

KELOWNA GENERAL HOSPITAL MASTER PLAN UPDATE

Kelowna, British Columbia

June 2011



TABLE OF CONTENTS

Acronyms

Executive Summary

1.0 Introduction

- Report Organization
- Project Intent
- Scope of Work
- Acknowledgements
- Schedule
- Meetings and Workshops
- Software Applications
- Use of Documents
- Consultant Team
- Contact Information

2.0 Document Review

- Introduction
- Documents Reviewed

3.0 Technical Building Assessment

- Introduction
- Building Assessment Summary

4.0 Site Evaluation

- Introduction
- Summary of existing Conditions / New Developments
- General Conclusions and Observations

5.0 Master Program Summary

- Introduction
- Master Program Space Summary
- Current bed Allocation

6.0 Design Philosophy, Principles and Criteria

- Introduction
- Planning Process
- Moving Forward

7.0 Comprehensive Master Plan Options

- Introduction
- Development Assumptions and Qualifiers
- Planning Option 1
 - Design Strategy
 - Design Rendering
 - Block Planning
 - Access and Circulation
 - Parking Recommendations
 - Pros and Cons
- Planning Option 2
 - Design Strategy
 - Block Planning
 - Access and Circulation
 - Parking Recommendations
 - Pros and Cons

8.0 Proposed Space Summary

- Introduction
- Magnitude Summary of Space
- Inpatient Bed Distribution

9.0 Implementation and Phasing

- Introduction
- Phasing Strategy – Option 1
- Implementation Duration - Option 1
- Phasing Strategy - Option 2
- Implementation Duration - Option 2

10.0 Conclusions and Recommendations

- Introduction
- Report Conclusions and Recommendations
- Looking Back
- Next Steps

11.0 Appendix

- A. Existing Drawings
- B. Existing Building Photography

ACRONYMS

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

BGSF:	Building Gross Square Feet
BGSM:	Building Gross Square Metres
CAC:	Clinical Academic Campus
CEN:	Centennial Building
EPCSB:	East Pandosy Clinical Support Building
FPA:	Farrow Partnership Architects Inc.
ICU:	Intensive Care Unit
IHA:	Interior Health Authority
IHSC:	Interior Heart and Surgical Centre
IMIT:	Information Management Information Technology
IPU:	Inpatient Unit
KMBR:	KMBR Architects Planners Inc.
MDR:	Medical Device Reprocessing
RMC:	Resources Management Consultants Ltd
SF:	Square Feet
SM:	Square Metres

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 updated Master Planning process.

Chapter 3 Technical Building Assessment provides a cursory summary of existing building conditions.

Chapter 4 Site Evaluation provides a cursory summary of existing site conditions and new developments.

Chapter 5 Master Program Summary provides a summary of space and bed projections utilized within the Master Plan Update.

Chapter 6 Planning Process outlines the participatory design charrettes and efforts completed by the Design Team necessary to update the Master Plan.

Chapter 7 Comprehensive Master Plan provides an outline of the two planning options along with recommendations for parking and site access. 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 proposed building area along with a summary in Inpatient bed distribution.

Chapter 9 Implementation and Phasing Plan outlines a strategy for phasing and decanting of existing and future programs to achieve the overall Master Plan. It also offers recommendations for durations of key phase elements.

Chapter 10 Conclusions and Recommendations concludes with a review of the two development plans. The plans are 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 the selected existing drawings and site photography.

SCOPE OF WORK

The Master Plan, completed by Farrow Partnership and KMBR Architects Planners in Association in 2008 must be updated in order to more accurately reflect a variety of facility changes and additions that have occurred since the 2008 Master Plan was completed.

Following the 2008 Master Plan, the implementation of the new CEN Patient Care Tower and CAC (UBC Southern Medical School) facilities, the planned addition of the IHSC and the recently awarded new EPCSB have impacted the site in such a way that the overall Master Plan requires updating to reflect this current and projected build out. This update therefore considers these new additions and lays out a preferred development strategy for the next 15 years (2024/25) that includes design assumptions, building location criteria, departmental block schematics, and development phasing required for each component.

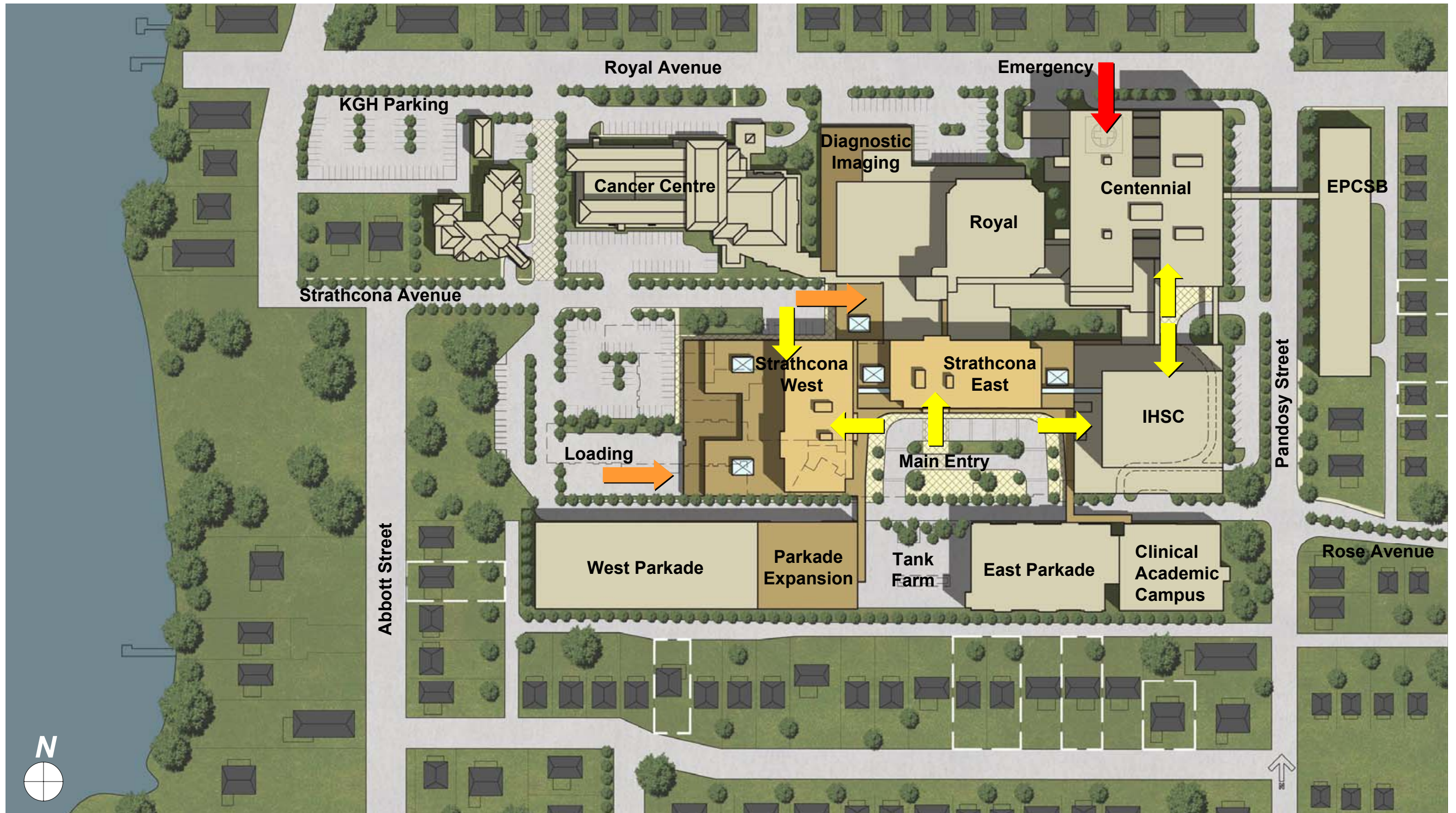
Utilizing the program assumptions and service projections of the 2008 Master Programs it is a requirement to combine this information with existing traffic and parking assessment studies for the site in order to recommend the optimal approach to manage the incremental demand on parking and traffic in the short and longer term.

In addition, the Master Plan update is to demonstrate green / environmental design principles in its overall execution.

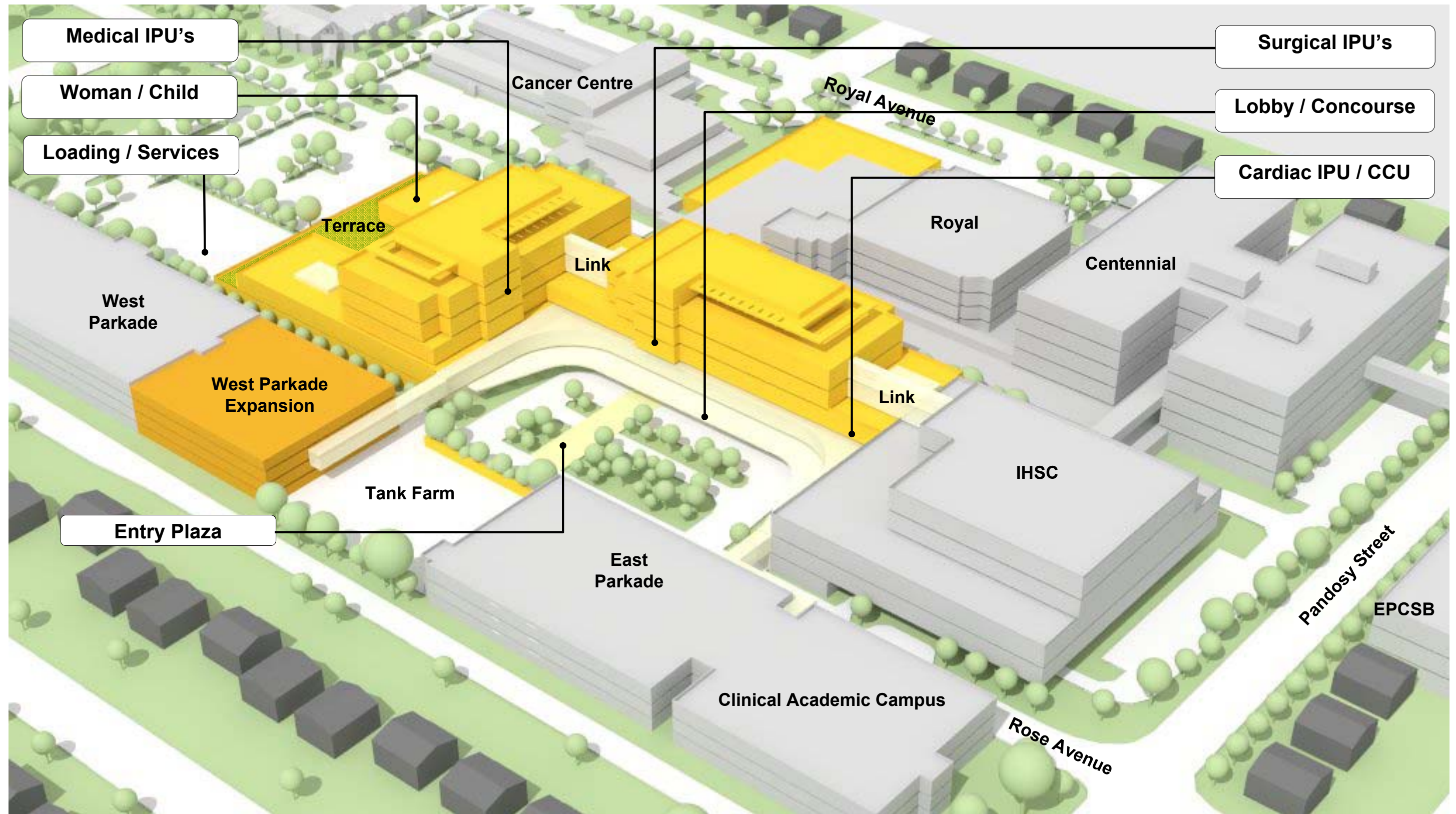
Finally, the recommended Master Plan development option will be consistent with and in alignment with the City of Kelowna Official Community Plan as this update will form part of a proposed rezoning application by KGH. The main impetus for the KGH rezoning request is the approach to add density to the site so current development and growth is possible within the current footprint of the property. Although the Master Program projected growth has been, or will be, accommodated with the completion of the CEN and IHSC Buildings, there is still a requirement for additional program growth to occur to support projections for the next 15 years. These and other associated uses, including parking, has prompted a need to create a new zone that will permit proper control and ability for future growth and development of the site.

This report is submitted as an "update" to the previously completed 2008 Master Plan and as such does not provide the same scope of comprehensive data in some sections as was included in the 2008 Master Plan. Information within this report reflects critical information relevant to the update only. All other Master Plan info is available in the 2008 Master Plan document.

SITE PLAN - OPTION 1



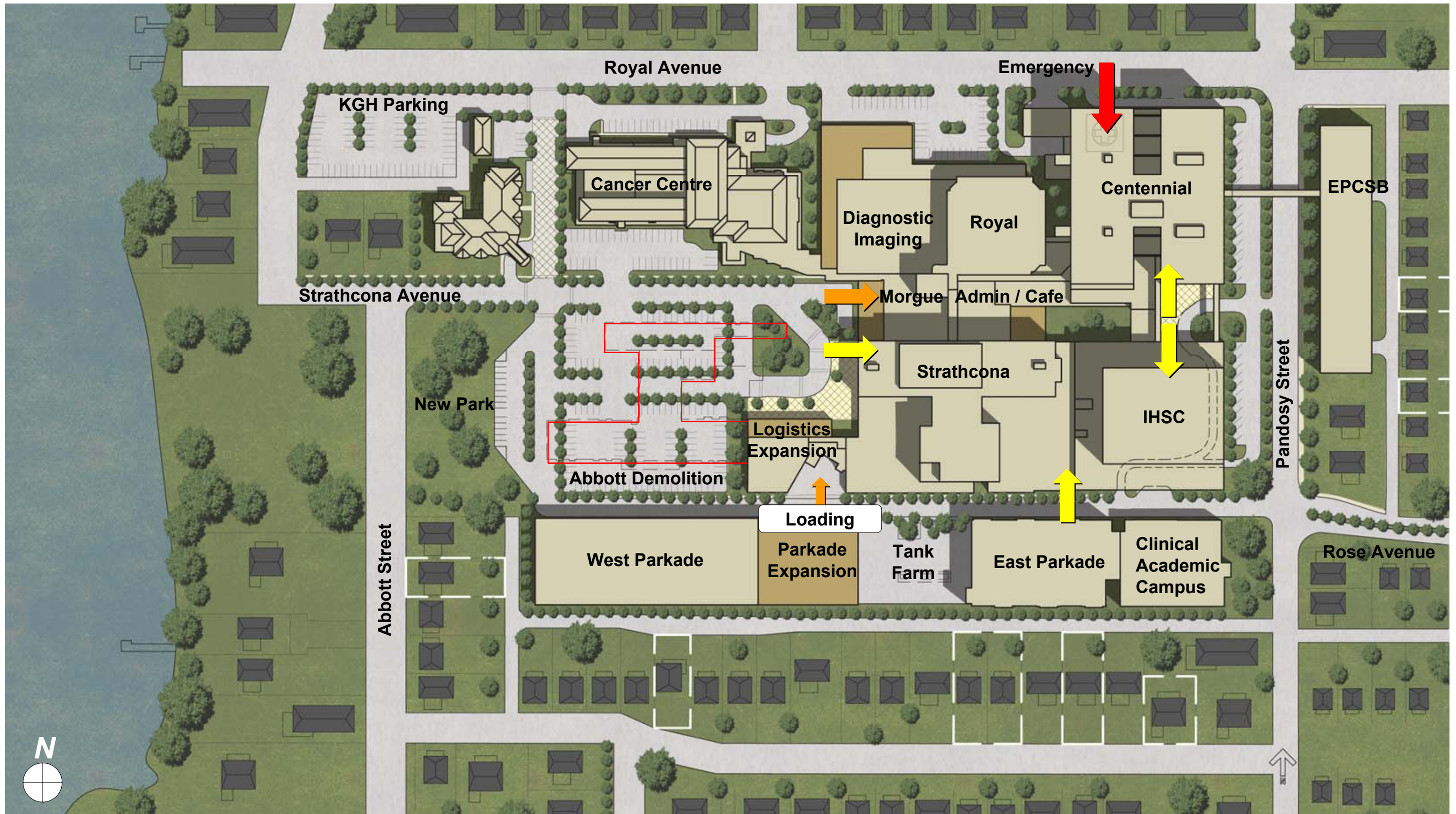
BUILDING MASSING - OPTION 1



DESIGN RENDERING - OPTION 1



SITE PLAN - OPTION 2



BUILDING MASSING - OPTION 2



MAGNITUDE SUMMARY OF SPACE

The following table provides a summary of programmatic gross square metres and variance for both options for the proposed Master Plan update. 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. Consideration should therefore be given for adjustments and allowances in total area during subsequent costing and design development stages.

Additionally, as outlined in the *Chapter 7 – Development Assumptions and Qualifiers*, the Master Plan update assumes that programs currently located within the CEN or programs proposed to be relocated to the future IHSC or CAC buildings have met the Master Program growth area requirements and therefore are not included within the Master Plan update. Only programs highlighted (yellow) within the table indicate those that are included within this update.

Also, area deficiencies that exist within Inpatient / Critical Care areas are the result of the KGH directive to reuse existing beds where possible. Therefore, as indicated in the following tables, while total bed counts have been achieved, respective total Inpatient area requirements may not necessarily have been achieved.

