

ROYAL INLAND HOSPITAL MASTER PLAN

Kamloops, British Columbia

June 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
FPA:	Farrow Partnership Architects Inc.
ICU:	Intensive Care Unit
IHA:	Interior Health Authority
IMIT:	Information Management Information Technology
IPU:	Inpatient Unit
KLRHS:	Kamloops Low Rental Housing Society
KMBR:	KMBR Architects Planners Inc.
MDR:	Medical Device Reprocessing
RIH:	Royal Inland Hospital
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 (10 and 15-year) 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 meters 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 and 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 RIH in Kamloops, 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, space that fails to meet today's hospital planning standards, as well as anticipated changes in practice and changing demographics.

The Master Plan serves as both a broad road map 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 RIH. The recommended scope and capacity of services reflect the changing demographics, and the growing prevalence of chronic illness requiring disease management within IHA. The future facility requirements are based on contemporary planning standards and provide the planning base for the Master Plan.

SCOPE OF WORK

IHA and RIH 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 and outpatient services. As a result, IHA required formal consulting services for the development of a Master Program and Master Plan for RIH's hospital-based and infrastructure services with growth and development recommendations for the next 10, and 15 years.

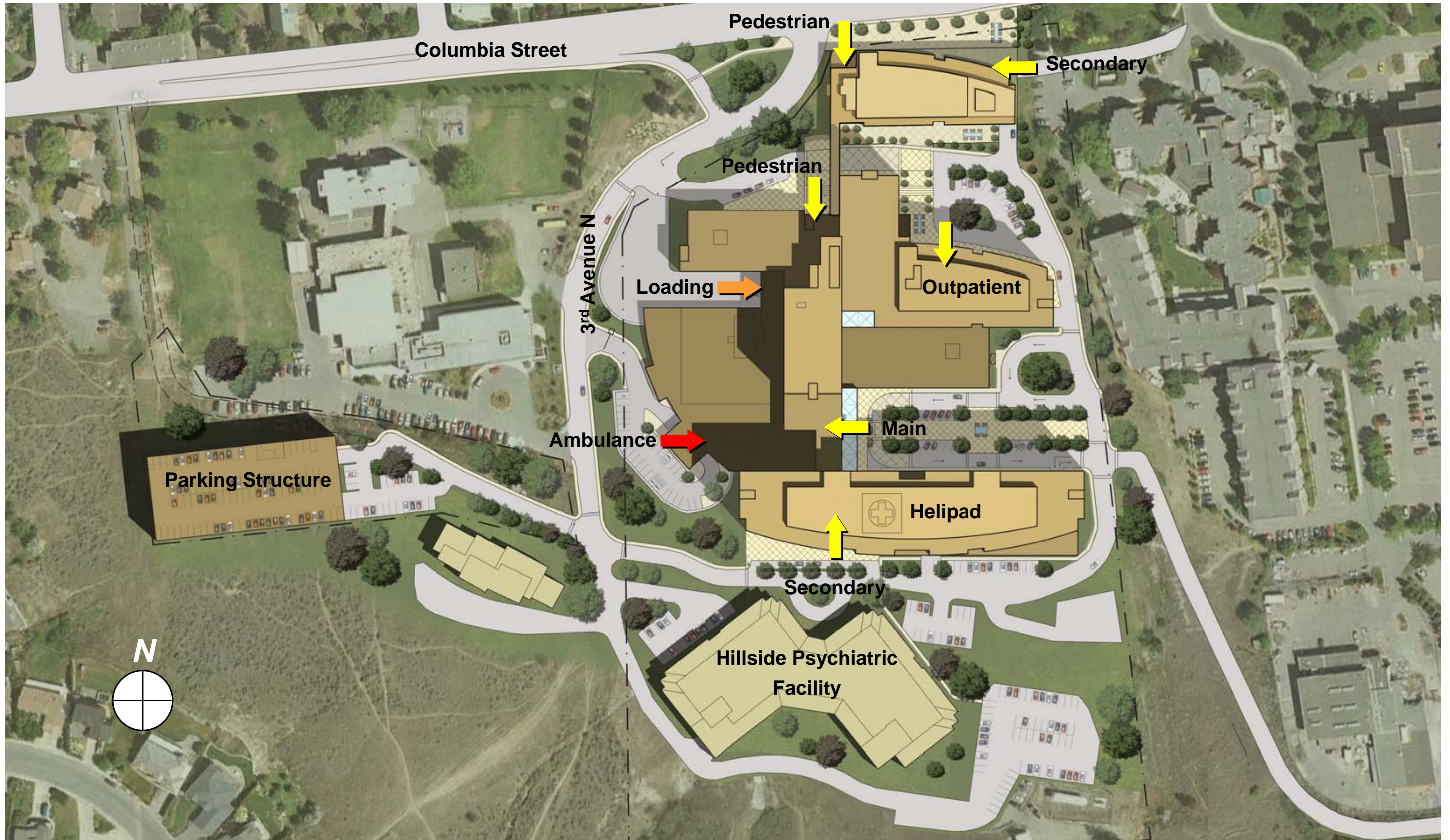
IHA and RIH also understands that the achievement of its physical needs and strategic directions will be dependant, in part, on a comprehensive Master Program and subsequent Master Plan. The Master Program will define the programs and services required to meet future health care needs, encompassing evidence 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 Kamloops 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 RIH 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.

It is noted that the Bunt Traffic and Parking Study does not include the additional parking structure constructed on the newly purchased adjacent land nor the Columbia Street Parkade and Services Building, both of which were added to the scope after the completion of the Bunt Report.

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, Alumni Tower and Ponderosa Lodge. The Hillside Acute Psychiatric Facility 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 Surgical Wing	New Medical IPU Wing	Demolition	Net Gain	Total
Basement	4,461	164	0	0	164	4,625
Level 1	8,970	1,840	0	0	1,840	10,810
Level 2 (Main)	9,755	2,635	0	0	2,635	12,390
Level 3	4,455	2,350	0	0	2,350	6,805
Level 4	4,455	2,350	0	0	2,350	6,805
Level 5	2,855	0	1,965	0	1,965	4,820
Level 6	2,490	2,350	4,600	0	6,950	9,440
Level 7	2,490	2,350	4,600	0	6,950	9,440
Level 8	1,300	2,350	4,600	0	6,950	8,250
Level 9	1,300	2,350	2,420	0	4,770	6,070
Total	42,531	18,739	18,185	0	36,924	79,455

Building Gross Areas listed in Square Metres
 Area Includes Main Hospital Building Only. Calculation Excludes Alumni Tower
 Excludes Potential Retail or Future Clinical Areas within Columbia Street Parkade and Services Building
 Level 2 (Main) of the New Surgical Wing Includes 365sm of New Lobby / Entry Area of Main Hospital Building
 Levels 5 - 9 of New Inpatient Wing Considered Element of 15-Year Development Plan (Indicated in Green)

NOTE: Columbia Street Parkade and Services Building proposed to contain three levels of future clinical expansion. It is recommended that individual levels to be designed to accommodate one 32-bed IPU at approximately 2,100 bgsm per level

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 RIH 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, that spans a 10 and 15-year horizon. Greenfield design opportunities were not pursued or demonstrated.

The studies presented all included a variety of clinical and lobby expansions and parking solutions. Variations included:

- Locate Med / Surg IPU at front of existing hospital as expansion of existing IPU
- Locate Med / Surg IPU adjacent to Lab wing
- Locate Surgical IPU at front of building adjacent to Lab wing and Medical IPU / Outpatient tower at rear atop new parking structure
- Locate Surgical IPU at front of building adjacent to Lab wing and Medical IPU / Outpatient tower at rear atop new parking structure and stand-alone Rehab / Outpatient wing on green lands on Columbia Street

From these options, and when evaluated against the development guidelines, it was agreed by all participants that the preferred development strategy would include the Surgical IPU at the front adjacent to the Lab wing, the Medical IPU / Outpatient tower at the rear atop a new parking structure and a parkade with clinical expansion space (Columbia Street Parkade and Services Building) with a direct link to the main hospital.

Enabling RIH 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
- Facilitates 10 and 15-year phasing opportunities that meet projected bed counts
- Achieves clarity of entrances and wayfinding
- Embraces family & patient focused design thinking
- Achieves parking requirements
- Distributes parking throughout the site
- Positions significant portion of new growth (Medical IPU tower) 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
- Utilizes current infrastructure effectively (Ponderosa)
- Proposes removing outmoded structures to create planning opportunities (Alumni Tower)
- Creates Ambulatory Care / Rehabilitation cluster with separate entrance to decongest Main and Emergency entrances

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 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 RIH to make defensible choices as it grows and proceeds into subsequent planning stages. In order for RIH to move forward with the information provided, the Design Team recommends the following next steps:

- RIH 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 / Phase 1 projects as necessary.
- Explore partnerships with likeminded, high-profile organizations who may be interested in participating in, and providing financial / political support that align with future efforts / enterprises.
- At the time of this writing, it is known that RIH is considering the construction of a 450-car parking structure on the newly purchase western lands. The construction of this parking structure, along with the construction of the Columbia Street Parkade and Services Building, will potentially alter the number of spaces required within the proposed parking structure on the land currently occupied by the Alumni Tower. The Master Plan therefore recommends that RIH give continued consideration to the demolition of the Alumni Tower in the short term, to allow for decongestion of the existing main entry area.

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:

- RIH Master Plan Steering Committee
 - Joanne Konnert, Vice President Tertiary Services
 - Marg Brown, Health Service Administrator, Royal Inland Hospital
 - Jackie Watson, Director of Planning, Capital Planning & Projects
 - Dr. Michael Murray, Medical Director
 - Deborah Chaplain, Director Patient Care Services
 - Chris (Joseph) Kristjanson, Director, Ambulatory Care and Diagnostics
 - Nancy Serwo, Kelowna General Hospital Director Health Service
 - Denise Chartrand, Director, Peri-Operative Services
 - Karen Cairns, Manager Community Engagement
 - Randy Lambright, City of Kamloops Planning
 - Sukh Gill, Thompson Nicola Regional District
 - Dr. Steve Rollheiser, Physician Representative
 - Aaron Miller, Project Manager
- Royal Inland Hospital Master Plan Project Team
 - Marg Brown, Health Service Administrator, Royal Inland Hospital
 - Aaron Miller, Project Manager, Capital Planning & Projects, Project Coordinator
 - Matt Himmelman, Director of Business Support
 - Michelle Padley, Leader Human Resource Planning
 - Dr. Gur Singh, Royal Inland Hospital Chief of Staff
 - Steve Reily, Senior Planner, Capital Planning and Projects
 - Shelia Corneillie, Special Projects
 - Deborah Chaplain, Director Patient Care Services
 - Chris (Joseph) Kristjanson, Director, Ambulatory Care and Diagnostics
 - Nancy Serwo, Kelowna General Hospital Director Health Service
 - Denise Chartrand, Director, Peri-Operative Services
 - Karen Cairns, Manager Community Engagement
 - Dr. Steve Rollheiser, Physician Representative
- Staff Representatives, City of Kamloops

SCHEDULE

The RIH Master Program / Master Plan were conducted between the months of June 2010 and July 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 19, 2010
Design Charette #2	November 25, 2010
Community Information Session #1	November 25, 2010
Design Charette #3	December 15, 2010
Draft Report Submission	January 2011
Final Report Presentation	February 8, 2011
Final Report Submission	July 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, RIH 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
- Stephen Black – Clinical Planning Support
- Christine Kim – 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 Dancey-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 Alumni Tower*, VFA Inc, 2010
- *Asset Detail Report Asset Summary Ponderosa Lodge*, VFA Inc, 2010
- *Asset Detail Report Asset Summary Royal Inland Hospital*, VFA Inc, 2010
- *Audit of Critical and Semi Critical Medical Device Reprocessing*, Interior Health, February 2008
- *Facility Catchments Population Estimates and Projections for Royal Inland and Cariboo Memorial Hospitals*, Interior Health, July 2010
- *Follow-up Audit of Critical and Semi Critical Medical Device Reprocessing*, Interior Health, February 2008
- *Helipad Land Expansion - Conceptual Proposal*, Interior Health, July 2010
- *Kamloops Affiliated Regional Centre Medical School Expansion Functional Program Update*, RPG, November 2008
- *Kamloops Local Health Area 024 P.E.O.P.L.E. 35 Population Projections (2011-2026)*, Interior Health, September 2010
- *Mechanical & Electrical Essential Services Planning Document*, Stantec Consulting Ltd., March 2010
- *Notes on the History of RIH*, Interior Health, July 2010
- *Operational Review*, Sullivan Healthcare Consulting, May 2004
- *Ponderosa Lodge, Kamloops, B.C. Revised Structural Load Capacity Assessment*, CWMM, December 2010
- *Request for Capital Funding Approval Urgent Renovations at Royal Inland Hospital, Kamloops in Support of UBC Faculty of Medicine Southern Medical Program*, Interior Health, June 2010
- *RIH Master Planning Study*, Parkin Architects, January 1999

- *City of Kamloops Travelsmart Project Summary Report*, City of Kamloops, 1999
- *Royal Inland Hospital Workload Tables 2005/06 – 2009/10*, Interior Health, July 2010
- *Royal Inland Hospital Facility Profile FY 2007/08 – 2009/10*, Interior Health, July 2010
- *Royal Inland Hospital Facility Profile FY 2005/06 – 2007/08*, Interior Health, April 2009
- *Royal Inland Hospital Trip Reduction Strategy Final Report*, Urban Systems, July 2005
- *Royal Inland Hospital Kamloops High Level Master Plan and Functional Program Intensive Care Unit*, Stantec, January 2009
- *Select project drawings*, Main Building, Phase 1 Expansion, Alumni Tower, Ponderosa Place, Mental Health Facility and Parking Structure, 1958-2008
- *Sustainable Kamloops Plan Foundations for Sustainability*, City of Kamloops, July 2010

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

- Staff representatives, City of Kamloops
- Chris Darwent, Transportation Engineer
- Randy Lambright, Planning and Development Manager
- Steve Reily, IHA

3.0 - TECHNICAL BUILDING ASSESSMENT

INTRODUCTION

This chapter provides a summary review and verification of the present physical conditions of select RIH facilities, including the main hospital and its existing additions and Alumni Tower. The Hillside Acute Psychiatric Facility 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.

In addition to a review of the VFA documents was a review of the March 2010 Mechanical & Electrical Essential Services Planning Document by Stantec Consulting Ltd. The purpose of their study was to “centralize systems intelligence” with respect to mechanical and electrical systems at the RIH site, focusing on an assessment of existing systems, their capacity for future expansion, and service changes that would be required to address an identified lack of capacity.

Included as well in this section are conclusions drawn from the December 1998 structural assessment by Read Jones Christoffersen Ltd., as part of the Royal Inland Hospital Master Plan Study lead by The Parkin Group. RJC’s “Preliminary Structural Assessment of Existing Buildings and Structural Review of Proposed Expansion Schemes” examined the potential for horizontal and vertical expansion to the existing buildings.

For further comprehensive detail refer to original VFA Asset Summary Report (2010), and other reports noted above, all of which are not submitted with this document.

ALUMNI TOWER

The Alumni Tower was originally constructed in 1965 as a nurse’s residence and school, and consists of a 6 storey tower portion located over a basement, and a single storey podium. The predominantly concrete structure has several limitations relating to adaptive reuse. Concrete columns are closely spaced at 2.74 meters apart. The floor-to-floor height is only 2.74 metres (9 feet). The building is seismically deficient due to the exterior brick cladding and the interior concrete block walls being a falling hazard during a seismic event. There is only one elevator. Vinyl asbestos floor tile requires abatement.

VFA ASSESSMENT - APRIL 2009

A summary of the building’s most costly “currently critical” and “potentially critical” items is presented below:

Air Handlers: replacement for building integrity	\$364,213
Electrical Panels/Feeders: additional needed for building integrity	\$333,104
Passenger Elevator: replacement for building integrity	\$344,611
Data System: upgrade for building integrity	\$170,889
Subtotal*	\$1,212,817

**Note: The total cost of all 16 “currently critical” and “potentially critical” items in VFA’s report (including the 4 most costly items listed above) is \$1,416,646.*

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:

Roofing: replacement of first floor roof	\$83,938
Exterior Wall: repair of worn and damaged concrete	\$285,762
Flooring: replacement of asbestos tile (hazardous material)	\$334,943
Windows: replacement for building integrity	\$817,028
Security System: additional needed for building integrity	\$90,166
Washrooms: upgrade for accessibility (building code)	\$318,874
Subtotal*	\$1,930,711

**Note: The total cost of all 38 non-critical items in VFA’s report (including the 6 most costly items listed above) is \$2,656,982.*

COMMENTARY - VFA

Although the cost of systems upgrades and replacements to meet VFA recommendations is not disproportionate to the replacement cost of the building, the limitations on adaptive reuse posed by the structure will severely limit the functional potential of this building.

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.

SOUTH TOWER, NORTH TOWER, EAST, WEST AND NORTHWEST WINGS

The 6.7 hectare site is located on the south side of Columbia Street in Kamloops. The hospital is comprised of the 3,733sm Alumni Tower built in 1965, the South Tower, also built in 1965 with major additions built in 1977 (East and West Wing), 1980 (North Tower) and 1988 (Northwest Wing), comprises 37,763sm. In 2006 a major redevelopment (approximately 8,000sm) of the upper floor West Wing occurred affecting Emergency, Ambulatory Care, Medical Imaging, Renal Dialysis, Laboratory, Diagnostics and related support facilities.

The RIH facility is constructed into the side of a hill with the first floor at grade on the north and the second floor at grade on the south. The South Tower is comprised of nine storeys with basement and penthouse, the West Wing is one storey plus basement, the East Wing is two storey, the North Tower is eight storeys with basement, and the Northwest wing is four storeys with basement and penthouse.

The structure is predominantly concrete with the exception of structural steel roof structure and supports in all wings but the South Tower.

Six elevators service the building.

VFA ASSESSMENT - APRIL 2009

A summary of the building's most costly "currently critical" and "potentially critical" items is presented below:

Domestic Water Distribution: replacement for building integrity	\$781,768
Casework: replacement for building integrity	\$225,131
Isolation Rooms: required for building code compliance	\$697,060
Electrical: power redundancy required for functionality	\$623,790
Data System: upgrade for building integrity	\$600,26
Windows: replacement for building integrity	\$659,26
Cooling Tower: replacement for building integrity	\$115,53
Subtotal*	\$3,702,810

**Note: The total cost of all 28 "currently critical" and "potentially critical" items in VFA's report (including the 7 most costly items listed above) is \$4,145,797.*

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:

Nurse Call System: replacement for building integrity	\$273,323
Air Handlers (West Wing): replacement for building integrity	\$97,154
Acoustic Ceilings: replacement for building integrity	\$100,265
Windows (East Wing): replacement for building integrity	\$256,589
Linen Chute: replacement for building integrity	\$144,577
Telephone Room: replacement due to non-compliance	\$373,078
Exterior Wall: repair worn and damaged concrete	\$455,650
Flooring: replacement of asbestos tile (hazardous material)	\$699,244
Energy Management System: upgrade for functionality	\$500,229
Patient Care Area: electrical tests missing	\$108,879
Patient Room Lavatory: required for functionality	\$107,592
Door Hardware: replace for accessibility (building code)	\$237,254
Patient Care Electrical Outlets: required by code	\$227,050
Exterior: replacement of asbestos fascia (hazardous material)	\$217,613
Elevator: required for fire fighter's service	\$255,524
Patient Washrooms: upgrade for accessibility (building code)	\$84,724
Handrails/guards: replace for code compliance	\$159,067
Subtotal*	\$5,297,812

**Note: The total cost of all 82 non-critical items in VFA's report (including the 17 most costly items listed above) is \$7,087,180.*

COMMENTARY

Although the total cost to make all the improvements recommended in the VFA report is significant, relative to the total replacement cost for the building the cost of making the recommended improvements is not prohibitive.

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)

The Stantec Document was not organized with a distinction between the Alumnae Tower and the remaining wings, as was the VFA report. The service specific issues raised by Stantec for the hospital as a whole were as follows:

- *Domestic Cold Water Systems*

For future expansion or major renovations an upgrade of the existing water service may be required and is likely, since the plumbing code now requires larger pipe sizes. The probable incremental cost of providing additional water connection and back-up backflow station, and installing new North Entry water piping is \$275,000. Further study is recommended to confirm operating conditions and the extent of upgrade that should be anticipated.

- *Domestic Hot Water Systems*

The study suggests that there is no future capacity for any major addition, and that any major addition should include its own domestic hot water system. The probable incremental cost for a new tank/boiler and interconnecting piping was estimated to be in the order of \$100,000.

- *Domestic Soft Water Systems*

Domestic soft water is reported to not being a requirement since the City upgraded their water treatment plant.

- *Sanitary Sewer Systems*

Stantec concluded that although renovations should not create a problem in capacity, the risk of exceeding capacity was “medium” 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. A cost estimate of \$200,000 was attached to this expected requirement.

- *Fire protection Sprinkler Systems*

Given that the building is fully sprinklered, Stantec concluded that “renovations should not be an issue”. They do however recommend that a study be undertaken on the existing systems to ensure code compliance of the system, and that a flow test/simulation of the existing City water supply be undertaken to confirm available water supply.

- *Medical Gas Vacuum System*

Spare capacity was not known without a system review but was not considered a problem for small renovations. The estimate provided for installing a new vacuum compressor for OR's was \$125,000.

- *Medical Gas Air Systems*

Spare capacity for the existing triplex system was not known without a system review but was not considered a problem for small renovations.

- *Medical Gas Oxygen Systems*

Existing outlets do not meet the current medical gas code and should be reviewed. 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.

- *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. If an additional diesel generator is added, additional fuel oil storage will be required. A new emergency generator oil storage tank was estimated to cost in the order of \$125,000.

Additional propane storage capacity may be required depending on future boiler requirements.

- *Central Boiler Heating Systems*

The study reports that some spare capacity appears to be available. Renovations within the existing building would not create any major issues, but new heating equipment would be required for an addition. In the event of a major expansion, the probable incremental cost for new systems was estimated at \$750,000. An energy audit of steam traps was also estimated at \$5,000.

- *Central Cooling Systems*

Given that there is no redundancy within the existing chilled water systems, Stantec concluded that any expansion will require additional cooling and heat rejection. Probable costs are unknown until the size of addition is known, but Stantec indicated the cost to possibly be in the order of \$700,000 with a high risk factor rating.

- *Central Air Handling Systems*

Stantec recommends that any plans for renovation or additions involve a study of existing air volumes to determine the extent of required modifications. They note that no additional capacity exists in existing systems, and that fragmented and dated air handling systems throughout the facility suggest that any new facility addition would require separate air handling systems. The probable incremental cost given in the report is \$500,000.

- *Electrical Services Systems*

Present overall loading concerns were being addressed by an ongoing service upgrade at the time of the study but Stantec reports that future upgrades may be limited due to aging equipment and physical space. The report gives this issue a medium/high order of magnitude importance rating, and states that it is an important issue that will become critical if there is a major renovation. The probable incremental cost is \$1,000,000.

- *Emergency Power Systems*

The two existing generators were installed in 2003. During peak load conditions the generators are operating at near peak conditions, so to provide N + 1 redundancy an additional generator is required. Additional studies are recommended. If required, a new generator is estimated to cost in the order of \$1,000,000 excluding the cost for building enclosure. Stantec assessed the importance level for this item as high.

- *Fire protection – Fire Alarm Systems*

The existing system installed in 2005 was considered by Stantec to be in good working condition. Parts for the system are available and the system is expandable.

- *Telephone, TV & Communications Systems*

The telephone switch is urgently in need of upgrade, at a probable incremental cost of \$100,000. For future capacity the optical network needs to be expanded, and physical space restraints require further review. The risk factor rating for this item is stated as high.

- *Nurse Call Systems*

The existing Rauland Responder 3000 and Responder III systems are becoming obsolete and in the event of renovations replacement is highly recommended at an estimated cost of \$750,000. The existing Rauland Responder 4000 system is expandable and can still be maintained. A needs assessment is recommended prior to implementing any changes.

- *Security Systems*

There are existing Security/access control and CCTV systems. At the time of Stantec's study some changes to head end equipment and maintenance contracts were being discussed. Stantec gave this item a risk factor rating of “low”.

COMMENTARY - ESSENTIAL SERVICES PLANNING DOCUMENT

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

Central Cooling Systems – additional capacity	\$700,000
Electric Service Systems – upgrade for expansion	\$1,000,000
Telephone, TV & Communication Systems – telephone switch	\$100,000
Nurse Call Systems – replace older systems	\$750,000

The total cost of all mechanical/electrical system improvements highlighted in Stantec's report was estimated at \$5,725,000. Some of these costs represent improvements to existing systems for the benefit of existing operations, and some would be triggered by facility expansion.

RIH MASTER PLAN STUDY (RJC STRUCTURAL ASSESSMENT)

The RJC report addresses horizontal and vertical expansion potential, with excerpts that follow. This 1998 report was written before the Emergency addition was built next to the West Wing. With regard to the Emergency addition, the structural engineering firm for that project (Bush Bohlman) has reported to the master planning team that "the 'Second Floor Expansion' project has a light steel roof construction that would not support an additional floor. There is nothing on the drawings to indicate that the building columns and foundations were designed for a vertical expansion."

Excerpts from 1998 RJC Report

5.1.0 Executive Summary: "Horizontal expansion opportunities exist in most directions but would require reworking of site... The Alumnae Tower is more limited than some of the other buildings due to its closely spaced exterior columns, deep spandrel beams, shallow floor-to-floor height and lower floor capacity.

Vertical additions to the building would require upgrading to the load-bearing elements and lateral load-resisting systems. Generally this type of retrofit work is quite expensive....

Vertical expansion of the Parkade would not be a simple and inexpensive option."

5.1.3.5 " Drawings were not received for the North Tower, West Addition or East Wing portions of the existing hospital building... Final comments on areas of the existing building where drawings are not available cannot be made until actual construction details, live loads, etc are confirmed."

5.1.4.2.4 " The original South Tower appears to have had a steel roof addition added some time in the recent past, making the building a nine-storey structure. The opportunity for vertical expansion would therefore seem to be limited unless upgrading of the vertical load-bearing elements and seismic system are contemplated."

5.1.4.3.3.4 Alumni tower: "The original structural drawings indicate that the tower portion of the building was designed for a one-storey future addition.... Should a vertical addition be contemplated, the seismic system would need to be upgraded for the entire building."

5.1.4.4.4 "The structural drawings give no indication of the Northwest Wing being designed for future storeys. Vertical expansion would most likely require upgrading of the vertical load-bearing elements and seismic resisting system.

Horizontal expansion appears to be structurally feasible to the north, west and south of the existing Northwest Wing."

5.1.4.5.4 "Although RJC was informed that the Parkade Building was designed for a future two-storey addition, there is no indication on the structural drawings that this was included for in the original design.... it is our opinion that the parkade was not designed for the addition of two storeys above its existing roof... Although feasible, vertical expansion would require upgrading to the existing vertical; load-bearing elements and seismic-resisting elements."

5.1.5.1 Final Expansion Scheme includes the following:

"Construct a new Emergency Building addition (one-storey plus basement) to the south and west of the West Addition." It is noted that there is no mention of planning for future vertical expansion capability.

PONDEROSA LODGE

Ponderosa Lodge is located at 425 Columbia St in Kamloops. The property comprises two facilities. Ponderosa Lodge, an extended care facility, is owned and operated by IHA, and Ponderosa Place (Phase 1 and 2) is a life-estate low-rise apartment building which is owned and operated by the Kamloops Low Rental Housing Society (KLRHS). The entire property is 5.78 acres.

Ponderosa Lodge is a 7,700sm four storey building situated at the north end of the property. Ponderosa Place is a four and five storey building situated at the southern end of the property. Minor buildings comprise a small chapel, a gazebo, and yard located between the Ponderosa Lodge and Ponderosa Place.

Ponderosa Place (Phase 1 and 2) is under a 200 year land lease. This leased land comprises 2.6 acres of IH's lands. KLRHS also has a 200 year lease from IH the fourth floor of the Ponderosa Lodge building via a bridge connection between Ponderosa Place and Ponderosa Lodge.

IHA currently leases back approx. 3,000sf of space from KLRHS in the basement of Phase 1 Ponderosa Place, for an Adult Daycare.

The substructure of Ponderosa Lodge consists of concrete walls and foundation with concrete floors and load-bearing masonry (brick) or concrete walls above. The roof is steel frame with metal deck.

The facility has two elevators to serve four storeys and basement.

VFA ASSESSMENT - APRIL 2009

A summary of the building's most costly "currently critical" and "potentially critical" items is presented below:

Windows: replacement for building integrity	\$299,697
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**Note: The total cost of all 4 "currently critical" and "potentially critical" items in VFA's report (including the most costly item listed above) is \$327,186.*

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:

Nurse Call System: replacement for life safety	\$197,226
Energy Management System: replacement for building integrity	\$262,511
Exhaust Ventilation Systems: upgrade for functionality	\$194,949
Elevator: replacement for building integrity and accessibility	\$174,449
Asbestos Containing Materials: abatement	\$725,176
Washrooms: reconfigure for accessibility	\$969,736
Subtotal*	\$2,524,047

**Note: The total cost of all 9 non-critical items in VFA's report (including the 6 most costly items listed above) is \$2,634,374.*

COMMENTARY

Although the total cost to make all the improvements recommended in the VFA report is significant, relative to the total replacement cost for the building the cost of making the recommended improvements is not prohibitive.

Not identified as a deficiency in the VFA report are the narrow hallways. Main corridors are 2235mm wide and hallways within the resident room pods are only 1070mm wide.

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.

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 RIH 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:

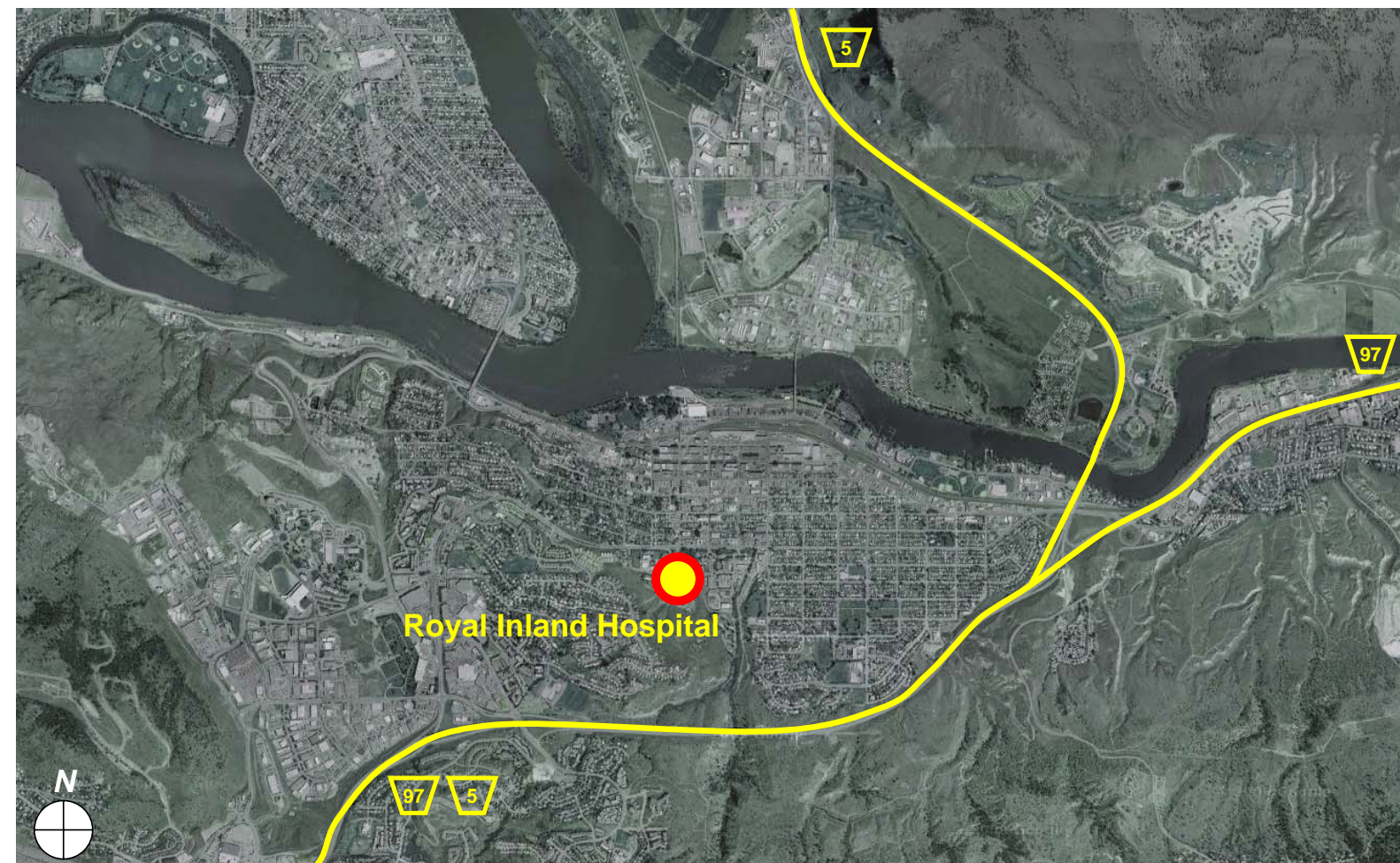
- Property description
- Existing structures
- Contours / topography
- Expansion Potential
- Access / circulation
- Natural features
- Municipal services
- Infrastructure Analysis
- Parking

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 AERIAL PHOTO



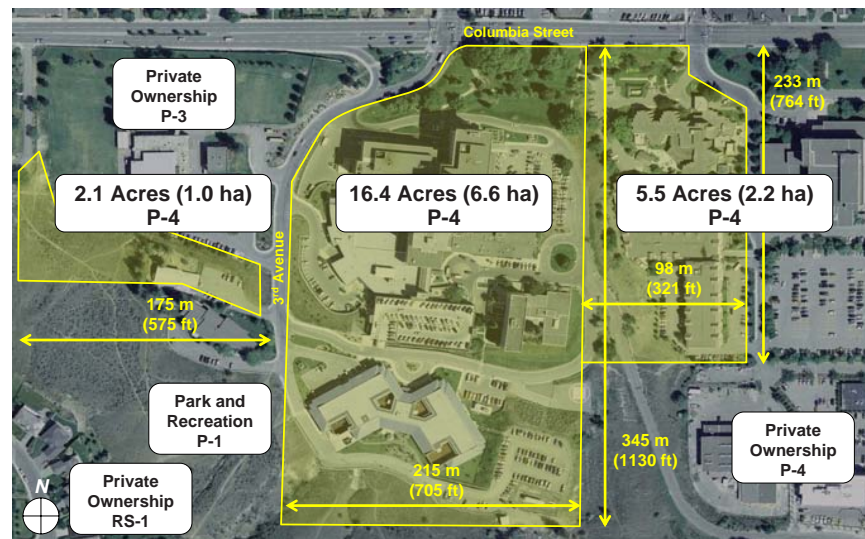
Property Description

Located in the south central area of The City of Kamloops, the site is situated at the intersection of 3rd Avenue and Columbia Street. The site is surrounded by a mix of residential, commercial and institutional facilities. 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 eastern border. The main site is approximately 16.4 acres (6.6 hectares) and approximately 700 ft x 1100 ft. A newly purchased tract of land exists on the west side of 3rd Avenue. This secondary site is approximately 2.1 acres (1.0 hectares). A third property, the Ponderosa Lodge / Place lands are also owned by IHA. This site is significantly lower in elevation than the main site and is approximately 5.5 acres (2.2 hectares). Ponderosa Place (Phase 1 and 2) is currently under a 200 year land lease. This leased land comprises 2.6 acres of IHA's lands. KLRHS also has a 200 year lease from IHA for the fourth floor of the Ponderosa Lodge building via a bridge connection between Ponderosa Place and Ponderosa Lodge.

The main site, the Ponderosa site and the newly purchased lands are all zoned P-4 (Public and Quasi Public Use). The majority of the surrounding area is also zoned P-4 with the exception of the school lands to the west which are zoned P-3 (School). Lands immediately south of the site are zoned P-1 (Parks and Recreational) and RS-1 Single Family Residential. Lands across Columbia are a mix of CBD (Commercial Business District) and C-3 (Highway Commercial).

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.



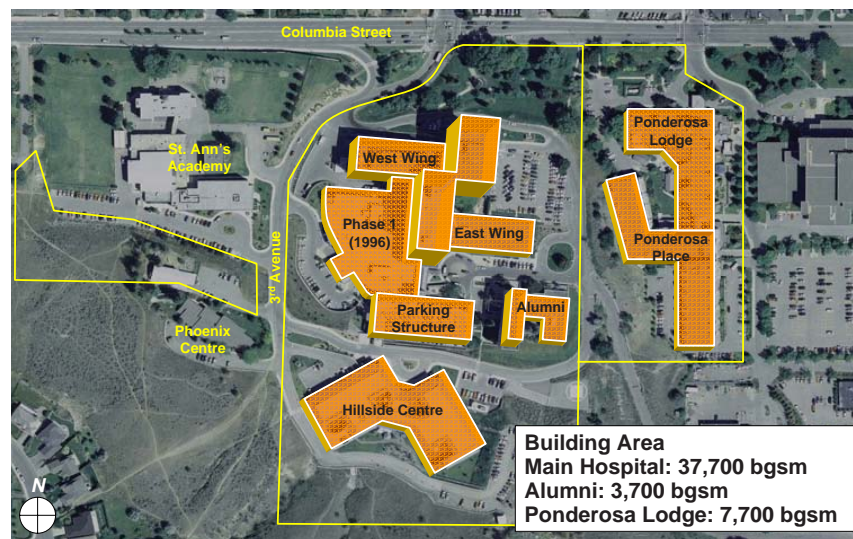
Existing Structures

The main RIH site (excluding Ponderosa Lodge lands) has functioned continuously as a health care facility since the early 1900's. It currently contains three (3) stand-alone buildings and a connected parking structure. The main clinical buildings range from 2 to 9 stories in height, including mechanical penthouses. The original Royal Inland Hospital was originally constructed in 1912, overlooking the City of Kamloops with various additions occurring throughout various decades. The hospital is comprised of the 3,733sm Alumni Tower built in 1965, the South Tower, also built in 1965 with major additions built in 1977 (East and West Wing), 1980 (North Tower) and 1988 (Northwest Wing), comprises 37,763sm. In 2006 a major redevelopment (approximately 8,000sm) of the upper floor West Wing occurred affecting Emergency, Ambulatory Care, Medical Imaging, Renal Dialysis, Laboratory, Diagnostics, parking, and related support facilities bringing the total floor area for the hospital up to 37,700sm.

Ponderosa Lodge is located at 425 Columbia Street, east of the RIH main site. The property comprises two facilities. Ponderosa Lodge, a four-storey extended care facility, is owned and operated by IHA, and Ponderosa Place (Phase 1 and 2) is a five-storey life-estate low-rise apartment building which is owned and operated by the Kamloops Low Rental Housing Society (KLRHS). Minor buildings comprise a small chapel, a gazebo, and yard located between the Ponderosa Lodge and Ponderosa Place.

Also located on RIH lands is the 2 storey, Hillside Acute Psychiatric Facility; a 44 bed acute psychiatric facility. Analysis and planning of Hillside was not included in the formal scope of the Master Plan project.

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

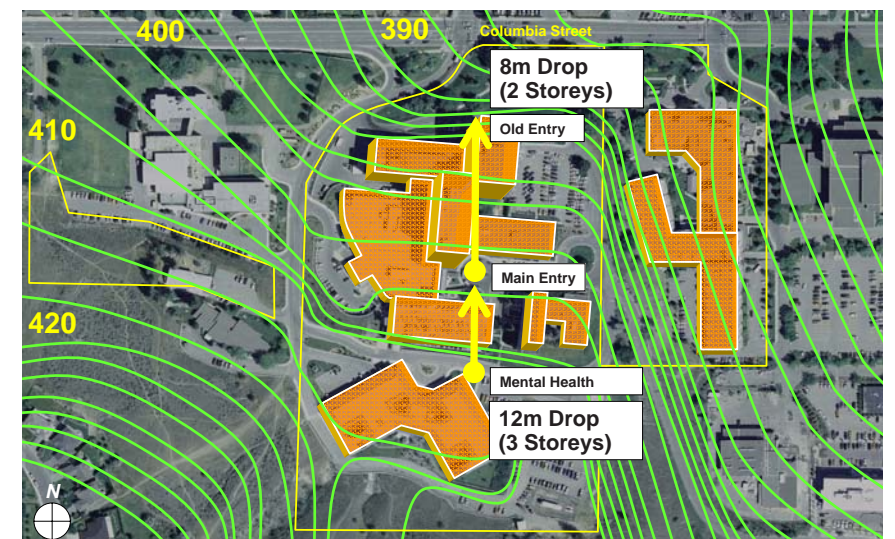


Contours / Topography

The site is generally defined by a very steep sloping rise in excess of 20 metres across the site. The site does have a plateau on which the hospital sits, although this plateau also continues to rise gradually to the south achieving a total grade change of approximately 8+ metres. An additional drop of approximately 10+ metres exists on the sites eastern edge landing on the Ponderosa Lodge lands.

Notwithstanding these significant 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 cannot occur along the site's northern edge (within the greenspace) without major and costly retaining structures being constructed.



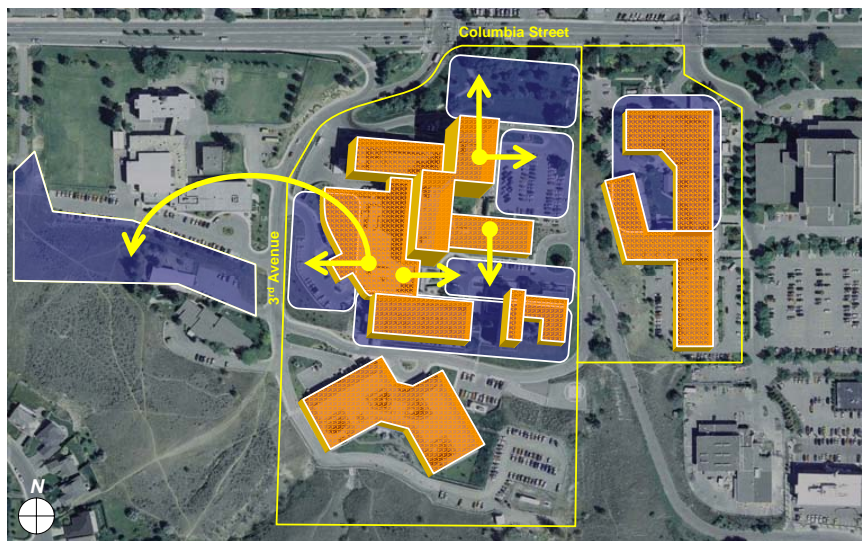
Expansion Potential

Overall, the site's location relative to a good road network, the presence of a plateau of land on which the hospital sits, and the relatively modest projected growth, make RIH a relatively good site for future development and expansion.

In particular, the most salient opportunity for expansion occurs to the north and east of the existing Laboratory wing. This flat land which currently houses surface parking is an excellent area for expansion. Given the gentle rise of the topography and the open area, expansion on this land creates opportunities to access lower service floors at grade. Expansion can also occur in the area where the current Alumni tower and parking garage reside. This will require phasing and demolition, but this flat land adjacent to the main entrance represents an excellent expansion potential. The green lands along Columbia Street also offer expansion potential notwithstanding the existing topography.

Additional expansion, albeit as satellite development, can also occur on the newly purchased lands on the west side of 3rd Avenue. This land represents an excellent site for parking or future road access. RIH can also take advantage of the Ponderosa Lodge site for either decanting or satellite facilities in the future.

The largest constraint to expansion is the inability of the existing facility to accept vertical expansion. Neither the 1996 Phase 1 expansion, the parking structure, nor the original RIH buildings were 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.



Access / Circulation

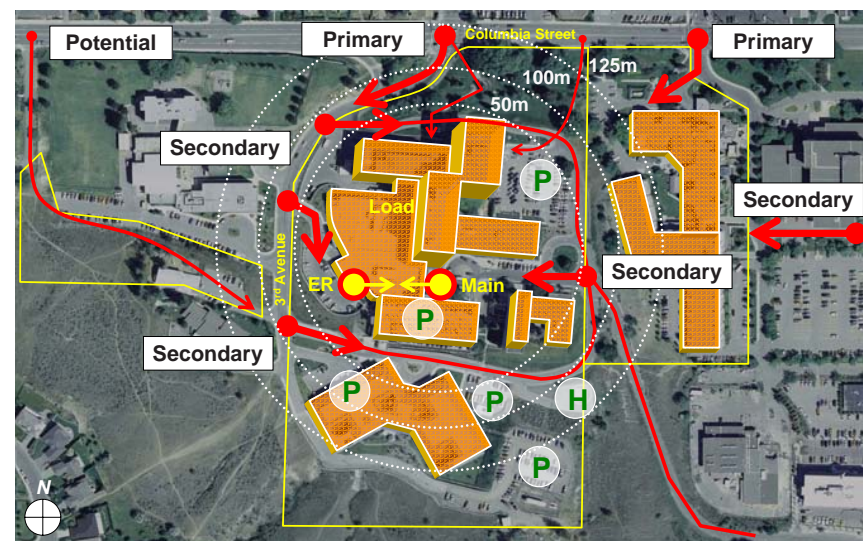
Access to the site occurs at one signalized, all-movements points from Columbia Street along 3rd Avenue. A right-in access is also provided for traffic travelling east on Columbia Street. This route is seen as the main entrance and services the entire site, including additional lands along 3rd Avenue. A secondary route, Glenfair Avenue, accesses the site from the south-east. Internally, a continuous ring road encircles the hospital and services the various parking lots, Emergency access and Loading.

Traffic problems are focused largely on the intersection with Columbia Street and 3rd and relate to volume and foul-weather accessibility due to the grade change. However the City does note that it does not consider RIH a major contributor to this volume. It is also known that the steep grade on 3rd Avenue presents a potential obstacle in winter.

An additional access route is potentially available through newly purchased lands to the west of the site that would connect Columbia and 3rd Avenue. However, this route has only been anecdotally discussed and has not been formally embraced by stakeholders. Discussions with municipal authorities should occur before further exploration of this option is pursued.

Two pedestrian pathways cross the green space on Columbia. These pathways are not well used due to their vertical grade differential and are not conducive to promoting walking on site. It was communicated by users during the charrette process that pedestrian access from Columbia remains a critical issue.

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.

