

CARIBOO MEMORIAL HOSPITAL MASTER PLAN

Williams Lake, British Columbia

February 2011

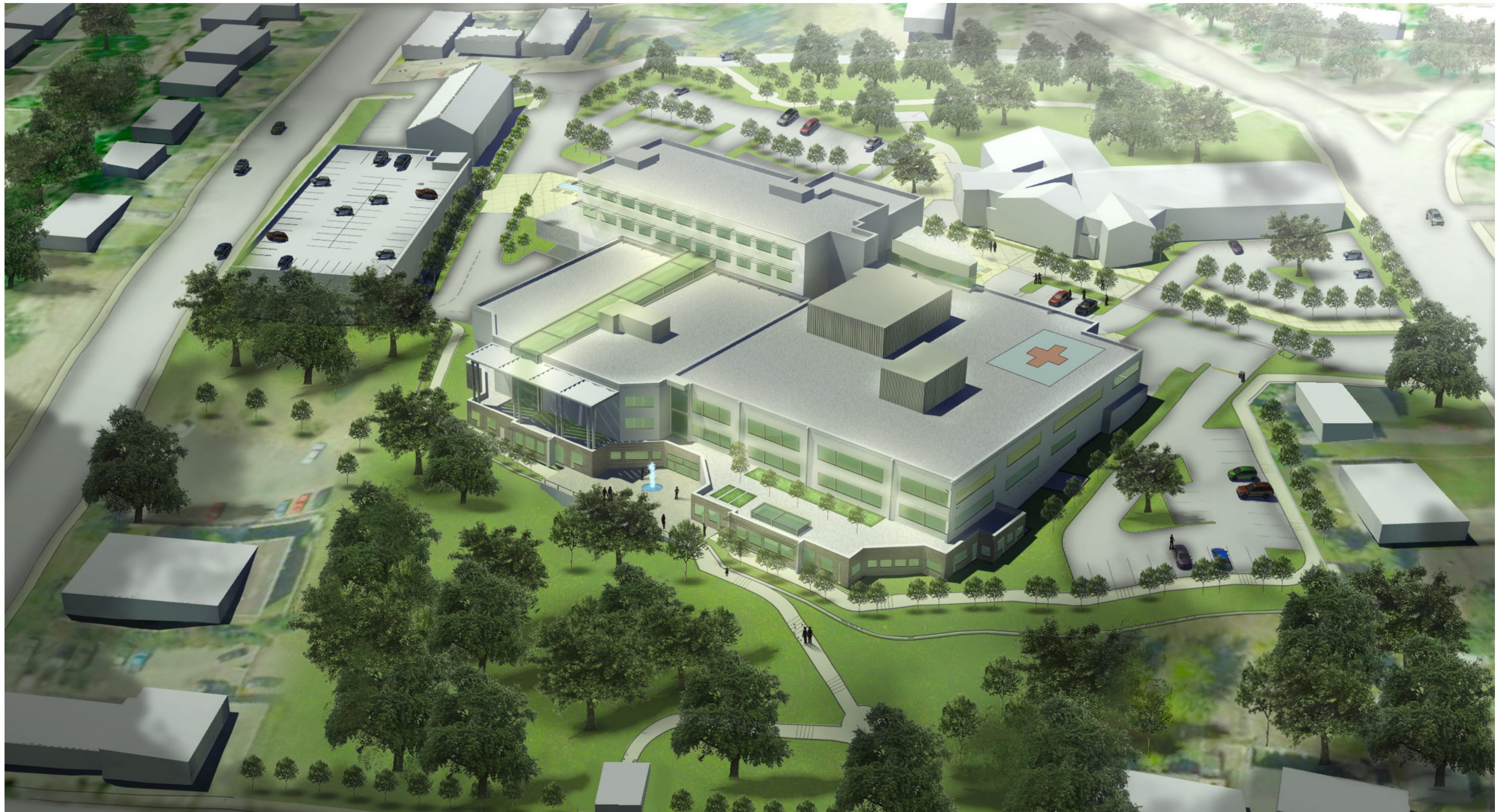


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ACRONYMS

For the purposes of this report select names and locations have been abbreviated. They are listed as follows.

BUNT:	Bunt & Associates Engineers Ltd.
BGSF:	Building Gross Square Feet
BGSM:	Building Gross Square Metres
CDM:	Chronic Disease Management
CMH:	Cariboo Memorial Hospital
FPA:	Farrow Partnership Architects Inc.
ICU:	Intensive Care Unit
IHA:	Interior Health Authority
IMIT:	Information Management Information Technology
IPU:	Inpatient Unit
KMBR:	KMBR Architects Planners Inc.
MDR:	Medical Device Reprocessing
RMC:	Resources Management Consultants Ltd
RT:	Respiratory Therapy
SF:	Square Feet
SM:	Square Metres
TIS:	Traffic Impact Study

EXECUTIVE SUMMARY

REPORT ORGANIZATION

This report is structured as follows:

Chapter 1: Introduction outlines the key project information including consultant team, scope of work and deliverables, schedule, software and use of documents. It also lays out a cursory summary of participatory events and workshops.

Chapter 2: Document Review lists related documents received and reviewed by the Design Team as part of the Master Planning process.

Chapter 3: Technical Building Assessment provides a cursory description and assessment of all major buildings and systems. Recommendations for capital investment and implications for planning are also provided.

Chapter 4: Site Evaluation provides a cursory site analysis to identify existing conditions, natural assets, and real and perceived barriers to future development. From this analysis, conclusions relating to development issues and opportunities are described.

Chapter 5: Master Program Summary provides a breakdown of program and space requirements projected to 2026. A description of the integrative programming process is also provided.

Chapter 6: Design Philosophy, Principles, and Guidelines are the documented findings resulting from participatory planning workshops facilitated by Sharon VanderKaay of FPA. Development Criteria and an overall Design Philosophy are also outlined.

Chapter 7: Comprehensive Master Plan provides an outline of the selected planning strategy including recommendations for parking solutions. Full project graphics including architectural block plans and development massing studies are provided.

Chapter 8: Proposed Space Summary provides an area variance table outlining the total building area in gross square metres along with program components and component square footage as provided within the Master Plan.

Chapter 9: Implementation and Phasing Plan outlines a strategy for phasing and decanting of existing and future programs to achieve the overall Master Plan.

Chapter 10: Conclusions and Recommendations concludes with a summary of the preferred development plan. The plan is also tested against measured criteria for success. The chapter concludes with recommendations on next steps for project implementation.

Chapter 11: Appendix provides additional related project information including Balanced Scorecard, selected existing drawings, list of user group participants and existing site photography.

PROJECT INTENT

The purpose of this project is to develop a Master Program and Master Plan for hospital-based health services for IHA at the CMH site in Williams Lake British Columbia. This redevelopment is required due to pressures that include, but are not limited to, significant infrastructure challenges including inadequate and non-functional space, increasing bed demands, projected growth in clinical area, and public access concerns as well as anticipated changes in practice and changing demographics.

The Master Plan serves as both a broad roadmap for steering future development to meet the long term health care needs of area residents, but also a comprehensive report focusing on future needs and demands for health services, best practices, and an analysis of service delivery options, while recommending interim measures to meet current infrastructure and parking challenges.

The Master Program describes contemporary health and related services to meet the needs of the communities served by CMH. The recommended scope and capacity of services reflect the changing demographics, and the growing prevalence of chronic illness requiring disease management within the IHA catchment area. The future facility requirements are based on contemporary planning standards and provide the planning base for the Master Plan.

SCOPE OF WORK

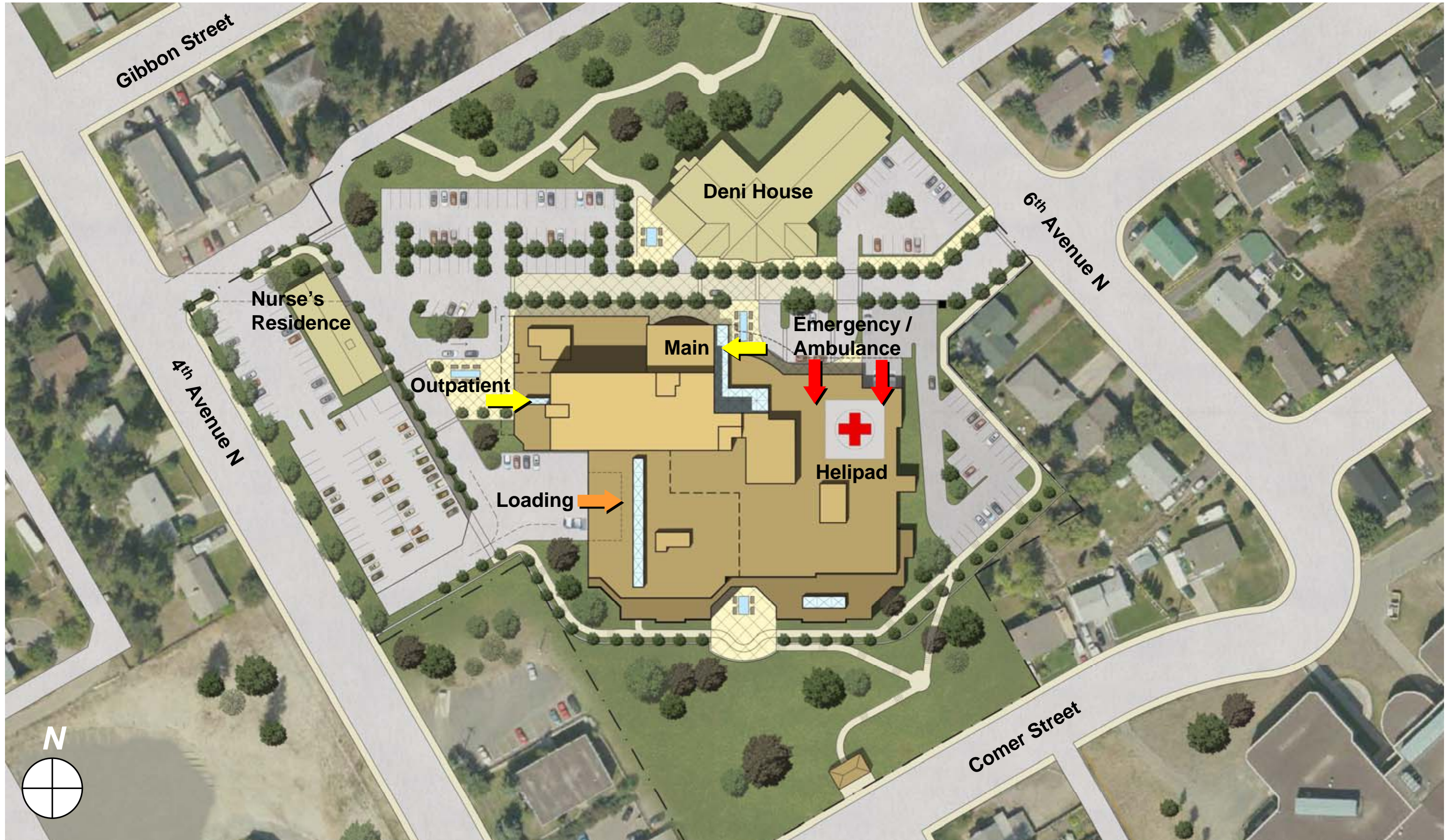
IHA and CMH has a responsibility to deliver its mission and achieve its shared vision of the future in order to meet the growing needs of its community within a context of aging infrastructure and a growing population who are in turn driving a need for an increase in inpatient beds. As a result, IHA required formal consulting services for the development of a Master Program and Master Plan for CMH's hospital-based and infrastructure services with growth and development recommendations for the next 5, 10, and 15 years.

IHA and CMH also understands that the achievement of its physical needs and strategic directions will be dependant, in part, on a comprehensive Master Program and subsequent Master Plan. The Master Program will define the programs and services required to meet future health care needs, encompassing evidence based practices, progressive service delivery options and contemporary facilities. The Master Plan, informed by the Master Program, will serve as a practical and realistic guide for immediate and long term capital redevelopment at the Williams Lake site.

In conjunction with the Master Plan and Master Program development, analyses were conducted to a) determine the parking supply requirements to support the growth in hospital activity contemplated by the Master Plan; and b) to assess the impact of traffic growth at the site's access points and on the surrounding roadways. A detailed Traffic & Parking Study outlining existing and future transportation conditions for the CMH site was undertaken by Bunt and is provided under separate cover. The key findings from this study have been integrated with the Master Plan document.

A Technical Building Assessment providing a cursory description and assessment of all major buildings and systems was also completed. Included in this assessment was the Main Hospital building and Deni House. The Nurse's Residence was excluded from this study. Recommendations for capital investment and implications for planning are also provided.

PREFERRED PLANNING STRATEGY: SITE PLAN



PREFERRED PLANNING STRATEGY: RENDERING



BUILDING GROSS SUMMARY

The following table provides a summary of total building gross square metres and net gain per the proposed Master Plan. Note that the areas provided are for design purposes only. While the Design Team has made every effort to accurately reflect the total areas, the proposed area and actual building area may vary as the Design Team was not provided with electronic drawings and accurately scalable documents. Consideration should therefore be given for adjustments and allowances in total area during subsequent costing and design development stages.

Floor	Existing	New	Demolition	Net Gain	Total
Level -2 (Med / Surg IPU)	145	2,980	0	2,980	3,125
Level -1 (Basement)	3,440	1,365	0	1,365	4,805
Level 1 (Main)	4,380	2,010	0	2,010	6,390
Level 2	1,335	0	0	0	1,335
Level 3	1,335	0	0	0	1,335
Level 4	1,085	0	0	0	1,085
Total	11,720	6,355	0	6,355	18,075

**Building Gross Areas listed in Square Metres
Excludes Deni House, Link to Deni House, and Nurse's Residence**

REPORT CONCLUSIONS AND RECOMMENDATIONS

Based on the processes outlined in this document, the knowledge gained through the various interactive charettes with the project steering committee and consultants, and a review of the options developed, the following recommendations are provided to enable IHA and CMH to move forward.

Chapter 6 Design Philosophy, Principles and Criteria of this document initially set out a series of planning criteria and development guidelines against which planning studies were then measured and evaluated. These criteria include:

- Align with IHA's Vision
- Align with Success Factors
- Flexibility for Future Expansion
- Sustainable Long-term Growth
- Offer Realistic Solutions
- Meet Parking Requirements
- Facilitate a Community of Care
- Support Wellness and Health Enhancement

As noted, several scenarios were considered during the collaborative planning process that resulted in a preferred development strategy. Greenfield design opportunities were not pursued or demonstrated from a planning perspective but was evaluated at a high level for comparative and reference purposes only.

The studies presented all included a clinical expansion to the south-west and varied in the location of the IPU. Variations included:

- Locate Med / Surg IPU at front of existing hospital as expansion of existing IPU
- Locate Med / Surg IPU at rear at loading level (Level-1 Basement)
- Locate Med / Surg IPU at rear above existing DI wing (Level 2 ½)
- Locate Med / Surg IPU at rear at grade (Level-2 Parking)

From these options, and when evaluated against the development guidelines, it was agreed by all participants that the preferred development strategy positioned the Med / Surg IPU at rear at grade (Level-2 Parking). Enabling CMH to achieve its objectives and move forward to provide a new direction through improved physical facilities the preferred development strategy was chosen because it:

- Reflects Balanced Score Card priorities
- Achieves master program areas within current space standards
- Accommodates a range of future block planning scenarios and department locations
- Supports the brand, recruitment and retention strategies
- Accommodates Community Care programs on site as required

- Achieves clarity of entrances and wayfinding
- Embraces family & patient focused design thinking
- Locates parking near to outpatient services
- Affords phased construction opportunities
- Positions significant portion of new growth away from existing clinical departments thus minimizing operational disruption during construction
- Appropriate reuse of existing infrastructure by minimizing retrofit of existing facilities for highly serviced clinical programs
- Preserves current infrastructure investment (Deni House, Phase 1 Expansion)
- Preserves real estate along western edge for future development.
- Potential for adjacent land purchase for additional expansion or parking
- Creates Ambulatory Care / Rehabilitation cluster with separate entrance to decongest Main and Emergency entrances
- Access to natural light

Most importantly, the preferred option:

- Demonstrates to the Community, the Ministry of Health, and local politicians that this site does indeed possess the potential to absorb long-term growth, thus justifying the significant infrastructure investment on the site.

NEXT STEPS

This report is designed to lay out a framework (roadmap) for future long-term growth and development at CMH that is in alignment with the IHA's and the organization's vision, goals and priorities. The intent is that the information contained within will enable CMH to make defensible choices as it grows and proceeds into subsequent planning stages. In order for CMH to move forward with the information provided, the Design Team recommends the following next steps:

- CMH planning and development committees should internally review and become familiar with the contents of each section in relation to IHA's vision and proposed growth / operational needs in both short- and long-term.
- Express the considerable technical information captured in both the Master Program and Master Plan in the context of a *project business case*, that is compelling and concise enough to allow key decision makers at within IHA and Provincial Government level to make informed, timely decisions with respect to the approval and implementation of this Master Plan.
- Continue to engage with IHA to discuss and confirm a long-term strategy for the site in the context of the options outlined within this report.
- Continue community stakeholder information sessions to engage and inform the community.
- Engage architectural / planning team to initiate decanting headstart projects as necessary.
- Engage internal discussions regarding potential demolition of Nurse's Residence to consider potential site (access and circulation) and future parking merits.
- Explore partnerships with likeminded, high-profile organizations who may be interested in participating in, and providing financial / political support, or land acquisition ventures (i.e. residential properties along 6th Avenue N. and Comer Streets) that align with future efforts / enterprises.

1.0 - INTRODUCTION

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ACKNOWLEDGEMENTS

The Design and Programming Team understands that this Master Plan was not conceived and delivered by consultants alone. Extensive input from patients, caregivers, staff and other stakeholders was required in order to truly ensure the delivery of an exceptional project that will ultimately serve, heal and inspire all members of the community for years to come.

This document is the result of a highly collaborative effort between many dedicated participants. The Design and Programming Team would like to thank the following for their efforts and creative contribution:

- Staff Representatives, City of Williams Lake
 - Geoff Goodall, General Manager of Planning and Operations
- Cariboo Chilcotin Hospital District
- CMH Master Plan Steering Committee
 - Allan Sinclair, Vice President Acute Services Project Sponsor
 - Allison Ruault, Acute Health Service Administrator, Cariboo
 - Jackie Watson, Director of Planning, Capital Planning & Projects
 - Dr. Jonathan Slater, TCS Medical Director
 - Karen Cairns, Manager Community Engagement
 - Mayor Kerry Cook, City of Williams Lake
 - Rick Mumford, Cariboo Chilton Regional Hospital District
- Cariboo Memorial Hospital Master Plan Project Team
 - Allison Ruault, Acute Health Service Administrator, Cariboo
 - Aaron Miller, Project Manager, Capital Planning & Projects Project Coordinator
 - Steve Reily, Planner, Capital Planning & Projects
 - Glenn Gill, Chief of Staff
 - Matt Himmelman, Director of Business Support
 - Genevieve Garner, HR, Business Partner, 100 Mile / Williams Lake
 - Catherine Whitman, CIHS Administrator
 - Barb Tymchuk, Ambulatory Care
 - Sara Evans, Inpatient Care – Discharge
 - Karen Hill, Surgical Team Leader
- Staff Participants, Master Program User Sessions (See Appendix D)

SCHEDULE

The CMH Master Program / Master Plan were conducted between the months of June 2010 and February 2011.

MEETINGS AND WORKSHOPS

During the project's course, a number of meetings, presentations, and design / planning sessions have occurred. Below is a summary list:

Description	Date
Planning Assumptions <i>Common Ground</i> TM Workshop	July 16, 2010
Internal Design Team Charette	September 15, 2010
Design Charette #1	October 20, 2010
Design Charette #2	November 24, 2010
Community Information Session #1	November 24, 2010
Design Charette #3	December 14, 2010
Community Information Session #2	TBD
Draft Report Submission	January 2011
Final Report Presentation	February 8, 2011
Final Report Submission	February 2011

SOFTWARE APPLICATIONS

For the production of this document the design and programming team utilized the following software applications: AutoCAD 2009 for drawing production, Adobe InDesign CS (2) for document assembly, formatting and production; Rhino / V-Ray for production of three dimensional graphic images and renderings; and Adobe Acrobat Professional to create uniformly readable and printable files of the final document.

AutoCAD drawings and Adobe Acrobat files of the full Master Plan document and each individual chapter is provided on a compact disc with this report.

USE OF DOCUMENTS

The content of this document is the result of a collaborative effort between IHA, CMH and its Design and Programming Teams.

IHA has been provided with digital unprotected copies of all design documents and presentation material, including reproducible copies of plans, sketches, drawings, graphic representations. These documents may be

used by IHA at its sole discretion, for any matter pertaining to this project, including additions or alterations to the work within this project.

This document is not to be reproduced or copied in any form without formal approval by IHA.

FPA, KMBR, RMC and Bunt are to be credited for the work where required.

CONSULTANT TEAM

The following professionals have been engaged to form the Design Team to work through all phases of the project and have contributed to this report:

Farrow Partnership Architects Inc. (FPA)

- Tye Farrow – Design Lead / Partner in Charge
- Ian Sinclair – Strategic Advisor
- Sean Stanwick – Design and Planning Team / Coordinator
- Sharon VanderKaay – Facilitator / Decision Support
- Steve Black – Master Plan Advisor
- Katie Slover – Production Support
- Patrick Spear – Production Support
- Jennifer Conron – Production Support

KMBR Architects Planners Inc.

- Gregg Brown: Local Associate Architect / Facility Assessment / Design and Support

RMC Resources Management Consultants Ltd.

- Peter Milne: Functional / Master Programming
- Debi Dancy-Dallaire: Functional / Master Programming
- Shauna Pederson: Programming Support

Bunt & Associates Engineering

- Jane Farquharson: Transportation Planning
- James Lee: Transportation Planning

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2.0 - DOCUMENT REVIEW

INTRODUCTION

In order to fully understand all relevant current and historical issues a thorough process of document review was conducted. This chapter provides a summary list of all IHA and related documents received and reviewed by the Design Team as part of the Master Planning process.

DOCUMENTS REVIEWED

In order to understand the context for planning and decision making, a thorough but expeditious background research, data gathering and analysis process has included:

- Review of the IHA Mission, Vision and Values
- Discussions with key Planning Committee members and stakeholders
- Review of the previous facilities assessment and development reports

Documents reviewed for this project include:

- *Asset Detail Report Asset Summary Cariboo Memorial Hospital*, VFA Inc, 2010
- *Cariboo Memorial Hospital Facility Profile FY 2007/08 – 2009/10*, Interior Health, July 2010
- *Cariboo Memorial Hospital, Master Plan, Final Report*, RMC Resources Management Consultants, December 2010
- *Cariboo Memorial Hospital Facility Profile FY 2005/06 – 2007/08*, Interior Health, April 2009
- *Cariboo-Chilcotin Local Health Area 027 P.E.O.P.L.E. 35 Population Projections (2011-2026)*, Interior Health, September 2010
- *Cariboo Memorial Hospital Workload Tables 2005/06 – 2009/10*, Interior Health, July 2010
- *Deni House Resident Washroom Analysis*, Interior Health, June 2010
- *Facility Catchments Population Estimates and Projections for Royal Inland and Cariboo Memorial Hospitals*, Interior Health, July 2010
- *Licensing Review of Deni House Floor Plans*, Steve Reily, June 2010
- *Mechanical & Electrical Essential Services Planning Document*, Stantec Consulting Ltd., March 2010
- *Part A Needs Justification Study, Redevelopment of Cariboo Memorial Hospital Site*, Killick Metz Bowen Rose Architects, July 2001
- *RIH and CMH Master Plan Staffing Summary*, Interior Health, July 2010
- *Select project drawings*, Main Building, Deni House, Nurse's Residence, 1955-2004
- *Thompson Cariboo Shuswap Health Service Area 014 P.E.O.P.L.E. 35 Population Projections (2011-2026)*, Interior Health, September 2010
- *Zoning Bylaw No 5-1-2001*, August 2009

The following people were also consulted as part of the information gathering process:

- Staff Representatives, City of Williams Lake
- Steve Reily, IHA

3.0 - TECHNICAL BUILDING ASSESSMENT

INTRODUCTION

This chapter provides a summary review and verification of the present physical conditions of select CMH facilities, including the main hospital and its existing additions and Deni House. The existing Nurse's Residence is not included within the scope of this review. Known deficiencies and conditions observed which will likely require capital expenditures are highlighted. The information provided is based on review of previously completed facility assessments by VFA Inc. and site discussions with facility maintenance and operations staff.

For further comprehensive detail refer to original VFA Asset Summary Report (2009), not submitted with this document.

CARIBOO MEMORIAL HOSPITAL

CMH was originally constructed in 1963, overlooking the City of Williams Lake. The original building is four stories with a full basement and two roof-top penthouses.

In the early / mid 1970's major additions and renovations were undertaken. The roof was replaced in 1976 and the exterior of the building painted in 1984. In 1986 a nurse paging system (Rauland 3000) was installed and in 1988 a sprinkler system was installed throughout the facility.

In 1995 a new single storey addition approximately 6,300 square metres in area, with full basement and covered parking garage, was constructed, bringing the total floor area for the hospital to approximately 12,000 sm. At the same time 1,000 sm of renovations were undertaken.

Since 1995 there have been renovations on the second floor to amalgamate the Inpatient Unit and on the fourth floor for specialist offices (1996), on the third floor for the Crisis Stabilization program, Home support, Continuing Care and Psychogeriatric programs (1998).

VFA ASSESSMENT - APRIL 2009

A summary of the building's most costly "currently critical" and "potentially critical" items is presented below. In the Requirements section, the VFA report did not differentiate between the original 1963 building and the 1995 expansion.

Windows: replacement for building integrity	\$296,785
Primary Electrical Service: upgrade for building integrity	\$241,837
Motor Control Centers: replacement for building integrity	\$146,562
Security System: needed for functionality	\$91,639
Cable Management: upgrade for functionality	\$104,366
Isolation Rooms: HVAC upgrade for building code compliance	\$304,500
Subtotal*	\$1,185,689

**Note: The total cost of all 19 "currently critical" and "potentially critical" items in VFA's report (including the 6 most costly items listed above) is \$1,458,789.*

Some of the other more costly requirements not listed by VFA as "critical" but designated as necessary, recommended, or non-compliant with codes/standards are:

Energy Management System: replacement for building integrity	\$181,233
Exterior Painting: needed for building integrity	\$121,826
Electrical Panels/Feeders: replacement for building integrity	\$428,744
Lighting Fixtures: upgrade for building integrity	\$413,481
Branch Circuit Wiring: replacement for building integrity	\$209,000
Nurse Call System: replacement for building integrity	\$158,450
Security Cameras: replacement for building integrity	\$121,347
Domestic Water Distribution: replacement for building integrity	\$225,626
Asbestos Containing Material: hazardous materials abatement	\$647,850
Parking Area Resurfacing (VFA P-2 of 14)	\$180,000
Subtotal*	\$2,687,557

**Note: The total cost of all 59 non-critical items in VFA's report (including the 10 most costly items listed above) is \$3,680,672.*

COMMENTARY - VFA

The VFA report makes a concluding observation that “the hospital, considering the age and condition of some parts of the electrical system, overall is maintained well and seems to be run efficiently.”

It is worth noting that the VFA report makes no comment on the hospital's seismic capacity, which was perhaps outside of VFA's terms of reference. The VFA report simply states: “The Williams lake area has a low seismic exposure with a velocity related seismic zone designation of 2.”

However, the conclusion drawn in the 1992 Lambur Scott Morris report, was that seismic capacity of the older structure at CMH is a major concern since “the building will suffer moderate to severe damage if a design-level earthquake were to strike.” Seismic capacity of the older structure warrants further investigation relative to current building code requirements.

If the VFA requirements at all priority levels were taken together, they would likely represent less than 10% of the replacement value for the hospital. Therefore, unless the functionality of the existing hospital is deemed poor or the structure poses a serious impediment to the long-term master planning, it is assumed that the existing facilities will perform adequately and should largely remain.

To keep ahead of costly repairs and ensure the longest use of its' facilities, the items listed by VFA need to be addressed in the near future, if not immediately. Failure to do so may result in various building systems to breakdown completely, forcing the total or partial closure of buildings for indeterminate periods. This would definitely disrupt the delivery of health care services.

ESSENTIAL SERVICES PLANNING DOCUMENT (STANTEC)

A summary of the building's critical and items is presented below.

- *Domestic Cold Water Systems*

The study concludes that the new plumbing code requires larger pipe sizes and future modifications in the hospital would more than likely necessitate an upgrade to the domestic water entry system.

Upgrading the domestic water incoming water supply at the water entry room should be scheduled. The scope of the upgrade would include new backflow prevention, water meter, bypass system, triplex domestic water booster system, and appropriate valving, with a probable incremental cost of \$175,000. It is noted that this cost does not include replacing aged piping within the older portion of the building.

It is recommended that a review of the domestic water system be undertaken to confirm operating conditions and the amount of upgrading needed to ensure adequate and stable water supply. Plant operations have reported that the domestic water pressure sometimes drops, resulting in user complaints.

- *Domestic Hot Water Systems*

The study suggests that any new addition would require an additional hot water tank as back-up for the two tanks that appear to be operating currently at capacity. The existing tanks were installed in 1995 and were reported to be in good condition. The probable incremental cost for the additional tank was estimated to be in the order of \$100,000.

- *Domestic Soft Water Systems*

The study concluded that for future expansion, the domestic hot water softening system capacity should be adequate for “minor renovations”, whereas for laundry purposes “any major addition will require additional water softening system”. Since information was limited for the study, Stantec suggested that a detailed review of the current soft water use be completed prior to any expansion to determine existing usage and future need.

- *Sanitary Sewer Systems*

Stantec was unable to verify existing sanitary pipe sizes and elevations on site, apart from determining the sanitary main size to be 200mm diameter. They concluded that although renovations should not create a problem in capacity, the risk of exceeding capacity was high for an addition and therefore for any addition a proposed load calculation should be undertaken to ensure the existing mains could handle the added load.

- *Storm Sewer Systems*

The study anticipates that with any expansion a storm management plan will be required by the City which, in the opinion of Stantec, would likely result in the requirement for a retention pond. No cost estimate was attached to this expected requirement.

- *Fire Protection Sprinkler Systems*

Given that the building is fully sprinklered and has a 500US GPM fire pump, Stantec concluded that “making minor renovations or additions should not create a problem”. They do however recommend that a study be undertaken on the existing systems to ensure code compliance of the system.

- *Medical Gas Vacuum System*

In the event of expansion, the existing triplex medical gas vacuum compressors, installed in 2007, can be changed to a fourplex system without major difficulty, the cost of which was estimated at \$30,000.

- *Medical Gas Air Systems*

In the event of building expansion the existing triplex system can be changed to a fourplex system without major difficulty. For a major expansion it is recommended that the new medical gas system be separate from the existing system for backup purposes. The cost of expanding to a fourplex system was estimated at \$50,000.

- *Medical Gas Oxygen Systems*

Medical gas piping within the old building does not meet the current medical gas code. The current use of quick connect outlets instead of IHA's standard for using DISS outlets should be reviewed according to Stantec. Future connections must be piped back to the source and final loads confirmed with the bulk oxygen gas supplier.

- *Medical Gas Nitrous Oxide Systems*

Stantec concludes that future expansion “capacity will need to be evaluated based on the scope of future additions but we do not foresee any issues”

- *Natural Gas Fuel Oil Systems*

For future expansion Stantec concluded it may be necessary to change out the gas meter but the high pressure feed should be adequate in size. New fuel oil storage tanks for the boilers were deemed necessary for any expansion since currently there is no oil storage except for a small day tank, which does not conform to the existing codes. A new boiler oil storage system was estimated to cost in the order of \$200,000.

- *Central Boiler Heating Systems*

Although the study reports that some spare steam capacity appears to be available, it also concludes that hot water boiler capacity would need to be expanded with a building expansion. Renovations within the existing building would not create any major issues. Existing steam and hot water boiler systems, which are normally operated on natural gas with oil backup, were considered to be in good condition.

- *Central Cooling Systems*

Given that there is no redundancy within the existing chilled water systems, Stantec concluded that any expansion will require an additional chiller and tower. Furthermore the existing 100 ton York chiller was installed in 1994 and the life expectancy is approximately 5 more years (2015). To simply replace the existing chiller the associated cost was determined by Stantec to be approximately \$175,000, whereas to expand the chiller capacity to 200 tons would incur a cost of approximately \$300,000.

- *Central Air Handling Systems*

Stantec notes that that hospital has never obtained a study of ventilation air quantities in relationship to current standards and codes. They recommend a ventilation study of the existing hospital be undertaken at an approximate cost of \$45,000, and that any plans for renovation or additions involve a ventilation study as well to determine the best course of action. They note that the hospital has numerous air handling units, eleven in the 1994 addition alone. The generator exhaust system was known to have some problems with the motorized damper system.

- *Electrical Services Systems*

In the event of future expansion the main electrical service was seen to have room for expansion, and it was noted that a new transformer can be added to increase the overall capacity. In the older building additional circuit space may be required. The cost of replacing original equipment was estimated at \$80,000 and considered to be of low importance.

- *Emergency Power Systems*

The existing generator was installed in 1995. This generator has switchgear that will accommodate a new generator of equal size and there is sufficient space to install another generator. A load study is required to assess if a new generator is required. If required a new generator is estimated to cost in the order of \$400,000. Stantec assessed the importance level for acquiring a new generator as low.

- *Fire protection – Fire Alarm Systems*

The existing system was considered by Stantec to be obsolete and not reasonably expanded. A complete new system is required and was considered to be of high importance, which Stantec estimated to cost in the order of \$100,000, assuming the reuse of existing wiring.

- *Telephone, TV & Communications Systems*

Stantec had no serious concerns about these systems. They noted that new technology would be planned for any major expansion, and suggested the consideration of wireless phones. With future expansion there would also be a need for additional communication closet space.

- *Nurse Call Systems*

The existing Rauland Responder 3000 system is becoming obsolete and replacement is highly recommended at an estimated cost of \$400,000.

- *Security Systems*

The existing access control system can be expanded as required. As there is presently no Security or CCTV system on site, Stantec suggests that the implementation of these systems be considered. They designated the importance of such upgrades as “medium”.

Commentary - Essential Services Planning Document

Upgrade or replacement was given a high risk factor rating for the following systems:

- Sanitary Sewer Systems – if a large addition is proposed
- Natural Gas/Fuel Oil Systems – standby fuel oil storage for boilers (\$200,000)
- Fire Protection – Fire Alarm Systems – replacement of fire alarm system (\$100,000)
- Nurse Call Systems – replace system (\$400,000)

The total cost of all mechanical/electrical system improvements highlighted in Stantec’s report was estimated at \$1,880,000. Some of these costs represent improvements to existing systems for the benefit of existing operations, and some would be triggered by facility expansion.

DENI HOUSE

Deni House is a 3,006 sm long-term care facility constructed directly across (north) from the CMH in 1986.

The VFA Report completed for CMH excluded Deni House from their Asset Detail Report but the Part A Needs Justification Study conducted by Killick Metz Bowen Rose Architects Planners in 2001 for redevelopment of the site indicated the following with respect to Deni House:

- Structure: does not meet seismic code
- Exterior Wood Siding: needs painting
- Windows: not in good condition
- Carpets: aged, in need of replacement
- Roofing: 15 years old (in 2001), nearing end of service life
- Ventilation Systems: upgrade needed to add variable speed drives
- Mechanical Controls: replacement needed

Commentary

Deni House, now 24 years old, is in need of overdue maintenance and some modernization / replacement of original building systems. The building should however, be reasonably serviceable for on-going use into the future.

4.0 - SITE EVALUATION

INTRODUCTION

There are a number of physical conditions, opportunities and constraints on any site and its surrounding context that may impact future development. This is particularly true of the CMH site and the existing topography. If one is to implement a holistic Master Plan it is important to identify real (and perceived) barriers and understand all forces that may have an impact (positive or negative) on the potential for the site to support a range of development options.

As represented by the following diagrams and summary explanations, a number of *existing* site issues were examined. Where relevant to future development options, opportunities and constraints are also discussed. The information collected and documented in this section was used in part to inform the strategies for planning presented in subsequent sections.

Select areas examined for each site include:

- Property description
- Existing structures
- Contours / topography
- Expansion Potential
- Access / circulation
- Natural features
- Municipal services
- Infrastructure Analysis
- Parking

INFORMATION SOURCE

To complete this analysis, the Design Team obtained and reviewed the documents collected and utilized the following sources as part of its research and documentation process.