Department	Current Area (SM)	Master Program Area (SM) (2024/2025)	Variance	Option 1 Master Plan Area (SM) (Strathcona Demolished)	Variance	Option 2 Master Plan Area (SM) (Strathcona Retained)	Variance
Access							
Acute Respiratory Therapy							
Admin Services	210	320	-110	320	0	320	0
Adult Inpatient	5,598	15,000	-9,402	15,000	0	12,600	-2,400
Biomed	324	340	-16	340	0	340	0
Cashier	40	40	0	40	0	40	0
Chaplain	94	206	-112	206	0	206	0
Clinical Lab							
Clinical Lab - Morgue	55	145	-90	145	0	169	24
Clinical Nutrition							
Critical Care	1,750	2,470	-720	1,750	-720	1,750	-720
Diagnostic Imaging	2,005	2,855	-850	2,855	0	2,855	0
Education/Student Placement							
Ophthalmology Clinic							
Food Services	981	1,021	-40	1,021	0	1,021	0
Health Records	375	535	-160	535	0	535	0
Housekeeping							
Human Resources							
Workplace Health and Safety							
IMIT							
Infection Control							
Foundation							

Department	Current Area (SM)	Master Program Area (SM) (2024/2025)	Variance	Option 1 Master Plan Area (SM) (Strathcona Demolished)	Variance	Option 2 Master Plan Area (SM) (Strathcona Retained)	Variance
Laundry	710	1,550	-840	1,550	0	1,520	-30
Logistics	380	540	-160	540	0	540	0
Medical Device Reprocessing							
Pharmacy	276	730	-454	730	0	730	0
Plant	628	850	-222	850	0	850	0
Psychiatry/Mental Health	1,596	2,085	-489	2,085	0	2,085	0
Quality Improvement	48	72	-24	72	0	72	0
Rehab							
Social Work							
Staff Facilities							
Transition Services	70	155	-85	155	0	155	0
Transportation Services	0	140	-140	140	0	140	0
Adolescent Psychiatry	1,200	1,200	0	1,200	0	1,200	0
UBC Medical School							
Women's Health and Child Health	2,915	3,887	-972	3,887	0	4,370	483
TOTAL MASTER PLAN UPDATE AREA	19,255	34,141	-14,886	33,421	-720	31,498	-2,643

Notes:

- Bio Med - Includes main shop and offices only. Satellite workspaces are located in CEN and IHSC
 - Diagnostic Imaging - Assumes 200sm satellite within CEN (Master Program Total 3,055sm)
 - Current Area is determined as listed in Master Program. Actual building area is not confirmed
 - Morgue area in Option 2 is based on measurement of schematic drawings provided by IHA
 - Psych / Mental Health / Adolescent Psych to relocate to Level 5 Psych floor within Centennial
 - Women's and Child Health Option 2 includes co-located program on Level 2 (Strathcona), Peds IPU on Level 3 (Strathcona), and Women's Clinic on Level 5 (Strathcona)
 - Critical Care area deficiency due to program remaining in current location in Royal Level 2
 - Adult Inpatient area deficiency (Option 2) due to reuse of existing Inpatient Units within Royal and Strathcona
 - Adult Inpatient area for new construction (Option 2) reflects program area of 1500sm per IPU
 - New Inpatient Units as drawn reflect current planning standards of 2100sm per IPU to ensure site ability to meet current standards when constructed
 - New morgue is included within the scope of services for the Master Plan update (anticipated construction start June 2011)
 - Laundry area deficiency in Option 2 result of proposed adjacent gift shop and may vary depending on final gift shop size.
- Exact area of gift shop based on current precedents and may vary depending on future needs

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 KGH to move forward.

Chapter 6 Planning Process of this document initially set out a series of planning considerations against which the various planning options were then measured and evaluated. These considerations include:

- 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 to the lake?
- How can we engage the community?
- Demolish or reuse existing buildings (Strathcona and Abbott)
- Circulation improvements?
- Parking opportunities and constraints?

As noted, several scenarios were considered during the collaborative planning process that resulted in a preferred development strategy (retain Strathcona), and a second alternate approach (demolish Strathcona). Greenfield design opportunities were not pursued.

Enabling KGH to achieve its objectives and move forward to provide a new direction through improved physical facilities, the preferred development strategy was chosen because it:

- Meets current design standards for majority of Inpatient units (and hence will provide a more efficient, effective work environment that may help reduce errors and will serve as a more supportive work environment, which according to the literature, tends to enhance staff retention and facilitate staff recruitment efforts)
- Locates majority of Surg beds in proximity to IHSC
- Clusters majority of Med beds within New Strathcona
- Locates Mat / Child beds on same floor as OR's with direct horizontal link
- Co-locates Cardiac IPU &CCU beds in proximity to IHSC in new space
- Does not require 5th level IHSC 32 Surg beds
- Flexibility of capital planning options if IHSC beds approved (reduce New Strathcona by one floor)
- Improves overall site circulation access and decongestion of Pandosy
- Preserves surplus land for future development on site

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.

Regarding the alternate strategy (Option 2 Retain Strathcona), it too remains a viable alternative for the following reasons:

- Meets projected IPU "bed" demand counts
- Co-locates Women / Child programs on Strathcona Level 3
- Incorporates current planning initiatives/investments
- Additional site area available for long term expansion
- Abbott demolition is optional

However, when compared against the preferred option, several downsides are also present and should be noted including:

- Does not address IPU current planning/area standards (Potential implications regarding working environment and staff safety)
- Requires construction of 32-beds on IHSC Level 5 to meet inpatient bed demand projections
- Retains aging building stock with life-cycle cost implications
- Does not address longer term Pandosy entrance congestion

NEXT STEPS

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

- KGH planning and development committees should internally review and become familiar with the contents of each section in relation to the proposed rezoning application as well as IHA's vision and proposed growth / operational needs in both short- and long-term.
- Express the considerable design information captured in both the 2008 Master Plan and this Master Plan update 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.
- Engage with IHA to discuss and confirm a long-term strategy for the site in the context of the options outlined within this report, including the retention / demolition of Strathcona and the relocation of the Rehabilitation program and the demolition of the existing Abbott building.
- Continue to engage with the Cancer Centre staff regarding the impacts of the Master Plan for the Cancer Centre expansion and its integration with the KGH site planning proposal for the Royal Avenue exit route.
- Continue to engage with the Rotary Cancer Lodge staff regarding the impacts of the KGH Master Plan update and in particular the integration with the KGH site planning proposal for the Royal Avenue exit route.
- Continue community stakeholder information sessions to engage and inform the community and to nurture community support for the redevelopment plans.
- Engage architectural / planning team to initiate decanting / headstart / Phase 1 projects as necessary (relocation of Morgue, Pharmacy expansion, Cardiac IPU beds etc).
- Continue to explore partnerships with likeminded, high-profile organizations who may be interested in participating in, and providing financial / political support.
- Communicate with successful proponent of the IHSC that design development and site works should be in alignment with the proposed parking and circulation site works as shown in the Master Plan update.
- Update November 2010 Traffic Impact Study to align with proposed Master Plan Development options, specifically use of Pandosy Street main entrance and trip generation resulting from Rose Avenue entrance.
- Impact on surrounding neighbourhood should be considered and modeled using modeling software such as Vissum or Emme. (Based on City of Kelowna memorandum)
- Verify with City of Kelowna Planning Development future plans for Abbott Street realignment.

1.0 - INTRODUCTION

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 updated Master Planning process.

Chapter 3 Technical Building Assessment provides a cursory summary of existing building conditions.

Chapter 4 Site Evaluation provides a cursory summary of existing site conditions and new developments.

Chapter 5 Master Program Summary provides a summary of space and bed projections utilized within the Master Plan Update.

Chapter 6 Planning Process outlines the participatory design charettes and efforts completed by the Design Team necessary to update the Master Plan.

Chapter 7 Comprehensive Master Plan provides an outline of the two planning options along with recommendations for parking and site access. 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 proposed building area along with a summary in Inpatient bed distribution.

Chapter 9 Implementation and Phasing Plan outlines a strategy for phasing and decanting of existing and future programs to achieve the overall Master Plan. It also offers recommendations for durations of key phase elements.

Chapter 10 Conclusions and Recommendations concludes with a review of the two development plans. The plans are 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 the selected existing drawings and site photography.

SCOPE OF WORK

The Master Plan, completed by Farrow Partnership and KMBR Architects Planners in Association in 2008 must be updated in order to more accurately reflect a variety of facility changes and additions that have occurred since the 2008 Master Plan was completed.

Following the 2008 Master Plan, the implementation of the new CEN Patient Care Tower and CAC (UBC Southern Medical School) facilities, the planned addition of the IHSC and the recently awarded new EPCSB have impacted the site in such a way that the overall Master Plan requires updating to reflect this current and projected build out. This update therefore considers these new additions and lays out a preferred development strategy for the next 15 years (2024/25) that includes design assumptions, building location criteria, departmental block schematics, and development phasing required for each component.

Utilizing the program assumptions and service projections of the 2008 Master Programs it is a requirement to combine this information with existing traffic and parking assessment studies for the site in order to recommend the optimal approach to manage the incremental demand on parking and traffic in the short and longer term.

In addition, the Master Plan update is to demonstrate green / environmental design principles in its overall execution.

Finally, the recommended Master Plan development option will be consistent with and in alignment with the City of Kelowna Official Community Plan as this update will form part of a proposed rezoning application by KGH. The main impetus for the KGH rezoning request is the approach to add density to the site so current development and growth is possible within the current footprint of the property. Although the Master Program projected growth has been, or will be, accommodated with the completion of the CEN and IHSC Buildings, there is still a requirement for additional program growth to occur to support projections for the next 15 years. These and other associated uses, including parking, has prompted a need to create a new zone that will permit proper control and ability for future growth and development of the site.

This report is submitted as an “update” to the previously completed 2008 Master Plan and as such does not provide the same scope of comprehensive data in some sections as was included in the 2008 Master Plan. Information within this report reflects critical information relevant to the update only. All other Master Plan info is available in the 2008 Master Plan document.

ACKNOWLEDGEMENTS

The Design Team understands that this Master Plan update was not conceived and delivered by consultants alone. Extensive input from 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 Team would like to thank the following for their efforts and creative contribution:

- KGH Master Plan Update Project Steering Committee / Project Team
 - Joanne Konnert, Vice President Tertiary Services
 - Tracy MacDonald, Health Service Administrator, Kelowna General Hospital
 - Jackie Watson, Director of Planning, Capital Planning & Projects
 - Aaron Miller, Project Manager, Capital Planning & Projects
 - Dr. Michael Murray, Medical Director
 - Dr. Jan McIntosh, Chief of Staff
 - Dr. Sandy Nash, Physician Manager, Ambulatory Care.
 - Nicola Huppertz, Corporate Director, Capital Planning & Projects
 - Norma Malanowich, Chief Project Officer, KGH, IHSC Projects
 - David Fowler, Director Central Okanagan Redevelopment
 - Sharon Cook, Health Service Director
 - Carol Labarge, Health Service Director
 - Nancy Serwo, Health Service Director
 - Colleen McEachern, Director Tertiary Initiatives & Medical School
 - Tish Smith, KGH Clinical Coordinator
 - Scott Bowen, Business Consultant Central Okanagan
 - Mark Casson, Project Lead, KGH Projects
 - Zeno Cescon, Regional Director, Diagnostic Imaging Services
 - Cam McAlpine, Communications Officer
 - Danielle Noble, City of Kelowna - Planning
 - Robert Hobson, Central Okanagan RHD
 - Dr. Jeanne Mace, Physician Representative
 - Dr. Pina Michieletti, Physician Representative
 - Dr. Bruce Povah, Physician Representative
- Staff Representatives, City of Kelowna
 - Steve Muenz, Development Engineering Manager, City of Kelowna
 - Danielle Noble, City of Kelowna

SCHEDULE

The KGH Master Plan update was conducted between the months of March 2011 and June 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
Project Kick off / Site Tour	March 3, 2011
Pre-Charette Team Discussion (Teleconference)	March 15, 2011
Design Charette #1	March 21, 2011
Pre-Charette Team Discussion (Teleconference)	April 1, 2011
Design Charette #2	April 11, 2010
Post-Charette Team Discussion (Teleconference)	April 21, 2010
Conference Call with Cancer Centre / Representatives	May 4, 2011
Conference Call with Rotary Lodge Representatives	May 11, 2011
Draft Report Submission	May 2011
Conference Call with BC Cancer Agency and Rotary Lodge Representatives	May 25, 2011
Final Report Submission	June 2011

SOFTWARE APPLICATIONS

For the production of this document the Design 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.

USE OF DOCUMENTS

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.

The content of these documents is the result of a collaborative effort between IHA, KGH and its Design 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, and RMC 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 Master Plan update 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
- Polly Auyeung – Production Support
- Diana Lopez Cerquera – Production Support
- Christine Kim – Production Support

KMBR Architects Planners Inc.

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

RMC Resources Management Consultants Ltd.

- Peter Milne: Master Programming
- Debi Dancey-Dallaire: Master Programming

Note: RMC was not formally engaged for this project, although their original programming work was referenced and portions are included within this report

CONTACT INFORMATION

Farrow Partnership Architects Inc.

559 College Street, Suite 500
Toronto, ON M6G 1A9
T (416) 979-3666
F (416) 979-3680
www.farrowpartnership.com

KMBR Architects Planners Inc.

1788 West 8th Avenue
Vancouver, BC
V6J 1V6
T (604) 732 3361
F (604) 732 1828
www.kmbr.com

RMC Resources Management Consultants Ltd.

9644-54 Avenue, Suite 104
Edmonton, AB
T6E 5V1
T (780) 440-3818
F (780) 437-1923
www.rmc-canada.com

2.0 - DOCUMENT REVIEW

INTRODUCTION

In order to fully understand all relevant issues that have arisen since the 2008 Master Plan was completed, 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 Plan update 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
- Review of current IHA planning documents and studies
- Discussions with Planning Committee members and stakeholders
- Review of the previous facilities assessment and development reports

Documents reviewed for this project include:

- *Kelowna General Hospital Master Plan Report, Farrow Partnership Architects / KMBR Architects / RMC Resources Management Consultants, July 2008*
- *Kelowna General Hospital, Design Guidelines, Cannon Design Architecture, CTQ Consultants, February 2011*
- *Kelowna General Hospital, Visual Impact Assessment, Cannon Design Architecture, CTQ Consultants, February 2011*
- *Kelowna 2020 - Official Community Plan, City of Kelowna, December 2007*
- *City of Kelowna Memorandum Design Charette #1, Steve Muenz, City of Kelowna, March 31, 2011*
- *Kelowna General Hospital – Pandosy Street Full Hospital Development 2020 Transportation Impact Assessment Report, Opus International Consultants, November 2010*
- *Discussion Brief Acute Bed Forecasts, Interior Health Authority, August 30 2010*
- *IHSC Overview and Phasing March 2 Farrow 2011.ppt, Interior Health Authority, January 2011*
- *IHSC Project Overview to KGH Site Steering Sept 13 2010.ppt, Interior Health Authority, September 2010*
- *Selected CAD building and geotechnical drawings, Interior Health Authority*
- *Kelowna General Hospital Feasibility Study, MKT Arkle, June 2009*

3.0 - TECHNICAL BUILDING ASSESSMENT

INTRODUCTION

This chapter provides a cursory reporting and summary of the existing facility conditions at the KGH site as provided in the original 2008 Master Plan. The existing CEN, currently under construction at the time of this writing, is excluded from this review. The original review, on which this summary is based, included high-level observations of architectural, mechanical, electrical and structural engineering systems, exterior cladding, elevator, and site engineering. At the time of this writing, no additional information regarding building condition has been documented. Information for this section was taken in part from site observations, and a review of previous documents including:

- Kelowna General Hospital Master Plan Report, 2008
- Kelowna General Hospital Development Plan, 1999
- Kelowna General Hospital Existing Site and Facilities Analysis Report, 1994
- KGH Strathcona Building: Preliminary Structural Assessment of Additional Storey, 2005
- Asset Detail Report, VFA Inc. 2007
- Asbestos-containing Materials Assessment Report and Materials Locations for Kelowna General Hospital, 2005

BUILDING ASSESSMENT SUMMARY

The approximately 8 hectare site, located south of the downtown business centre, accommodates KGH facilities as well as the Cancer Centre for the Southern Interior (CCSI). The site is surrounded by residential land use. Pandosy Street, a major city arterial road, and Royal and Rose Avenue are the principal access routes for vehicles and bus service to the hospital.

Asbestos abatement is reported to have taken place in “major areas” of the hospital. The potential for asbestos to still remain in specific areas of the hospital is likely. The 1999 Development Plan reported that a Pre-design Asbestos Hazard Survey, to identify all remaining asbestos to be removed, has been recommended since 1994. It is not known the extent of the asbestos abatement completed at the time of the Master Plan update writing.

The VFA Asset Detail Report completed in November 2007 included a number of recommendations for remedial work to the hospital prior to 2014. The total cost of these upgrades (108 in total) estimated to be \$18.3 million.

Pandosy Building

The three storey concrete structure was built in 1939, with a 6,268sm gross floor area (according to VFA in 2007). The 1999 RPG report lists 5,480sm. Vertical expansion of this structure is not a viable option. Additionally, the building structure is considered inflexible for reconfiguration with severe restraints posed by the size of the building and the structural layout.

Current KGH development plans include the demolition of this structure to accommodate the proposed new IHSC.



Pandosy Building East Face

Strathcona Tower

The five storey concrete structure was completed in 1976, with a 18,746sm gross floor area (according to VFA in 2007). The 1999 RPG report lists 17,877sm. Vertical expansion is possible, with potential for the North Tower to expand two storeys and the South Tower to expand 1 storey. However, the building structure is reported to have major seismic deficiencies (lack of shear resistance) and is considered very inflexible for reconfiguration.

Current KGH development plans include the continued reuse of this structure, although long-term plans recognize the structure's deficiencies and include eventual demolition.

Royal Building

This five storey concrete structure was completed in 1990, and an MRI addition built in 2002, with gross floor area of 11,775sm. Horizontal and vertical expansion is possible, with the potential for the west side to expand two storeys vertically, and the East Tower to expand 1 storey. However, vertical expansion would require costly seismic upgrades to meet current building codes. As such it is not realistic to pursue given the cost and invasive / disruptive nature of the work. The Royal Building is the only existing KGH building that in 1999, was not considered to require soils densification beneath any proposed new construction. Current KGH development plans do not include demolition or vertical expansion.