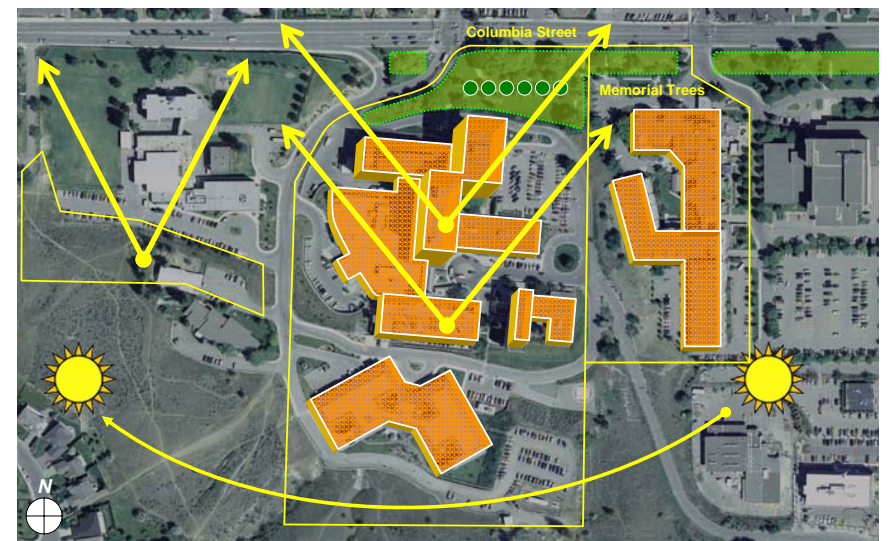


Natural Features

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 elevated sight line to the two branches of the Thompson River and nearby Kamloops Lake and the hills beyond. 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. Views to the east are perhaps less desirable than those to the north although these do not represent a significant negative attribute. Views from points external to the site exist largely from the residential properties to the south. However, given the elevation and topography, it is unlikely that these properties will be largely negatively influenced by future development.

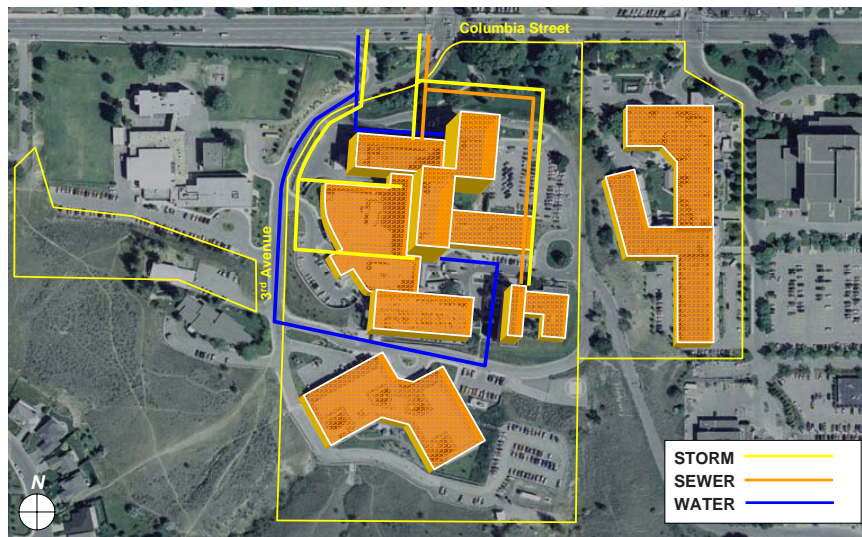


Municipal Service

The site currently serviced by storm, sewer and water lines that run south from Columbia Street. One set of storm and water lines run beneath 3rd Avenue and service the hospital at various points. A second storm line also services the hospital to on the east side of the site. A single sewer line on the site's east side presently services all the buildings on the site. Servicing for the Hillside Acute Psychiatric Facility is not known, and is not within the scope of the project.

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 is 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:

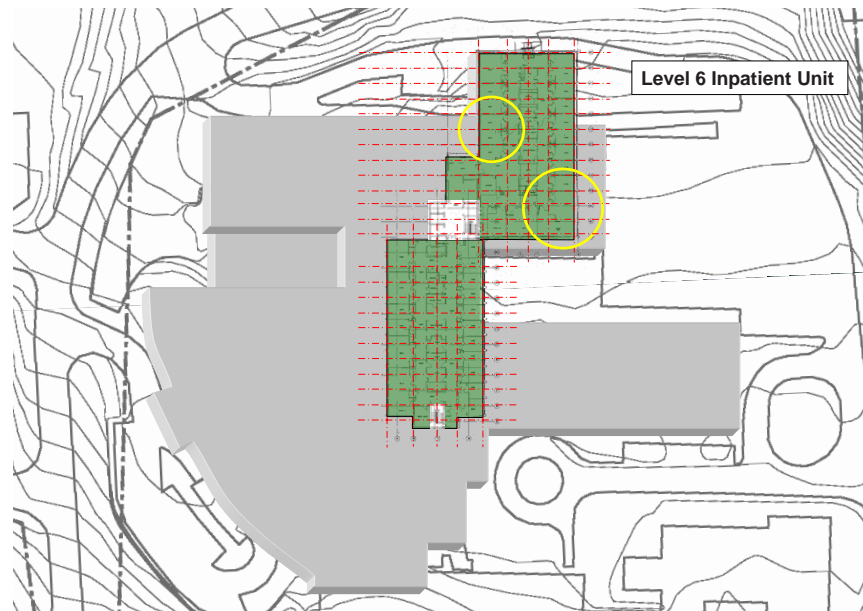
- Typical inpatient room size
- Location of washrooms
- Structural grid and column location
- Stairs and service shaft locations
- Elevator locations
- Nursing station location

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 currently accepted hospital 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.

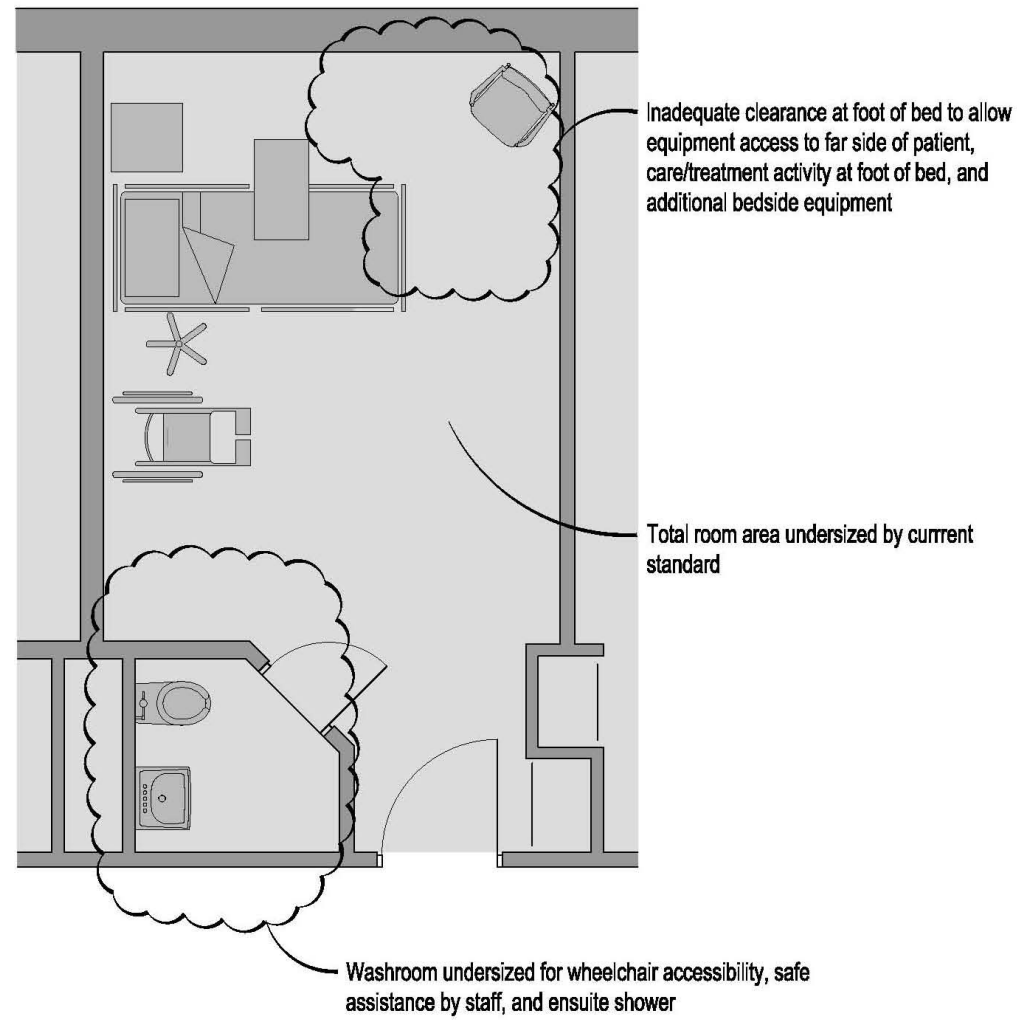
The following diagram compares an existing inpatient room at RIH with a similar inpatient room designed using current standards. The Master Plan does not propose that this room layout be utilized at RIH but rather is presented for reference purposes only.



TYPICAL INPATIENT ROOM COMPARISON

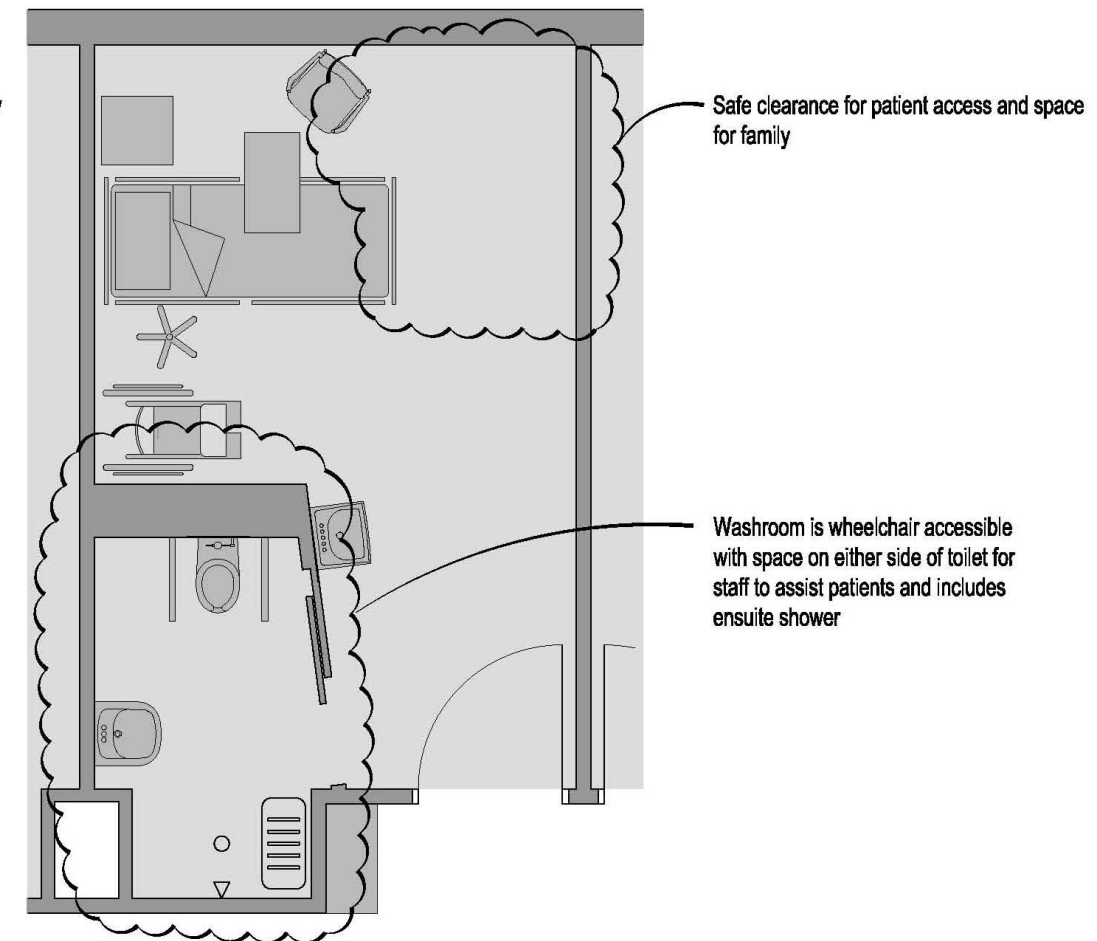
EXISTING PATIENT ROOM

1-BED ROOM
24 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 above-grade parking structure. There are currently 231 surface and 365 structured spaces available for a total count of 596 spaces. IHA also currently leases 322 off-site spaces for use by staff. However, as some spaces have more than one pass leased to a single stall, 423 total passes have been issued in total to off-site parking spaces. IHA has access to 920 parking stalls in total, of which 65% are on-site, and 35% are off-site.

Pay parking is currently in effect throughout site for staff, patients and visitors. Staff stalls are not assigned to individuals; some stalls are assigned to particular groups such as doctors, volunteers, etc., but the vast majority of staff stalls are operated on a first-come, first served basis. Additionally, IHA loses considerable potential monthly revenue from the leased stalls and wishes this situation be reviewed.

Notwithstanding the additional off-site spaces available, it is well understood that the current parking supply is wholly inadequate to meet the current demand. It is estimated approximately 20% of staff, patients and visitors park currently park off-site, in unleased private lot stalls or on-street. IHA advises that only 66% of staff have purchased pay parking permits, but it is estimated that 85-90% of staff drive to the site. Anecdotal information from the City of Kamloops suggests staff members are parking in areas to the north and west of the RIH site, which has generated complaints from residents and installation of parking time limits on some blocks. On-site, staff members were observed to be parking in designated stalls for patients and visitors in the main parkade. Patients and visitors cite lack of on-site parking, not parking cost, as most desired improvement while 55% of patients & visitors give parking an average score of 1 out of 10.

General issues and comments regarding parking include:

- Existing on-site midday shortfall (-315 Stalls)
- Lack of “drop-off loop” at Emergency which results in drivers blocking Ambulance bay exit
- Excessive vehicle circulation
- Staff, visitors and patients forced to use inconvenient off-site parking which require long walking distances
- Overflow parking issues onto City streets
- Profit loss due to offsite leased stalls
- Insufficient drop-off supply at main entry

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.



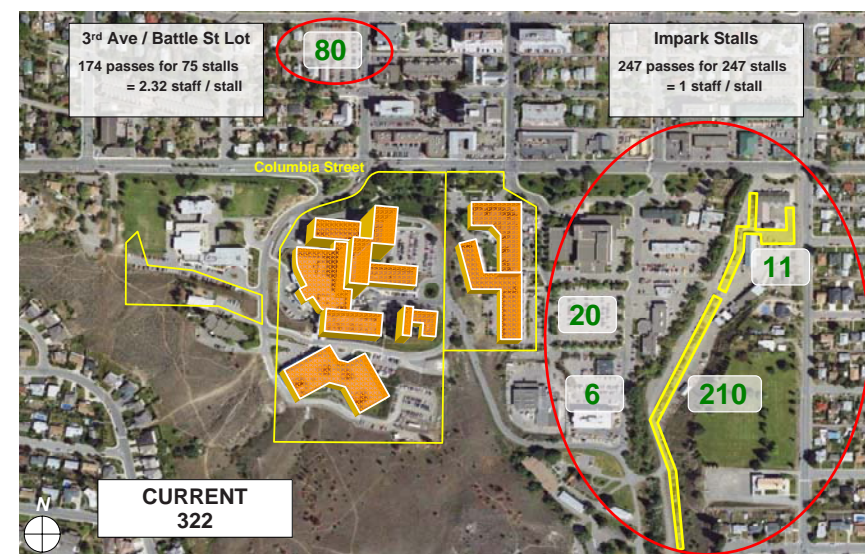
Existing Parking Main Entry



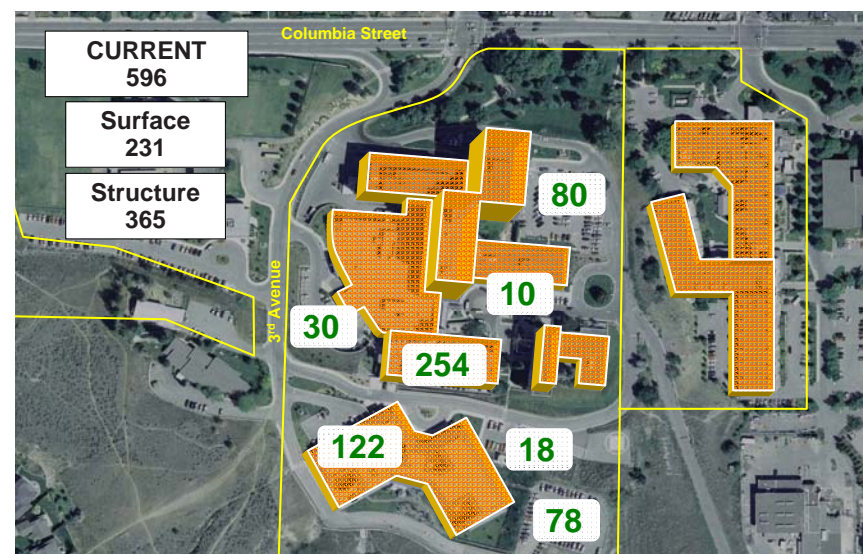
Existing Parking East



Existing Parking Deck Rear



Parking Off-site



Parking On-site

General Conclusions and Observations

The RIH site has both opportunities and constraints ranging from topography to condition of existing building stock that will potentially impact future development. For example, the steep topography across the site 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 RIH must be cognizant of however, when considering future development options include:

- Condition of existing structures and long-term maintenance and operating costs
- Requirement for structured parking solutions
- 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 views including the two branches of the Thompson River and near Kamloops Lake
- Vehicular access and proximity to downtown area
- 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 RIH 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 RIH. 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 *Royal Inland 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 *Royal Inland 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.*

Component/Sub-Component	Space Requirement				Comments
	Current CGSM	5 Year CGSM	10 Year CGSM	15 Year CGSM	
Aboriginal Health	15.0	0.0	25.0	25.0	
Ambulatory Care	1,860.0	2,310.0	2,760.0	2,760.0	Additional 900 sqm increase with 450 sqm in 5 years and the remaining 450 sqm in 10 years
Biomedical Engineering	185.0	210.0	220.0	230.0	Space includes central shop - 185 sqm & storage in IMIT & Alumni Tower - 25 sqm; storage should be with the shop in the future; may be more cost effective to provide all 230 CGSM at the outset.
Cardiopulmonary/Neurodiagnostics	500.0	550.0	680.0	680.0	A combined stress lab (50 sqm) within 5 years and a new sleep lab (130 sqm) within 10 years
Clinical Nutrition	50.0	60.0	70.0	80.0	May be more cost effective to provide all 80 CGSM at the outset
Diabetes Education, Vascular Improvement Program, and Outpatient Nutritional Counselling	460.0	460.0	460.0	460.0	Space includes the 3 programs on the 5th floor of Alumni Tower (415 CGSM) and the VIP Heart Function Clinic located on the 4th floor (45 CGSM); ideally all space should be together.
Diagnostic Imaging	1,710.0	1,800.0	1,950.0	2,200.0	Excludes film/records storage space located in basement.
Discharge Planning & Utilization					
Utilization Coordinator Work Area	5.0	7.0	7.0	7.0	Discharge Planning space is work space; site lead wishes this group to be co-located as soon as possible to support coordinated discharge planning
CAC Work Area	25.0	39.0	39.0	39.0	
PPL Social Work	0.0	15.0	15.0	15.0	
Acute Social Worker Work Area	0.0	35.0	35.0	35.0	
Shift Coordinator Work Area	15.0	15.0	15.0	15.0	
Education Office & Facilities:					
Education Office	55.0	55.0	55.0	55.0	
Lecture/Confer Theatre & Skills Lab	0.0	200.0	280.0	280.0	Assumes lecture/conference space is req'd before the skills lab

Emergency Department					
Emergency Department	1,320.0	1,720.0	1,720.0	1,720.0	Projected space for 15 additional treatment spaces (400 sqm total)
Additional ED Support Space	0.0	150.0	150.0	150.0	Support space required in the same timeframe as tx spaces above
HART Team	0.0	20.0	20.0	20.0	HART team space is a short term need
Trauma Team	0.0	0.0	0.0	45.0	Re-location of Trauma Team can be a longer term initiative
Food & Nutrition Services	1,490.0	1,580.0	1,580.0	1,580.0	Includes both kitchen and cafeteria/servery
Foundation/Auxiliary/Volunteers					
Gift Shop	30.0	30.0	50.0	50.0	Additional retail space within 10 years
Café	20.0	20.0	20.0	40.0	Additional café space within 15 years
Volunteer Coordinator Work Space	15.0	15.0	15.0	30.0	Assumes 2 coordinator positions within 15 years
Future Volunteer Lounge Space	0.0	40.0	40.0	40.0	Require a volunteer lounge space in the short term
Program Specific Volunteer Work Space	0.0	18.0	18.0	30.0	Volunteer work space in specific clinical areas, i.e. ER, DI, Ambulatory Care, RIH Cancer Centre (3 spaces in the short term and 2 additional space within 15 years)
Volunteer Main Information Desk	0.0	15.0	15.0	15.0	
Foundation	70.0	85.0	100.0	115.0	1 additional Foundation staff every 5 years (total of 3)
Health Information Management	1,000.0	1,000.0	1,000.0	1,000.0	
Hospitalist Program	0.0	30.0	30.0	30.0	Includes 1 shared office/teleconf room & 1 shared on-call room
Housekeeping	100.0	100.0	100.0	100.0	May be relocated as part of the current MDR redevelopment
IH Library	225.0	225.0	225.0	225.0	
IH West Staffing Services	210.0	210.0	210.0	210.0	
IMIT:					
Level 1 Area	230.0	230.0	230.0	230.0	On-site space needs will be less if the province-wide data centre is developed in Kamloops
Training Room	18.0	18.0	28.0	28.0	Located on the 9th floor; can relocate but needs to remain on site
Infection Prevention & Control	12.0	24.0	30.0	30.0	May be more cost effective to provide all 30 CGSM at the outset

Inpatient - Medical					
Current space includes 7 North and 3 West	2,390.0	6,020.0	7,280.0	8,400.0	Project 86 medical beds in 5 years, 104 beds in 10 years and a total of 120 beds in 15 years (4 30-bed units)
Inpatient - Surgical					
Current space includes 6 North and 6 South	2,200.0	5,250.0	5,530.0	6,300.0	Project 75 medical beds in 5 years, 79 beds in 10 years and a total of 90 beds in 15 years (3 30-bed units)
Intensive Care Unit	1,450.0	1,900.0	2,170.0	2,530.0	Project 5 additional ICU beds in 5 years, 8 additional beds in 10 years and 12 additional beds for a total of 29 beds in 15 years
Laboratory					
Laboratory	1,370.0	1,570.0	1,770.0	1,770.0	Additional space (400 sqm) if office work space; assume one-half of the space required in 5 years and the remainder in 10 years
Morgue	60.0	60.0	120.0	120.0	Assume morgue expansion in 10 years
Laundry	970.0	1,010.0	1,010.0	1,010.0	Additional space for soiled linen cart holding & cart washing
Logistics	500.0	500.0	500.0	500.0	Improved access to loading dock req'd, which may impact on space
Maternity/NICU					
Labour Delivery Area & NICU	1,130.0	990.0	990.0	990.0	Future space based on 11 SRMCs; required within 5 years
High Acuity Birthing Suite	0.0	0.0	150.0	150.0	Required within 10 years
Outpatient Assessment Area	0.0	90.0	180.0	180.0	Current space included above; 3 spaces within 5 years and 3 within 10 years
NICU with 14 infant spaces	0.0	700.0	700.0	700.0	Current space included above; 14 future infant spaces in 5 years
Future 6 antenatal/postpartum beds	0.0	420.0	420.0	420.0	Current space included above; 6 antenatal/postpartum future beds
TVO	104.0	120.0	120.0	120.0	Currently located in the Alumnae Tower
Medical Device Reprocessing	960.0	930.7	930.7	930.7	Renovation plan is development as per the Sullivan Report
Medical Staff	60.0	100.0	160.0	160.0	Two on call suites in 5 years and additional lounge in 10 years
Mental Health & Substance Use					
Psychiatric Inpt Unit - 1 South	1,280.0	2,100.0	2,310.0	2,520.0	Project 30 beds in 5 years, 33 beds in 10 years & 36 beds in 15 years
Outpatient Services, Eating Disorder Program, Parkview, & Adult Day Treatment Program	497.0	497.0	497.0	497.0	Currently located in the Alumnae Tower; could be located elsewhere with the exception of the adult day treatment program that will require approx. 120 sqm

Paediatrics					
5 South	1,400.0	1,400.0	1,400.0	1,400.0	Space of adequate size; requires renovation; current space includes 2 child psychiatry beds
Child Psychiatry Inpatient Beds	0.0	360.0	540.0	720.0	Project 4 beds in 5 years, 6 beds in 10 years and 8 beds in 15 years
Patient Registration/Admitting	200.0	200.0	220.0	220.0	Additional space for self registration kiosks within 10 years
Pharmacy	500.0	500.0	560.0	560.0	Assumes operationalization of chemo prep space in Cancer Clinic
Plant Maintenance	509.0	509.0	549.0	579.0	Expansion space for the HVAC shop & additional storage
Protection & Parking Services	42.0	42.0	42.0	42.0	The 44.0 sqm Security Centre is included in the Emergency space
Rehabilitation Inpatient Unit	1,160.0	2,900.0	3,400.0	3,900.0	Based on 39 beds in 5 years, 46 beds in 10 years, 54 beds in 15 years
Rehabilitation Services	1,400.0	1,400.0	1,550.0	1,700.0	
Respiratory Therapy					
Acute RT Area	100.0	100.0	100.0	100.0	
Community RT Area	100.0	130.0	130.0	130.0	Currently located in the Alumnae Tower
RIH Administration:					
RIH Administration	275.0	275.0	300.0	320.0	Addn'l Administration space may be required in the longer term
Shared RIH Meeting/Conference Rooms	255.0	325.0	325.0	325.0	Additional 70 CGSM conference room required in the short term
RIH Cancer Centre	1,040.0	1,040.0	1,040.0	1,040.0	
RIH Renal Program	1,040.0	1,040.0	1,040.0	1,040.0	Does not include the future CDU space to be developed off site.
SCAN Children's Health Clinic	100.0	100.0	100.0	100.0	Currently located in the Alumnae Tower
Social Work	0.0	25.0	40.0	55.0	
Spiritual Care					
Shared Space	80.0	80.0	80.0	80.0	
Coordinator Office	15.0	15.0	15.0	15.0	
On-Call Office	0.0	15.0	15.0	15.0	
Spiritual Care Work Area/Meeting Space	10.0	10.0	10.0	35.0	Additional meeting space (25 sqm) within 15 years

Staff Facilities:					
Gym	225.0	225.0	225.0	225.0	
Female Locker Room, Level 1	140.0	165.0	180.0	190.0	
Male Locker Room, Level 1	20.0	35.0	35.0	45.0	
Union Offices	25.0	25.0	25.0	25.0	
Future Staff Lounges	0.0				Future staff lounges to be based on 1 shared space per floor, which will need to be determined during detailed programming/design
Surgical Services					
Surgical Suite/PAR	1,610.0	2,860.0	3,210.0	3,380.0	11 ORs and 17 PAR spaces in 5 years, 12 ORs and 18 PAR spaces in 10 years and 13 ORs and 20 PAR spaces in 15 years
Daycare Surgery	1,230.0	1,230.0	1,230.0	1,250.0	Require additional storage (20 sqm)
PSS & OR Booking	270.0	270.0	270.0	270.0	
UBC Medical School:					Full expansion of the on-site UBC Medical Program is targeted to occur by 2014/15, at which point it is assumed that 100% of their Functional Program on-site space requirements will need to be provided.
Centralized Areas	65.0	277.0	204.9	204.9	
Library & Study	0.0	47.0	47.0	47.0	
Admin Offices & Family Practice	0.0	126.0	126.0	126.0	
Inpatient Area	0.0	72.0	72.0	72.0	
Grossing Factor - net to gross	0.0	0.0	0.0	72.1	
Total	34,402.0	49,341.7	54,110.6	58,149.7	

BED PROJECTIONS

The following two tables provide an overview of the current beds and the future bed requirements for RIH. For detailed information, refer *Royal Inland Hospital, Master Plan, Final Report*, RMC Resources Management Consultants, December 2010 (submitted under separate cover).

RIH Current Beds

UNIT NAME	CURRENT FUNDED BEDS
Medical Beds	
7 North	38
3 West	22
5 South	4
<i>Medical Beds - Subtotal</i>	64
Surgical Beds	
6 North	34
6 South	32
<i>Surgical Beds - Subtotal</i>	66
Mental Health Beds	
Adult Psychiatry Beds	26
Child & Adolescent Psychiatry Beds	2
<i>Mental Health Beds - Subtotal</i>	28
Maternity Beds	
Paediatric Beds (5 South)	9
ICU/CCU	14
Rehabilitation Beds (5 North)	31
TOTAL	226

Notes:

- Excludes NICU and bassinets (there are 8 funded NICU spaces)
- The Health Service Director, Tertiary Rehabilitation Program, states 5 North is a "mixed Medicine-Rehab 31-bed unit with 18 of the beds designated for rehabilitation patients, 4 clustered stroke beds, and 9 lower acuity medicine beds".

RIH Projected Bed Requirements

UNIT NAME	CURRENT FUNDED BEDS	PROJECTED BEDS 2016	PROJECTED BEDS 2021	PROJECTED BEDS 2026
Medical Beds	64	(+22 beds) 86	(+18 beds) 104	(+16 beds) 120
Surgical Beds	66	(+ 9 beds) 75	(+4 beds) 79	(+11 beds) 90
Adult Psychiatry Beds	26	(+4 beds) 30	(+3) 33	(+3 beds) 36
Paediatric Psychiatry Beds	2	(+2 beds) 4	(+2 beds) 6	(+2 beds) 8
Maternity Beds	14	(+2 beds) 16	(+2 beds) 18	18
Paediatric Beds	9	(+1 beds) 10	(+1 bed) 11	11
ICU	14	(+3 beds) 17	(+6 beds) 23	(+6 beds) 29
Rehabilitation Beds	31	(+8 beds) 39	(+7 beds) 46	(+8 beds) 54
TOTAL	226	(+60 beds) 286	(+40 beds) 326	(+40 beds) 366

Notes:

- 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.
- IH projects 55-60 additional beds for RIH by 2016 and 90-100 beds by 2021 (Source: Baseline Bed Forecasts for CMH and RIH – October 1, 2010 email from Aaron Miller, IH).
- 2026 bed number based on the projected growth trend for the previous 5-year period, i.e. 2021, for a total of 125-140 beds by 2026.
- Medical and surgical bed number growth assumes the units will not include off-service patients, e.g. ALC and medical patients.
- Rehabilitation bed projection includes stroke beds (8-10 beds), 10 geriatric rehab beds and 12 geriatric assessment beds.
- Maternity beds include SRMC space; based on P.E.O.P.L.E. births for Kamloops of 1,052 by 2026.
- The RIH 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 RIH 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 RIH 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 RIH 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 RIH 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 RIH 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 RIH 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, RIH 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 (Alumni Tower, Parking Structure)?
- 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 IPU's
- Retrofit of existing IPU's (i.e. for Administration or Intensive Care programs)
- Programming for Alumni Tower and Ponderosa Lodge
- Location of parking structures and off-site parking
- 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 RIH 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 various program components identified for master programming at RIH. 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 Kamloops, 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 series of community information sessions will be scheduled to showcase the preferred options including opportunities for the long term future of health care on the RIH site.



Design Charette Working Session



Design Charette Working Session



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 RIH 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

- To better understand the current configuration of the RIH site
- To thoroughly understand the vertical and horizontal adjacencies that we have and the challenges that they currently pose
- To assess this site in terms of the range ages of existing facilities and physical site constraints
- To proceed to discover solutions in a positive and purposeful way within realistic limitations
- To communicate optimism to staff, community and neighbours based on a practical way forward
- To create a therapeutic environment
- To create an uplifting work environment for all physicians, volunteers, and staff
- To take advantage of technological advances
- To address new building code requirements and standards
- To address sustainability
- To create a plan that can be logically implemented over time
- To instigate new ideas regarding mutually beneficial external partnerships and linkages

ADVANTAGES AND ASPIRATIONS

- RIH is a huge economic engine for the community
- Dream big in a way that makes sense”
- Recruitment depends on current staff morale”
- Kamloops is the centre of the web of surrounding communities
- Message to world: move here for our “quality of life” and active lifestyle

ISSUES

Image and Empathy

- Current “feeling of scarcity”
- Fear that medical input will be undervalued
- Do not want to be faced with cement edifice “welcome to the hospital”
- Build on western heritage
- Parking lots are stressful
- Must reassure neighbours

Planning Issues

- Think in terms of “transportation” rather than self-limiting concept of “parking”
- Patients currently struggle to get from parking to their destination
- Need more space for surgery
- 20% increase in elderly expected over next 5 years
- Look at new ways of delivering services

Positioning the Project for Approval to Proceed

- Consultants must bring current provincial government priorities to the table in order to position this project for approval to proceed
- Consider potential impacts of UBC Okanagan Medical School
- Consider impact of Thompson Rivers University (including distance learning)
- There may be parking opportunities for the broader public (via P3?)
- Understand the city’s perspective

Potential Pitfalls

- Silo mentality vs. holistic priorities: need to think bigger than your department
- Managing expectations so that we don’t sell ourselves short while remaining realistic
- Individuals with negative energy (address via our advanced collaboration process)
- Look beyond the data (be aware of the perils of linear prediction)
- Potential for more consolidation of services to RIH
- Need to look at alternatives, dig into assumptions

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 by creating an open centre of community health.

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

DESIGN PHILOSOPHY

IHA and RIH 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 RIH have identified a need to enhance their Surgical services, increase their Inpatient beds, and place a stronger emphasis on Ambulatory Care programs within the site.

In addition, RIH is embracing the concepts, values and current standards for daily operational practices within their organizational structure and culture. Physically, this means that RIH 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 RIH 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 RIH site. As IHA moves forward with an organizational restructuring meant to strengthen its role and to become "one region", IHA and RIH 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 RIH commitment to provide services in the most effective and efficient manner possible and that the Kamloops 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 RIH 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 Kamloops community. Based on the collaborative input from the RIH 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 RIH 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 or uses its lands. 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 RIH Master Plan. Like the Kamloops community that supports it, the role of RIH is changing. Organizational restructuring and changing priorities within IHA will undoubtedly impact both the services offered at RIH but also the way in which they are delivered. Additionally, the role of RIH 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 RIH 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

As part of the Sustainable Kamloops Plan, the City of Kamloops has mandated to *ensure health and wellness of the community is an integral part of sustainability, both in terms of maximizing quality of life as well as in terms of the economic impacts of providing health care.* Additionally, the City has committed to *making the most of scarce healthcare resources and to ensure that people's needs continue to be met, through a holistic, community-based approach to health that is proactive in promoting wellness, aims to reduce preventable illness, and finds sustainable approaches to long-term treatment of chronic illness.* With this in mind, RIH is presented with a unique opportunity to help achieve this 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 included in the planning process, the strategy 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**
The proposal is cognizant of environmental factors, existing natural resources, 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 through internal skylights and light wells, areas of respite and views out to the park.

Creating an Integrated Community Asset

If RIH is to become even further integrated with the Kamloops 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 Kamloops. 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 Kamloops 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.



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 what RIH can be in the future?
- GALVANIZING:** Does it build consensus around shared values, needs and priorities?
- PROVOKING:** Is it a catalyst for rethinking your role and function of RIH?
- 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 Kamloops 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 for a 10 and 15 year buildout. An overview of the high-level planning (parking) strategy or 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 / RIH Master Plan and Steering Committees, the sub-consultant team, from knowledge of current site conditions, known space programming requirements, and existing facility conditions.

- Current IPU's at RIH are technically deficient and fail 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).
- Alumni Tower is considered a strong candidate for demolition.
- Hillside Acute Psychiatric Facility is not part of the scope of work.
- Ponderosa Lodge is considered a strong candidate for temporary decanting of clinical programs.
- Future growth requires either the expansion of the existing plant or the creation of new energy plant facility.
- 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.
- Minimizing disruption to on-going hospital operations is paramount.
- Logical, feasible development phasing must be carefully considered.
- Phased development strategies to allow for incremental funding approaches that allow for new facilities to be constructed in alignment with clinical demand.
- Existing Emergency / ambulance drop-off is inefficient due to poor vehicle circulation and must be reconciled within the Master Plan.

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 IPU and bed numbers and an overall growth of the entire facility by more than 60%. (See: Select Growth Areas by Comparison)
- Program growth generated 135% growth in the number of parking spaces thus requiring a multi-storey parking structure
- Cost implications for moving from off-site and surface to structure parking
- Inpatient units that are now planned at more than double the size of what is currently in use at RIH limits potential reuse of existing structures
- Significant increase in single-bed requirements versus what is currently the standard at RIH results in inability to meet current standards of care
- Significant growth in Emergency, Ambulatory Care, and Inpatient 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 hospital
- Need to balance impact on neighbours with the need for additional built forms including parking, and (potentially) mechanical plant
- Need to find solutions for Columbia Street green lands that help address pedestrian and vehicle access, along with opportunities for parking within the site.

Existing Building infrastructure

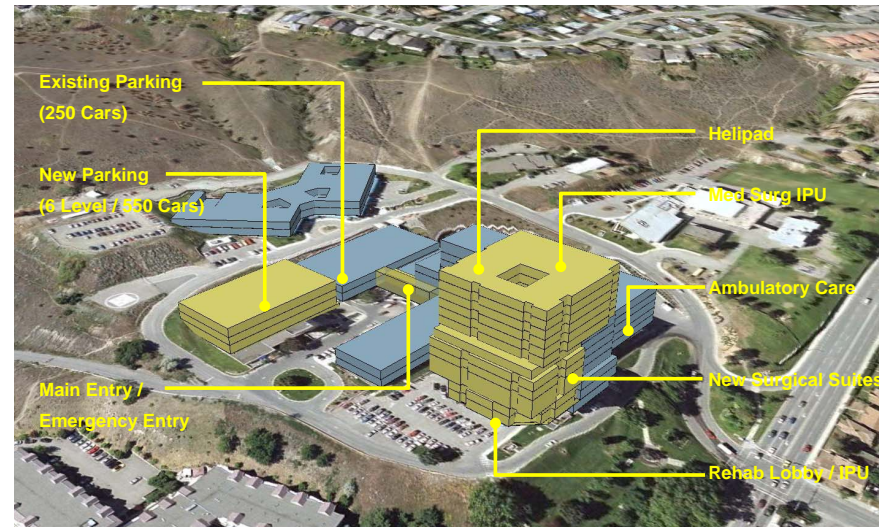
- Physical and spatial limitations of existing infrastructure restricts potential programming and phasing opportunities
- Disruptive retrofits of existing IPU potentially generates negative impacts for patients and staff

Select Growth Areas by Comparison

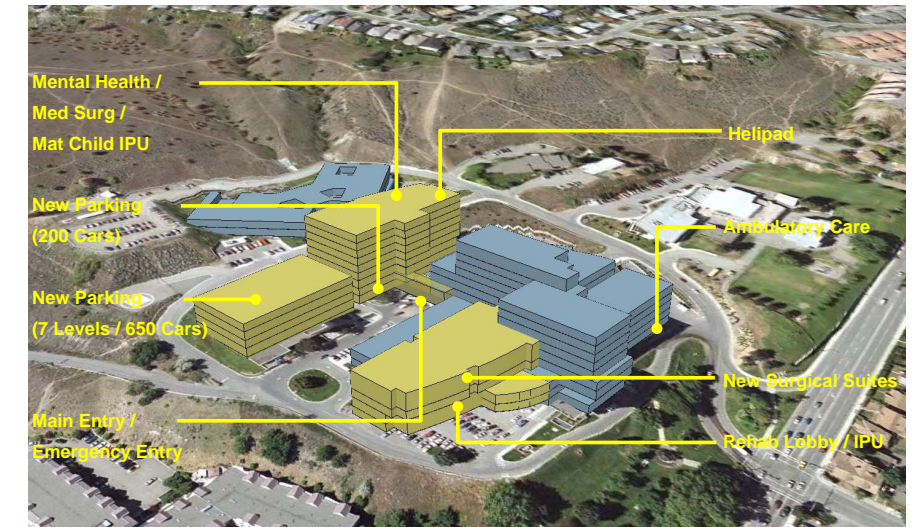
Program	Growth
Ambulatory Care	1.5 Times
Diagnostic Imaging	1.2 Times
Emergency	1.3 Times
Inpatient - Medical / Surgical	3.5 Times
ICU / Step Down Unit	2 Times
Maternity / NICU	2 Times
Mental Health / Addictions	2 Times
Rehab Inpatient	3 Times
Surgical Suites	2 Times
UBC Medical School	8 Times
Overall	1.6 Times

PLANNING STUDIES

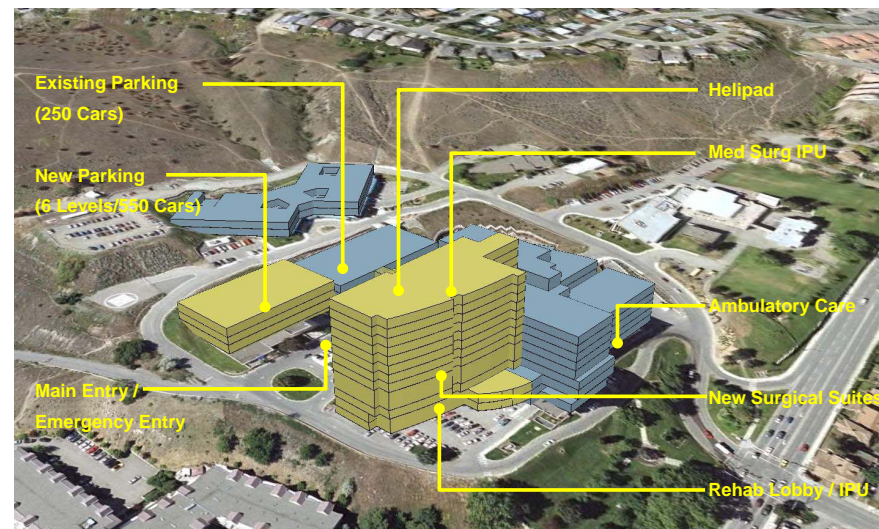
Resulting from the charrette process several initial planning options and variations were explored and discussed. The merits and demerits of each option were discussed by the group. Positive elements of each study were preserved while negative aspects were discarded. The result is an optimal and preferred 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 1

At a high level, this planning study explored the creation of a single expansion / new construction of a square-shaped Med / Surg IPU tower located at the north east corner of the main building. This tower would contain all necessary required inpatient beds including Mental Health and Rehabilitation programs. Additionally, this tower would include the expansion of the Surgical Suites on Level 4. This study also worked to create a consolidated Ambulatory Care and Outpatient cluster at the north side (Columbia Ave.) of the hospital. Also, typical to all schemes it proposed the reconfiguration / expansion of the main entry and lobby to facilitate the clarification of the entry sequence and also the expansion of the Emergency and Diagnostic Imaging departments. A dedicated Outpatient lobby with access to co-located public programs (Library, Lecture Hall and Staff spaces) and direct link to the newly improved concourse was also created. Parking structures were proposed adjacent to the existing structure where the current Alumni Tower resides along with underground parking as part of each major expansion wing. Demolition of Alumni Tower also allows for parking and expanded main drop-off at front entrance. Surface parking and structured parking was also considered for the newly purchased adjacent lands. The Emergency entrance was also relocated to correspond with the main lobby thus leaving the existing entrance dedicated to Ambulance access only.

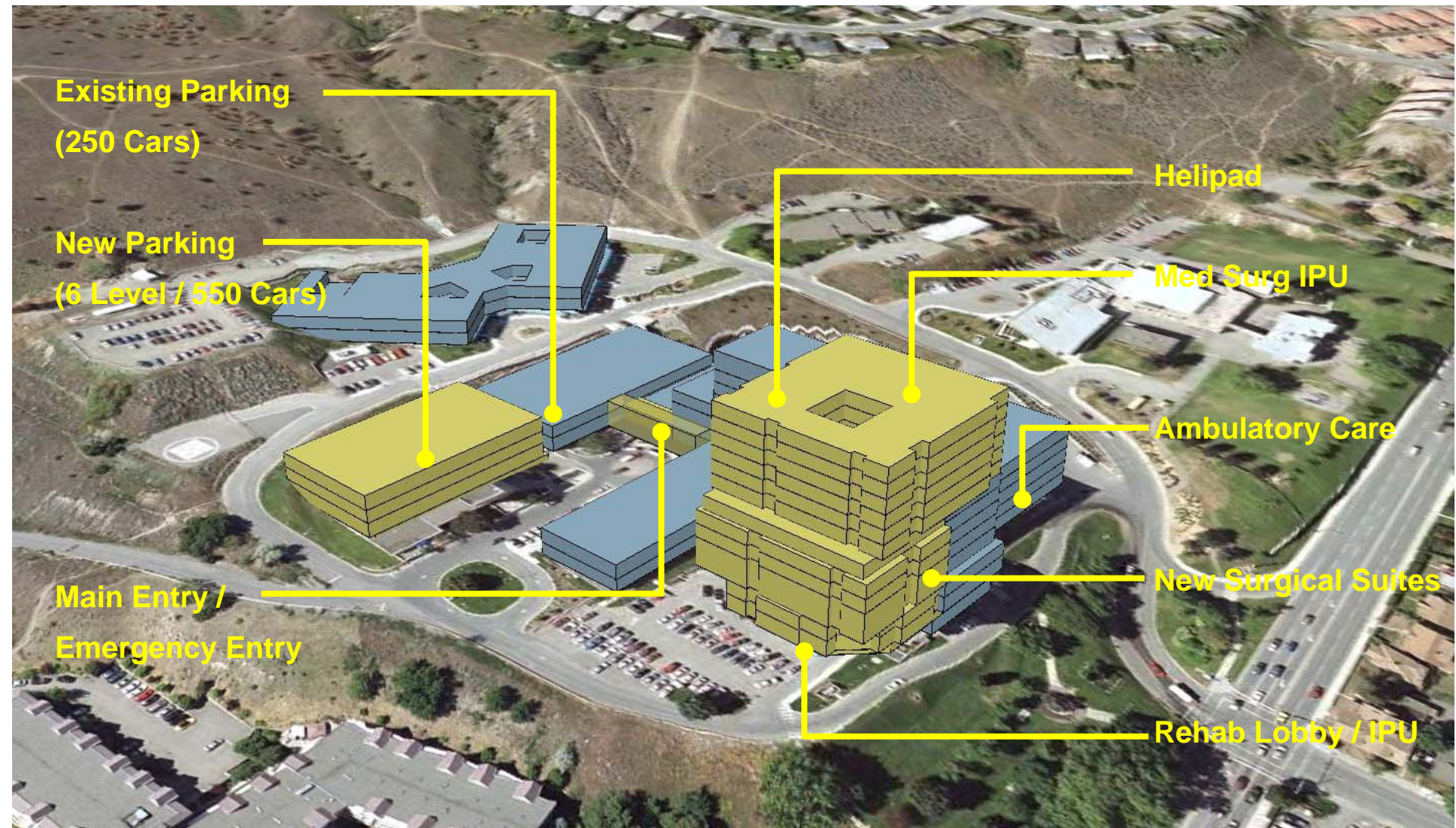
Initial response to this option was negative. Feedback included the lack of phasing of the single tower and the overall height of the tower. Additionally, the inability to create paired adjacent IPU's was a negative aspect of this scheme. Feedback on the Ambulatory / Outpatient cluster and reconfigured entry lobby however was positive and remained a consistent theme throughout all options.