- Site tours and observations
- Supplementary project drawings
- Review of the previous facilities assessment and development reports
- Comments and discussions solicited from Project Consultants, IHA Project Team and Staff
- Discussions with key Planning Committee members and stakeholders
- Canadian Handbook of Practice for Architects (CHOP, Chapter 32, Site Evaluation Checklist)

Information for this report is compiled from both current observations and current known data. This development summary is by no means exhaustive, but rather the observations included were selected where deemed relevant to inform and guide the Master Planning exercises.



EXISTING SITE PLAN



Property Description

Located in the north central area of The City of Williams Lake, the site is situated east-west between 4th and 6th Avenues and north-south between Comer Street and Gibbon Street. In a generally quiet neighbourhood of residential properties and a high school. The site is relatively close to a major road network including Highway #97 which provides efficient access to the site and to the downtown core.

Overall, the site is defined by a significant slope and grade change from the north-south and along its western border. The site is approximately 8.2 acres (3.3 hectares) and approximately 500 ft x 740 ft.

The site is zoned P-1 (Institutional) and is surrounded by R1 (Residential) on most sides. The school lands to the south east are also zoned P-1 (Institutional). A small parcel of R-4 (Medium Density Multi Family Residential) exists on the northern border. Additionally, a small parcel of R-4 (Medium Density Multi Family Residential) and C-2 (Neighbourhood Commercial) exist at the site's south west corner.

To the best knowledge of the Design Team, the City has no plans to change to zoning of this property. Should it be sold for redevelopment to another use, a proposed zoning change would be required.

Existing Structures

This site has functioned continuously as a health care facility since the mid 1960's. It currently contains three (3) stand-alone buildings. The main clinical buildings range from 2 to 5 stories in height, including mechanical penthouses. The original Cariboo Memorial Hospital was originally constructed in 1963, overlooking the City of Williams Lake. The original building is four storeys with a full basement and two roof-top penthouses. In 1995 a new single storey addition approximately 6,300 square metres in area, with full basement and covered parking garage, was constructed, bringing the total floor area for the hospital up to 12,185 square metres.

Deni House, to the north of the hospital, is a two storey, 3,006 square metre long-term care facility constructed in 1986. Additional programs within include administrative functions along with a proposed 28 residential care beds as part of a future renovation of the existing second floor. The structure is currently 24 years old and is in need of overdue maintenance and some modernization/replacement of original building systems. The building should however, be reasonably serviceable for on-going use into the future.

The existing Nurse's Residence on the north-western border currently contains temporary staff and clinical specialist's residences and a community Hostel. This building is a two storey wood frame structure. A detailed analysis of this structure is not within the scope of this report.

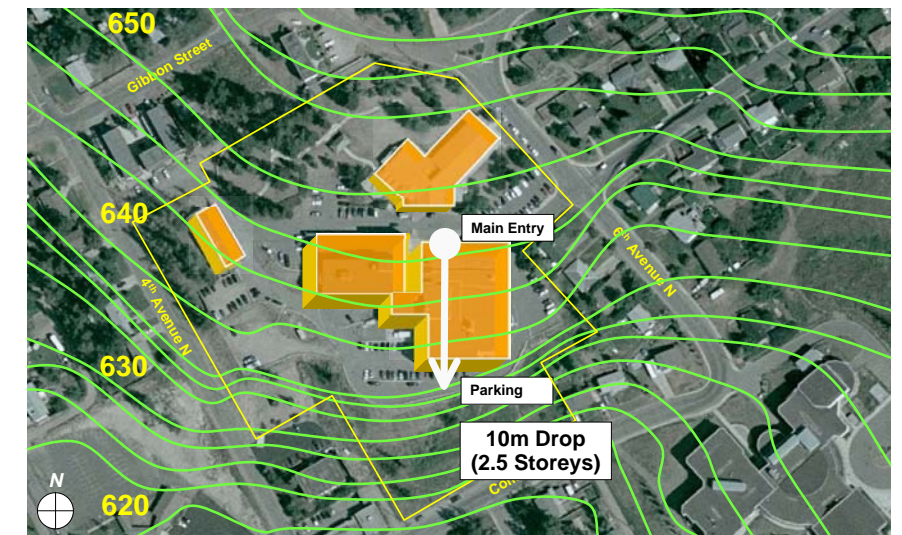
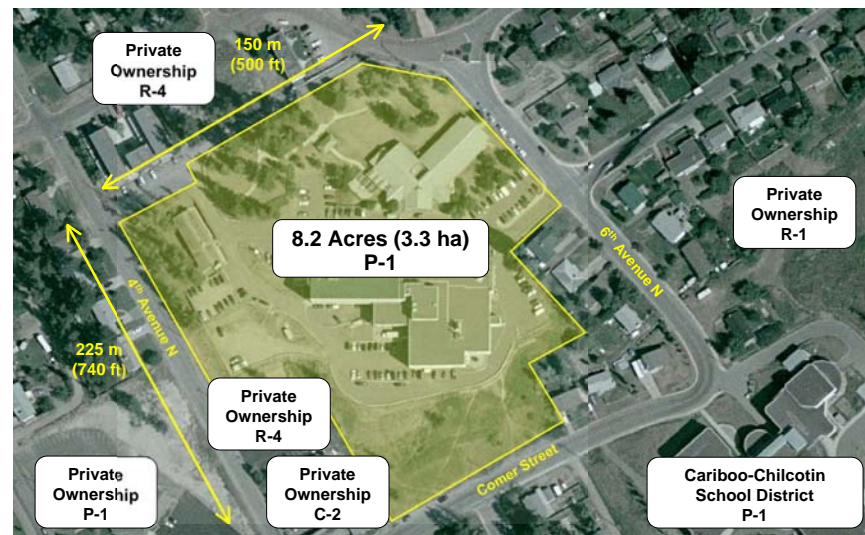
Additional information on the condition of existing structures can be found in *Chapter 3 - Technical Building Assessment*.

Contours / Topography

The site is generally defined by a steep sloping rise of approximately 10+ metres at the south boundary. The site then slightly plateaus although continues to rise gradually to the north achieving a total grade change of another 10+ metres. A relatively level area exists at the mid-site area where the front entry and Deni House are located. Additionally there is a significant grade change on the west boundary running parallel to 4th Avenue N. This difference in grade reduces in height and eventually equals itself as the topography moves north.

Notwithstanding the significant southern and western slopes, overall gradations are relatively constant at the plateau point in the centre of the site. As a result of the site topography, there is approximately a two level grade change from the rear of the building to the front entrance thus building access occurs at different levels throughout the facility.

This significant grade change presents tangible constraints to future development on the site particularly for additional surface parking. As a result significant development can not occur along the southern edge without major and costly retaining structures being constructed.



Expansion Potential

Overall, the site's location relative to a good road network, the presence of a plateau of land and the modest projected growth, make CMH a good site for future development and expansion.

In particular, the most salient opportunity for expansion occurs in a south and westerly direction into the existing surface parking and loading areas. Given the gentle rise of the topography and the open area, expansion creates opportunities to access lower service floors from the rear of the site at grade. Additional expansion, albeit currently as satellite development, can also occur along the western border of the property on the Nurse's Residence. Deni House also has the potential to expand westerly into the existing parking lot if necessary.

The largest constraint to expansion is the inability of the existing facility to accept vertical expansion. Neither the 1995 Phase 1 expansion nor the original CMH building are designed to expand vertically. In addition, vertical expansion will require compliance with current building and seismic codes which will add complexity, disruption and cost to any vertical expansion plans. Vertical expansion of Deni House was not explored as an option.

An additional opportunity exists for expansion to the east on existing residential properties along 6th Avenue N although this will require purchase and potentially rezoning process.

Access / Circulation

Primary vehicular access into the site occurs at two un-signalized, all-movements points on 4th Avenue N and 6th Avenue N. The entry from 6th Avenue N is the considered the main entrance and services the front door, Emergency and Loading areas. A continuous ring road encircles the hospital and services the various parking lots dispersed around the site and the loading areas. Traffic problems on the site are focussed on main building entry / Emergency area and conflicts with entering traffic and ambulance bay. Many trucks also use the main site entry to access the site rather than the rear entry; however, the larger 60 foot long tractor trailers (2-3 per week) must use the rear entry through a residential neighbourhood. It is also known that the steep grade on 4th Avenue N presents a potential obstacle in winter.

The City of Williams Lake has also expressed concern regarding the rear entry. The City does not want the back entry to become the main entry for traffic, or trucks, due to concerns about impacts on adjacent residents on Gibbon Street, 4th Avenue N and Comer Street.

Two pedestrian pathways also exist on the steep hillside south of the hospital. These unpaved routes have been present for over 30 years, since the hospital was construct.

Well used and attractive for residents living north and west of CMH destined for the adjacent school or downtown, these routes represent a good opportunity, if formalized, to increase pedestrian traffic through the site.

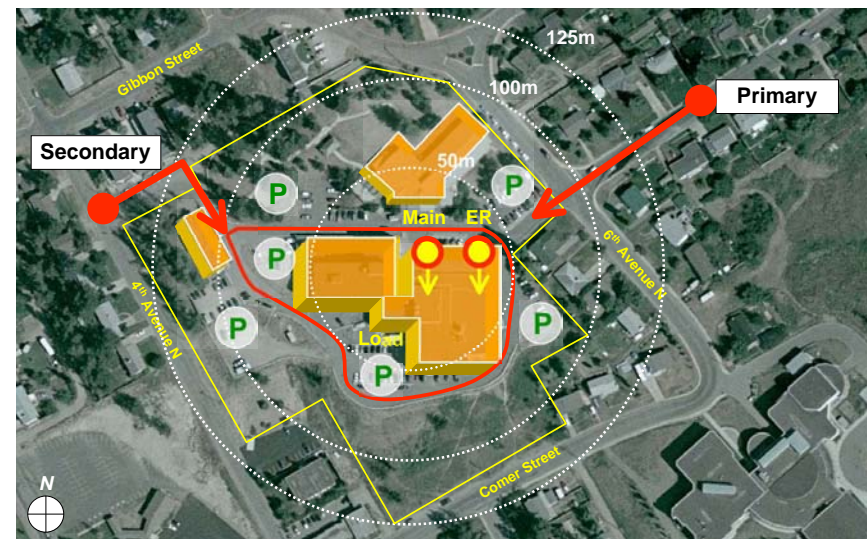
Information for this study was taken in part from the Traffic and Parking Study completed by Bunt (under separate cover) and from discussions with IHA Planning Committee members.

Natural Features

Within the site there are several natural features and sight lines both inward and outward that create strong opportunities and also constraints for future development.

At present the most significant natural feature is the greenspace / parkette north of Deni House. Well treed and lined with pathways, this parkette represents a strong natural asset for the site and should be preserved. The most salient outward sight lines are looking south and west towards the mountains and Williams Lake. This view towards dramatic natural features represents a unique opportunity, and as such any future development plans should be cognizant of these significant sight lines.

Few negative sight lines are present, most of which are from points external to the site. Residents on the eastern boundary represent the strongest negative view line into the site. Additionally, residents west of the site may have views compromised should a large parking structure be constructed in the area of the Nurse's Residence. However it should also be noted that the projected parking demand will not require a significantly high structure. Design teams proposing structures in these areas should be cognizant of the potential impact of future development on these residents.



Municipal Service

The site currently serviced by water and gas lines that run beneath 4th Avenue N and 6th Avenue N. Storm and Sewer lines, positioned at mid-site, run directly south to Comer Street.

At this time, little information is known about the age of capacity of the current services at this site. While internal renovations should not create a problem in capacity, the risk of exceeding capacity was high for an addition and therefore for any addition a proposed load calculation should be undertaken to ensure the existing mains could handle the added load. Additionally, any proposed growth plans should be discussed with municipal officials at the earliest convenience as a storm management plan may also be required.

Additional information on existing municipal services can be found in *Chapter 3 - Technical Building Assessment*.

Infrastructure Analysis

In addition to the physical characteristics of the site studied above, interior layouts of the existing inpatient floors were also examined at a cursory level for their ability to support new clinical programs through either a retrofit of existing spaces or creation of new. Additional information regarding current condition of existing facility is provided in *Chapter 3 - Technical Building Assessment*.

A number of characteristics were considered including:

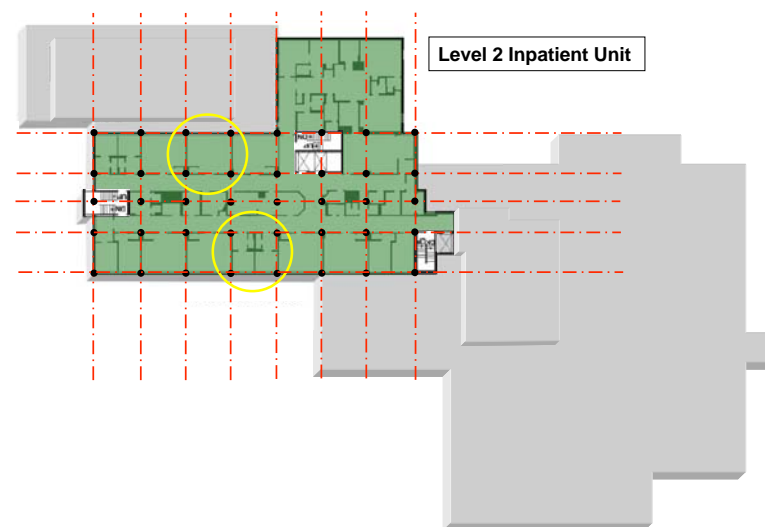
- Typical inpatient room size
- Location of washrooms
- Structural grid and column location
- Stairs and service shaft locations
- Elevator locations
- Nursing station location

After completing a cursory analysis of a typical Medical / Surgical Inpatient floor the conclusion is that the layout presents many constraints to its ability to delivery hospital services that meet current standards. In summary, these constraints are:

- Floor to floor heights limit ability to meet current engineering space requirements for complex clinical programs.
- Column / grid spacing within units does not correspond with current space standards resulting in a) insufficient room areas and b) inefficient unit layout.
- Configuration and area of existing patient rooms does not meet current planning standards.
- Existing engineering infrastructure (mechanical and electrical systems) potentially limits opportunities for complex clinical programs.

As a result, it is recommended that reuse of these floors not include, *wherever reasonably possible*, complex clinical programming and be limited to soft programming such as outpatient services or administration / related services.

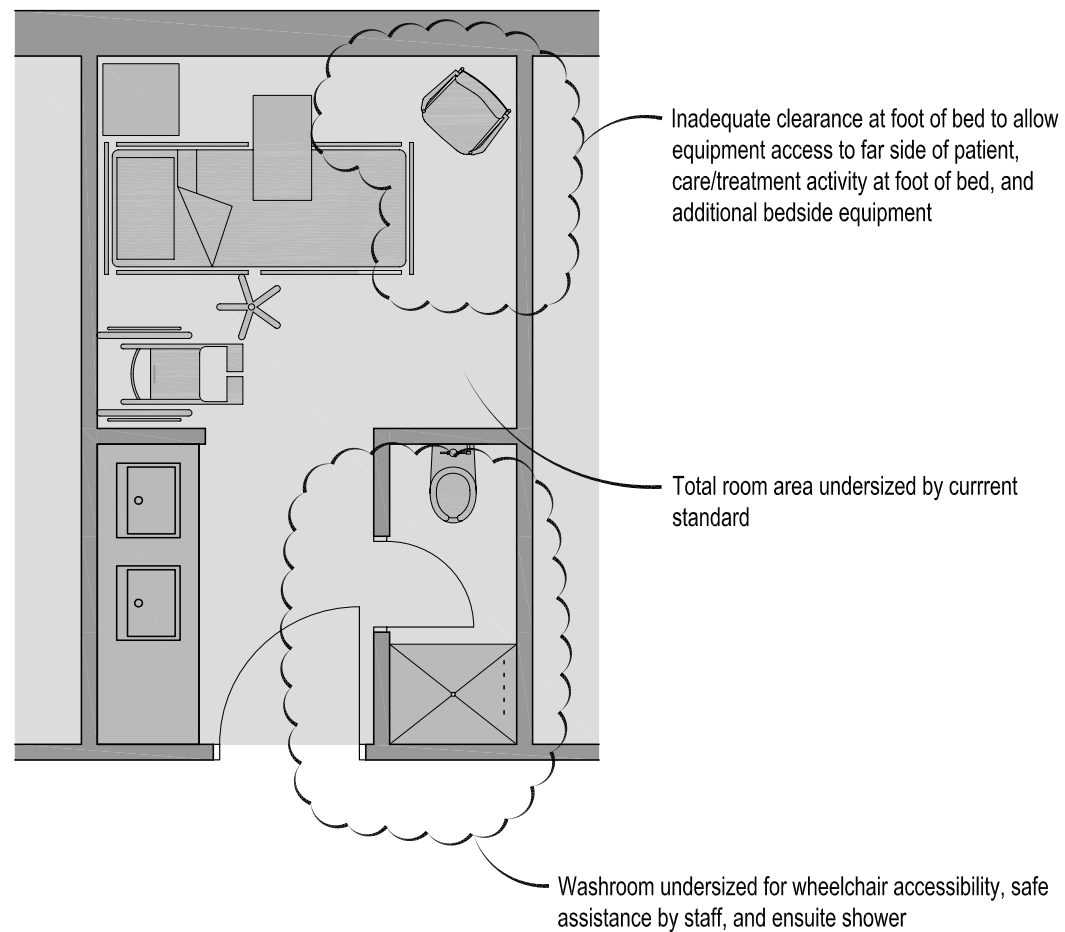
The following diagram compares an existing inpatient room at CMH with a similar inpatient room designed using current standards. The Master Plan does not propose that this room layout be utilized at CMH but rather is presented for reference purposes only.



TYPICAL INPATIENT ROOM COMPARISON

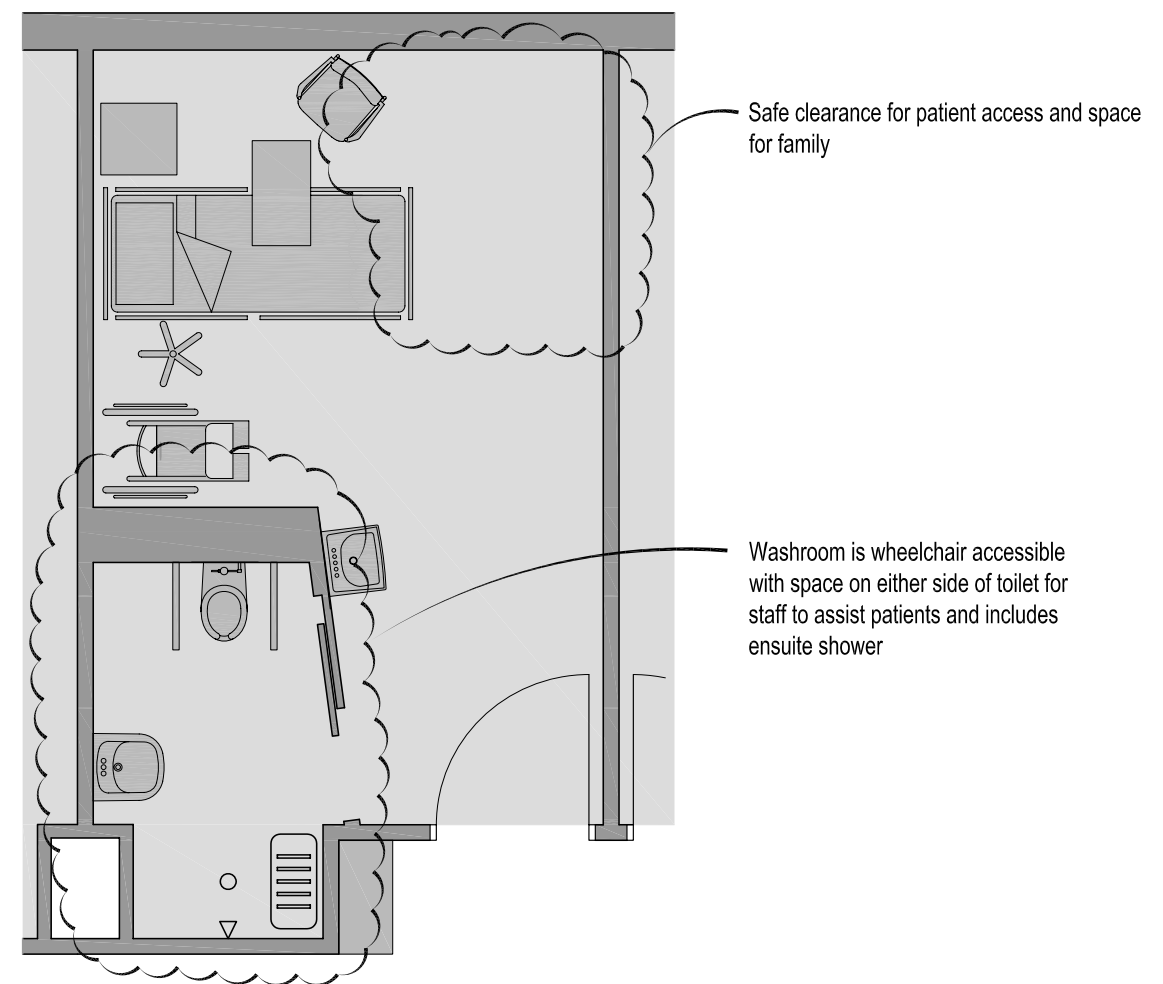
EXISTING PATIENT ROOM

1-BED ROOM
18 net square metres



1-BED PATIENT ROOM STANDARD (MEDICAL-SURGICAL ACUTE)

AS PER CURRENT STANDARD
26 net square metres



Parking

Visitor, staff and doctor's parking is provided in several surface lots and one under-building parking structure at grade. There are currently 188 surface and 29 below-grade spaces available for a total count of 217 spaces. Parking is currently free throughout site. As there are no security cameras, security issues are a concern. Positive guidance for drivers within the lots and on the roadways accessing the lots is compromised as there are faded paint markings and poor signage measures in place. Additionally, staff find lower surface lots unattractive (due to vertical grade differential, gravel surface, and perceived poor lighting/safety, particularly for night time staff) which results in abuse of the Patient/Visitor Lots and Hostel/Residence Lot by staff.

Anecdotal information from City of Williams Lake staff also indicate that overflow parking onto 6th Avenue N is common at the hospital and is considered a problem due to its steep grades and icy conditions during the winter months. Occasionally, off-site overflow parking extends to Johnson Street.

Notwithstanding these issues, the current parking supply is just adequate to meet the current peak fall parking demand, estimated at approximately 195 stalls. However, given the projected demand for 310 spaces, the current supply will be inadequate.

Information for this study was taken in part from the Traffic and Parking Study completed by Bunt (under separate cover) and from discussions with IHA Planning Committee members.



Existing Parking Front



Existing Parking Front



Existing Parking East Lot

General Conclusions and Observations

The CMH site has both opportunities and constraints ranging from topography to condition of existing building stock that will potentially impact future development. For example, the limited site area may impact the scope of long-term redevelopment. Additionally, the topography makes this a sub-optimal location for extensive future growth beyond what is currently proposed in the Master Program. Besides these specific site related examples, the most critical issues which IHA and CMH must be cognizant of however, when considering future development options include:

- Condition of existing structures and long-term maintenance and operating costs
- Likelihood for structured solutions in the long-term future
- Opposition to proposed developments from surrounding residents
- Inpatient unit's infrastructure limits future capacity, ability to meet current space standards, and opportunities to support complex clinical programs
- Potential for shallow bedrock across the site makes extensive below-grade construction potentially costly

These issues notwithstanding, there is also a number of opportunities present including:

- Opportunities for growth and phased construction while maintaining existing operations
- Prominent views to naturalized spaces and physical connections to adjacent and community greenspaces (Williams Lake)
- Vehicular access and proximity to downtown area
- Potential of additional adjacent land purchase for future development (6th Avenue N)
- Topography and existing grade facilitates efficient servicing access to lower levels

5.0 - MASTER PROGRAM SUMMARY

INTRODUCTION

This chapter provides an abbreviated summary of the space requirements for CMH projected to 2025/26 within the Master Program developed by RMC. The purpose of the Master Program is to describe in words and component areas the requirements for the 33 program components identified for Master Programming at CMH. It also describes the current and future scope of services, the space required to support the projected services and the key adjacencies required for each program/service. The Master Plan proposed development strategy is based on the department gross areas as listed.

For detailed area information, refer to *Cariboo Memorial Hospital, Master Plan, Final Report*, RMC Resources Management Consultants, December 2010 (submitted under separate cover).

PROCESS SUMMARY

Work on the Master Program overlapped with the Master Plan Development activities undertaken by the Design Team and included significant involvement of the user groups. In the process of completing the Master Program, the RMC Programming Team completed the following steps:

Project Start-up

- Confirmed project protocol, user/stakeholder group structure, key project objectives and assumptions; finalized work plan

Information Gathering and Documentation

- Collected, analyzed, and documented the information and data required to develop the Master Program
- Held three user group meetings with each component
- Started an iteration process whereby programming assumptions provided in the user group meetings were verified and accepted at the steering committee level

Program Parameters

- Established the key planning and programming parameters and assumptions for each program component.

Master Program draft Document Production and Review

- Confirmed component scope and functions, workloads, staffing, operations global space allocations.

Master Program Final Document Production and Approvals

- Completed the program documentation includes space information and design criteria.

The key features of the RMC programming methodology included the following:

- The programming team conducted user group meetings to help establish and confirm the program scope, vision and parameters
- Throughout the programming work, the team ensured that functional needs were adequately reflected in the space allocations in order to achieve optimum use of resources, and to accommodate future change and flexibility
- The team developed and reviewed all programmed space allocations in relation to method of use, function, occupancy, equipment requirements, and other key parameters
- The team programmed space allocations based on workload projections and numbers of staff and users, anticipated type of activities and equipment and their functional requirements, as well as programming standards and guidelines
- The team incorporated user meetings, group discussions, and other participatory activities into the work plan to achieve effective stakeholder/user involvement
- The team provided parking estimates to the parking consultant.

MASTER PROGRAM SPACE SUMMARY

The following Summary of Space projections are provided for reference. For detailed area information, refer to *Cariboo Memorial Hospital, Master Plan, Final Report*, RMC Resources Management Consultants, December 2010 (submitted under separate cover).

Within the Master Programs the following is noted: *the bed and area projections are for planning purposes only and have not been signed off by the Interior Health Senior Executive Team, Board, Ministry of Health Services. No money has been set aside for these beds. Policy direction on acute care bed expansion is influenced, in part, by the government of the day and the policy direction of government. Bed projections are based upon a number of assumptions and variables and are subject to change in the future.*

CMH Component/Sub-Component	Current CGSM	Space Requirement			Comments
		5 Year CGSM	10 Year CGSM	15 Year CGSM	
Aboriginal Health					
• Aboriginal Health	15.0	15.0	15.0	15.0	
• Family Gathering Space	0.0	30.0	30.0	30.0	
Administration Component:					
• Core & Corporate Administration	564.0	255.0	280.0	280.0	Assumes staff increases occur over the 10 year time frame
• Conference/Education Rooms	100.0	100.0	100.0	100.0	
• Staff Residence	340.0	340.0	340.0	340.0	
• Hostel	339.0	339.0	339.0	339.0	
• Workplace Health & Safety	0.0	15.0	15.0	15.0	
• Staff Wellness	80.0	100.0	100.0	100.0	
• Staff Lockers	74.0	74.0	74.0	74.0	
• Staff Lounges	0.0	90.0	120.0	120.0	Determined by expansion phases
Ambulatory Care					
• Ambulatory Care Clinic Area	110.0	270.0	270.0	270.0	
• Cancer Clinic	0.0	120.0	120.0	120.0	
Biomedical Engineering					
• Biomed Engineering Shop	35.0	60.0	60.0	60.0	Shop & storage space to be integrated
• Biomed Engineering Storage	15.0	15.0	15.0	15.0	
Cardiology & Acute RT					
• Cardiology	80.0	110.0	110.0	110.0	Expanded waiting & storage
• Respiratory Therapy	0.0	46.0	46.0	46.0	Space supports higher acuity pts

Chronic Disease					
• Community Nutrition	15.0	30.0	30.0	30.0	Project 2 FTE staffing
• Diabetes Education	15.0	30.0	30.0	30.0	Project 2 FTE staffing
• CDM Health Professionals	0.0	30.0	30.0	30.0	
• Community Respiratory Therapy	20.0	20.0	20.0	20.0	Current space adequate
• Group Patient Education Space	0.0	40.0	40.0	40.0	
• Education Material Storage	0.0	15.0	15.0	15.0	
Community Care Services					
• Adult Day Program	120.0	0.0	0.0	0.0	Remains in Deni House
• Community Care	395.0	215.0	215.0	215.0	
• Home Support	66.0	60.0	60.0	60.0	
• CAC	0.0	0.0	0.0	0.0	Included in Community Care space
• Storage	77.0	40.0	40.0	40.0	
• Ambulatory Nursing Clinic	82.0	100.0	100.0	100.0	
Diagnostic Imaging & Echo	595.0	660.0	685.0	685.0	Provide adjacent 'soft' space for additional potential growth
Emergency Department					
• Emergency Department	458.0	643.0	643.0	643.0	8 additional treatment spaces
• HART Team	0.0	20.0	20.0	20.0	
• Additional Staff Support Space	0.0	60.0	60.0	60.0	
• Other Future Spaces	0.0	78.0	78.0	78.0	
Food & Nutrition Services					
• Kitchen & Cafeteria	646.0	646.0	646.0	646.0	Use portion of cafeteria for flexible meeting space
• Dietitians' Office	12.0	12.0	24.0	24.0	
Foundation/Auxiliary/Volunteers					
• Gift Shop with adjacent storage	50.0	50.0	50.0	50.0	
• Add'l Storage space for gift shop/fdn	0.0	20.0	20.0	20.0	
• Future volunteer info desk	0.0	15.0	15.0	15.0	
• Future retail space	0.0	0.0	45.0	45.0	
• Future Volunteer Coordinator Work Space	0.0	12.0	12.0	12.0	
• Future Volunteer Lounge Space	0.0	40.0	40.0	40.0	

Health Information Management:					
• Health Rec., Main Department	210.0	210.0	210.0	210.0	
• Health Rec., Inactive Files Storage	90.0	90.0	90.0	90.0	Approx one-third could be off site
Hospice/Palliative Care					
• Palliative respite beds	0.0	0.0	0.0	0.0	Preferred loc'n w/ Residential Care
• Hospice Society	90.0	90.0	90.0	90.0	
• Inpatient Unit	0.0	0.0	0.0	0.0	Incl in Inpatient Unit component
Housekeeping & Laundry					
• Housekeeping	58.0	70.0	70.0	70.0	
• Laundry	307.0	307.0	307.0	307.0	
IMIT	50.0	50.0	50.0	50.0	
Infection Prevention & Control	14.0	11.0	11.0	11.0	
Inpatient Unit					
• Inpatient Unit - Medical, Surgical, Paediatrics	958.0	1,880.0	2,060.0	2,380.0	26 beds in 2016/17, 29 beds in 2021/22 & 34 beds in 2026/27
• Discharge Services, CAC's & Social Work	15.0	25.0	35.0	35.0	
Intensive Care Unit	184.0	270.0	360.0	360.0	3 beds in 2026/17, 4 beds in 2021/22
Laboratory	288.0	358.0	358.0	358.0	
• Morgue	141.0	141.0	141.0	141.0	
Logistics	240.0	270.0	285.0	300.0	
Medical Devices Reprocessing (MDR)	98.0	158.0	218.0	218.0	Assumes 3rd OR & case cart system in the 5-10 year time frame
Medical Staff & Specialist Offices					
• Medical Staff Gathering Space	70.0	100.0	100.0	100.0	
• On Call Rooms	0.0	40.0	40.0	40.0	
• Specialist Offices	280.0	520.0	520.0	520.0	6 new specialists within 5 years
• Student/Staff Learning Centre	0.0	60.0	60.0	60.0	
Mental Health & Substance Use	319.0	420.0	560.0	700.0	6 beds in 2016/17, 8 beds in 2021/22 & 10 beds in 2026/27
Patient Registration	70.0	70.0	70.0	70.0	

Perinatal Services					
• Perinatal Assessment Area	0.0	120.0	120.0	120.0	
• Labour & Delivery/SRMC	269.0	360.0	360.0	360.0	4 SRMC by 2016/17
• Antenatal & Postpartum Care	0.0	210.0	280.0	280.0	3 beds by 2016/17 and a total of 4 beds by 2026/27
• Maternity Clinic	0.0	60.0	60.0	60.0	
• Nursery	0.0	250.0	250.0	250.0	
Pharmacy	129.0	210.0	210.0	210.0	
Plant Maintenance	1,302.0	1,302.0	1,302.0	1,302.0	
Protection & Parking Services	0.0	20.0	20.0	20.0	
Public Health					Will remain off site
• Prevention Services	0.0	0.0	0.0	0.0	Current space = 1,490.0 CGSM
• Program Support	0.0	0.0	0.0	0.0	
• Protection Services	0.0	0.0	0.0	0.0	
• Shared Staff Amenity Space	0.0	0.0	0.0	0.0	
• Meeting Space	0.0	0.0	0.0	0.0	
• Other Space	0.0	0.0	0.0	0.0	
Rehabilitation	221.0	221.0	221.0	221.0	
Renal	220.0	220.0	250.0	250.0	
Spiritual Care					
• Sacred Space	60.0	45.0	45.0	45.0	
• Community Spiritual Leader Work Area	0.0	15.0	15.0	15.0	
Surgical Suite					
• Operating Room & PAR	557.0	557.0	700.0	700.0	Assumes 3rd OR req'd in the 5-10 year time frame
• Day Surgery	198.0	285.0	300.0	300.0	
• Pre-Surgical Screening Program	12.0	12.0	12.0	12.0	
• Booking Office	12.0	12.0	12.0	12.0	
Total	10,765.0	13,854.0	14,744.0	15,219.0	

Note: Public Health is in off-site space and will remain off-site, and therefore not included in the space total.

BED PROJECTIONS

The following two tables provide an overview of the current beds and the future bed requirements for CMH.

For detailed information, refer *Cariboo Memorial Hospital, Master Plan, Final Report*, RMC Resources Management Consultants, December 2010 (submitted under separate cover).

CMH Current Beds

UNIT NAME	CURRENT FUNDED BEDS	COMMENTS
Medical/Surgical	20	Often the bed count exceeds 20; there are actually 28 beds plus 2 residential care beds
ICU	3	A 4 th patient room is used for storage
Perinatal Services	5	2 LDR rooms; 3 postpartum care beds are located in the medical/surgical unit (207 or 208; 208 is the preferred room because it is a single room but not always available for postpartum care)
<i>Subtotal</i>	<i>28</i>	
Gateway Community Crisis Stabilization	5	These beds are considered community beds
TOTAL	33	

Notes:

1. The Gateway mental health community stabilization beds are not included in the official CMH acute care bed count.

CMH Projected Bed Requirements

UNIT NAME	CURRENT FUNDED BEDS	PROJECTED BEDS 2016	PROJECTED BEDS 2021	PROJECTED BEDS 2026
Medical/Surgical Beds	20	26	29	34
Maternity Beds	5	7	7	8
ICU/CCU	3	3	4	4
TOTAL – Acute Beds	28	(+8 beds) 36	(+4 beds) 40	(+6 beds) 46
Community Crisis Stabilization Beds	5	6	8	10
<i>Grand Total</i>	<i>33</i>	<i>42</i>	<i>48</i>	<i>56</i>

Notes:

1. The projected bed numbers are based on 4 key inputs: IH bed projection information. P.E.O.P.L.E. 35 population projections, bed planning guidelines and clinical user group input.
2. IH projects 5-8 beds additional beds for CMH by 2016 and 10-12 beds by 2021 (Source: Baseline Bed Forecasts for CMH and RIH – October 1, 2010 email from Aaron Miller, IH).
3. 2026 bed number based on the projected growth trend for the previous 5-year period, i.e. 2021, for a total of 15-18 additional beds by 2026.
4. Medical/surgical beds include 8-12 rehabilitation/transitional care beds.
5. The CMH bed projections are preliminary estimates based upon a number of assumptions and variables that are subject to change. These projections have not yet received formal approval by neither Interior Health Senior Executive Team nor Ministry of Health Services and are intended for master planning purposes only.

6.0 - DESIGN PHILOSOPHY, PRINCIPLES AND CRITERIA

INTRODUCTION

Prior to pursuing Master Planning options, it is important to articulate and embrace a design philosophy and principles that are aligned with the vision and values of IHA. The decision to articulate the design philosophy through built form acknowledges the significant impact the Master Plan has on patients, staff and the community and on future decision making.

This chapter provides a summary of findings resulting from one participatory workshop and three design charettes. Additionally, working principles and development criteria have been developed. These principles and criteria have formed the guiding framework from which future design options were evaluated, without actually prescribing what the design will look like.

