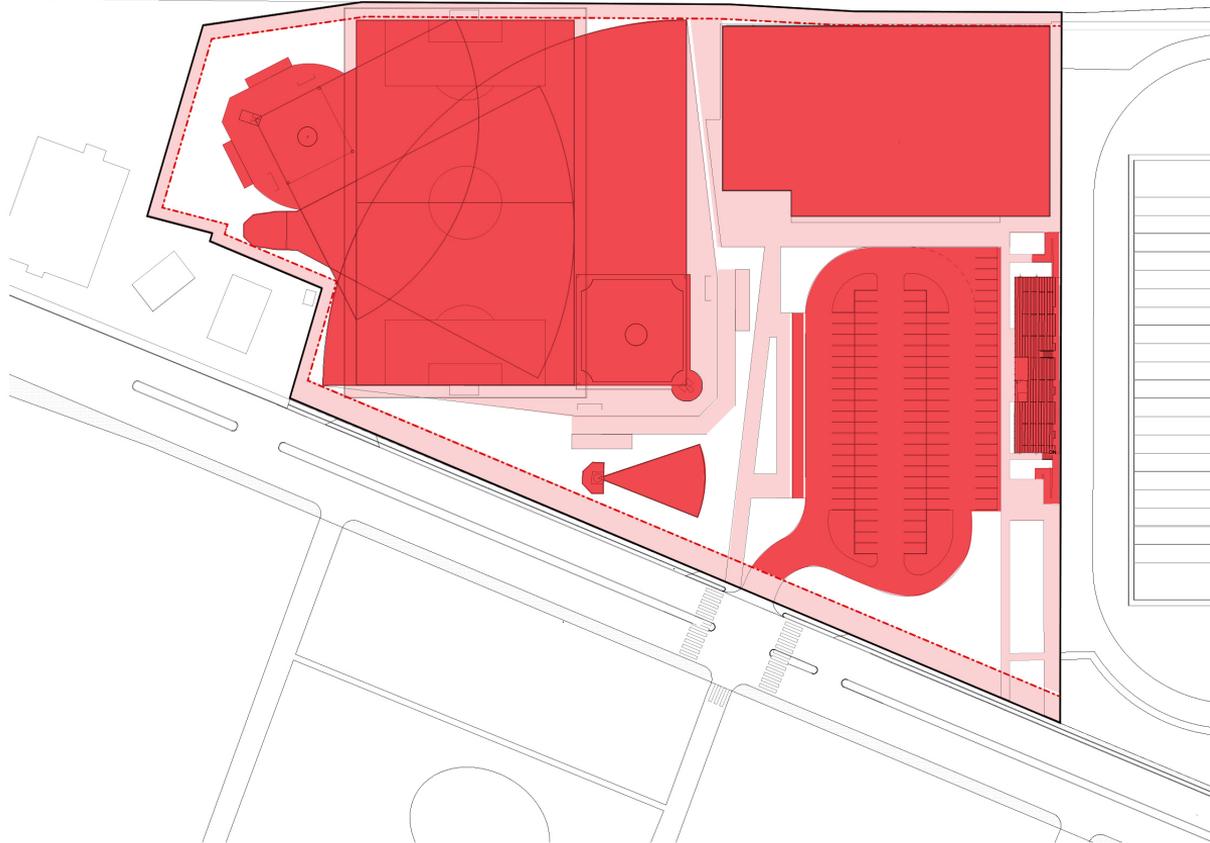


SITE ANALYSIS & FIT

Existing Site Area

PROGRAM

SETBACK & MAJOR PEDESTRIAN PATHS

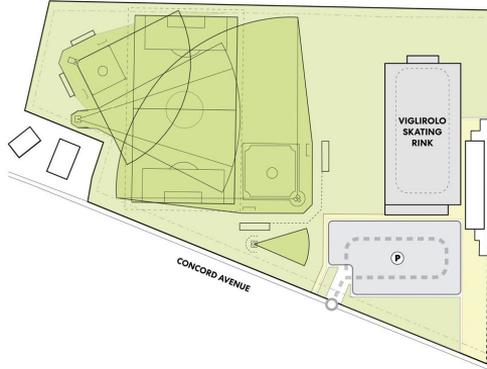


SCHEME 2 HIGHLIGHTS

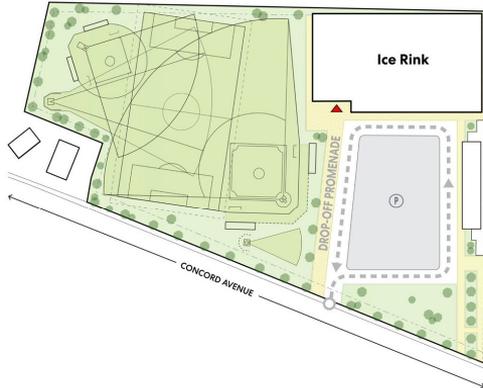
- Ideal layout for rink program
- Efficient vehicle circulation and drop-off
- Proximity to Harris Field (lockers, parking) and Underwood Pool (parking)
- Preferred driveway entry on Concord Avenue at Cottage St. (signalized)
- Energy sustainability for new rink opportunities:
 - Heat pump refrigeration system for ice making
 - Geo-exchange system to heat and cool building
 - Optimized solar orientation for photovoltaic array
- Most cost-effective solution that can be phased easily

PHASING & PROJECT BUDGET

New Site Work and Athletic Fields



Extend New Parking, Complete Site Work



| DESIGN SCHEME (Project Costs) | CONSTRUCTION SCHEDULE | TOTAL (POSSIBLE COST 20% HIGHER / LOWER) |
|---|--------------------------|--|
| SCHEME 01: Renovation | | |
| Total Construction Cost | 18 months | \$17,405,000 |
| Project Cost (30%) | | \$22,626,500 |
| Site Work Funds | | -\$2,250,000 |
| Total Rink Project Cost | | \$20,376,500 |
| SCHEME 02: New Construction (East) | | |
| Total Construction Cost | 15 months | \$15,615,000 |
| Project Cost (30%) | | \$20,299,500 |
| Site Work Funds | | -\$2,250,000 |
| Total Rink Project Cost | | \$18,049,500 |
| SCHEME 03: New Construction (West) | | |
| Total Construction Cost | 15 months | \$16,460,00 |
| Project Cost (30%) | | \$21,398,000 |
| Site Work Funds | | -\$2,250,000 |
| Total Rink Project Cost | | \$19,148,000 |

ALTERNATIVE TENNIS OPTION

| DESIGN SCHEME (Construction Cost Only) | CONSTRUCTION SCHEDULE | AREA (SF) | COST | TOTAL (POSSIBLE COST 20% HIGHER / LOWER) |
|---|--------------------------|-----------|-------------|--|
| Alternates | | | | |
| Elevated Tennis Courts (5) | 8 months | 30,720 | \$3,120,000 | \$4,517,500 |
| Design & Construction Contingency (7.5%) | | | \$235,000 | |
| Escalation (2023) | | | \$120,000 | |



BELMONT ICE RINK SITE STUDY