PROS

- Creates consolidated Ambulatory Care / Outpatient program cluster
- Provides separate and dedicated Outpatient entry and Lobby
- Provides additional underground parking to replace current deficiency
- Provides additional structured parking to replace current deficiency
- Provides opportunity for internal court and access to natural light for patient units

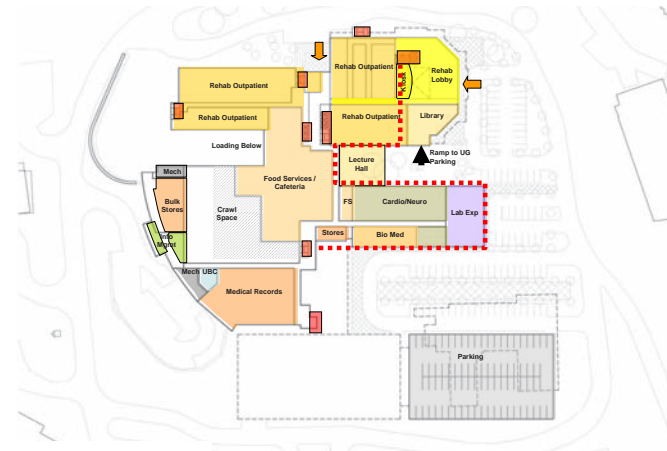
CONS

- Consolidates new construction into single, very large clinical block
- Limited phasing opportunities
- Inability to create paired 32 / 34 Bed IPUs
- Required reuse of Inpatient units that do not meet current standards.
- Mix of old and new IPU results in operational inconsistencies
- Courtyard dimensions represent an impractical architectural solution

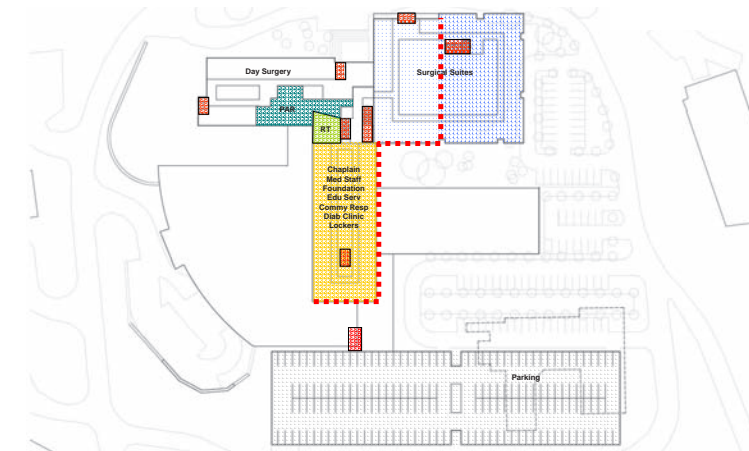


Aerial View Looking South-West

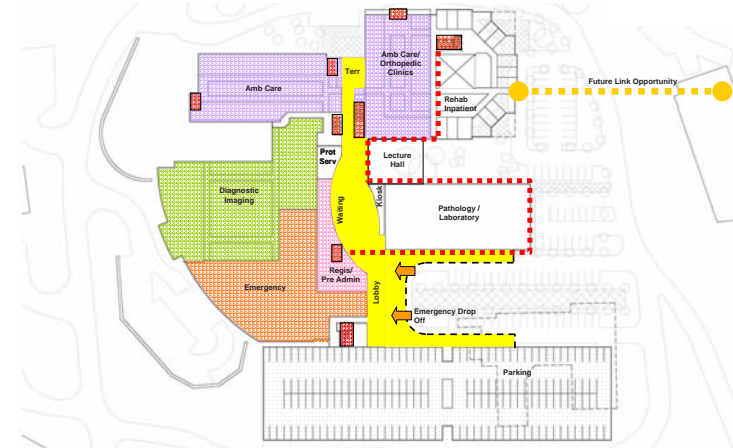
STUDY 1 - BLOCK PLANS



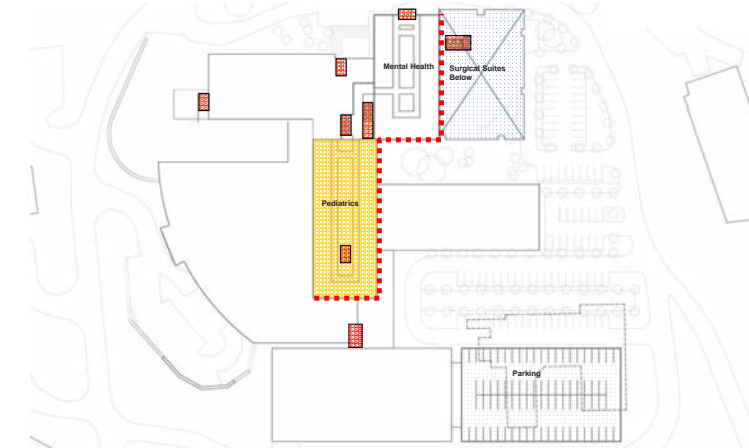
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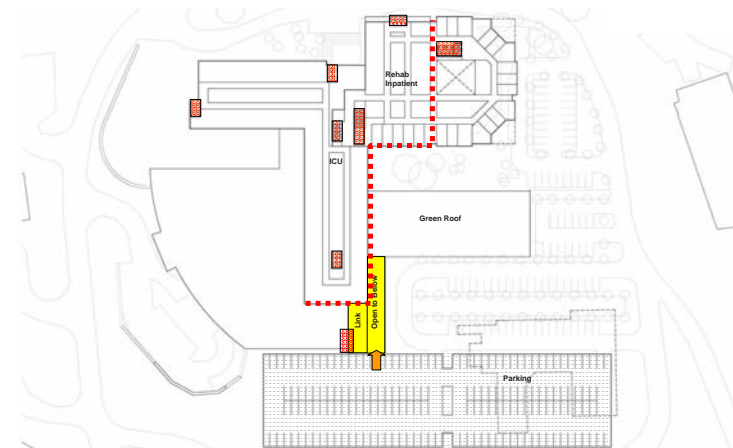
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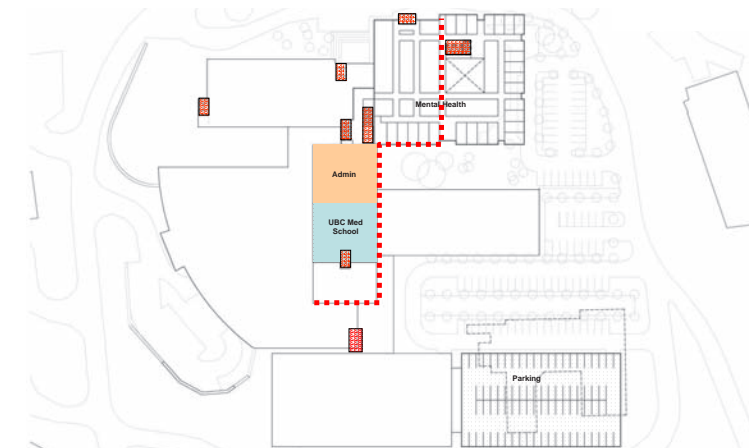
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Level 5



Level 3

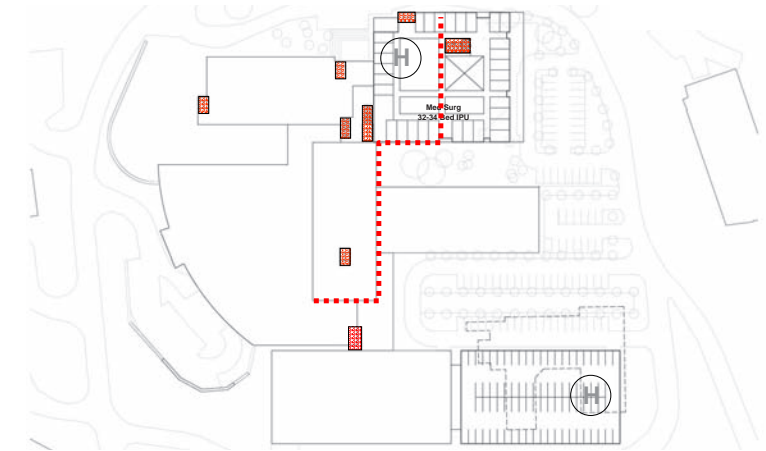


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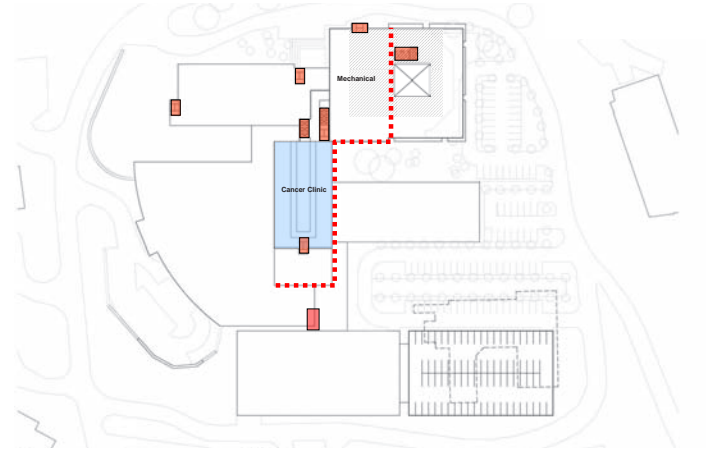
STUDY 1 - BLOCK PLANS



Level 7



Level 10



Level 8



Level 9

STUDY 2

At a high level this second planning study was similar to the first with the exception of the configuration of the Med / Surg IPU tower. In this study, the tower shape was revised and was conceived as all new construction located adjacent to the existing Laboratory wing (as opposed to an expansion of the existing Inpatient tower). The overall architectural shape and configuration of the IPU tower was also considered. Programmatically, this study is similar to the first study in that it also reconfigured the entry lobby, created an Ambulatory / Outpatient cluster and provided a dedicated Outpatient lobby at the north east corner of the site. Similar to the first study, a new parking structure was proposed adjacent to the existing structure where the current Alumni Tower resides along with underground parking as part of each major expansion wing. Surface parking and structured parking was also considered for the newly purchased adjacent lands. The Emergency entrance was also relocated to correspond with the main lobby thus leaving the existing entrance dedicated to Ambulance access only.

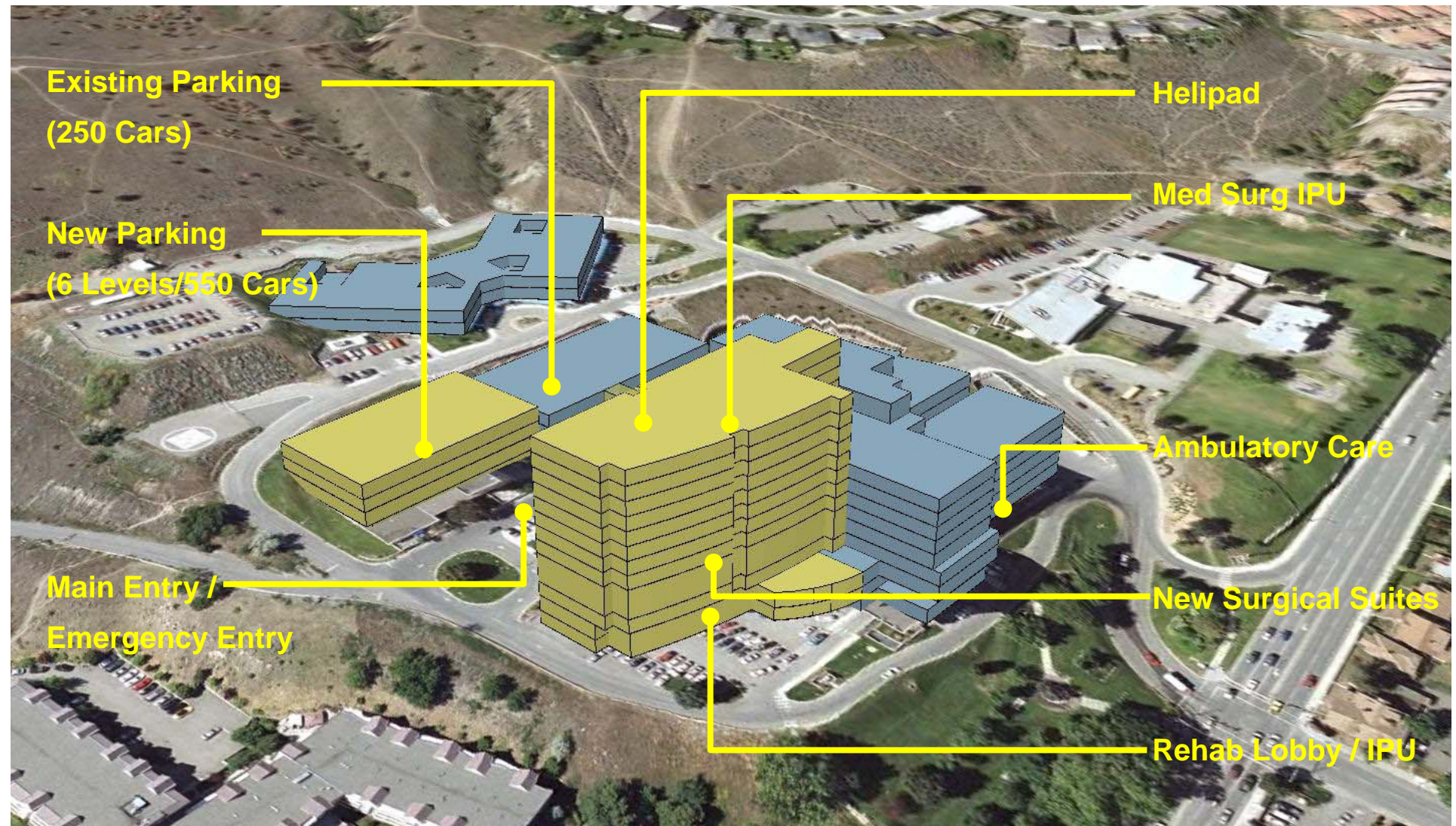
Initial response to this option was positive. Feedback from the users included a preference for the overall architectural shape of the new tower as it referenced the recent Phase 1 addition and the ability to create entirely new IPU's. Similar to the first study, the lack of phasing of the single tower and the overall height were considered negative aspects. The inability to create paired adjacent IPU's was also negative aspect of this scheme. Feedback on the Ambulatory / Outpatient cluster and reconfigured entry lobby however was positive and remained a consistent theme throughout all options.

PROS

- Creates consolidated Ambulatory Care / Outpatient program cluster
- Provides separate and dedicated Outpatient entry and Lobby
- Provides additional underground parking to replace current deficiency
- Provides additional structured parking to replace current deficiency
- Does not require reuse of existing IPUs
- Provides entirely new IPUs at current space standards
- Does not require retrofit of existing structure to provide all new IPUs
- More architecturally appropriate form and expression

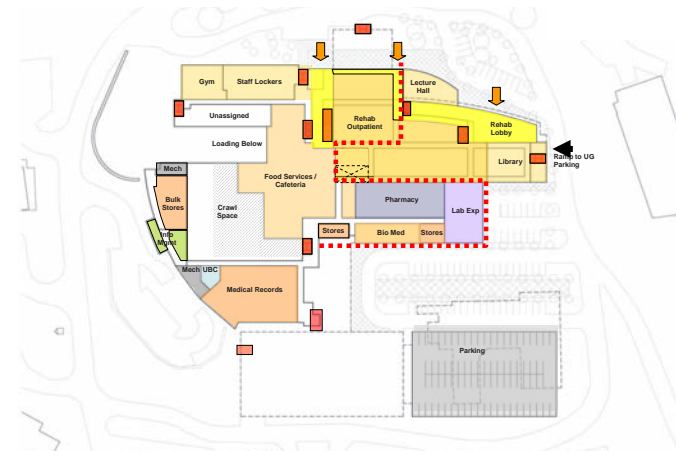
CONS

- Consolidates majority of new construction into single, very large clinical block
- Limited phasing opportunities
- Inability to create paired 32 / 34 Bed IPUs

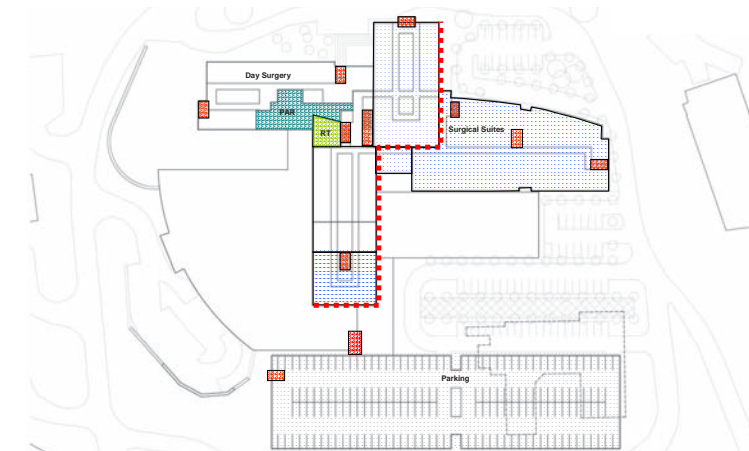


Aerial View Looking South-West

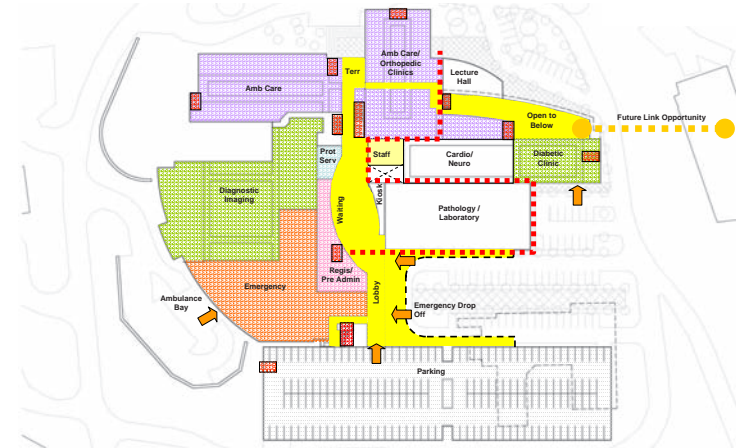
STUDY 2 - BLOCK PLANS



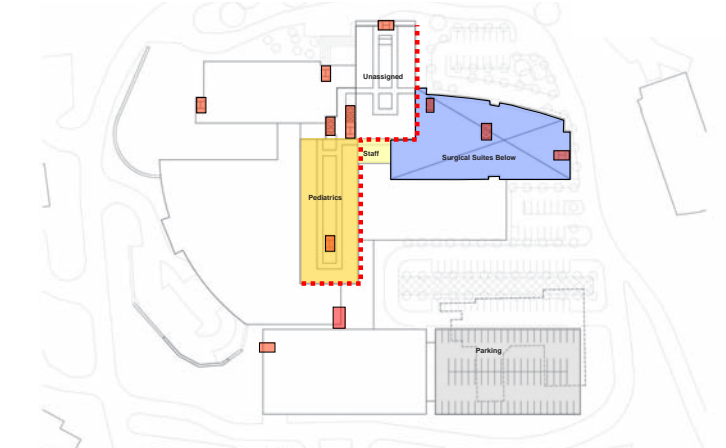
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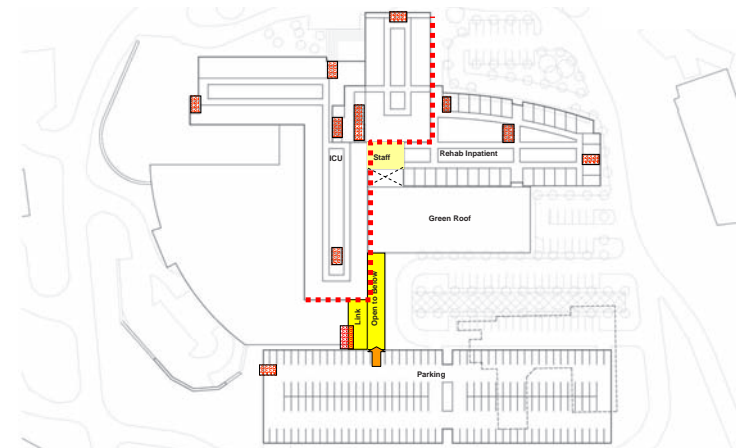
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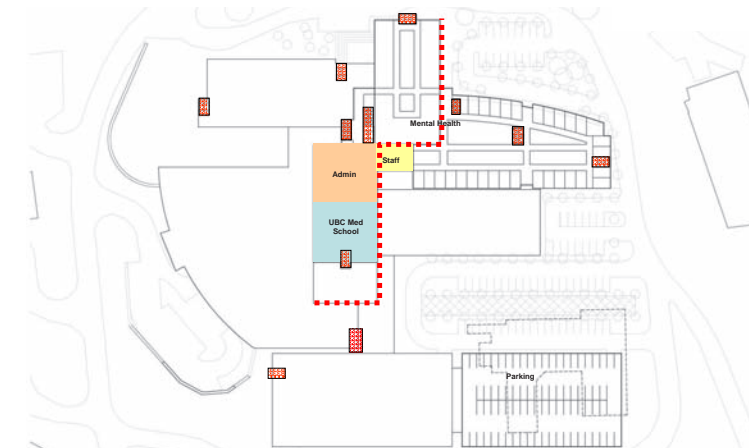
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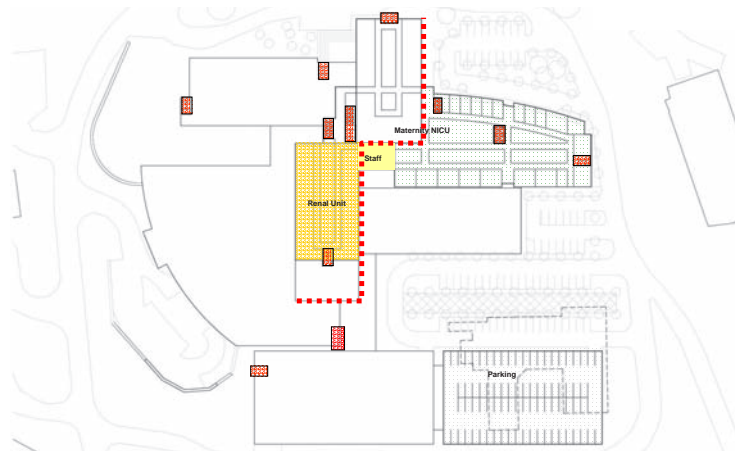


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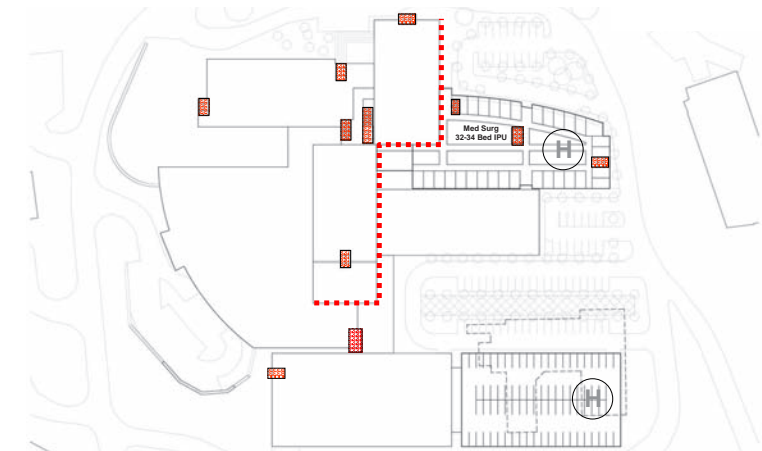


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STUDY 2 - BLOCK PLANS



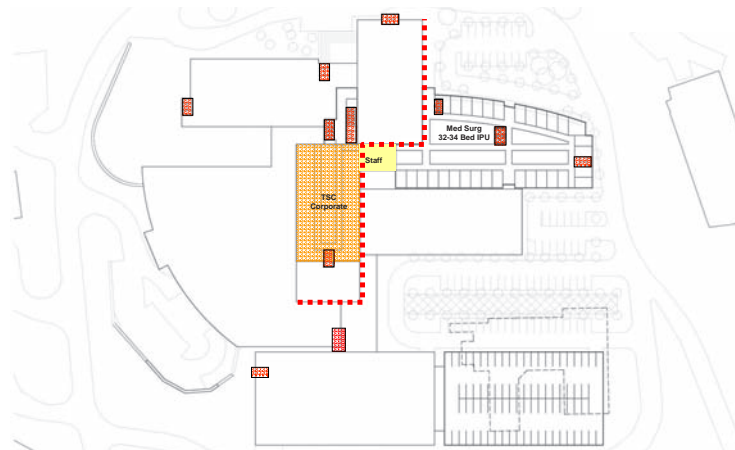
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STUDY 3

At a high level this study preserved key aspects of the previous study. Positive elements that were consistent included the IPU tower located adjacent to the existing Laboratory, the reconfigured entry lobby and the Ambulatory / Outpatient cluster. However this scheme introduced several major diversions in planning. Firstly, the north IPU tower would only include Surgical Services and Rehab programs. Second, the existing parking structure was removed and replaced with a new structure that included a relocated Emergency entrance at grade. Thirdly, the new larger parking structure would be designed to integrate Inpatient and Outpatient programs and IPU's located above. The Mental Health Outpatient program in this study is located at grade to have a relationship with the existing Hillside Acute Psychiatric Facility. In this study the helipad was also included atop the southern IPU to allow direct access to the Emergency department below. Similar to the first study, surface parking and structured parking was also considered for the newly purchased adjacent lands.

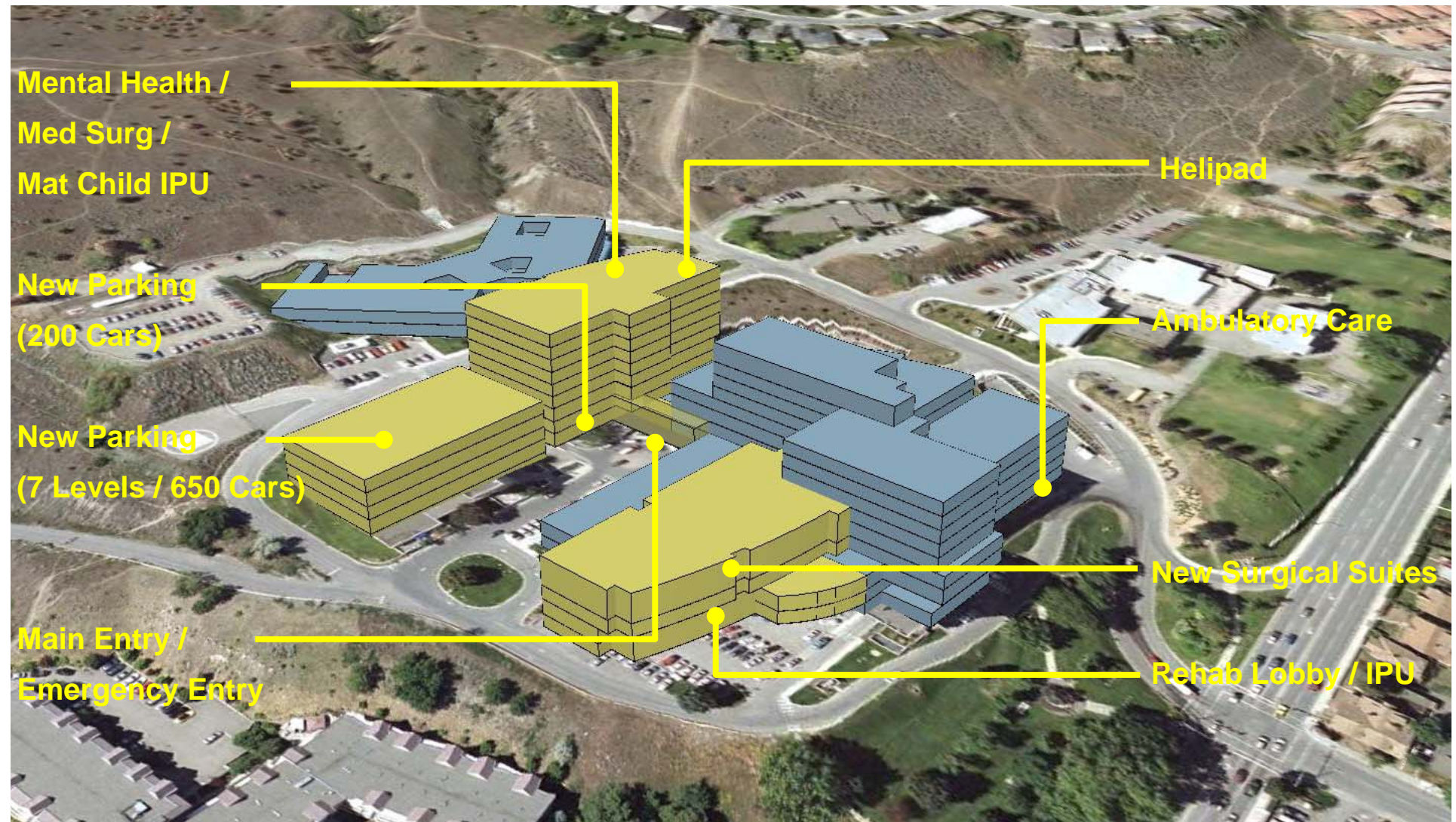
Feedback from this option was positive and formed the basis for the preferred scheme. Positive attributes included the phasing potential, the betterment of the Emergency entrance, and the distribution of IPU programs to several locations within the site. Additionally, this study provided the ability to create paired 32 / 34 bed, IPU's atop the newly created parking structure. This was seen as a great benefit for the users both in terms of phasing and operational efficiencies.

PROS

- Creates consolidated Ambulatory Care / Outpatient program cluster
- Provides separate and dedicated Outpatient entry and Lobby
- Provides additional underground parking to replace current deficiency
- Provides additional structured parking to replace current deficiency
- Creates opportunity to new and separate Medical and Surgical IPUs at current space standards
- Does not require reuse of existing IPUs
- Opportunity to created paired IPUs atop new parking structures
- Does not require retrofit of existing structure to provide all new IPUs
- Increased phasing opportunities
- More architecturally appropriate form and expression

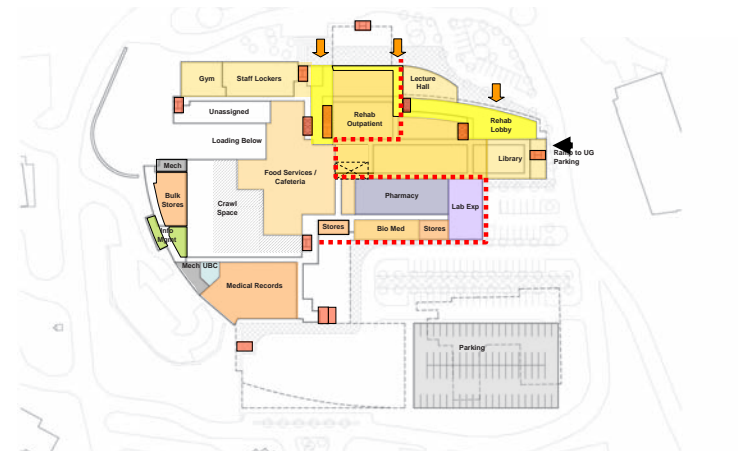
CONS

- Significant building development on single site
- Some reuse of existing infrastructure (IPU floors)
- Some unassigned space within existing infrastructure (IPU floors)
- Potential impacts on existing civil infrastructure needs to be further examined.

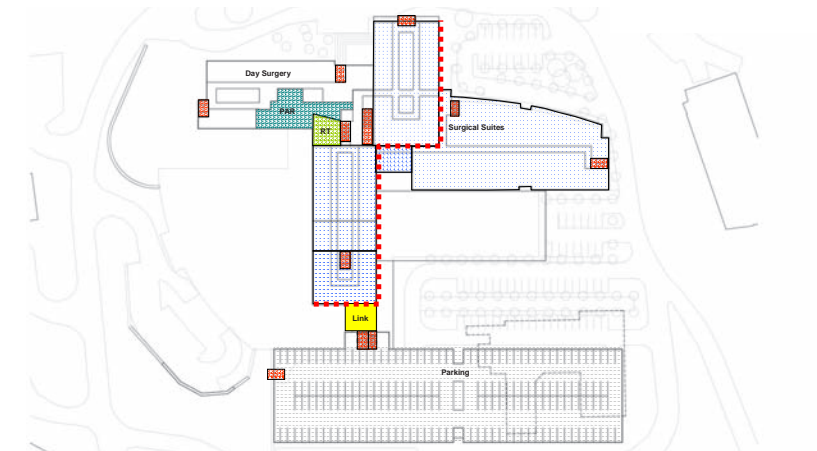


Aerial View Looking South-West

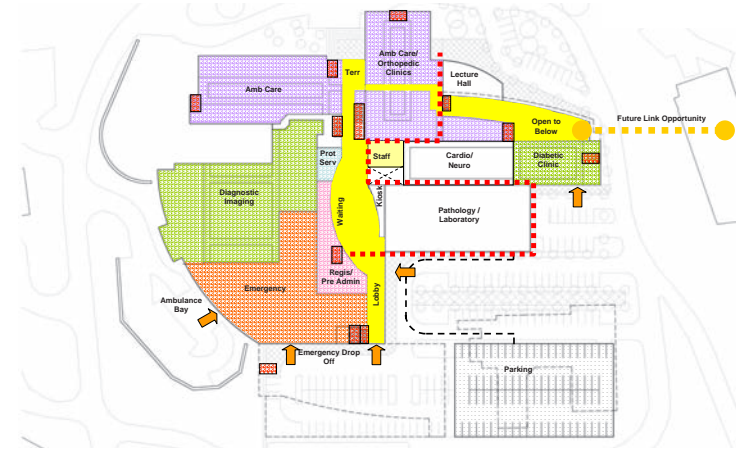
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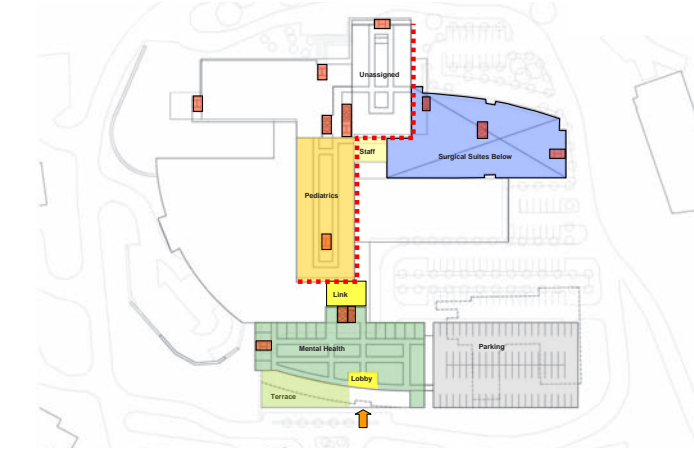
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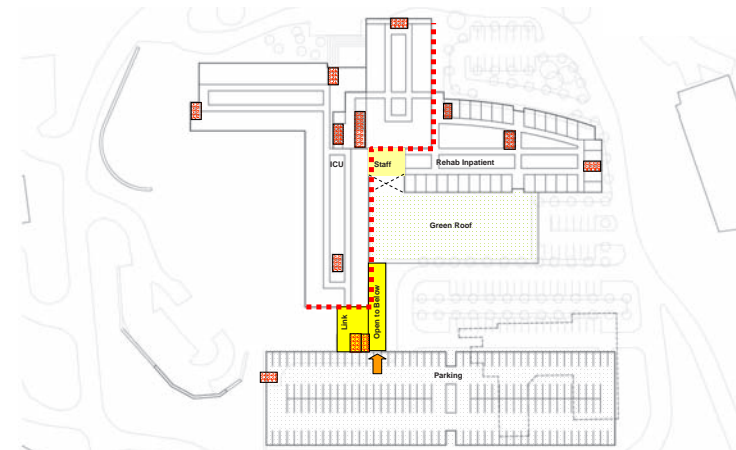
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STUDY 3 - BLOCK PLANS



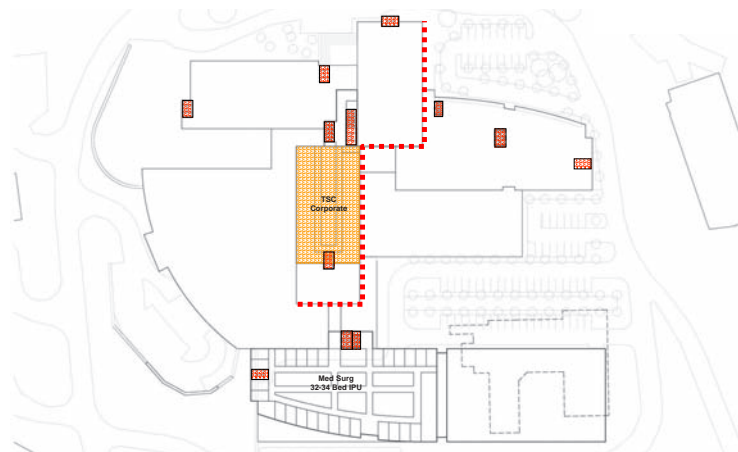
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PREFERRED PLANNING STRATEGY

The mandate that drives the preferred planning strategy is *the need to accommodate all current and future clinical and patient programs, including Mental Health programs (currently in Alumni Tower) and all parking requirements on the RIH site and within existing and 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 Kamloops 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.

Additionally, the strategy presented within the Master Plan assumes two critical development horizons – 10 years and 15 years. The mandate for this strategy is to accommodate growth in critical clinical programs as early as possible and to utilize as much of the existing capital investment (structures and spaces) as reasonably feasible for the immediate short-term. The Preferred Planning Strategy therefore presents two sets of development plans that address the two distinct planning horizons.

It is known that IHA is projecting a reasonable amount of growth in programs and services to 2025 / 26 that will be delivered at the RIH site, particularly in the total bed requirements as well as a critical need for an updated Surgical Services department. Additionally, the current state of its infrastructure does not meet current hospital planning standards thus making it challenging to deliver effective care in a safe and efficient manner. In general, the critical departments (Surgical Services) and the existing Med / Surg IPUs fail to meet current design standards in terms of total area, support area, barrier free access and relative to the preferred ratio of private to semi-private rooms.

Specific to IPU design, the Master Program has 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 the replacement of as many existing beds as possible.

As explored in the previous planning studies, several locations for the IPU were considered. It was decided that the preferred approach was to divide Medical and Surgical beds across two new independent structures and phase them over the full 15 year growth period. This strategic decision was based on several factors including:

- Alignment of clinical priorities and phasing
- Constructability and overall impact
- Availability of capital resources over time
- Site and building capacity
- Limitations for vertical expansion
- Condition of existing infrastructure
- Quality of environment for patients and staff

However the Master Plan also recognizes that space is limited, recent capital investment has been made and the impact of a full move may be disruptive so some departments are better served by remaining in their current location and expanding into vacated adjacent space. Pediatrics and the ICU are two programs that follow this strategy.

RIH has identified a priority need for expansion to its Surgical program. To facilitate this growth, the Master Plan proposes a multi-level new Surgical tower be constructed adjacent to the existing Laboratory building. It also recognizes the need to provide additional Ambulatory / Outpatient programs with a dedicated access separate from the current main entry. To serve this, a dedicated Outpatient lobby is provided with related public programs (Library/Lecture Hall) in its area. Parking is also an issue and as such this first phase recommends underground parking immediately below this new tower development as part of the plan. This significant phase of growth will not only resolve clinical and bed requirements, along with easing parking pressures, but will also send a strong message to the community that RIH is committed to providing the best care possible. Architecturally the fluid shape of the various towers is intentional to reflect the existing structures and to soften the overall lines but also to express the rolling topography of the region.

The planning strategy also responds to the need to create both a more defined Main Entry. The proposed multi-storey glazed lobby and expanded concourse with consolidated Registration and Pre-admitting programs is envisioned as a naturally lit space animated with retail amenities, waiting areas and clear lines of circulation to parking and vertical lifts. Additionally the new Main Entry is designed to enhance the overall appearance and entry sequence for the site which is currently understated and in need of enhancement.

Internally, the primary strategy was to provide clear front-of-house circulation routes with a direct access to nature, views or outdoor terraces across all levels where possible. On the main floor, the central Concourse has been designed to have a strong visual and physical relationship with the new Main Entry.

Alumni Tower has also been considered in the overall planning and site strategy. Given the age of the facility and its prime location on the site, the Master Plan recommends demolition to allow for an expanded entry area and creation of a multi storey parking structure. As RIH has expressed a desire to reconcile the Emergency entrance, the Master Plan incorporates the new Emergency entry within the new parking structure. This adjustment provides a stronger relationship with the Main Lobby and access to parking but also decongests the existing drop off by dedicating it to Ambulance traffic only. Additionally, these parking structures are designed to allow clinical expansion both above, but also internally, by providing clinical floor to floor heights as opposed to typical parking structure heights.

Note: The Master Plan achieves the projected growth of the Emergency department (615sm) resulting in a total future department area of 1,935sm. Beyond this, the site has the capacity for an additional potential expansion

of approximately 600sm by expanding into the existing drop-off area. This expansion amount is an estimate only and makes allowance for the necessary vehicle and ambulance circulation in same area.

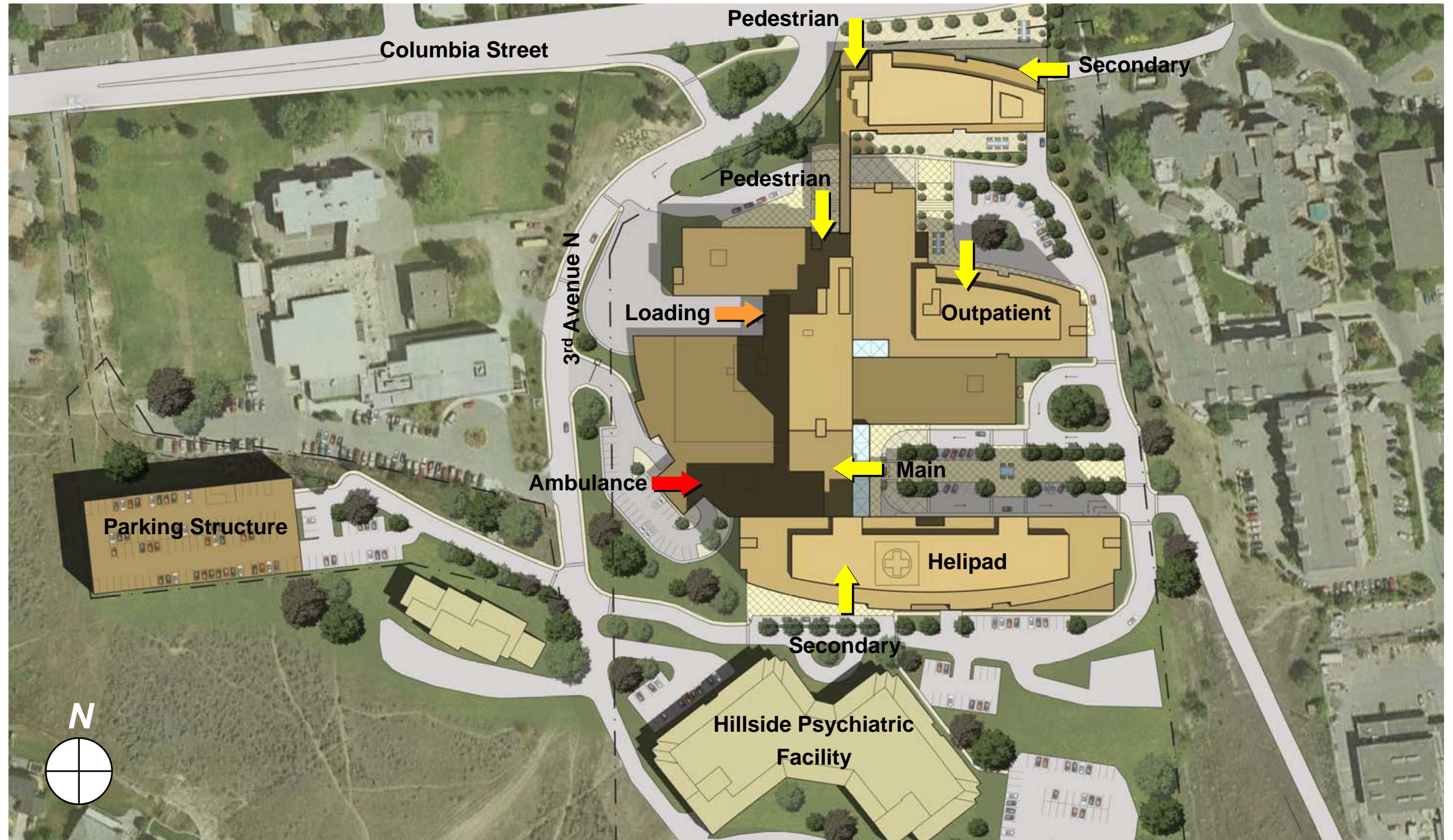
Parking is also considered within the scheme through the creation of two additional parking structures. The first structure will hold approximately 450 cars and be located on the newly purchased adjacent lands. The second structure referenced within this document as the Columbia Street Parkade and Services Building, will be located on the green lands fronting Columbia Street and will hold approximately 350 cars. Access to this structure will be from the east via the Ponderosa lands. A second access will also be provided up the hill within the site. This structure could potentially contain a variety of related programs including retail at grade, the UBC Medical School and future clinical expansion area. A direct link to the main Concourse on Level 2 will also be included to enable direct internal pedestrian access to the main hospital.

An additional element that will impact the construction of the Columbia Street Parkade and Services Building, and which IHA and RIH should be aware of is the existing electrical vault. Preliminary investigations, based on non-scalable drawings provided by IHA indicate a small interference with the structure's parking lanes and potentially the drive aisle. Detailed investigations were not completed and future design development studies should take this interference into account.

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 while the new Outpatient Lobby and Columbia Street Parkade and Services Building will divert traffic from this now busy area. All are envisioned as treed promenades with formal landscaping, decorative paving and water features and will work to enhance the overall curb appeal of the hospital while also demonstrating a larger commitment to improved.