PLANNING PROCESS

IHA is moving ahead in its effort to realize its vision for current and future development at the CMH site. Driven partially by the need to play a vital role in its community and beyond, this Master Plan process provides IHA with a roadmap for future development and growth. While the strategy for growth presented within the Master Plan document does not represent the only solution possible, it does represent a mutually agreed solution created as part of a collaborative process which best reflects the needs and aspirations of CMH users and staff.

Beginning in July 2010 members of the Design and Programming Teams met to fully understand the site, the condition of existing buildings, and also to discuss the projected programming, space, and planning needs for the CMH site. In addition, a high-level review of existing documentation was conducted to attempt to understand any previous planning efforts, but also to become familiar with the philosophy that has driven decisions made by IHA to date.

Unlocking the complexities within the CMH sites so that decision-makers can intuitively understand the potential for on-going, long-term development is imperative to the success of this Master Plan. Early in the process, the Design Team facilitated Common Ground™ workshop with select members of IHA and CMH staff. Introducing dialogue and “the art of thinking together”, the purpose of this workshop was to verify assumptions, identify potential roadblocks and confirm non-negotiable aspects of the project. Led by the Design Team’s facilitator Sharon VanderKaay, participants voiced their shared aspirations -the common ground- that ultimately motivated everyone to continuously move forward. Rather than commencing the project with a vague sense that everyone comprehends key challenges, Common Ground™ confirmed the team’s mutual understanding.

Objectives of the *Common Ground*™ session included:

- Foster a deeper understanding of opportunities and constraints
- Expand participant’s thinking with regard to future developments inside and outside the CMH site
- Consider various development and operational scenarios for the future
- Provide decision-makers with knowledge necessary to make sound decisions
- Build shared vision and consensus for the next phase

Results from these sessions included the creation of *Design Guidelines* and the *Balanced Scorecard* measurement tool. The *Balanced Scorecard* is a quick tool for assessing whether the entire project team is carrying through on jointly agreed success factors. This high level “back of envelope” tool uses strategic, aspirational statements to ensure that IHA, CMH and the Design Team avoid creating a self-limiting Master Plan.

For the Balanced Scorecard refer to *Chapter 11 Appendix - Project Scorecard*.

In order to ultimately present a realistic and defensible strategy for future development, the Design and Programming Team first explored multiple potential planning options. Three interactive *Design Charettes* were conducted. The purpose of these workshops was to actively engage all participants and encourage hands-on experiments that explore high-level site utilization options and challenge assumptions. Working with three-dimensional model components, massing and relationships between building elements were examined. Rather than advocating for a pre-determined viewpoint, the intent was to foster a sense of shared understanding and responsibility for results. Topics explored during these sessions included:

- Where to build / not to build?
- Front door location?
- Can we create a positive first impression?
- How can we engage the existing greenspace and views?
- How can we engage the community?
- Demolish or reuse existing buildings (Deni House / Nurse’s Residence)?
- Circulation improvements?
- Parking opportunities and constraints?
- On-site / off-site / health precinct options?



At each charette, strategies and decisions explored in previous sessions were discussed and analysed. The results of these design sessions formed the basis for the design development process completed by the architect team. Development studies included:

- Varying configurations and locations for the IPU
- Retrofit of existing IPU's (i.e. for Administration, Mental Health or Perinatal programs)
- Programming for Deni House and Nurse's Residence
- Location of potential parking structures
- Site planning options including circulation and loading routes

As each of these initial studies was evaluated against the factors listed below, and less-desirable options discarded, logical planning options emerged.

- Ability to meet planning and development criteria
- Compliance with Balanced Scorecard criteria
- Ability to meet future programmatic requirements
- Ability to achieve IHA and CMH vision
- Practical ability of existing structures / site to support new development and meet current standards

Running parallel to these workshops, the Master Programming team conducted several user-group workshop sessions to develop a current Master Program for the site. The program set as its mandate, growth projections to the year 2025/26. The purpose of the Master Program is to describe in words and component areas the requirements for the 33 program components identified for master programming at CMH. It also describes the current and future scope of services, the space required to support the projected services and the key adjacencies required for each program/service. This information was fed back to the Design Team to inform the Master Planning process. Ultimately, the decision by IHA to run these programming sessions parallel to the design process, rather than consecutively has provided a more comprehensive and accurate Master Plan document.

Additionally, a set of community information meetings, including representatives from the City of Williams Lake, were held. The community information session brought a broad cross section of community representatives together including MLAs, Mayors, IHA Board Members, the Regional District, Chamber of Commerce, Community group representatives, Emergency services, as well as neighbours living around the hospital site.

Upon formal completion of the Master Plan, it is expected that a second community information session will be scheduled to showcase the preferred options including opportunities for the long term future of health care on the CMH site.



Design Charette Working Session



Design Charette Working Session



Design Charette Working Session



Design Charette Working Session

SUCCESS FACTORS

The following *Success Factors* were identified through collaborative discussions with the CMH Project and Design Teams during the *Common Ground™* workshop and further refined during subsequent correspondence. These factors have served, in part along with the *Balanced Scorecard*, as measurement tools for evaluating Master Plan and design options.

PROJECT PURPOSE

- This project is my dream
- To create facilities that enhance what we do
- Provide the community with the best possible health care
- To support integration of community relationships so that “citizens are able to see that something is being done”
- The facility must provide a stable platform to support the current ‘house of cards’ of health care
- Must allow us to deliver more care within the community with less reliance on tertiary sites
- Provides a strong argument for moving forward

ADVANTAGES AND ASPIRATIONS

- Align with community plan and vision (*Note: Regarding community vision: The Williams Lake: “Imagine Our Future” final draft document vision says, for example: “our downtown is vibrant, distinct and welcoming gathering place...for social interaction” and we are “recognized as one of the most desirable small towns for families to live.” We are known for “world class recreation.” Also, “our community is widely recognized as a model for demonstrating how a community can contribute to healthy ecosystems while being economically, socially and environmentally sustainable.”*)
- Must reflect values, goals and principles of Interior Health

ISSUES

Image and Empathy

- The facility should make people want to come here
- Important to view plan through the lens of our client’s experience
- Recruitment is an important issue
- Physicians need to remain engaged; need to be treated well
- Multi-cultural communities need to be engaged
- The environment must reflect diverse cultures

Planning Issues

- Crime prevention and security is a major issue
- Must allow us to deliver more care within the community with less reliance on tertiary sites
- Winter driving conditions are an issue in terms of accessing services in the region—e.g., need telehealth facilities
- Need to reduce complexity of navigation and wayfinding through the building
- Need more logical adjacencies (accreditation representatives commented on confusing spaces)
- Integrate with community services
- Public access to the facility
- Efficient movement of goods
- The space must reflect and support the delivery of integrated health care
- Impact of technology

Positioning the Project for Approval to Proceed

- Must reflect values, goals and principles of Interior Health
- Open to looking at alternative revenue generation models
- Plan must be realistic and translate into priorities that are achievable via phased projects
- Projects need to be prioritized

PRIORITIES

- Acute Care
 - inpatient units
 - infection control (be able to isolate people)
 - ergonomics
 - meet standards
- Emergency
 - inadequate space
 - clinical needs
 - security
 - image
 - currently reflects 20 year old concepts
- Ambulatory Care
 - such as chemo
 - need to meet standards and accommodate growth
- Pharmacy
 - support growth
- Physicians Gathering Space
- Surgery
 - work flow, space
- Telemedicine
 - need appropriate space
- Central Gathering Space
- Support Spaces for Patients and Families
 - must accommodate large groups
- Integrated Health Services Spaces

DEVELOPMENT GUIDELINES

Based on established common values and concerns, the following Development Guidelines have been identified as a means to identify the qualities of a successful Master Plan. As with the Success Factors listed above, these guidelines have been used as measurement tools throughout the planning and design phases.

ALIGN WITH IHA'S VISION: Master Plan options must be supportive of, and strive to facilitate the mission and vision through built form and designed spaces.

ALIGN WITH WORKING PRINCIPLES: Think beyond immediate needs so that, over time, the full potential of the project is optimized.

FLEXIBILITY FOR FUTURE EXPANSION: Provide simple development options and flexible planning scenarios that are robust and use modular, multi-functional components.

SUSTAINABLE LONG-TERM GROWTH: Embrace a short and long-term holistic view of the site's built and natural potential.

OFFER REALISTIC SOLUTIONS: Provide defensible planning options and send a responsible message to the community.

MEET PARKING REQUIREMENTS: Understand that physical needs / limitations must also be considered in concert with therapeutic requirements.

FACILITATE A COMMUNITY OF CARE: Contribute to the hospital's image — an open centre of community health.

WELLNESS AND HEALTH ENHANCEMENT: Encourage the development of an integrated, community hospital.

DESIGN PHILOSOPHY

IHA and CMH have a responsibility to deliver its mission and achieve its shared vision of the future in order to meet the growing needs of its community. Given the current environment of increasing population growth, particularly among seniors, IHA and CMH have identified a need to enhance their Surgical services, increase their Inpatient beds, and place a stronger emphasis on Ambulatory and Community Care programs within the site.

In addition, CMH is embracing the concepts, values and current standards for daily operational practices within their organizational structure and culture. Physically, this means that CMH staff will have to reach beyond their known operational models and embrace change. Ultimately this change will improve the health of patients and staff and hopefully will enable them to develop healthy environments for their users.

Bold Thinking Required

IHA and CMH have jointly recognized the need to express its Vision to “set new standards of excellence in the delivery of health services in the Province of British Columbia”, through expanded and consolidated built form on the current CMH site. As IHA moves forward with an organizational restructuring meant to strengthen its role and to become “one region”, IHA and CMH staff have worked closely with the Design and Programming Teams to develop a series of high-level and progressive Master Planning options. It is the intention that these options will express, in physical form, the CMH commitment to provide services in the most effective and efficient manner possible and that the Williams Lake community has access to high quality, sustainable health care.

A Clear and Compelling Way Forward

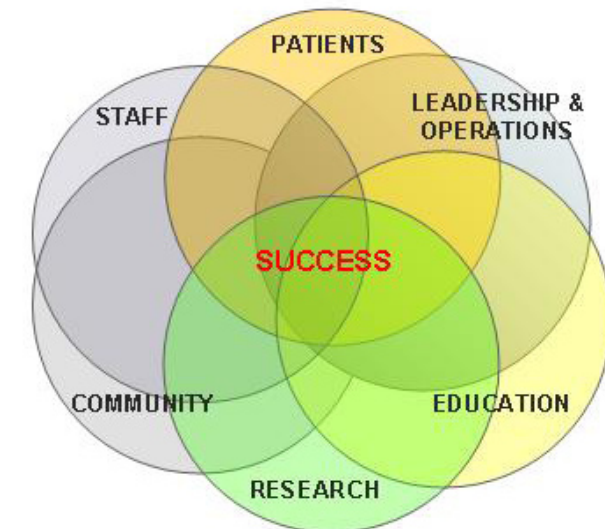
IHA has set as its Mission to “promote healthy lifestyles and provide needed health services in a timely, caring and efficient manner, to the highest professional and quality standards.” Clearly the priority for IHA and CMH must be to look beyond the physical and operational constraints that plague existing older hospitals and embrace a new and clear direction for the future. Having benefited from participation in the various stakeholder charettes and visioning sessions, the goal of this exercise was to provide a set of “development options” that communicates a compelling way forward to the hospital, the Ministry / Health Authorities, and the Williams Lake community. Based on the collaborative input from the CMH stakeholders, it is clear that this organization is prepared to embrace its responsibility as a community and health education leader, not only in the provision of health care, but also as a champion of collaboration, education and community development.

From this, it is important to recognize that a positive therapeutic patient environment is as vital to the process of wellness as a building that operates at peak efficiency or maximizes parking opportunities. Therefore, the philosophy that drives this exercise assumes that IHA and CMH will strengthen its role as an integrated and vital civic resource offering both patient healing, and community-based services at all levels.

Combining Imagination and Foresight

Imagine a hospital where you go to meet friends; a place you visit to hear lectures, or hold a reception; a place in which the community gathers to discuss issues that will affect them. Imagine a hospital that is at the heart of its community providing wellness services to everyone who enters its doors. And imagine buildings designed to welcome natural light and views to nature at every opportunity. Imagine a system of movement that acts as an invisible hand that guides patients and visitors effortlessly from every entry to every destination.

These are the important elements that have been embraced by the Design and Programming Team thus enriching the CMH Master Plan. Like the Williams Lake community that supports it, the role of CMH is changing. Organizational restructuring and changing priorities within IHA will undoubtedly impact both the services offered at CMH but also the way in which they are delivered. Additionally, the role of CMH in the regional health district is also being redefined as demographics shift towards an ambulatory framework. Therefore, the need to establish and maintain strong organizational, programmatic and community linkages is more important than ever before. These linkages, together with a comprehensive Master Plan of intelligent development options, will ultimately be the driving force that pushes CMH well beyond its traditional position in the community. This new position assumes an increased responsibility for a broader definition of “community stewardship”.



Sustainable Planning and Design

IHA has identified as a key priority the “*delivery of sustainable healthcare by improving innovation, productivity and efficiency by promoting new ways of working to provide better service and control costs.*” With the creation of a long-range Master Program and Master Plan, CMH is also presented with a unique opportunity to achieve its goal holistically both organizationally and physically through built form.

The Master Plan process encouraged discussions aimed at fostering an awareness of health and renewal, while understanding the need to make a lasting difference. Focusing on environmental factors that impact the quality of life for patients, staff, and volunteers, the efforts of the Design Team included providing access to nature, daylight and views, and working to create a culture that is cognizant of our everyday impact on the ecosystem. The Design Team’s approach was to ensure that the Master Plan is positioned to enable a successful LEED certification by the Canadian Green Building Council (CaGBC). While the LEED checklist was not formally required in the planning process, the strategy pursued nevertheless, incorporated the following initiatives:

- **Embrace Past and Present Opportunities**
Preserve as much of the existing fabric, infrastructure and capital investment as possible, without sacrificing patient care and clinical functionality.
- **Create an Environment of Wellness**
Our proposal is cognizant of environmental factors, providing a healthier indoor environment, and access to nature.
- **Connecting to the Community**
The site development addresses the neighbourhood through sensitivity to infrastructure capacity and by creating opportunity for useable public spaces.
- **Creating a Positive Work Environment**
Staff are provided with access to daylight, areas of respite and outdoor views.

Creating an Integrated Community Asset

If CMH is to become even further integrated with its community over the next 15 years, it must also incorporate rational urban design principles that extend its influence beyond the limits of the site. For this reason, the Master Plan includes internal and external open spaces and logical circulation routes, both within the site and the building. Buildings as well are entirely capable of handling multiple and varied programs that respond to site conditions and also to the people who occupy their spaces on a daily basis.

This project is much more than a simple facility expansion plan. We believe this project is an historic step within a process of community building for Williams Lake. This project has a huge symbolic implication for this community and its aspirations for the future. Ultimately, it is the culmination of a comprehensive and extremely successful collaborative effort by a large cross-section of committed stakeholders who have come together to ensure that the best possible health care is available for the Williams Lake community for years to come. In the end, this will be one of the most important strategic decisions the organization can make to achieve its vision.



Existing CMH South Face

MOVING FORWARD

IHA has identified its key values as:

- **Quality:** We are committed to safety and best practice.
- **Integrity:** We are authentic and accountable for our actions and words.
- **Respect:** We are courteous, and treat each other as valued clients and colleagues.
- **Trust:** We are free to express our ideas.

With these values in mind, the intent of the Master Plan is to lay out defensible options that organize the various departmental components of the hospital based on anticipated growth in volume and activity given the various opportunities and constraints present at this time.

In tandem with this Master Planning process, IHA has also commissioned a Master Program. We commend IHA for their foresight, by integrating this important step with the team responsible for facilitating the Master Planning. Such integration and collaboration will greatly improve the quality and applicability of the final deliverables.

With this approach in mind, the following considerations have helped chart the course for this planning exercise. Ultimately, we believe, the Master Plan should be:

- VISIONARY:** Does it raise aspirations for the future?
- GALVANIZING:** Does it build consensus around shared values?
- PROVOKING:** Is it a catalyst for rethinking the role of CMH?
- RESPONSIBLE:** Does it make the best use of existing resources?
- FLEXIBLE:** Does it accommodate future scenarios?
- BRAND BUILDING:** Does it express a distinctive image?
- INTEGRATED:** Is it woven into the Williams Lake community?
- ASSET BUILDING:** Can it a driver for health-based economic prosperity?

7.0 - COMPREHENSIVE MASTER PLAN

INTRODUCTION

This chapter presents and discusses the preferred Master Plan development strategy. An overview of the high-level planning strategy and rationale behind the development of each option is discussed along with a summary of major physical building and internal planning moves. Floor plans and a summary of programmatic spaces are outlined along with a summary of high-level parking strategies. Additionally, planning studies used as part of the design development process are included. This chapter also provides a summary of pros and cons for the preferred option and concludes with recommendations for implementation and offers criteria on which this determination is based.

Information on overall project schedule and strategies for phasing / decanting are presented in subsequent chapters.

DEVELOPMENT ASSUMPTIONS

The development strategy presented within this chapter is based, in part, on the following assumptions. These are based on information obtained from the IHA / CMH Master Plan and Steering Committees, the sub-consultant team, from knowledge of current site conditions, known space programming requirements, and existing facility conditions.

- CMH has identified a requirement for an expanded and redeveloped IPU, along with an expanded and redeveloped Emergency Department. Consequently, all options include new IPU and redeveloped Emergency Department and related support services as planning priorities
- Current IPU at CMH is technically deficient and fails to approach the current space standards required to deliver safe, efficient care. As a result, the Master Plan assumes a phasing prioritization whereby existing Inpatient beds are replaced in the first phase of new construction (allowing for early decommissioning or reprogramming of outmoded facilities)
- Although the Nurse's Residence represents an aging capital investment, it is not considered a candidate for demolition at this stage
- Deni House is not considered a candidate for demolition. It is however, a likely candidate for Community Care programs and Staff / Administrative functions. Proposes 28 Residential Care beds on Level 2 will proceed as currently planned by IHA / CMH
- Future growth requires either the expansion of the existing plant or the creation of new energy plant facility
- All options must support an expanded Community Care program on site.
- All parking demands must be met
- Construction fatigue must be considered when evaluating options
- Programming and phasing flexibility must be integrated into all options
- Future development must be appropriate in scale and mass relative to the surrounding context
- Respect for neighbours must be considered

PLANNING CHALLENGES

During the Master Plan process a number of challenges and constraints were identified that ultimately impacted the course of the final planning options. Falling generally within the categories of programming, planning and existing building infrastructure, these issues and the potential implications are summarized below for reference.

Programming

- Future growth needs resulted in significant increased area requirements for major clinical departments and an overall growth of the entire facility by more than 30%. (See “Select Growth Areas by Comparison”)
- Program growth required a 67% increase in the number of parking spaces
- Cost implications for moving from surface to structured parking
- Inpatient units that are now planned at more than double the size of what is currently in use at CMH limits potential reuse of existing spaces
- Significant increase in single-bed requirements versus what is currently the standard at CMH results in inability to meet standards of care
- Significant growth in Emergency, Ambulatory Care, and Community Care programming will likely require department relocation and complicated internal renovations

Planning

- Clarifying wayfinding in complex assembly of old and new buildings that do not meet current standards for care requires complex internal planning strategies
- Need to create a welcoming image and “front door” that reflects a rejuvenated community hospital
- Need to balance impact on neighbours with the need for additional built forms including parking, and (potentially) mechanical plant

Existing Building infrastructure

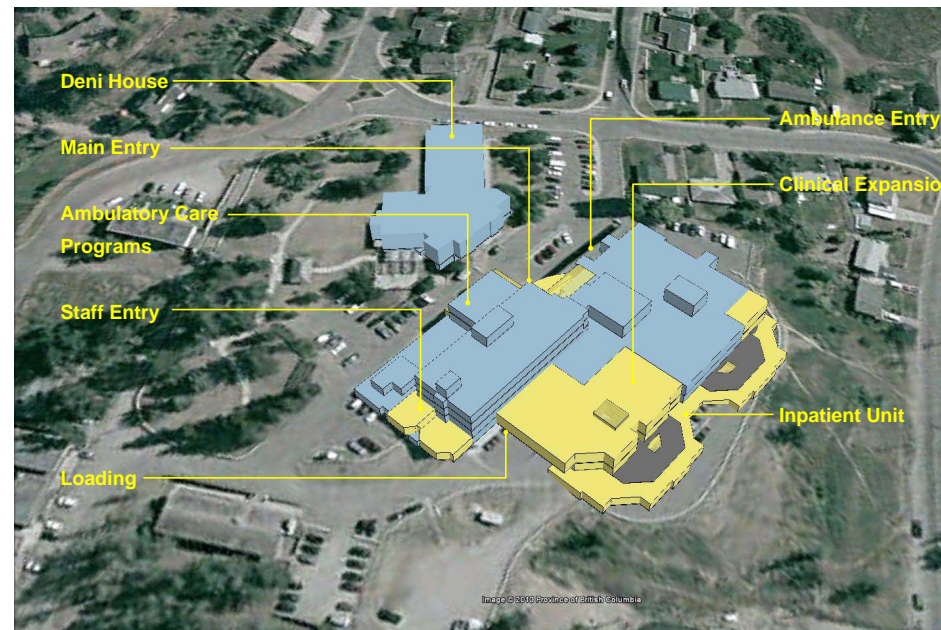
- Physical and spatial limitations of existing infrastructure restricts potential programming and phasing opportunities
- Disruptive retrofits of existing IPU potentially generates negative impacts for patients and staff

Select Growth Areas by Comparison

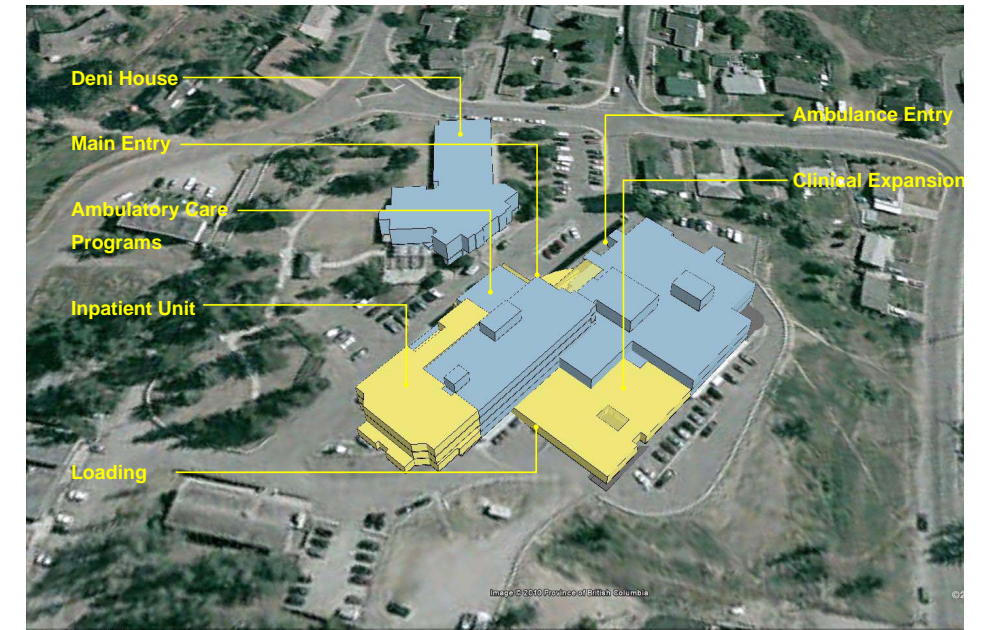
Program	Growth
Ambulatory Care	2 Times
Chronic Disease	2 Times
Emergency	1.5 Times
Mental Health (Gateway)	2 Times
Inpatient	2.5 Times
ICU / Stepdown Unit	2 Times
Perinatal Services	3.5 Times
Spiritual Care	3 Times
Surgical Suites	1.5 Times
Overall	1.3 Times

PLANNING STUDIES

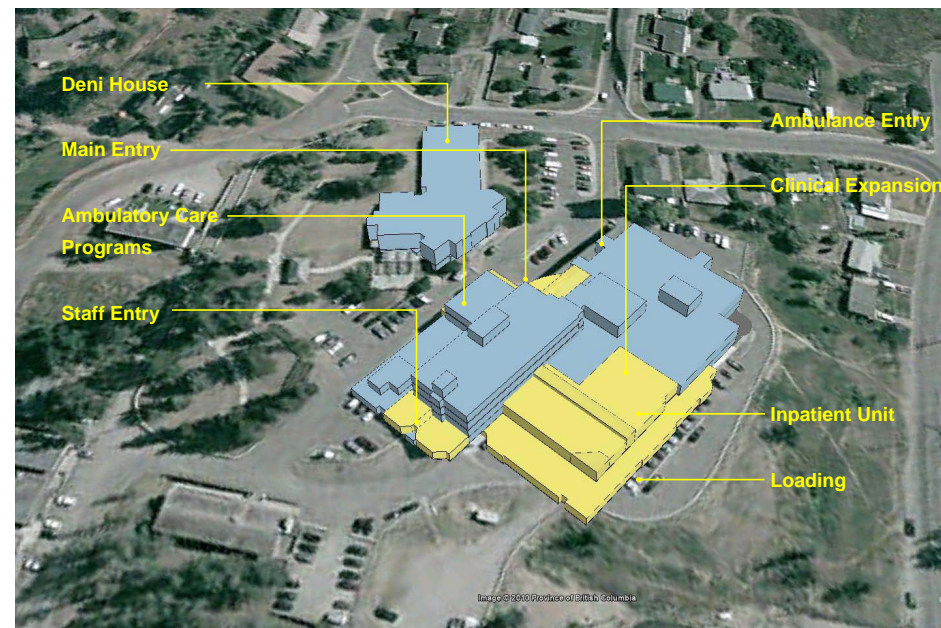
Resulting from the charrette process several initial planning options and variations were explored and discussed. The merits and demerits of each option were discussed by the group. Positive elements of each study were preserved while negative aspects were discarded. The result is an optimal and preferred Master Plan solution. Provided for reference are selected sketches and diagrams to illustrate the explorative and collaborative process conducted by the Design Team.



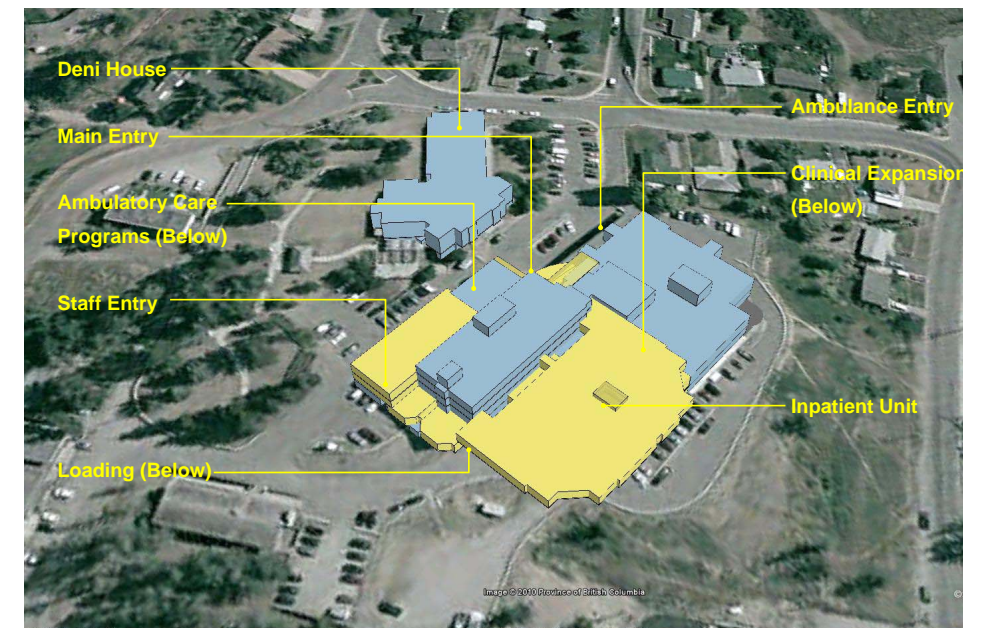
Study 1



Study 3



Study 2



Study 4

STUDY 1

At a high level, this planning study explored the creation of a 32 / 34 bed, Med / Surg IPU located at the existing parking level, a clinical expansion of the south-west corner of the existing building, and a small expansion of the existing ICU on the south-east corner. A consolidated Ambulatory Care cluster and new main Entry was also created at the front of the building. Internally circulation was clarified through the addition of a new north-south, front-of-house corridor connecting (horizontally) the Ambulatory Care cluster with the new clinical expansion and (vertically) the new IPU below. A second entrance on the west face was also created to enhance access to the Ambulatory Care cluster. Green roofs and accessible terraces were also created for patient and staff use. Parking structures were anticipated to be located on the western edge of the site. Locations for MDR, either adjacent or directly below the Surgical Suites were also explored – in this case MDR is located below the Surgical Suites. Assumes dedicated case cart system / lifts to surgical suites. This study also assumes the Community Care program would be located off-site.

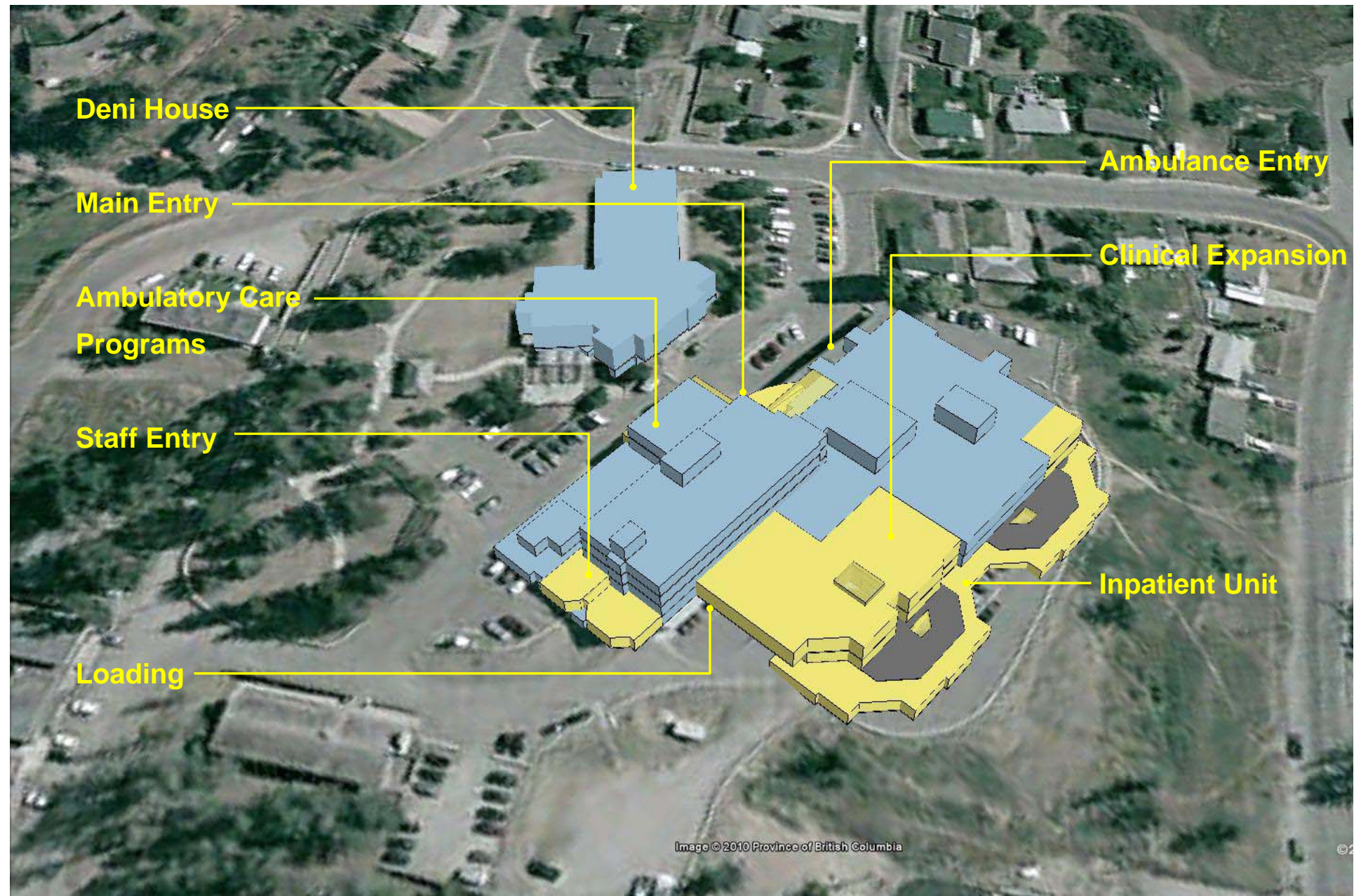
Initial response to this option was positive. Feedback from users indicated a preference for the location of the IPU and supported the creation of an Ambulatory Care cluster and redefined front entry lobby and position of the MDR.

PROS

- Positions IPU at grade with access to natural features and views to the south
- Positions soft space adjacent to critical programs (DI and Emergency)
- Positions MDR directly below Emergency which is in line with current operational practices
- Permits phased construction achieving bed count early in construction process
- Provides access to natural views for multiple programs (Renal, Pharmacy)
- Enables Perinatal to have direct link to Surgical Suites (C-Section) below via direct vertical lift
- Utilizes under-building parking space for future mechanical plant
- Consolidates much of new construction to rear of site

CONS

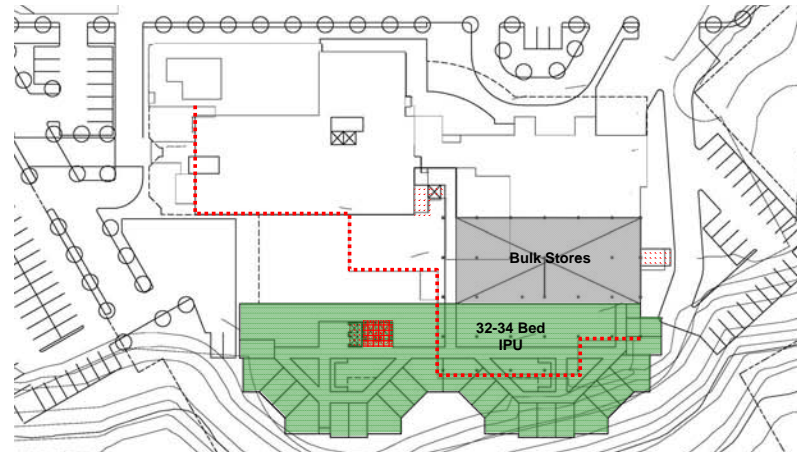
- Requires off-site location for Community Services program
- Does not fully utilize Deni House vacant space
- Positions Medical Records in basement without access to natural light
- Positions Volunteers / Foundation in lower level away from main lobby and splits program over two levels
- Isolates Ambulatory Care and limits future expansion
- Requires some site rework and retaining to support IPU
- Loss of under-building parking



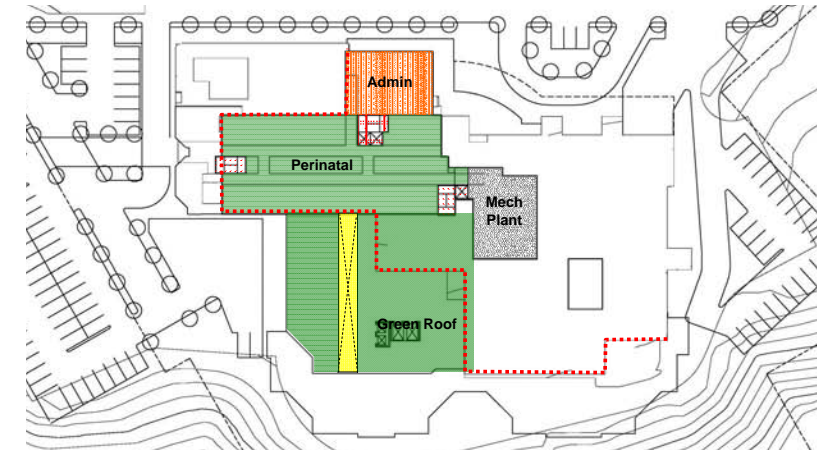
Aerial View Looking North-East

STUDY 1 - BLOCK PLANS

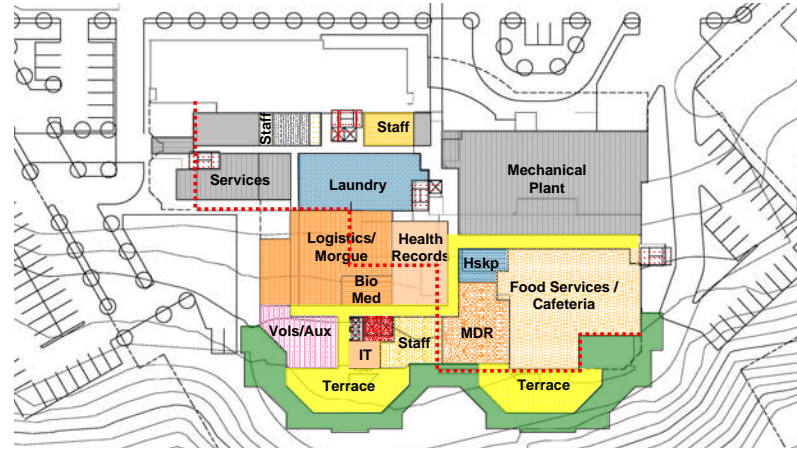
The following block plans for each of the studies are provided for reference purposes only. These plans represent planning efforts completed for each charrette. These plans do not reflect the final or preferred option. Elements of these plans that were deemed favourable by the users (such as MDR located below Surgical Suites or soft space adjacent to the DI department) were ultimately included within the preferred solution while elements deemed less favourable (such as MDR directly adjacent to the Surgical Suites) were discarded.