Abbott Building

The original single storey concrete structure was constructed in 1969 as an Extended Care Facility. (The VFA lists 1976; the 1994 PGG report lists 1969). A steel frame single storey Rehab addition was built in 1988, and a two storey steel frame support services link to the Strathcona Building was completed in 1997. The total gross floor area according to the 1999 RPG report is 5,830sm. Horizontal and vertical expansion is possible, with the potential for a second storey vertical expansion over the 1969 Block C Extended Care component. However, vertical expansion would require costly seismic upgrades to meet current building codes. As such it is not realistic to pursue given the cost and invasive / disruptive nature of the work. The 1988 Rehab and 1997 Support Services does not have any provision for vertical expansion. Both are reported to have major seismic deficiencies.

Current KGH development plans are to retain this structure, although long-term plans recognize future growth required at the site and demolition is currently being considered.



Strathcona Tower North Face



Royal Building North and West Face



Abbott Building Looking South

Centennial Building (CEN)

The CEN is a 32,500sm (350,000 sf) 6-storey concrete and steel structure located on the north-west corner of Pandosy and Royal. The building will contain several programs including Emergency, Ambulatory Care, Mental Health and Medical / Surgical Inpatient units. Future links will connect CEN with the existing Royal building, along with the future EPCSB and IHSC buildings. Helipad access is also provided on the roof. At the time of this writing, the CEN was still under construction and nearing completion / occupancy. A detailed analysis of this building is not completed and this information is provided for cursory reference only.

Clinical Academic Campus (CAC)

The CAC building is a 3,200sm (34,000sf) two-storey steel structure located on the south-west corner of Pandosy and Rose. The building is currently complete and occupied with educational / teaching programs including a 180-seat lecture theatre, library, classroom and clinical space in affiliation with the University of British Columbia Medical School. To the west, and attached to the CAC is the East Parkade, a 5-storey concrete parking structure. This structure provides approximately 350 vehicle spaces. A detailed analysis of these two buildings is not completed and this information is provided for cursory reference only.

East Pandosy Clinical Support Building (EPCSB)

The future EPCSB will be a 7,850sm (84,470sf) three-storey structure located at the north-east corner of Pandosy and Royal. This building will contain a variety of Lab and clinical support programs, many of which will be decanted from the existing Pandosy building. Parking at grade (under-building) is proposed and will supply approximately 48 parking spaces. Connectors links are also proposed at Level 3 with the new CEN. At the time of this writing the EPCSB is under construction and will be completed in 2012. A detailed analysis of this building is not completed and this information is provided for cursory reference only.



CEN from Royal Avenue



CAC East Facade

4.0 - SITE EVALUATION

INTRODUCTION

This chapter provides a cursory summary of the existing conditions and characteristics at the KGH site as documented in the original 2008 Master Plan. It also provides a listing of new information learned as part of the update process. Information for this section was taken in part from site observations and a review of previous documentation. This update summary is by no means exhaustive, but rather the observations included were selected where deemed relevant to inform and guide the Master Planning update exercises. For a full review of site conditions refer to *Kelowna General Hospital Master Plan, 2008*.

SUMMARY OF EXISTING CONDITIONS / NEW DEVELOPMENTS

The original review, on which this summary is based, included high-level observations of a number of existing site conditions and characteristics including:

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

If KGH is to continue to implement a holistic Master Plan update 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. The information collected and documented in this section was used in part to inform the planning strategies presented in this update. Key characteristics of the site are listed below in point form.

- The Kelowna General Hospital is located in the LHA 23 Central Okanagan. The site is bounded by Royal Avenue on the north, Pandosy Street to the east, Christleton Lane to the south, and Abbott Street on the west. The site is surrounded by low density, developed residential properties. For the purposes of this study, the KGH main site consists of several parcels, of the following specifications:

KGH Main Site

Located on the south-west corner of Pandosy Street and Royal Avenue, oriented east-west, with secondary block situated on the western boundary, oriented north-south.

Approximate Dimensions – main block: 230m x 315m

Approximate Dimensions – secondary block: 95m x 60m

Pandosy East

Approximately eight (8) residential parcels located on the south-east corner of Pandosy Street and Royal Avenue, oriented north-south, has been consolidated into one lot (no longer residential use) and now contains the new EPCSB currently under construction.

Approximate Dimensions: 37m x 120m

North-west Annex

Three (3) residential parcels located on the south-east corner of Abbott Street and Royal Avenue, oriented east-west, with a proposed use for KGH surface parking.

Approximate Dimensions: 37m x 62m

- Site is now zoned HD1
- The overall site area is approximately 21.17 acres or a total area of 85,673 square meters. This includes the main site between Abbott Street and Pandosy and the lands on the east side of Pandosy Street.
- The site is defined by a gently sloping rise of approximately 2m in east / west elevation from Abbott Street to Pandosy Street. The site also has a small north / south slope from Rose Avenue to Royal Avenue.
- Soils on the site remain soft, with a high water table. There is a high risk of liquefaction during a seismic event. Seismic mitigation would entail soil densification or non-conventional foundations.
- Total parking capacity has increased with the construction of the 5-level CAC parking structure. An additional 350 spaces have been added to the site total. Through a combination of surface and structure, the site currently has a total of 982 spaces. Traffic reports reviewed by the Design Team also indicate a current shortfall of 209 spaces. Primary access to these structures remains via Rose and Pandosy.
- Additional zoning and setback details have been provided and include the following requirements for new structures within the site.

(a) The maximum site coverage is 75%.

(b) The maximum height is 25.0 m, except as otherwise noted

(c) A minimum of 10% of the lot area must be allocated for usable open space. This does not include area within the required setbacks.

(d) Minimum east/west yard setback (Pandosy Street) is 6.0 m.

(e) Minimum north yard setback (Royal Avenue) is 6.0 m for portions of the structure up to 10.0 m in height, 9.0 m for portions of the structure up to 18.0 m in height, and 12.0 m for portions of structures up to 25.0 m in height. (CEN) setbacks are existing and legally non-conforming with bylaw

(f) Minimum west yard setback (Abbott Street) is 12.0 m for portions of structures up to 10.0 m in height, 15.0 m for portions of structures up to 15.0 m in height and 18.0 m for portions of structures up to 25.0m in height.

(g) Minimum south yard setback (Christleton Laneway) is 4.5 m.

- Primary site access points have been altered with the construction of the CEN. Emergency access for both patients and emergency vehicles is now accessed via Royal Avenue. The original main entry roundabout is now replaced with a permanent access via the intersection of Rose and at a mid point along Pandosy Street. An internal drop off route to integrate both the CEN and IHSC is proposed although not finalized. Access to the future EPCSB will be via Royal Avenue. Loading remains as previous, accessed via Rose and Pandosy. Existing secondary routes to service the Cancer Centre and Lodge remain as existing.
- New structures include the CEN on the north west corner of Pandosy and Royal and the CAC and connected parking structure on the north west corner of Pandosy and Rose. Future initiatives / structures include the demolition of the Pandosy building and the IHSC as its replacement and the EPCSB currently under construction at the time of this writing.
- Vertical expansion of Royal remains possible although is deemed too intrusive on existing programs within. Horizontal expansion of Royal is considered a viable option within the Master Plan update. Vertical expansion of the existing CEN, CAC and EPCSB structures was not examined in this update.

General Conclusions and Observations

From this cursory review of new and proposed developments and conditions at the site, it would appear that there are no unexpected or extraordinary land constraints that will severely impede or prevent future development options. The most critical issues which KGH must be cognizant of include:

- Fixed site area (notwithstanding additional land purchases)
- Condition of existing structures and long-term maintenance and operating costs
- Site soil conditions
- High watertable limits construction in basements or below-grade parking structures
- Increased traffic volume and site access from Pandosy
- Design of internal main entry / vehicle access routes and integration with IHSC
- Current zoning limits building height to 5 storeys

While the existing building stock (excluding Royal Building) is largely out-moded, and the site fixed in area, there are a number of opportunities that will support defensible development options that still align with the original project principles and guidelines including:

- Prominent panoramic views to naturalized features (Okanagan Lake and The Cascade Mountain Range)
- Physical connections to adjacent and regional community greenspaces
- Physical linkages to new and existing structures
- Program growth captured in new structures (CEN, IHSC, EPCSB) reduces total additional growth in future facilities (New Strathcona)
- Continued partnership opportunities with related institutions (UBC and UBCO)
- Level topography facilitates efficient servicing across site boundaries and perimeter
- Adjacent residential lands on Pandosy continue to allow for potential future expansion in eastern directions



KGH Site Overall (Pre CEN / CAC)



View of Existing Parking Structure



View of Lake Okanagan Lake

5.0 - MASTER PROGRAM SUMMARY

INTRODUCTION

This chapter provides an abbreviated summary of the original space requirements for KGH projected to 2024/25 as developed by RMC. This chapter also outlines the current (and known proposed) Inpatient bed allocations at the KGH site. The Master Plan update proposed development strategies are based on the department gross areas as listed.

MASTER PROGRAM SPACE SUMMARY

The following table provides an abbreviated list of programs, required areas, and area variances utilized within the Master Plan update. It also provides locator information for programs whose location has already been predetermined prior to the Master Plan update process. The Master Plan update assumes that programs currently located within the CEN or programs proposed to be relocated to the future IHSC, and CAC buildings have met the Master Program growth area requirements and therefore are not included within the Master Plan update. Only programs highlighted (yellow) within the table indicate those that are included within this update.

For detailed program and area information, refer to *Kelowna General Hospital Master Plan Master Program*, RMC Resources Management Consultants, June 2008 (submitted under separate cover).

Department	Current Location	Future Location	Current Area (SM)	Master Program Area (SM) (2024/2025)	Variance
Access	Royal	Centennial			
Acute Respiratory Therapy	Royal	Centennial			
Admin Services	Strathcona	Strathcona	210	320	-110
Adult Inpatient	Strathcona/Royal	Strathcona/Royal/Centennial	5,598	15,000	-9,402
Biomed	Support Services	Support Services	324	340	-16
Cashier	Strathcona	Strathcona	40	40	0
Chaplain	Strathcona	New Strathcona Location	94	206	-112
Clinical Lab	Pandosy	Clinical Support Building			
Clinical Lab - Morgue	Strathcona	Royal	55	145	-90
Clinical Nutrition	Strathcona	Clinical Support Building			
Critical Care	Royal	Royal	1,750	2,470	-720
Diagnostic Imaging	Royal	Royal and Satellite Centennial	2,005	2,855	-850
Education/Student Placement	Clinical Academic Campus	Clinical Academic Campus			
Ophthalmology Clinic	Pandosy	Centennial			
Food Services	Strathcona	Strathcona	981	1,021	-40
Health Records	Strathcona/Royal	Strathcona/Royal	375	535	-160
Housekeeping	Various	Same			
Human Resources	Pandosy	Clinical Support Building			
Workplace Health and Safety	Pandosy	Clinical Support Building			
IMIT	Pandosy	Clinical Support Building			
Infection Control	Pandosy	Clinical Support Building			
Foundation	Strathcona	Centennial			
Laundry	Strathcona	Strathcona	710	1,550	-840
Logistics	Support Services	Support Services	380	540	-160
Medical Device Reprocessing	Strathcona	Centennial/IHSC			
Pharmacy	Royal	Royal (expansion in RT space)	276	730	-454
Plant	Support Services	Support Services	628	850	-222
Psychiatry/Mental Health	Pandosy	Centennial	1,596	2,085	-489
Quality Improvement	Strathcona	Strathcona	48	72	-24
Rehab	Abbott	Same (or off site)			
Social Work	Pandosy	Clinical Support Building			
Staff Facilities		IHSC			
Transition Services			70	155	-85
Transportation Services			0	140	-140
Adolescent Psychiatry	Royal	Royal (and potential future Centennial Building)	1,200	1,200	0
UBC Medical School	Clinical Academic Campus	Clinical Academic Campus			
Women's Health and Child Health	Strathcona	Strathcona	2,915	3,887	-972
TOTAL MASTER PLAN UPDATE AREA			19,255	34,141	-14,886

Notes:

- Bio Med - Includes main shop and offices only. Satellite workspaces are located in CEN and IHSC
- Diagnostic Imaging - Assumes 200sm satellite within CEN (Master Program Total 3,055sm)
- Current Area is determined as listed in Master Program. Actual building area is not confirmed
- Morgue area in Option 2 is based on measurement of schematic drawings provided by IHA
- Psych / Mental Health / Adolescent Psych to relocate to Level 5 Psych floor within Centennial
- Women's and Child Health Option 2 includes co-located program on Level 2 (Strathcona), Peads IPU on Level 3 (Strathcona), and Women's Clinic on Level 5 (Strathcona)
- Critical Care area deficiency due to program remaining in current location in Royal Level 2
- Adult Inpatient area deficiency (Option 2) due to reuse of existing Inpatient Units within Royal and Strathcona
- Adult Inpatient area for new construction (Option 2) reflects program area of 1500sm per IPU.
- New Inpatient Units as drawn reflect current planning standards of 2100sm per IPU to ensure site ability to meet current standards when constructed
- New morgue is included within the scope of services for the Master Plan update (anticipated construction start June 2011)

CURRENT BED ALLOCATION

The following table summarizes the current existing (and known proposed) Inpatient bed allocations at the KGH site. Information for these counts was provided to the Design Team by IHA and has served as the benchmark for the Master Plan update. Exact counts were not completed by the Design Team, however, this information has been verified and approved by KGH. Potential shelled beds within the CEN, proposed beds within the IHSC building, and current and projected Rehabilitation beds are not included with this summary. Currently funded (yet not constructed) Cardiac IPU and Cardiac CCU beds are included within this summary.

For detailed program and area information, refer to *Kelowna General Hospital Master Plan Master Program*, RMC Resources Management Consultants, June 2008 (submitted under separate cover).

Note: At the time of this writing, the proposed 32-beds within the IHSC have not been formally approved and as such are not included within the current bed count. Should these beds become approved at a later stage, the impacts of this are summarized in Chapter 7 - Comprehensive Master Plan

KGH Current Bed Count (Excluding Potential Shelled Beds)

	Current	MP (2024/25)	Current as Noted																				Total	Variance
			Level 2				Level 3				Level 4				Level 5				Level 6					
			Strath	Royal	CEN	IHSC	Strath	Royal	CEN	IHSC	Strath	Royal	CEN	IHSC	Strath	Royal	CEN	IHSC	Strath	Royal	CEN	IHSC		
Medical	141	156									40	51				16					34		141	-15
Surgical	79	141					33				35	11											79	-62
ICU / CCU/ CSICU	45	38	6	31		8																	45	7
Maternal Child / Gynecology	25	23					25																25	2
Pediatrics	10	11									10												10	-1
Psychiatry (Adult and Adolescent)	43	40														12	43						55	15
Cardiac	34	34	34																				34	0
TOTAL	377	443	40	31	0	8	58	0	0	0	85	62	0	0	0	28	43	0	0	0	34	0	389	-54

Potential Shelled / Proposed Beds:

Level 5 Centennial: 12 Psych Beds
 Level 6 Centennial: 35 Med / Surg Beds
 Level 5 IHSC: 30 Med / Surg Beds

6.0 - DESIGN PHILOSOPHY, PRINCIPLES AND CRITERIA

INTRODUCTION

This chapter provides a summary of findings resulting from two participatory workshops / design charrettes. Additionally, a set of Success Factors on which the Master Plan update can be measured were also developed. These factors have ultimately formed the guiding framework on which the design options were evaluated.



PLANNING PROCESS

Prior to pursuing Master Plan update, it is important to articulate and engage in a design and planning process that is aligned with the goals, deliverables, vision and values of the KGH organization. Additionally, the decision to integrate and then articulate the KGH vision through built form acknowledges the significant impact the Master Plan update has on patients, staff and the community and on future decision making.

Beginning in March 2011 members of the Design Team visited the site to fully understand the significant changes which have occurred since the 2008 Master Plan was completed. The visit sought to confirm the condition of existing buildings, and also to discuss the projected programming, space, and planning needs for the KGH site. In addition, a high-level review of existing documentation and current planning strategies was completed to attempt to understand the previous planning efforts, but also to become familiar with the philosophy that has driven decisions made by IHA to date.

A key element of the design process, was the exploration of multiple potential planning options. To achieve this, two 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 to the lake?
- How can we engage the community?
- Demolish or reuse existing buildings (Strathcona and Abbott)
- Circulation improvements?
- Parking opportunities and constraints?

At each charrette, strategies and decisions explored in previous sessions were discussed and analyzed. Development studies included:

- Demolition and / or retention of existing Strathcona building
- Varying configurations and locations for Inpatient Units
- Retrofit of existing IPU's (i.e. for Administration)
- Location of parking structures
- Site planning options including circulation and loading routes

The results of these two interactive design sessions ultimately formed the basis for the two design options completed by the Design Team and presented within this report.

MOVING FORWARD

IHA has set 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*. Additionally, it 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 this mission and values in mind, the intent of the Master Plan update is therefore to lay out defensible options that respond to and respect existing conditions but also that logically organize the various departmental components based on anticipated growth in volume and activity given the various opportunities and constraints present at this time.

Additionally, the Master Plan process encouraged discussions aimed at fostering an awareness of environmental health and renewal. 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. The Design Team's approach was to ensure that the Master Plan Update is positioned to enable a successful LEED certification by the Canadian Green Building Council (CaGBC) should KGH decide to pursue this initiative.

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

- VISIONARY:** Does it raise aspirations for what KGH 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 KGH?
- 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:** Does it respect the current City of Kelowna growth plans?
- ASSET BUILDING:** Can it be a driver for health-based economic prosperity?

7.0 - COMPREHENSIVE MASTER PLAN

INTRODUCTION

This chapter presents and discusses the preferred Master Plan development strategy. It also provides a cursory review of an alternate planning strategy considered acceptable by the users. 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 also outlined. This chapter also provides a summary of pros and cons for each 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

This report is presented as an update to the previously completed *2008 Kelowna General Hospital Master Plan* report. Since its completion, several KGH initiatives and planning directives have been identified that have impacted the planning options within this update. Additionally, the Master Plan update recognizes both current conditions on the site but also capital projects currently underway and proposed by KGH. The following qualifiers are provided to help establish the baseline condition on which the planning update is based.