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

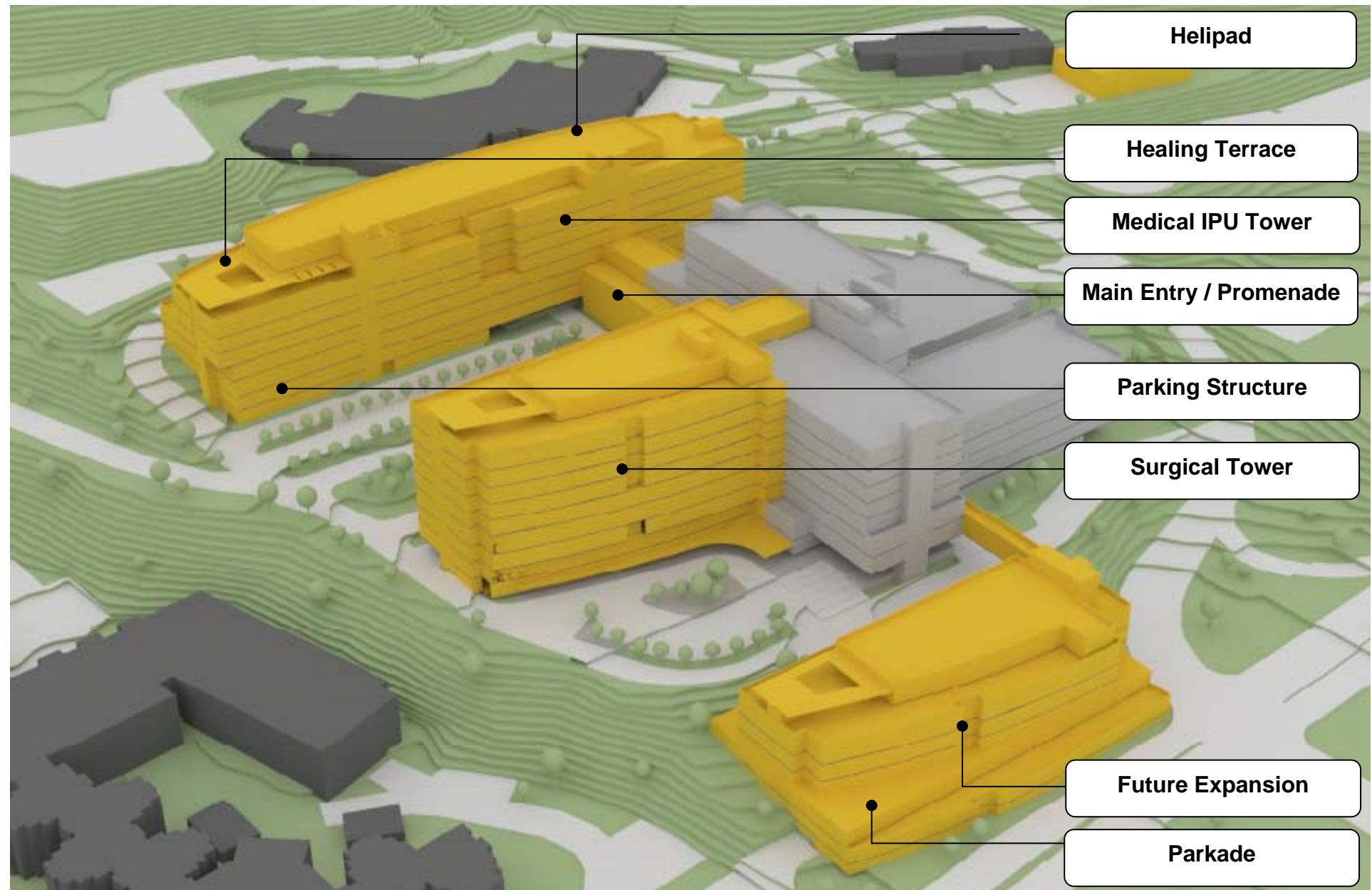
As previously described, the preferred Master Plan design (15-year horizon) proposes the construction of a multi-level Surgical tower, the demolition of Alumni tower, a multi-level parking structure with several floors of Inpatient and Outpatient programs above. It also proposes the construction of a new entry lobby, relocated emergency entrance, along with the new Columbia Street Parkade and Services Building and new 450 car parkade on newly purchased lands.

Floor-by-floor block diagrams for both 10 year and 15-year horizons 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:

- 450-car parking structure on newly purchased western lands.
- New Columbia Street Parkade and Services Building including three levels of parking, retail at grade, three levels of potential future clinical expansion and bridge link to Level 2 concourse.
- New multi-storey Surgical and Inpatient tower constructed adjacent to existing Laboratory building. Tower to include all required Surgical beds and below grade parking as desired. Layout and position of Surgical tower to correspond with reconfigured MDR suite at Basement Level.
- Consolidated Ambulatory / Outpatient cluster (including Cardio / RT, Diabetic Clinics, Library and Lecture Hall) at north end of site including dedicated new Outpatient drop-off and lobby with access to underground parking and pedestrian connections to existing corridors.
- Select internal renovations to include expansion of Emergency, DI, Ambulatory Care, ICU, Surgical Suites, among others.
- Demolition of Alumni Tower and existing parking structure and construction of new and expanded multi-level parking structure in same location. *Note: Floor to floor heights of new parking structure to be constructed per clinical height requirements for building construction to permit future expansion (occupation) of clinical departments if necessary.*
- Construction of new, paired Inpatient and Outpatient units (Mental Health, Rehab and Medical beds) atop new parking structure.
- New double height, glazed Lobby with relocated Main Entry and concourse. Main lobby to include consolidated public programs and links to new parking structures. Concourse to include public amenities and retail as desired.
- New Emergency entrance at grade integrated with new parking structure
- Existing Ambulance entrance to remain in current location and be dedicated to Ambulance traffic only.
- Helipad integrated into parking structure with direct and dedicated access to Emergency department below.
- Site works include provision for enhanced entry plaza and treed promenade with landscaping, water features, seating, reconfigured parking, 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



PREFERRED PLANNING STRATEGY: LOBBY CONCEPT RENDERING LOOKING SOUTH



PREFERRED PLANNING STRATEGY: LOBBY CONCEPT RENDERING LOOKING NORTH



BLOCK PLANNING

The following provides a summary of major programmatic components on a floor by floor basis for each level for both 10-year and 15-year planning horizons. Block components listed are also identified as new or renovation for future costing reference. Comprehensive area summaries for each department are provided in *Chapter 8 - Proposed Space Summary*. (15 year planning horizon only)

Schematic plans are based on actual programmatic department gross areas, however are presented as illustrative and not to scale within this report. For scaleable drawings, refer to electronic CAD files provided with this report. Final location of services to be determined based on hospital requirements at time of design development.

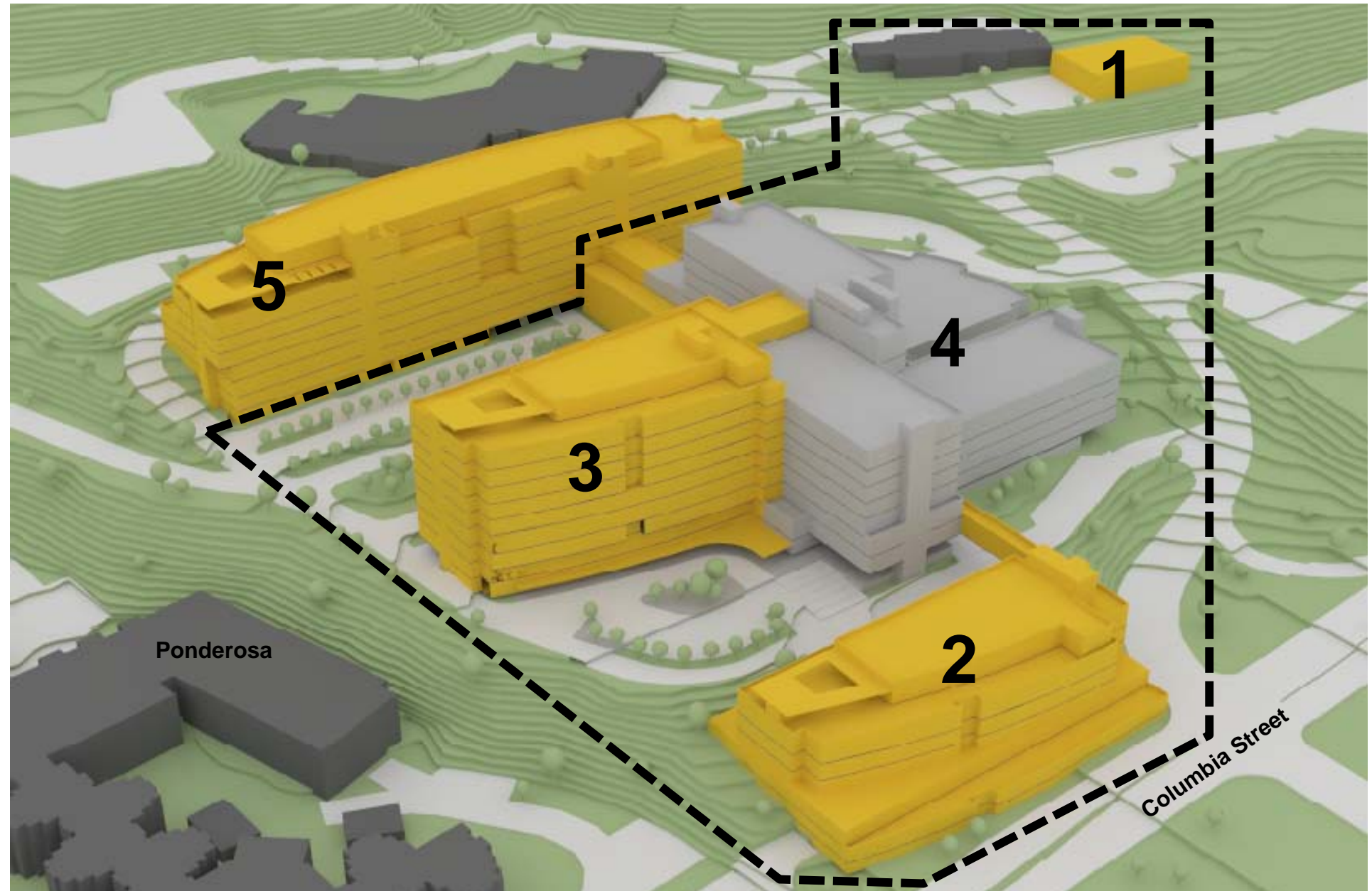
Departments not specifically listed (ie: storage or staff spaces etc) are assumed to remain in current location and with cosmetic renovation as desired by RIH.

BLOCK PLANNING – 10 YEAR STRATEGY

The following series of block plans illustrates the proposed departmental moves required to achieve the key clinical growth requirements for a 10-year horizon. As indicated, some departments are either not moving, at this stage, from their current location or are relocating to temporary locations in advance of the full 15-year development horizon.

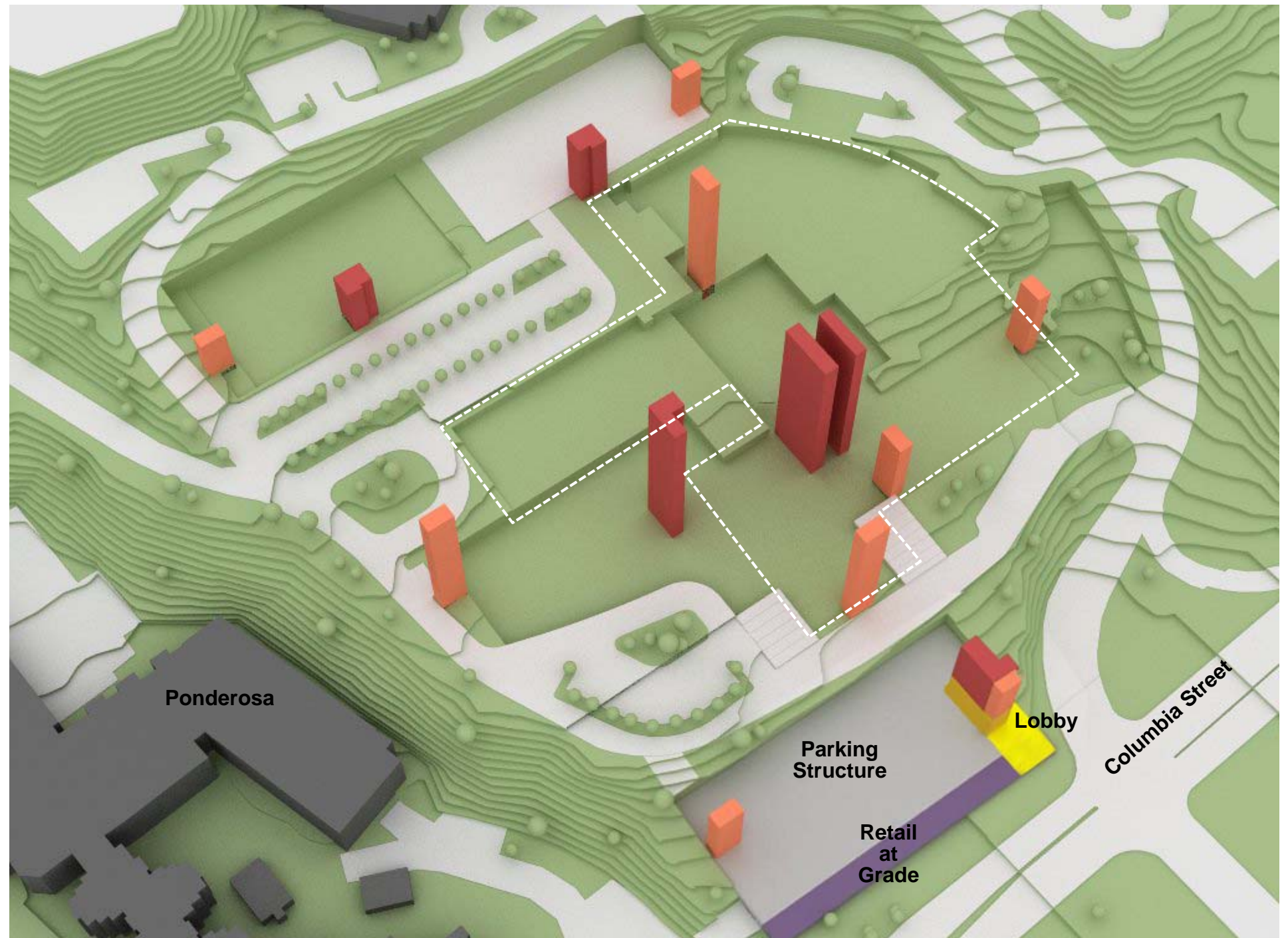
The 10-year strategy can be organized into five primary development envelopes including:

1. Construction of new 450-car parking structure
2. Construction of the Columbia Street Parkade and Services Building
3. Construction of new Surgical Wing with related parking and site works
4. Select internal renovations to accommodate priority growth in key clinical areas
5. Demolition of Alumni Tower (Optional)



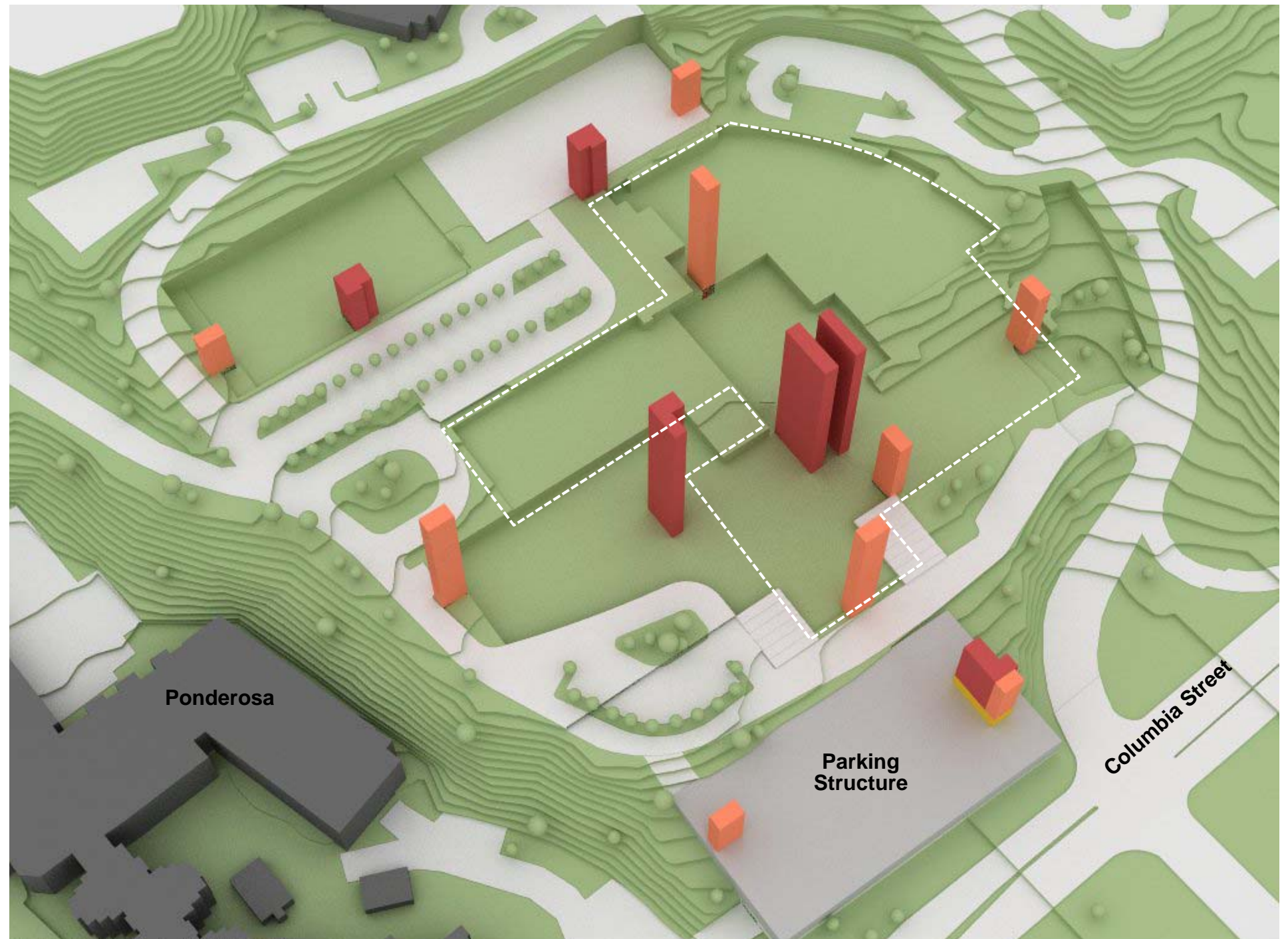
Basement Level -3 (Columbia Street grade) (10-year Strategy)

- New pedestrian lobby at grade with access to vertical lift and bridge link to Level 2 Concourse. (New Construction)
- Provision of Retail / Medical Retail at grade. (New Construction)
- New surface parking with access to retail and internal ramp system. (New Construction)



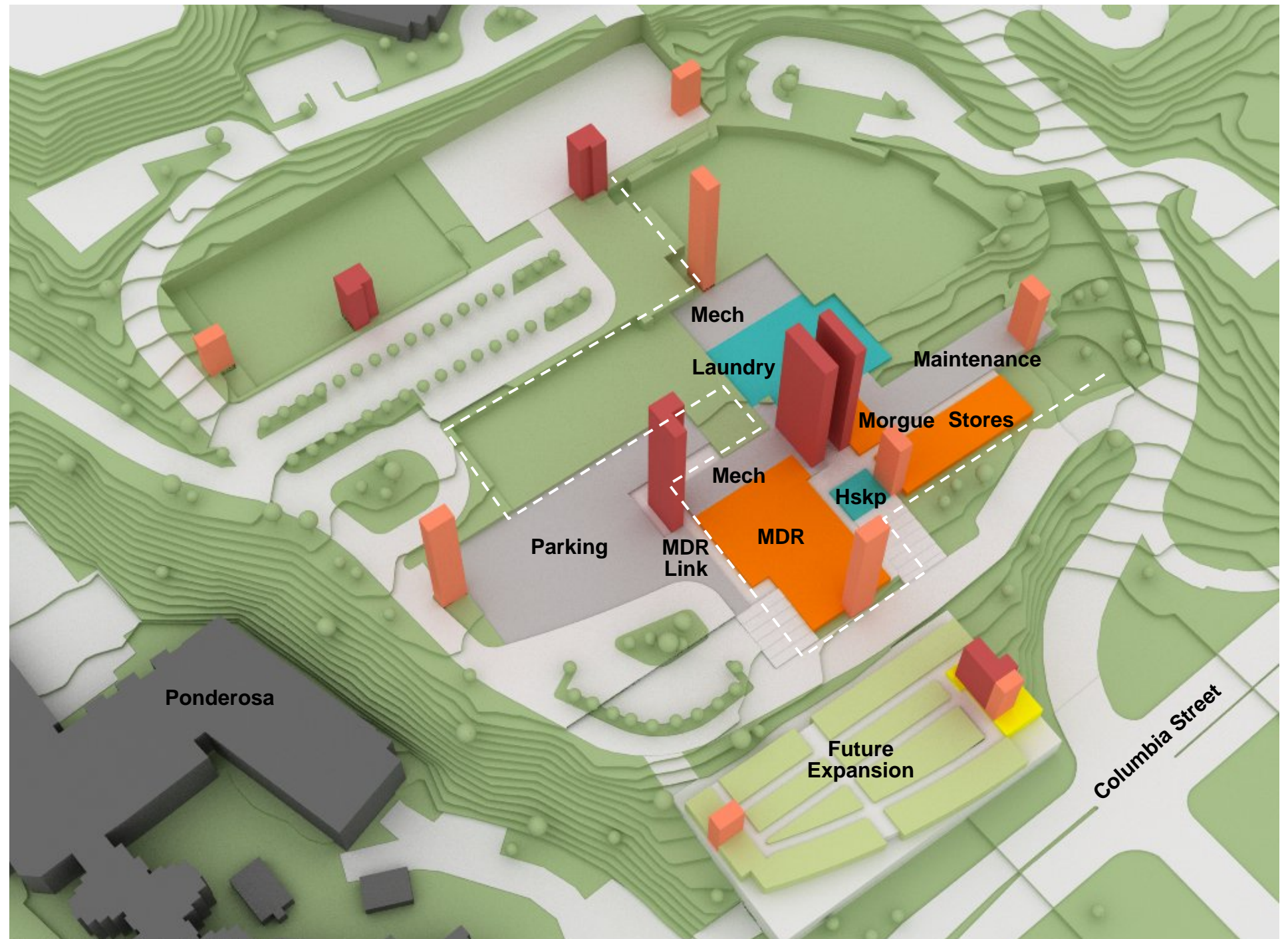
Basement Level -1 and -2 (10-year Strategy)

- New multi-level parking structure with internal ramp system. (flat slab or scissor slab construction) (New Construction)



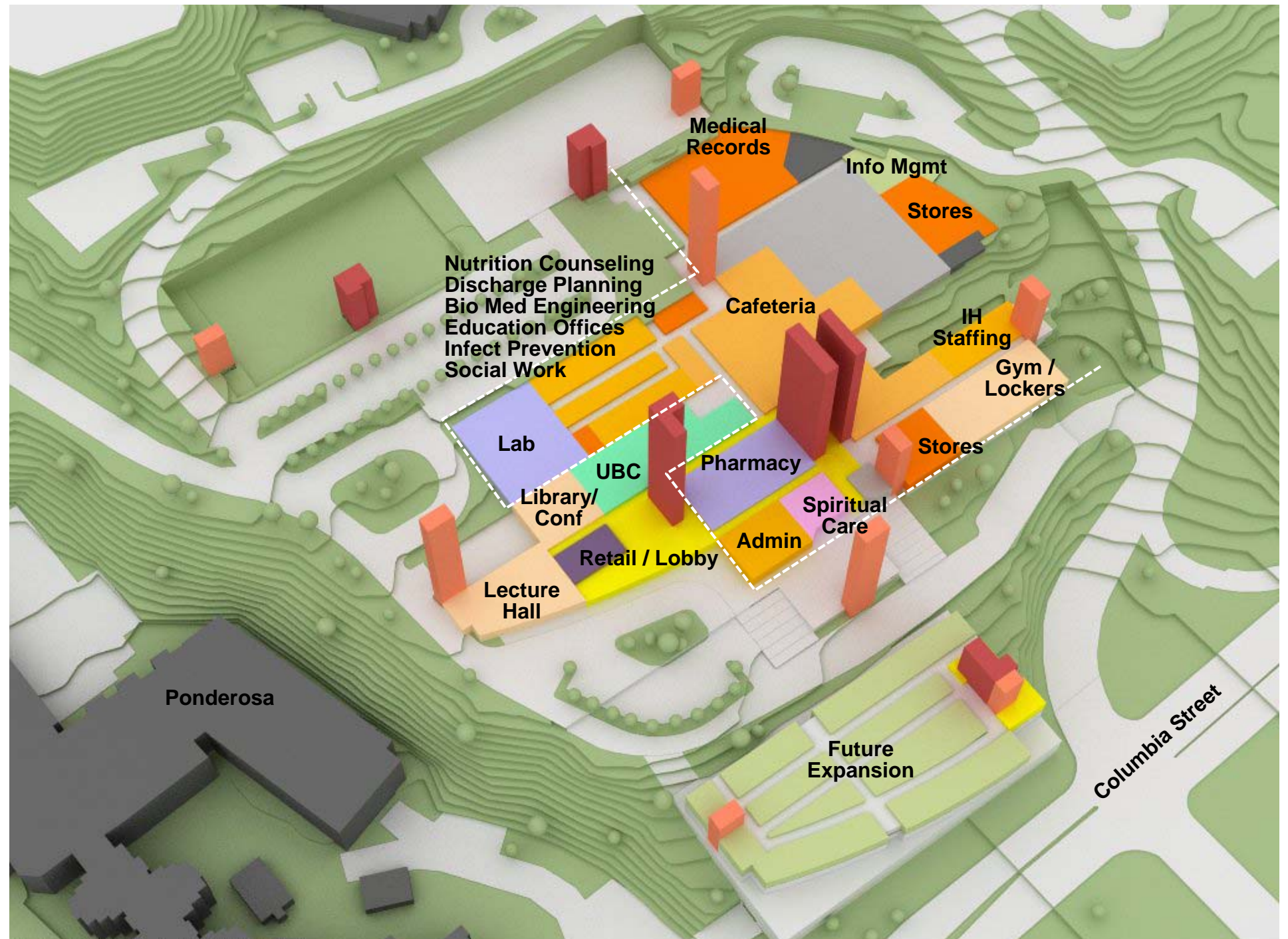
Basement Level (10-year Strategy)

- MDR to remain in current location and receive renovations as required. Future dedicated corridor link to vertical lifts servicing Surgical Suites above to be provide as necessary. (Renovation and New Construction)
- Laundry to remain in current location and receive minor renovations as necessary. (Renovation)
- Morgue and Stores to remain in current location and receive minor renovations as necessary. (Renovation)
- New underground parking (2 levels recommended) to be constructed as part of Surgical Wing construction. (New Construction)
- Provision of future expansion space designed to meet current clinical standards. Master Plan recommends floor plate be designed to accommodate one 32-bed IPU at current area standards of approximately 2,100 BGSM



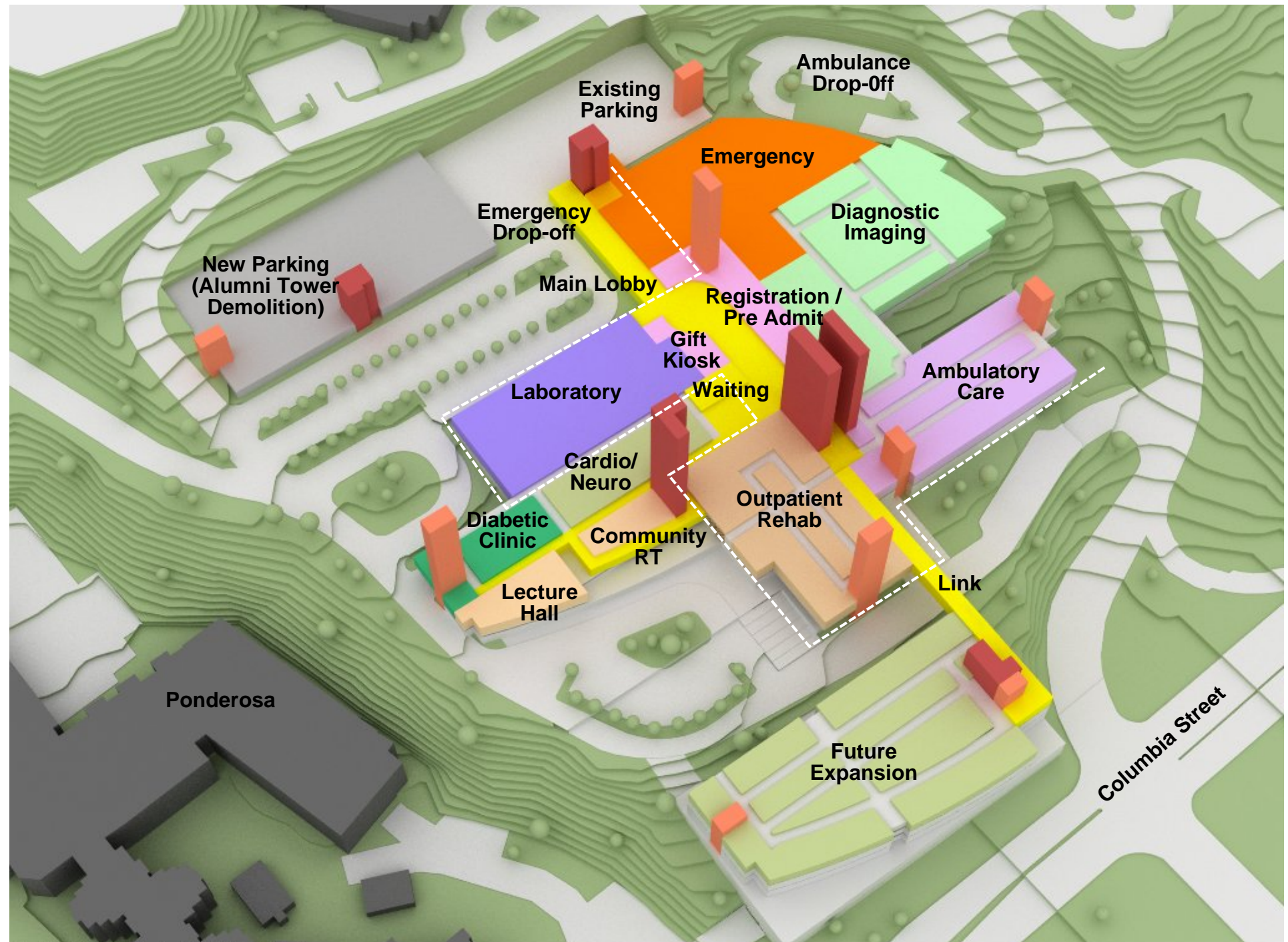
Level 1 (10-year Strategy)

- Existing Gymnasium to remain in current location and receive cosmetic renovations if necessary. (Renovation)
- Staff Lockers and change areas to occupy space previously occupied by Library / Conference spaces and TCS offices. (if necessary)
- IH Staffing to occupy space currently occupied by Administrative functions. (Renovation)
- Food Services program to expand into area previously occupied by Foundation and Education Services. (Renovation)
- Bulk Stores to remain in current location and receive minor renovations as necessary. (Renovation)
- Medical Records to remain in current location and receive minor renovations as necessary. (Renovation)
- Pharmacy to remain in current location and receive minor renovations as necessary. (Renovation)
- Spiritual Care / Volunteers and Foundation to occupy space previously occupied by Conference and Chapel functions. (Renovation)
- UBC Medical School to occupy space in new Surgical Wing construction. (New Construction)
- Info Management expands into vacated bulk stores area. (Renovation)
- New Outpatient entry and multi-storey Lobby to be created with access to existing vertical lifts and dedicated drop-off. (New Construction)
- Library, Lecture Hall and Retail / Amenities to occupy area within new Surgical Wing construction and maintain proximity relationship with new Outpatient entry Lobby. (New Construction)
- New Surgical Wing expansion to contain vehicle access ramp to new underground parking. (New Construction)
- Balance of Laboratory expansion (Level 2) to occupy space previously occupied by Staff Lockers and Bio Medical Engineering. (Renovation)
- Bio Medical Engineering to occupy space previously occupied by Staff Lockers and Bulk Stores (Renovation)
- Nutrition, Discharge Planning and Education Services to occupy space previously occupied b Administrative and Human Resources programs. (Renovation)
- Provision of future expansion space designed to meet current clinical standards. Master Plan recommends floor plate be designed to accommodate one 32-bed IPU at current area standards of approximately 2,100 BGSM



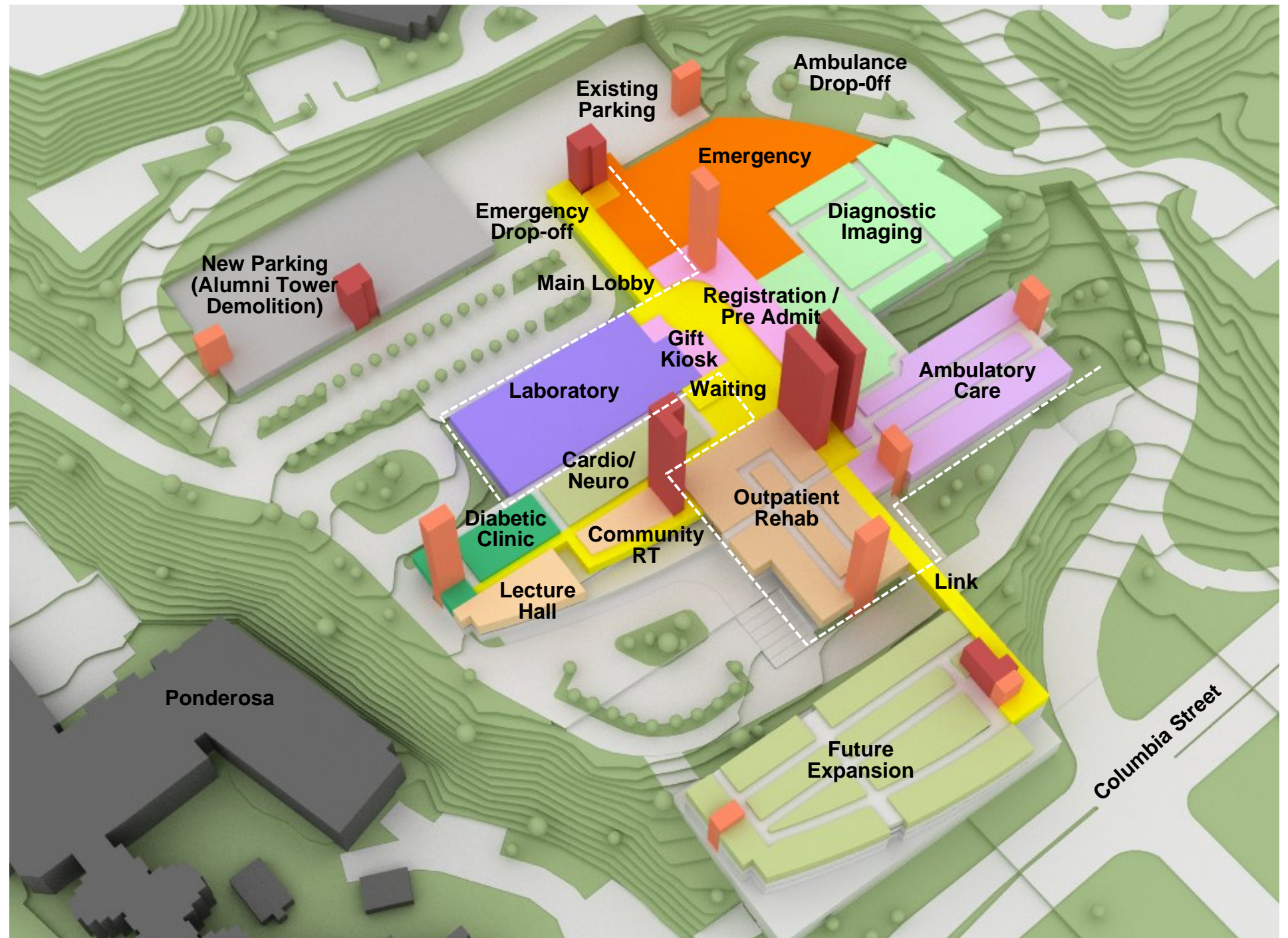
Level 2 (10-year Strategy)

- Existing Ambulatory Care program to remain in current location. The Surgical Ambulatory Procedures component of the Ambulatory Care program to relocate to existing Surgical Suites area on Level 4. Existing Ambulatory Care space to receive internal renovations as necessary to also receive Cardio / Vascular / Neuro programs. (Renovation)
- Outpatient Rehab program to remain in current location and receive internal renovations as required. (Renovation)
- DI to remain in current location and expand into space previously occupied by Orthotics and portion of existing concourse. (Renovation)
- Emergency to expand into portion of area previously occupied by Patient Registration and existing entry Concourse. Emergency entrance to be relocated on grade within parking structure as indicated to allow dedicated patient access (separate from Ambulance entry). (Renovation and New Construction)
- Ambulance entry to be preserved and maintained as dedicated Ambulance / Emergency vehicle access only. (Renovation)
- New multi-storey Lobby and Public Concourse to be constructed. Concourse to have link with parking structure. Concourse represents design intent and is subject to further design development in alignment with program area requirements. (Renovation and New Construction)
- Registration and Pre-admission programs to relocate to general area indicated. Departments as indicated represent design intent and is subject to further design development in alignment with program area requirements. (Renovation)
- Gift Shop and Kiosk to occupy portion of area previously occupied by Cardio / Vascular / Neuro and Pre-admission programs. (Renovation)
- Lab to remain in current location and expand into area occupied by Cardio / Vascular / Neuro and Pre-admission programs. (Renovation)
- Cardio / Vascular / Neuro to relocate and occupy space within new Surgical Wing. (New Construction)
- Diabetic Clinics to relocate and occupy space within new Surgical Wing and maintain proximity relationship with new Outpatient entry Lobby. (New Construction)
- Lecture Hall to occupy space within new Surgical Wing with proximity relationship with new Outpatient entry Lobby. (New Construction)
- Community Respiratory Clinics to occupy space within new Surgical Wing with proximity relationship with new Outpatient Lobby. (New Construction)
- New Outpatient entry and multi-storey Lobby to be created with access to existing vertical lifts and dedicated drop-off. (New Construction)
- New parking structure. Floor to floor heights of new parking structure to be constructed per clinical height requirements for building construction to permit future expansion (occupation) of clinical departments if necessary. (New Construction)



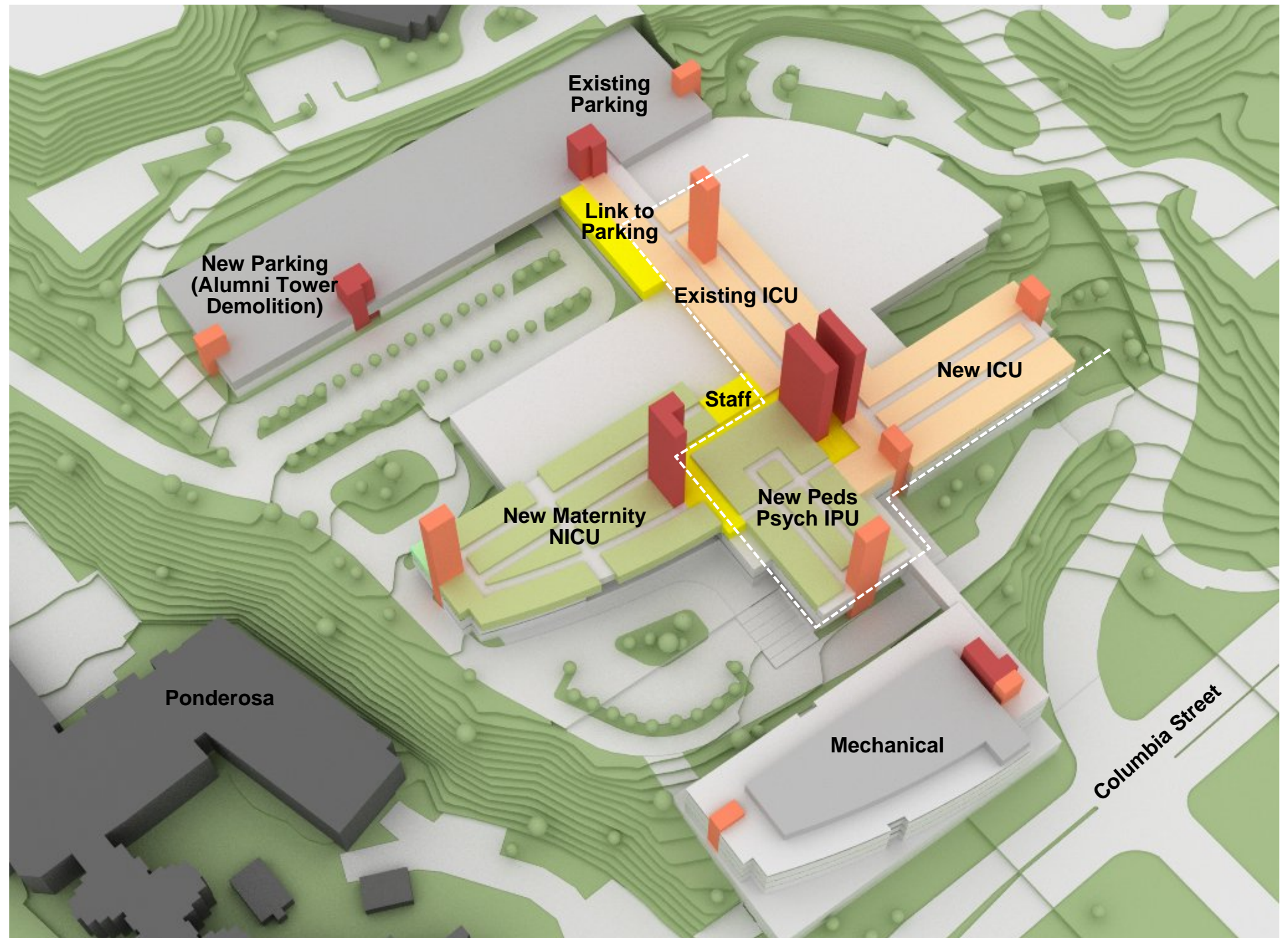
Level 2 continued (10-year Strategy)

- Provision of future expansion space designed to meet current clinical standards. Master Plan recommends floor plate be designed to accommodate one 32-bed IPU at current area standards of approximately 2,100 BGSM
- New enclosed pedestrian bridge link to be provided and have direct connection with proposed main public Concourse and Ambulatory / Outpatient programs



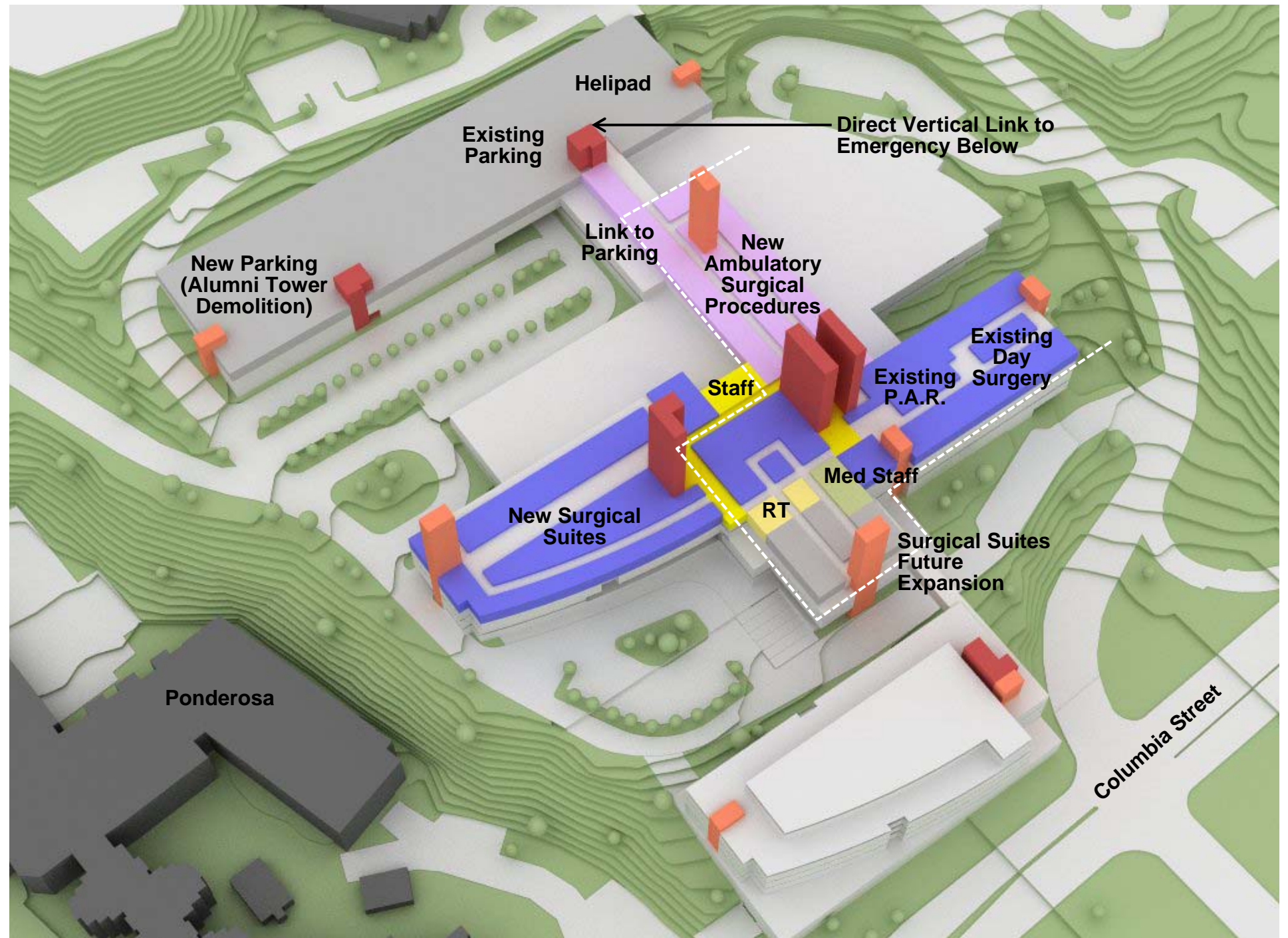
Level 3 (10-year Strategy)

- New multi-storey Entry Lobby (New Construction)
- New Labour / /Delivery / Maternity / NICU unit to be constructed within new Surgical Wing. (New Construction)
- Pediatric Psychiatric IPU to be constructed in space previously occupied by existing Labour and Delivery unit. (Renovation)
- Existing ICU to remain in current location and expand into area previously occupied by Maternity / Medical / Post Surgical IPU. (Renovation)
- New parking structure with direct link to new Lobby and entry Concourse. Floor to floor heights of new parking structure to be constructed per clinical height requirements for building construction to permit future expansion (occupation) of clinical departments if necessary. (New Construction)



