Project Origin

• 2009 Master Plan approved by Board of Directors identified following components:
  • Emergency Department
  • Surgical Services
  • Medical Offices
  • Cardiopulmonary Rehabilitation Department
  • Boiler Room Upgrade

• Accomplished to date:
  • Completed major expansion of the Emergency Department and front lobby (2014)
  • Addressed HVAC issues in Lab and Emergency Department (Lab 2011 / ED 2014)
  • Installed fixed MRI (2012)
  • Built new data center and centralize IS support services (2011)
  • Constructed conference center (2011)
In 2014 Board engaged Lavallee Brensinger Architects and HP Cummings to “refresh” Master Plan and assess/refine current needs. Based on internal planning with hospital staff and physicians the major project design elements were identified:

- Replace existing ORs with facilities that meet or exceed all current standards-space, airflow, humidity and infection control
- Improve patient flow in all perioperative/surgical service areas
- Upgrade Central Sterile Processing
- Modernize and consolidate dispersed medical office space
- Address space constraints of Cardiac Rehabilitation Department
- Replace aged boilers

Project cost estimates approved by BOD and authorization to apply for Certificate of Need (CON) with State of VT in December 2016
Scope of Project

4 story building containing following areas:

- Surgical Services
  - Replace existing operating rooms
  - Upgrade Central Sterile Processing
  - Relocate GI/Minor Procedure
  - Relocate Post Anesthesia Care Unit
  - Expand storage
- Medical Offices
- Cardiopulmonary Rehabilitation

Boiler Room
  - Replace boilers with dual fuel units
Surgical Services – Operating Rooms

Current challenges:

- Building structure constructed in 1950
- Undersized and does not meet FGI requirements – 446 SF, 390 SF, 398 SF
- Located directly above boiler plant – causes temperatures to fluctuate, vibrations
- Inefficient patient flow
- Insufficient and fragmented storage

Proposed: Replace existing 3 operating rooms in new building

- Provide more efficient patient flow
- Meet 2014 FGI requirements of 600 SF operating rooms for flexibility
- Retain and recruit qualified surgeons
- Location allows existing ORs to be used during construction
- Improved and controlled temperature and humidity
Surgical Services – Post Anesthesia Care Unit (PACU) and Ambulatory Care Unit (ACU)

Current challenges:

- Inefficient location – not near current ORs
- Longer travel distances from ORs to PACU
- Currently two separate, non-adjacent areas

Proposed: Combine units in renovated space and add 3 swing beds

- More flexibility with co-located beds for pre and post op demands
- Renovated space more proximate to new ORs
- Greater RN staff flexibility between PACU and ACU
- Windows with natural light assist with recovery process
Surgical Services – Gastrointestinal (GI) and Minor Procedures

Current challenges:

• Current location of GI Procedure room makes it difficult to move patients on stretchers
• Patients going in for minor procedures must travel further into the perioperative areas where more critical patients are located

Proposed: Relocate in renovated space

• More proximate to Ambulatory Care Unit (ACU)
• Larger endoscopy and minor procedure rooms – each 290 SF
• Improve work flow and patient flow efficiencies
• Separate access improves patient experience
• Scope processing in area
• Increased flexibility
Surgical Services – Storage

Current challenges:

- Current storage is fragmented in multiple locations not proximate to ORs
- Storage locations require excessive staff travel to retrieve additional equipment and supplies
- Supplies are more difficult to manage with multiple small locations
- No stretcher storage

Proposed: Add needed storage in both renovated space and new building

- One large central storage can be used more efficiently
- Shorter travel distances as space is connected to all three ORs
- Central storage served by dedicated elevators going to and from Central Sterile eliminates the need for dirty/clean instruments to travel in same hallways as patients
Surgical Services - Central Sterile Processing

Current challenges:

• Undersized – 785 SF
• Location requires movement of clean and dirty instruments through hallways used by patients
• Sterilizers are more than 40 years old

Proposed: Relocate to ground floor of new building

• Larger space directly below ORs – 1,710 SF
• Efficient dirty-to-clean flow of equipment
• Dedicated clean and dirty elevators for direct vertical transport to and from ORs
• Provide more appropriate drying and processing space
• Install state of the art sterilization equipment
Cardiopulmonary Rehabilitation Department

Current challenges:
- Undersized - lack of space creates difficulty for staff and patients to maneuver equipment
- Non-compliant with safety standards regarding spacing between exercise equipment
- Location not easily accessible for patients
- No space for changing rooms and limited waiting area
- Wait list due to limited space and equipment

Proposed: Relocate to ground floor of new building
- Larger, more efficient space
- Windows provide better patient experience
- New space to comply with modern safety standards
- More accessible space to encourage maintenance patients to continue exercise
- Separate changing area for patient privacy
- Allows for proper storage space
Primary Care & Surgical Offices

Current challenges:

• Practices scattered in former residential homes
• No opportunity for expansion due to residential neighborhood setting
• Undersized and not designed for flow of busy medical practice
• Multiple small sites limits staff efficiency
• Negative impact on recruitment and retention