- Assumes the existing Rehab Inpatient and Outpatient programs will eventually relocate off-site and the Abbott building will be demolished.
 - Assumes the proposed Morgue location in proximity to the DI department is fixed and will proceed.
 - Assumes newly funded Cardiac IPU / CCU beds will be located in Strathcona Level 2 and displace existing Med / Surg beds. This location is deemed temporary in pursuit of the Strathcona demolition Option 1.
 - All programs currently located within Pandosy, are proposed to be relocated to either CEN or the EPCSB area growth, and meet their projected area growth requirements and are not included within Master Plan Update. Programs planned to decant into IHSC are surgical unit and MDR + CSICU. (Creating 8 future ICU beds in Royal)
 - No specific mandate to replace all existing IPU beds has been provided. Existing IPU wards are to be reused where necessary. Existing IPUs are 4-bed wards in Strathcona, Abbott, and Royal.
 - Cardiology program in proposed location (in space adjacent to DI department) is complete and meets projected area growth requirements.
 - At the time of this writing, the proposed 32 beds within the IHSC have not been formally approved by the Ministry of Health and are therefore not included in current bed counts for the KGH site. The Design Team is aware of the potential for these beds to be constructed in the future and has accommodated this within the Master Plan.
 - Assumes existing shelled space within CEN is available (Level 6 IPU, 35-beds) and Level 5 Mental Health program. (12-beds)
- Given that the BC Cancer Agency's Centre for the Southern Interior has not yet completed a master site plan exercise to determine its optimal longer term facility expansion strategy, the KGH Master Plan update may require additional minor revisions in the next 12 months to reflect a mutually acceptable Master Plan solution for the cancer centre expansion including land use, parking and site circulation.
 - The Master Plan recognizes that any significant alterations, additions, or adjacent construction to the existing Strathcona building will trigger seismic upgrades to meet current building codes. Therefore, any subsequent Master Plan development (in particular new Strathcona West building as illustrated in the preferred option) must consider this condition during the schematic and design development stages when determining final location of all new buildings and structures.
 - Master Plan assumes that the CEN, the EPCSB, and IHSC buildings will be complete prior to any additional development (as illustrated in the Master Plan update) commences.

DESIGN STRATEGY - OPTION 1

At its basic level, the design strategy for this option is to explore the demolition of the Strathcona building and in doing so, redefine the main entry of the hospital to shift the gravity away from the current, undersized vehicle access roads that front on Pandosy. To achieve this, goal, Option 1 proposes the creation of a significant, defined and vibrant urban plaza at the core of the site. It then seeks to unify the existing campus of buildings through a multi-level concourse and elevated circulation links while also establishing a cohesive front-of-house circulation network that enables simple wayfinding. Views are also critical to the plan as it places key programs with views to nature, replaces surface parking with verdant park areas, and utilizes skylights to bring natural light to internal areas. In short, *this Option seeks to create a defined sense of entry and place on a site currently experiencing a significant amount of development and densification.*

From a clinical planning perspective this option achieves several mandates including: a) reuse existing IPU beds as much as possible in Centennial, Roayl, and IHSC (and realistic) given infrastructure conditions, b) replaces as many existing beds with new units in a way that also satisfies the 5-storey height limit and zoning setback requirements for the site, and c) proposes growth plans for all remaining programs not currently captured within existing or new structures (CEN, IHSC, EPCSB and CAC).

Additionally, the planning option is to consider the decanting of the Rehabilitation program and the demolition of the Abbott building. Unlike Option 2, however, the demolition of the Abbott building is a requirement for this Option to proceed.

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

It is known from the Master Program that KGH is projecting a reasonable amount of growth in programs and services that will be delivered on this site, particularly in the total bed requirements as well as a critical need for growth in specific programs including Pharmacy, Administration, Laundry and Logistics. Additionally, the current state of its infrastructure, specifically the Strathcona and Abbott buildings, do not meet planning standards thus making it challenging to deliver effective patient care. For example, the existing Strathcona (and Royal) Med / Surg IPU's fail to meet current design standards in terms of total area, support area, barrier free access and also current private bed to semi-private bed planning ratios (75/25). It is for this reason that this Option explores the complete removal of the Strathcona and Abbott building and the replacement of its current stock of Medical and Surgical beds.

Regarding the IPU's retrofit, the Master Plan update recognizes the existing initiatives set forth by KGH including the creation of new 34-bed Cardiac IPU / 8-bed CCU beds on Strathcona Level 2, and understands that this department will have to relocate to another temporary home during the construction of the new Strathcona building. The Master Plan update also recognizes the potential for a 32-bed Surgical IPU within the IHSC however this option does not require these beds be completed in order for KGH to meet its total bed counts. In order to meet the projected increase in area and bed numbers, this option proposes the following design strategies.

Creation of a new *Strathcona West wing* to house all consolidated Logistics, Loading, Laundry, Plant, Food Services and Medical Records etc. programs on Level 1. Upper levels of the new wing include new consolidated Women and Child Inpatient and Outpatient programs with drop-off area and dedicated vertical entrance lobby. Top levels of this wing include a cluster of Medical IPU's that meet current planning standards.

Creation of a new *Strathcona East wing* to house majority of new Surgical beds on the upper floors. This east wing will also contain a new consolidated Cardiac IPU / CCU with an immediate adjacency and link to the future IHSC. The logic of this arrangement is to allow the Surgical beds to be built first but also to place them in closer proximity to the new IHSC. As the Medical beds do not require proximity relationships, their location can be farther away from urgent clinical programs. This wing will also contain several soft programs including Administration, Physician's Lounge, Chaplain and Volunteers, so located to have a greater relationship with new public areas in this wing.

To unify these two wings and create a more defined entry for the hospital and staff, this option proposes the creation of a glazed, two-storey public Lobby, Concourse and entry plaza. This entry Concourse is designed to provide a more legible front-of-house route for visitors but also to provide links to all the existing buildings on the site, including Royal, the proposed IHSC and both parking structures. The Lobby design strategy is to allow visitors (and staff) to enter at grade and then elevate to Level 2 where they have access to the public Concourse with Medical Retail, Outpatient Programs, and Physician's Lounge but also clear and simple access from the Main Lobby to the ER. This elevation of users also reduces the number of cross-over with the new supply corridors for goods and services on Level 1.

This option also recognizes that some of the existing infrastructure must be reused (Royal building). In order to meet the projected bed increase, this option proposes the following retrofit strategies:

- Retrofit Royal Level 2 Critical Care Unit to capture any operational adjustments or areas required such as mechanical systems upgrades or relocation of internal walls.
- Retrofit Royal Level 4 to accommodate new 22-bed Medical, and 5-bed Surgical IPU. Reduction in total beds on this floor allows for greater support area available.
- Retrofit Royal Level 5 (including relocating Adolescent Psych to Level 5 CEN) to accommodate new 32-bed Medical (including 16-bed Medical Renal) IPU. Reduction in total beds on this floor allows for greater support area available.

Given the qualifier that programs already captured within CEN, IHSC, CAC and the EPCSB have met their area requirements and are not in this scope, the growth strategy for this option captures only select programs and services. (Refer to *Chapter 8 Proposed Space Summary* for programs included in this planning option.) Apart from programs listed within the new Strathcona, these include the following growth proposals:

- Creation of interior courtyard with landscaping and water features as part of overall site strategy incorporated post-construction of the IHSC.
- Relocation of cafeteria space within new Strathcona East building providing greater access via the new Concourse for staff and visitors.
- Morgue relocation as per KGH planning directive.
- Expansion of Pharmacy program to be constructed simultaneously (if possible) with the Morgue relocation.
- Relocation of all Cardiac programs to space previously occupied by Emergency and Ambulatory Care as per KGH planning directive.
- Expansion of Diagnostic Imaging to accommodate required future growth.
- Relocation of Transitional Services program to shelled space within CEN Level 2.
- Consolidation of Administration programs, relocation of Quality Improvement and Cashier programs.

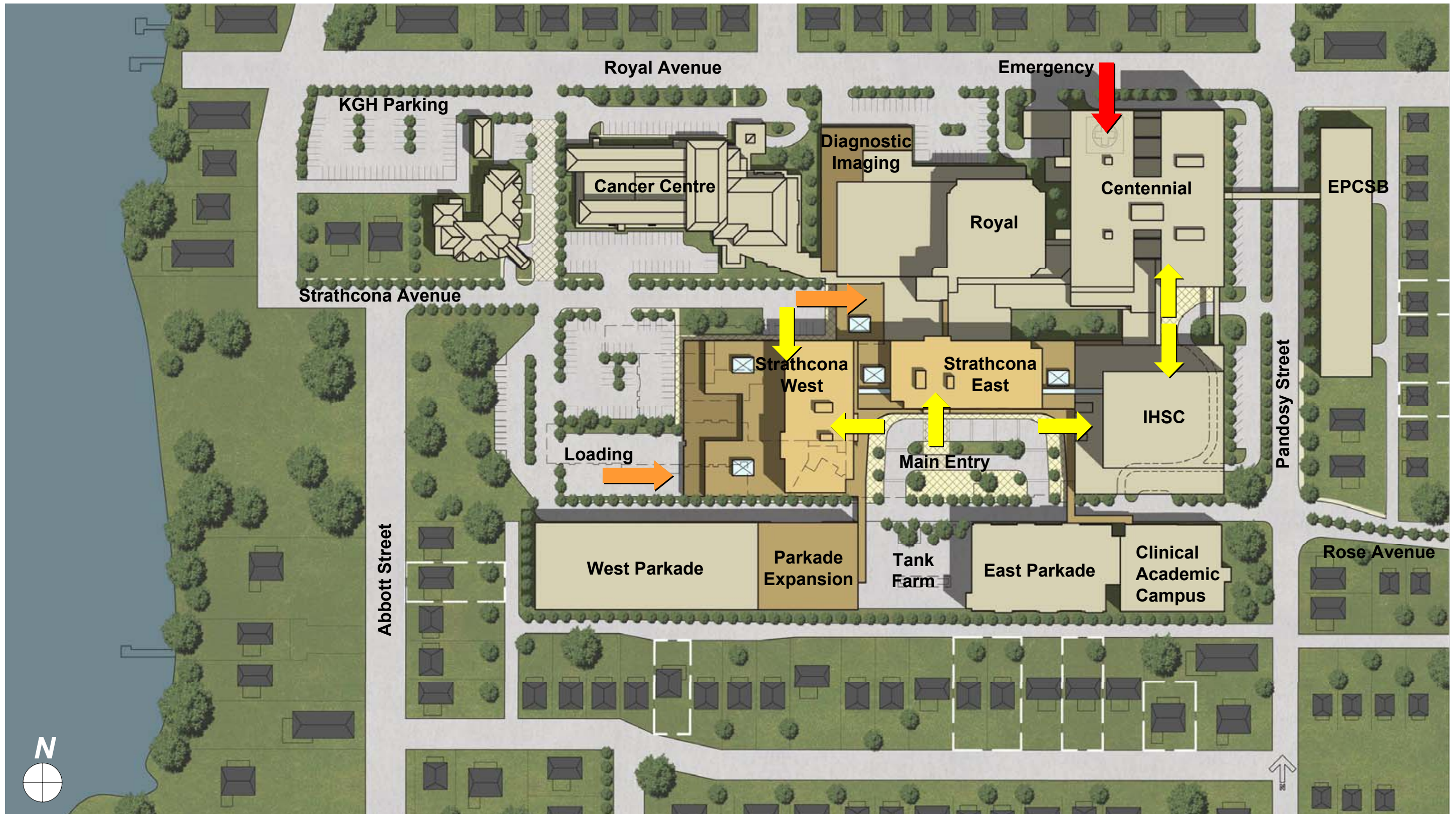
At the urban / site level, the primary strategy and intent for this option is to create a vibrant entry plaza with significant area to cue vehicles needing to access several new points of entry. The site plan also seeks to enhance circulation within the property and to distribute traffic to multiple building entry points as best as possible. As stated in the subsequent *Access and Circulation* narrative, the site has been reconfigured to include a new connector road linking the CEN Emergency drop-off with the IHSC and main lobby. This road is envisioned as a more formalized drop-off route to distribute traffic away from the Rose Avenue entry. This route, along with Rose Avenue overall, is envisioned as a treed promenade with formal landscaping, decorative paving and water features and will work to enhance the overall curb appeal of the hospital. The need for short-term emergency parking is also accommodated and elaborated within the subsequent *Parking Recommendations* section.

Note: Design development for the IHSC should be in alignment with the proposed parking and circulation site works as shown in the Master Plan update.

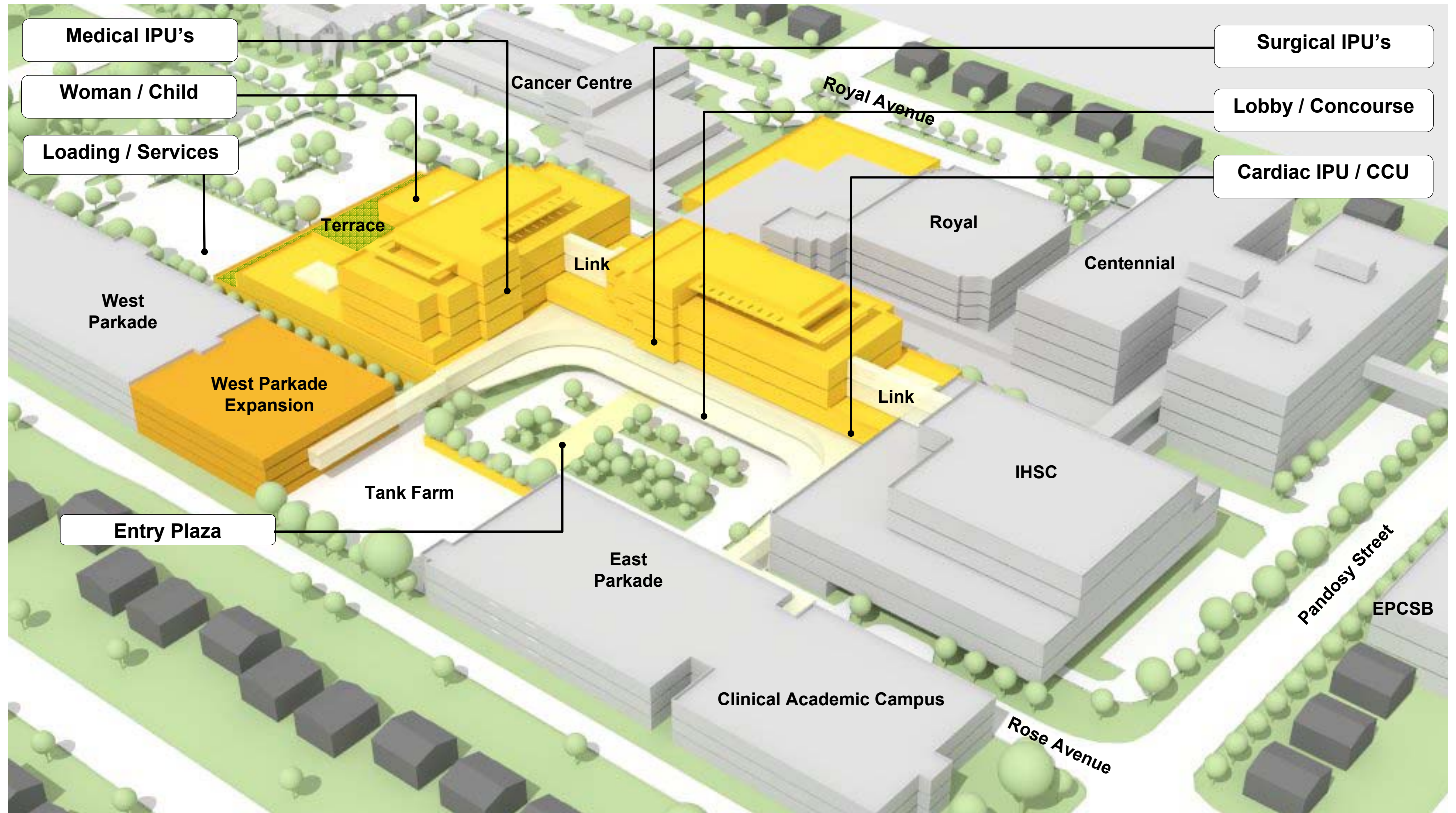
The site plan also recognizes the benefits of green space to the healing process. Terraces and green roofs are incorporated into the plan with access from the Medical units, the Women and Child program and the Cafeteria. Also, while KGH is blessed with spectacular views to the lake, the site is lacking any significant green space. In response, the plan proposes the creation of a new park at the west end of the site in proximity to the water. This park, which replaces existing surface parking, is seen as both a KGH staff and patient resource, but also demonstrates its commitment to the community as a whole. Additionally, the orientation of the Medical IPU's affords patients with beneficial views westward to the lake.