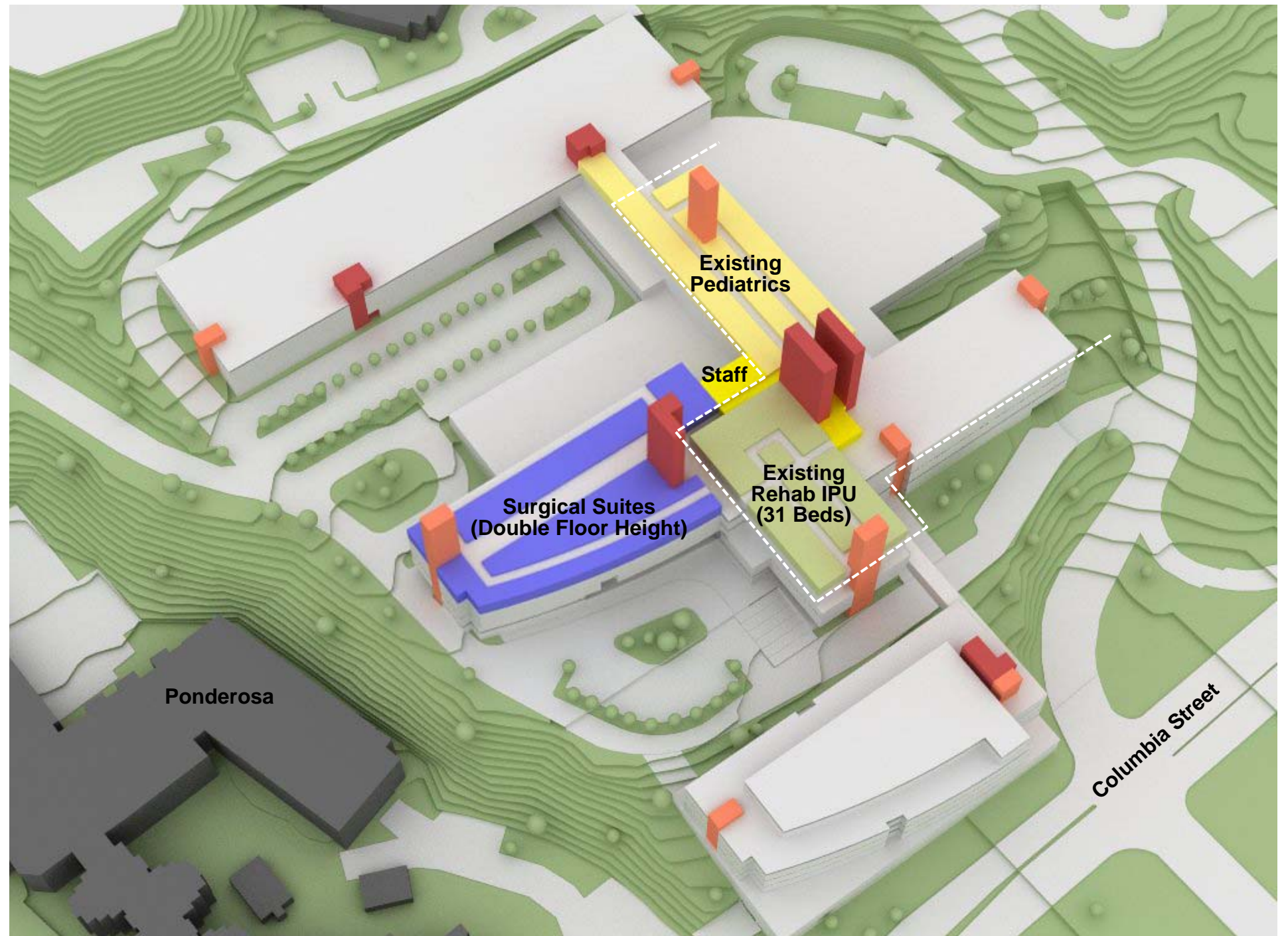
Level 4 (10-year Strategy)

- New Surgical Suites and related Staff spaces to be constructed. Level 5 represents additional floor to floor height required for engineering service. Surgical Suites also to include direct elevator link to MDR at Basement level. (New Construction)
- Existing Day Surgery and PAR to remain in current location and receive cosmetic renovations if necessary. (Renovation)
- RT to occupy portion of currently unassigned space. (Renovation)
- Medical Staff spaces to occupy portion of currently unassigned space. (Renovation)
- Existing unassigned space to remain unassigned and reserved as future expansion / efficiency reserve for Surgical Suites. (Renovation)
- Ambulatory Surgical Procedures to occupy space currently occupied by existing Surgical Suites. (Renovation)
- New parking structure with direct link to existing building if possible at this level. Floor to floor heights of new parking structure to be constructed per clinical height requirements for building construction to permit future expansion (occupation) of clinical departments if necessary. (New Construction)



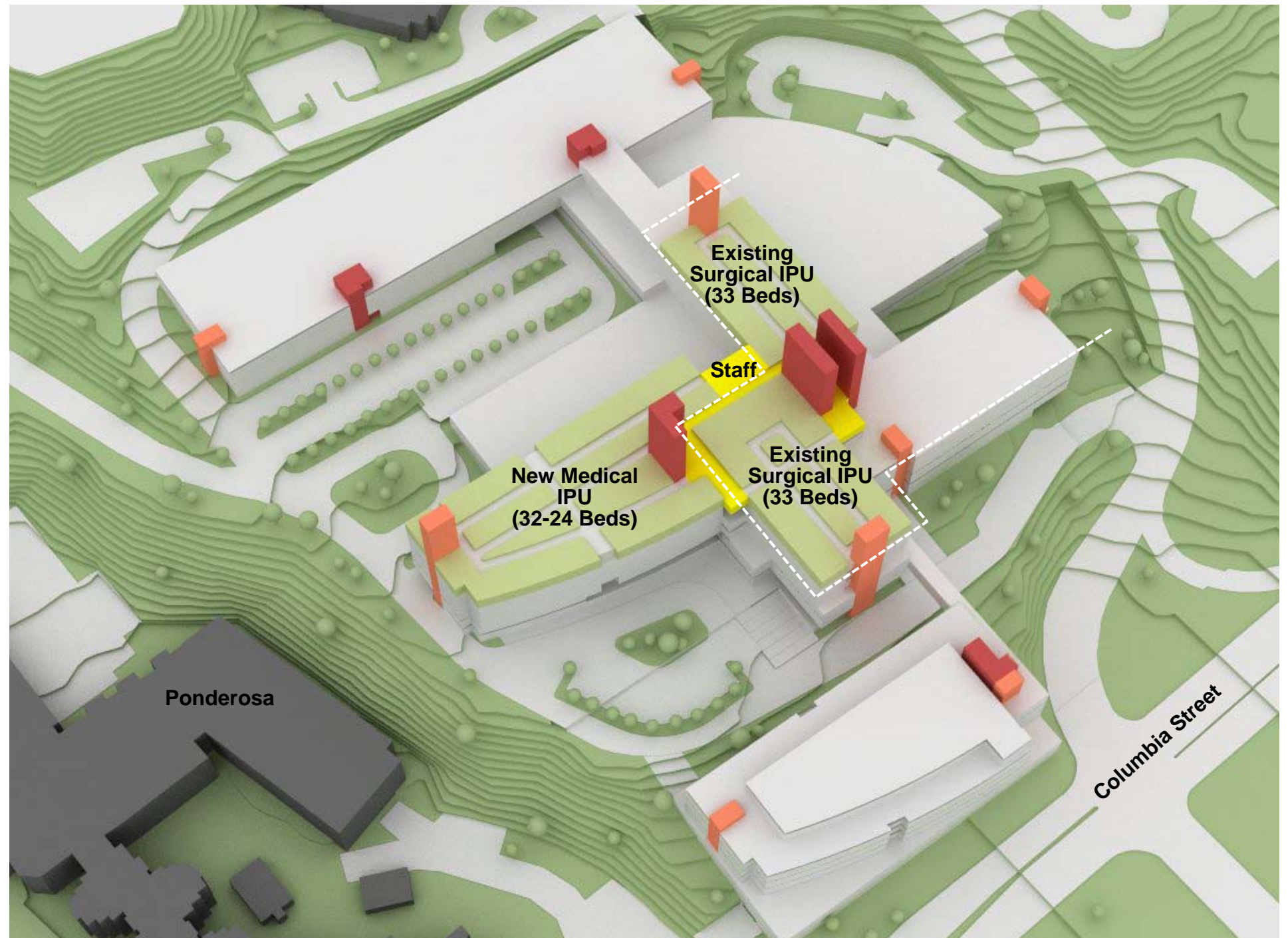
Level 5 (10-year Strategy)

- Existing 31-bed Rehab IPU to remain in current location and receive cosmetic renovations as necessary. (Renovation)
- Existing Pediatrics department to remain in current location and receive cosmetic renovations if necessary. (Renovation)
- New Surgical Suites and related Staff spaces to be constructed. Level 5 represents additional floor to floor height required for engineering services. (New Construction)



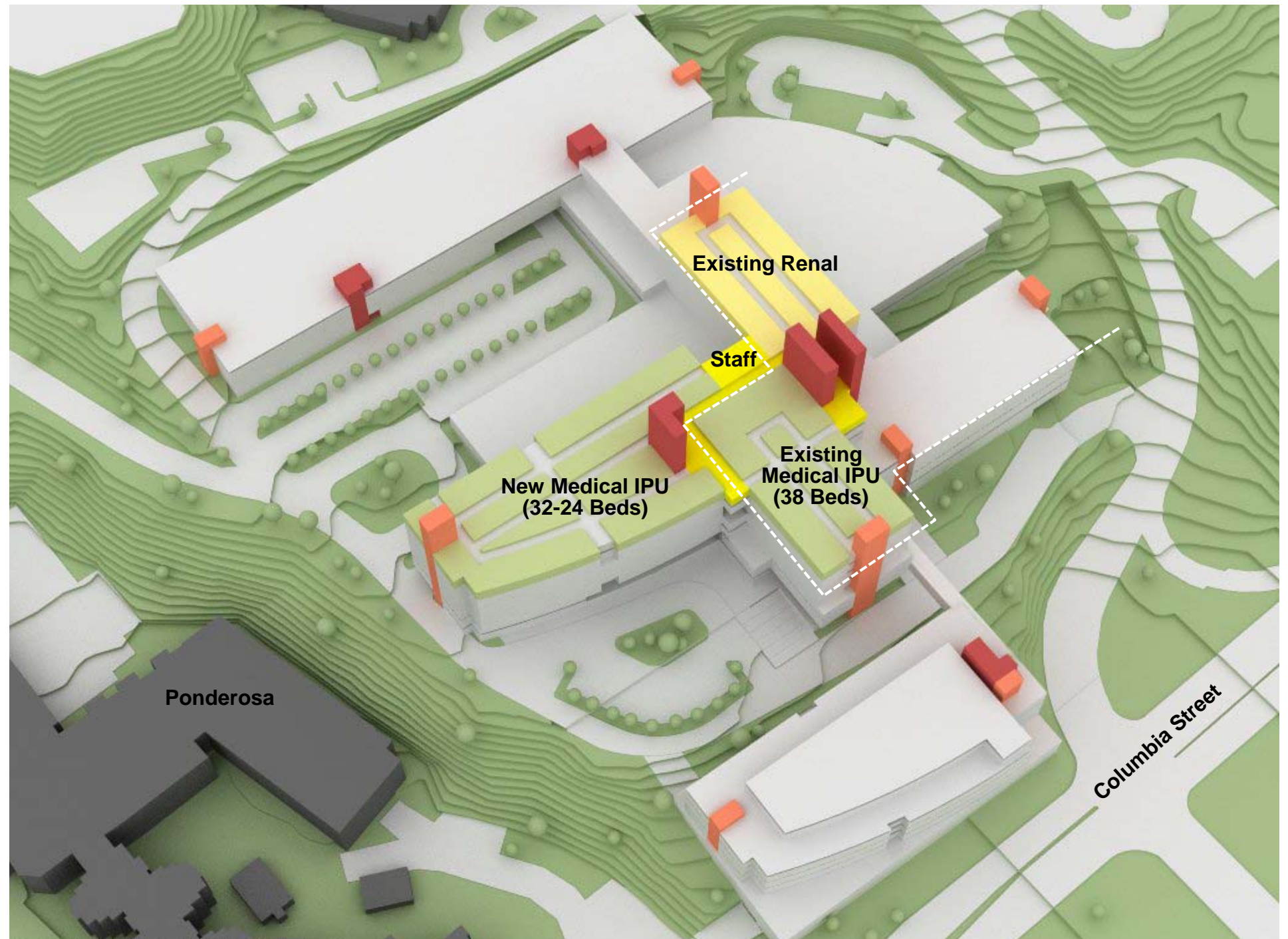
Level 6 (10-year Strategy)

- Existing 33-bed Surg IPU's (north and south) to remain in current location and received cosmetic renovations if necessary. (Renovation)
- New 32 / 34-bed, Medical IPU and related Staff spaces to be constructed. Medical IPU to contain 13 Surgical beds, 15 Rehab beds, and 6 Medical beds. (New Construction)



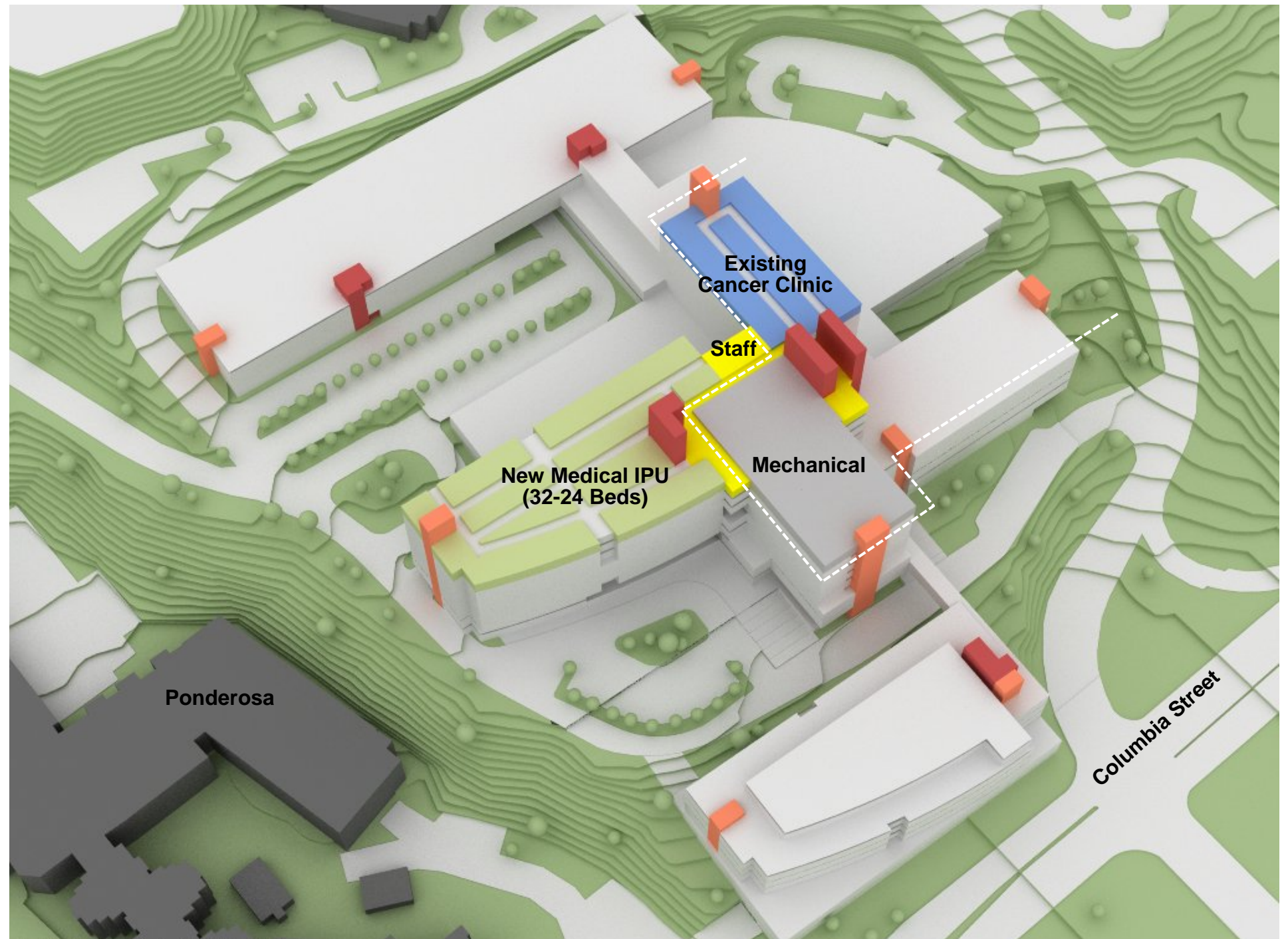
Level 7 (10-year Strategy)

- Existing Renal unit to remain in current location and receive minor cosmetic renovations if necessary. (Renovation)
- Existing 33-bed Medical IPU to remain in current location and receive minor cosmetic renovations if necessary. (Renovation)
- New 32 / 34-bed, Medical IPU and related Staff spaces to be constructed. (New Construction)



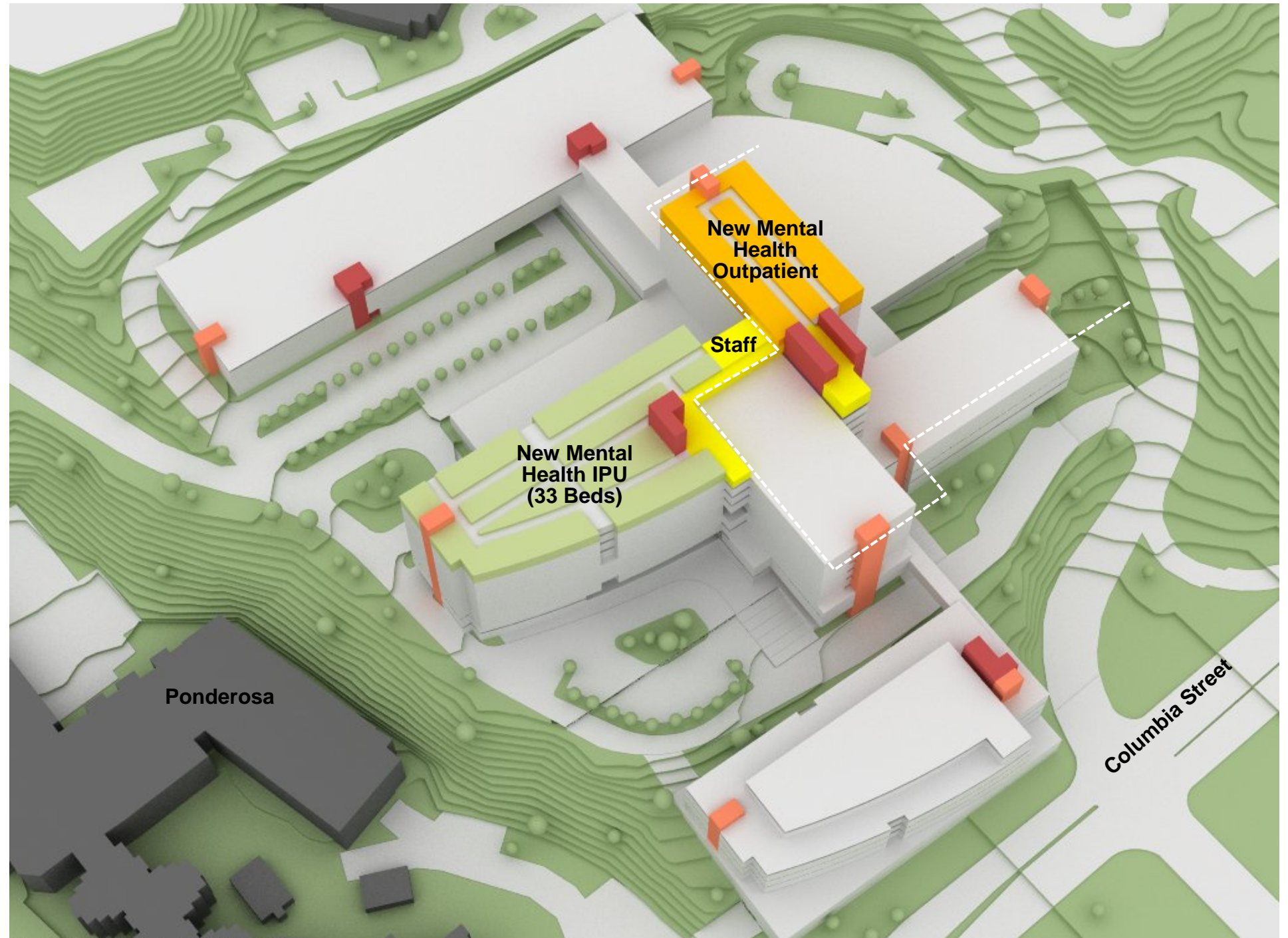
Level 8 (10-year Strategy)

- Existing Cancer Clinic to remain in current location and receive minor cosmetic renovations if necessary. (Renovation)
- Mechanical Penthouse to remain in current location and remain in operation with capacity upgrades as necessary. (Renovation)
- New 32 / 34-bed, Medical IPU and related Staff spaces to be constructed. (New Construction)



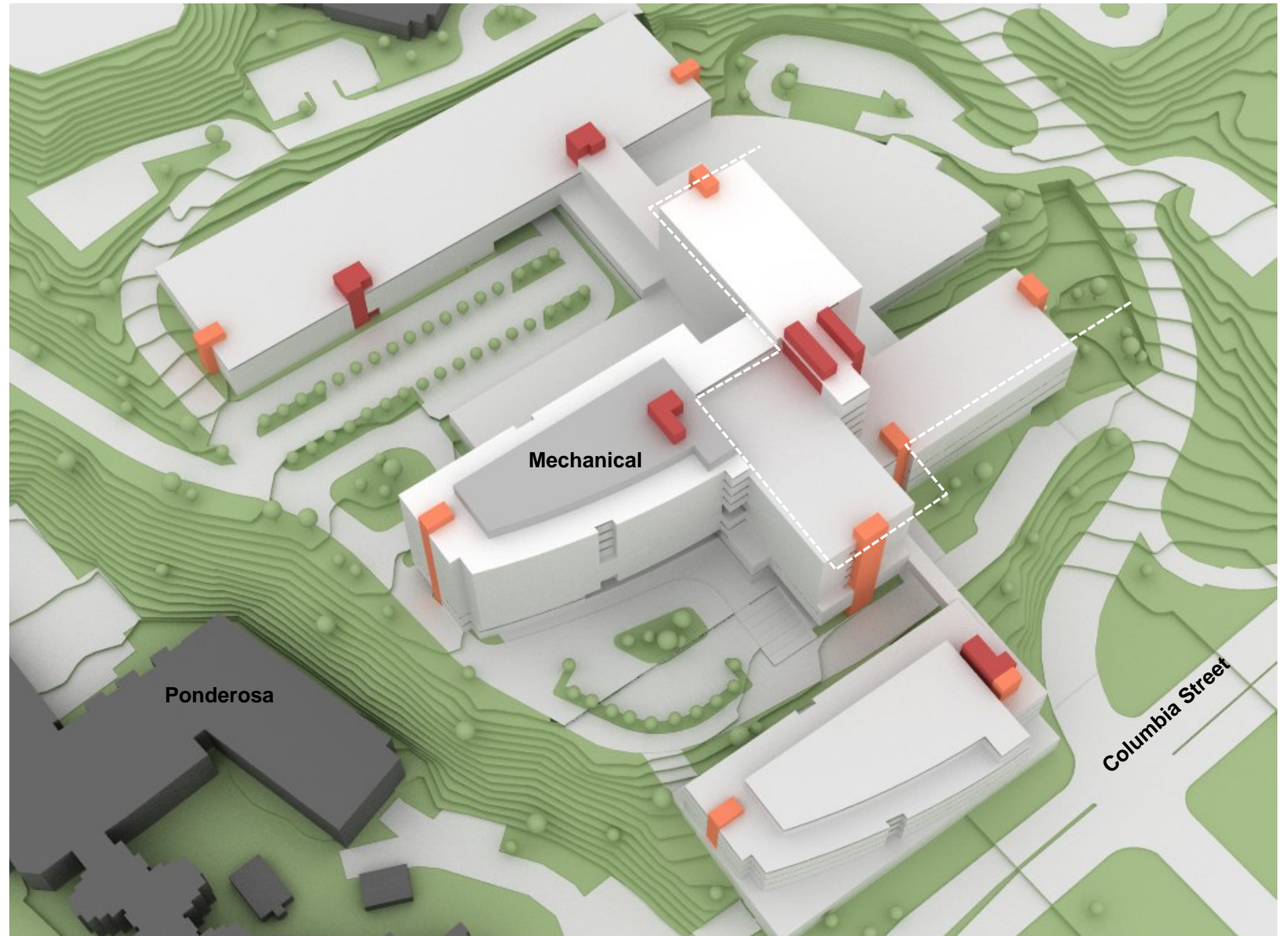
Level 9 (10-year Strategy)

- TSC Corporate Offices to relocate off site.
- Mental Health Outpatient program to relocate to space previously occupied by TSC Corporate Offices. (Renovation)
- New 33-bed, Mental Health IPU to be constructed within new Surgical Wing. (New Construction)



Level 10 (10-year Strategy)

- New Mechanical Penthouse (New Construction)
- Surgical IPU / Mechanical Penthouse tower to include structural allowance for potential Helipad with direct and dedicated elevator link to Emergency department below. (New Construction)

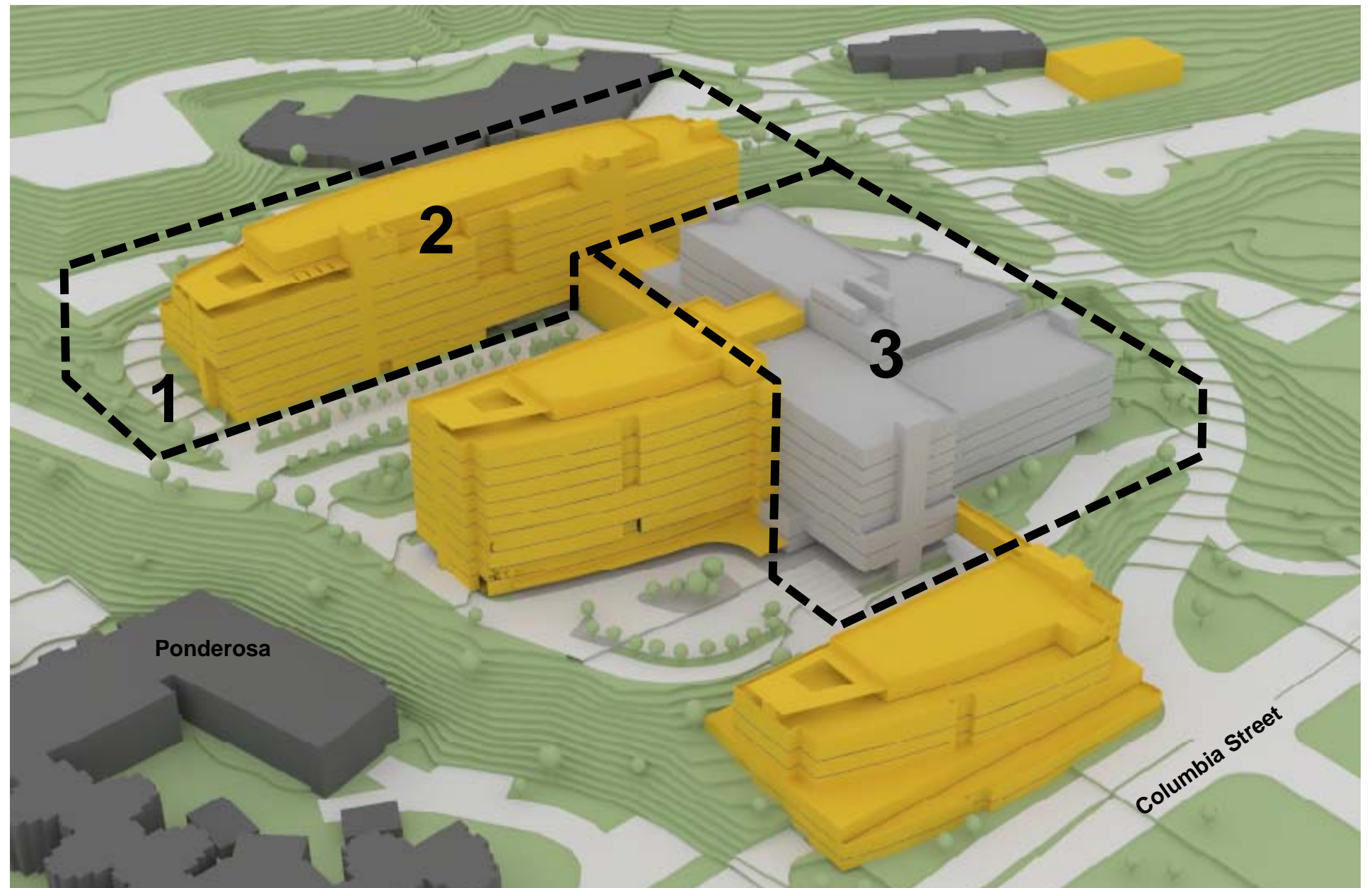


BLOCK PLANNING – 15 YEAR STRATEGY

The following series of block plans illustrates the proposed departmental moves required to achieve the key clinical growth requirements for the 15-year horizon. As indicated, some departments are either not moving from their current location or have relocated from temporary locations to achieve the proposed Master Plan.

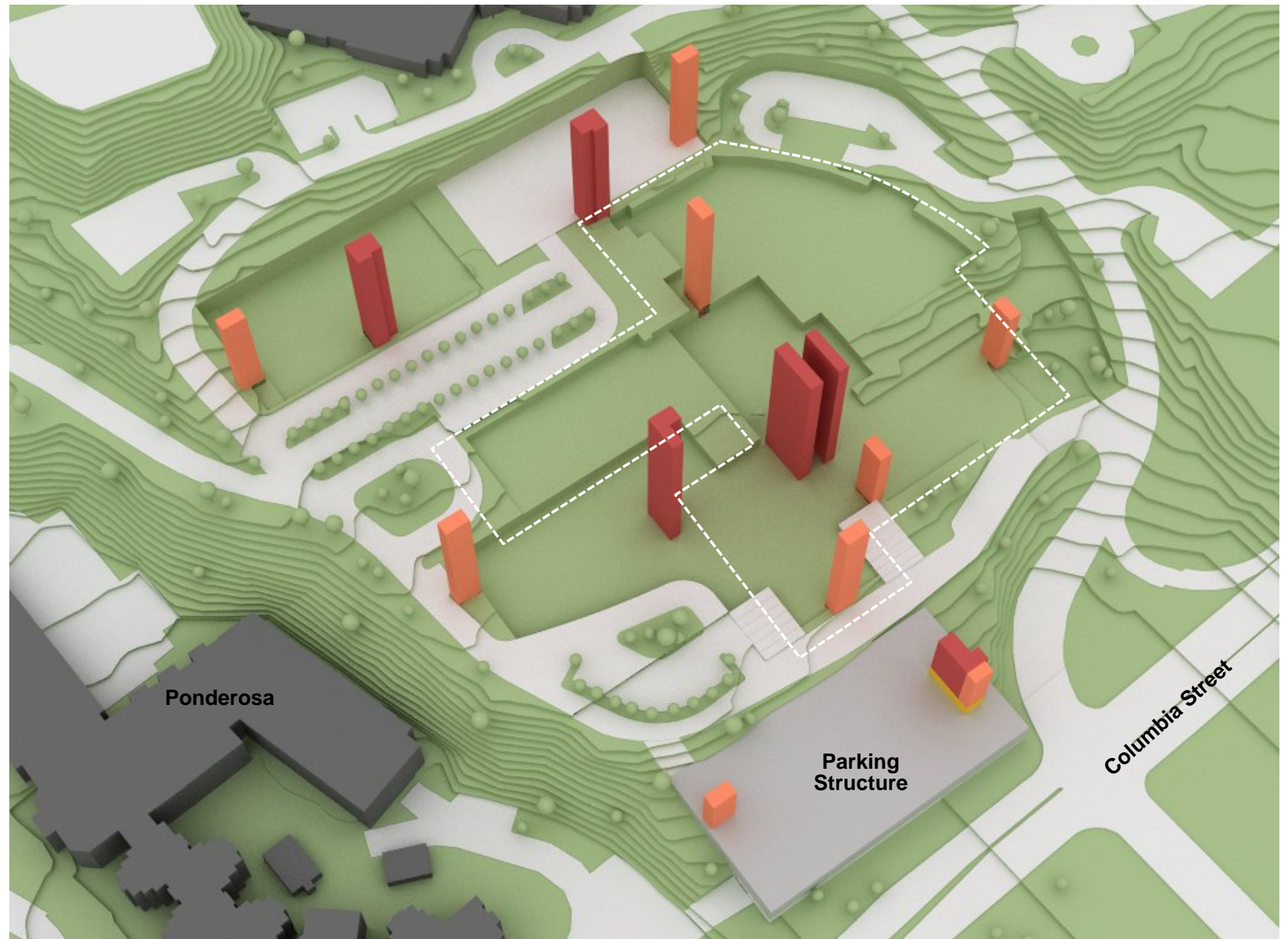
The 15-year strategy can be organized into two primary development envelopes including:

1. Demolition of Alumni Tower (If not previously completed as part of 10 yr Plan)
2. Construction of new Parking Structure / Inpatient Wing and related site works
3. Select internal renovations to accommodate priority growth in key clinical areas



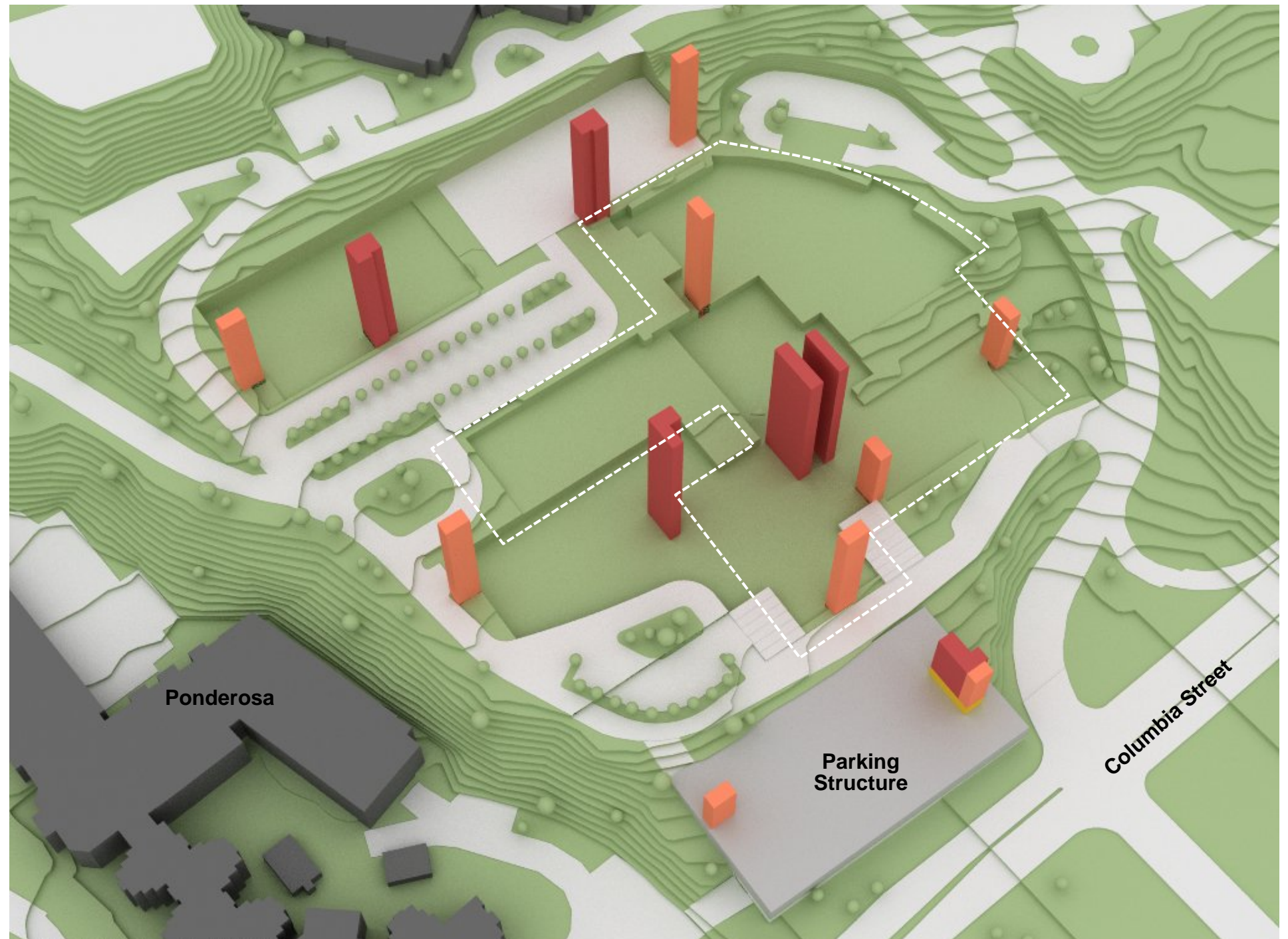
Basement Level -3 (Columbia Street grade) (15-year Strategy)

- New pedestrian lobby at grade with access to vertical lift and bridge link to Level 2 Concourse. (New Construction)
- Provision of Retail / Medical Retail at grade. (New Construction)
- New surface parking with access to retail and internal ramp system. (New Construction)



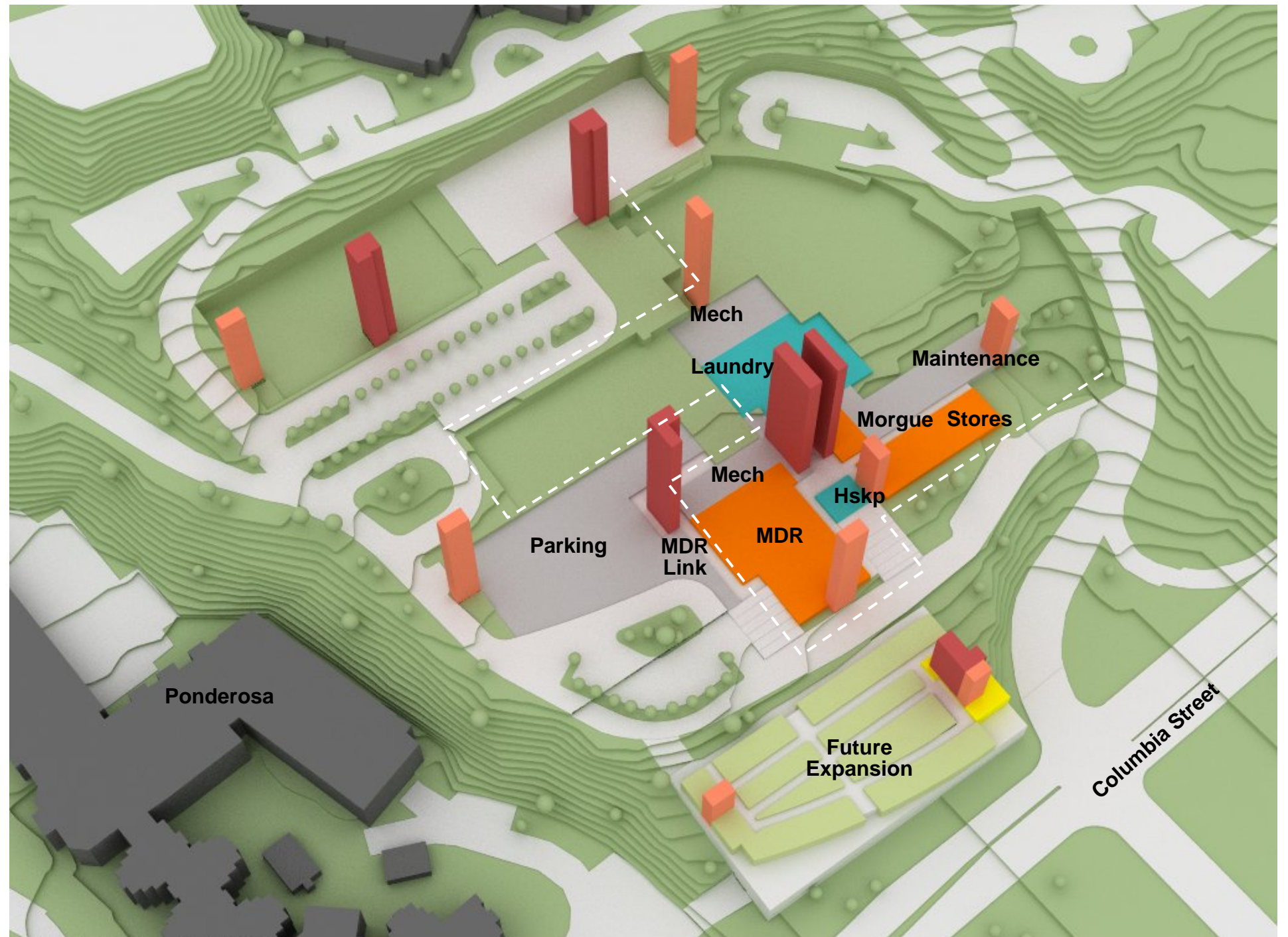
Basement Level -1 and -2 (15-year Strategy)

- New multi-level parking structure with internal ramp system. (flat slab or scissor slab construction) (New Construction)



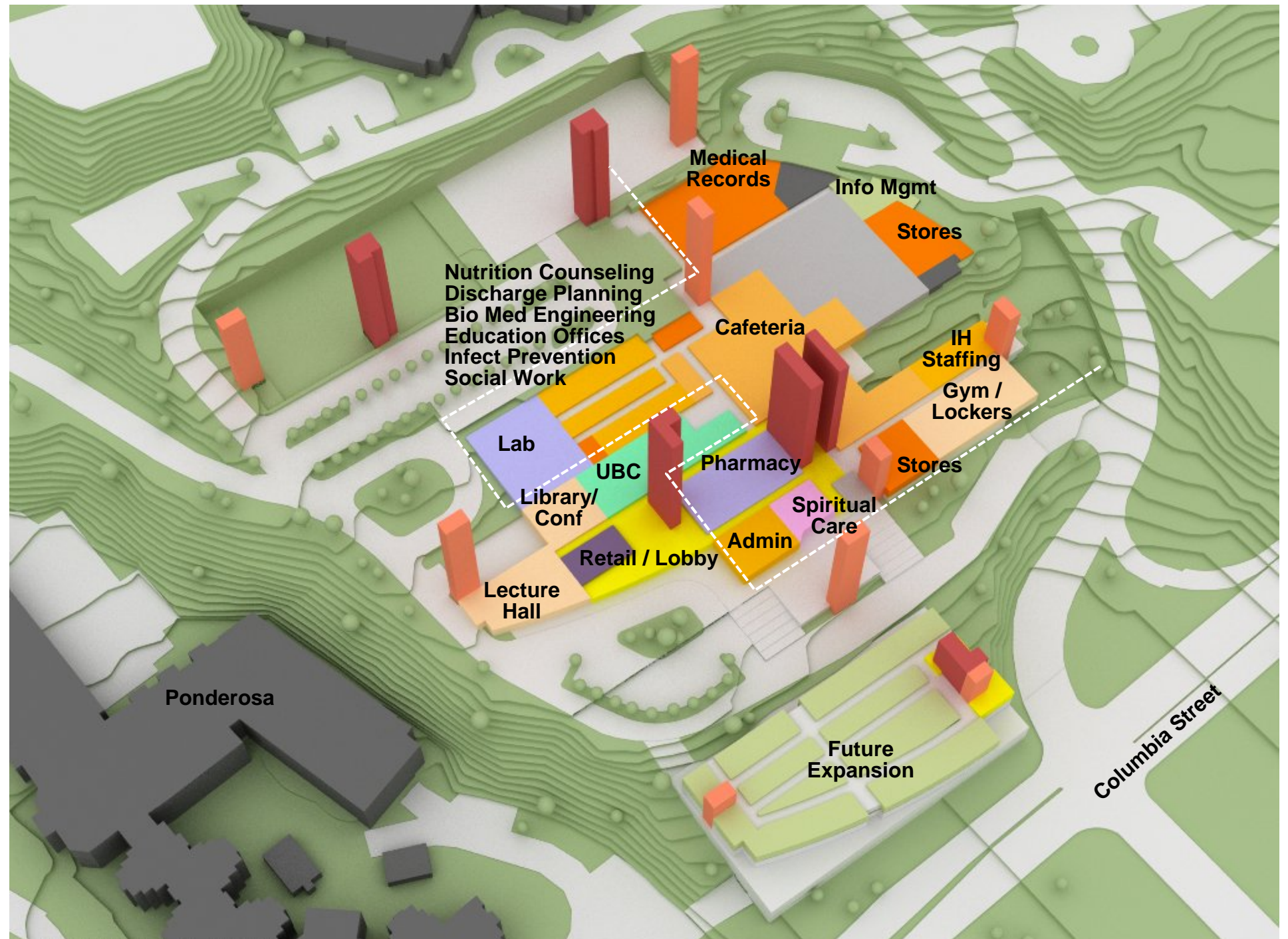
Basement Level (15-year Strategy)

- There are no changes or additional department moves on this level necessary to achieve the full 15-year development strategy.



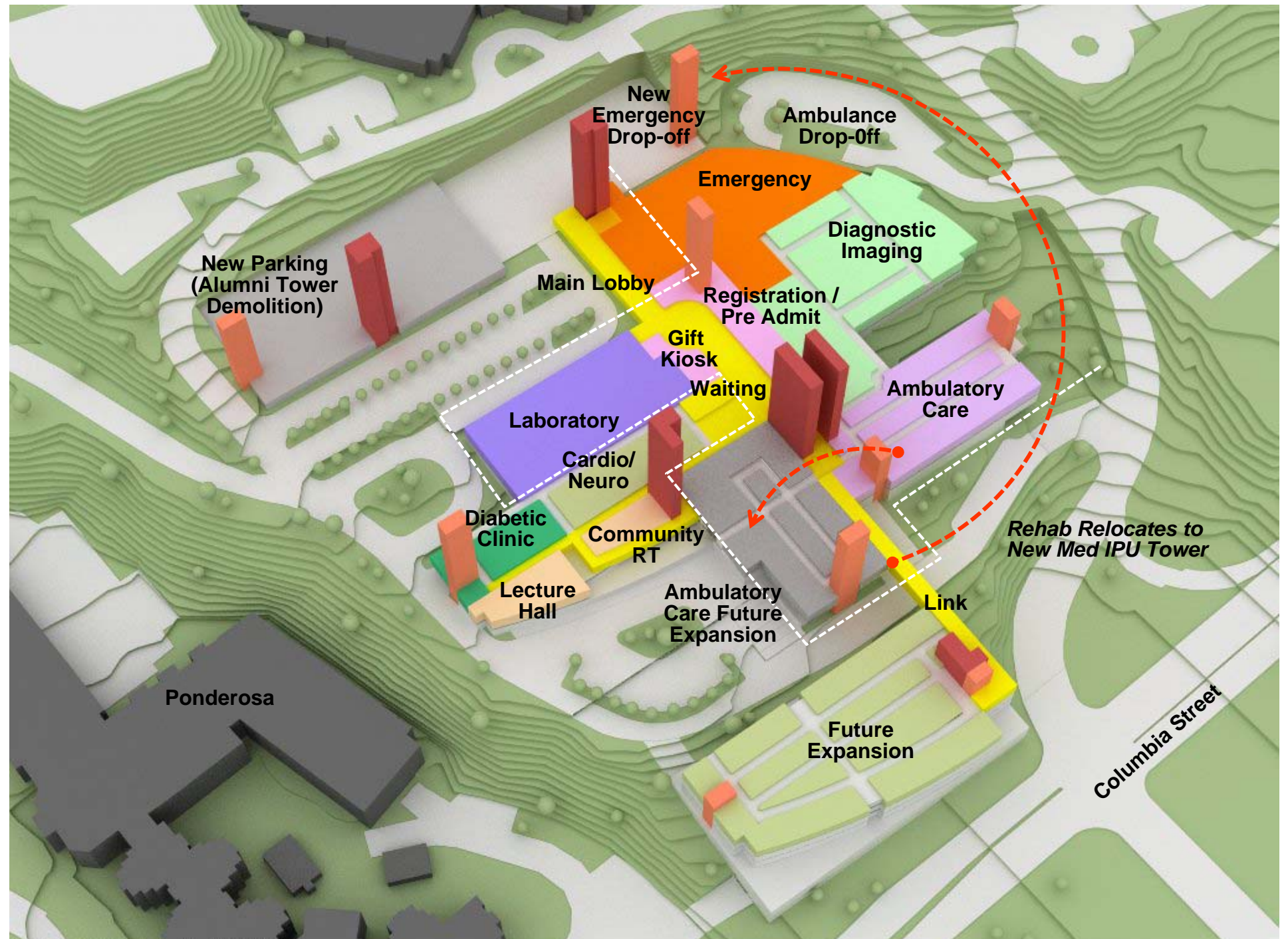
Level 1 (15-year Strategy)

- There are no changes or additional department moves on this level necessary to achieve the full 15-year development strategy.