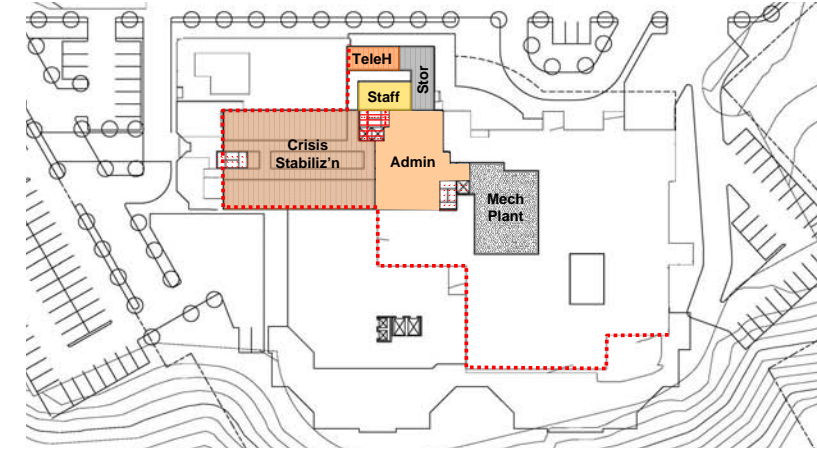
Level-2 (Parking)



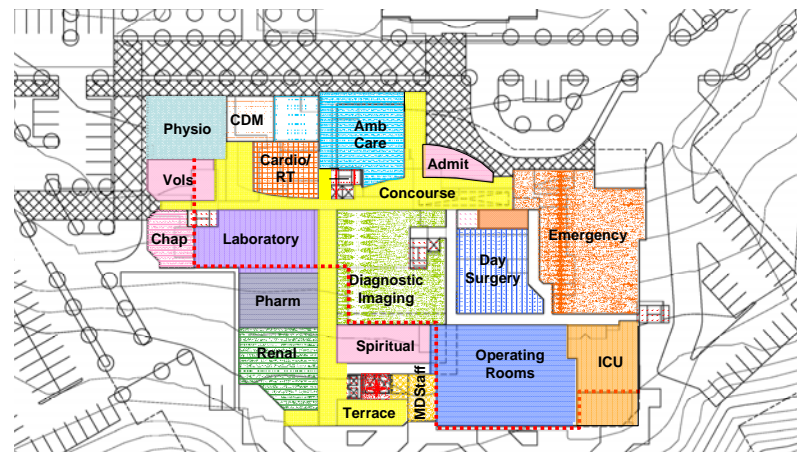
Level 2



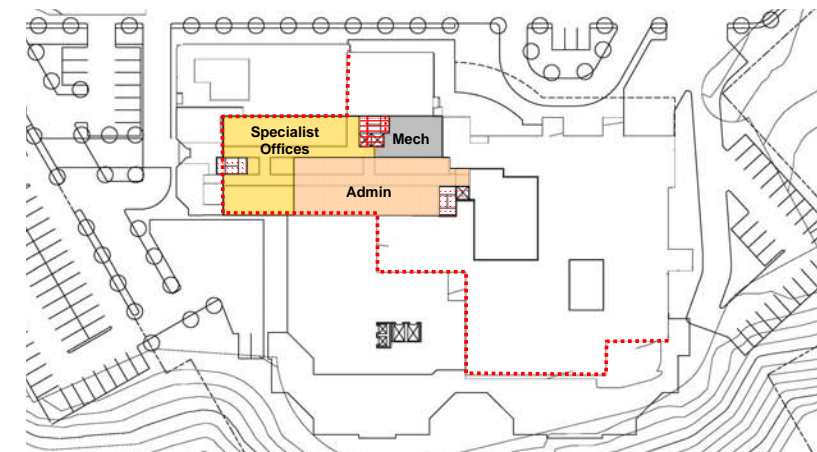
Level-1 (Basement)



Level 3



Level 1 (Main)



Level 4

STUDY 2

At a high level, this second planning study explored the creation of a 32 / 34 bed, Med / Surg IPU located at the existing Basement Level. Loading was proposed to move to the existing parking level. Similar to Study 1, this study also explored a clinical expansion of the south-west corner of the existing building, and a small expansion of the existing ICU on the south-east corner. A consolidated Ambulatory Care cluster and new main Entry was also created at the front of the building. Internally, similar to Study 1, circulation was clarified through the addition of a new north-south, front-of-house corridor connecting (horizontally) the Ambulatory Care cluster with the new clinical expansion and (vertically) the new IPU below. A second entrance on the west face was also created to enhance access to the Ambulatory Care cluster. Green roofs and accessible terraces were also created for patient and staff use. Parking structures were anticipated to be located on the western edge of the site. Locations for MDR, either adjacent or directly below the Surgical Suites were also explored – in this case MDR is located adjacent to the Surgical Suites. This study also assumes the Community Care program would be located off-site.

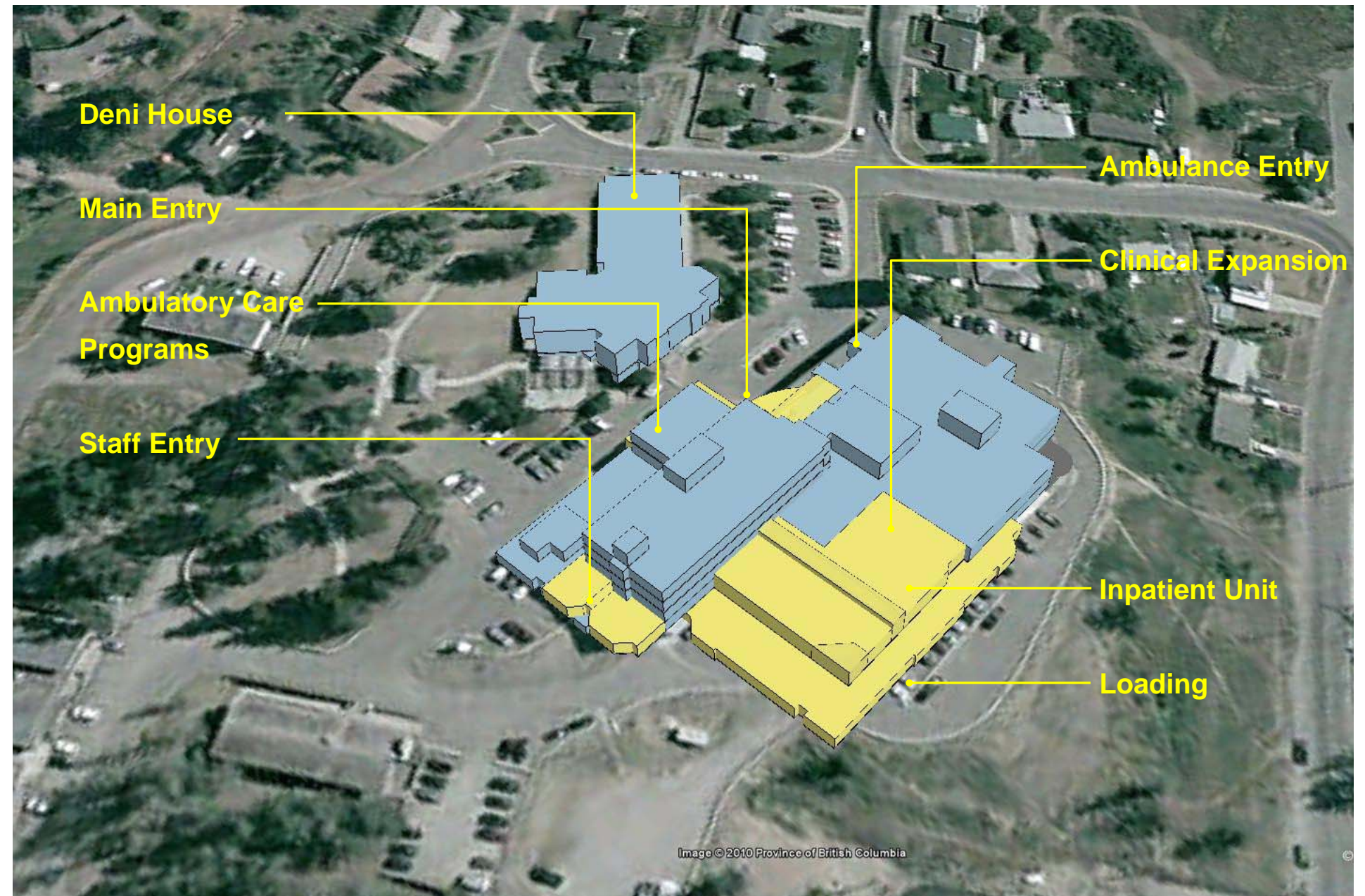
Initial response to this option was also positive. Feedback from users indicated a moderate preference for the location of the IPU and supported the creation of an Ambulatory Care cluster and redefined front entry lobby. Negative feedback included the location of MDR and the complete relocation of the Loading area to the lower level.

PROS

- Positions IPU with access to natural features and views to the south
- Provides access to natural views for multiple programs (Renal)
- Enables Perinatal to have direct link to Surgical Suites (C-Section) below via direct vertical lift
- Preserves under-building parking
- Opportunities for access to green terraces atop IPU below
- Consolidates much of new construction to rear of site

CONS

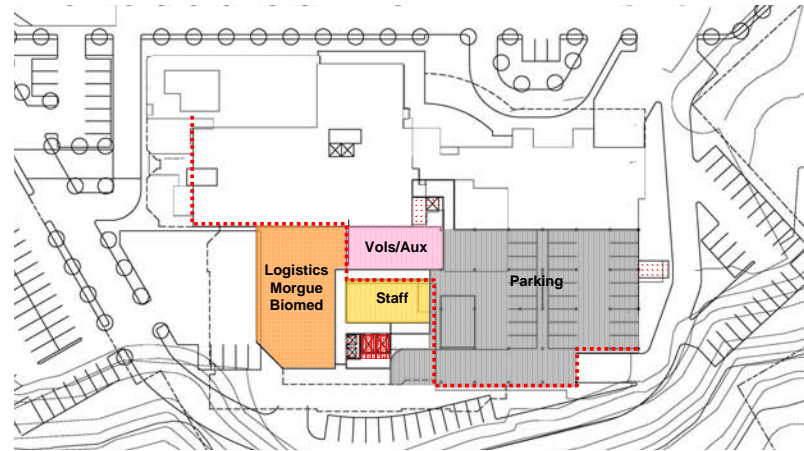
- Requires off-site location for Community Services program
- Does not fully utilize Deni House vacant space
- Positions Medical Records in basement without access to natural light
- Positions Volunteers / Foundation in lower level away from main lobby and splits program over two levels
- Isolates Ambulatory Care and limits future expansion
- New IPU must match lower floor to floor heights of existing structure
- Positions hard programs (MDR) directly adjacent to DI and Emergency and limits future expansion of these departments
- Limited phasing opportunities between IPU and clinical expansion
- Requires additional construction at grade level adjacent to parking
- Potentially complicated grading at loading area



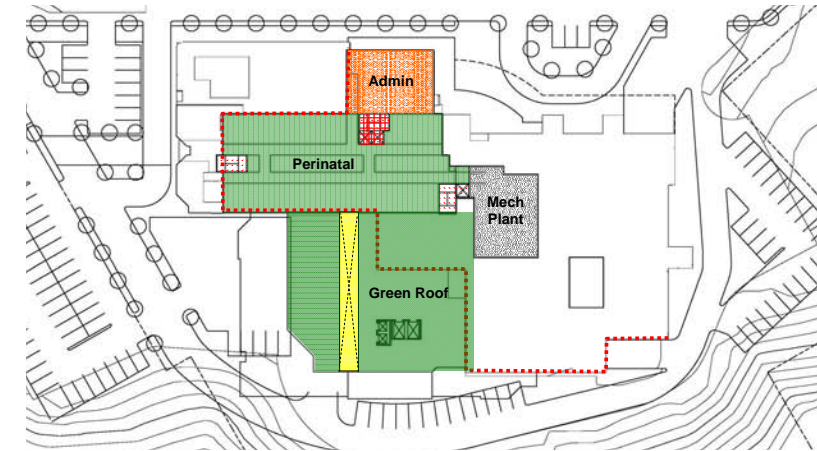
Aerial View Looking North-East

STUDY 2 - BLOCK PLANS

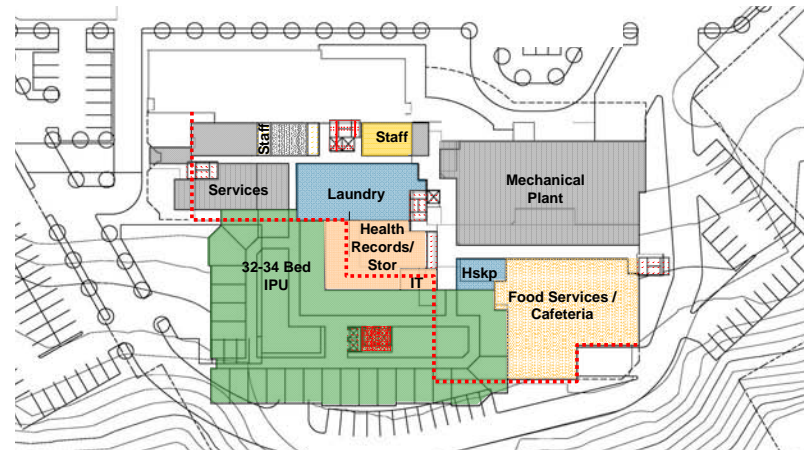
The following block plans for each of the studies are provided for reference purposes only. These plans represent planning efforts completed for each charrette. These plans do not reflect the final or preferred option. Elements of these plans that were deemed favourable by the users (such as MDR located below Surgical Suites or soft space adjacent to the DI department) were ultimately included within the preferred solution while elements deemed less favourable (such as MDR directly adjacent to the Surgical Suites) were discarded.



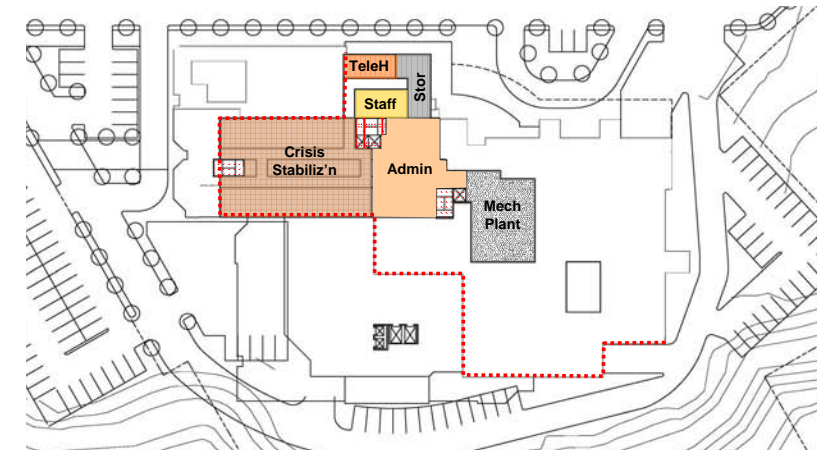
Level-2 (Parking)



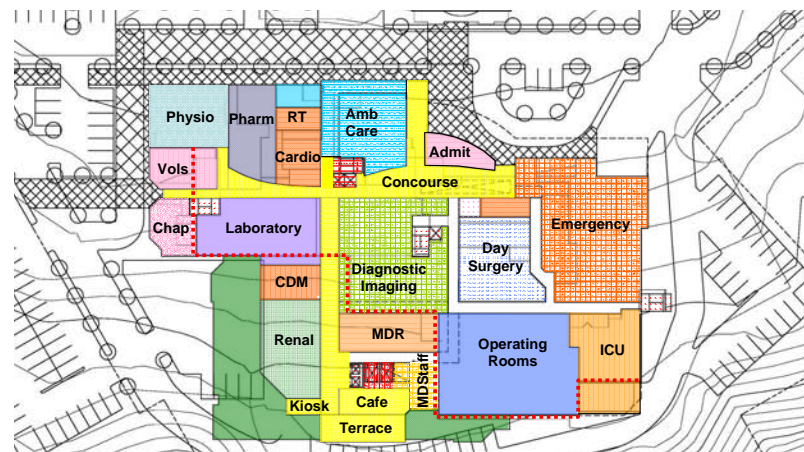
Level 2



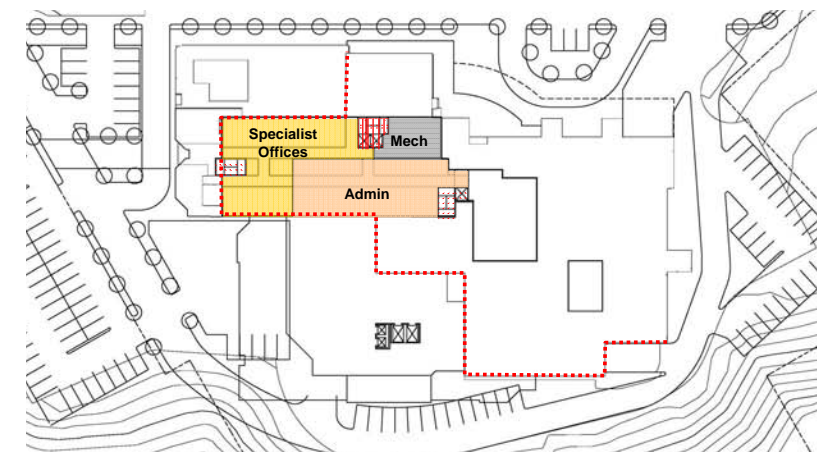
Level-1 (Basement)



Level 3



Level 1 (Main)



Level 4

STUDY 3

At a high level, this third planning study explored the creation of a 32 / 34 bed, Med / Surg IPU located at the front of the existing hospital as an expansion of the existing IPU on Level 2. Consistent with all options, a consolidated Ambulatory Care cluster and new main Entry was also created at the front of the building. Similar to Study 1, this study also explored a clinical expansion of the south-west corner of the existing building, and a small expansion of the existing ICU on the south-east corner. Internally, similar to Study 1, circulation was clarified through the addition of a new north-south, front-of-house corridor connecting (horizontally) the Ambulatory Care cluster with the new clinical expansion and (vertically) the new IPU below. A second entrance on the west face was also created to enhance access to the Ambulatory Care cluster. Green roofs and accessible terraces were also created for patient and staff use. Parking structures were anticipated to be located on the western edge of the site. Locations for MDR, either adjacent or directly below the Surgical Suites were also explored – in this case MDR is located directly below the Surgical Suites. Assumes dedicated case cart system / lifts to surgical suites. This study also assumes the Community Care program would be located off-site.

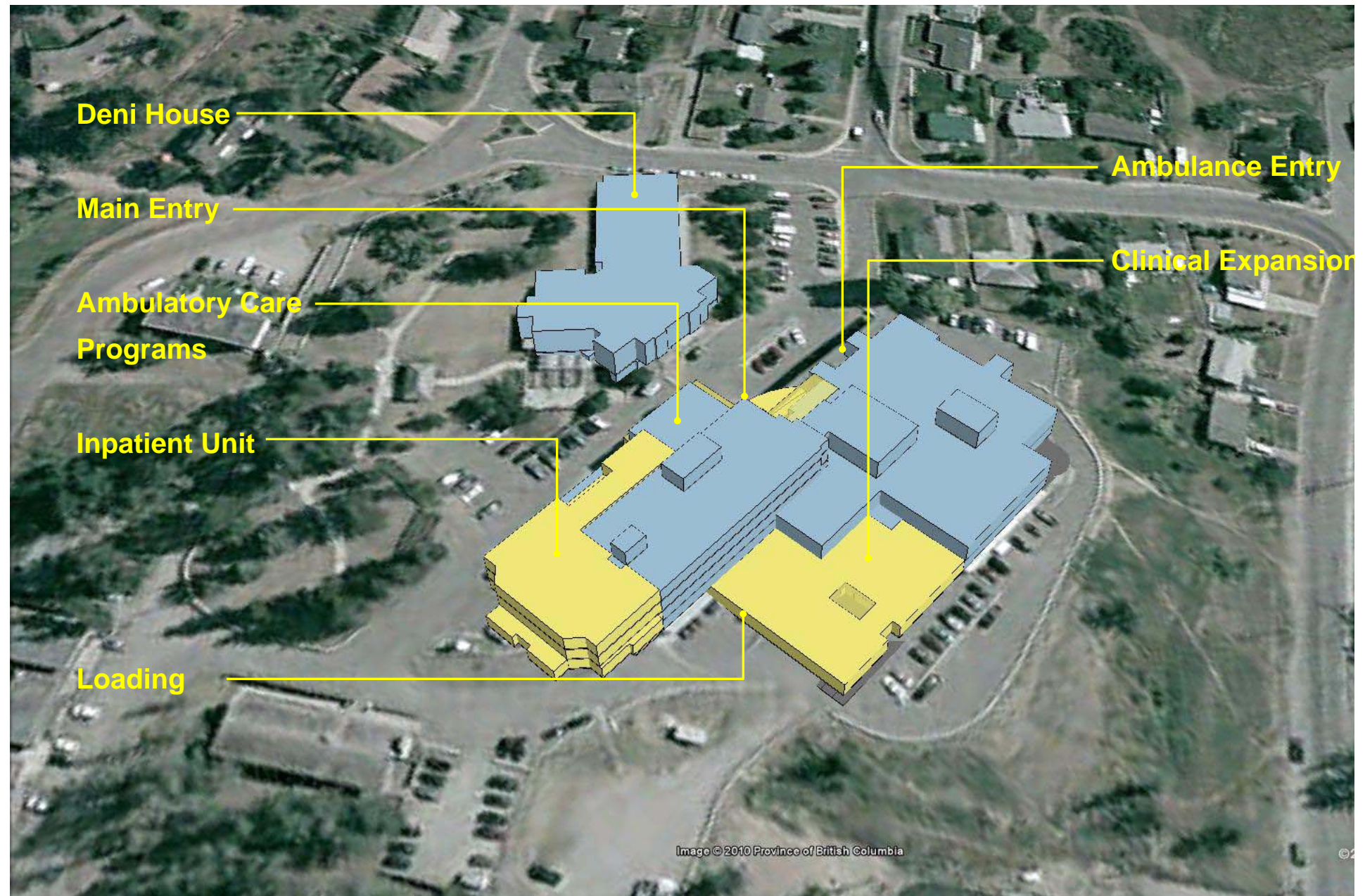
Initial response to this option was less positive. Feedback from users indicated a moderate preference for the location of the IPU however it was discarded due to complexity in expanding over existing structure as the existing north west wing was not designed to receive vertical expansion. Additionally it was determined unfavourable to pair a new IPU with an existing IPU that does not meet current space standards.

PROS

- Positions Community Care program on site and within main building
- Preserves under-building parking
- Positions Medical Records with access to natural light and views

CONS

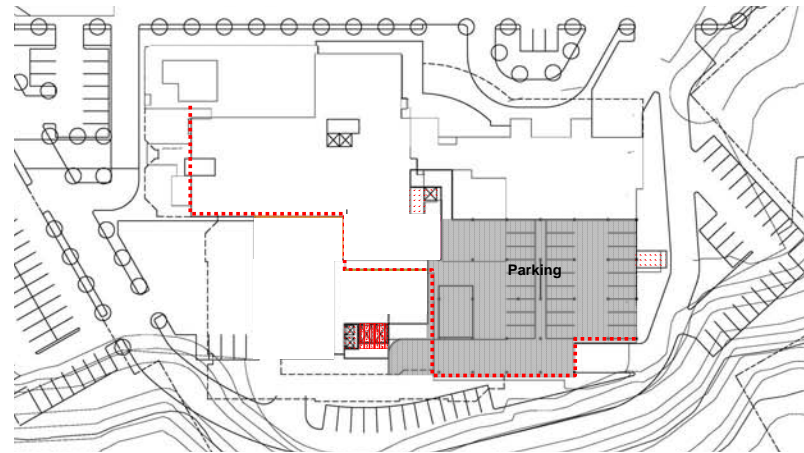
- Expansion over existing structure complicated due to structural and seismic issues (building not designed to accept vertical expansion)
- Sharing new IPU construction with existing structure forces new structure to partially adopt to existing and limited facility conditions
- IPU will not fully meet current standards of care
- Positions Volunteers / Foundation in lower level away from main lobby and splits program over two levels
- Isolates Ambulatory Care and limits future expansion
- New IPU must match lower floor to floor heights of existing structure
- Does not fully utilize Deni House vacant space
- Inclusion of Community Care program requires dispersed Core Administrative program
- Complicated phasing and construction sequencing
- Construction disruption on existing departments will be high



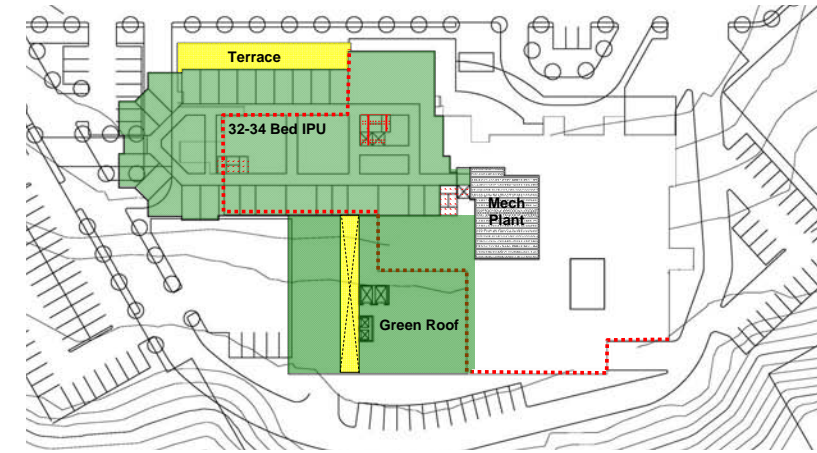
Aerial View Looking North-East

STUDY 3 - BLOCK PLANS

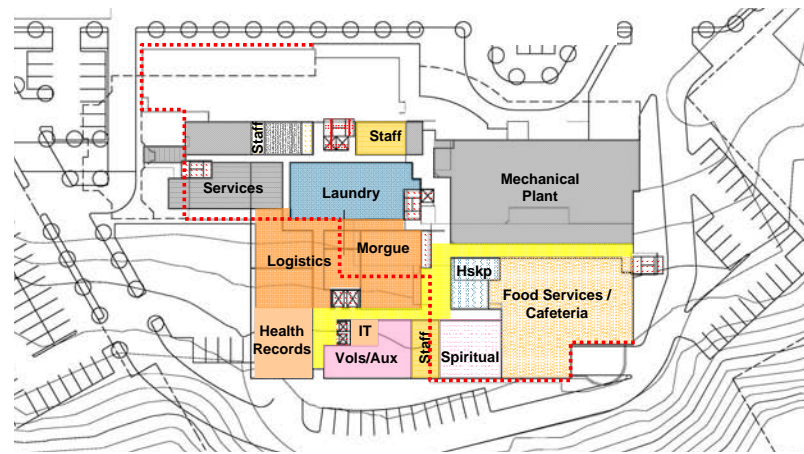
The following block plans for each of the studies are provided for reference purposes only. These plans represent planning efforts completed for each charrette. These plans do not reflect the final or preferred option. Elements of these plans that were deemed favourable by the users (such as MDR located below Surgical Suites or soft space adjacent to the DI department) were ultimately included within the preferred solution while elements deemed less favourable (such as MDR directly adjacent to the Surgical Suites) were discarded.



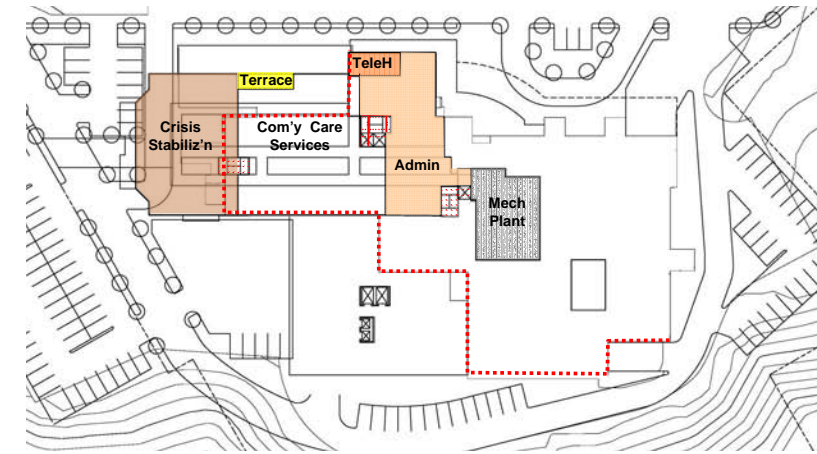
Level-2 (Parking)



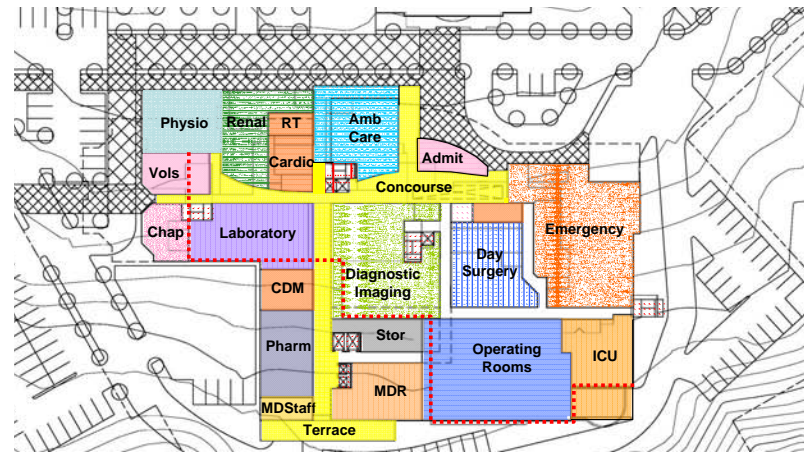
Level 2



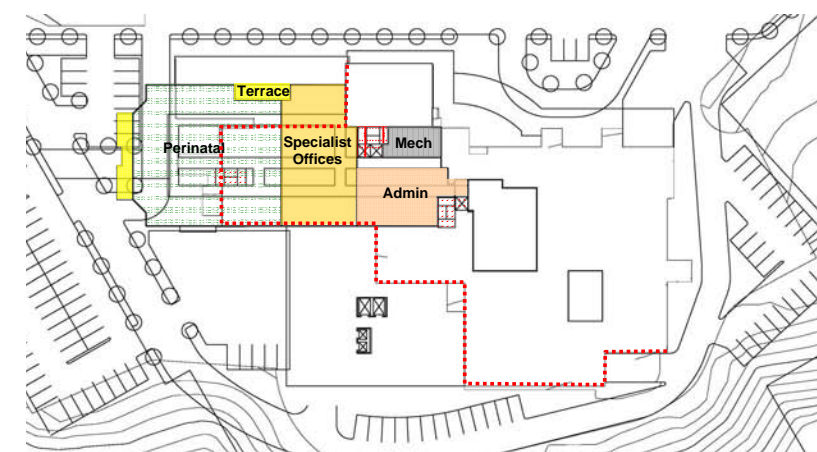
Level-1 (Basement)



Level 3



Level 1 (Main)



Level 4

STUDY 4

At a high level, this fourth planning study explored the creation of a 32 / 34 bed, Med / Surg IPU as part of the south-west clinical expansion. Expansion in this location atop a portion of the existing DI department and also existing floor / ceiling heights forced the IPU to be located at Level 2 ½. It also included the vertical expansion of the north-west corner of the building to house Administrative and Community Care programs. Consistent with all options, a consolidated Ambulatory Care cluster and new main Entry were created at the front of the building along with a clinical expansion of the south-west corner of the existing building, and a small expansion of the existing ICU on the south-east corner. Internally, similar to Study 1, circulation was clarified through the addition of a new north-south, front-of-house corridor connecting (horizontally) the Ambulatory Care cluster with the new clinical expansion and (vertically) the new IPU below. A second entrance on the west face was also created to enhance access to the Ambulatory Care cluster. Green roofs and accessible terraces were also created for patient and staff use. Parking structures were anticipated to be located on the western edge of the site. Locations for MDR, either adjacent or directly below the Surgical Suites were also explored – in this case MDR is located directly adjacent to the Surgical Suites. Assumes dedicated case cart system / lifts to surgical suites.

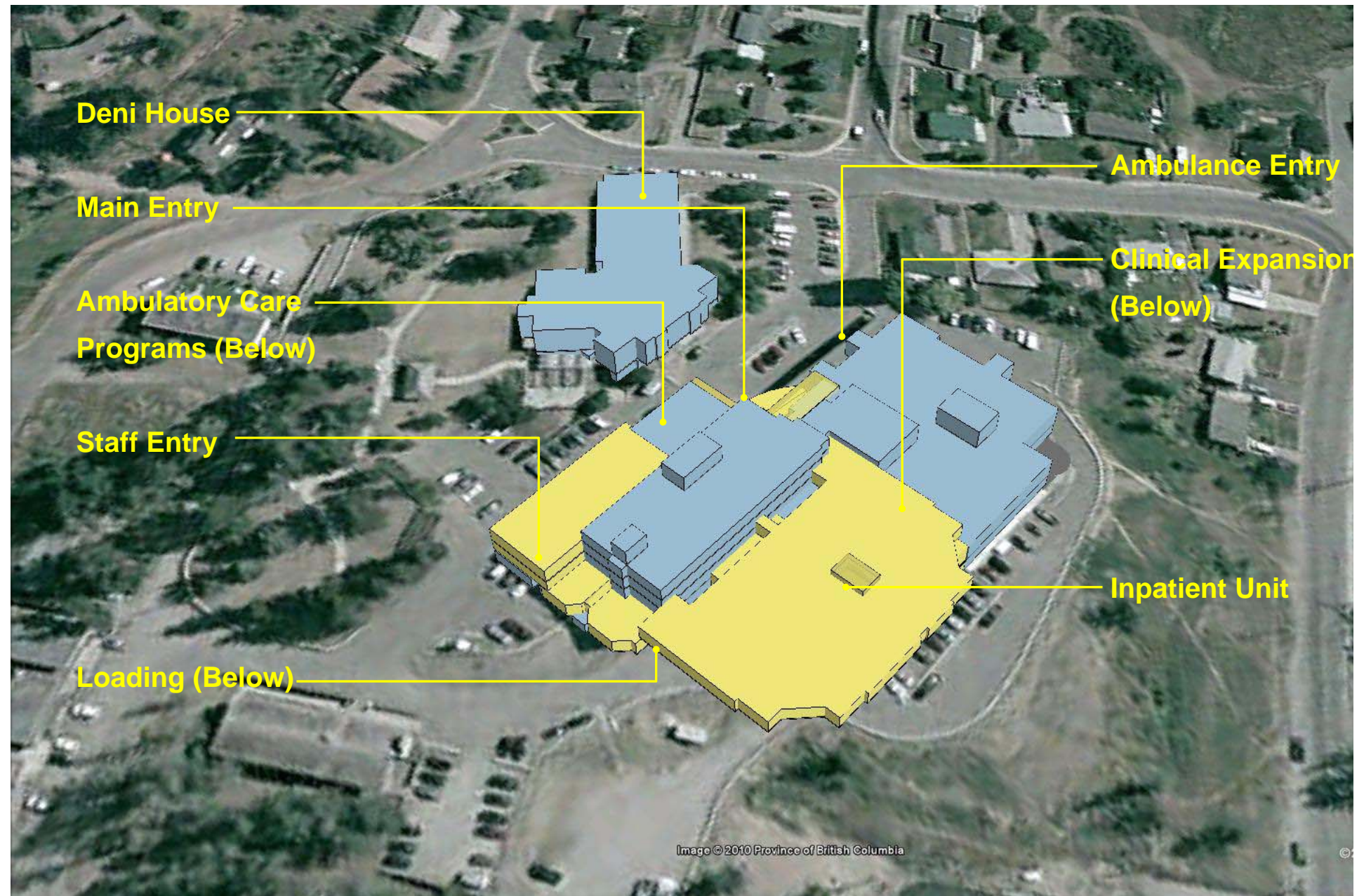
Response to this option was highly negative. Feedback from users indicated no preference for an IPU that was located at mid-level and not in alignment with other floors. Additionally, the architecture required a large IPU floor plate atop a smaller clinical expansion below which was not optimal from a construction perspective. It was discarded for these reasons and no further exploration of this study was pursued.