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

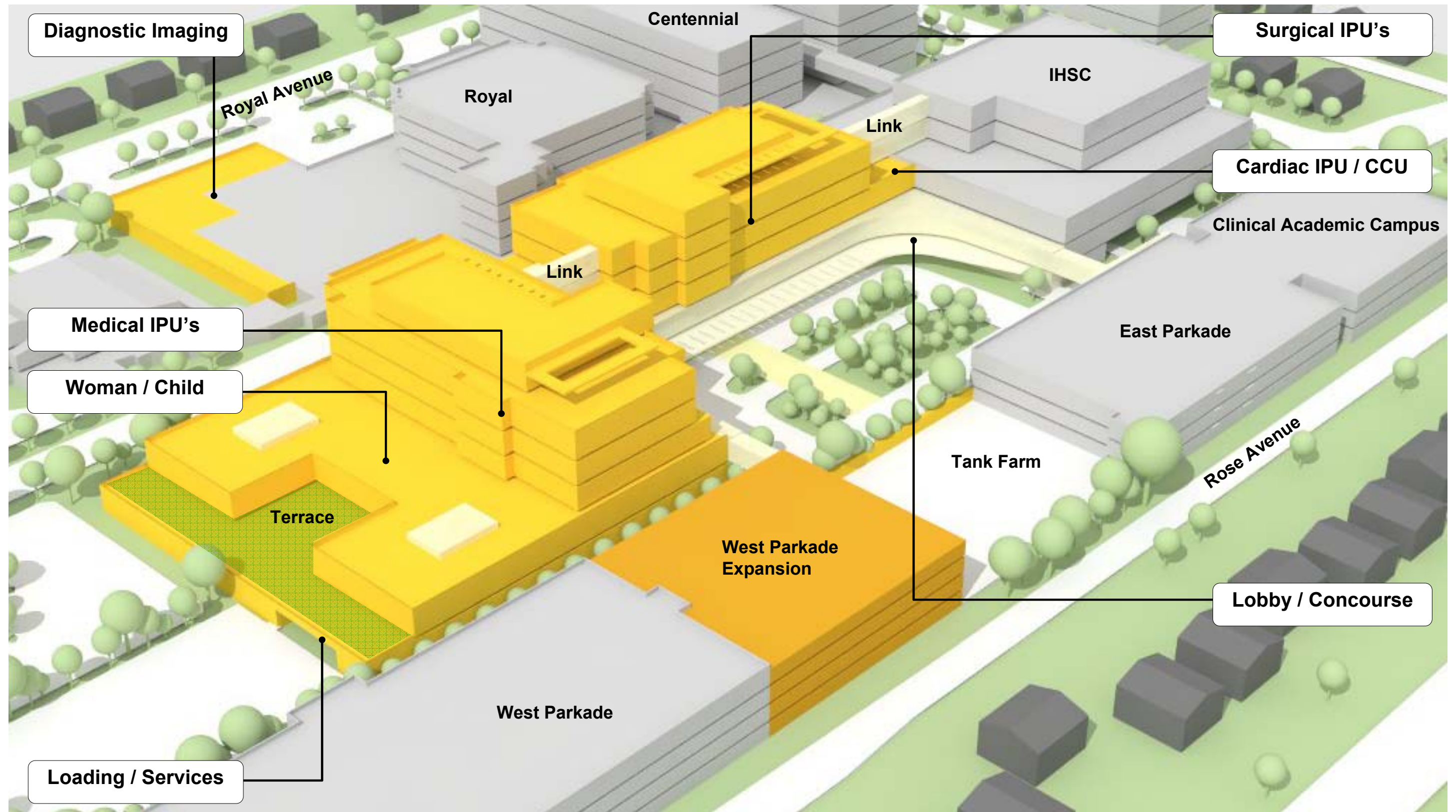
SITE PLAN - OPTION 1



BUILDING MASSING - OPTION 1



BUILDING MASSING - OPTION 1



DESIGN RENDERING - OPTION 1



BLOCK PLANNING – OPTION 1

The following provides a summary of major programmatic components on a floor by floor basis for each level of this option. 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*.

Schematic plans are based on actual programmatic department gross areas, however are presented as illustrative and not to scale within this printed document. For scalable drawings, refer to electronic CAD files provided with this report update. 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 KGH.

Level 1

Royal

- Existing Diagnostic Imaging department to expand as indicated and be renovated as required. (Renovation and New Construction)
- Cardiology program to consolidate and relocate to space previously occupied by Emergency and Ambulatory Care as indicated per KGH planning directive. (Renovation)
- New Morgue currently being constructed as indicated per KGH planning direction. (Existing)
- Pharmacy expansion to be constructed. Existing Pharmacy to expand into area indicated within Royal as Phase 1 initiative and complete expansion into New Strathcona as Phase 2 initiative. (New construction)
- Existing Café to be expanded as necessary. (Renovation)
- Cashier and Quality Improvement programs to relocate to space as indicated. (Renovation)
- Site works to include provision of short-term Emergency parking adjacent to Diagnostic Imaging expansion. (New construction)

Centennial

- Existing clinics and programs to remain. (No work required)
- Outdoor courtyard with landscaping to be provided. (Renovation)

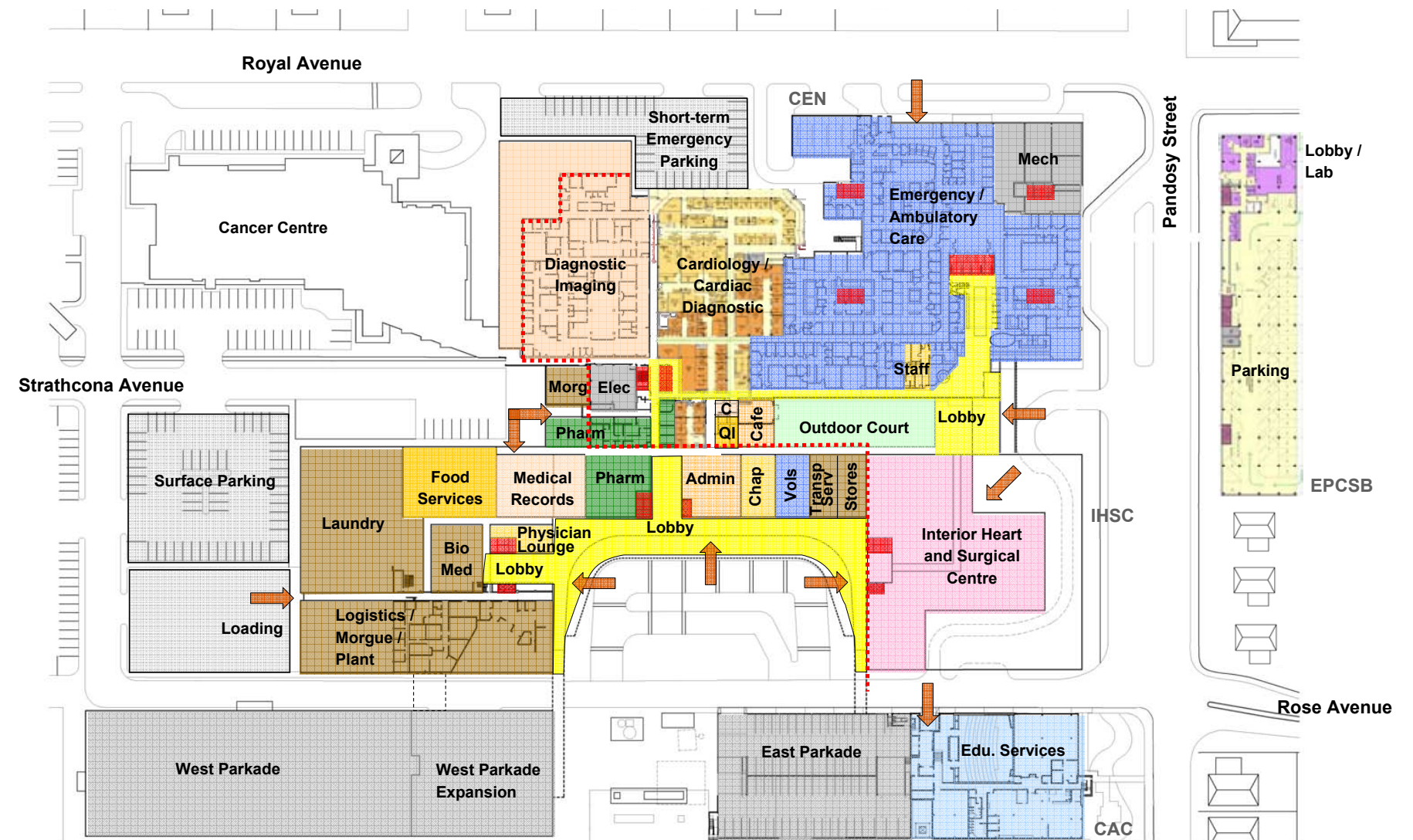
Interior Heart and Surgical Centre

- Proposed Surgical programs, including site works to remain. (No work required)

Note: Design development for the IHSC should be in alignment with the proposed parking and circulation site works as shown in the Master Plan update.

New Strathcona (East)

- New double height Entry Lobby, Concourse and Canopy to be constructed. Concourse to include select clinical and administrative programs including Pharmacy expansion, Administration, Chaplain, Volunteers and Foundation and Transportation Services. (New construction)
- Recommend concourse public access to IHSC and Royal be included. (New construction)
- Site works to include new formalized Entry Plaza for vehicle access, drop off and cueing. Plaza to include decorative paving, formalized trees, landscaping, water features and traffic calming features as necessary. (New construction)
- Recommend also provide physical and landscape screen to existing tank farm. (New construction)



New Strathcona (West)

- New consolidated Logistics and Plant Services cluster to be constructed. Cluster to include all Logistics, Loading, Plant Services, Laundry, Bio Med, Food Services (excluding Cafeteria component), Medical Records programs, and Physician's Lounge / Staff Spaces. (New construction)
- Logistics site works to include new loading and cueing area for service vehicles. (New construction)
- Site works to include consideration for vehicle access to Royal Avenue via existing lands between Cancer Centre and Lodge. Access to include landscaping, pedestrian pathways, and traffic calming devices as necessary. Additional site works to include provision of surface parking and access to Morgue via Strathcona Avenue.

East Pandosy Clinical Support Building

- All existing programs to remain as constructed or proposed. (No work required)

Clinical Academic Campus

- All existing programs to remain as constructed or proposed. (No work required)

Level 2

Royal

- Existing 31-bed Critical Care IPU to remain and be renovated as required. Note IPU does not meet current area standards. (Renovation)

Centennial

- Existing clinics and programs to remain. (No work required)
- Current shelled space to be occupied by Transitional Services program. (Renovation)

Interior Heart and Surgical Centre

- Proposed Surgical programs, including 8-bed ICU / CSICU to remain. (No work required)

New Strathcona (East)

- New double height Entry Lobby and Concourse to be constructed. Concourse to include public access to potential Medical Offices / Medical Retail space as available. (New construction)
- New Cafeteria to be constructed.
- Recommend Concourse public access to IHSC be included. (New construction)
- Recommend enclosed link with Royal be included. (New construction)

New Strathcona (West)

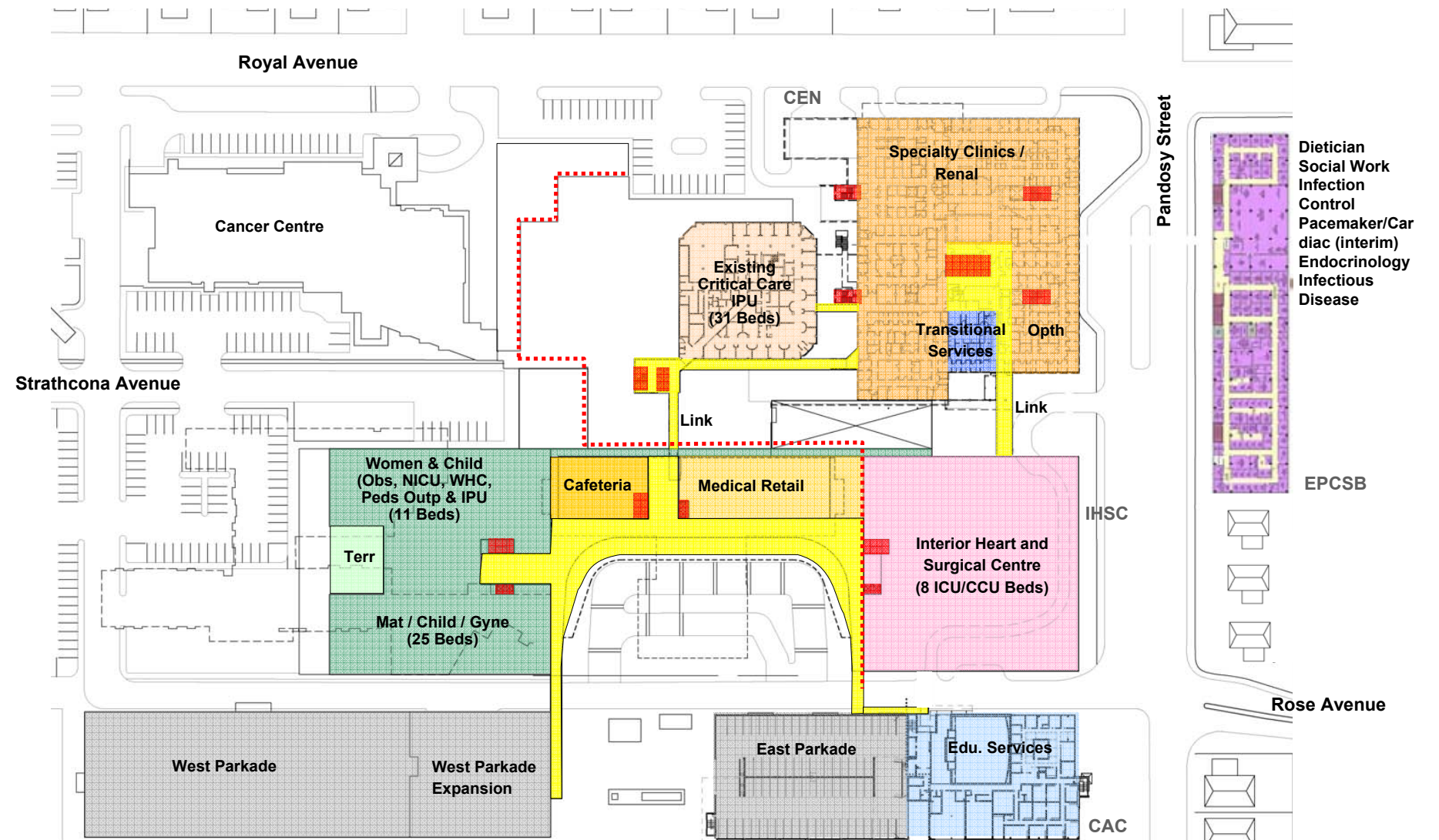
- New consolidated Women and Child unit to be constructed. Unit to include all Women and Child programs including Gynecology, Obstetrics, NICU, Women's Health Clinic, Pediatrics 11-bed IPU and Outpatient programs. Also to include 25-bed Maternal Child IPU. Unit to meet current area standards at time of construction. (New construction)
- Recommend provision of green roof / outdoor Terrace with access by patients and / or staff be included (New construction)

East Pandosy Clinical Support Building

- All existing programs to remain as constructed or proposed. (No work required)

Clinical Academic Campus

- All existing programs to remain as constructed or proposed. (No work required)



Level 3

Royal

- Existing Mechanical space to remain. (No work required)

Centennial

- Existing Surgical / MDR programs to remain. (No work required)

Interior Heart and Surgical Centre

- Proposed Surgical programs to remain. (No work required)
- Current shelled space to remain unassigned. (Renovation)

New Strathcona (East)

- New 34-bed Cardiac IPU and 8-bed Cardiac CCU to be constructed. IPU and CCU to meet current area standards at time of construction. (New construction)
- Recommend enclosed link to IHSC be included. (New construction)

New Strathcona (West)

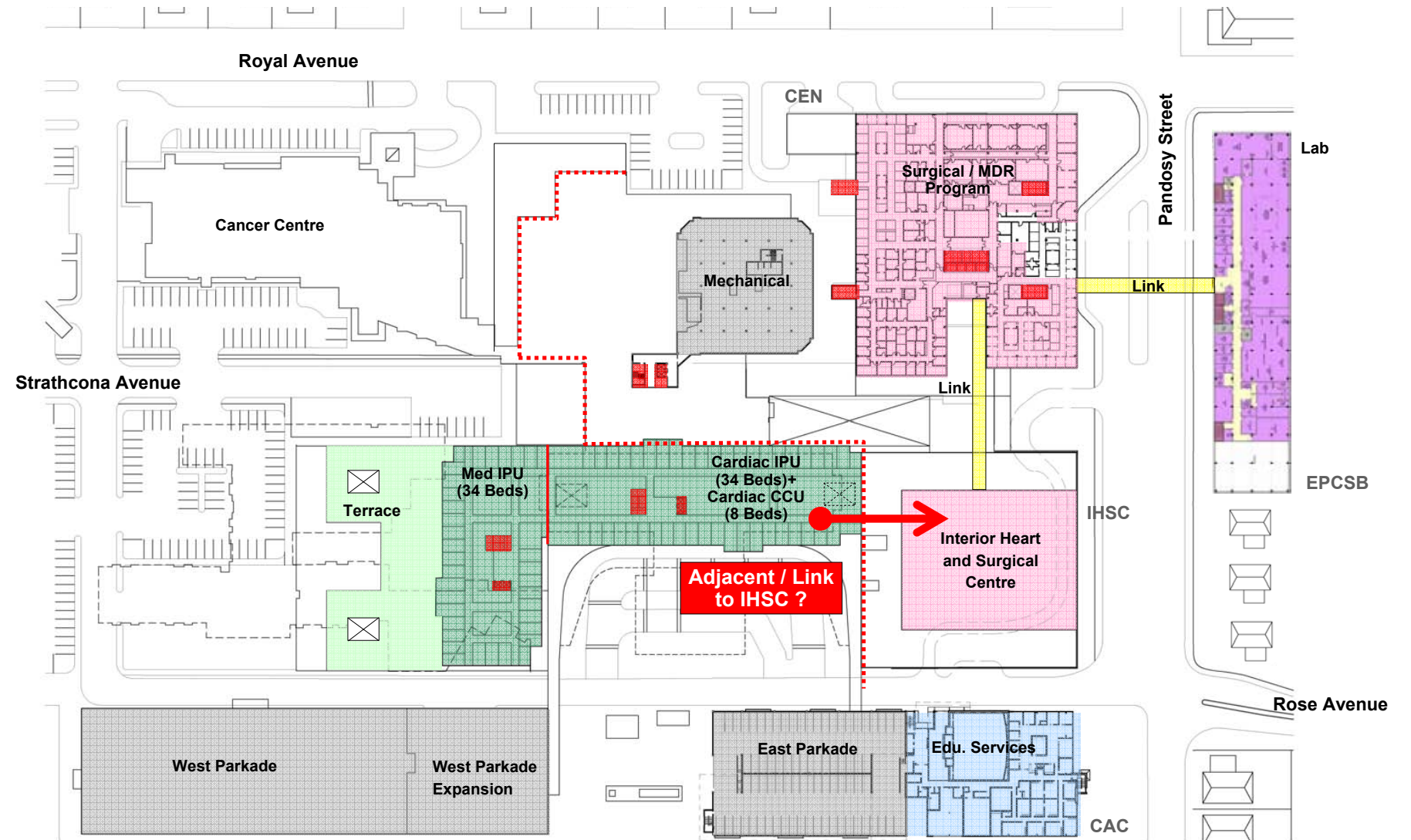
- New 32-34 bed Medical IPU to be constructed. IPU to meet current area standards at time of construction. (New construction)
- Recommend provision of green roof / outdoor Terrace with access by patients and / or staff be included (New construction)