Proposed: Relocate to second and third floors of new building

• Consolidate primary care practices into a modern and efficient space
• Improve staff efficiency and flexibility – common waiting room and shared check-in/check-out
• Improved handicap accessibility
• Greatly enhance recruitment and retention efforts for primary care clinicians
• Relocate and combine surgical practices – urology & general surgery
Ronald Read Pavilion
Boiler Room

Current challenges:

- Two of three boilers purchased new and installed in 1979
- Third boiler purchased used (built in 1976) and installed in 1996
- Functioning beyond expected life of 25 years per American Society of Heating Refrigeration & Air Conditioning Engineers (ASHRAE)
- Currently burning #4 oil, most expensive and negative environmental impact
- No capacity to accommodate proposed project

Proposed: Replace with two larger, more efficient duel-fuel boilers (to accommodate natural gas if and when available)

- Engaged LN Consulting to evaluate boiler needs and engineers’ recommendations
  - Concluded #2 oil as most cost effective and least disruptive for neighbors
- Capacity to heat and cool entire hospital – Main Building, Richards Building, and Ronald Read Pavilion
- No relocation required
Alternatives Researched

- Compressed campus requires vertical expansion
- Current buildings have structural limitations for vertical expansions and building code restrictions
- Other options do not allow for close proximity to existing surgical area
- New location of Ronald Read Pavilion has limited impact on existing services
- Spent 7-8 years in project analysis and planning
- Consulted with various organizations:
  - Regarding Surgical Services: Surgical Management Improvement Group
- Optimized proposal to best address neighbor concerns
## Project Budget

<table>
<thead>
<tr>
<th>Construction Costs</th>
<th>Amount</th>
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<tbody>
<tr>
<td>New construction</td>
<td>$12,044,188</td>
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<tr>
<td>Renovation</td>
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<td>Site work</td>
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<td>Fixed Equipment</td>
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<td>Design/Bidding Contingency</td>
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<td>Construction Contingency</td>
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<td>Construction Manager fee</td>
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<td><strong>Total Construction Costs</strong></td>
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<table>
<thead>
<tr>
<th>Related Project Costs</th>
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<tbody>
<tr>
<td>Major movable equipment</td>
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<tr>
<td>Architectural/Engineering fees</td>
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<td>Debt financing expenses</td>
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<td><strong>Total Related Project Costs</strong></td>
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**TOTAL PROJECT COSTS** $22,692,789
## Source of Funds

<table>
<thead>
<tr>
<th>Financing Instrument</th>
<th>Bond</th>
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<tbody>
<tr>
<td>a. Interest rate</td>
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<tr>
<td>b. Loan period</td>
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<tr>
<td>c. Amount financed</td>
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**Equity Contribution**  $12,692,789

**TOTAL REQUIRED FUNDS**  $22,692,789

- Potential financing alternatives – New Market Tax Credits or Tax Exempt Bonds

- Equity Contribution is composed of a $6.1 million bequest from the Estate of Ronald Read and other existing cash reserves
Project Meets All CON Criteria Required Under 18 V.S.A. § 9437

CON Criterion #1 – Project is consistent with HRAP standards and IHI Triple Aims:

- Triple Aims – Patient experience improved, infection control enhanced and primary care access provided

- 1.7 – Modernizing facilities to current standards consistent with evidence based practice

- 1.9 – Designed to meet code, enhance staff work flow, patient experience and instrument processing; boiler choice and design based on most cost-effective and energy conservative option

- 1.10 – Efficiency Vermont engaged; will meet Vermont Commercial Energy Codebook
Project Meets All CON Criteria Required Under 18 V.S.A. § 9437

CON Criterion #1:
• 1.11 – New construction to address larger space needs of operating rooms – no other option viable
• 1.12 – Design consistent with FGI requirements
• 2.1 – Consolidating primary care office space will enhance retention and recruitment of providers and improve office efficiency
Project Meets All CON Criteria Required Under 18 V.S.A. § 9437

Meets CON Criterion #2, 18 V.S.A. § 9437
• Cost is reasonable: BMH has resources to sustain financial burden
• Public benefit outweighs small impact on cost of medical care
• Alternatives to proposed new construction, renovation and boiler choice have been thoroughly explored – no less expensive option is available or feasible
Project Meets all CON Criteria Required under 18 V.S.A. § 9437

- **Criterion #3** – All project elements needed to maintain appropriate and critical services and to meet modern standards; project will address multiple existing concerns

- **Criterion #4** – Project as proposed will enhance BMH’s ability to provide high quality of services and will provide greater access to primary care and cardiopulmonary rehabilitation

- **Criterion #5** – Project will not have undue adverse impact on BMH, rather will improve services

- **Criterion #6** – Project will serve public good by providing operating rooms and surgical suite area meeting current standards, replacing aging boilers, enhancing access to primary care and cardiopulmonary rehabilitation

- **Criterion #7** – Transportation services are not impacted