PROS

- Positions Community Care program on site and within main building
- Preserves under-building parking
- Positions Medical Records with access to natural light and views

CONS

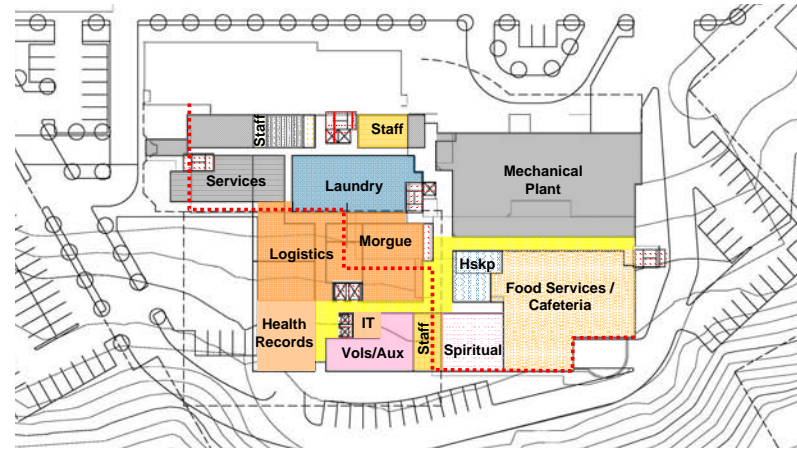
- Complicated architectural solution with large, inefficient IPU plate atop smaller clinical portion below
- Location of IPU requires vertical expansion atop portion of existing DI block – structure not able to support vertical expansion
- Floor to floor heights of DI block forces misalignment of IPU floor (Level 2 ½)
- Inefficient links between floors given vertical position of IPU
- Requires additional expansion to the north atop structures that cannot accept vertical expansion without costly modifications
- Isolates Ambulatory Care and limits future expansion



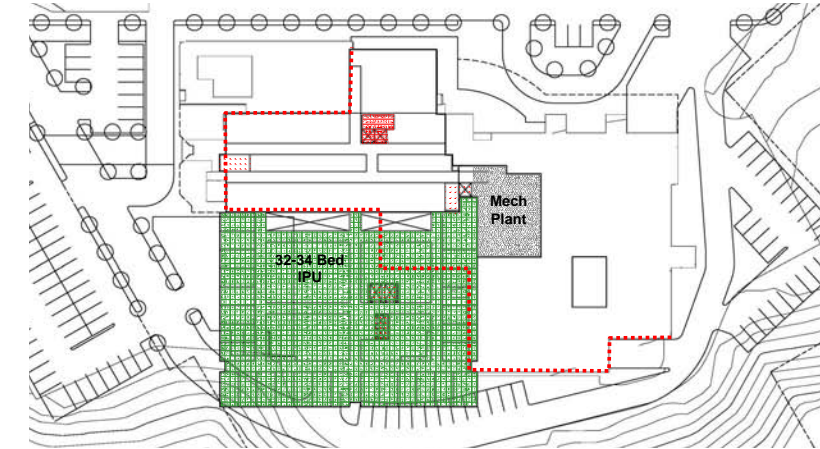
Aerial View Looking North-East

STUDY 4 - BLOCK PLANS

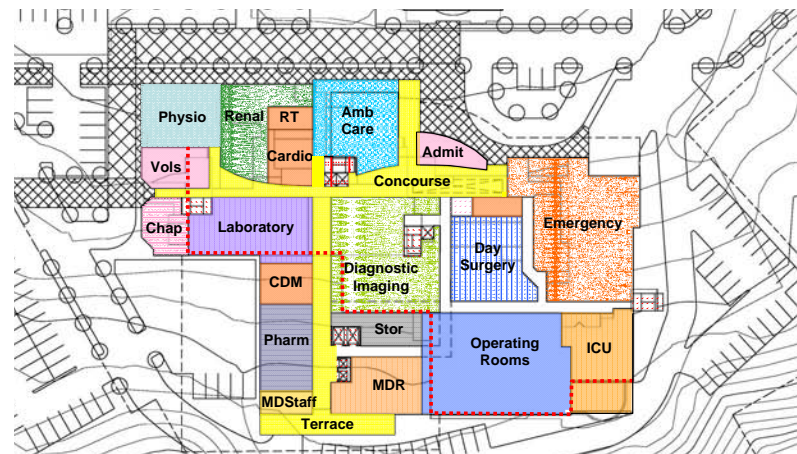
The following block plans for each of the studies are provided for reference purposes only. These plans represent planning efforts completed for each charrette. These plans do not reflect the final or preferred option. Elements of these plans that were deemed favourable by the users (such as MDR located below Surgical Suites or soft space adjacent to the DI department) were ultimately included within the preferred solution while elements deemed less favourable (such as MDR directly adjacent to the Surgical Suites) were discarded.



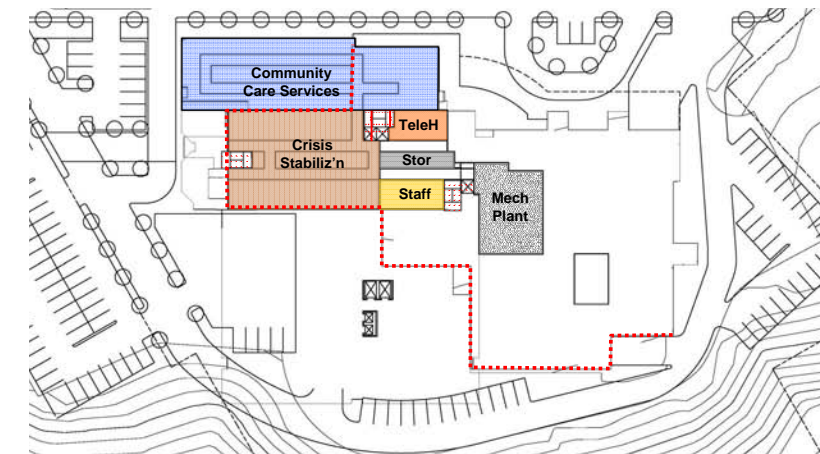
Level-1 (Basement)



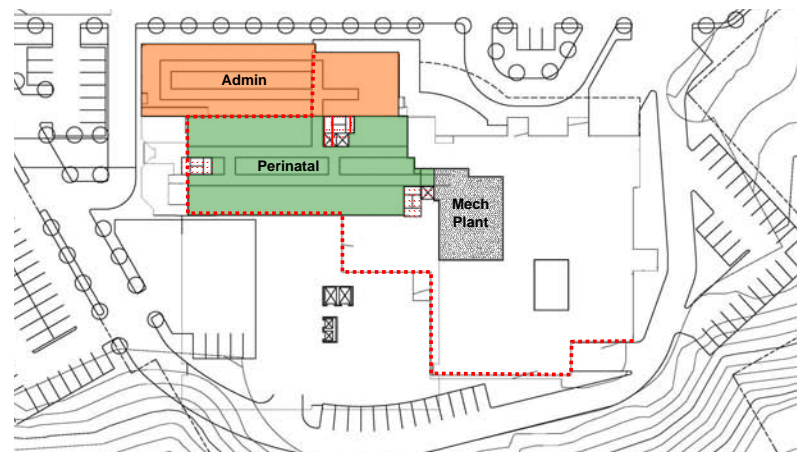
Level 2 1/2



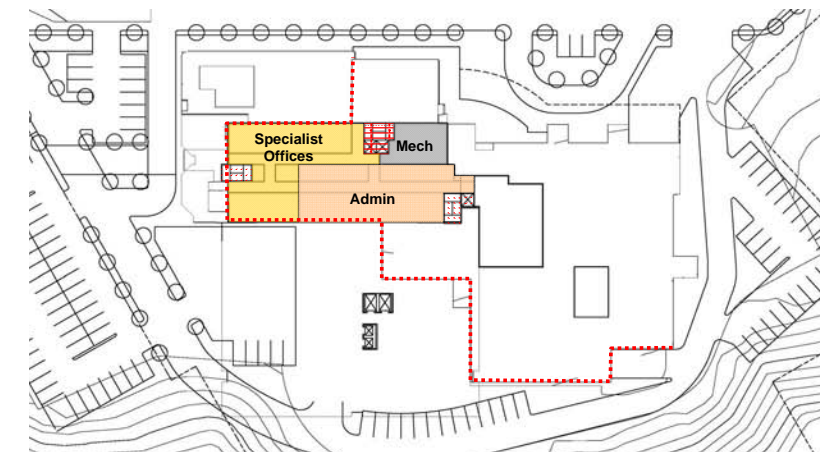
Level 1 (Main)



Level 3



Level 2



Level 4

PREFERRED PLANNING STRATEGY

The mandate that drives the preferred planning strategy is the need to accommodate all current and future clinical and patient programs, including Community Care, Adult Mental Health and Ambulatory Care on the CMH site and within existing expanded structures. The vision for this plan is rooted in the need to increase the overall functionality of the building and the site as a cohesive whole within the Williams Lake community.

As with all the studies previously presented, hospital programs and services already delivered in the community will remain off site as per the Master Program.

It is known that IHA is projecting a modest amount of growth in programs and services that will be delivered at the CMH site. Additionally, the current state of its infrastructure does not meet current standards thus making it challenging to deliver effective care. In general, the Med / Surg IPU fails to meet current design standards in terms of total area, support area, barrier free access and relative to the current ratio of private to semi-private rooms.

The Master Program has thus determined that the IPU area required to meet current standards must grow by a factor of approximately 2 ½. Given this growth and the current state of infrastructure, the planning strategy assumes a total replacement of existing beds. As explored in the previous planning studies, several locations for the IPU were considered. It was decided strategically that the preferred location for the IPU is on grade at the rear of the building. This strategic decision was based on several factors including:

- Alignment of clinical priorities and phasing
- Constructability and overall impact
- Site and building capacity
- Limitations for vertical expansion
- Condition of existing infrastructure
- Appropriateness of overall design
- Quality of environment for patients and staff
- Alignment with design guidelines and principles

This option also recognizes the current state of existing infrastructure and proposes programming moves that limit the amount of retrofit investment required of these spaces including the existing IPU. Departments such as Administration, Specialist Offices, Community Care, and Conference functions are positioned within these repurposed clinical spaces both in the main hospital and within Deni House.

In addition, CMH has identified, as clinical priorities, growth in the following areas 1) Inpatient Units, 2) Emergency, 3) Ambulatory Care and 4) Pharmacy. CMH has also identified a need for an expanded DI, Renal and Lab programs. To achieve the necessary growth in the key priority areas, and also other departments throughout the hospital, the Master Plan proposes a multi-level south western expansion and related internal renovations. The clinical expansion plan will provide area for the full expansion of Inpatient

Units, Emergency, Ambulatory Care and Pharmacy (and others including DI and Renal) along with a consolidated Loading / Stores / Morgue area. This strategy also allows for the creation of a new and expanded MDR directly below the surgical suites, thus positioning CMH to adapt to current operational models (case cart system). A new rooftop helipad is also proposed atop the existing Emergency department.

The planning strategy also responds to the need to create both a more defined entry with a stronger relationship and access to Outpatient / Ambulatory Care programs on site. The proposed multi-storey, glazed lobby and expanded concourse with consolidated outpatient and public programs (Spiritual care, Volunteers) supports the operational vision but also communicates a clear message of the commitment of CMH to the community Williams Lake. Additionally the new main entry is designed to enhance the overall appearance and entry sequence for the site.

Internally, the primary strategy was to provide clear front-of-house circulation routes with a direct access to nature, skylights or clerestories, views or outdoor terraces across all levels where possible. On the main floor, the central concourse has been amplified and extended via a second western entry to improve access to parking and secondary (Outpatient) drop-off areas. The two public routes also align themselves vertically with access to the IPU below.

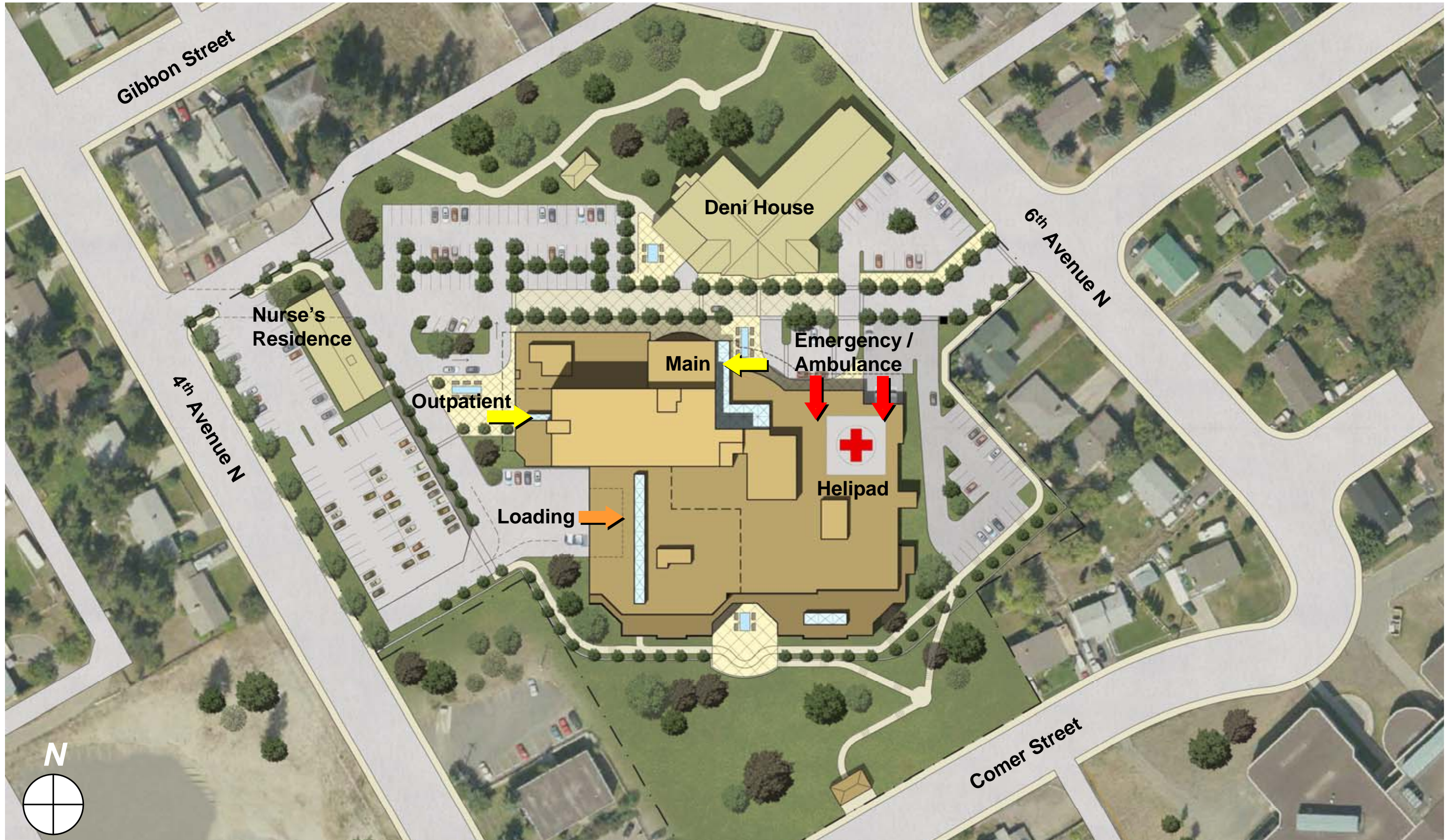
Deni House has also been considered in the overall planning and site strategy and remains intact and with current programming. Programmatically, Deni House will continue to accommodate the proposed 28 Residential Care beds. Additionally, the existing Boardroom, Library, Sun Room, Staff and Red Cross Storage areas will remain as programmed. A portion of the existing storage and administrative spaces located on the ground floor will be repurposed to receive the expanded Community Care program.

At the urban / site level, the primary strategy and intent for the site is to enhance circulation within the property and to distribute traffic to multiple entry points. The main entry route is seen as a formalized drop-off / entry plaza with access to a secondary western entry to service the Outpatient / Ambulatory Care programs. Envisioned as a treed promenade with formal landscaping, decorative paving and water features, this plaza will work to enhance the overall curb appeal of the hospital while also demonstrating a larger commitment to improved urban design and positive public spaces within the site.

Surface parking has also been rationalized and expanded across the site in order to simplify wayfinding and parking for staff and visitors. Dedicated areas now exist for staff, short-term emergency, outpatient and emergency vehicles, and daily users. All are located in proximity to key entry points, circulation routes, and related departments.

Note: Site works show overall design intent and are subject to further design development including detailed civil and transportation engineering input.

PREFERRED PLANNING STRATEGY: SITE PLAN



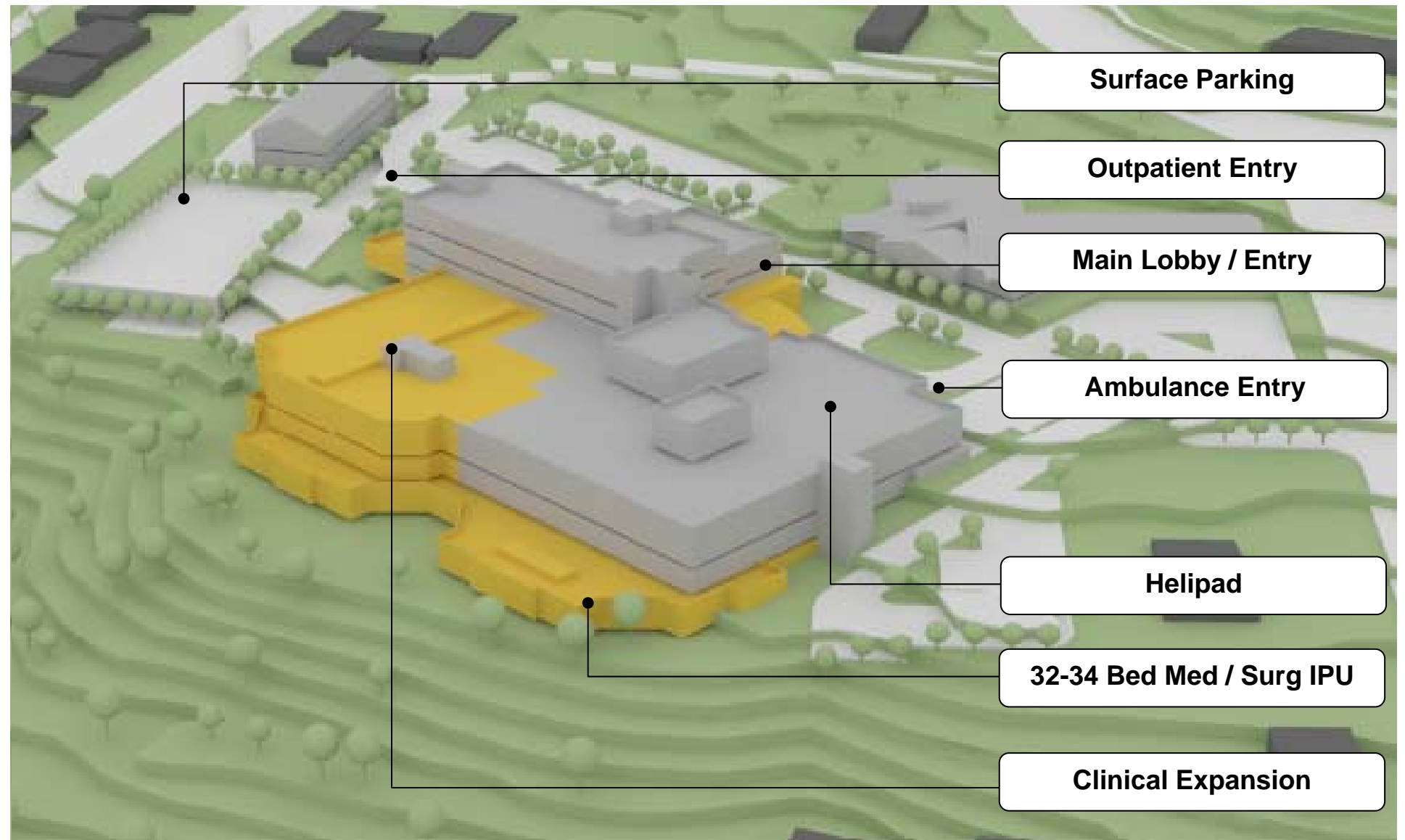
KEY COMPONENT SUMMARY

As previously described, the preferred Master Plan design proposes the construction of a two-level clinical expansion of the existing CMH facility to the south-west including key clinical and service functions such as Inpatient Units, Emergency, Ambulatory Care, and Pharmacy among others. It proposes the creation of a single new 32 / 34 bed, Med / Surg IPU located on grade at the current parking level. This option also proposes the construction of a new Entry Lobby, a small western expansion of the existing facility to accommodate an outpatient / staff entry, preserves and reprograms portions of Deni House and creates a consolidated Ambulatory Care / Outpatient cluster. This option also proposes the construction of a surface parking pad located immediately south and west of the existing Nurse's Residence.

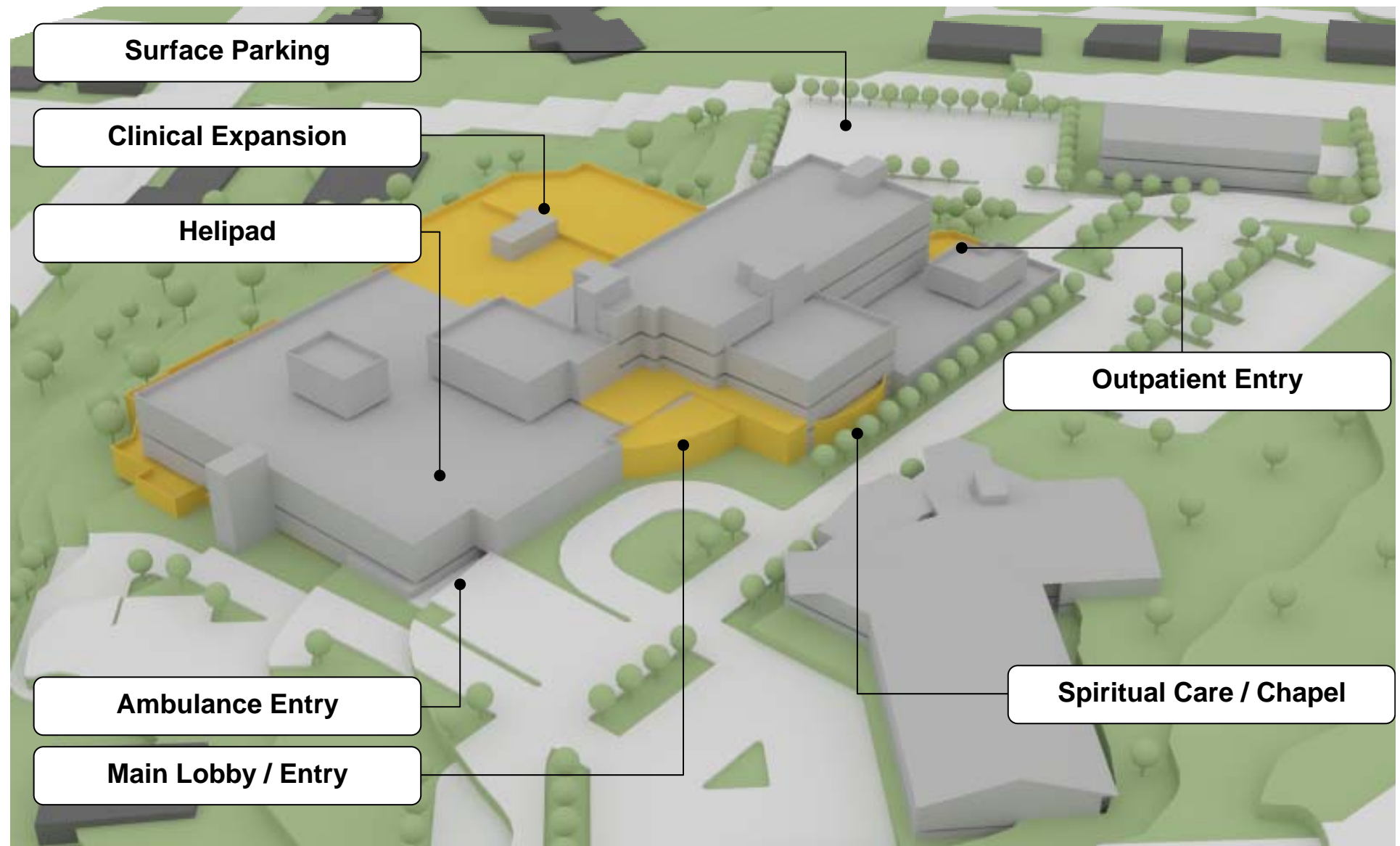
Floor-by-floor block diagrams are provided within subsequent sections of this chapter. Area summaries are provided in *Chapter 8 - Proposed Space Summary*.

In summary, the key built-form components of this option include:

- New 1- storey, 32 / 34 bed, Med / Surg IPU located at grade at rear of building occupying portion of existing under-building parking structure.
- South-western expansion as part of IPU wing providing growth area for key clinical programs including, Pharmacy, Logistics / Morgue / Loading, MDR, Renal, Laboratory, expanded DI and Surgical Suites.
- Western expansion of existing structure to facilitate consolidated Ambulatory Care / Outpatient cluster, consolidated Rehab / CDM programs, consolidated Cardio / RT programs, and a dedicated Outpatient entry with direct access to surface parking (or future parking structures).
- Separate Patient / Emergency entries with new / expanded Lobby and central Concourse including public programs (Spiritual Care, Volunteers, Aboriginal Health).
- New double height, glazed Lobby with relocated Main Entry and skylight Concourse to enable distribution of traffic and access across multiple points. Concourse to include public amenities and retail as desired.
- Internal renovations to accommodate growth in Emergency, Surgical Suites, Day Surgery, Admitting on ground level. Upper level renovations include expanded Perinatal on Level 2, expanded Adult Mental Health on Level 3, and retrofitted space for expanded Specialist Office program.



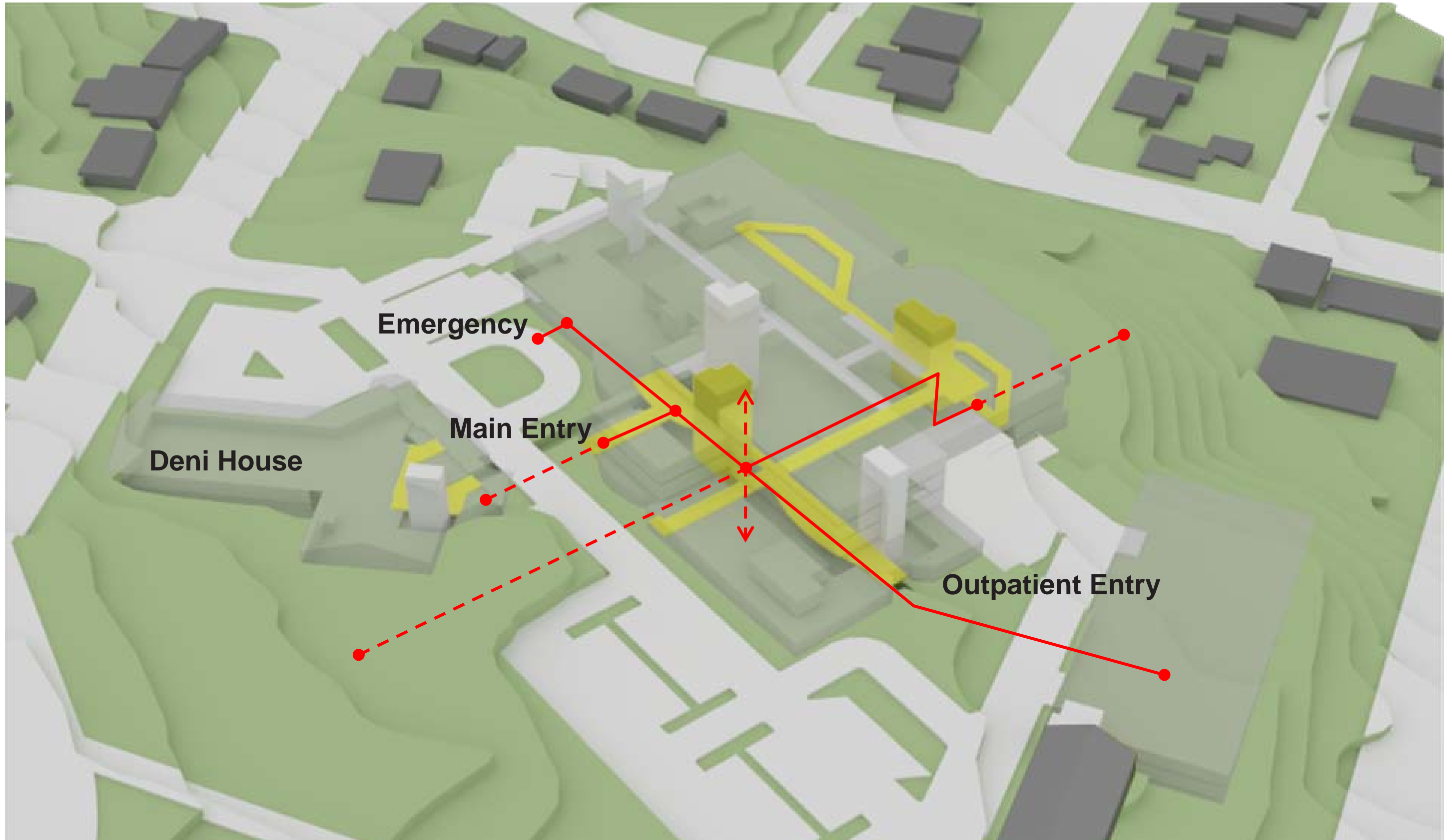
- New rooftop Helipad atop existing / expanded Emergency department.
- South-eastern expansion above existing cafeteria terrace to accommodate growth in ICU program.
- Deni House to remain in current location and accommodate Community Care program on ground level. Nurse's Residence also to remain as currently programmed.
- Additional Mechanical Plant space located in space currently occupied by under-building parking structure.
- Site works include provision for enhanced entry plaza and treed promenade with landscaping, water features, seating, reconfigured parking (including defined staff parking on east side) and feature urban elements (light standards, bollards, specialty paving). *Note: Site works show overall design intent and are subject to further design development including detailed civil and transportation engineering input.*



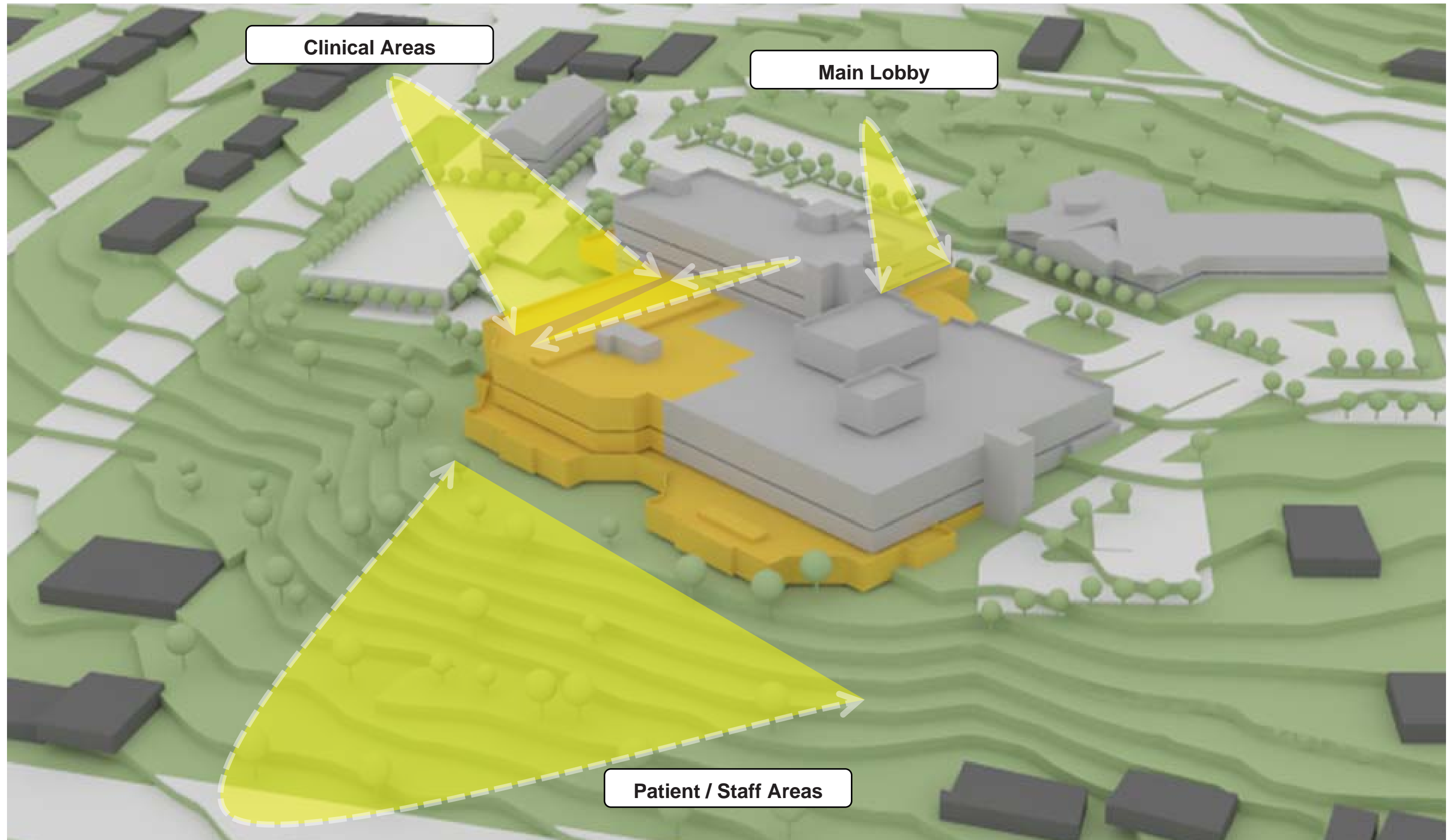
PREFERRED PLANNING STRATEGY: RENDERING



INTERNAL CIRCULATION STRATEGY



ACCESS TO LIGHT



ACCESS TO VIEWS



BLOCK PLANNING

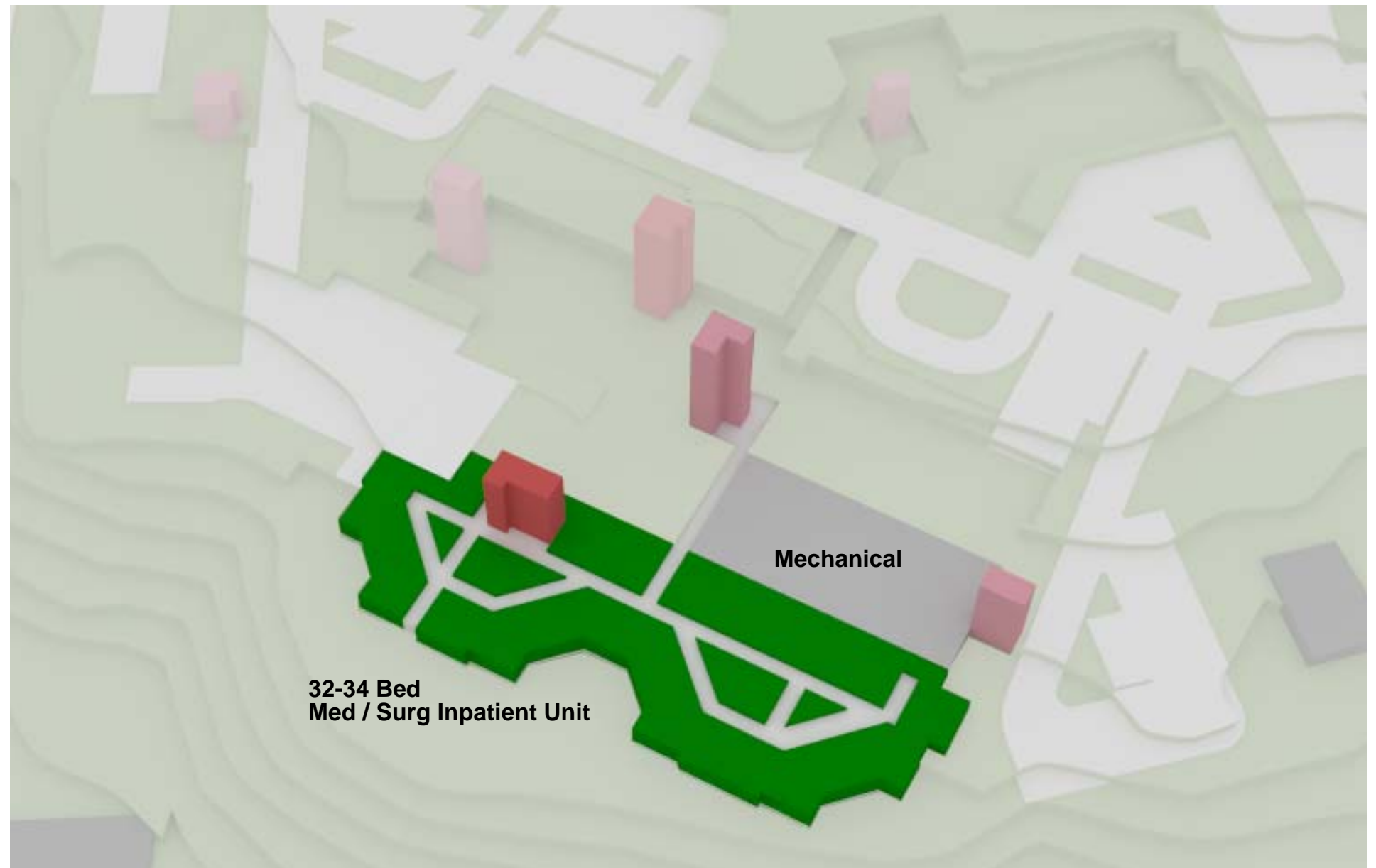
The following provides a summary of major programmatic components on a floor by floor basis for each level. Block components are also identified as new or renovation. Comprehensive area summaries for each department are provided in *Chapter 8 - Proposed Space Summary*.