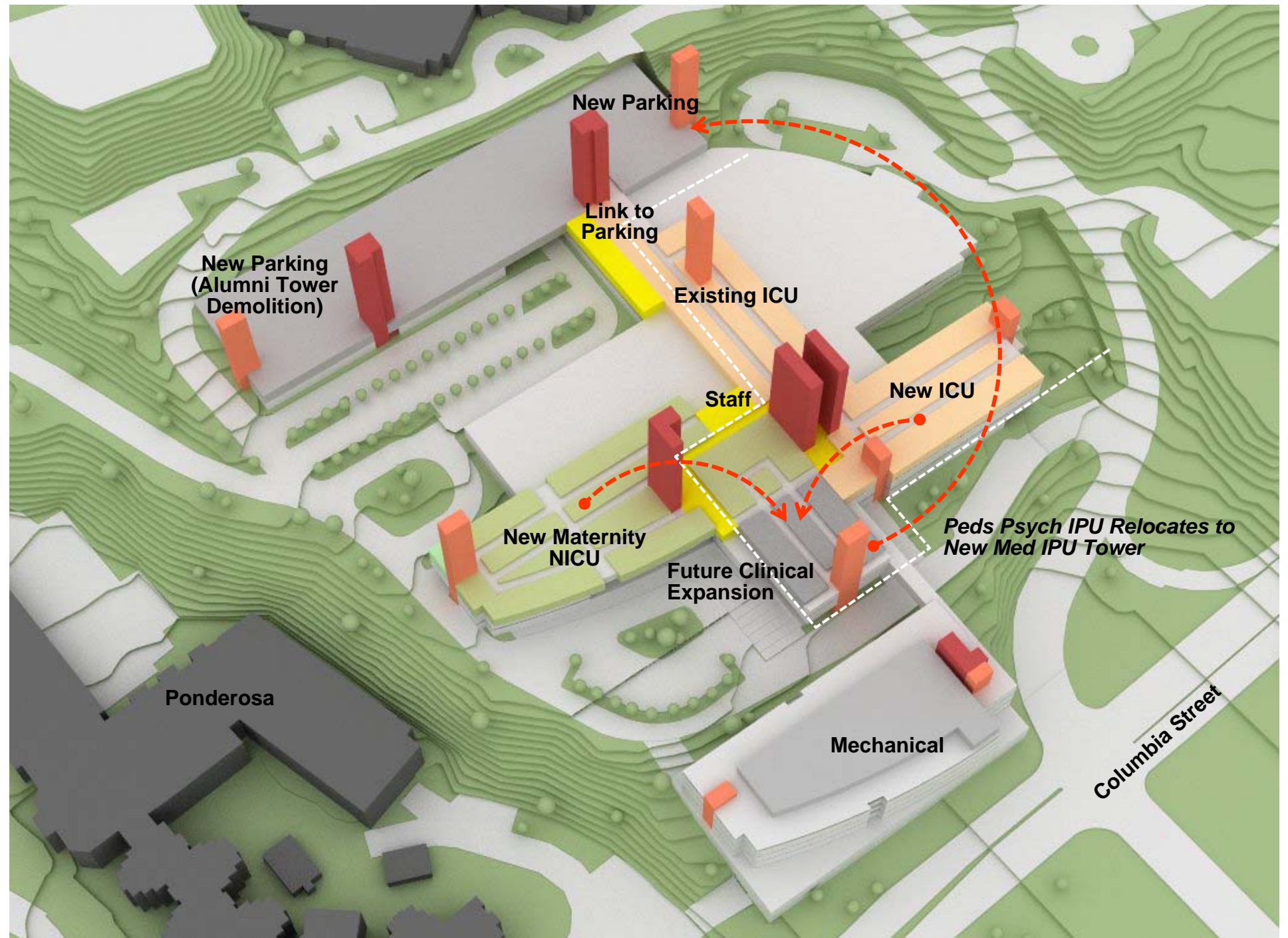
Level 2 (15-year Strategy)

- Existing Rehab Outpatient program to relocate to Level 5 of new Medical Tower. (New Construction) Existing space to remain as future expansion space for Ambulatory Care program.



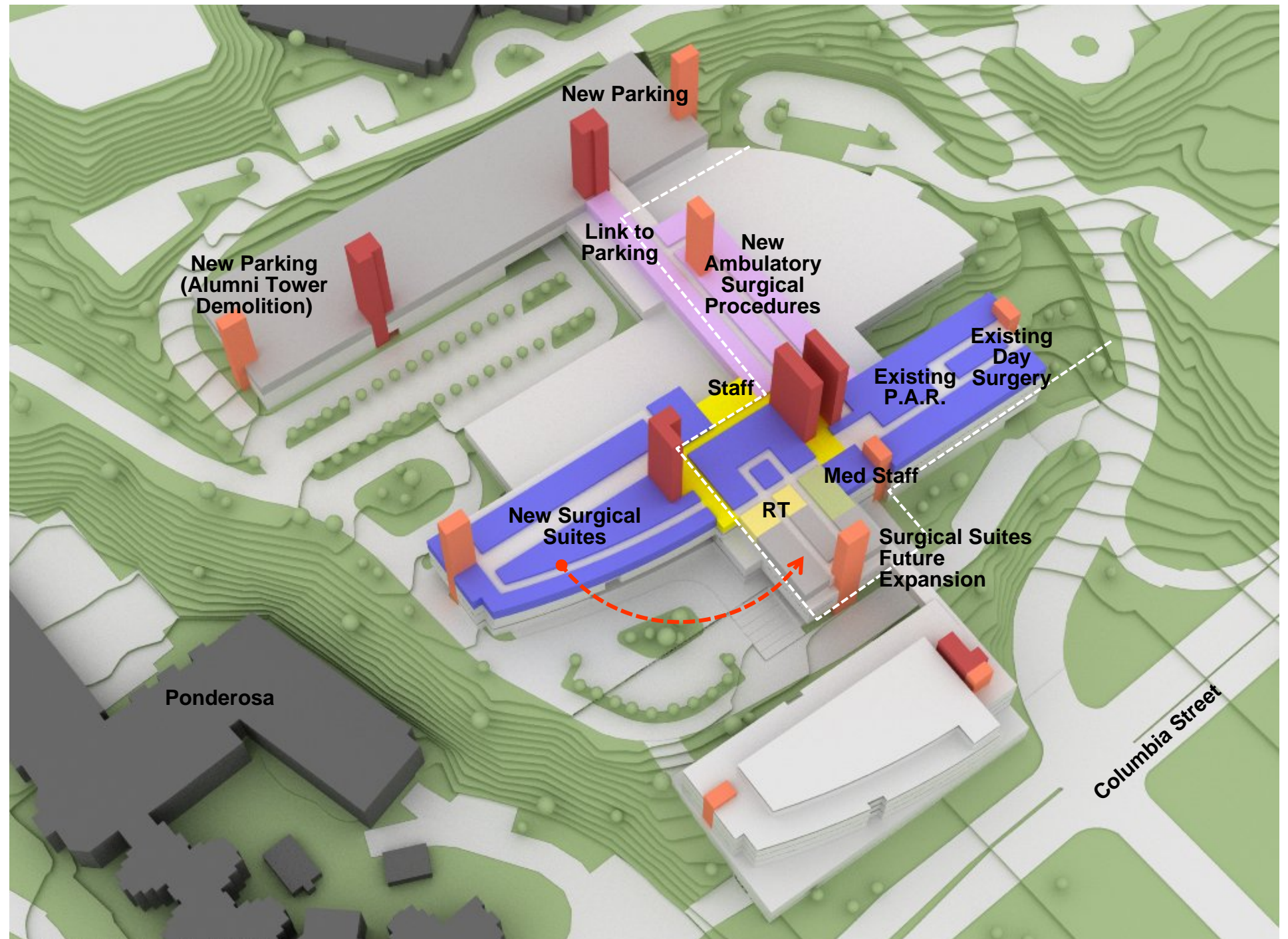
Level 3 (15-year Strategy)

- Existing Pediatric Psychiatric IPU to relocate to Level 7 of new Medical Tower as part of Mental Health Inpatient and Outpatient program consolidation. (Renovation). Existing space to remain as future expansion space for either ICU or Maternity / NICU programs. (Renovation)



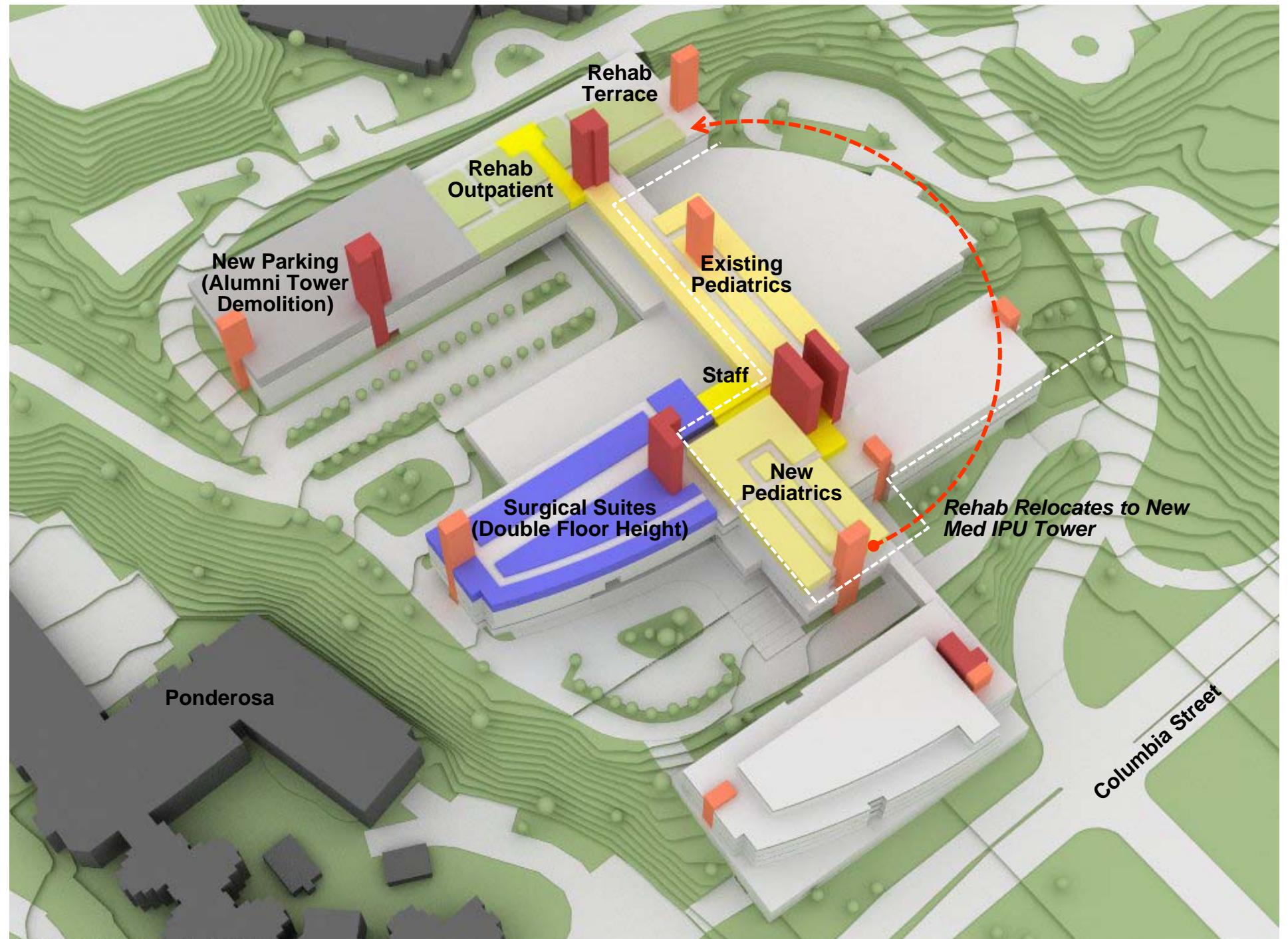
Level 4 (15-year Strategy)

- There are no changes or additional department moves on this level necessary to achieve the full 15-year development strategy. Currently vacant space to remain as future expansion space for Surgical program.



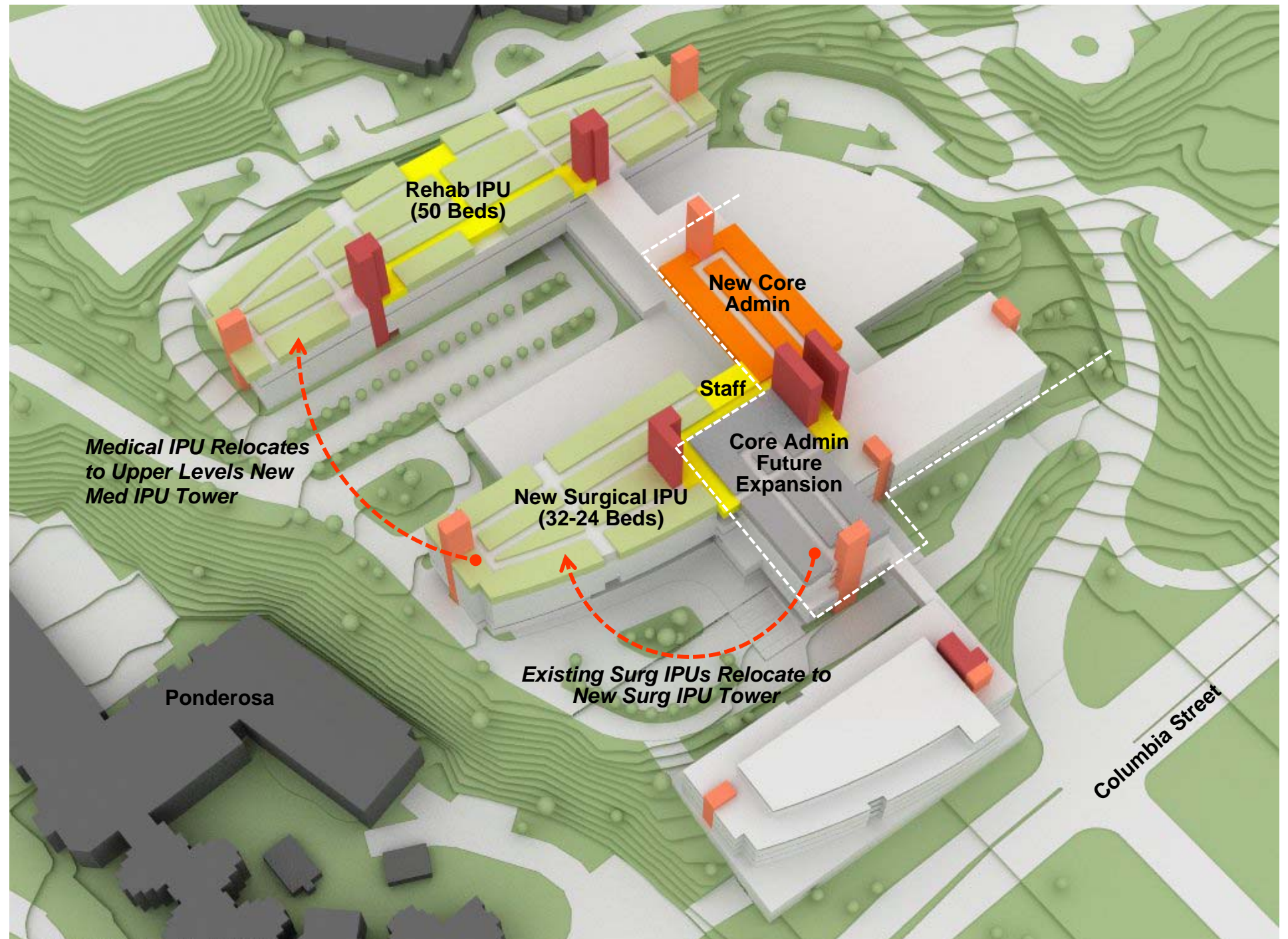
Level 5 (15-year Strategy)

- Construction of new Rehab Outpatient unit and Rehab outdoor terrace as part of new Medical Tower construction. (Rehab program relocated from current location on Level 2) (New Construction)
- Existing Rehab IPU to vacate space to allow for existing Pediatrics program to expand. (Rehab program to relocate to Level 6 of new Medical Tower) (Renovation)



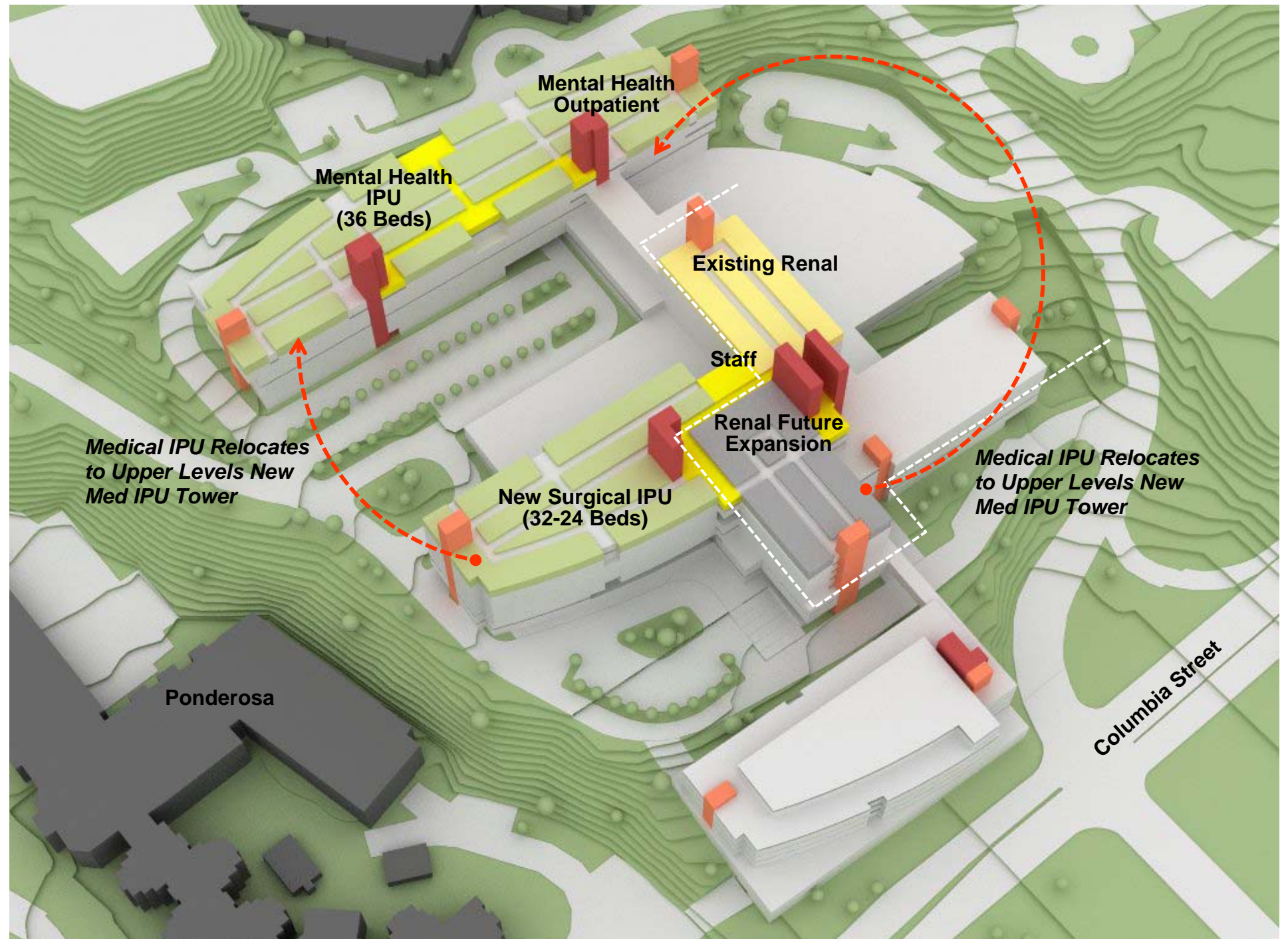
Level 6 (15-year Strategy)

- Construction of new Rehab Inpatient unit as part of new Medical Tower construction. (Rehab program relocated from current location on Level 5) (New Construction)
- Current 32 / 34-bed Medical IPU within new Surgical Wing to 32 / 34-bed Surgical IPU (Renovation)
- Existing Surgical IPU (south) to relocate to previously constructed Surgical Wing. (Renovation)
- Core Administration program to consolidate and relocate to space previously occupies by existing Surgical IPU. (South) (Renovation)
- Existing Surgical IPU (north) to relocate to previously constructed Surgical Wing. Space to be preserved for future expansion of Core Administration program. (Renovation)



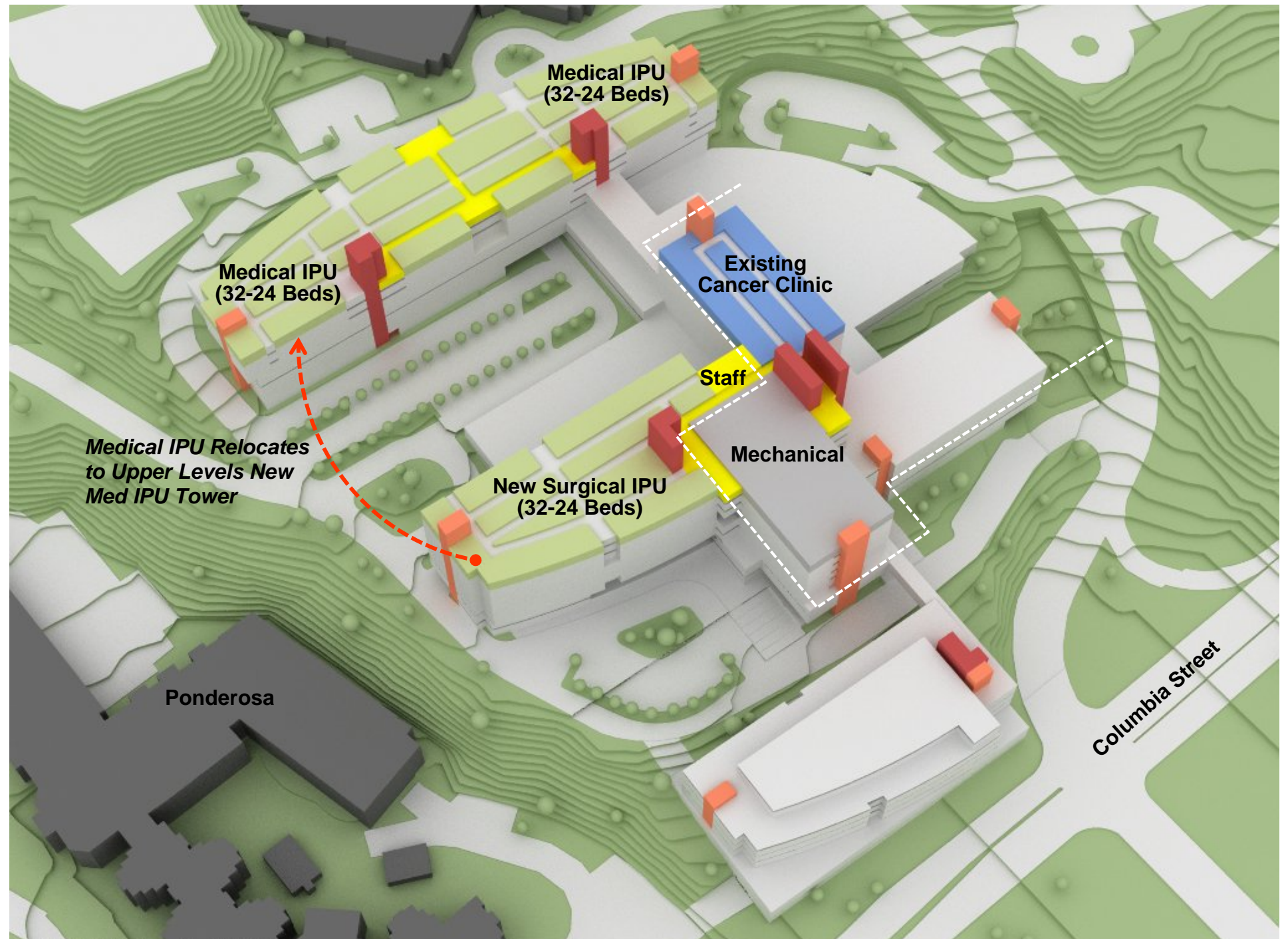
Level 7 (15-year Strategy)

- Construction of new Mental Health Inpatient and Outpatient unit as part of new Medical Tower construction. (Mental Health program relocated from current location on Level 9) (New Construction) Note: this move is optional depending on projected Medical or Surgical bed requirement at time of project planning. If Mental Health remains in current location, one floor can be removed from new Medical Tower project planning.
- Existing Medical IPU to relocate to new Medical Tower. Space to be preserved for future expansion of Renal program. (New Construction and Renovation)
- Current 32 / 34-bed Medical IPU within new Surgical Wing to convert to 32 / 34-bed Surgical IPU (Renovation)



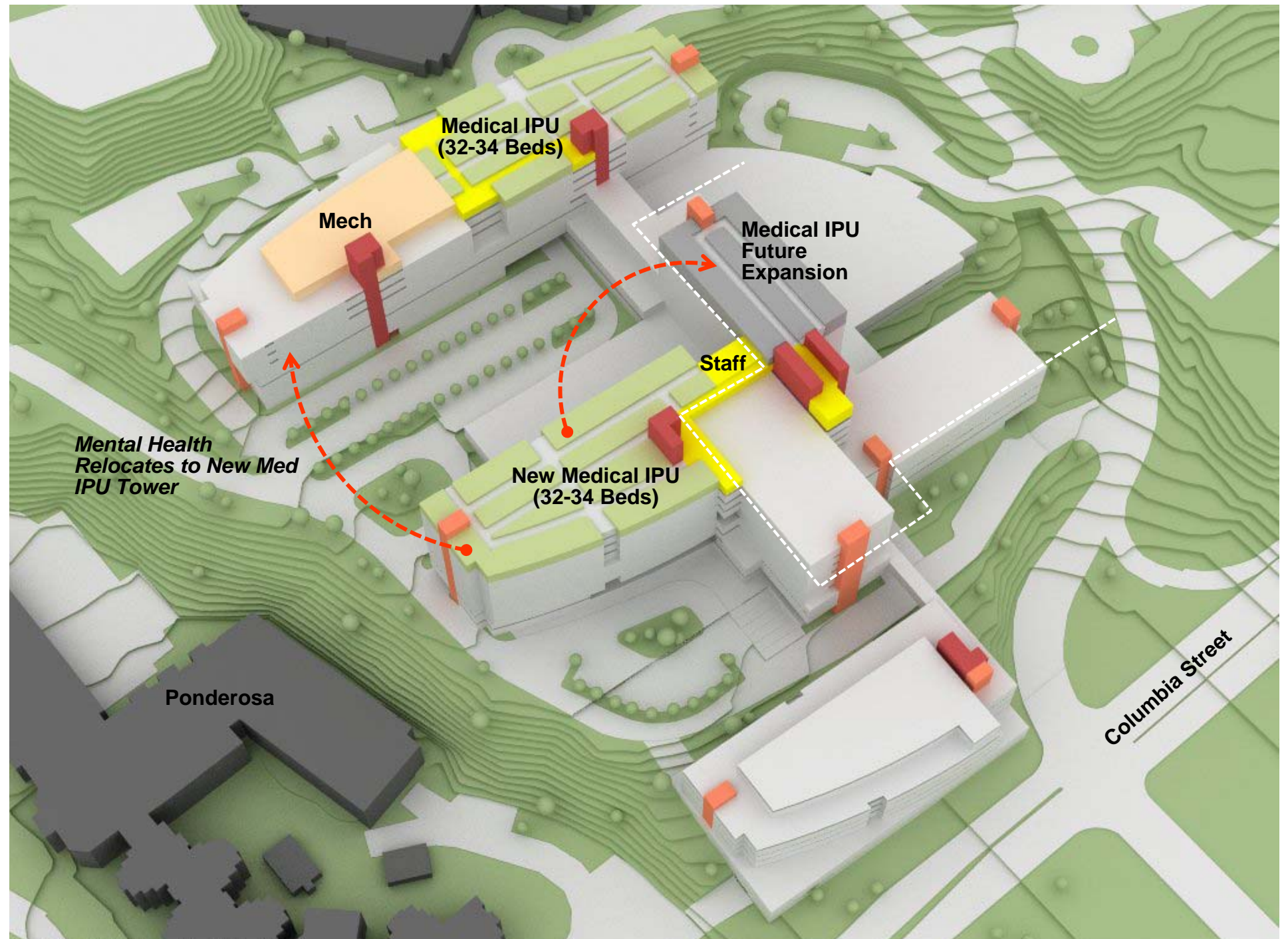
Level 8 (15-year Strategy)

- Construction of two new 32 / 34-bed Medical IPU's as part of new Medical Tower construction. (New Construction)
- Current 32 / 34-bed Medical IPU within new Surgical Wing to convert to 32 / 34-bed Surgical IPU (Renovation)



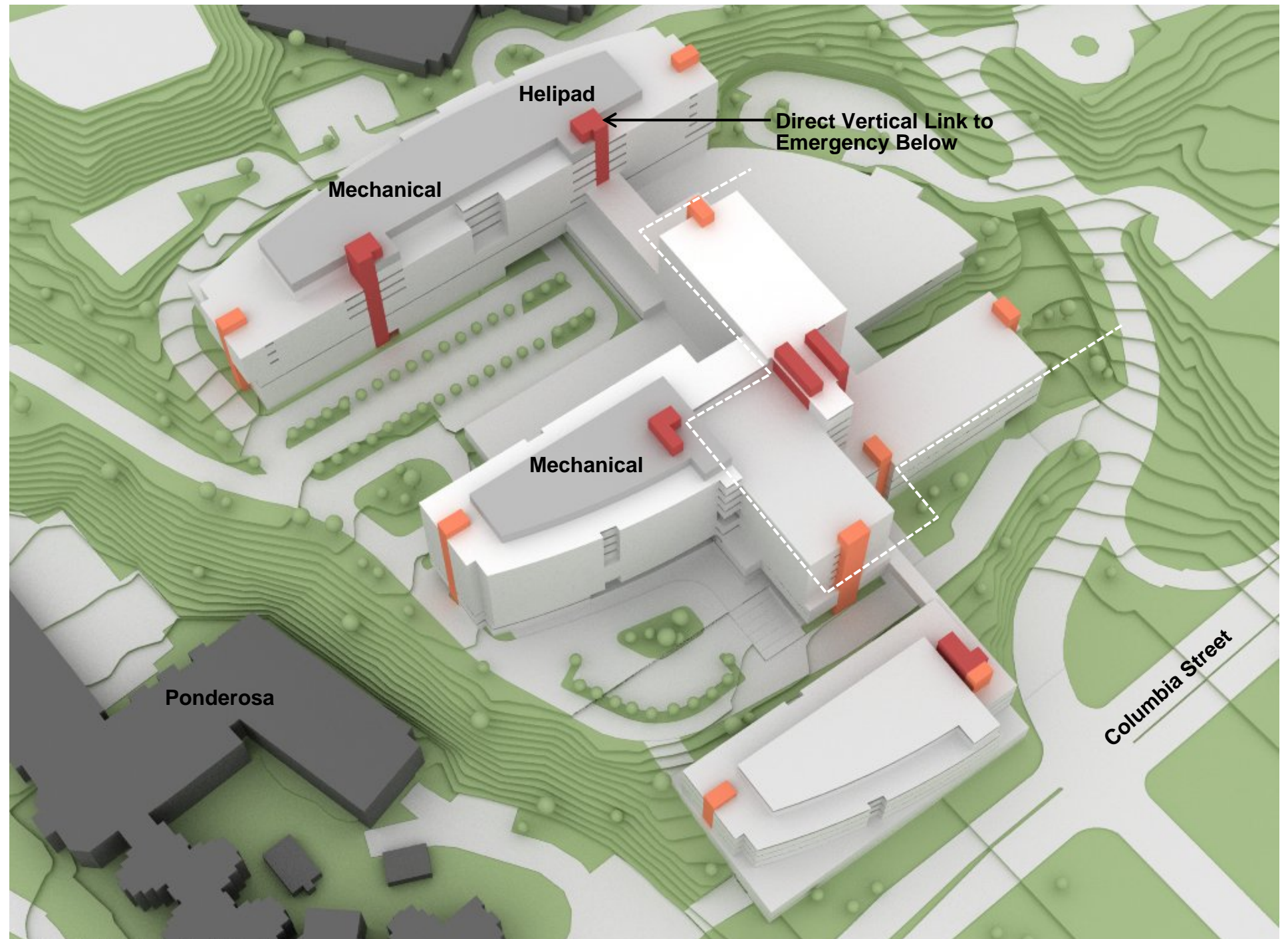
Level 9 (15-year Strategy)

- Construction of one new 32 / 34-bed Medical IPU as part of new Medical Tower construction. (New Construction)
- Existing Mental Health IPU to relocate to Level 7 of new Medical Tower as part of Mental Health program consolidation. (New Construction)
Note: this move is optional depending on projected Medical or Surgical bed requirement at time of project planning. If Mental Health remains in current location, one floor can be removed from new Medical Tower project planning.



Level 10 (15-year Strategy)

- Construction of new Mechanical Penthouse as part of new Medical Tower project. (New Construction)
- Construction of rooftop helipad atop proposed Mechanical Penthouse. Note: Helipad to be located in proximity to elevator core with direct patient access to Emergency department below.



Site Access Strategy

The strategy that guides the planning for overall site access is based on the need to clarify points of access, create a stronger relationship with existing and proposed building entrances, to clarify and distribute parking, and to effectively distribute general access throughout the site.

Primary access to the site remains via Columbia Street and 3rd Avenue. While this access is relatively steep, which can cause problems during icy winter conditions, the topography on the site precludes modifying its vertical profile to reduce grades. It is recommended, however, that the current eastbound to southbound separate right turn configuration be altered from a “yield” to a “stop” condition to improve safety just south of the main entry. With the site expansion focused on the east side, higher volumes of traffic are expected to utilize the northern portion of the internal circulation roadway which will increase left turn volumes just south of the main entry, so formalizing this with a marked separate left turn bay, and increasing the distance from this left turn and the eastbound to southbound right turn roadway is recommended to reduce conflicts in the southbound direction.

There is a Secondary rear access to the site via Glenfair Avenue, but this requires a circuitous route back to the adjacent major road system so it is rarely used. The topography of the site along its Columbia Street frontage, and the high volumes and arterial function of Columbia make development of a more attractive secondary access problematic, and access through the Ponderosa site is not possible due to major elevation differences. There may be an opportunity to develop another access to Columbia by extending a connector road southward through the newly purchased western lands; however, the section of roadway adjacent to existing homes may be too narrow and require widening. Also, it is unlikely that the City would permit more than a right-in/out access at this location due to offset intersections and conflicting left turns on Columbia Street. These drawbacks may increase the cost of implementation and potential benefits of developing a second access. Further investigation of this option is required.

While the on-site road network is not proposed to be significantly modified, a new Outpatient entry lobby and one-way drop off has been created as part of the new Surgical Wing expansion. It is the intent that this drop-off will alleviate some of the traffic congestion at the main entry. The main entry drop-off has also been lengthened as a result of the demolition of Alumni Tower and the construction of the new parking structures, increasing capacity. Site improvements in this area should also include landscaping, pavement marking and water features. A transit loop and pedestrian connections throughout the site linking transit, parking, and building entries has also been included in the site plan. It is the hope that these improvements will enhance the connections between transit and the main entrance and also make overall pedestrian movement throughout the entry area both more efficient and pleasurable.

As indicated in the following site plan, access to the Emergency department has also been reconciled to resolve the dead-end and congested condition that currently exists. The Master Plan proposes that vehicle access be relocated adjacent to the new main Lobby / Concourse and integrated within the parking structure. Vehicles travelling from the Emergency drop-off would be able to directly connect with the new parking structure above. Additionally, the existing ambulance drop-off will remain dedicated to emergency vehicles only with some allocation for staff parking in this area.

To correspond with the construction of the new IPU / Outpatient tower to the north of the site, an additional one-way drop-off has been created. A direct link to the new parking structure integrated within the IPU / Outpatient tower is also provided at this upper level.

One of the most critical elements of the Master Plan is the utilization of the green space along Columbia Avenue. As previously stated the topography of these lands prohibits additional vehicle access and also makes pedestrian travel extremely difficult, particularly in winter months. To alleviate this, the Master Plan recommends the construction of a multi-storey parkade integrated with 3-4 levels of future clinical expansion and also a direct internal bridge link from Columbia Street to the main concourse on Level 2.

The overall strategy for building is to traverse the 10m+ grade differential and also make it a viable clinical and civic project by incorporating several program elements including retail / medical retail at grade and the possibility for future clinical expansion including the possibility of academic, related medical, or inpatient space. This structure will also help to establish a strong relationship with the hospital along Columbia Street by providing a landscaped front plaza including decorative paving, trees and water features.

Features of this building that relate to site access for pedestrians include a glazed lobby with direct access to a vertical lift that connects, via elevated bridge link, directly to the new main Concourse on Level 2, including the Ambulatory / Outpatient programs. This connection, in conjunction with the new main lobby and new parkade at the rear of the site, means a direct internal route is now possible from the front of the site to the rear. For vehicles, the parkade will simplify access to parking from Columbia and, in conjunction with the bridge link, facilitate easy access to the main hospital.

Note: As stated before, this is driven in part by the analysis provided in the Traffic and Parking Study (Bunt, 2011) which concludes that direct vehicle access across these lands is not feasible due to the existing terrain.

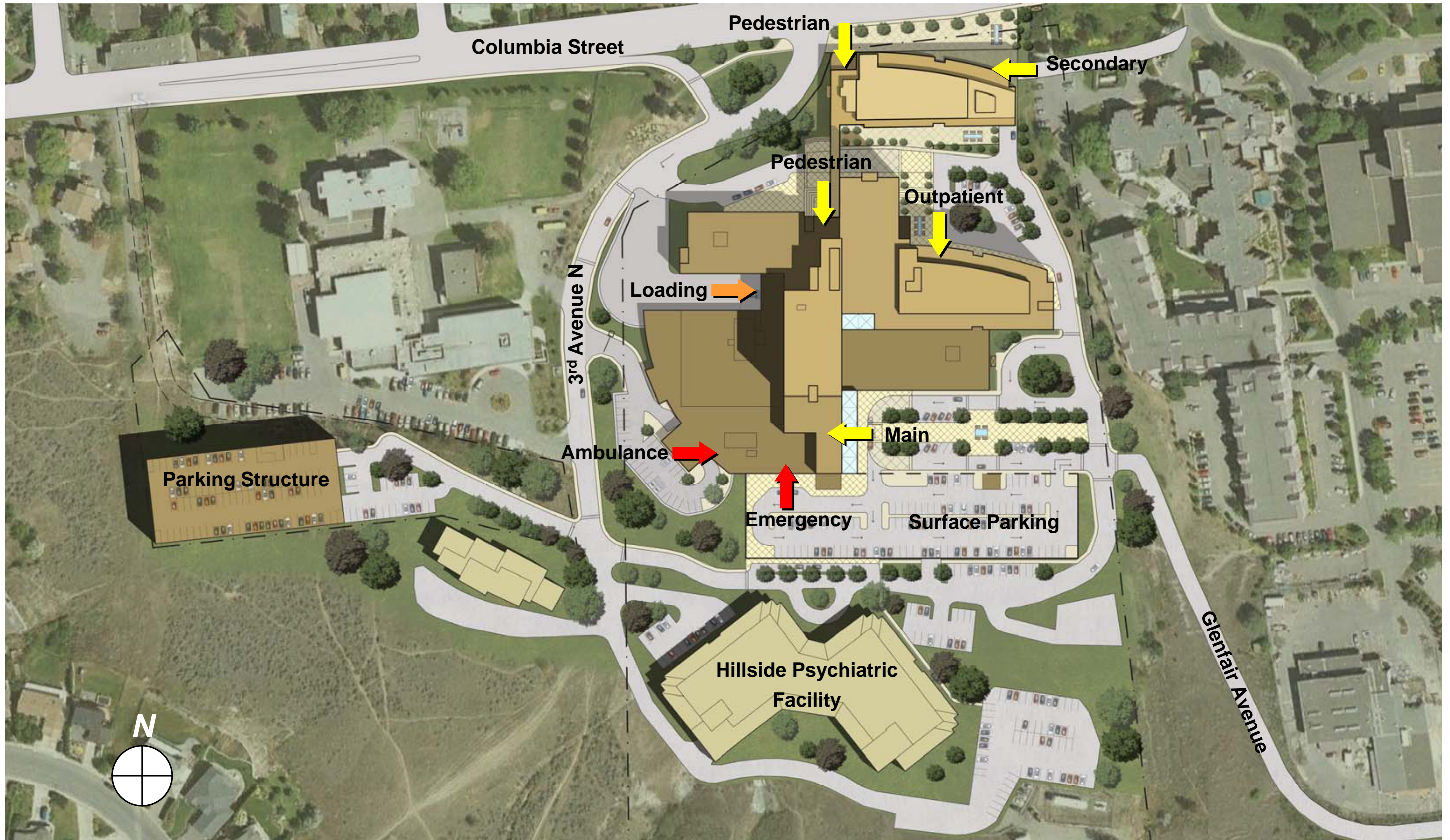


View from Columbia Street



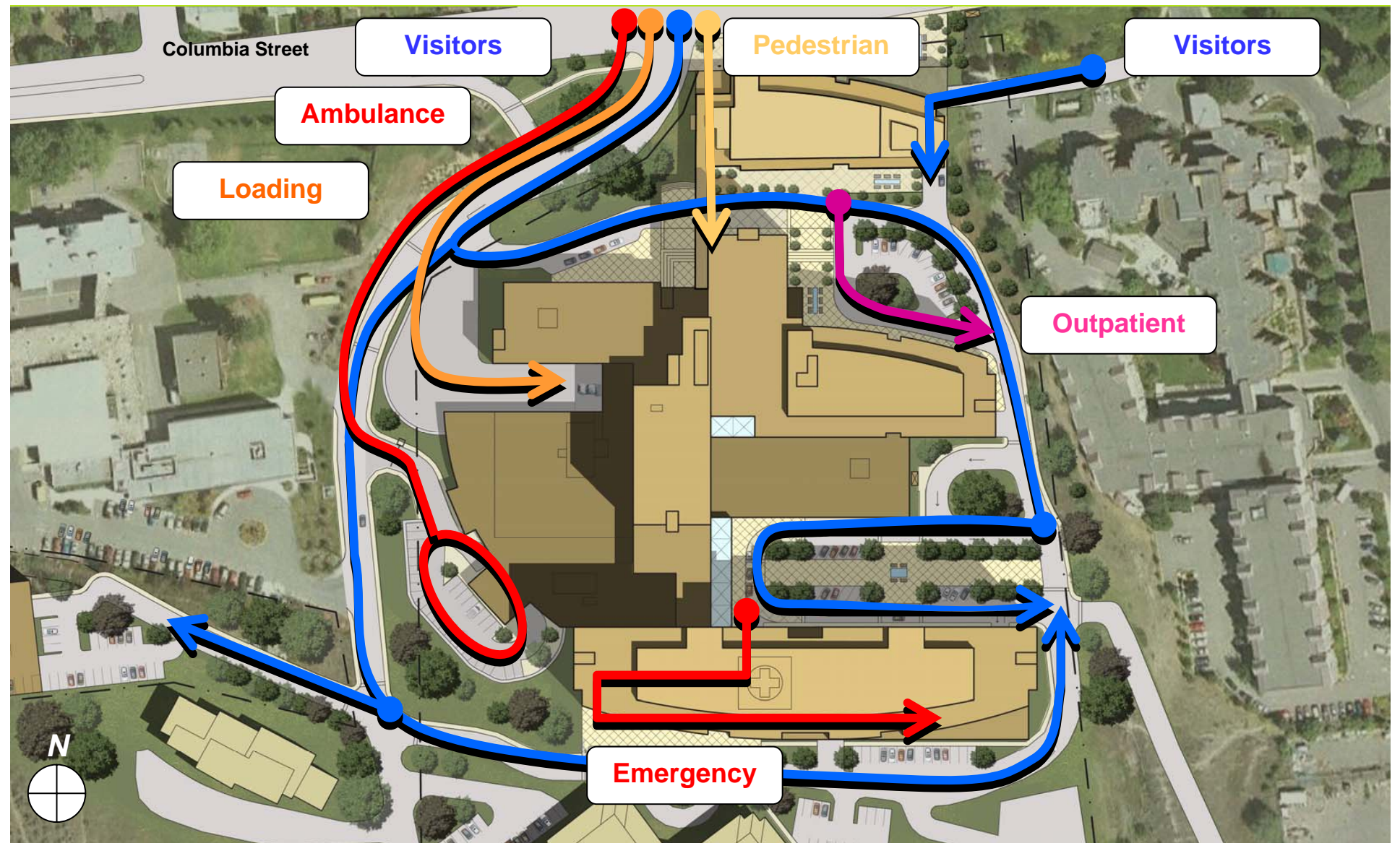
New Columbia Street Parkade and Services Building

PREFERRED PLANNING STRATEGY: SITE PLAN (GRADE ACCESS)



Vehicle Access Routes

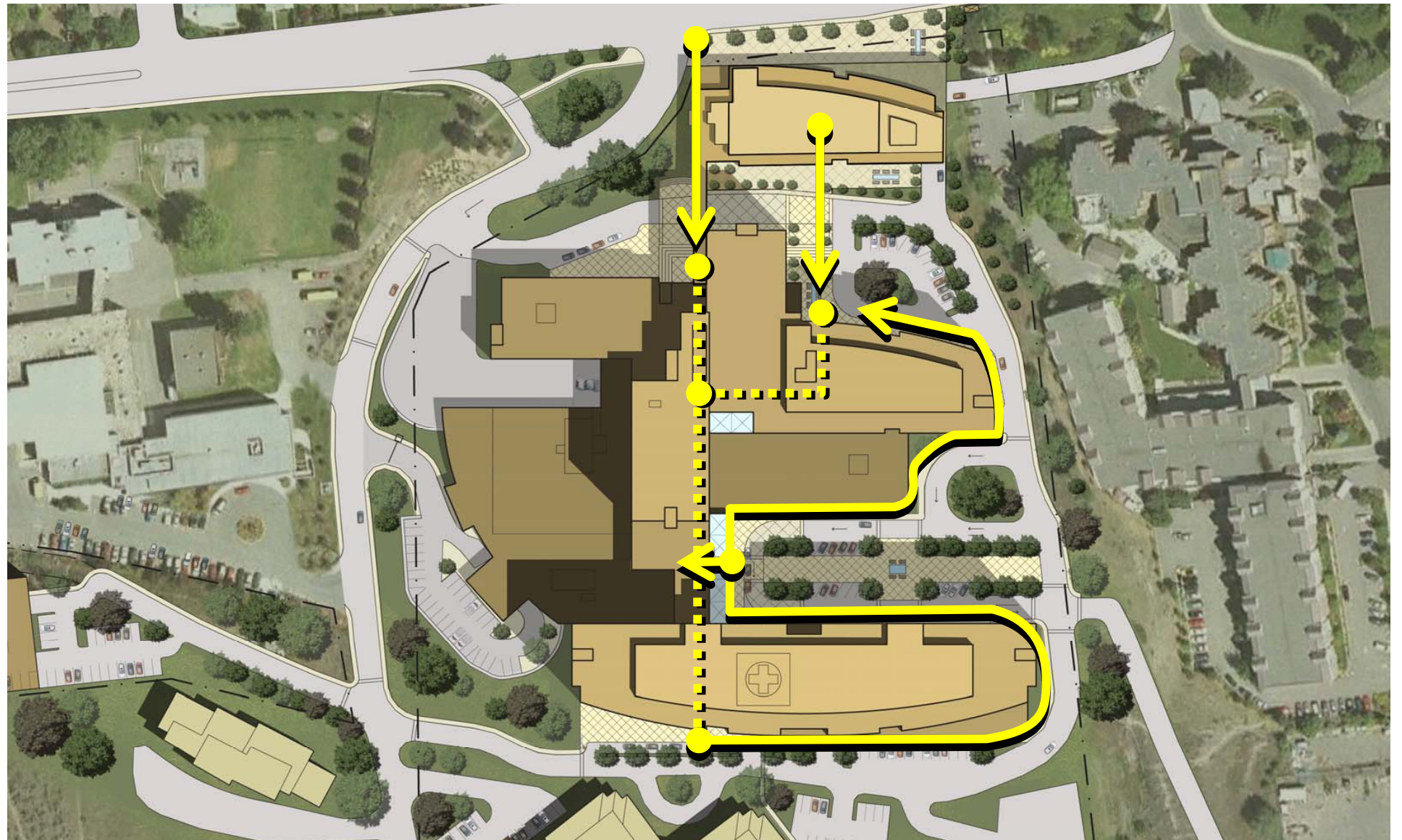
The following diagram illustrates the various vehicle access routes provided within the Master Plan. The primary existing vehicle routes have been preserved while circulation at the main entry has been widened and enhanced. Access to the new Columbia Street Parkade and Services Building has been provide via the Ponderosa lands with a point of exit provided up-hill to the existing internal RIH ring road. Loading and Emergency (Ambulance) circulation has been maintained however Emergency access for patients and family has been reconfigured to within the new parking structure.