East Pandosy Clinical Support Building

- All existing programs to remain as constructed or proposed. (No work required)

Clinical Academic Campus

- All existing programs to remain as constructed or proposed. (No work required)



Level 4

Royal

- Existing Medical / Surgical IPU to be retrofitted to accommodate 22-bed Medical IPU, 5-bed Surgical IPU, and related support space. (Renovation)

Centennial

- Existing Mechanical space to remain. (No work required)
- Existing Staff space to remain. (No work required)

Interior Heart and Surgical Centre

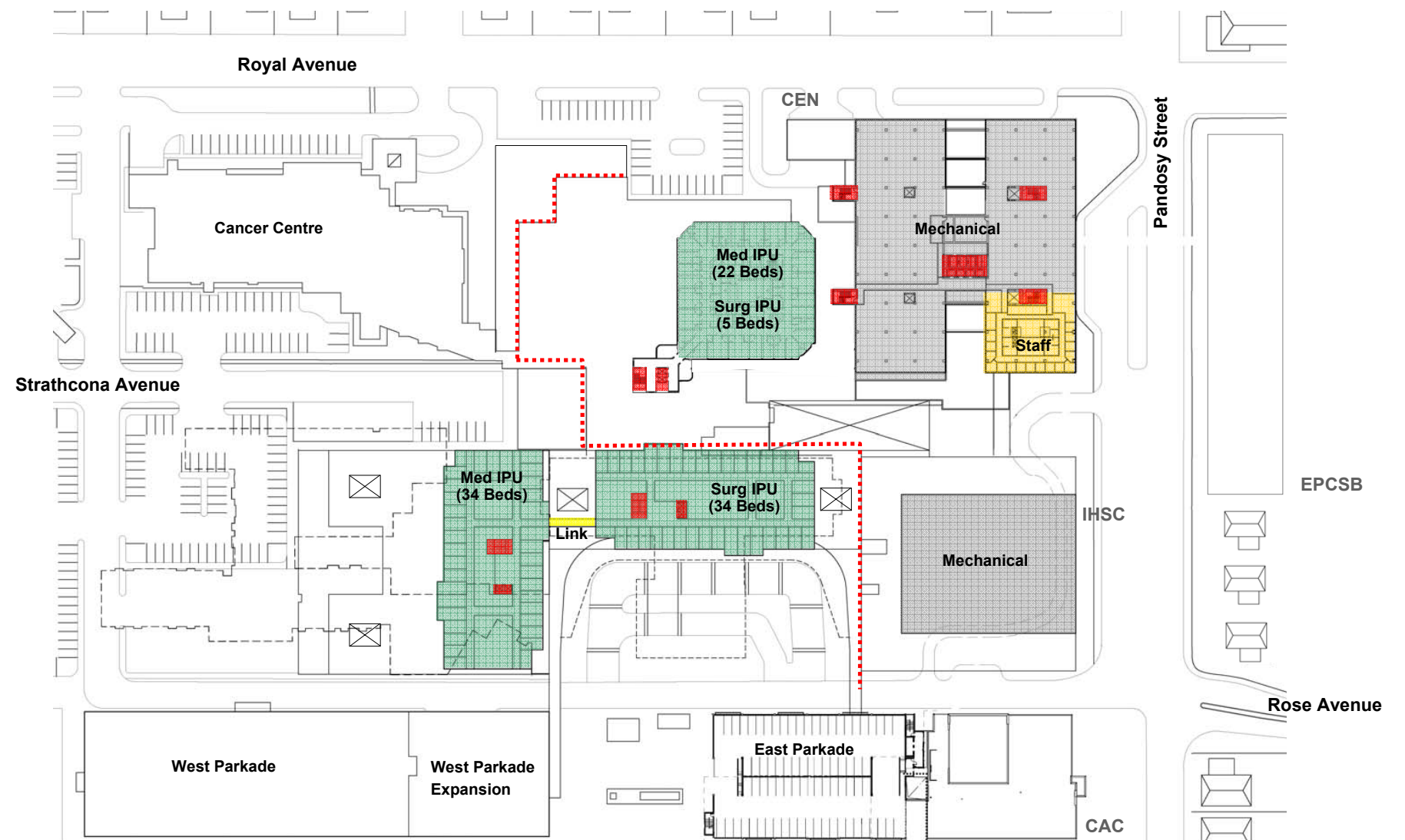
- Existing Mechanical space to remain. (No work required)

New Strathcona (East)

- New 32-34 bed Surgical IPU to be constructed. IPU to meet current area standards at time of construction. (New construction)
- Recommend enclosed link to IHSC be included. (New construction)

New Strathcona (West)

- New 32-34 bed Medical IPU to be constructed. IPU to meet current area standards at time of construction. (New construction)
- Enclosed link between Strathcona East and West to be provided. (New construction)



Level 5

Royal

- Existing Renal Medical IPU and Adolescent Psych IPU to be retrofitted to accommodate 32-bed Medical IPU and related support space. (Renovation)

Centennial

- Adult Psych (43-bed) program to relocate (from Pandosy) to CEN. (New fit-out)
- Adolescent Psych (12-bed) to relocate (from Royal Level 5) to existing shelled space within CEN. (New fit-out)

Interior Heart and Surgical Centre

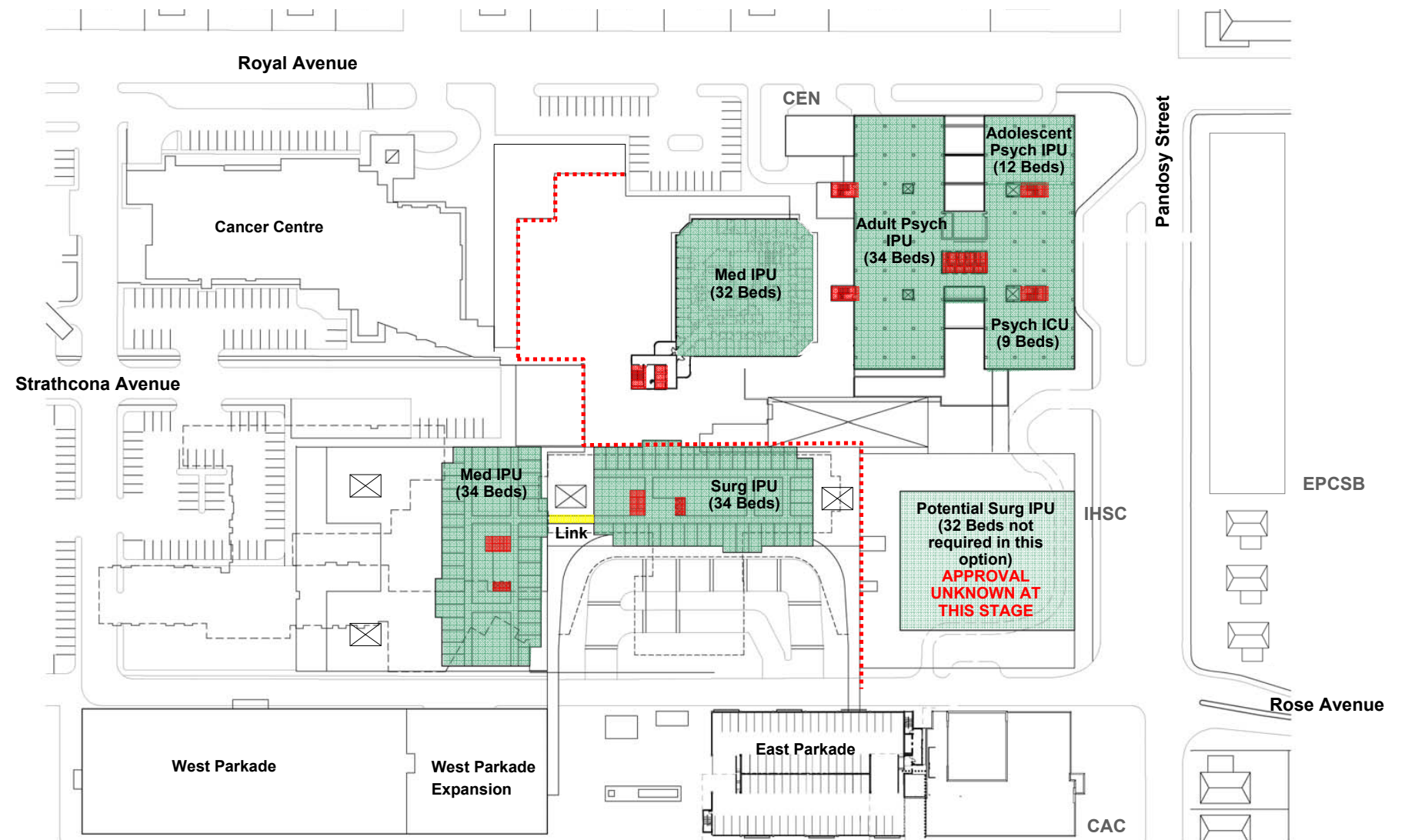
- Option for 32-bed Surgical IPU preserved within Master Plan although, not required in Option 1. *Note: Master Plan Option 1 meets all projected bed counts by providing both new IPU's and through the minimal re-use / retrofit of existing IPU's within Royal. This option does not require the proposed 32 beds within the IHSC. If the IHSC beds are approved, options within the Master Plan include 1) vacating remaining existing beds within Royal or 2) constructing one less IPU within the proposed new Strathcona buildings. The Master Plan recommends Option 1 as the existing Royal beds do not meet current area standards.*

New Strathcona (East)

- New 32-34 bed Surgical IPU to be constructed. IPU to meet current area standards at time of construction. (New construction)
- Recommend enclosed link to IHSC be included. (New construction)

New Strathcona (West)

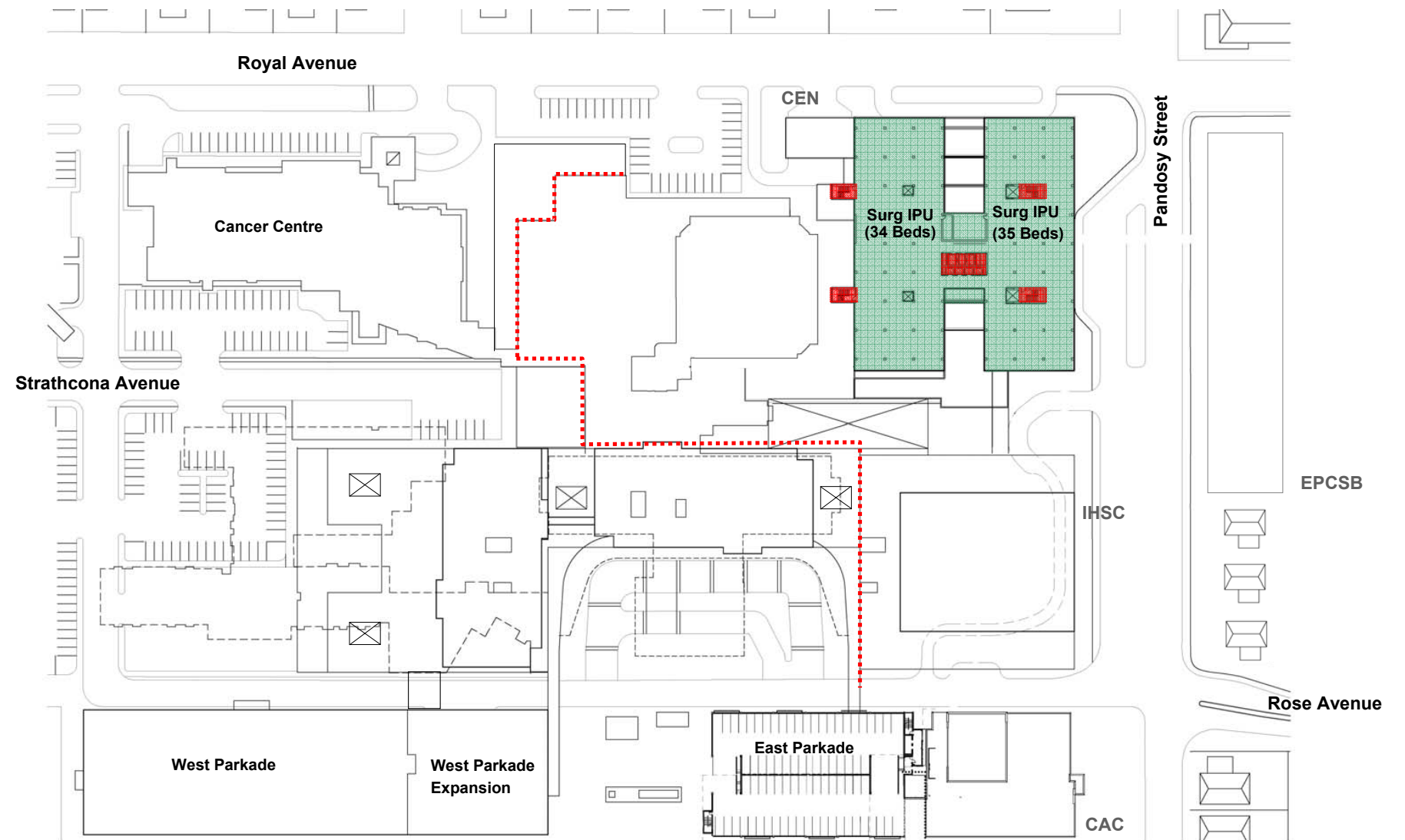
- New 32-34 bed Medical IPU to be constructed. IPU to meet current area standards at time of construction. (New construction)
- Enclosed link between Strathcona East and West to be provided. (New construction)



Level 6

Centennial

- Existing 34-bed Surgical IPU within CEN(west) to remain. No cosmetic renovations are necessary. (No work required)
- New 35-bed, Surgical IPU to be constructed within existing shelled space in CEN(east). (New fit-out)



Access and Circulation - Option 1

Vehicle Access

At present, vehicle access to the site is via two points – Rose Avenue and Pandosy Street as the primary point of entry for most vehicles, including service vehicles, and via Strathcona Avenue, a link which appears to be utilized mostly by staff or visitors to the Abbott Rehabilitation facility. A third access route via Abbott Street (extension of Rose Avenue) was recently closed, at the request of the City, in an attempt to limit the amount of traffic on Abbott Street. There is also an access to the main campus (Cancer Centre and Lodge) and a separate access to the EPCSB via Royal Avenue. The Master Plan update responds to these conditions with the following proposals:

- Enhances the main Rose Avenue access route with decorative paving, landscaping, lighting and bollards both along Rose Avenue and Pandosy Street.
- Permanently closes the Rose Avenue extension at Abbott Street and incorporates this land into the proposed green space.
- Extends the internal access road between the Rotary Cancer Lodge and the Cancer Centre to create a formal intersection with Royal Avenue. (It is noted that the City was present at the project design charrettes and offered its support for this proposed route.)
- Separate and discreet vehicle access to the future Morgue via Strathcona.
- The proposed Emergency route off Royal, as part of the CEN project, is preserved as designed.
- The proposed access route off Pandosy as part of the IHSC project is preserved as designed with enhancements as noted below.

Known planning directives by KGH include proposals for internal circulation routes that link the CEN main lobby and travel beneath the future IHSC. In an effort to alleviate the amount of vehicle traffic that will enter the site via Rose and Pandosy, the Master Plan update (at the direction of KGH) enhances these routes by proposing an internal road running parallel to Pandosy that links the current Emergency drop-off area with the proposed IHSC drop-off. This route will also include access to approximately 30 short-term parking for Emergency patients. To reduce traffic congestion at the ER drop off, general vehicle access to this new ring road occurs at Pandosy. (It should be noted that this route is conceptual at this stage and will require both further development and municipal approval before moving to design development stage.)

Note: Design development for the IHSC should be in alignment with the proposed parking and circulation site works as shown in the Master Plan update.

As noted above, the Master Plan update proposes a new access point be created on Royal Avenue. This route would also serve to disperse vehicles entering the site but also allow for the efficient exit of service vehicles. (Service vehicles currently enter and exit at Rose and Pandosy). While this proposal is generally accepted by both KGH Staff and the City, concern was expressed about the width of the land between the Rotary Cancer Lodge and the Cancer Centre. For this Master Plan update, the Design Team conducted a preliminary review and determined that there is sufficient room to accommodate a standard road / sidewalk condition, with minor site modifications. Additionally, it is important the note that a small number of Cancer patients will travel from the Rotary Lodge to the Cancer Centre on foot and will need to cross this proposed route. To address this, the site plan proposes several traffic calming devices including pavement markings, elevated pavement, bollards and crosswalk markings. Enhanced landscaping should also be provided to beautify this new link.

To access the new loading docks, the Master Plan update proposes a one-way route beginning at Pandosy Street and Rose Avenue and exiting via Royal. This one-way route will direct service vehicles through a signalized intersection (Pandosy and Royal) and better control the flow of vehicles within the site. The loading area is designed as a dedicated and enclosed turning pad of sufficient area to handle multiple service vehicles and will eliminate the need for trucks to back up within vehicle circulation routes. Additionally the proposed layout of the loading pad enables a simplified turning path for vehicles entering via Rose and exiting via a separate route that leads directly to Royal Avenue.

During the design charrettes, concern was expressed over the proposal for service vehicles exiting the property onto Royal Avenue as there is no signalized intersection at Royal and Pandosy. It was suggested, that a better solution would be to reverse the route for service vehicles and thus enter from Royal and exit via Rose, where there is a signalized intersection. However, this solution is not optimal as manoeuvring paths to access the proposed loading docks become inefficient if the route is reversed.