Schematic plans are based on actual programmatic department gross areas, however are presented as illustrative and not to scale within this report. Final location of services to be determined based on hospital requirements at time of design development.

Departments not specifically listed (ie: storage or staff lockers) are assumed to remain in current location and with cosmetic renovation as desired by CMH.

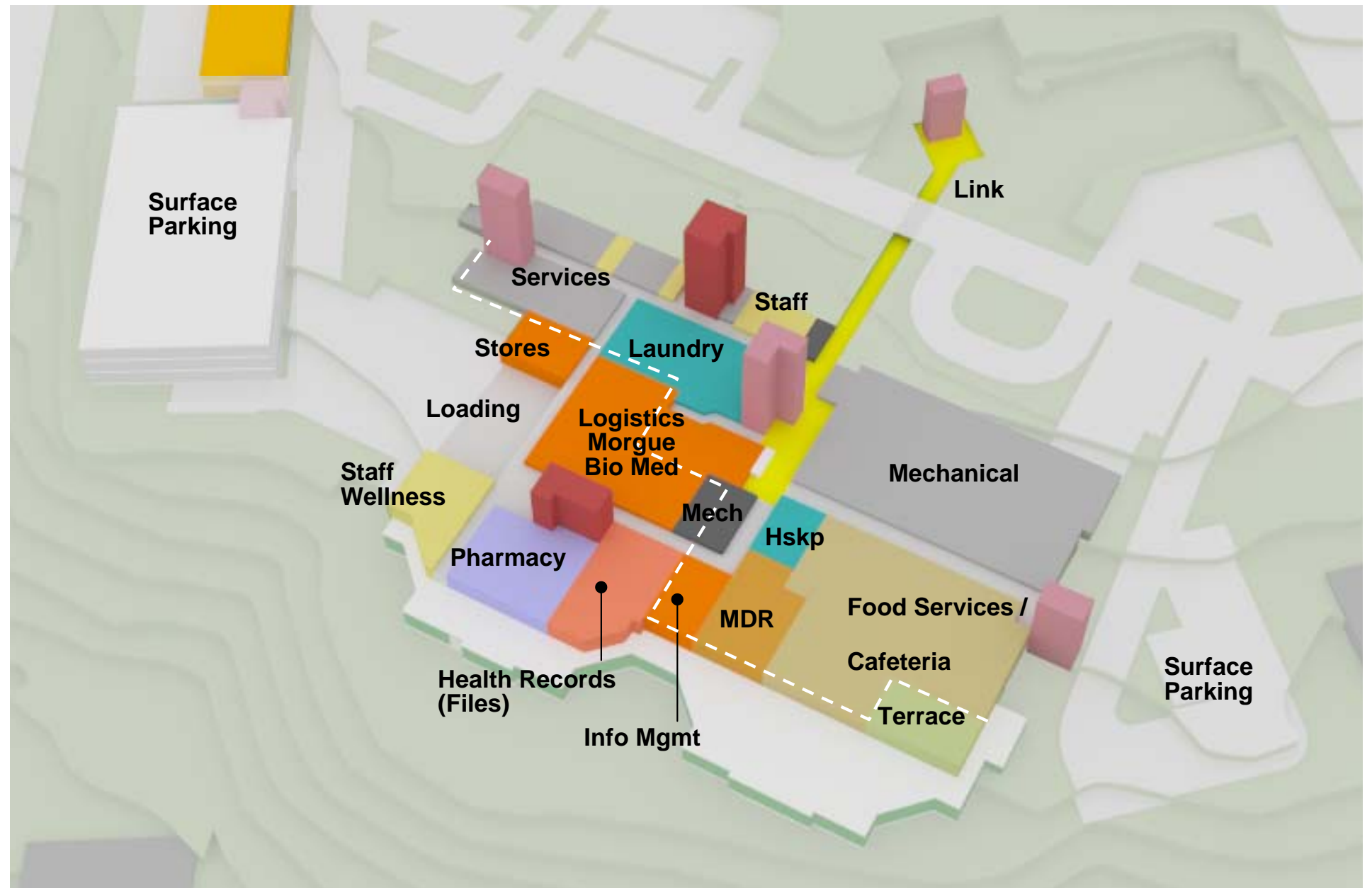
Level -2 (Med / Surg IPU)

- New 32 / 34 bed, Med / Surg IPU to be constructed at grade utilizing portion of existing under-building parking for clinical support as necessary / programmed. Design intent is to maximize access to natural light and on-grade natural features (terrace) while minimizing existing under-building construction. Additionally, vertical lifts to have direct relationship with secondary circulation corridor above (New construction)
- Supplementary mechanical plant and bulk stores (as necessary) to occupy existing parking area.



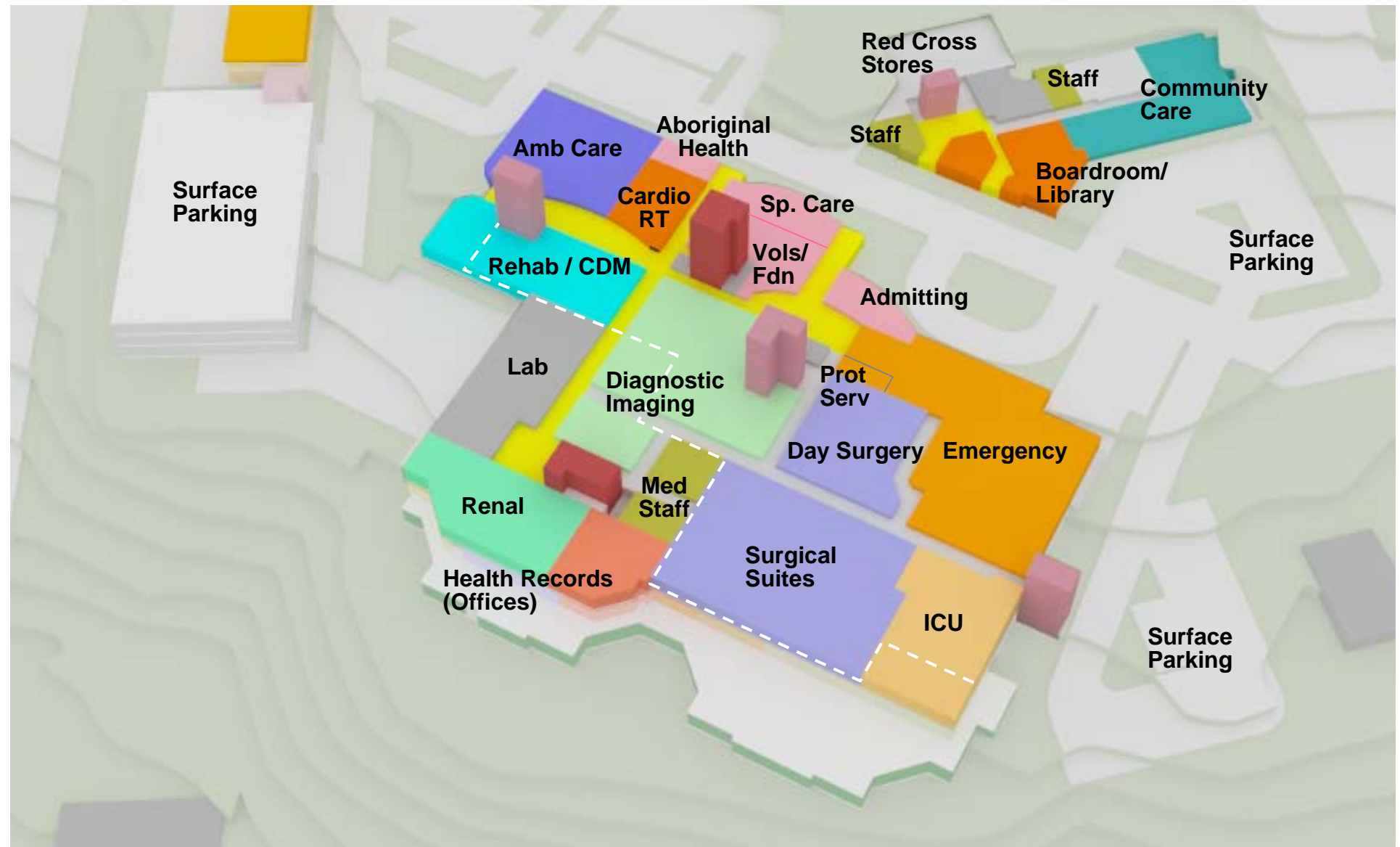
Level -1 (Basement Level)

- New MDR to relocate from current location on Level 1 to occupy portion of area previously occupied by Loading / Stores. Design intent is that MDR be located directly below existing Surgical Suites and include dedicated vertical lift. (Renovation)
- Housekeeping to remain in current location and expand into portion of area previously occupied by Loading / Stores. (Renovation)
- IMIT to relocate and expand into portion of area previously occupied by Loading / Stores. (Renovation)
- Health Records (Files Storage) to relocate from current location on Level 1 and occupy area within new clinical expansion. (New Construction)
- Pharmacy to relocate from existing location on Level 1 and occupy area within new clinical expansion. Design intent is that these areas maintain perimeter location with direct access to exterior and natural light. (New Construction)
- Staff Wellness programs to consolidate and occupy area within new clinical expansion. Design intent is that these areas maintain perimeter location with direct access to exterior and natural light. (New Construction)
- Logistics / Morgue / Bio Med to consolidate and occupy area within new clinical expansion. Option exists for Morgue to remain in current location or relocate adjacent to new loading docks if desired. (New Construction)
- New (covered) loading docks to be constructed as part of new clinical expansion. (New Construction)
- Additional bulk (non-programmed) space to be provided adjacent to new loading docks as necessary. (New Construction)
- Laundry to remain in current location and receive upgrades as necessary. (Renovation)
- Supplementary mechanical space to be provides as necessary. (New Construction)
- Deni House underground link to remain as is.
- Red Cross Storage to occupy current location with Deni House (can also occupy portion of unassigned bulk stores on Level -1 (Basement))

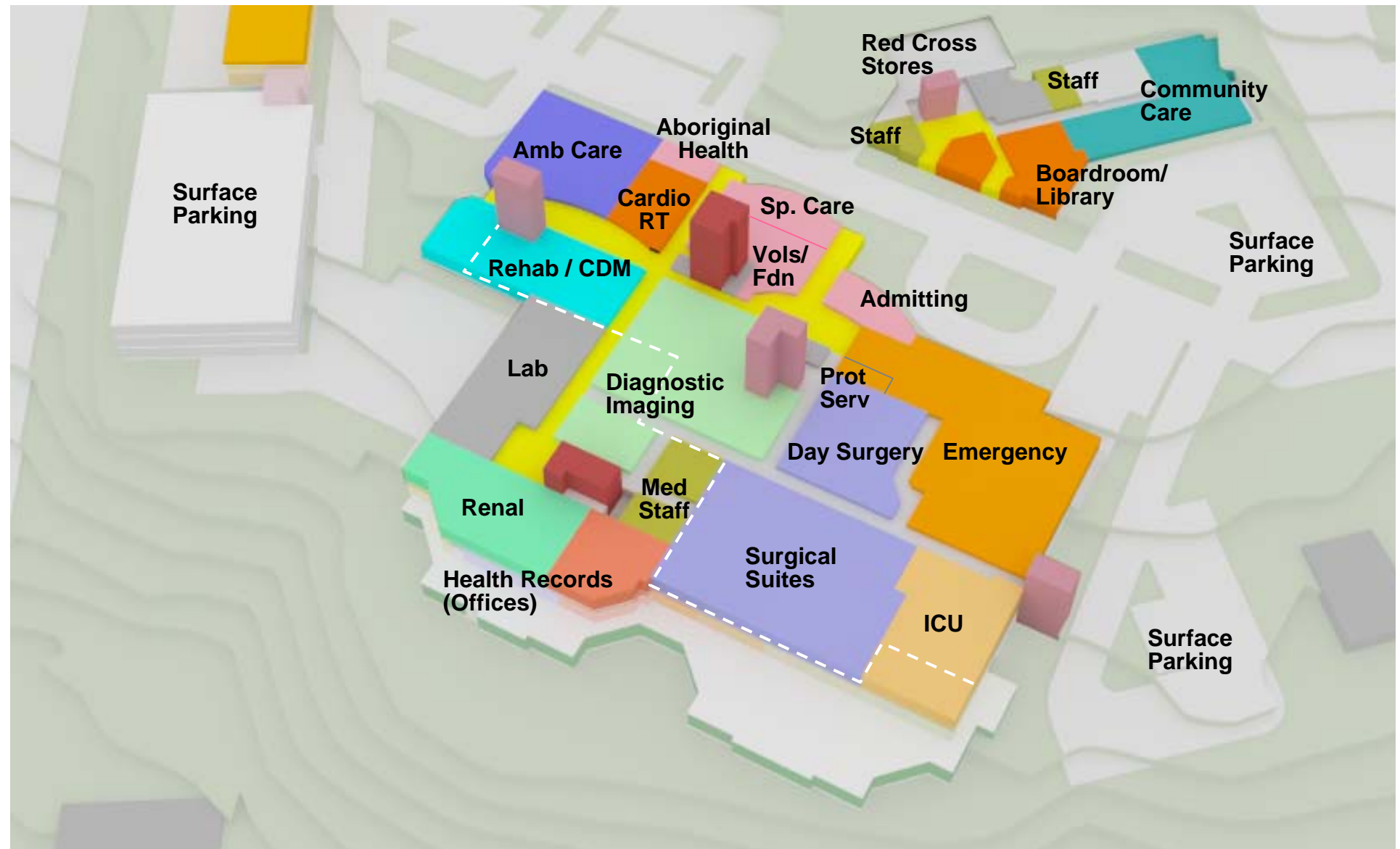


Level Main (1)

- Ambulatory Care programs to relocate from existing location and expand into area previously occupied by Physio and Pharmacy and also portion of new western expansion. Design Intent is that these programs maintain exterior position adjacent to new Outpatient entry and have direct access to natural light and views. (New Construction and Renovation)
- Cardio / RT programs to relocate from existing location and expand into portion of area previously occupied by Renal. Design intent is that this program maintain an adjacent relationship with Ambulatory Care programs. (Renovation)
- Aboriginal Health program to relocate from existing location and expand into portion of area previously occupied by Renal. Design intent is that this department maintain front-of-house position in proximity to main entry. (Renovation)
- Rehab / CDM programs to relocate from existing location and occupy area previously occupied by Lab and also new western expansion, (New Construction and Renovation)
- Spiritual Care / Volunteers / Foundation (Gift Shop) to consolidate and relocate to area previously occupied by Medical Records. Design intent is that this department maintain front-of-house position in proximity to main entry. (Renovation)
- Main Lobby to be constructed including double-height main entry and renovated lobby / waiting area. (New Construction)
- Admitting to relocate from existing location to area provided as part of new Lobby construction (New Construction) Note: intent is that Admitting will serve both main entry and Emergency and will have capacity to divide and isolate based on operational needs.
- Central east-west concourse to be expanded and retrofitted as part of localized renovation (Renovation)
- Secondary north-south public corridor to be constructed (relocated) as part of localized renovation (Renovation)
- Laboratory to relocate from existing location and occupy area within new clinical expansion. Design Intent is that these programs maintain exterior position in proximity to new Outpatient entry and have direct access to natural light and views. (New Construction)
- Renal to relocate from existing location and occupy expanded area within new clinical expansion. Design Intent is that these programs maintain exterior position in proximity to new Outpatient entry and have direct access to natural light and views. (New Construction)

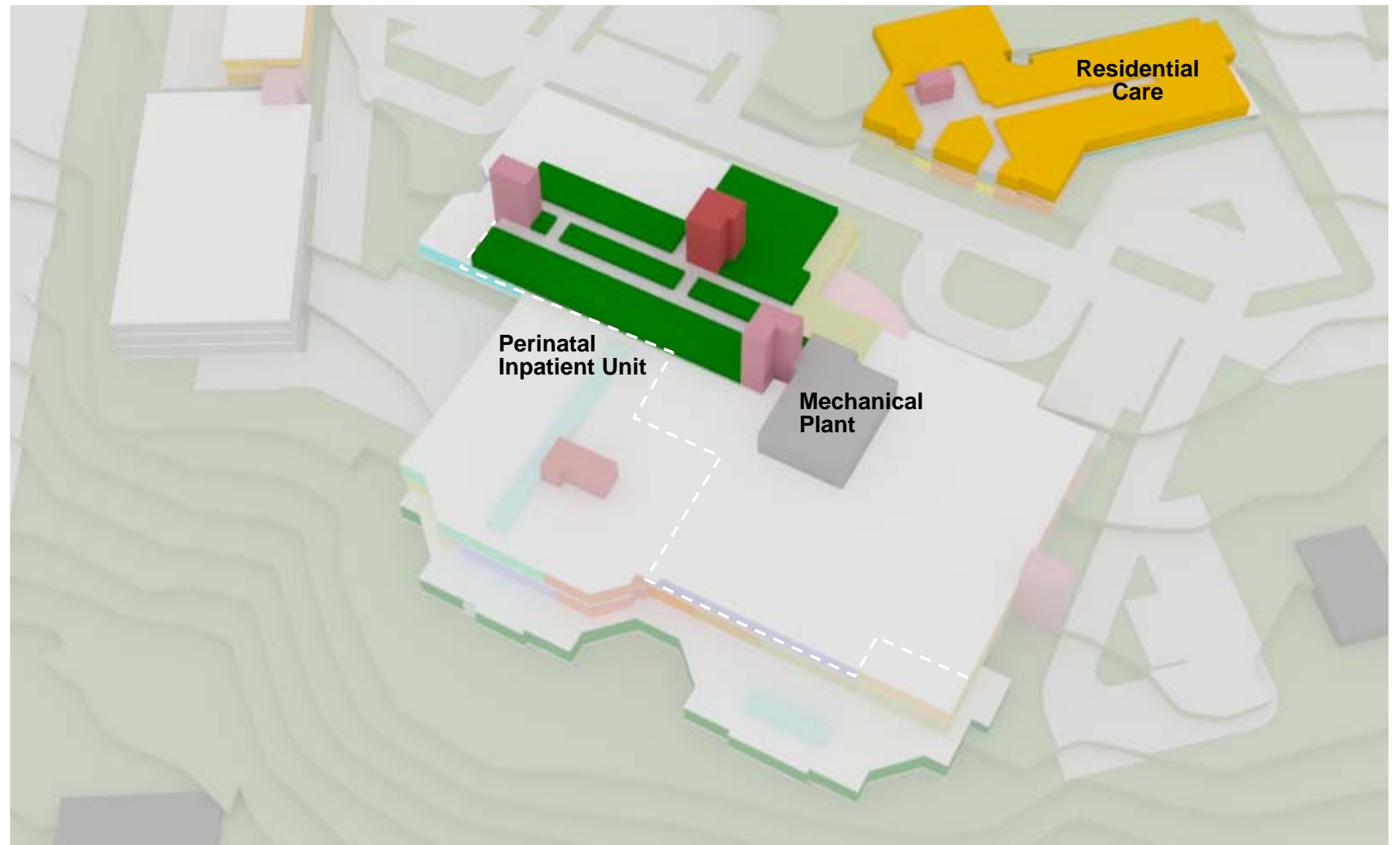


- Health Records (Offices) to relocate from existing location and occupy expanded area within new clinical expansion. Note: intent is that this area remain as soft space to allow for future expansion of either DI or Surgical Suites. (New Construction)
- Diagnostic Imaging to remain in current location and expand into area within new clinical expansion and to area provided by relocation of secondary north-south corridor. (New Construction and Renovation)
- Day Surgery to remain in current location and expand into area previously occupied by Cardio and Admitting. (Renovation)
- Surgical Suites to remain in current location and expand into area previously occupied by MDR and into area within new clinical expansion. (New Construction and Renovation)
- Emergency to remain in current location and expand into area previously occupied by Ambulatory Care and existing corridor / waiting. (Renovation)
- ICU to remain in current location and expand into new construction in area previously occupied by Cafeteria terrace below. (New Construction)
- Parking and Protection Services to occupy portion of area previously occupied by Admitting program. (Renovation)
- Medical Staff (Doctor's) Gathering space and On-Call room to occupy area within new construction. Note: intent is that this area remain as soft space to allow for future expansion of either DI or Surgical Suites. (New Construction)
- Multi-level Parking structure, estimated 3 levels required. (New Construction)
- Deni House Boardroom / Library / Sun Room to remain as programmed and receive cosmetic renovations as desired. (Renovation)
- Community Care programs to relocate from current location on Level 3 and occupy area within Deni House. (Renovation)
- Red Cross Storage to either occupy current location with Deni House or occupy portion of unassigned bulk stores on Level -1 (Basement)



Level 2

- Existing Med / Surg IPU to vacate existing space to allow for expansion of Perinatal program into renovated space that meets current planning standards. Note: Design Intent is that location creates creates improved vertical access to Surgical Suites (C-sections) directly below. (Renovation)
- OBGYN Specialist offices to be co-located with other Specialist offices on Level 4, as per Master Program.
- Staff lounge area to be included as required (est 25sm)
- Mechanical Plant to remain functional
- Deni House Residential Care beds (28) to be completed as proposed by IHA (Renovation) (*Not within scope of Master Plan*)



Level 3

- Adult Psych program to remain in current location and expand into area previously occupied by Community Care programs. (Renovation)
- Core Administrative programs to consolidate and relocated to noted location. (Renovation)
- Telehealth programs to vacate existing space (if desired) and redistribute to area programmed for individual departments. (Renovation)
- Mechanical Plant to remain functional
- Staff lounge area to be included as required (est 25sm)



Level 4

- Specialist Offices remain in current location and expand into space currently occupied by Administrative programs. (Renovation)
- Select Administrative programs to remain in current location, as determined by program and functional needs. (Recommended Student Staff and Learning Centre) (Renovation)
- Mechanical room to remain functional.
- Staff lounge area to be included as required (est 25sm)



Site Circulation Strategy

The strategy that guides the planning for overall building and site access and specifically the loading areas is based on the need to:

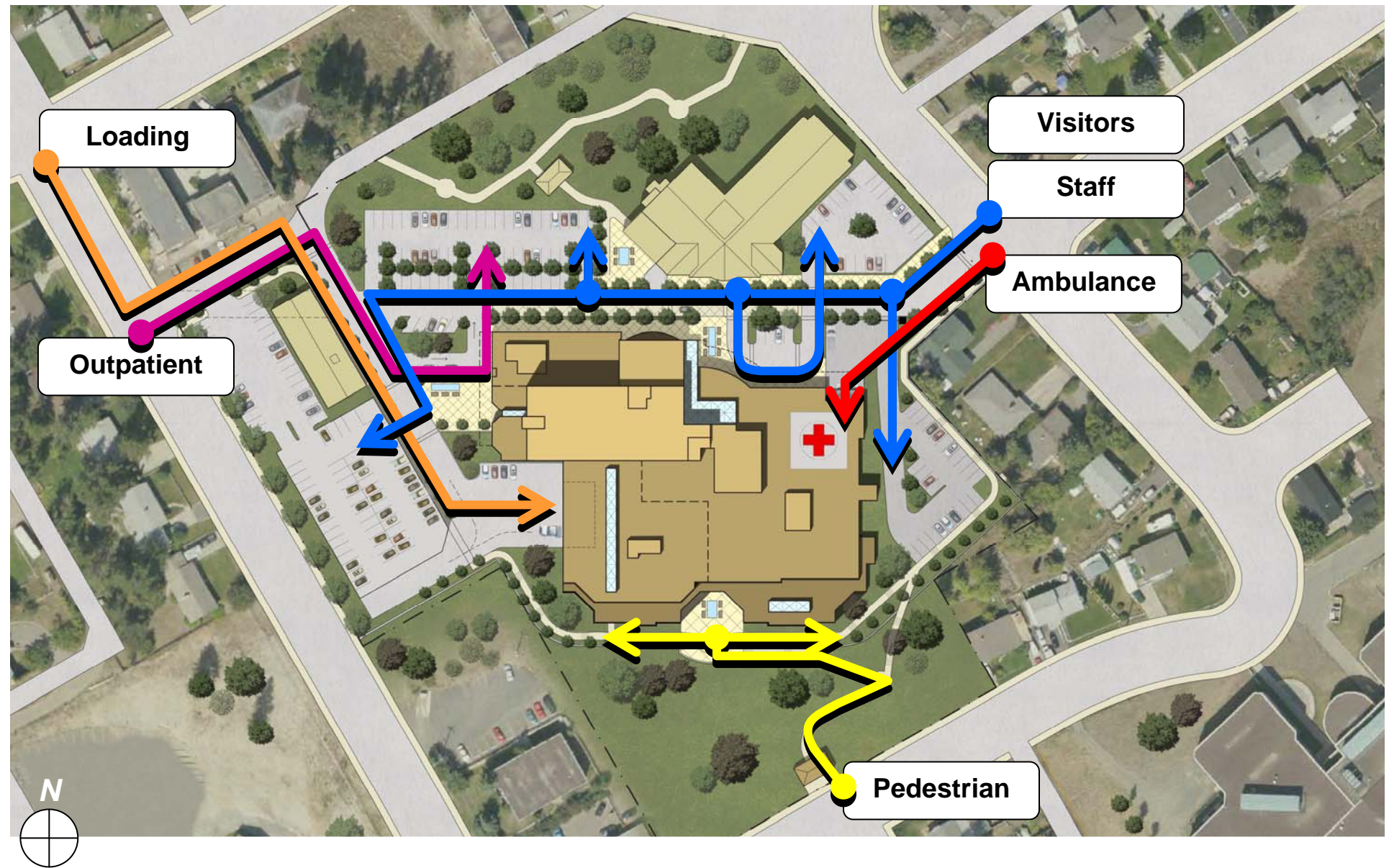
- Clarify points of access and internal circulation
- Create a stronger relationship with existing and proposed building entrances
- Clarify and distribute parking
- Effectively distribute general access throughout the site

Primary access to the site remains via 6th Avenue N via an improved entry promenade route. Improvements, beyond landscaping features, should specifically include pavement marking to enhance the overall site design but also to indicate points of crossing and access between the main hospital and Deni House. The main drop-off route has also been modified as a dedicated turnaround to relate to the new main entrance, emergency drop-off and site. The ambulance entrance remains in its current location although is physically separated from the main drop-off by curbing and landscape elements. Access to the staff parking (south-east lot) remains in this area is also modified to include restricted (gated) access.

Access to the existing north-eastern lot has also been reconciled to align with site improvements at the main entry and includes an internal ring-road to eliminate dead-ending of vehicles and to allow direct access from the main drop-off route. It is envisioned that this lot will serve as dedicated short-term emergency parking with direct access from the main entry drop-off / turnaround.

A second access from 4th Avenue N has also been recommended. This would facilitate more direct access to the Ambulatory Care / Outpatient programs on the west end of the site. Additionally this route would have direct access to the new Outpatient entry and the additional surface parking areas on the west side of the site.

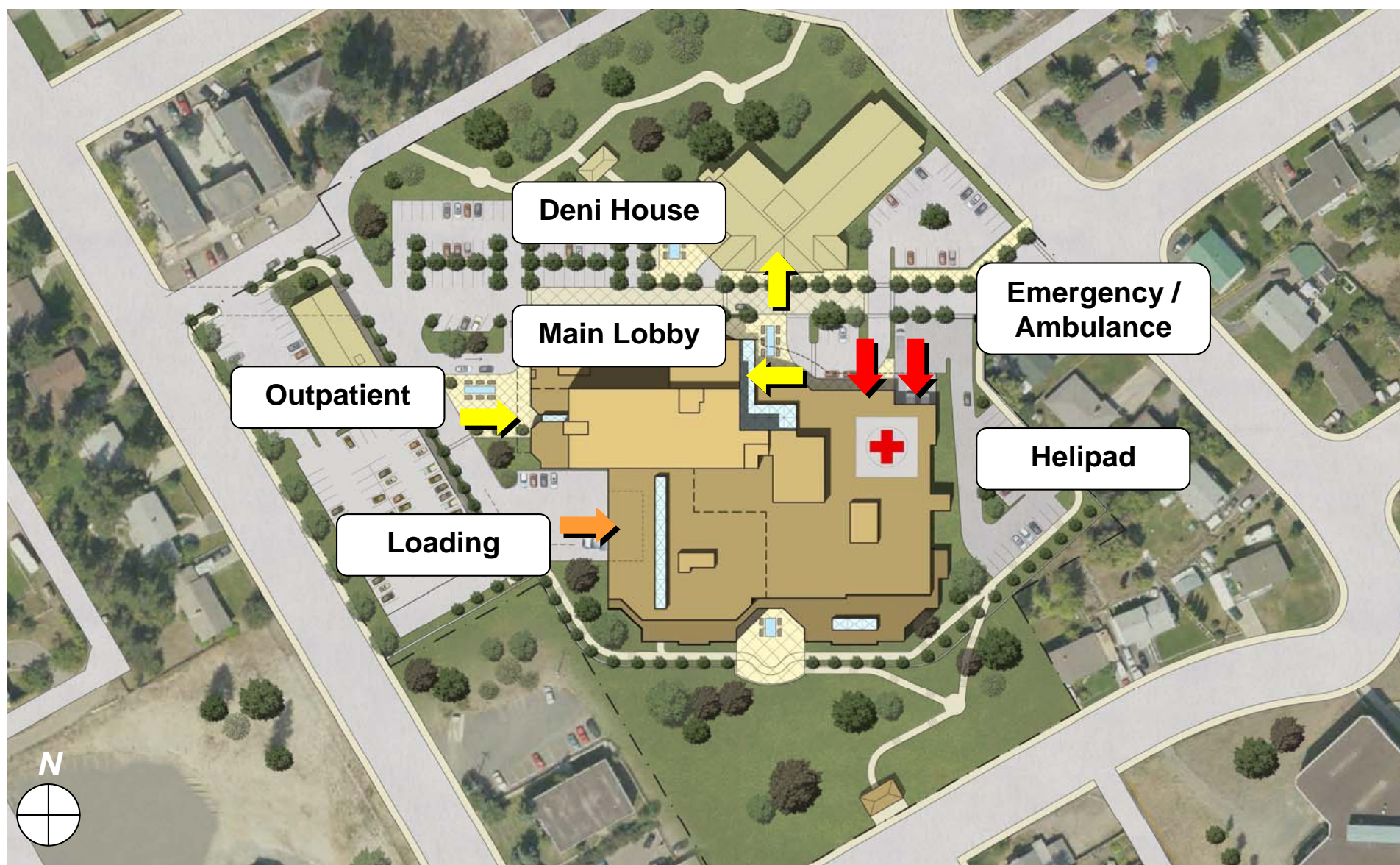
The existing ring road to the south of the main hospital has been eliminated from the plan in an attempt to direct flow of traffic to the appropriate areas within the site and to encourage use of alternate and dedicated entrances. Additionally, this road was eliminated in order to accommodate the new IPU expansion to the south.



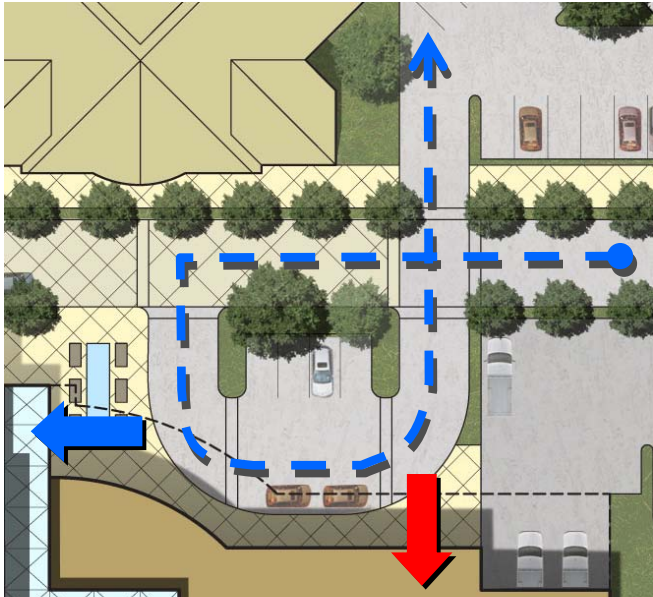
It was noted that access to loading areas presented difficulties for trucks particularly due to grades on 4th Avenue N in the winter months. Loading remains in the same area as previous, however new loading docks include a covered area for convenience and security during the winter months. Access to the loading area remains either along the main promenade, or via 4th Avenue N. Given the concern regarding winter access from 4th Avenue N, the Master Plan recommends that trucks limit use along the main promenade and instead travel north on 6th Avenue N to Gibbon Street and south on 4th Avenue N. Internally, the loading route has been reconciled to include a dedicated turn-in lane (some site retaining required) for larger trucks to manoeuvre. The manoeuvring of trucks on this route has been tested using auto-turn software and is demonstrated in the Parking and Traffic Study report prepared by Bunt.

Regarding access from 4th Avenue N the Master Plan also offers for consideration as a potential future opportunity, the demolition of the existing Nurse's Residence. The main reason for this would be to facilitate a direct and straight access to 4th Avenue N. This direct access would greatly benefit overall access and traffic flow within the site. Additionally, demolition of the Nurse's residence would potentially allow for the construction of a future parking structure if demand requires. It should be noted that demolition of the Nurse's Residence is offered for consideration only and is not a requirement for successful execution of the proposed Master Plan. The Master Plan also recognizes the commitment by CMH to retain the existing programs on site in the immediate future and understands that these programs will need to be relocated elsewhere, either on site or within the community, before any demolition efforts begin.