Vehicle Access Routes

Pedestrian Access Routes

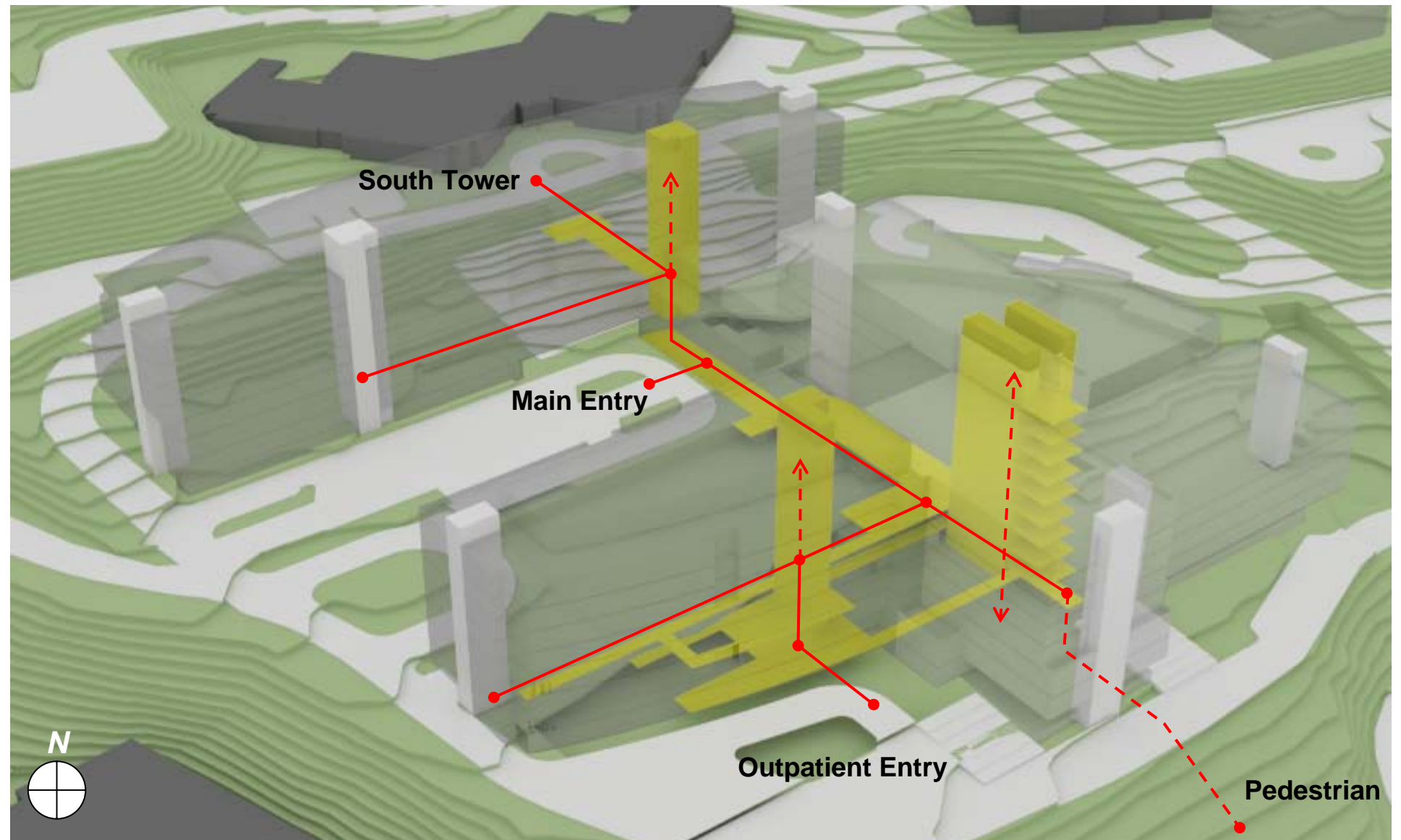
The following diagram illustrates the network of pedestrian routes provided within the Master Plan. Via the new bridge link within the Columbia Street Parkade and Services Building, there is now a direct internal pathway from the front of the site to the rear connecting all major parking structures with new and future clinical buildings. Additionally, the Master Plan provides a connected network of external surface routes that connect buildings with major points of entry and outdoor spaces.



Pedestrian Access Routes

Pedestrian Access Routes within Buildings

The following diagram illustrates the proposed circulation network within the main hospital building. The Master Plan proposes the creation of a new (and realigned) front-of-house main public concourse with clear connections to secondary public routes and vertical lifts to both existing and new structures. Additionally the internal circulation routes provide efficient connections to other services including parking structures, Outpatient lobby and public amenity services such as Retail and the Lecture Theatre.

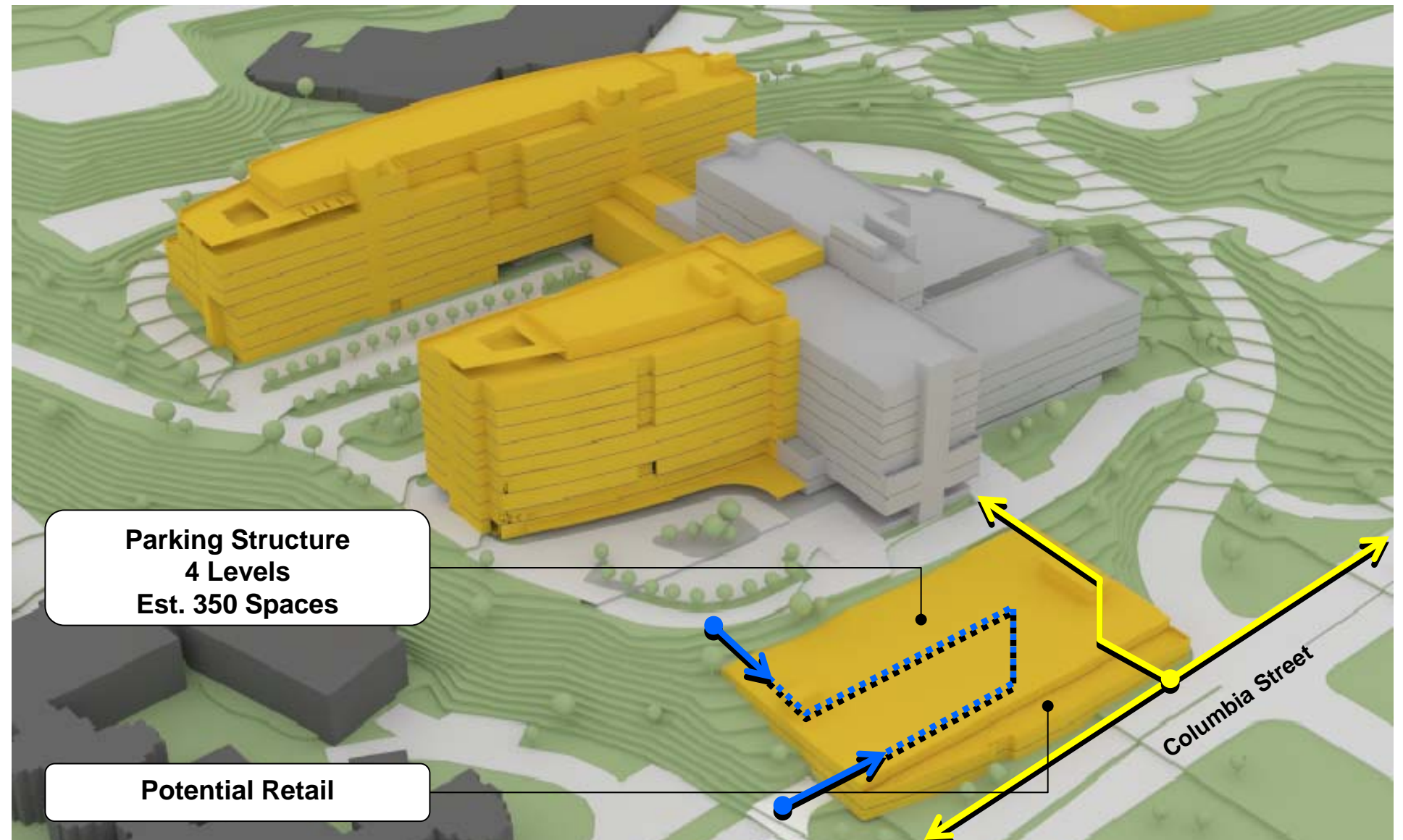


Pedestrian Access Routes within Buildings

Columbia Street Parkade and Services Building - Access (Diagram 1)

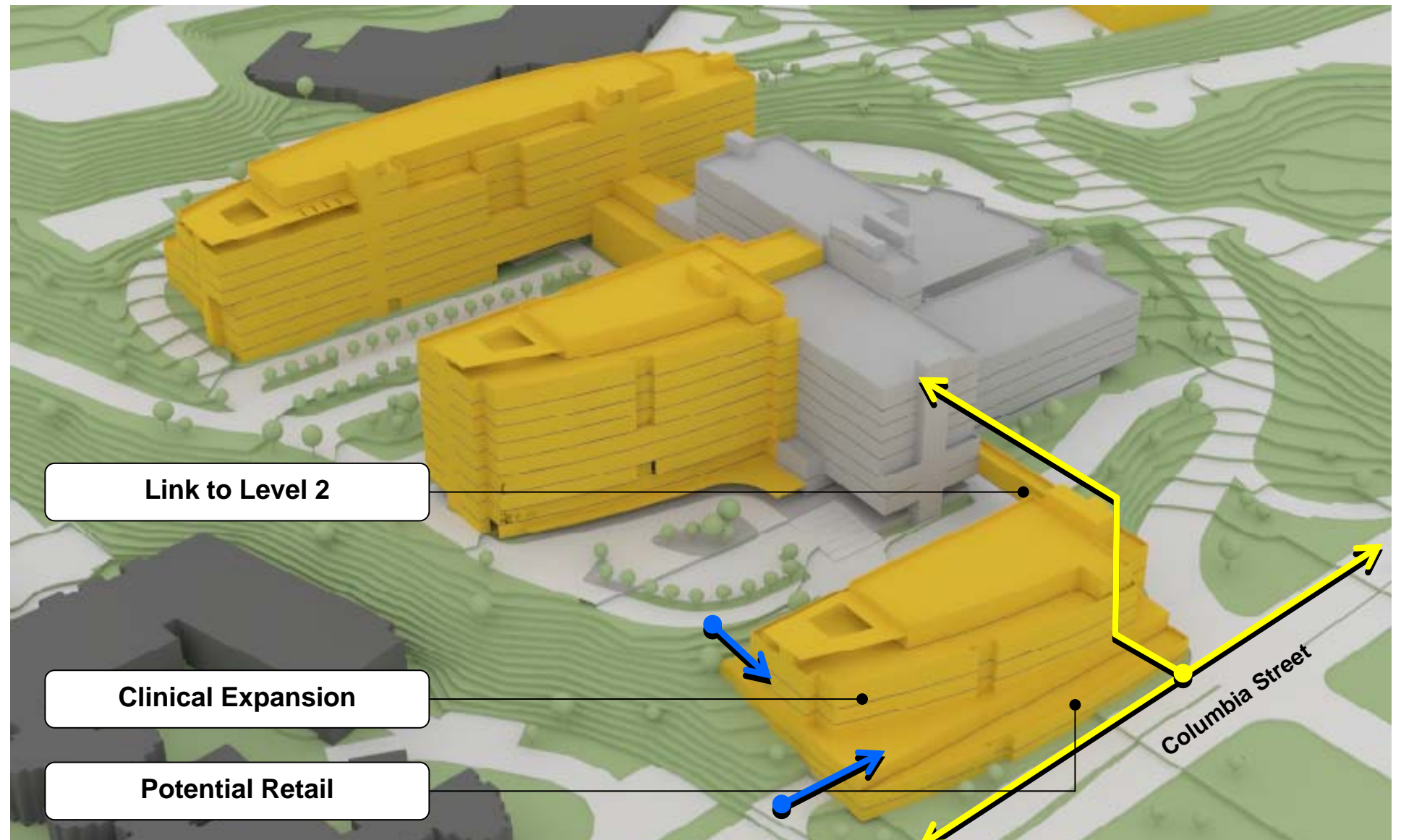
The following two diagrams illustrate the potential massing of the Columbia Street Parkade and Services Building over two phases:

- Diagram 1 illustrates a multi-level parking structure with a retail component at grade. This structure would allow for grade level access from Columbia Street.
- Diagram 2 illustrates the same structure with additional clinical programming added above. The intent of this is to provide an enclosed bridge link with the Level 2 main Concourse as indicated in the Master Plan. Again, this model is based on a typical clinical floorplate illustrated in the Master Plan and does not represent the actual or only clinical floorplate possible in this study.



Combination Parking Structure and Retail

Columbia Street Parkade and Services Building - Access (Diagram 2)



Mixed use Retail, Clinical and Parking Structure

Parking Strategy

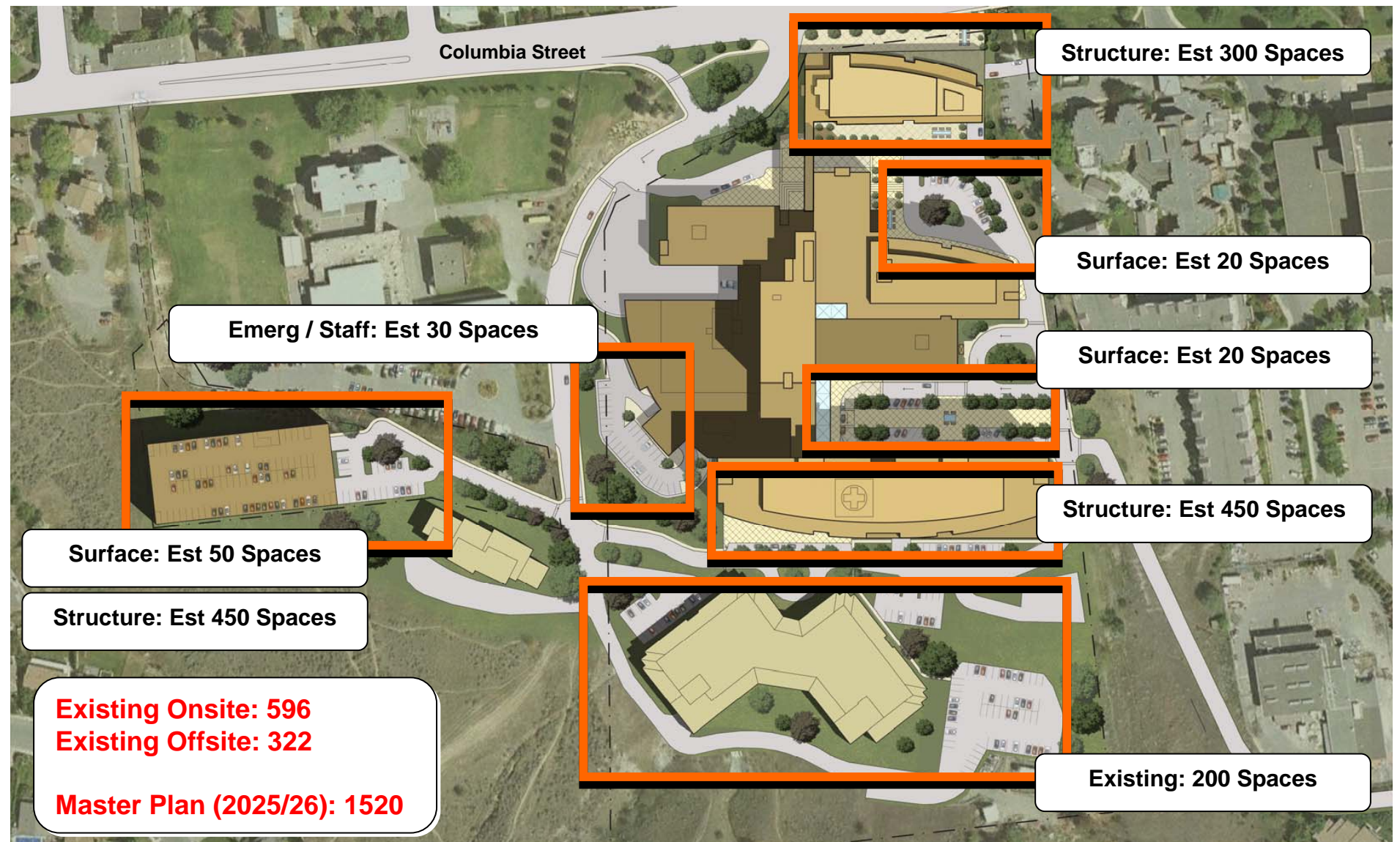
As described in the existing conditions analysis narrative, there are currently 231 surface and 365 structured spaces available for a total count of 596 spaces. IHA also currently leases 322 off-site spaces for use by staff. IHA has access to 920 parking stalls in total, of which 65% are on-site, and 35% are off-site. However, the current parking supply at RIH is not adequate and with projected growth requiring a supply in excess of 1200 spaces at build-out, the need for a comprehensive parking strategy is critical. Besides issues with space allocation and assignment, access, navigation, patients and visitors cite lack of on-site parking, not parking cost, as most desired improvement while 55% of patients & visitors give parking an average score of 1 out of 10. Anecdotal information from the City of Kamloops suggests staff are also parking in residential areas to the north and west of the RIH site.

The Master Plan recognizes these critical issues and sets as its mandate the need to:

- Meet projected demands (1220 stalls)
- Replace parking lost to new construction
- Facilitate efficient and safe access to and from parking for visitors, patients and staff

The strategy to meet these goals includes both surface and structured parking solutions:

- Construction of new multi-storey parking structure on the newly acquired western lands. Structure capacity will be approximately 450-cars. Construction of a parking structure in this location will serve two functions a) to help meet current shortfalls and b) to replace surface parking lost during construction of Phase 1 Surgical Wing expansion. Consideration for structured parking should also take into account the potential for a future road access from Columbia Street. The structure should also have the capacity for vertical expansion.
- Construction of two-level under-ground parking as part of the Phase 1 Surgical Wing expansion. This parking should anticipate projected volumes of Outpatient users as Phase 1 expansion contains Outpatient programs and will also service the expanded Ambulatory Care unit in the future.
- As illustrated in Figure A, creation of a multi level parking structure on Columbia Street green lands. Suggested structure to be approximately three levels (either slab or scissor construction) and contain approximately 300 spaces. Parkade to have internal one-way ramp system with entry at Columbia Street grade via Ponderosa lands and exit at up-hill grade connecting with existing RIH internal ring road system. Retail space at grade should also be considered within the structure design. Structure to be designed to receive vertical expansion for three (or more) clinical levels. Structure design should also accommodate existing electrical vault.



- As illustrated in Figure B, construction of new multi-level parking structure on lands previously occupied by Alumni Tower and existing parking structure. West parking structure is proposed for demolition as it is not designed for vertical expansion and the need to reconcile the Emergency entrance and enable construction of IPU tower directly above. The structure is to be constructed in two phases, starting with the east unit so as to allow replacement parking to be constructed. The structure is also to incorporate a direct vertical link to the Emergency unit below and the future Helipad above. Additionally, it is recommended that the structure be constructed using clinical floor to floor heights, instead of typical parking structure heights. This is to enable future clinical expansion into the parking structure if necessary. (An additional strategy would be to design structure with removable alternate levels to facilitate this expansion.) Access / egress to this structure would be both from top and bottom levels to facilitate vehicle circulation and convenience. It is recommended that visitor and patient access be allowed only at the bottom level and staff access only at the top level, with a barrier internal to the parkade between staff and visitor / patient parking areas to ensure staff cannot park in visitor/patient stalls. This arrangement would also prevent visitors / patients from having to drive through multiple levels of staff parking to access available stalls, as they are forced to today. Additionally;
- Short term visitor / patient parking currently located near the main entrance will be preserved and enhanced during the site works phase.
- A small amount of surface parking with a relationship to the new Surgical Wing / Outpatient Lobby should also be considered to allow for short-term Outpatient parking.
- Existing visitor parking located at the current Emergency drop-off area should be designated for Emergency Staff, Doctors, Volunteers and Emergency vehicles only.

Although the total number of parking stalls required at build-out (1200 stalls) is quite high for a site of this size and topography, the rationale for a multi-level structure strategy is as follows:

- Ability to phase construction and defer costs over time
- Reduction in overall land area required
- Ability to integrate parking with clinical construction
- Flexibility to determine volume needs prior to construction
- Consolidates majority of parking into single structure and locates parking in proximity to Main Entrance and Emergency entry.
- Underground parking distributes parking to allow direct access to specific programs.

It is important to note that the location and size of the parking structure as shown is proposed only and should be subject to a detailed demand analysis prior to construction.

Figure A: Columbia Street Parkade and Services Building

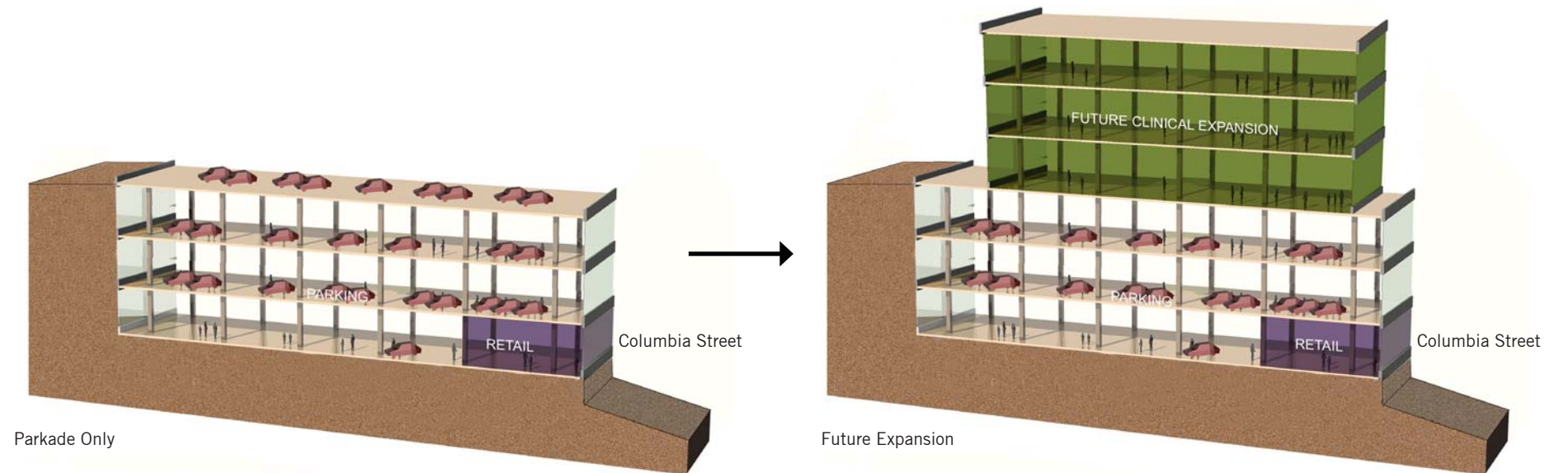
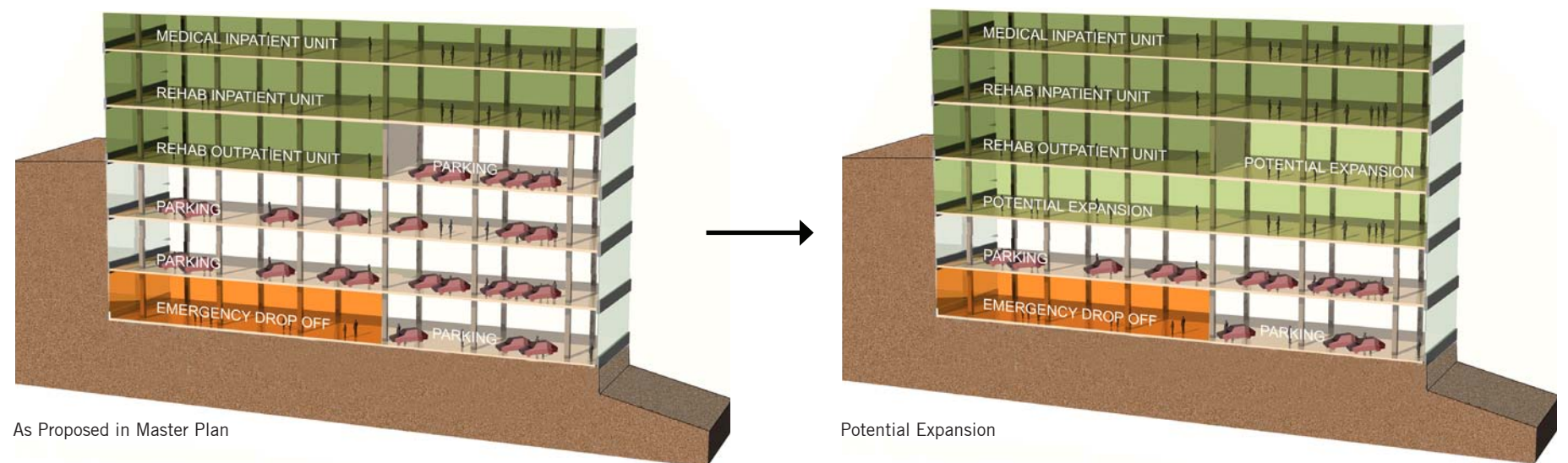


Figure B: Integrated IPU / Outpatient Parking



OPTIONS FOR HELIPAD LOCATION

As part of the planning process, several alternate locations for a new helipad integrated within the existing and proposed building structures were examined. This study was completed in order to identify a location that could be potentially implemented immediately as opposed to one that is integrated into a future phase of development as proposed within the Master Plan. This study sought to:

- Identify alternate options to the existing ground level helipad
- Identify the most efficient location with respect to providing direct access to the existing Emergency department
- Determine alternate locations in the event that any proposed elements within the Master Plan Preferred Option were not completed.

Four potential locations were examined and discussed.

Option 1: Atop New Inpatient Wing

This location was investigated as a means to provide direct vertical access to the Emergency department immediately below. It was proposed that a dedicated vertical lift would be provided and open directly to the Emergency department.

Option 2: Atop Existing Parking Structures

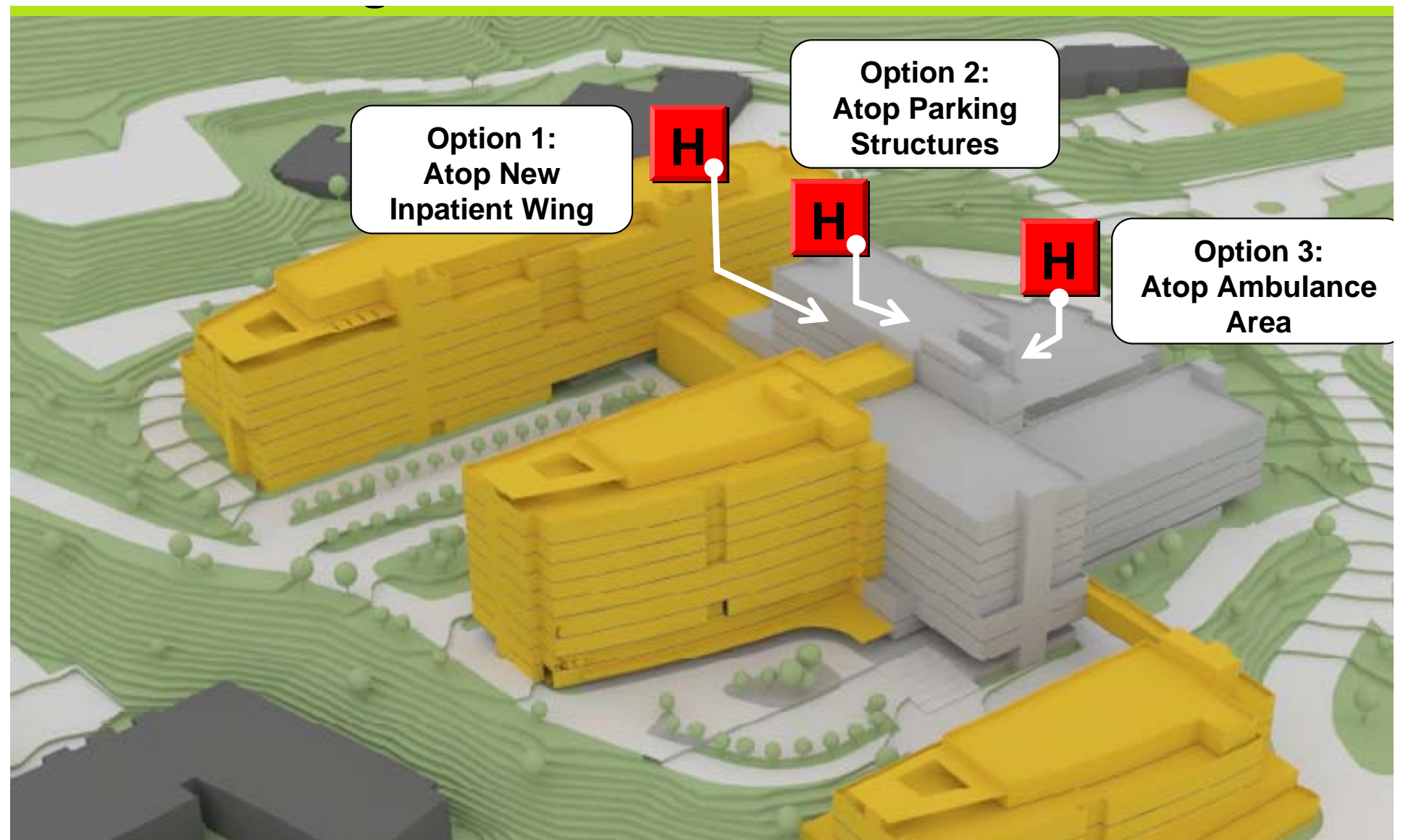
This location was also suggested for similar reasons as Option 1 – to provide direct vertical access to the Emergency department below.

Option 3: Atop Ambulance Area

This option was considered as it provided direct access to Emergency department and a shorter vertical travel path for medical staff.

While all options are feasible, the RIH charette participants indicated a preference for *Option 1: Atop New Inpatient Wing* as it provided the most efficient and direct vertical access to Emergency department. Option 2 was discarded as it will likely require complex structural upgrades to the existing parking structure and would potentially eliminate existing parking spaces on a site already experiencing a parking shortfall. Option 3 was also considered potentially viable however this location will require further study and approval by the appropriate authorities to confirm flight path clearances. Additionally, this option will require structural upgrades to the existing facility.

The Design Team also suggests that a detailed investigation of *Option 3: Atop Ambulance Area* be conducted as soon as possible to determine the associated costs. If this option proves to be viable from both a cost and flight path perspective, it would appear to be optimal for IHA / RIH to proceed with this solution as it does not tie the helipad implementation to the approval and design of other project phases, thus enabling the helipad project to proceed independently.



PROS AND CONS

It is recognized that the RIH 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
- Accommodates a range of future block planning scenarios and department locations over at 10-year and 15-year period
- Supports the brand, recruitment and retention strategies
- Provides expanded entry lobby
- Provides more efficient Emergency access
- Multiple opportunities for IPU expansion and growth
- Achieves clarity of entrances and wayfinding
- Embraces family & patient focused design thinking
- Achieves parking requirements
- Locates parking with direct connection to Emergency services
- Provides location for future helipad with connection to Emergency services
- Provides internal pedestrian link from Columbia Street to level 2 concourse
- Affords phased construction opportunities with multiple programming variations
- 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 (Phase 1 Expansion)
- Preserves newly acquired lands, and Ponderosa site for future development
- Creates Ambulatory Care cluster with separate entrance to decongest Main and Emergency entrances
- Provides options for Columbia Street green lands that address vehicle and pedestrian access while also addressing options for parking

CONS

- Significant building development on single site
- Some reuse of existing infrastructure (IPU floors)
- Some unassigned space within existing infrastructure (IPU floors)
- Potential impacts on existing civil infrastructure needs to be further examined

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.

Parking structures are not calculated in area totals.

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

Note: The areas indicated in this chapter reflect the total proposed build-out for the 15-year development horizon only.

RIH Component / Sub-Component	Projected CGSM	Master Plan CGSM											Master Plan Comments	
		Bsmt	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Dept Total		Variance
Aboriginal Health	25.0			25.0								25.0	0.0	
Ambulatory Care	2,760.0			2,760.0								2,760.0	0.0	Includes Orthopedic Clinics (360sm)
Biomedical Engineering	230.0		230.0									230.0	0.0	
Cardiopulmonary/Neurodiagnostics	680.0			680.0								680.0	0.0	
Clinical Nutrition	80.0		80.0									80.0	0.0	
Diabetes Education, Vascular Improvement Program & Outpatient Nutritional Counseling	460.0			460.0								460.0	0.0	
Diagnostic Imaging	2,200.0			2,200.0								2,200.0	0.0	
Discharge Planning & Utilization	111.0		111.0									111.0	0.0	
Education Office & Facilities	335.0		335.0									335.0	0.0	
Education Office	55.0		55.0											
Lecture Theatre & Skills Lab	280.0		280.0											
Emergency Department	1,935.0			1,935.0								1,935.0	0.0	
Food & Nutrition Services	1,580.0		1,580.0									1,580.0	0.0	
Foundation/Auxiliary/Volunteers	320.0		215.0	105.0								320.0	0.0	
Gift Shop	50.0			50.0										
Café	40.0			40.0										
Coordinator Work Space	30.0		30.0											
Volunteer Lounge Space	40.0		40.0											
Volunteer Work Space	30.0		30.0											
Main Information Desk	15.0			15.0										
Foundation / Auxiliary / Volunteers	115.0		115.0											
Health Information Management	1,000.0		1,000.0									1,000.0	0.0	
Hospitalist Program	30.0		30.0									30.0	0.0	
Housekeeping	100.0	100.0										100.0	0.0	100 CGSM includes central area only, which may be displaced by the expansion of the MDR. Master Plan assumes no changes or expansion.
IH Library	225.0		225.0									225.0	0.0	
IH West Staffing Services	210.0		210.0									210.0	0.0	
IMIT	258.0		258.0									258.0	0.0	
Infection Prevention & Control	30.0		30.0									30.0	0.0	
Inpatient - Medical	8,400.0									4,200.0	4,200.0	8,400.0	0.0	Based on 120 beds @ 70 CGSM per bed
Inpatient - Surgical	6,300.0							2,100.0	2,100.0	2,100.0		6,300.0	0.0	Based on 90 beds @ 70 CGSM per bed

RIH Component / Sub-Component	Projected CGSM	Master Plan CGSM											Master Plan Comments	
		Bsmt	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Dept Total		Variance
Intensive Care Unit	2,530.0				2,530.0							2,530.0	0.0	New space recently developed with 17 beds (1,450 CGSM); project an additional 8-12 bed expansion @ 90 CGSM per bed (an additional 720-1,080 CGSM of space required)
Laboratory	1,890.0	120.0	420.0	1,350.0								1,890.0	0.0	
Laboratory	1,770.0		420.0	1,350.0										
Morgue	120.0	120.0												
Laundry	1,010.0	970.0										970.0	-40.0	Master Plan assumes laundry will remain as existing and programmed additional 40 CGSM will be achieved through re-planning existing space as per Master Program notes.
Logistics	500.0	500.0										500.0	0.0	Current space adequate to support projected services needs, but require improved access to the loading dock for other user departments such as Laundry
Maternity / NICU	2,560.0				2,560.0							2,560.0	0.0	Currently 4 LDRs & 4 outpatient assessment spaces (1,130 CGSM), 10 postpartum beds on 3 West (space included in medical inpatient space), 8 funded NICU spaces (included in 1,130 CGSM), & a maternity clinic located on the main level of the Alumnae Tower (104sqm); project need for 11 SRMCs, a high acuity birthing space, outpatient assessment area (6 spaces), 6 antenatal/postpartum beds, NICU with 14 neonate spaces, & a maternity clinic
Medical Device Reprocessing	930.0	930.0										930.0	0.0	
Medical Staff Space	160.0					160.0						160.0	0.0	
Mental Health & Substance Use	3,017.0								4,200.0			4,200.0	1,183.0	Overage reflects shelled space within total envelope caused by building area for IPUs above and below.
Psychiatric Inpatient Unit	2,520.0								2,100.0					
Outpatient Services	497.0								2,100.0					
Pediatrics	2,120.0						2,120.0					2,120.0	0.0	
Patient Registration / Admitting	220.0			220.0								220.0	0.0	
Pharmacy	560.0		560.0									560.0	0.0	Expansion space may not be required if chemo prep area in the Cancer Clinic is operationalized
Plant Maintenance	579.0	579.0										579.0	0.0	Overall space is close to adequate to support projected service needs, assuming space along the north wall is retained for storage. Additional storage area / HVAC shop to be included in new Surgical Wing underground parking area if necessary.
Protection & Parking Services	42.0			42.0								42.0	0.0	
Rehabilitation Inpatient Unit	3,900.0							4,200.0				4,200.0	300.0	Overage reflects shelled space within total envelope caused by building area for IPUs above and below.

RIH Component / Sub-Component	Projected CGSM	Master Plan CGSM											Master Plan Comments		
		Bsmt	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Dept Total		Variance	
Rehabilitation Services	1,700.0						1,700.0						1,700.0	0.0	300 CGSM of expansion space may be required in the longer term due to the impact of projected growth in inpatient rehab programs, surgical services, etc., although growth could also occur off site; however, there are opportunities to improve functionality & utilization of existing space to address shorter term needs
Respiratory Therapy	230.0			130.0		100.0							230.0	0.0	Community RT program (130sm) located on Level 2
RIH Administration	645.0							645.0					645.0	0.0	
RIH Administration	320.0							320.0							
Meeting / Conference Rooms	325.0							325.0							
RIH Cancer Centre	1,040.0									1,040.0			1,040.0	0.0	Current space adequate to support projected service volumes for the next 10 years
RIH Renal Program	1,040.0								1,040.0				1,040.0	0.0	Existing department to remain
SCAN Children's Health Clinic	100.0						100.0						100.0	0.0	
Social Work	55.0		55.0										55.0	0.0	
Spiritual Care	145.0		145.0										145.0	0.0	
Staff Facilities	485.0		485.0										485.0	0.0	
Gym	225.0		225.0												
Female Locker Room	190.0		190.0												
Male Locker Room	45.0		45.0												
Union Offices	25.0		25.0												
Surgical Services	4,900.0			270.0		4,630.0							4,900.0	0.0	
Surgical Suite / PAR	3,380.0					3,380.0									
Daycare Surgery	1,250.0					1,250.0									
PSS & OR booking	270.0			270.0											
UBC Medical School	522.0		522.0										522.0	0.0	Current space is the area being redeveloped in the Basement; projected sqm is the 2014/15 total space identified in the UBC Faculty of Medicine July 2010 Functional Program
Master Program CGSM Total	58,149.0	3,199.0	6,491.0	10,177.0	5,090.0	4,890.0	3,920.0	6,945.0	7,340.0	7,340.0	4,200.0	59,592.0	1,443.0		
		Bsmt	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	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 Surgical Wing	New Medical IPU Wing	Demolition	Net Gain	Total
Basement	4,461	164	0	0	164	4,625
Level 1	8,970	1,840	0	0	1,840	10,810
Level 2 (Main)	9,755	2,635	0	0	2,635	12,390
Level 3	4,455	2,350	0	0	2,350	6,805
Level 4	4,455	2,350	0	0	2,350	6,805
Level 5	2,855	0	1,965	0	1,965	4,820
Level 6	2,490	2,350	4,600	0	6,950	9,440
Level 7	2,490	2,350	4,600	0	6,950	9,440
Level 8	1,300	2,350	4,600	0	6,950	8,250
Level 9	1,300	2,350	2,420	0	4,770	6,070
Total	42,531	18,739	18,185	0	36,924	79,455

Building Gross Areas listed in Square Metres

Area Includes Main Hospital Building Only. Calculation Excludes Alumni Tower

Excludes Potential Retail or Future Clinical Areas within Columbia Street Parkade and Services Building

Level 2 (Main) of the New Surgical Wing Includes 365sm of New Lobby / Entry Area of Main Hospital Building

Levels 5 - 9 of New Inpatient Wing Considered Element of 15-Year Development Plan (Indicated in Green)

NOTE: Columbia Street Parkade and Services Building proposed to contain three levels of future clinical expansion. It is recommended that individual levels to be designed to accommodate one 32-bed IPU at approximately 2,100 bgsm per level

9.0 - IMPLEMENTATION AND PHASING

INTRODUCTION

This chapter outlines a preliminary phasing and decanting strategy for the preferred Master Plan option for both the 10, and 15-year development horizons, 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 (MDR and future plans for Ponderosa), existing buildings (Alumni Tower and Parking Structure) and availability of additional lands.

PHASING SUMMARY - 10 / 15-YEAR DEVELOPMENT HORIZON

The intent of the phasing strategy is to ensure that priority items (Emergency, Surgical and Surgical IPU) are constructed as early as possible allowing for additional moves to occur later according to physical need and capital availability. A detailed summary of the major moves required across the full 15-year horizon is outlined below.

10-Year Horizon

Phase 1: Construct new 450-car parking structure on newly purchased adjacent lands.

Phase 2: Construct new Columbia Street Parkade and Services Building structure including future clinical expansion and bridge link to existing hospital.

Phase 3: Construct new Surgical Wing, Outpatient Lobby, select Internal Renovations (Emergency, DI, Ambulatory Surgical Procedures, Mental Health etc), Underground Parking and related Site Works. (10-year horizon)

Phase 4: Decant and demolish Alumni Tower. (10-year horizon) (Optional)

15-Year Horizon

Phase 5: Demolish Alumni Tower and construct new parking structure (east side only). (15-year horizon)

Phase 6: Demolish existing parking structure (west) and reconstruct new west parking structure. Phase 6 also includes creation of new dedicated Emergency entrance. (15-year horizon)

Phase 7: Construct new Inpatient / Outpatient tower atop new parking structure. (15-year horizon)

Phase 8: Select internal renovations and moves including Rehabilitation, Mental Health and Medical IPU programs. (15-year horizon)

DETAILED PHASING STRATEGY – 10-YEAR DEVELOPMENT HORIZON

PHASE 1: Parking Structure on Adjacent Lands

Phase 1 includes the construction of a new 450-car parking structure on the western lands. This parking is necessary to both alleviate current short-falls but also to replace existing surface parking lost to the construction of the new Surgical Tower. Detailed plans for this structure should also consider the future potential road access from Columbia Street.

PHASE 2: Columbia Street Parkade And Services Building

Phase 2 includes the construction of the new Columbia Street Parkade and Services Building on the Columbia Street green lands, including capacity for medical retail at grade, three levels of future clinical expansion above and enclosed bridge link at Level 2 to existing hospital.

- Construct multi-level parking structure with capacity for vertical expansion
- Construct three levels of future clinical expansion space
- Construct internal bridge link at Level 2 to existing hospital
- Site works to include grade access to parkade via Ponderosa Lands and landscape improvements along Columbia Street

PHASE 3: New Surgical Wing and Underground Parking

Phase 3 includes the construction of the new Surgical Wing and Outpatient Lobby, select Internal Renovations (Emergency, DI, Ambulatory Surgical Procedures, Mental Health etc), Underground Parking and related Site Works.

- Construct new Surgical Wing including Surgical Suites, and Medical (Future Surgical) IPU floors to accommodate all projected Surgical beds
- Construct new Outpatient Lobby and related public / Outpatient programs including Lecture Hall, Retail Amenity, Library, UBC Medical School
- Construct underground parking (2 levels recommended)
- Cardio / Neuro and Diabetic clinic also relocate to Surgical Wing
- Relocate Ambulatory Care Surgical Procedures component only to area previously occupied by Surgical Suites on Level 4
- Relocate Orthotics to within Ambulatory Care unit area
- Expand Emergency department into space previously occupied by main Concourse and Registration program
- Expand DI into space previously occupied by Orthotics.
- Consolidate Registration and Pre-admission programs
- Construct new main lobby and entry concourse

- ICU to expand into space previously occupied by Maternity / Medical / Post Surgical IPU
- Consolidate new Maternity / NICU unit within Surgical Wing
- Create new Peds psych IPU within vacated Labour and Delivery unit
- Existing Medical, Surgical IPU, Rehab, Pediatrics, Renal and Cancer Clinic programs to remain as indicated.

PHASE 4: Decant and Demolish Alumni Tower (Optional)

Phase 4 includes the decanting of all programs from Alumni Tower and the demolition of the structure to allow for construction of new parking structure (east) in subsequent phases.

- Decant (temporary) Mental Health programs to Level 9 of the new Surgical Wing (or new Columbia Street Parkade and Services Building if desired)
- Decant remaining programs as indicated in Master Plan

DETAILED PHASING STRATEGY – 15 YEAR DEVELOPMENT HORIZON

PHASE 5: Construct New Parking Structure (East)

Phase 5 includes the demolition of Alumni Tower (if not already completed) and the construction of new multi-level parking structure on lands previously occupied by Alumni Tower. If desired, floor to floor heights of new parking structure to be constructed per clinical height requirements for building construction to permit future expansion (occupation) of clinical departments if required.