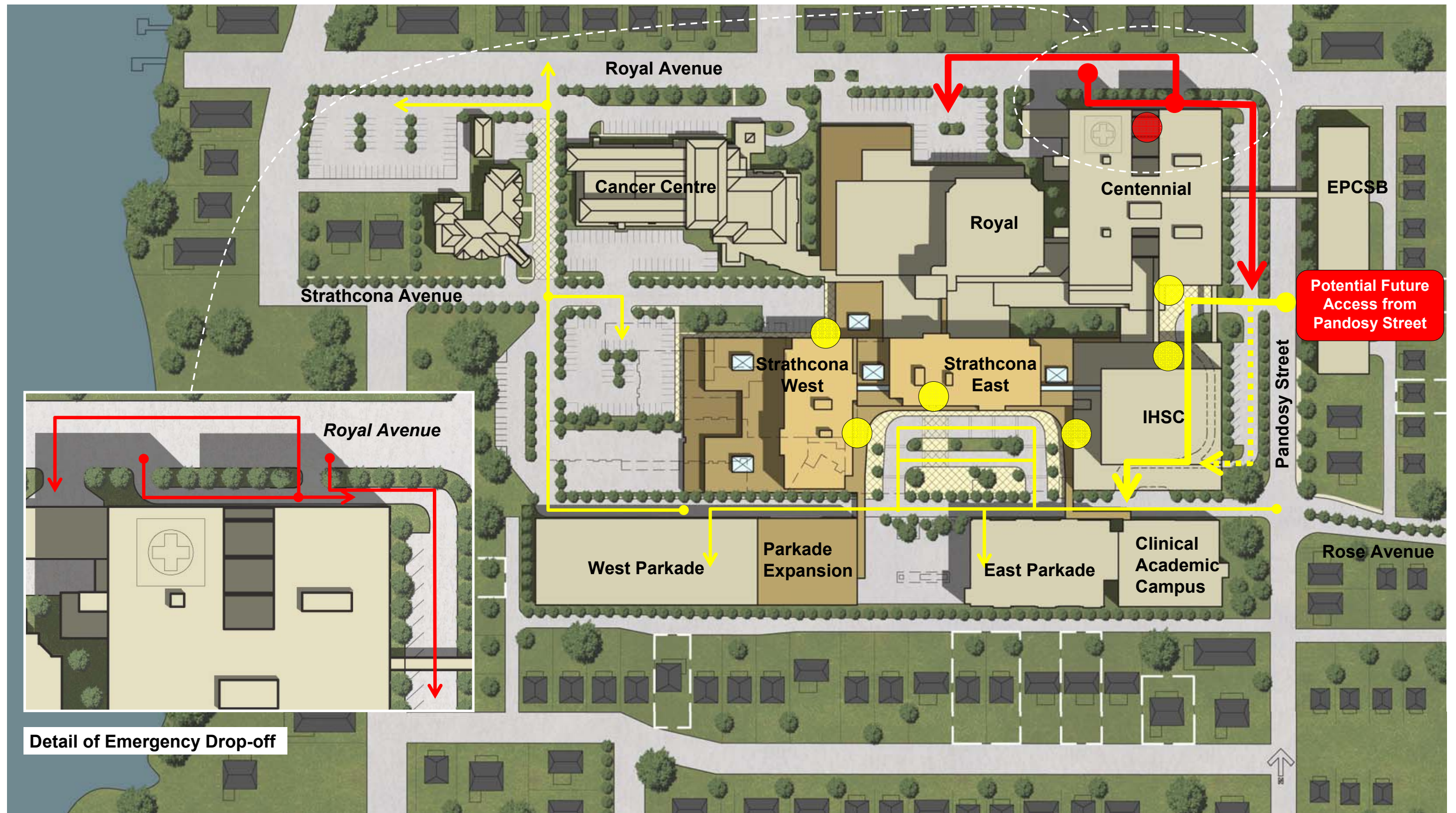
Regarding any potential conflicts with emergency vehicles attempting to enter the site, service vehicles exiting the site at Royal and Pandosy will not impede the access of emergency vehicles who will be entering the site at the same intersection to access CEN as they are in opposite lanes regardless of travel direction.

Pedestrian (Public / Staff) Access

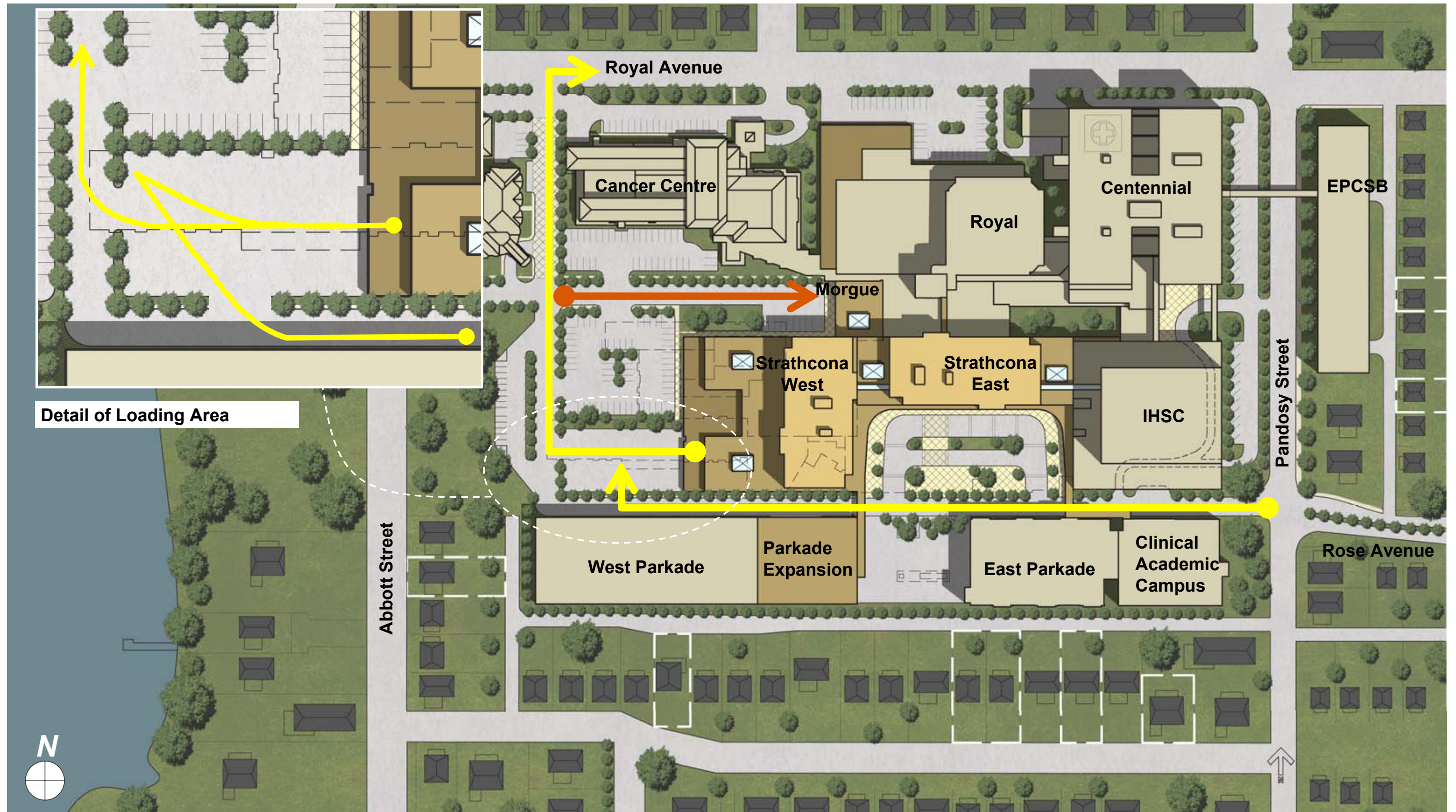
One of the challenges to this Master Plan update was the ability of any future development to effectively connect with existing and known future building. This is particularly relevant in the ability to tie in with existing parking structures and internal circulation routes for both public and staff. The overall strategy (and challenge) within the Master Plan update is to provide direct service routes between the new Strathcona and the IHSC while still removing the existing Strathcona building. It also sought to provide clear and efficient routes for public and staff from the Main Lobby to the new ER. Additionally, the need to separate front-of-house and service routes was also critical. The Master Plan update responds with the following proposals for enhancing pedestrian circulation within the site:

- New two-storey Strathcona Entry Lobby and Concourse and enhanced Civic Plaza with direct access to Women and Child programs along with related Medical Retail programs on Level 2. This second level Concourse is so designed to minimize cross-over with front-of-house and back-of-house service routes as users move above on Level 2 while goods move below on Level 1.
- Horizontal and vertical circulation points within the new Strathcona Entry Lobby and Concourse directly align with existing lobbies and lifts in the Royal building and those proposed in the IHSC.
- Horizontal circulation routes also align with key public spaces (cafeteria) and the placement of skylights to assist with wayfinding for users.
- Front-of-house routes that relate to existing green spaces and courtyards for natural light and wayfinding.
- Elevated enclosed links connect directly with the two existing parking structures and provide internal connections with front-of-house routes to the new Strathcona and the IHSC and the ER.
- Upper level IPU's also have enclosed links that connect with each other and the Royal and IHSC buildings.
- Clear front-of-house route from parking structures to new CEN ER.
- Clear back of house routes for goods and services, and also patient access from Emergency to the new IPU towers.

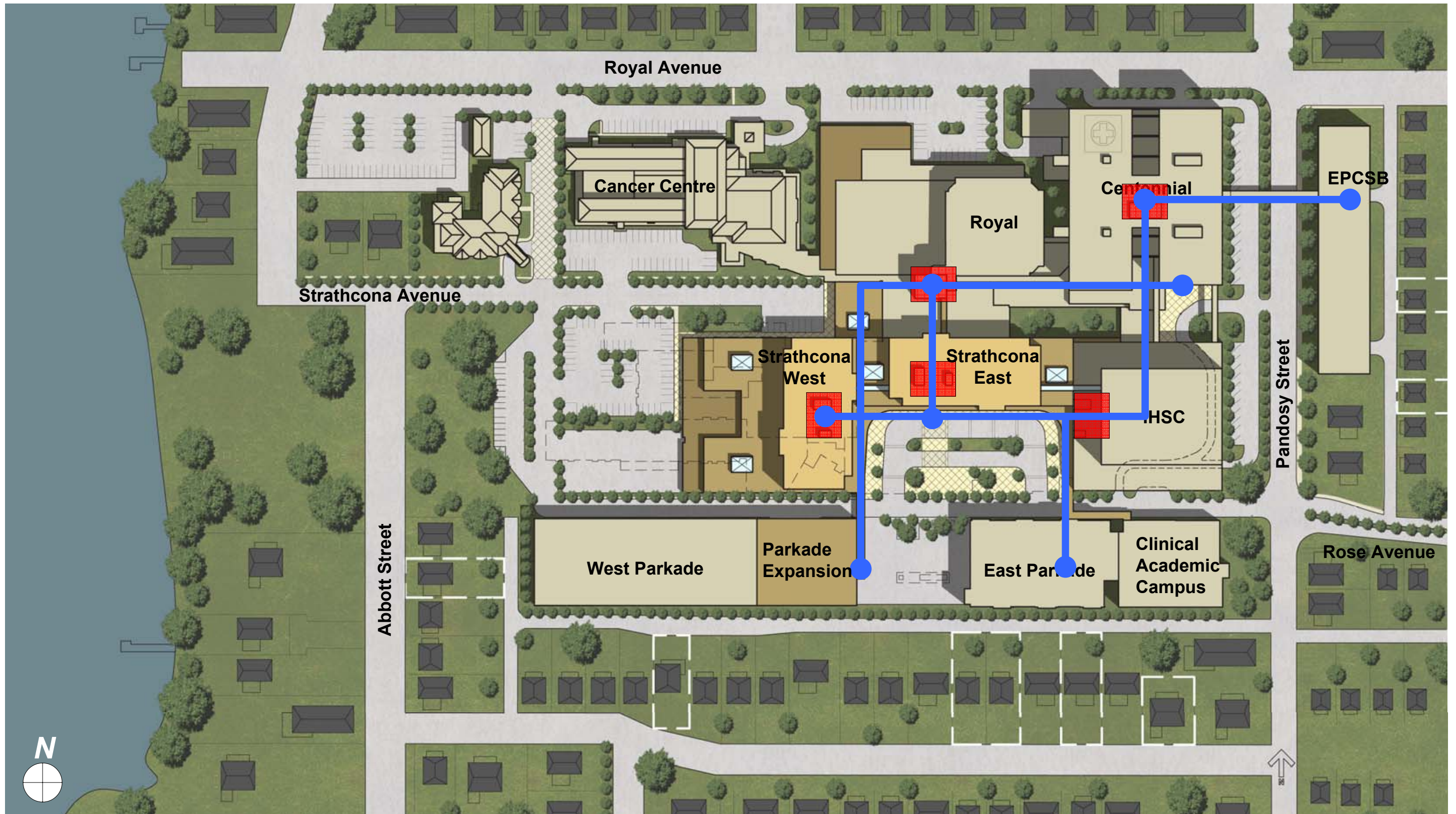
VEHICLE MOVEMENT - OPTION 1



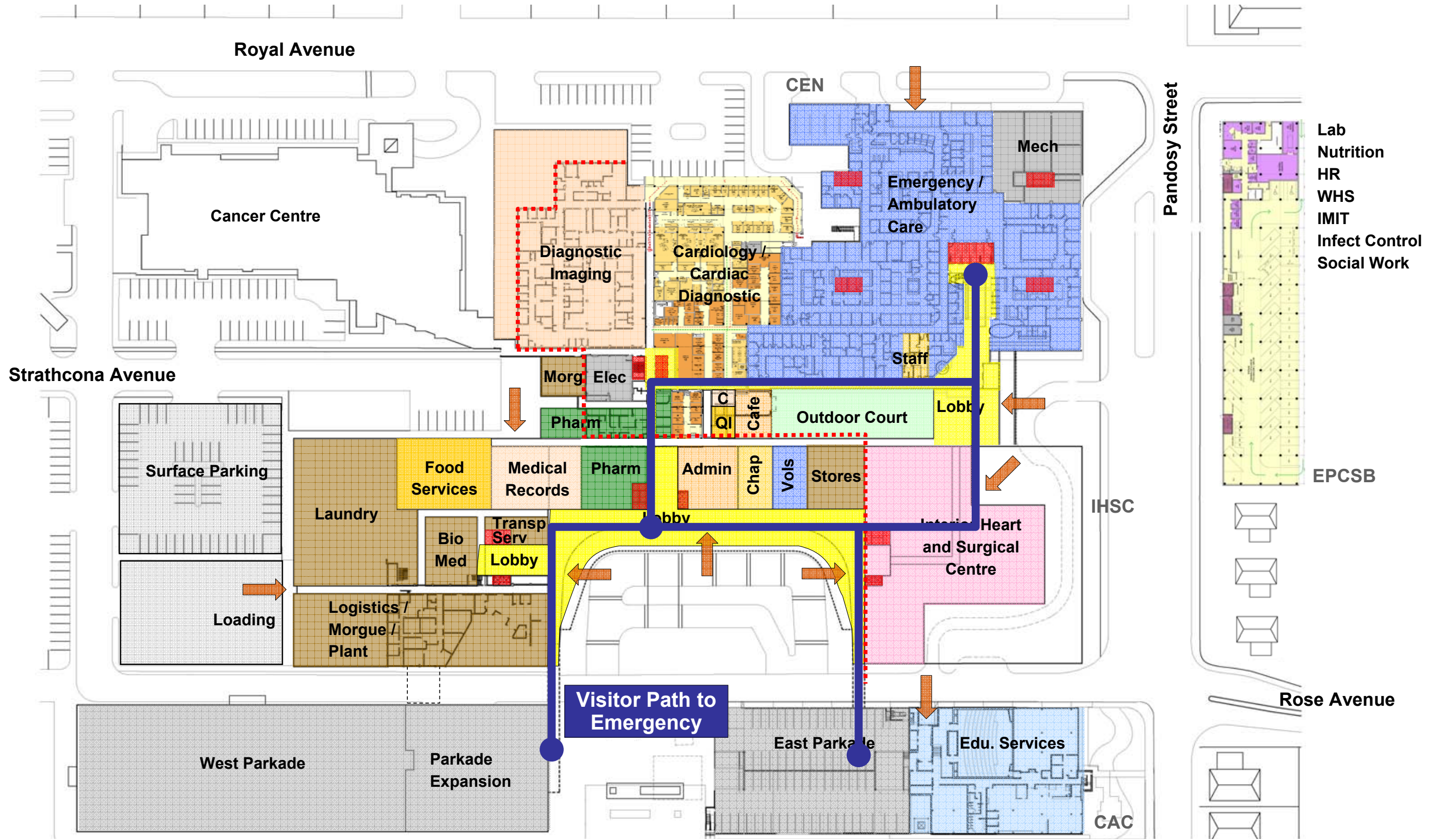
SERVICE VEHICLE MOVEMENT - OPTION 1



PEDESTRIAN (VISITOR / STAFF) MOVEMENT - OPTION 1



PEDESTRIAN (VISITOR / STAFF) MOVEMENT - OPTION 1



Parking Recommendations - Option 1

As stated in Chapter 4 Site Evaluation the site currently has a total on-site capacity of 982 spaces through a combination of surface and structure (capacity provided to the Design Team by KGH Staff). This total parking capacity includes a recent increase of 350 spaces with the construction of the 5-level CAC parking structure.

At the time of this writing, traffic reports reviewed by the Design Team (Kelowna General Hospital – Pandosy Street Full Hospital Development 2020 Transportation Impact Assessment Report, Opus International Consultants, November 2010) indicate a total on-site capacity of 1,098 spaces and indicate a current shortfall of 209 spaces. Facilities included within this study include :

- 3-storey UBC CAC building
- Centennial building (CEN)
- East Pandosy Clinical Support Building (EPCSB)
- Proposed IHSC building
- Royal building retrofit and refurbishment

As this information differs from that provided by KGH staff, the Design Team has assumed the current on-site capacity of 982 spaces and adjusted the shortfall to include this difference. Thus the Master Plan assumes a shortfall of 325 spaces.