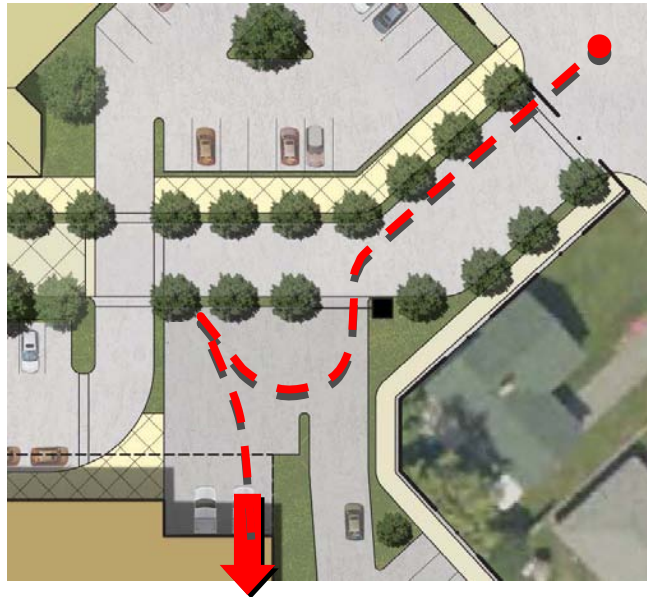
Pedestrians are also considered in the Master Plan site strategy. It is known, as indicated by the desire lines worn on the site, that pedestrians utilize the south hill as a through route to locations north hospital. The Master Plan recognizes this and proposes a connected network of sidewalks and paths throughout the site linking 4th Avenue N with 6th Avenue N and providing access to key entry points and parking. Additionally, the landscaped hill is utilized and improved as a transfer route by the proposed addition of a formal stair and terrace.



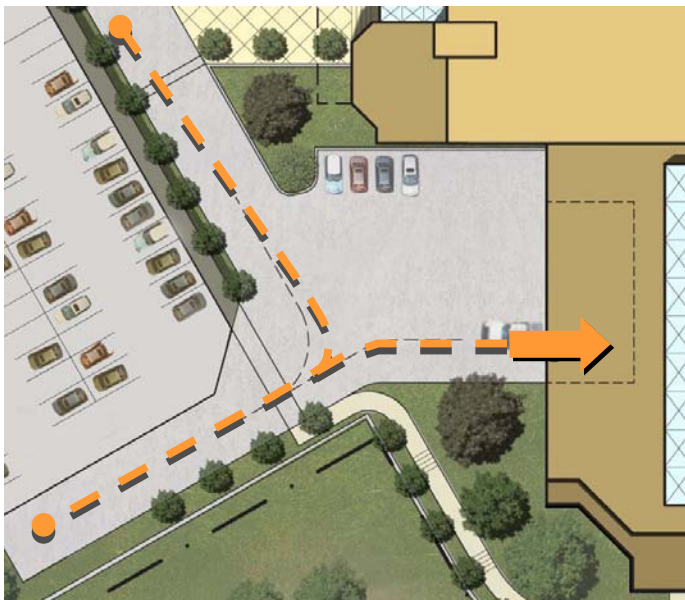
Circulation Strategy - Emergency / Main Lobby



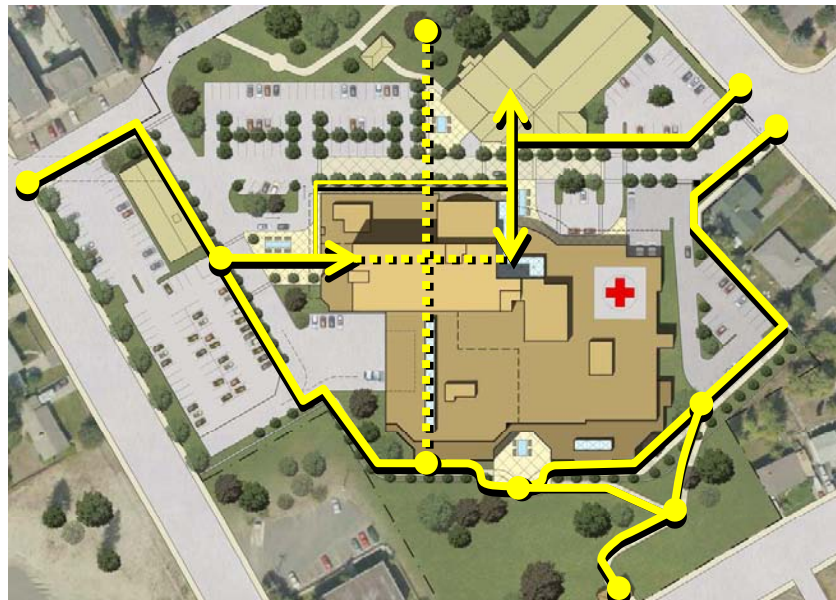
Circulation Strategy - Ambulance



Circulation Strategy - Loading



Circulation Strategy - Pedestrian



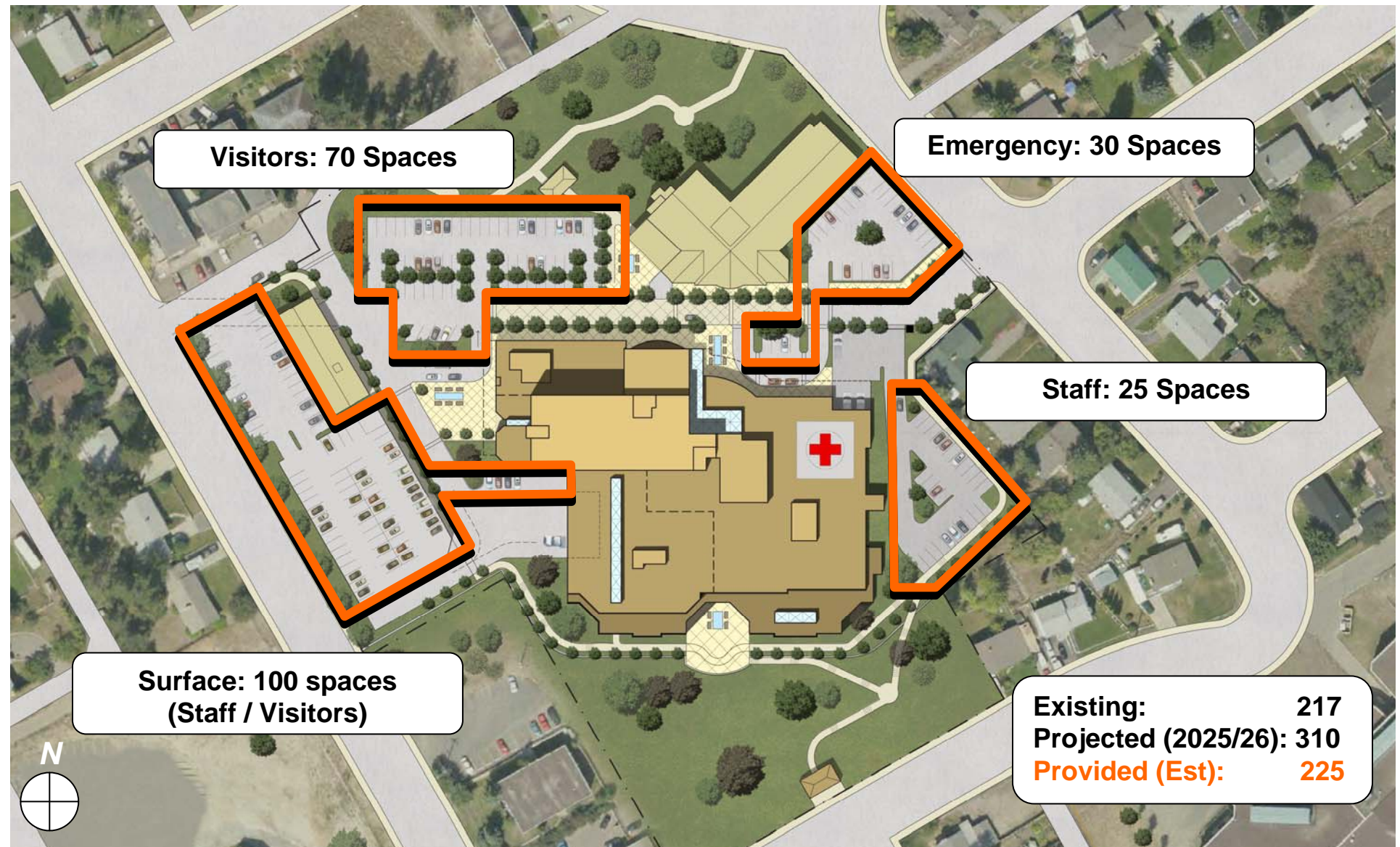
Parking Strategy

As described in the existing conditions site analysis narrative, the current parking supply of 217 spaces at CMH is adequate however, projected growth will require approximately 310 stalls thus resulting in a shortfall of supply in the long term, estimated to be approximately 90 stalls. Additionally, the overall parking conditions are less than ideal based on security, access, navigation, signage and comfort issues. Overflow parking onto the neighbouring residential streets is also an issue and concern, notwithstanding the current parking surplus. The Master Plan recognizes that the construction of the new IPU on grade and clinical expansion will eliminate both the existing under-building parking and some surface parking currently in use. Therefore mandate for parking at the CMH site is twofold:

- To replace existing parking stalls lost to new construction
- To facilitate efficient and safe access to and from parking for patients, visitors and staff

The strategy to meet these goals includes short-term surface solutions and options for structured parking solutions in the future if desired. Key components of the overall parking strategy include:

- Construction of a new surface parking pad on lands immediately south and west of the existing Nurse’s Residence. Surface capacity is estimated at 100+ cars (volume subject to further design development).
- The existing visitor surface parking lot near the Emergency entry and Deni House in the northeast corner of the site should be expanded and redesigned to address existing problems related to constrained dimensions in the existing lot. This expanded lot would include a new access location away from the Ambulance Bay manoeuvring area, opposite a new pick-up / drop-off loop, which will allow visitors easy access to the lot after dropping off passengers. It would also include the creation of internal ring circulation to eliminate dead-ending of vehicles.
- The existing western surface lot should also be expanded slightly southward to provide short term Outpatient / Ambulatory Care parking adjacent to newly created entrance. It is estimated that these lots overall will contain approximately 70 surface spaces.
- The existing surface parking on the east side of the main building should be reconfigured to provide more stalls. It is estimated that this lot could contain approximately 25 spaces, an increase of 14 stalls over the existing 11 marked stalls, if it is simply restriped. This lot should remain dedicated to staff use only, with gated access to prevent illegal visitor / patient turns into the lot from the main site entry.
- Dedicated surface parking for emergency vehicles shall be provided adjacent to the proposed new Emergency entrance as part of new entry construction and site improvements.
- Additional service spaces can be provided as part of site works relating to new loading area. The potential also exists for additional surface parking supply for staff in the new loading area, which should be confirmed at the next phase of design.



Options for Future Parking Structure

It should be noted that the proposed Master Plan currently does not include a parking structure and proposes only surface parking distributed throughout the site. Given the limited site area and topography, the ability for surface parking only to meet the projected demands of 310 spaces is unlikely. The Master Plan parking and site works strategy as shown does allow CMH to retain their current supply of spaces (with a potential minor increase) even after loss of existing spaces due to construction of new clinical elements and site works.

However, if parking demand does increase and CMH desires so in the future, the Master Plan site strategy retains the ability to support parking structures at several locations. The Master Plan offers for recommendation three potential locations for a parking structure.

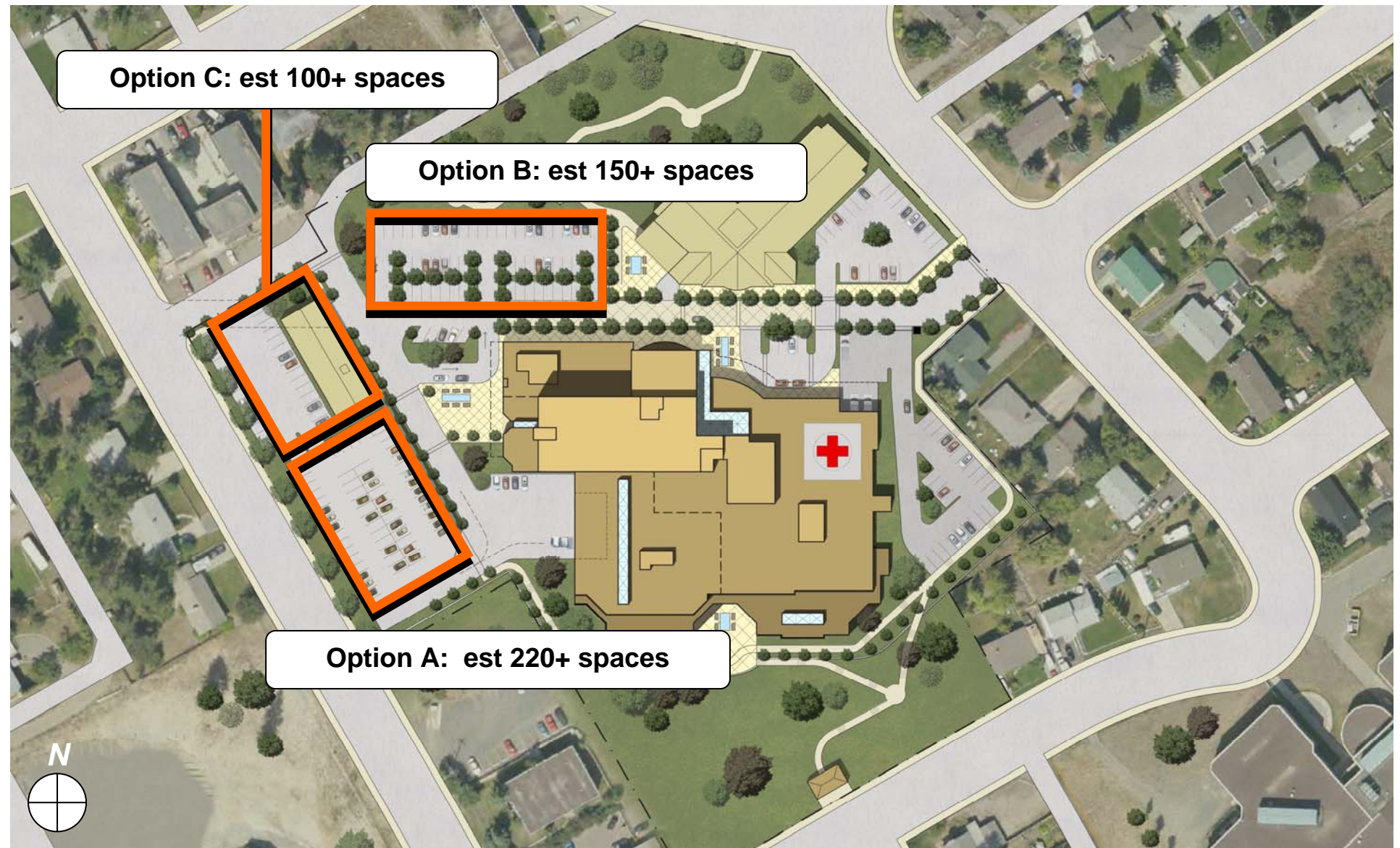
Option A) Construction of multi-storey parking structure on lands immediately south of the existing Nurse's Residence. Structure capacity is estimated at 220+ cars distributed over three / four levels. Given existing topography it is estimated that this structure could contain portion of above and below grade slabs with access occurring at different levels. An advantage of this location would be proximity to the Outpatient entrance and utilization of available, non-developed land. Structure should also have the capacity for vertical expansion.

Option B) Construction of a multi-storey parking structure on lands immediately west of Deni House on existing surface parking. This deck could potentially provide an additional 150+ cars distributed over three levels. Advantages of this location include direct proximity to the main entry and utilization of level, non-developed land

Structure should also have the capacity for vertical expansion.

Option C) Construction of a multi-storey parking structure on lands currently occupied by the Nurse's Residence. This deck could also potentially provide an additional 150+ cars distributed over three or four levels. Advantages of this location include proximity to Outpatient entrance and ease of access from the main entry promenade and also 4th Avenue N. Structure should also have the capacity for vertical expansion.

It is important to note that the location and size of the parking structures are schematic and proposed only and should be further refined in subsequent design development stages.



Overall Pros and Cons

It is recognized that the development strategy and its component development parts generates attributes and impacts that must be identified. In applying an overall weighting for each attribute and impact, consideration must be given to the overall impact on the plan's ability to meet project goals, principles and success criteria as outlined in the Balanced Scorecard.

Pros

- Reflects Balanced Score Card priorities
- Achieves Master Program areas within current space standards
- Achieves full growth in key clinical areas of Inpatient Unit, Emergency, Ambulatory Care and Pharmacy in early phases of long-term growth plan
- Accommodates a range of future block planning scenarios and department locations
- Supports the brand, recruitment and retention strategies
- Accommodates Community Care programs on site as required
- Achieves clarity of entrances and wayfinding
- Embraces family & patient focused design thinking
- Locates surface parking near to outpatient services
- Affords phased construction opportunities
- Positions significant portion of new growth away from existing clinical departments thus minimizing operational disruption during construction
- Appropriate reuse of existing infrastructure by minimizing retrofit of existing facilities for highly serviced clinical programs
- Preserves current infrastructure investment (Deni House, Nurse's Residence, Phase 1 Expansion)
- Preserves real estate along western edge for future development
- Potential for adjacent land purchase for additional expansion or parking
- Creates Ambulatory Care / Rehabilitation cluster with separate entrance to decongest Main and Emergency entrances
- Maximizes penetration of natural light - ie. windows for Pharmacy, views for Renal patients, etc.
- Multiple opportunities for future parking structures if desired

Cons

- Significant single building development scope
- Additional IPU expansion beyond 20 year horizon limited
- Some reuse of existing infrastructure (IPU floors for Perinatal and Mental Health programs) - may limit ability to achieve designs that fully meet current design standards
- Potential impacts on existing civil infrastructure needs to be further examined
- Potential truck access issues on residential streets remains
- Helipad may impact adjacent neighbours
- Surface parking solution only will not meet projected demand

8.0 - PROPOSED SPACE SUMMARY

INTRODUCTION

This chapter provides a proposed bgsm area / space summary for major programmatic components identified within the Master Program and included within the Master Plan.

For detailed area information, refer to *Comprehensive Master Program, January 2011*, completed by RMC. (submitted under separate cover)

CMH Component / Sub-Component	Projected CGSM	Master Plan CGSM									Master Plan Comments
		Level-2	Level-1	Level 1	Level 2	Level 3	Level 4	Off-Site	Dept Total	Variance	
Aboriginal Health	45.0			45.0					45.0	0.0	
Administration Component	1,368.0	30.0	224.0	809.0	30.0	275.0			1,368.0	0.0	
Core & Corporate Administration	280.0		20.0			260.0					
Conference/Education Rooms	100.0			100.0							Assumes existing 2 rooms in Deni House remain
Staff Residence	340.0			340.0							No change
Hostel	339.0			339.0							No change
Workplace Health & Safety	15.0				15.0						
Staff Wellness	100.0		100.0								Assumes existing fitness room in Deni House remains; needs locker/change space added
Staff Lockers	74.0		74.0								Assumes no expansion of staff lockers in the basement
Staff Lounges	120.0	30.0	30.0	30.0	15.0	15.0					Site direction is to plan 1 shared staff lounge per floor, which would be approx 25-30 sqm each
Ambulatory Care	390.0			390.0					390.0	0.0	
Biomedical Engineering	75.0		75.0						75.0	0.0	Shop & Storage area should be integrated into one space, ideally rectangular in shape with dimension of about 10m x 7.5m
Cardiology & Acute RT	156.0			156.0					156.0	0.0	
Cardiology	110.0			110.0							Cardiology projected space includes proper waiting area & supply storage
Acute Respiratory Therapy	46.0			46.0							RT projected space includes a PFT room, staff workstation & RT storage
Chronic Disease	165.0			165.0					165.0	0.0	
Community Care Services	415.0			415.0					415.0	0.0	Located in Deni House Level 1
Diagnostic Imaging & Echo	685.0			685.0					685.0	0.0	
Emergency Department	801.0			801.0					801.0	0.0	
Food & Nutrition Services	670.0		670.0						670.0	0.0	Assumes the kitchen & cafeteria remain in their current location & footprint. There are opportunities to utilize a portion of the cafeteria space to develop a multipurpose conference/dining room.
Foundation/Auxiliary/Volunteers	182.0			182.0					182.0	0.0	Includes Gift Shop, Information Desk, Future Retail, Volunteer Coordinator and Lounge space.
Health Information Management	300.0		90.0	210.0					300.0	0.0	
Main Department	210.0			210.0							Assumes Main Department located vertically, directly above inactive files storage to allow for dedicated lift system if desired. .
Inactive Files Storage	90.0		90.0								

CMH Component / Sub-Component	Projected CGSM	Master Plan CGSM								Master Plan Comments	
		Level-2	Level-1	Level 1	Level 2	Level 3	Level 4	Off-Site	Dept Total		Variance
Hospice/Palliative Care	90.0							90.0	90.0	0.0	
Palliative Beds	0.0							0.0			Currently located at Seniors Village; palliative beds will not be located in acute care
Hospice Society	90.0							90.0			Estimated area the Hospice Society occupies in the Hostel/Residence building
Inpatient Unit - Palliative Support Space	0.0	0.0									Space is included in the Inpatient Unit component
Housekeeping & Laundry	377.0		377.0						377.0	0.0	
Hosuekeeping (central area only)	70.0		70.0								
Laundry	307.0		307.0								Assumes existing space to remain
IMIT	50.0		50.0						50.0	0.0	
Infection Prevention & Control	11.0		11.0						11.0	0.0	
Inpatient Unit	2,415.0	2,415.0							2,415.0	0.0	Based on 34 projected beds @ 65-70 CGSM per bed
Intensive Care Unit	360.0			325.0					325.0	-35.0	Area shortage due to realistic existing building expansion opportunities and location of non-flexible adjacent programs (Emergency and Surgical Suites).
Laboratory	499.0		141.0	358.0					499.0	0.0	Excludes the files storage space in Deni House; includes morgue (Level-1 Basement) - no additional space required
Logistics, includes Loading Dock	300.0		300.0						300.0	0.0	
Medical Devices Reprocessing	218.0		218.0						218.0	0.0	Assumes MDR will be located directly below Surgical Suites to allow for dedicated internal lift if required.
Medical Staff, Specialist Offices & Education Space	720.0			140.0			580.0		720.0	0.0	
Medical Staff Gathering Space	100.0			100.0							Located adjacent to ER and DI to allow for future expansion
On Call Room Sapce	40.0			40.0							Located adjacent to ER and DI to allow for future expansion
Specialist Offices	520.0						520.0				The additional specialist offices' space includes 6 offices & 9 exam rooms with related support space. Includes OBGYN specialist offices
Student & Staff Learning Centre	60.0						60.0				Learning Centre space includes reference material storage, seating area for 6-8 & 2 computer workstations
Mental Health & Substance Use	700.0					700.0			700.0	0.0	10-Bed Psychiatry Unit
Patient Registration	70.0			70.0					70.0	0.0	Excludes the space currently occupied by PSS that was formerly part of Patient Registration
Perinatal Services	1,070.0				978.0				978.0	-92.0	Area shortage due to existing building size limitations. OB/GYN Offices colocated with all Specialist Offices (Level 4) per Master Program.
Pharmacy	210.0		210.0						210.0	0.0	
Plant Maintenance	1,302.0		1,302.0						1,302.0	0.0	

CMH Component / Sub-Component	Projected CGSM	Master Plan CGSM									Master Plan Comments
		Level-2	Level-1	Level 1	Level 2	Level 3	Level 4	Off-Site	Dept Total	Variance	
Protection & Parking Services	20.0			20.0					20.0	0.0	Space allocation for a security office
Public Health	1,490.0							1,490.0	1,490.0	0.0	Will remain off-site - Not included in CGSM totals
Rehabilitation (on main floor)	221.0			221.0					221.0	0.0	
Renal Program	250.0			250.0					250.0	0.0	Longer term expansion need, e.g. when the sixth dialysis station is operationalized.
Spiritual Care	60.0			60.0					60.0	0.0	Relocates existing space from Deni House
Surgical Services	1,024.0			1,024.0					1,024.0	0.0	
Operating Room & PAR	700.0			700.0							Longer term expansion projection based on when the third OR is operationalized; existing space adequate for shorter term; space projection also anticipates increasing size of third OR to approx 56 sqm
Day Surgery	300.0			300.0							Expansion space represents shorter term need as this area already services as a bottleneck & increased patient throughput is anticipated, including the addition of interventional DI patients; estimate a need for 10-12 Day Surgery beds + Endoscopy Suite
Pre-Surgical Screening Program	12.0			12.0							
Booking Office	12.0			12.0							
Master Program CGSM Total	15,219.0	2,445.0	3,668.0	6,326.0	1,008.0	975.0	580.0	90.0	15,092.0	-127.0	
		Level-2	Level-1	Level 1	Level 2	Level 3	Level 4	Off-Site	MPlan Total	Variance	

BUILDING GROSS SUMMARY

The following table provides a summary of total building gross square metres and net gain per the proposed Master Plan. Note that the areas provided are for design purposes only. While the Design Team has made every effort to accurately reflect the total areas, the proposed area and actual building area may vary as the Design Team was not provided with electronic drawings and accurately scalable documents. Consideration should therefore be given for adjustments and allowances in total area during subsequent costing and design development stages.

Floor	Existing	New	Demolition	Net Gain	Total
Level -2 (Med / Surg IPU)	145	2,980	0	2,980	3,125
Level -1 (Basement)	3,440	1,365	0	1,365	4,805
Level 1 (Main)	4,380	2,010	0	2,010	6,390
Level 2	1,335	0	0	0	1,335
Level 3	1,335	0	0	0	1,335
Level 4	1,085	0	0	0	1,085
Total	11,720	6,355	0	6,355	18,075

Building Gross Areas listed in Square Metres
Excludes Deni House, Link to Deni House, and Nurse's Residence

9.0 - IMPLEMENTATION AND PHASING

INTRODUCTION

This chapter outlines a preliminary phasing and decanting strategy for the preferred Master Plan option, including demolition, construction of new structures, internal renovations of existing, site works, and any necessary enabling projects. An estimated timeline is also provided within this chapter. The phases proposed are based on several factors including overall IHA vision and strategic direction, Master Program space projections, service and delivery models, funding and facility condition and lifespan. This phasing strategy also considers existing projects currently underway (Deni House) and other existing buildings (Nurse's Residence).

PHASING STRATEGY

The long-term phasing strategy for the preferred option is divided into primary categories. Within each of these primary categories, a number of sub-phases will need to be implemented. The Master Plan recognizes that changes in program scope and delivery may occur and therefore flexibility in phasing order may be required over time. Additionally, the Master Plan does not assume a rigid sequential process, and assumes overlap may occur between phases.

A summary of the primary categories and their *major components* is outlined below:

Phase 1: Construct new surface parking and related site works.

Phase 2: Construction of new 32 / 34 bed, Med / Surg IPU, expanded Emergency department, temporary relocation of Ambulatory Care, construction of new Pharmacy department, and shelled construction of south-west clinical expansion wing including expanded Central Plant.

Phase 3: Select internal renovations (renovation and expansion of Perinatal and OBGYN spaces).

Phase 4: Select internal renovations and departmental moves to within shelled construction (Main Floor and Level-1 clinical programs).

Phase 5: Select internal renovations and departmental moves (final Ambulatory Care cluster, main entry and key Main Floor clinical programs).

Phase 6: Remaining internal renovations and departmental moves (Level 3 clinical programs including Adult Psych and Deni House Community Care programs).

Phase 7: Remaining internal renovations and departmental moves (Level 4 programs including Specialist Offices and Administrative functions)

The intent of this phasing strategy is to ensure that priority items (Med / Surg IPU, Emergency department, temporary but expanded Ambulatory Care, and Pharmacy) are constructed as early as possible allowing for additional moves to occur according to physical need. A detailed summary of the moves required within the above noted primary categories outlined below:

Note: reference to "Level -2" means "Level minus 2", ie. two floors below the main floor and "Level -1" refers to "level minus 1, or one floor below Main floor.

PHASE 1: Surface Parking

This first phase includes the construction of a new surface parking on south west portion of site to accommodate displaced parking from future IPU construction. Phase may also include additional surface parking and related site works as indicated in the Master Plan Site Plan as desired.

PHASE 2: New Construction Level-2

Phase 2 includes the new-build and expansion construction of the new Med / Surg IPU at the lower level, expansion of the Emergency department, temporary relocation of Ambulatory Care, new Pharmacy department, the expansion of the central plant within the existing under-building parking area, and the shelled-in construction of the south-westerly expansion of the main hospital to receive select / future clinical programs.

- Construct and occupy new Med / Surg IPU
- Expand and operationalize additional central plant space

PHASE 2: New Construction Level-1, Level Main

- Shelled construction above Med / Surg IPU to receive select clinical programs
- Relocate Medical Records to new location within shelled clinical wing, adjacent to Surgical Suites and future Renal department
- Relocate Ambulatory Care to space previously occupied by Medical Records (temporary)
- Expand Emergency department into area previously occupied by Ambulatory Care
- Construct new Pharmacy department within new shelled clinical wing
- Construct new loading docks within new shelled clinical wing
- Site works to accommodate new loading area

PHASE 3: Select Renovations Level 2

Phase 3 includes the renovation of the existing IPU on Level 2 to receive the future Perinatal Unit.

- Renovate south-east wing including current antenatal assessment and LDR to accommodate Perinatal program
- Move expanded Perinatal into south-east wing

PHASE 4: Select Renovations Level-1

Phase 4 includes the occupation of previously constructed shelled space on Level-1 and Level Main.

- Create and occupy new IMIT, Bio-med, Logistics, Loading, Stores, Morgue, Balance of Health Records File Storage, MDR, and Staff Wellness

PHASE 4: Select Renovations Level Main

- Create expanded ICU (area above new IPU), new Renal, new Lab and expanded DI, and new Doctor's Lounge

PHASE 5: Select Renovations Level Main

Phase 5 includes the construction and final occupation of Ambulatory Care / Outpatient cluster and main Lobby. Phase also includes internal renovations of key clinical and service departments including Day Surgery, Surgical Suites, Logistics etc.

- Renovate and expand existing Lab to become new Rehab/CDM
- Renovate existing Renal, Pharmacy, temporary Ambulatory Care, and Rehab into new final Ambulatory Care, Aboriginal Health, Cardio / RT block
- Renovate existing Health Records (temporary Ambulatory Care) and Auxiliary into new Spiritual Care, Volunteers / Foundation / Gift shop
- Construct new Main Entrance and Admitting department
- Renovate existing Cardio to expand Day Surgery
- Renovate existing Admitting and existing entrance to complete expansion of Emergency department
- Renovate vacant MDR to expand Operating Suites

PHASE 6: Select Renovations Level 3

Phase 6 includes select internal renovations required to receive proposed clinical programming and renovation of Deni House Main Level to receive Community Care programs.

- Renovate all vacated spaces to expand Adult Psych Program and create new Core Admin space as needed.
- Renovate main floor of Deni House to create new Community Care, Staff, Storage (Exact location of Community Care within Deni House is flexible based on existing conditions including stores etc.)(existing boardroom and library spaces remain in tact)

PHASE 7: Minor Renovations Level 4

Phase 7 includes select renovations required to receive proposed clinical programming.

- Renovate vacated Admin space to create new Specialists Offices and Student / Staff Learning Centre as needed.

IMPLEMENTATION DURATION

This section provides an estimated design, tendering, and construction duration for each of the phases outlined in the previous section. In setting out an estimated duration for the plan's primary phases, this high level schedule considers several factors including achieving key clinical priorities (IPU, Emergency, Ambulatory Care and Pharmacy), the 2025/26 planning horizon, phasing and decanting, demolition and any existing projects currently underway. Duration is based on logical assumptions of completion time required for each primary phase and sub-stage.

The timelines provided have been compiled by the project Design Team for use as reference in the context of this Master Plan. Estimates of construction and approvals process may vary depending on several factors including service and delivery models, demographic shifts, program alterations and budget adjustments.

Additional time allotment should be added in consideration for completion of Master Programming, the potential of an AFP (P3) delivery process and allowances to account for all specific Provincial and Ministry submissions and approvals.

Note: Timeframe represents approximate design and construction duration for each phase and does not represent sequential timing. Concurrent development and phase overlap can occur.

Phase	Description	Duration (est)
Phase 1: Parking	Surface parking and related site works	1 to 1 ½ years
Phase 2: New Construction	Construction of new Med / Surg IPU, expansion of Emergency department, temporary relocation of Ambulatory Care, new Pharmacy department, expanded Central Plant, and shelled expansion including Health Records.	2 ½ to 3 years
Phase 3: Select Renovations	Select internal renovations (Level 2 Perinatal)	1 to 1 ½ years
Phase 4: Select Renovations	Select internal renovations of shelled space (IMIT, Bio-med, Logistics, Loading, Stores, Morgue, Health Records File Storage, MDR, Staff Wellness, expanded ICU (area above new IPU), new Renal, new Lab and expanded DI, and new Doctor's Lounge	1 ½ to 2 years
Phase 5: Select Renovations	Select departmental moves and renovations (Rehab / CDM, final Ambulatory Care, Aboriginal Health, Cardio / RT block, Main Entrance and Admitting, Spiritual Care, Volunteers / Foundation / Gift shop, Day Surgery, and Operating Suites)	2 to 2 ½ years
Phase 6: Select Renovations	Select internal renovations (Level 3 clinical programs including Adult Psych and Deni House Community Care programs)	1 to 1 ½ years
Phase 7: Minor Renovations	Select minor internal renovations (Level 4 Specialists Office and Student / Staff Learning Centre)	1 to 1 ½ years

IMPLEMENTATION SCHEDULE

The following graph indicates a proposed implementation schedule for the Master Plan, based on the durations stated previously and to align with suggested 5 / 10 / 15 year increments. Timelines are proposed and are subject to change depending on revisions to the Master Program or clinical care priorities, construction or delivery methods and funding.

Note: Schedule indicates recommended timelines for indicated stages and sub-stages and includes allowances for permits, approvals, and Ministry submission stages. The actual start dates for the implementation of these sub-stages (and any potential overlap) must be confirmed by IHA / CMH and their Project Architect / Design Team during subsequent design development efforts.

Phase	Summary of Work	Timeline															Duration	
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15		
Phase 1: Parking	Surface Parking and related site works	●	●															1 to 1½ yrs
Phase 2: New Construction	Construction of new Med / Surg IPU, expansion of Emergency department, temporary relocation of Ambulatory Care, new Pharmacy department, expanded Central Plant, and shelled expansion including Health Records.		●	●	●	●												2½ to 3 yrs
Phase 3: Select Renovations	Select internal renovations (renovation and expansion of Perinatal)				●	●												1 to 1½ yrs
Project Assessment Period	Reconfirm scope, budget and timelines assumptions						●	●										1 yr
Phase 4: Select Renovations	Select internal renovations of shelled space (IMIT, Bio-med, Logistics, Loading, Stores, Morgue, Health Records File Storage, MDR, Staff Wellness, expanded ICU (area above new IPU), new Renal, new Lab and expanded DI, and new Doctor's Lounge.							●	●	●								1½ to 2 yrs
Phase 5: Select Renovations	Select departmental moves and renovations (Rehab / CDM, final Ambulatory Care, Aboriginal Health, Cardio / RT block, Main Entrance and Admitting, Spiritual Care, Volunteers / Foundation / Gift shop, Day Surgery, and Operating Suites)									●	●	●	●					2 to 2½ yrs
Project Assessment Period	Reconfirm scope, budget and timelines assumptions											●	●					1 yr
Phase 6: Select Renovations	Select internal renovations (Level 3 clinical programs including Adult Psych and Deni House Community Care programs)												●	●	●			1 to 1½ yrs
Phase 7: Minor Renovations	Select minor internal renovations (Level 4 Specialists Offices, Student and Staff Learning Centre)															●	●	1 to 1½ yrs

10.0 - CONCLUSIONS AND RECOMMENDATIONS

INTRODUCTION

This chapter provides conclusions to the Master Planning process and offers summaries of the preferred development plan. It also offers justifications for these conclusions. The overall Master Plan is tested against the development guidelines and the results documented. The chapter concludes with recommendations on next steps for project implementation.

REPORT CONCLUSIONS AND RECOMMENDATIONS

Based on the processes outlined in this document, the knowledge gained through the various interactive charrettes with the project steering committee and consultants, and a review of the options developed, the following recommendations are provided to enable IHA and CMH to move forward.

Chapter 6 Design Philosophy, Principles and Criteria of this document initially set out a series of planning criteria and development guidelines against which planning studies were then measured and evaluated. These criteria include:

- Align with IHA's Vision
- Align with Success Factors
- Flexibility for Future Expansion
- Sustainable Long-term Growth
- Offer Realistic Solutions
- Meet Parking Requirements
- Facilitate a Community of Care
- Support Wellness and Health Enhancement

As noted, several scenarios were considered during the collaborative planning process that resulted in a preferred development strategy. Greenfield design opportunities were not pursued or demonstrated from a planning perspective but was evaluated at a high level for comparative and reference purposes only.