Note: Construction of parking structure on Columbia Street may alter the short-term parking demands for the east parking structure. A thorough re-review of program requirements and parking demands should be completed prior to proceeding with this phase.

PHASE 6: Parking Structure (west) and Emergency Entrance

Phase 6 includes the demolition of the existing West parking structure and reconstruction of new structure in same location. Phase 6 also includes creation of new integrated and dedicated Emergency entrance. (15-year horizon)

- Demolish existing west parking structure
- Reconstruct new west parking structure
- Create new dedicated visitor emergency entrance and drop-off area

PHASE 7: Medical IPU Tower

Components of Phase 7 include the construction of new Medical Inpatient Tower atop newly constructed east and west parking structures. Construction of IPU tower is positioned as final phase to meet projected bed needs and avoid early un-necessary construction.

- Relocate existing Rehab Inpatient and Outpatient programs to new Medical Inpatient Tower
- Relocate Peds Psych department to new Medical Inpatient Tower
- Relocate / reprogram existing remaining Medical and Surgical IPU's as indicated
- Relocate Mental Health program to new Medical Inpatient Tower. Note: Mental Health programs can remain in existing location within existing Hospital building if desired.

PHASE 8: Occupation of Medical IPU Tower

Components of Phase 8 include the occupation of new Medical Inpatient Tower and any internal renovations to the main hospital as necessary.

- Relocate existing Rehab Inpatient and Outpatient programs to new Medical Inpatient Tower
- Relocate Peds Psych department to new Medical Inpatient Tower
- Relocate / reprogram existing remaining Medical and Surgical IPU's as indicated
- Relocate Mental Health program to new Medical Inpatient Tower. Note: Mental Health programs can remain in existing location within existing Hospital building if desired.

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 the 10 and 15-year planning horizons, 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)
10-Year Horizon		
Phase 1: New Parking Structure	Parking structure on adjacent lands.	½ to 1 year
Phase 2: Columbia Street Parkade and Services Building	Construct new Columbia Street Parkade and Services Buildings including future clinical expansion and bridge link.	4 to 4½ years
Phase 3: Surgical Wing	Construct new Surgical Wing, Outpatient Lobby, underground parking and related site works.	2½ to 3 years
Phase 4: Demolish Alumni Tower (Optional)	Decant and demolish Alumni Tower.	½ to 1 year
15 Year Horizon		
Phase 5: Demolish Alumni Tower and Construct Parking Structure	Construct new parking structure. (East side only)	½ to 2 years
Phase 6: Parking Structure	Construct new parking structure. (West side only)	1½ to 1 year
Phase 7: Inpatient Tower	Construct new Inpatient / Outpatient tower atop new parking structure.	1½ to 2 years
Phase 8: Internal Renovations	Occupy new Inpatient / Outpatient tower and select internal renovations as necessary.	1½ to 2 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 10 and 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 / RIH 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 Structure	Parking structure on adjacent lands.	●	●															½ to 1 yr
Phase 2: Columbia Street Parkade and Services Building	Construct new Columbia Street Parkade and Services Building, future clinical expansion, and bridge link		●	●	●	●												2½ to 3 yrs
Phase 3: Surgical Wing	Construct new Surgical Wing, Outpatient Lobby, Underground Parking and related site works.			●	●	●	●	●	●	●								4 to 4½ yrs
Project Assessment Period	Reconfirm scope, budget and timelines assumptions								●	●								1 yr
Phase 4: Decant and Demolish Alumni (Optional)	Decant and demolish Alumni Tower								●	●								½ to 1 yr
Phase 5: Demolish Alumni Tower and Construct New Parking Structure (east)	Demolish Alumni Tower and construct new parking structure (east side only)											●	●	●				1½ to 2 yrs
Phase 6: New Parking Structure (west)	Construct new parking structure (west side only)													●	●			½ to 1 yr
Project Assessment Period	Reconfirm scope, budget and timelines assumptions														●	●		1 yr
Phase 7: Inpatient / Outpatient Tower	Construct new Inpatient / Outpatient tower atop new parking structure.															●	●	1½ to 2 yrs
Phase 8: Select Renovations	Occupy Inpatient / Outpatient Tower and complete select internal renovations as necessary.															●	●	1½ to 2 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 RIH 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, that spans a 10 and 15-year horizon. Greenfield design opportunities were not pursued or demonstrated.

The studies presented all included a variety of clinical and lobby expansions and parking solutions. Variations included:

- Locate Med / Surg IPU at front of existing hospital as expansion of existing IPU
- Locate Med / Surg IPU adjacent to Lab wing
- Locate Surgical IPU at front of building adjacent to Lab wing and Medical IPU / Outpatient tower at rear atop new parking structure
- Locate Surgical IPU at front of building adjacent to Lab wing and Medical IPU / Outpatient tower at rear atop new parking structure and stand-alone Rehab / Outpatient wing on green lands on Columbia Street

From these options, and when evaluated against the development guidelines, it was agreed by all participants that the preferred development strategy would include the Surgical IPU at the front adjacent to the Lab wing, the Medical IPU / Outpatient tower at the rear atop a new parking structure and a parkade with clinical expansion space (Columbia Street Parkade and Services Building) with a direct link to the main hospital.

Enabling RIH 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
- Facilitates 10 and 15-year phasing opportunities that meet projected bed counts
- Achieves clarity of entrances and wayfinding
- Embraces family & patient focused design thinking
- Achieves parking requirements
- Distributes parking throughout the site
- Positions significant portion of new growth (Medical IPU tower) 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
- Utilizes current infrastructure effectively (Ponderosa)
- Proposes removing outmoded structures to create planning opportunities (Alumni Tower)
- Creates Ambulatory Care / Rehabilitation cluster with separate entrance to decongest Main and Emergency entrances

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 RIH 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, RIH 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 medical and surgical 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 RIH 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 at the front of the site with its own dedicated outpatient entrance helps facilitate the link between IHA's vision and the needs of the Kamloops 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, dividing the Medical and Surgical IPU's locates them in proximity to related clinical programs but also allows for future inpatient reprogramming as needs evolve. Additionally, the horizontal alignment and placement of IPU's atop a larger parking structure to the rear allows for phased construction as needs arise. Further, the Columbia Street Parkade and Services Building offers even more opportunities for additional phased expansion space.

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 Phase 1 Emergency expansion and the ongoing MDR project.

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

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, While the RIH site currently utilizes off-site parking to help meet its demands, the demand, the Master Plan provides several opportunities for the location of surface and 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

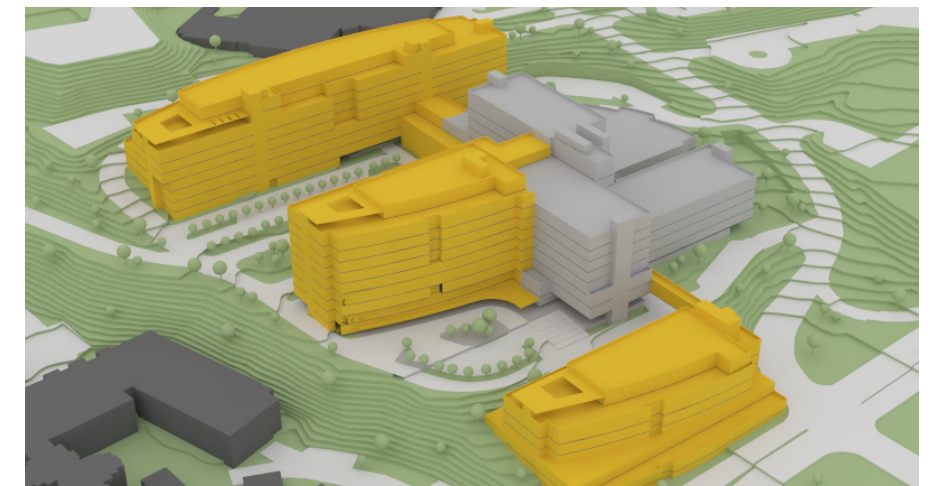
The role of RIH is changing in its community as patients, staff and family expect more from their care facility. The Master Plan recognizes these needs and presents a redefined facility dedicated to enhancing access to care.

For example, the creation of a new Outpatient entry in proximity to community related programs such as Spiritual Care / Volunteer / Foundation and lecture hall speaks to RIH'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, wellness and disease prevention are essential elements of economic success, the Master Plan offers clinical, retail, and medical related spaces with easy access by the public along Columbia Street.



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 RIH can be in the future?*

- Will enhance the reputation of RIH in the City of Kamloops
- 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 RIH?*

- Validates role of RIH in the community by illustrating site's long-term potential
- Collaborative process prompted discussion and debate on future direction for RIH within IHA restructuring initiatives.
- Supported desire to ensure RIH 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 (Alumni Tower)
- Appropriately distributes density while clarifying circulation routes
- Addresses IHA and Master Program growth projections
- Strengthens integration with existing Hillside Acute Psychiatric Facility

FLEXIBLE: *Does it accommodate future scenarios?*

- Multiple long-term growth opportunities provided across the site
- Expansion not constrained by existing structures (Alumni Tower)
- Provides several locations for parking structures

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

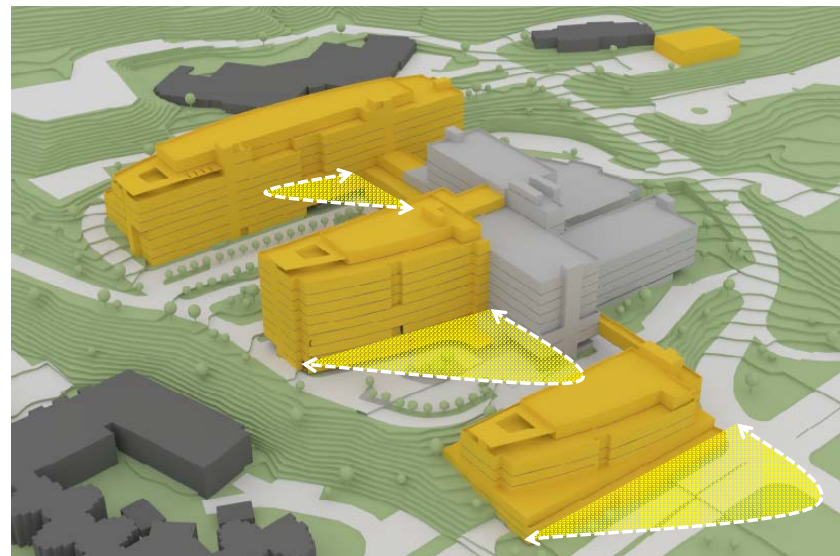
- Redefined entry and Outpatient / Ambulatory Care cluster sends clear message of commitment to care to the surrounding community
- Proposed new buildings offer increased street presence

INTEGRATED: *Is it woven into the Kamloops community?*

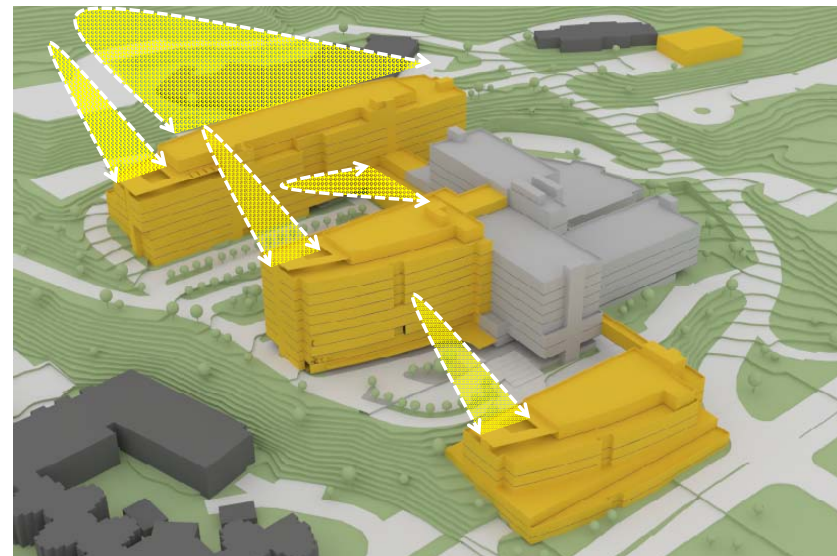
- Building density and siting respect and take full advantage of existing building fabric and naturalized spaces.
- Adequate parking opportunities for short- and long-term needs
- Integrated retail within Columbia Street Parkade and Services Building strengthens street level relationship with surrounding community

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

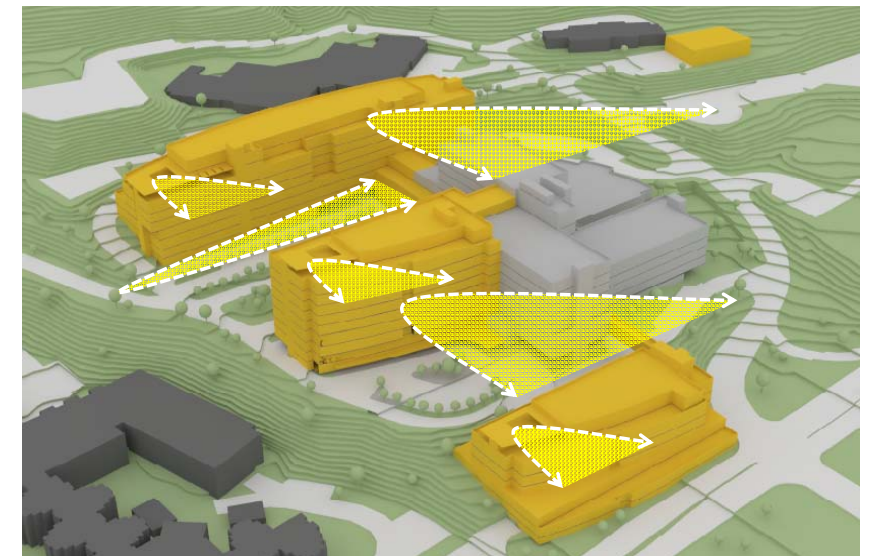
- Master Plan provides expanded main entry for revenue generating programs
- Serves as a catalyst for healthy community strategy
- Potential opportunities to fundraise and partner with likeminded organizations
- Integrated planning process reaffirms RIH as stewards for resources at the community level



Brand Improvement - New Face



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 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 RIH to make defensible choices as it grows and proceeds into subsequent planning stages. In order for RIH to move forward with the information provided, the Design Team recommends the following next steps:

- RIH 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 / Phase 1 projects as necessary.
- Explore partnerships with likeminded, high-profile organizations who may be interested in participating in, and providing financial / political support that align with future efforts / enterprises.
- At the time of this writing, it is known that RIH is considering the construction of a 450-car parking structure on the newly purchase western lands. The construction of this parking structure, along with the construction of the Columbia Street Parkade and Services Building, will potentially alter the number of spaces required within the proposed parking structure on the land currently occupied by the Alumni Tower. The Master Plan therefore recommends that RIH give continued consideration to the demolition of the Alumni Tower in the short term, to allow for decongestion of the existing main entry area.

BALANCED SCORECARD

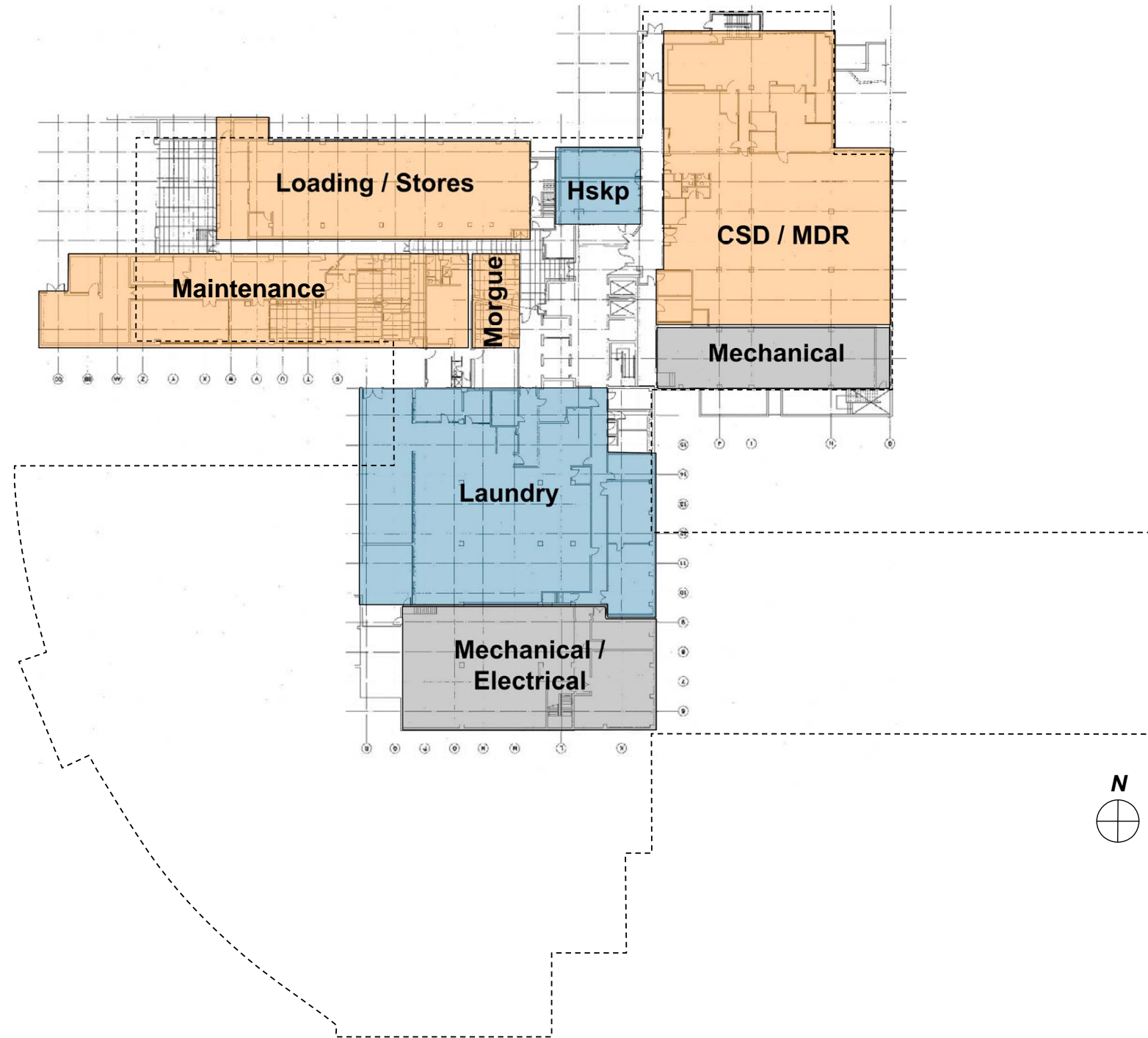
Developed during the *Common Ground*™ session, the Balanced Scorecard is a quick reference tool for assessing whether the entire project team is carrying through on jointly agreed success factors. This high level “back of envelope” tool uses strategic, aspirational statements to ensure that IHA / RIH 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.

Royal Inland Hospital	Kamloops, 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.	1	2
— The realistic phasing strategy aligns to both Interior Health's and RIH's priorities.	1	2
— The plan meets the requirements of the Key Results Areas (KRA's) for the hospital.	1	2
— The plan supports excellence in Tertiary Acute Care service delivery.	1	2
Impact		
— This plan transforms the image of the hospital to advance quality of life, health and wellness.	1	2
— This plan will align with the City of Kamloops Official Community Plan.	1	2
— This plan seeks to improve the patient care experience.	1	2
— The plan aligns with the principles developed for the Interior Health Integrated Health Service Plan.	1	2
— Question: The plan allows RIH to be a Centre of Excellence for: Trauma, Orthopedics, Obstetrics?	1	2
Functionality		
— The plan is practical, logical, and easy for stakeholders to understand.	1	2
— The plan is a road map for the future that integrates the various sites and functions.	1	2
— The plan supports a progressive teaching and learning environment.	1	2
— Workflow and departmental location contribute to an effective healthy staff environment.	1	2
— The plan draws on leading practices, evidence based design and global experience.	1	2
— The plan identifies future growth and program requirements.	1	2
— The design creates a hospital that has spaces that are healthy for both staff and patients.	1	2
— The plan responds to clinical priorities.	1	2
Value for Money		
— The plan demonstrates exemplary stewardship of physical, monetary and environmental resources.	1	2
— The plan maximizes the full development potential of the site.	1	2
— The plan enhances Royal Inland Hospital's role as an economic asset for the region.	1	2
	1	2
	3	4
	5	
	not at all-----to a great extent	
DATE: <u>August 20, 2010</u> TO BE REVIEWED: _____		

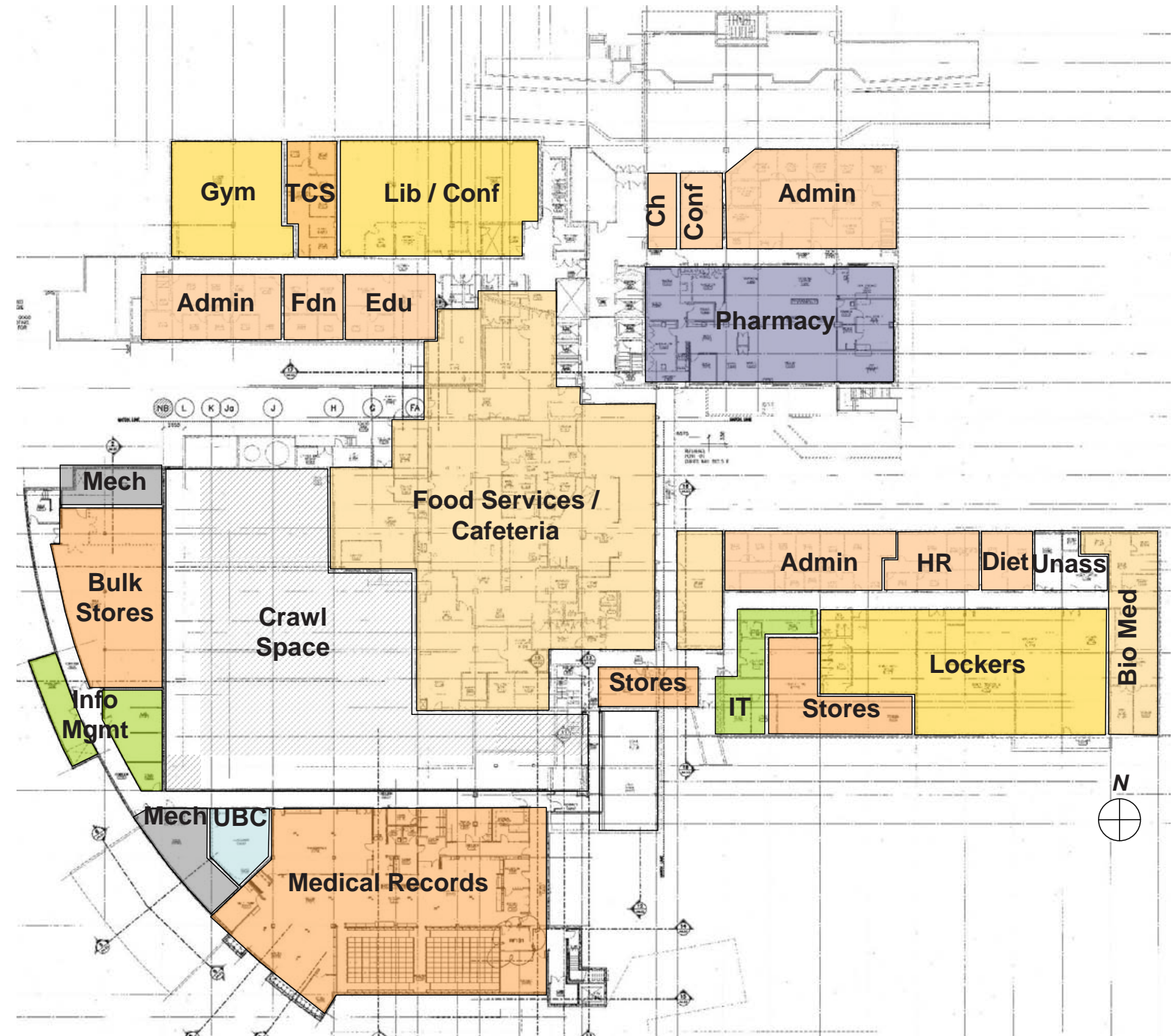
ROYAL INLAND HOSPITAL – EXISTING DRAWINGS

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.

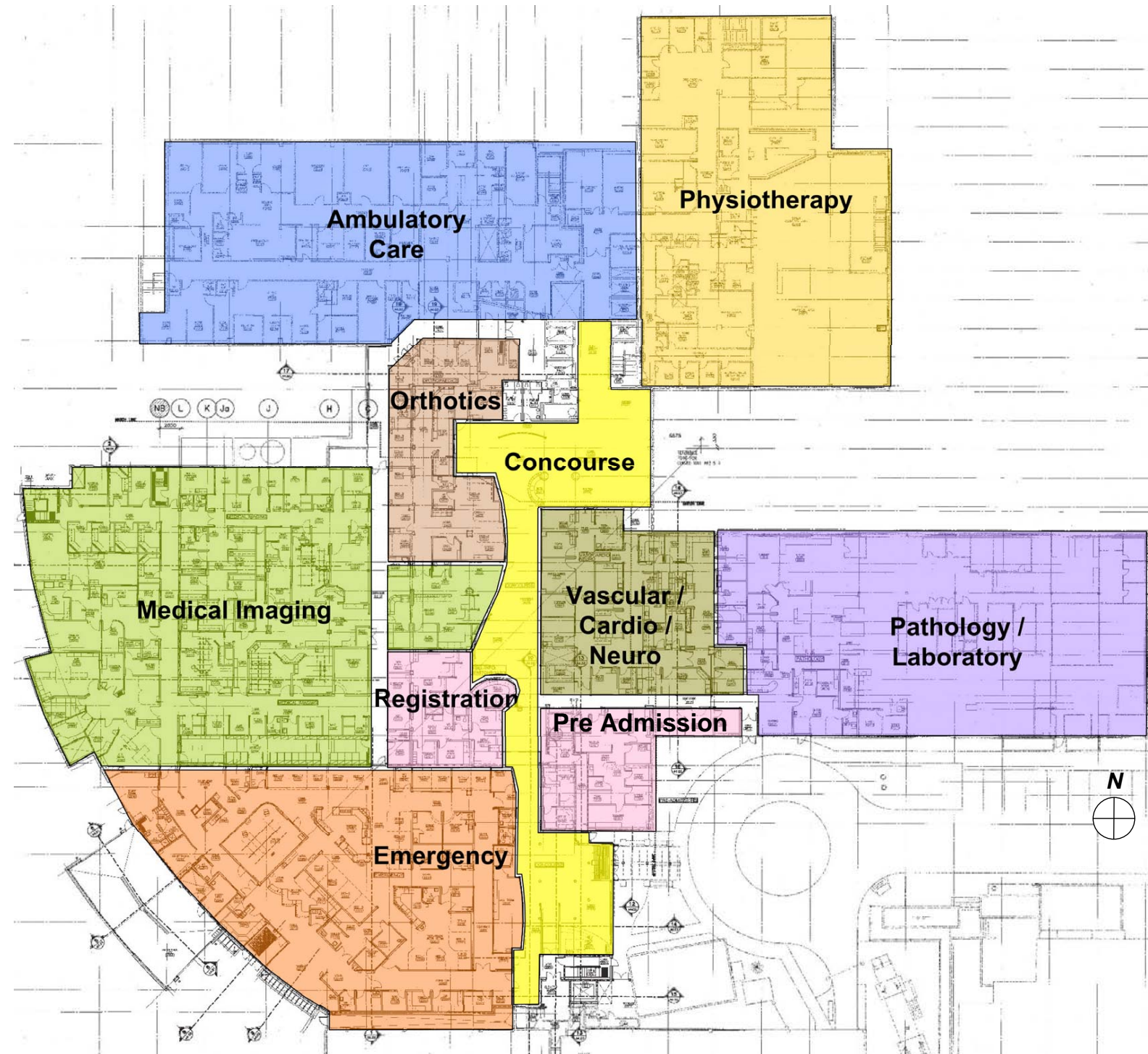
BASEMENT LEVEL



LEVEL 1



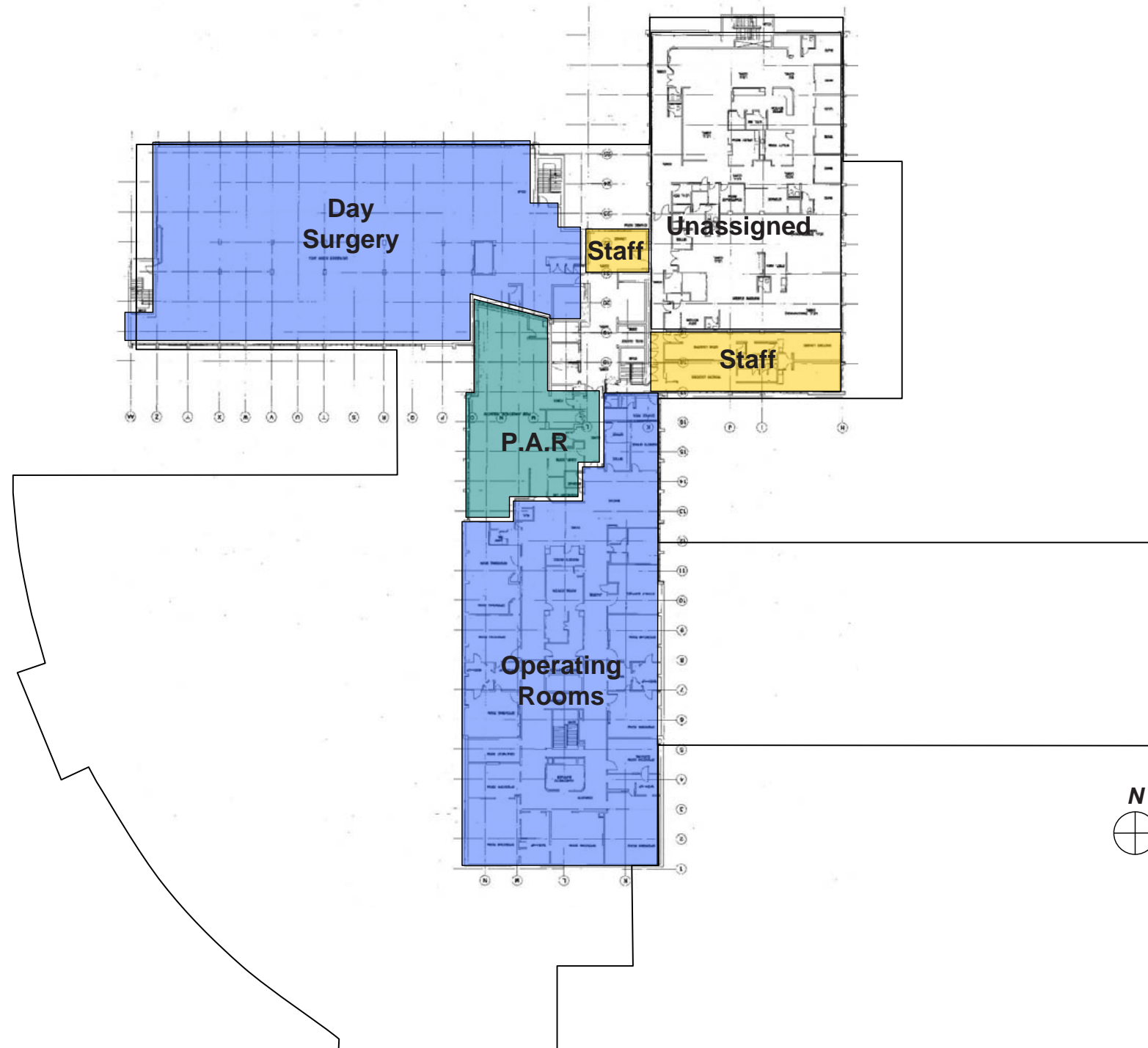
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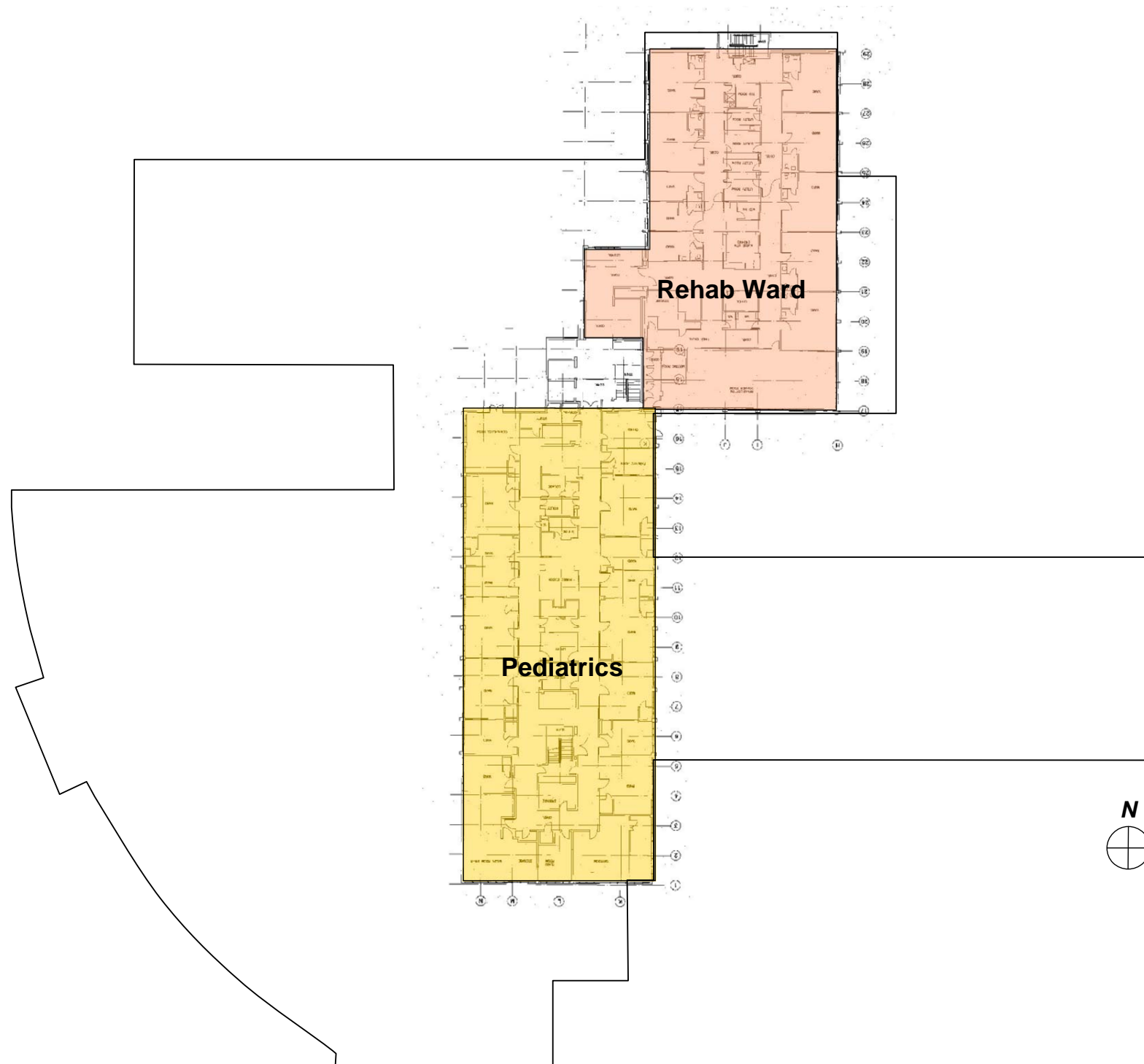
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LEVEL 4



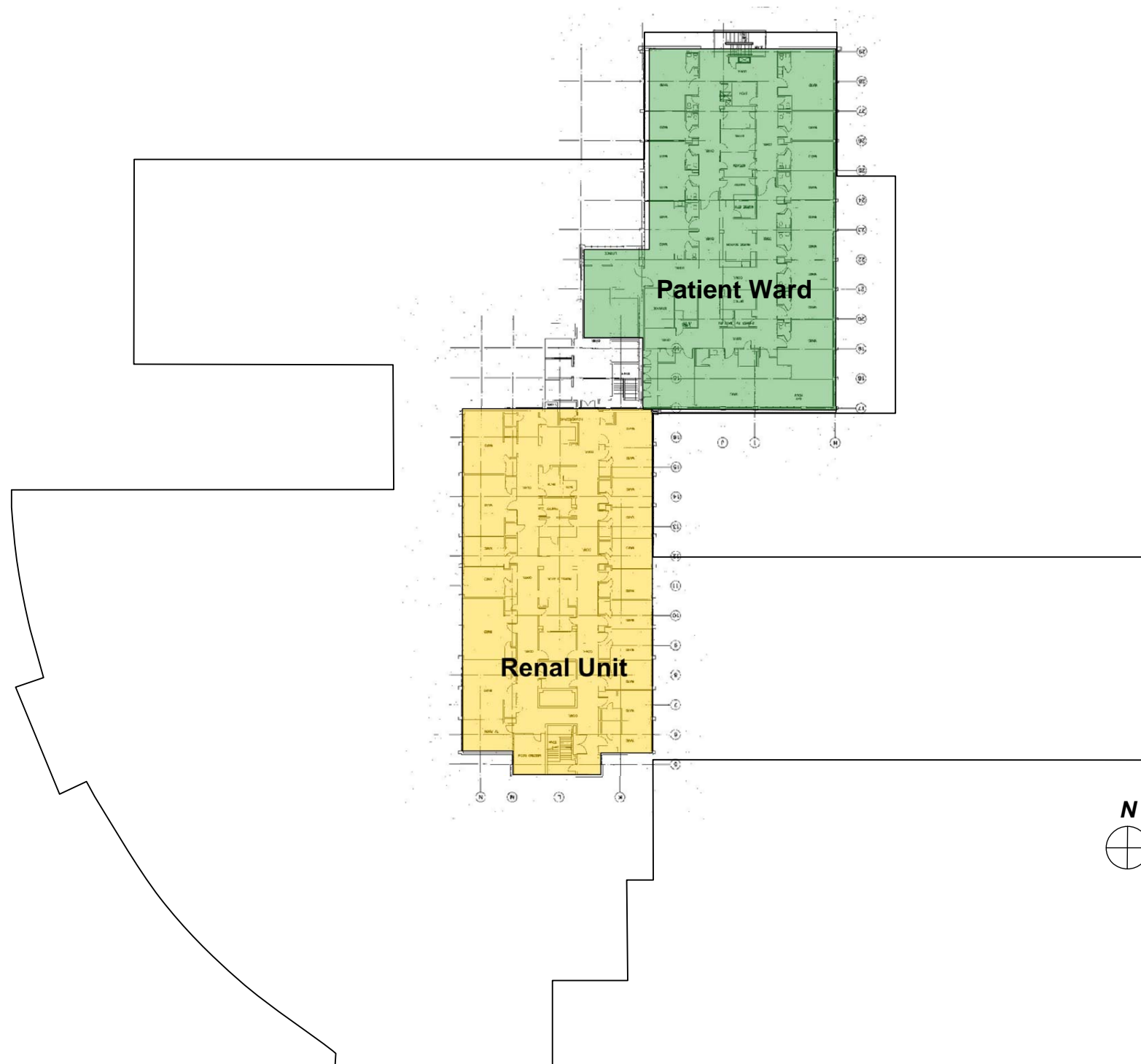
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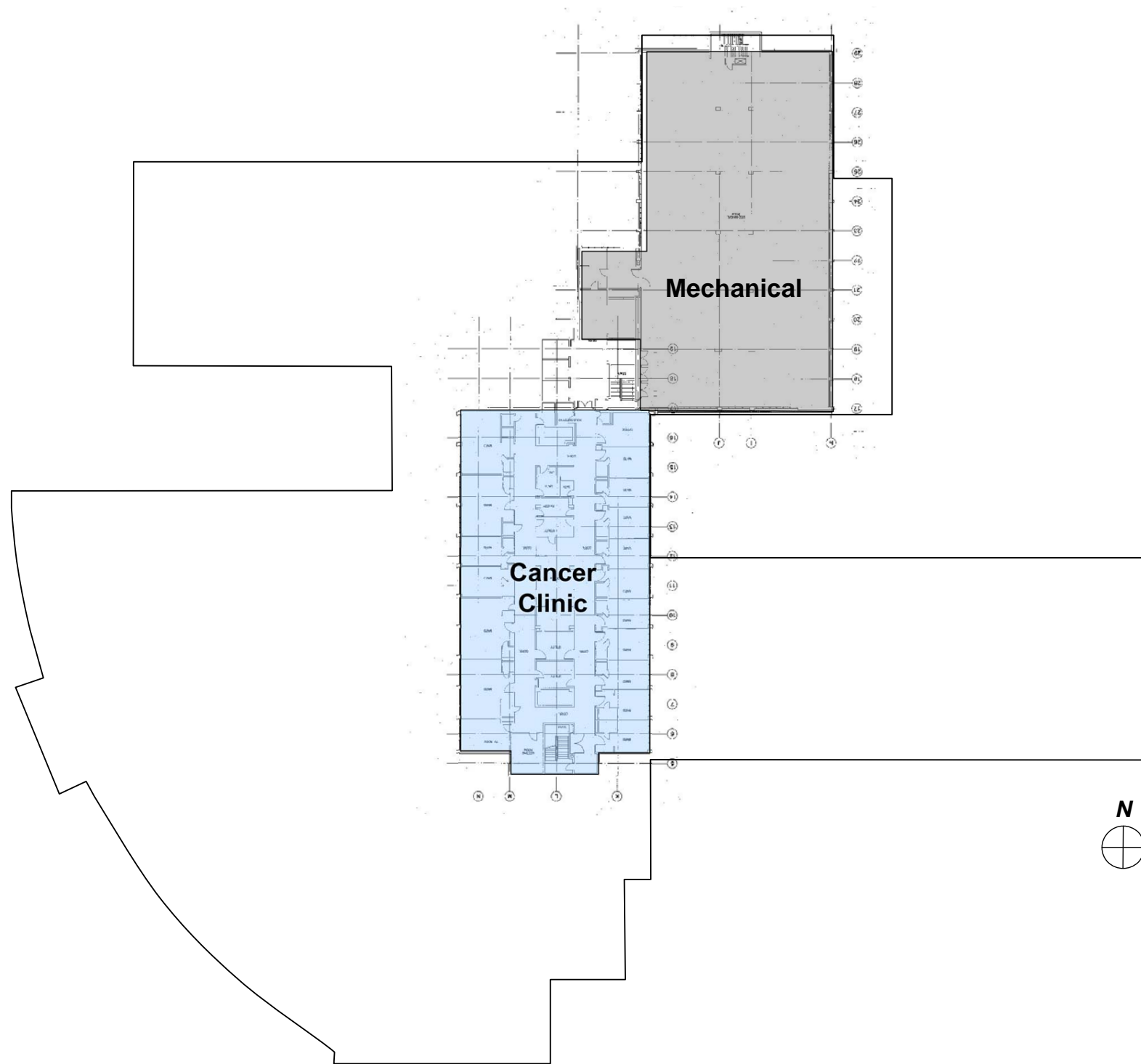
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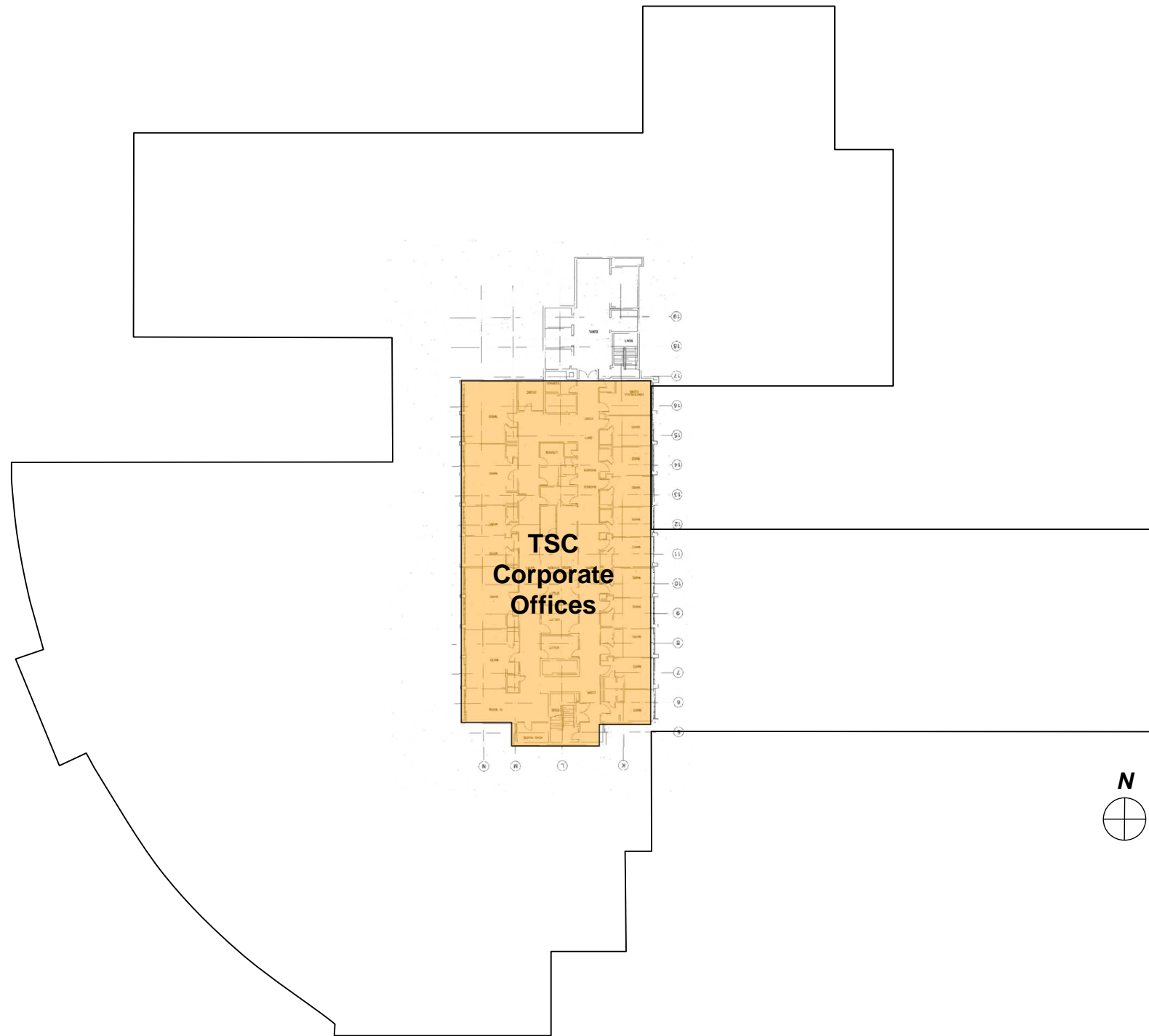
LEVEL 7



LEVEL 8



LEVEL 9



EXISTING BUILDING PHOTOGRAPHY



Aerial View



Main Entry and Drop-off



Ambulance Bay and Emergency Entrance



Main Building View from Columbia Street



Main Building East Side Inpatient Floors



Main Building West Side Loading Area



Primary Site Access from Columbia Street



Alumni Tower



Hillside Acute Psychiatric Facility and Parking Structure