The studies presented all included a clinical expansion to the south-west and varied in the location of the IPU. Variations included:

- Locate Med / Surg IPU at front of existing hospital as expansion of existing IPU
- Locate Med / Surg IPU at rear at loading level (Level-1 Basement)
- Locate Med / Surg IPU at rear above existing DI wing (Level 2 ½)
- Locate Med / Surg IPU at rear at grade (Level-2 Parking)

From these options, and when evaluated against the development guidelines, it was agreed by all participants that the preferred development strategy positioned the Med / Surg IPU at rear at grade (Level-2 Parking). Enabling CMH to achieve its objectives and move forward to provide a new direction through improved physical facilities the preferred development strategy was chosen because it:

- Reflects Balanced Score Card priorities
- Achieves Master Program areas within current space standards
- Achieves full growth in key clinical areas of Inpatient Unit, Emergency, Ambulatory Care and Pharmacy in early phases of long-term growth plan
- Accommodates a range of future block planning scenarios and department locations
- Supports the brand, recruitment and retention strategies

- Accommodates Community Care programs on site as required
- Achieves clarity of entrances and wayfinding
- Embraces family & patient focused design thinking
- Locates parking near to outpatient services
- Affords phased construction opportunities
- Positions significant portion of new growth away from existing clinical departments thus minimizing operational disruption during construction
- Appropriate reuse of existing infrastructure by minimizing retrofit of existing facilities for highly serviced clinical programs
- Preserves current infrastructure investment (Deni House, Phase 1 Expansion)
- Preserves real estate along western edge for future development.
- Potential for adjacent land purchase for additional expansion or parking
- Creates Ambulatory Care / Rehabilitation cluster with separate entrance to decongest Main and Emergency entrances
- Access to natural light

Most importantly, the preferred option:

- Demonstrates to the Community, the Ministry of Health, and local politicians that this site does indeed possess the potential to absorb long-term growth, thus justifying the significant infrastructure investment on the site.

MASTER PLAN DEVELOPMENT TEST

IHA and CMH are committed to embrace its responsibility as a community leader, not only in the provision of care, but also as a champion of collaboration, innovation and community development. To help achieve this, the Master Plan established at the outset as a set of Development Guidelines. Based on established values and concerns, these guidelines served as measurement tools to help steer the course of the project. In broad terms, the success of the Master Plan is its ability to address a number of significant planning, operational and contextual issues. A summary of these responses is outlined below.

Align with IHA's Vision

In order to fulfill IHA's mandate to use evidence-based standards to deliver quality care and continuous evaluation in all areas, CMH has recognized the need to articulate a compelling long-term Master Plan. This Master Plan must be supportive of, and strive to facilitate the mission and vision through built form and designed spaces.

For example, the Master Plan provides highly efficient inpatient units that meet current space and barrier-free standards to improve total quality of care delivered at this site.

Align with Success Factors

A series of Success Factors were identified through collaborative discussions with IHA and CMH Project, Design and Programming Teams during the Common Ground™ workshop. The Master Plan acknowledges these factors and incorporates the strategies outlined.

For example, the potential for an expanded, consolidated, and highly accessible Ambulatory Care cluster with its own dedicated entrance helps facilitate the link between IHA's vision and the needs of the evolving Williams Lake community.

Flexibility for Future Expansion

The Master Plan provides several opportunities for expansion both within and (potentially) outside of the site's borders.

For example, clustering the Ambulatory Care programs on the north-west corner meets all projected space requirements while allowing further expansion of these programs immediately to the west. Additionally the preservation of Deni House and the Nurse's Residence allows for current programs to be accommodated but also preserves these lands for future expansion should either be demolished. Also, soft space strategically located adjacent to hard programs (i.e. spaces adjacent to Surgical Suites).

Sustainable Long-Term Growth

The philosophy that guides this Master Plan is in part, one that takes the long view in the development of planning options as opposed to short term solutions that reach premature redundancy. Additionally, it aims to create a legacy of which the community can be proud.

For example, this is achieved by preserving the capital and material investments already completed within the site such as the Deni House, the Nurse's Residence and the Phase 1 Expansion.

Offer Realistic Solutions

A successful Master Plan is one that meets the Ministry's expectations for defensible planning options and one that also sends a message to the community that their voices are being heard on critical issues such as care and development impacts. This Master Plan is cognizant of these issues and provides realistic planning strategies.

For example, the plan meets all program area requirements while also allowing for future development to unfold as program needs evolve.

Meet Parking Requirements

While the CMH site currently has surplus supply, parking remains a critical issue for this project, particularly in terms of long-term planning and ability to meet the significant projected volumes.

For example, The Master Plan anticipates this and provides several opportunities for the location of structured parking with proximity or physical links to key structures including the Ambulatory Care cluster. In all cases, future growth, patient access and community impact are all considered.

Facilitate a Community of Care

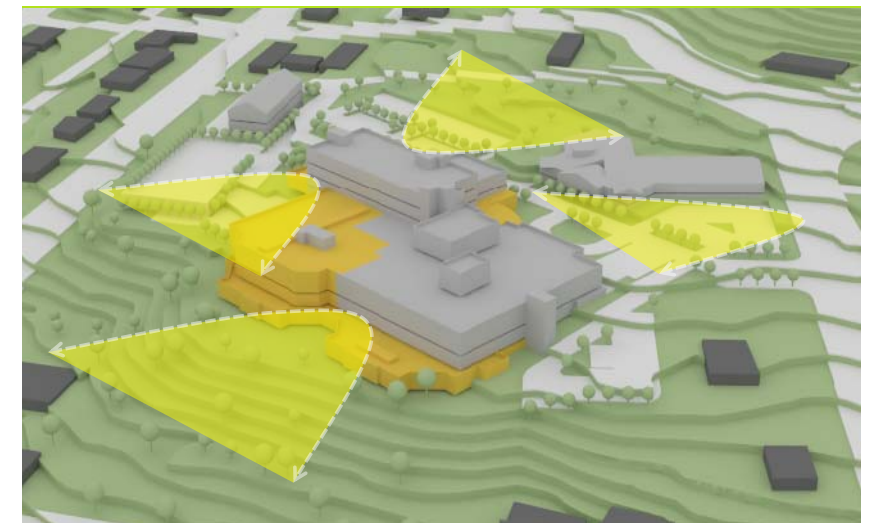
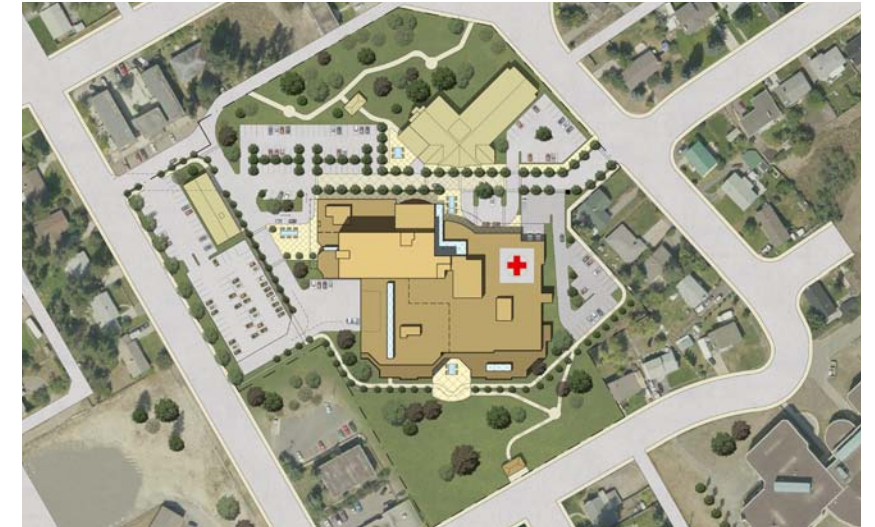
The role of CMH is changing in its community as patients, staff and family expect more from their care facility. The Master Plan recognizes these needs and presents a redefined facility dedicated to enhancing access to care.

For example, the creation of a new main entry and concourse with dedicated Spiritual Care / Volunteer / Foundation programs at a prominent front-of-house location speaks to CMH's commitment to creating uplifting spaces where the community and staff can congregate on a daily basis.

Wellness and Health Enhancement

The creation of an integrated, community-based health precinct is a vital element in the success of the region and the Master Plan as a whole.

For example, knowing that health promotion and wellness are key elements of health success, the Master Plan provides many opportunities for access to views and natural light including Renal patients with long stay times, and windows in the Pharmacy department and Staff Wellness area at the lower level.



LOOKING BACK

As previously stated, it is the intent that the Master Plan lay out the best way to organize the various new build and internal departmental components based on anticipated growth and site opportunities / constraints. Key criteria for the successful Master Plan were outlined in *Chapter 6, Design Philosophy, Principles and Guidelines*. The ability of this Master Plan, as a result of the collaborative design process, to meet these criteria is outlined below.

VISIONARY: *Does it raise aspirations for what CMH can be in the future?*

- Will enhance the reputation of CMH in both Williams Lake and within the Cariboo Chilcotin Hospital District
- Will help the hospital to recruit and retain the best and brightest
- Can be used as the cornerstone of the hospital's brand image – leverage the new state-of-the-art facility
- It's the right thing to do for this community

GALVANIZING: *Does it build consensus around shared values and priorities?*

- Master Plan was created through a highly successful, collaborative working process in which multiple opinions were heard and explored
- Mutual ideas for site and block planning have been integrated and developed
- Community stakeholders and Municipal / Planning officials were involved early in the planning process

PROVOKING: *Is it a catalyst for rethinking the role and function of CMH?*

- Validates role of CMH in the community by illustrating site's long-term potential
- Collaborative process prompted discussion and debate on future direction for CMH within IHA restructuring initiatives
- Supported desire to ensure CMH remain a leader in clinical care for the region

RESPONSIBLE: *Does it make the best use of resources?*

- Plan optimizes existing resources and minimizes capital investment in aging infrastructure
- Appropriately distributes density while clarifying circulation routes
- Addresses IHA and Master Program growth projections
- Preserves and strengthens integration with Deni House

FLEXIBLE: *Does it accommodate future scenarios?*

- Multiple long-term growth opportunities provided across the site
- Expansion not constrained by existing structures (Deni House, Nurse's Residence)
- Potential for future expansion on adjacent (un-purchased) properties preserved
- Provides several options for parking structures if desired

BRAND BUILDING: *Does it express a distinctive image?*

- Redefined entry and Ambulatory Care block sends clear message of commitment to care to the surrounding community
- Proposed new buildings offer increased street presence

INTEGRATED: *Is it woven into the Williams Lake community?*

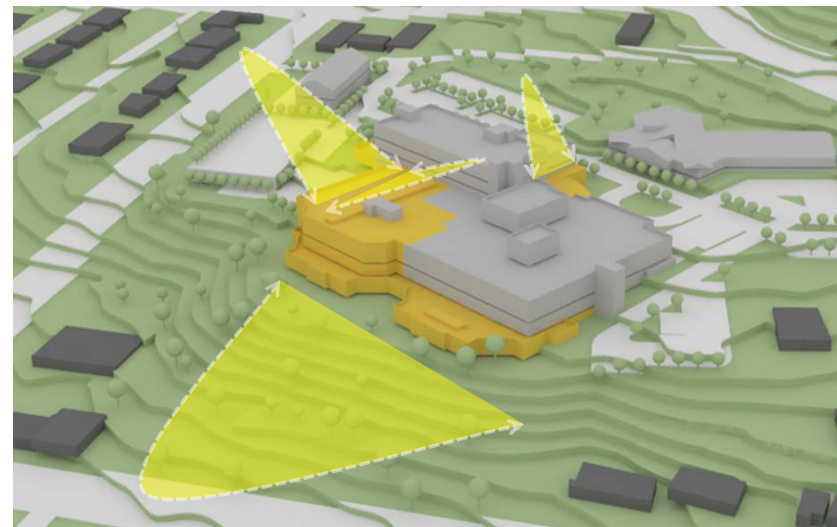
- Building density and siting respect and take full advantage of existing building fabric and naturalized spaces
- Existing greenspace is preserved thus benefiting users and community
- Preserves and strengthens integration with existing Deni House

ASSET BUILDING: *Can it be a driver for health-based economic prosperity?*

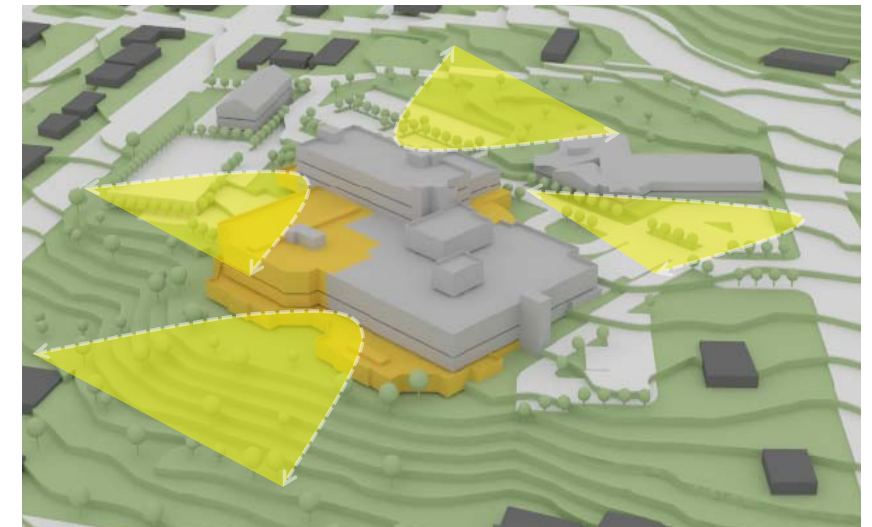
- Master Plan provides front-of-house space for revenue generating programs
- Serves as a catalyst for broader healthy community strategy
- Potential opportunities to fundraise and partner with likeminded organizations
- Integrated planning process reaffirms CMH as stewards for resources at the community level



Brand improvement - New Front Face



Multiple Opportunities for Access to Light for Patients and Staff



Enhanced Natural Features, Promenades and Views

NEXT STEPS

This report is designed to lay out a framework (roadmap) for future long-term growth and development at CMH that is in alignment with the IHA's and the organization's vision, goals and priorities. The intent is that the information contained within will enable CMH to make defensible choices as it grows and proceeds into subsequent planning stages. In order for CMH to move forward with the information provided, the Design Team recommends the following next steps:

- CMH planning and development committees should internally review and become familiar with the contents of each section in relation to IHA's vision and proposed growth / operational needs in both short- and long-term.
- Express the considerable technical information captured in both the Master Program and Master Plan in the context of a *project business case*, that is compelling and concise enough to allow key decision makers at within IHA and Provincial Government level too make informed, timely decisions with respect to the approval and implementation of this Master Plan.
- Continue to engage with IHA to discuss and confirm a long-term strategy for the site in the context of the options outlined within this report.
- Continue community stakeholder information sessions to engage and inform the community.
- Engage architectural / planning team to initiate decanting headstart projects as necessary.
- Engage internal discussions regarding potential demolition of Nurse's Residence to consider potential site (access and circulation) and future parking merits.
- Explore partnerships with likeminded, high-profile organizations who may be interested in participating in, and providing financial / political support, or land acquisition ventures (i.e. residential properties along 6th Avenue N. and Comer Streets) that align with future efforts / enterprises.

BALANCED SCORECARD

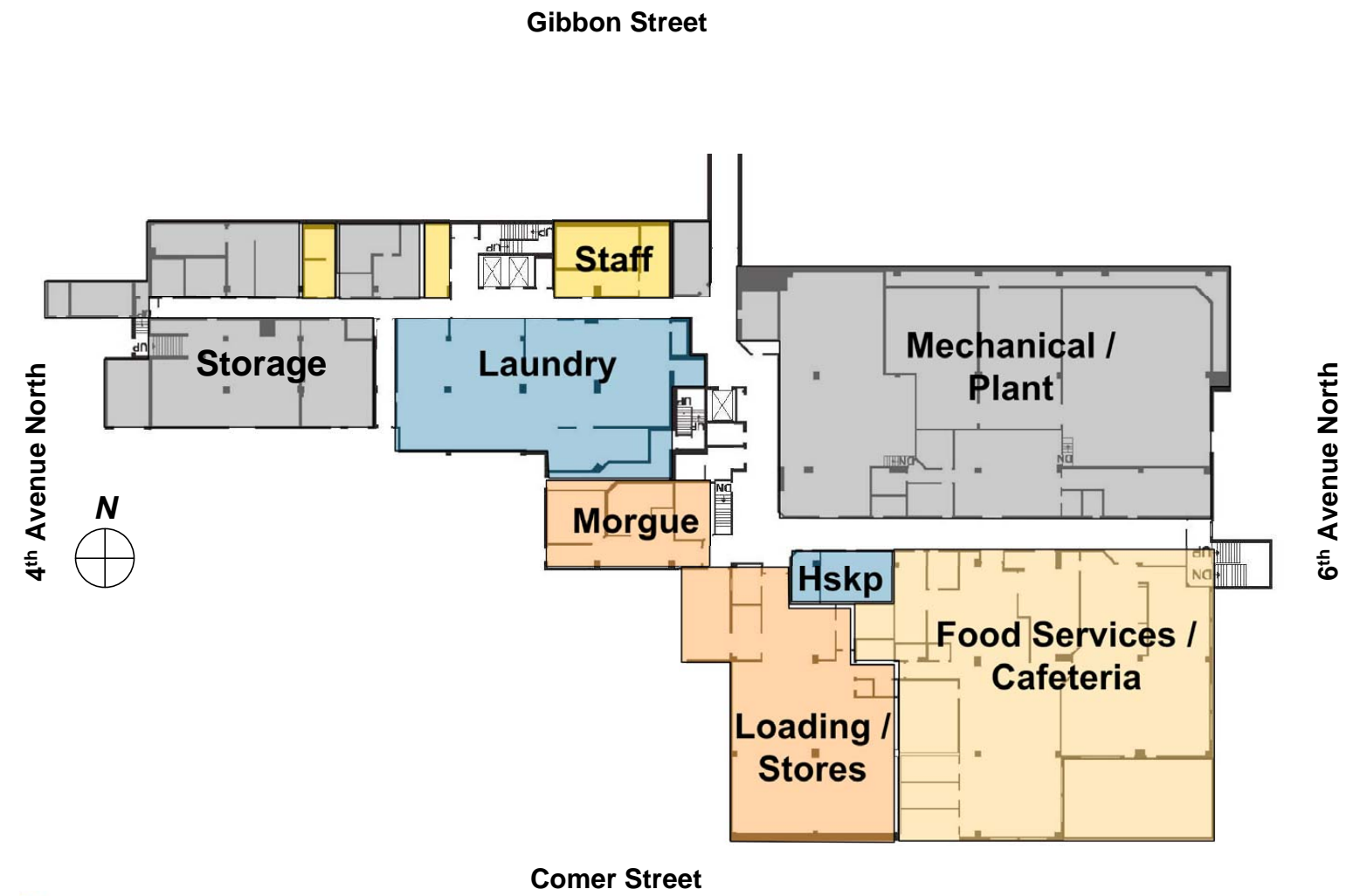
Developed during the *Common Ground™* session, the Balanced Scorecard is a quick reference tool for assessing whether the entire project team is carrying through on jointly agreed success factors. This high level “back of envelope” tool uses strategic, aspirational statements to ensure that IHA / CMH and the Design Team avoid creating a self-limiting Master Plan. This document is not intended to be used as a sole and comprehensive decision making tool, but rather as a reference document for monitoring project progress throughout its course.

Cariboo Memorial Hospital	Williams Lake, British Columbia	Farrow Partnership Architects KMBR Architects Resource Planning Consultants Bunt & Associates
MASTER PROGRAM and MASTER PLAN Balanced Scorecard		
Organizational Priorities		
— Recognizing the integrated nature of healthcare, we've actively engaged a broad spectrum of stakeholders.		
— The realistic phasing strategy aligns to both Interior Health's and CMH's priorities.		
— The plan meets the requirements of the Key Results Areas (KRA's) for the hospital.		
— The plan supports excellence in health service delivery.		
Impact		
— This plan transforms the image of the hospital to advance quality of life, health and wellness.		
— The plan aligns with the principles developed for the Interior Health's Integrated Health Service Plan.		
— Our plan seeks to improve the patient care experience.		
— Our plan enhances the delivery of the best possible integrated health care.		
— This plan will align with the Official Community Plan for the City of Williams Lake.		
Functionality		
— The plan is practical, logical, and easy for stakeholders to understand.		
— The plan is a road map for the future that integrates the various sites and functions.		
— Safety and personal security considerations are an important aspect of this plan.		
— Workflow and departmental location contribute to an effective healthy staff environment.		
— The plan draws on leading practices, evidence based design and global experience.		
— The plan identifies future growth and program requirements.		
— The design creates a hospital that is functional and provides for the needs of patients and staff		
— The design creates a hospital that creates integrative linkages between departments.		
— The plan responds to clinical priorities.		
Value for Money		
— Our plan demonstrates exemplary stewardship of physical, monetary and environmental resources.		
— The plan maximizes the full development potential of the site.		
— Our plan enhances Cariboo Memorial Hospital's role as an economic asset for our region.		
	1 2 3 4 5	
		not at all-----to a great extent
DATE: <u>August 20th</u> TO BE REVIEWED: _____		

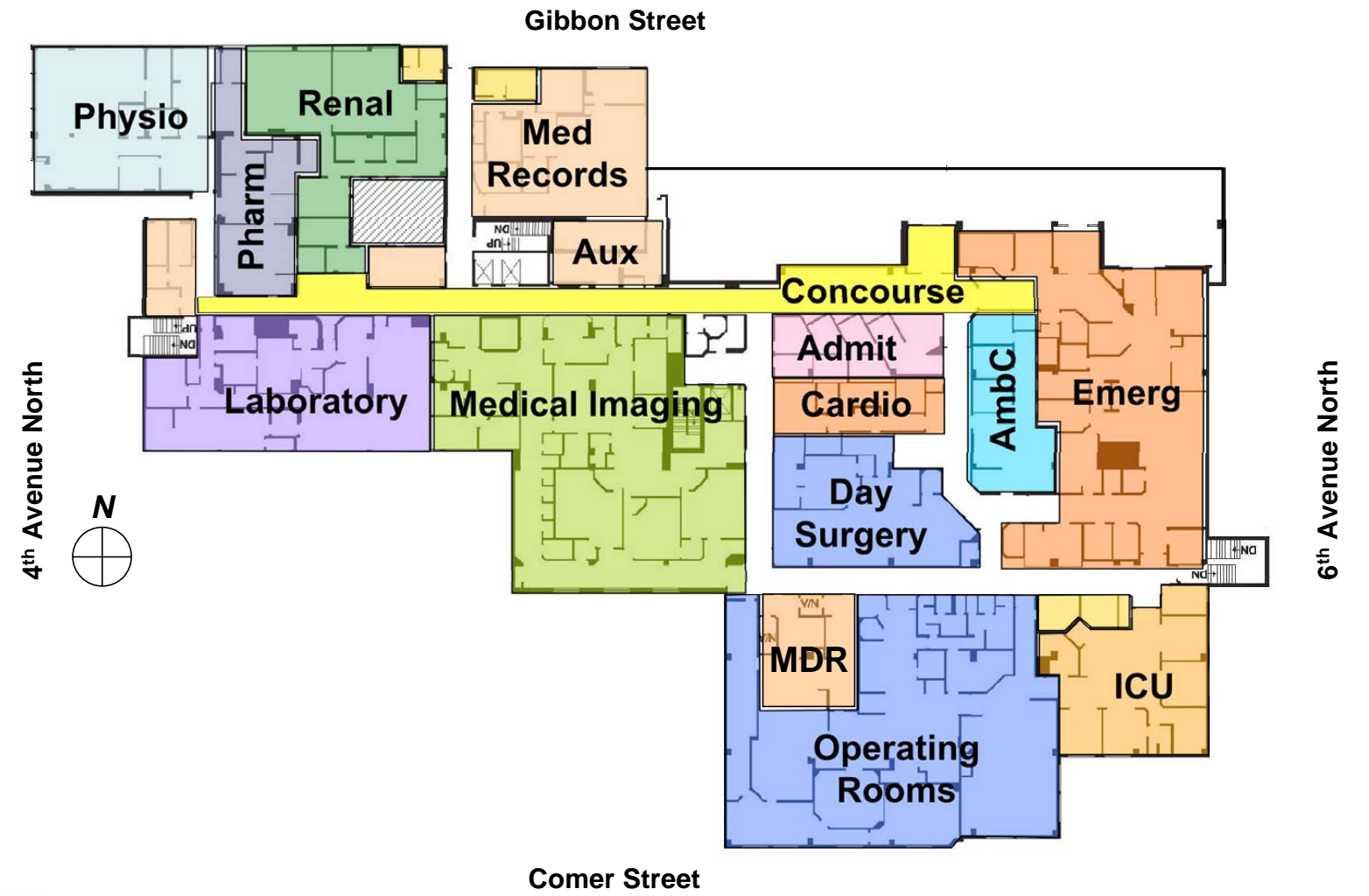
CARIBOO MEMORIAL HOSPITAL – EXISTING DRAWINGS

The following existing floor plans are provided for reference only. Plans shown are as provided by the Client to the Design Team for use in its planning efforts. The Design Team makes no warranty as to the accuracy of these floor plans.

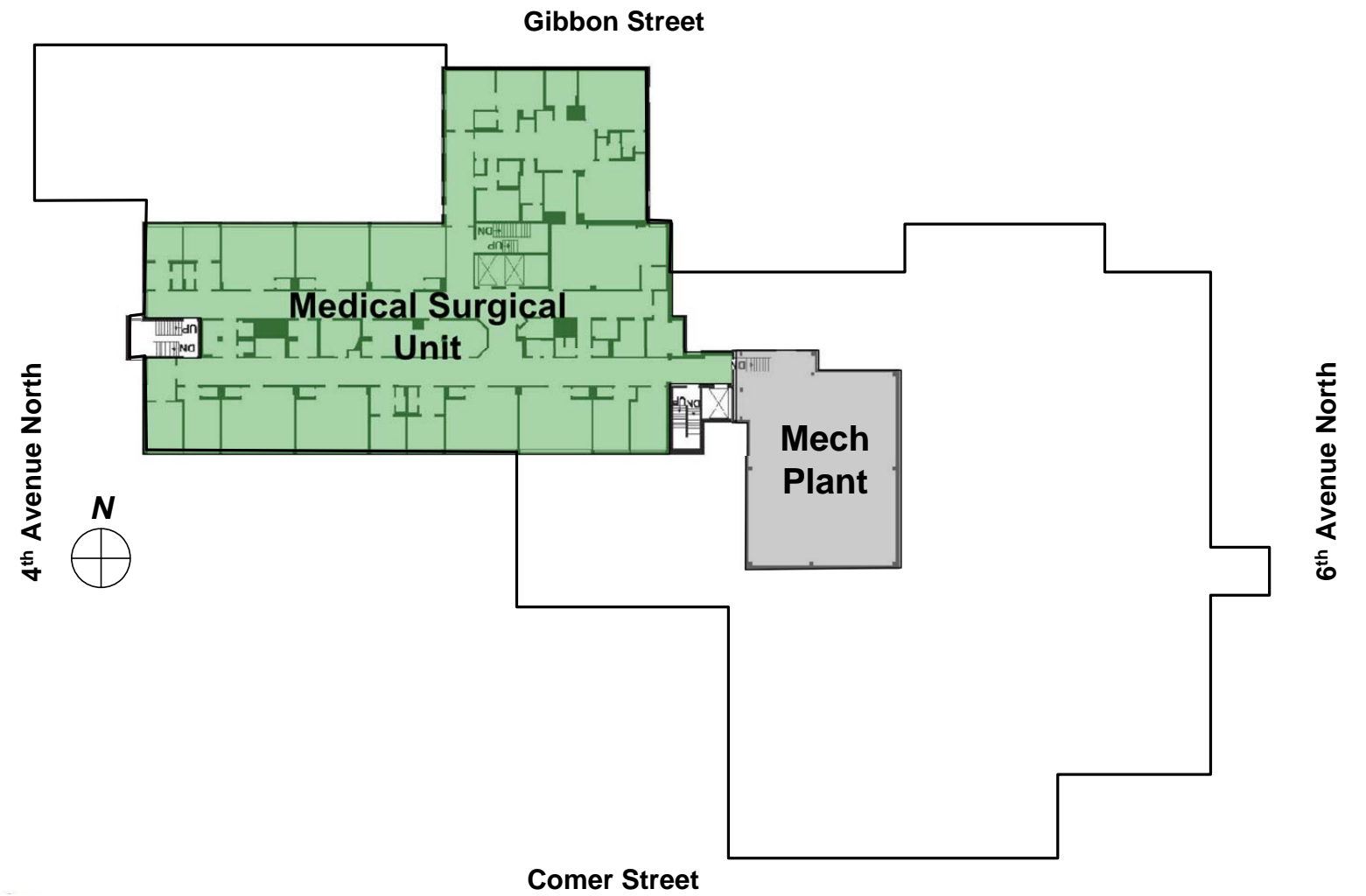
BASEMENT



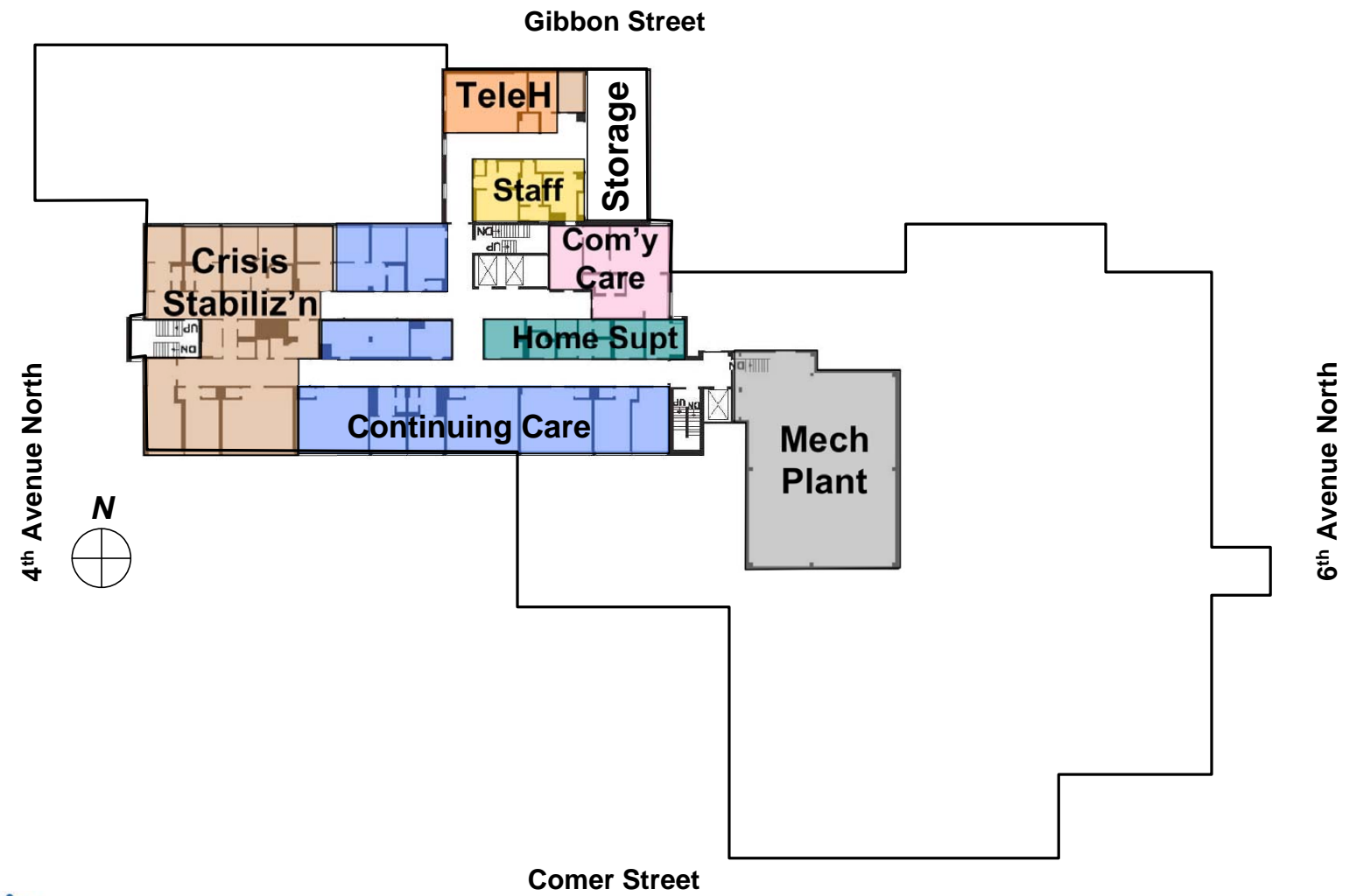
LEVEL 1



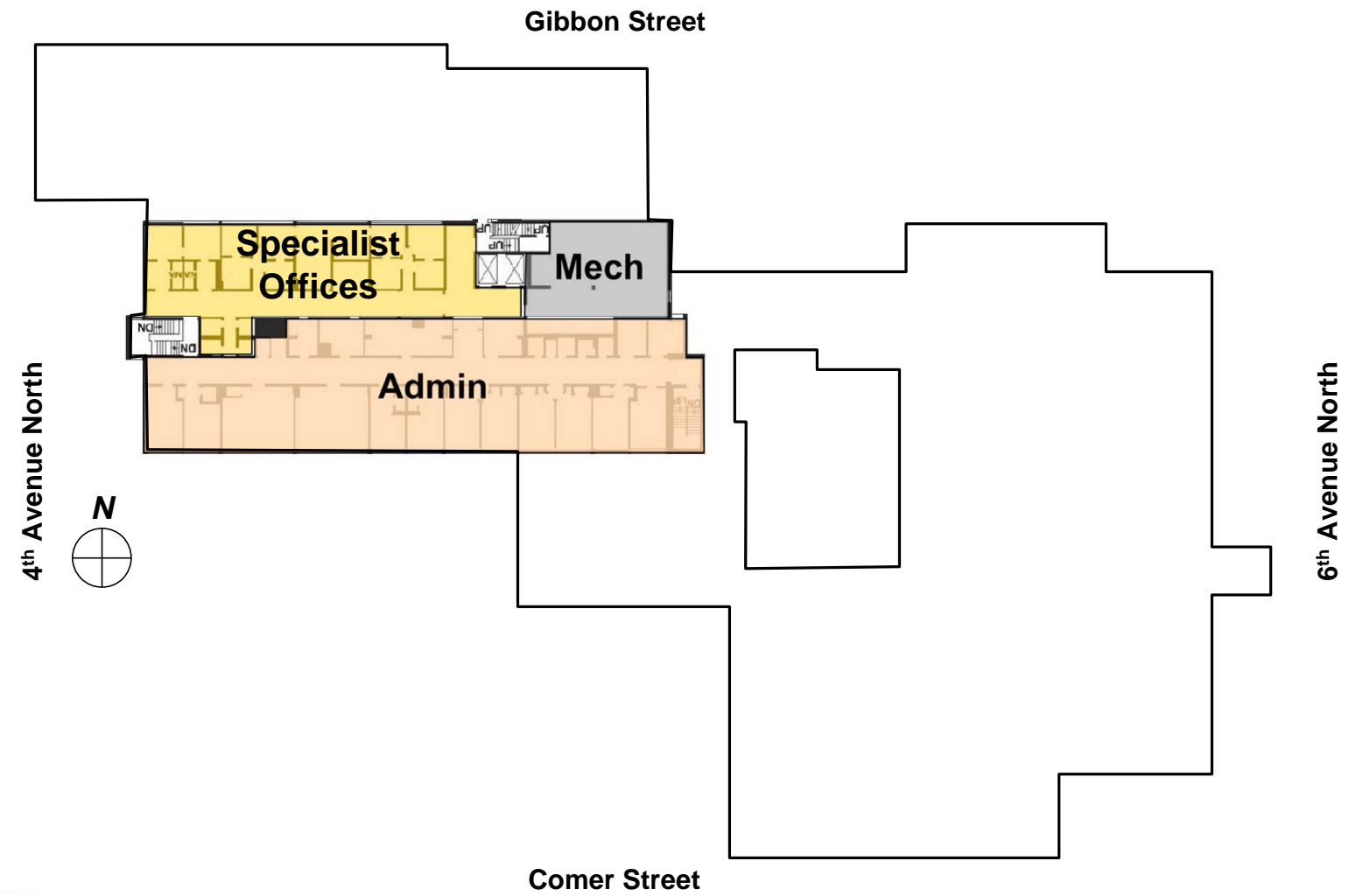
LEVEL 2



LEVEL 3



LEVEL 4



EXISTING BUILDING PHOTOGRAPHY



Aerial View



Main Entry and Emergency Drop-off



Ambulance Bay and Emergency Entrance



Main Building North Side



Main Building North Side Inpatient Floors



Main Building South Side Loading Area



Primary Site Access East Side



Deni House



Nurses Residence