While the traffic studies reviewed include a number of existing and proposed structures, the study does not include any additional parking required with the future growth of the hospital over the next 15 years as illustrated in the Master Plan update.

It is anticipated that the clinical growth shown in Option 1 will generate approximately 10,000sm of net new building area. (Demolished existing Strathcona: 18,000sm / New Strathcona: 28,000sm / Net Growth: 10,000sm). Utilizing standard parking ratios of +/-1.5 cars / 100bgsm, it is estimated that this growth will generate a need for an additional 150 spaces, in addition to the current shortfall (325 spaces) bringing the total projected shortfall to 475 spaces. Therefore the total spaces required at the completion of the Master Plan update will be approximately 1460 spaces.

It should be noted that the removal of the Abbott building will also reduce the overall total spaces required. A detailed and current parking and traffic study that incorporates the information within this update should be completed to fully understand the parking requirements.

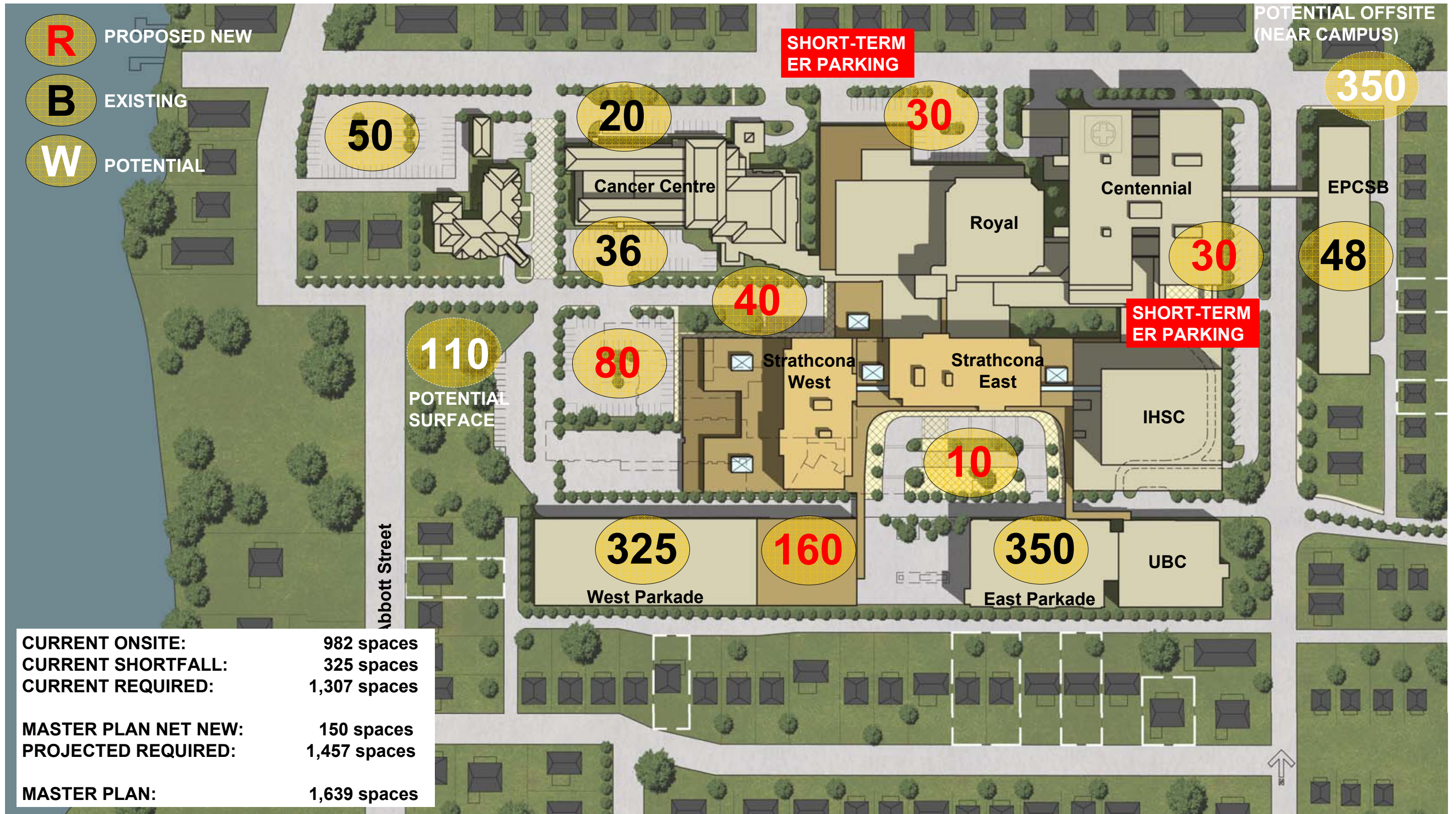
The diagram provided illustrates a high-level summary of the existing and proposed spaces available within the site, and also at off-site lands currently owned by KGH. Totals noted in BLACK indicate existing KGH spaces and are not summarized below. Totals noted in RED indicate those proposed by

the Master Plan update. Totals noted in WHITE illustrate other potential opportunities for parking which KGH may explore in the future. Highlights of the proposed parking strategy include:

- Provision of approximately 80 surface spaces on lands made available through the demolition of the existing Abbott building.
- Provision of approximately 40 surface spaces on lands adjacent to morgue and also made available through the demolition of the existing Abbott building.
- Provision of approximately 30 surface spaces dedicated to short-term Emergency parking as part of Diagnostic Imaging expansion.
- Provision of approximately 30 surface spaces dedicated to short-term Emergency parking as part of Pandosy Street ring road site works.
Note: Design development for the IHSC should be in alignment with the proposed parking and circulation site works as shown in the Master Plan update.
- Provision of approximately 10 surface spaces within entry plaza for short-term parking and visitors.
- Provision of approximately 160 structured spaces as part of existing parkade expansion.
- Potential for 50 surface spaces on lands north-west of the Rotary Cancer Lodge.
- Potential for 110 surface spaces on lands currently owned by KGH but indicated as park space in the Master Plan update.
- Potential for 350 surface spaces located off site at the Burnett lands, currently owned by KGH.
- Potential for 50 in-building spaces within New Strathcona in the event that Laundry services moves off site and overall building on Level 1 is reduced.

It should be noted that this site plan is illustrative in nature and the exact location, configuration and amounts of parking will vary slightly depending on site conditions, building configuration, final IHSC design, final Diagnostic Imaging expansion, and total area / program requirements at the time of design development.

PARKING - OPTION 1



PROS AND CONS - OPTION 1

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

PROS

- Meets current area design standards for majority of Inpatient units across the site
- Meets all projected bed demand requirements
- Locates majority of Surgical beds in proximity to IHSC
- Clusters majority of Medical beds within New Strathcona
- Co-locates and consolidates all Women and Child programs within same unit
- Locates Mat / Child beds on same floor as OR's with direct horizontal link
- Co-locates Cardiac IPU & CCU beds in proximity to IHSC in new space
- Does not require Level 5 IHSC 32 Surg beds. Flexibility of capital planning options if IHSC beds approved (reduce New Strathcona by one IPU)
- Provides defined and identifiable Entry Lobby and Entry Plaza
- Multiple opportunities for IPU expansion and growth
- Appropriate reuse of existing infrastructure by minimizing retrofit of existing facilities for highly serviced clinical programs (ie reduces total Medical / Surgical beds in Royal allowing for more support area within IPU)
- Accommodates a range of future block planning scenarios and department locations over 15 year period.
- Improves overall site circulation access and decongestion of Pandosy
- Creates direct internal link with both parking structures on site
- Affords phased construction opportunities with multiple programming variations
- Preserves surplus land for future development on site
- Supported by City Planning Department officials
- Creates a recognizable, accessible, centralized front door with convenient access to all major building blocks and parking.

CONS

- Some reuse of existing infrastructure (Royal 1990 Building)
- Potential impacts on existing civil infrastructure needs to be further examined
- Requires relocation of Rehab programs and demolition of Abbott building

DESIGN STRATEGY – OPTION 2

The mandate that drives this planning option is threefold; a) to preserve the existing Strathcona building; b) to reuse existing inpatient wards as opposed to replacing with new units that meet current area standards, and c) propose growth plans for all remaining programs not currently captured within existing or new structures (CEN, IHSC, EPCSB and CAC). Additionally, this planning option is to consider the decanting of the Rehabilitation program and the demolition of the Abbott building, although this aspect should not be mandatory for this option to proceed. A directive was also to consider current parking volumes and propose options for meeting current and potential future shortfalls in supply. From this, *the vision for this option is to best utilize the existing infrastructure to meet current and future growth requirements while maintaining the overall functionality of the buildings and site.*

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

It is known from the Master Program that KGH is projecting a reasonable amount of growth in programs and services that will be delivered on this site, particularly in the total bed requirements as well as a critical need for growth in specific programs including Pharmacy, Administration, Laundry and Logistics. Additionally, the current state of its infrastructure, specifically the Strathcona and Abbott buildings, do not meet current standards thus making it challenging to deliver effective patient care. For example, the existing Strathcona and Royal Med / Surg IPU's fail to meet current design standards in terms of total area, support area, barrier free access and relative to the current ratio of private to semi-private rooms.

However, with the inclusion of new Med / Surg IPU's in CEN and those proposed within the new IHSC, and the mandate to retrofit existing IPU's, the KGH site can almost completely achieve its total projected bed numbers. However, while the bed numbers are met, this option will fail to meet the projected area requirements. Regardless, while the Design Team recognizes that the current IPU's at the KGH site do not meet current area and planning standards, this option explores the impact of maintaining and retrofitting the units as necessary to meet the proposed bed numbers.

Regarding the IPU's retrofit, the Master Plan update recognizes the existing initiatives set forth by KGH including the creation of new 34-bed Cardiac IPU / 8-bed CCU beds on Strathcona Level 2, and the inclusion of a 32-bed Surgical IPU within the IHSC and incorporates this into its long-term plan. It also incorporates the consolidation of the Adult and Adolescent Mental Health programs into CEN Level 5. In order to meet the additional projected beds this option proposes the following retrofit strategies:

- Retrofit Royal Level 2 to capture any operational adjustments or areas required.
- Decant existing 33-bed Surgical IPU from Strathcona Level 3 and replace with balance of Women and Child Inpatient and Outpatient programs. Decanting to include redistribution of beds to CEN, IHSC or Royal as noted.

- Retrofit Royal Level 4 to accommodate new 54-bed Medical, and 7-bed Surgical IPU.
- Retrofit Royal Level 5 to accommodate new 46-bed Medical, and existing 16-bed Medical Renal IPU.
- Fit-out IHSC Level 5 to receive new 32-bed Surgical IPU.

Given the qualifier that programs already captured within CEN, IHSC, CAC and the EPCSB have met their area requirements and are not in this scope, the growth strategy for this option remains essentially limited to isolated department growth in specific areas not already captured. These include the following growth proposals:

- Creation of interior courtyard with landscaping and water features as necessary. Creation of court assumed to be product of IHSC schematic design proposal.
- Morgue relocation as per KGH planning directive.
- Creation of new second entry Lobby along Rose Avenue to service the future IHSC.
- Expansion of Pharmacy program to be constructed adjacent to new morgue.
- Relocation of all Cardiac programs to space previously occupied by Emergency and Ambulatory Care as per KGH planning directive. Expansion of Laundry services and Gift Shop to within the existing Cardiac space.
- Expansion of Diagnostic Imaging to accommodate required future growth.
- Minor expansion of the Services wing to accommodate growth in Logistics, Plant Services and Bio Med and to accommodate Transportation Services program.
- Consolidation of Administration programs, relocation of Medical Records, Chaplan, Quality Improvement programs and expanded Physician's Lounge.

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 as best as possible. As stated in the subsequent *Access and Circulation* narrative, the site has been reconfigured to include a new connector road linking the CEN Emergency drop-off with the IHSC and main lobby. This road is envisioned as a more formalized drop-off route to distribute traffic away from the Rose Avenue entry. This route, along with the Rose Avenue, is envisioned as a treed promenade with formal landscaping, decorative paving and water features and will work to enhance the overall curb appeal of the hospital. The need for short-term emergency parking is also accommodated and elaborated within the subsequent *Parking Recommendations* section.

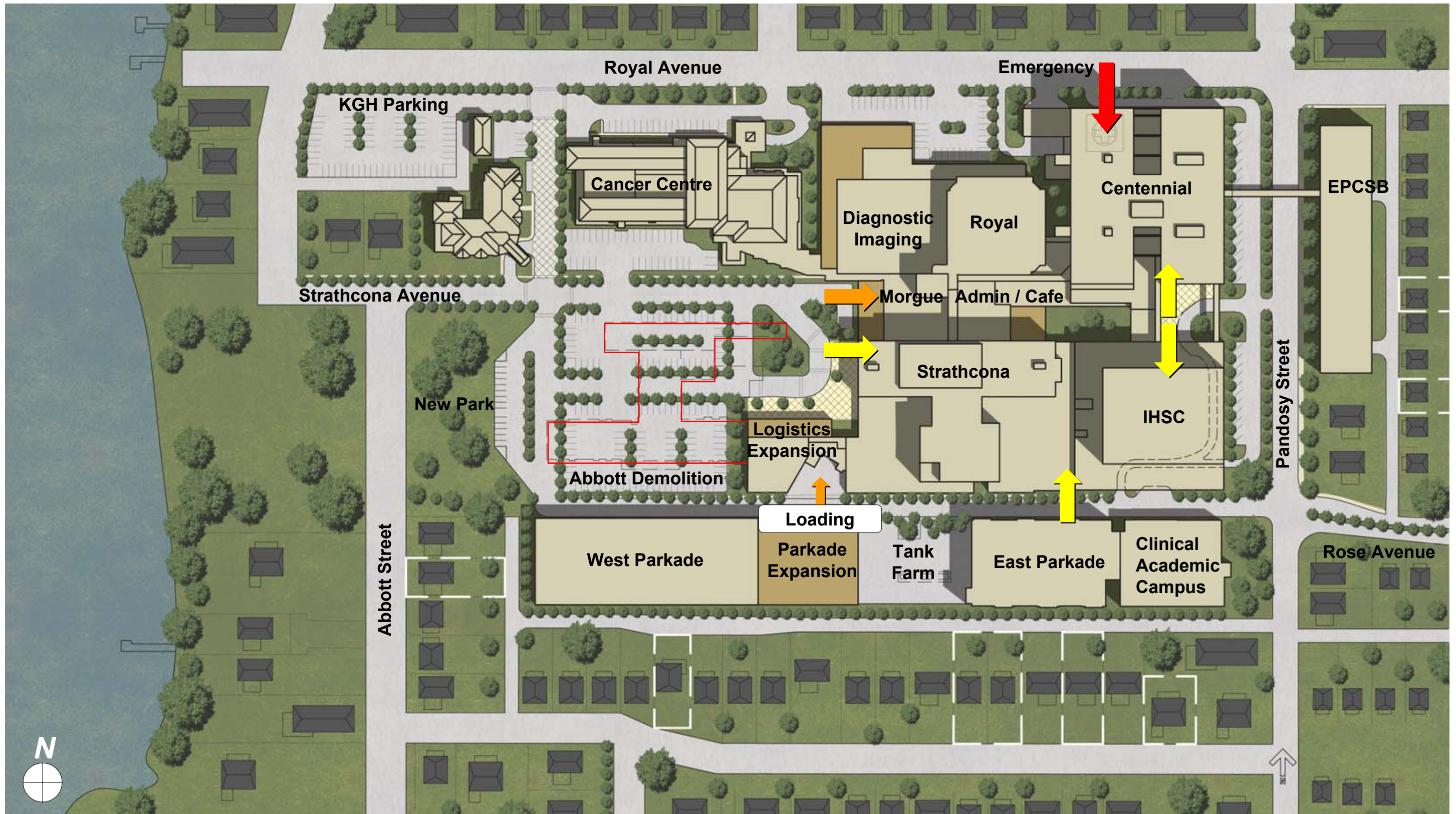
Recommendations section.

Note: Design development for the IHSC should be in alignment with the proposed parking and circulation site works as shown in the Master Plan update.

The site plan also recognizes the benefits of green space to the healing process. While KGH is blessed with spectacular views to the lake, the site is lacking any significant green space. In response, the plan proposes the creation of a new park at the west end of the site in proximity to the water. This park, which replaces existing surface parking, (Approximately 100 spaces) is seen as both a KGH staff and patient resource, but also demonstrates its commitment to the community as a whole.

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

SITE PLAN - OPTION 2



BUILDING MASSING - OPTION 2



BLOCK PLANNING - OPTION 2

The following provides a recommended summary of major programmatic components on a floor by floor basis for each level of this option. The Master Plan update, and KGH both acknowledge that alternate planning strategies exist (particularly within Strathcona Level 1) and that this option reflects one potential strategy. 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*.

Schematic plans are based on actual programmatic department gross areas, however are presented as illustrative and not to scale within this printed document. For scalable drawings, refer to electronic CAD files provided with this report update. 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 KGH.

Level 1

Royal

- Existing Diagnostic Imaging department to expand as indicated and be renovated as required. (Renovation and New Construction)
- Cardiology program to consolidate and relocate to space previously occupied by Emergency and Ambulatory Care as indicated per KGH planning directive. (Renovation)
- New Morgue currently being constructed as indicated per KGH planning direction (Existing)
- Pharmacy expansion to be constructed to allow for consolidated Pharmacy department. (New construction and Renovation)
- Existing Cafe to remain and existing entry to be reconfigured to allow for Administration / Cashier expansion. (Master Plan recommends relocating Cafe to CEN in proximity to new Lobby)
- Quality Improvement to relocate to space as indicated (Renovation)
- Site works to include provision of short-term Emergency parking adjacent to Diagnostic Imaging expansion. (New construction)

Centennial

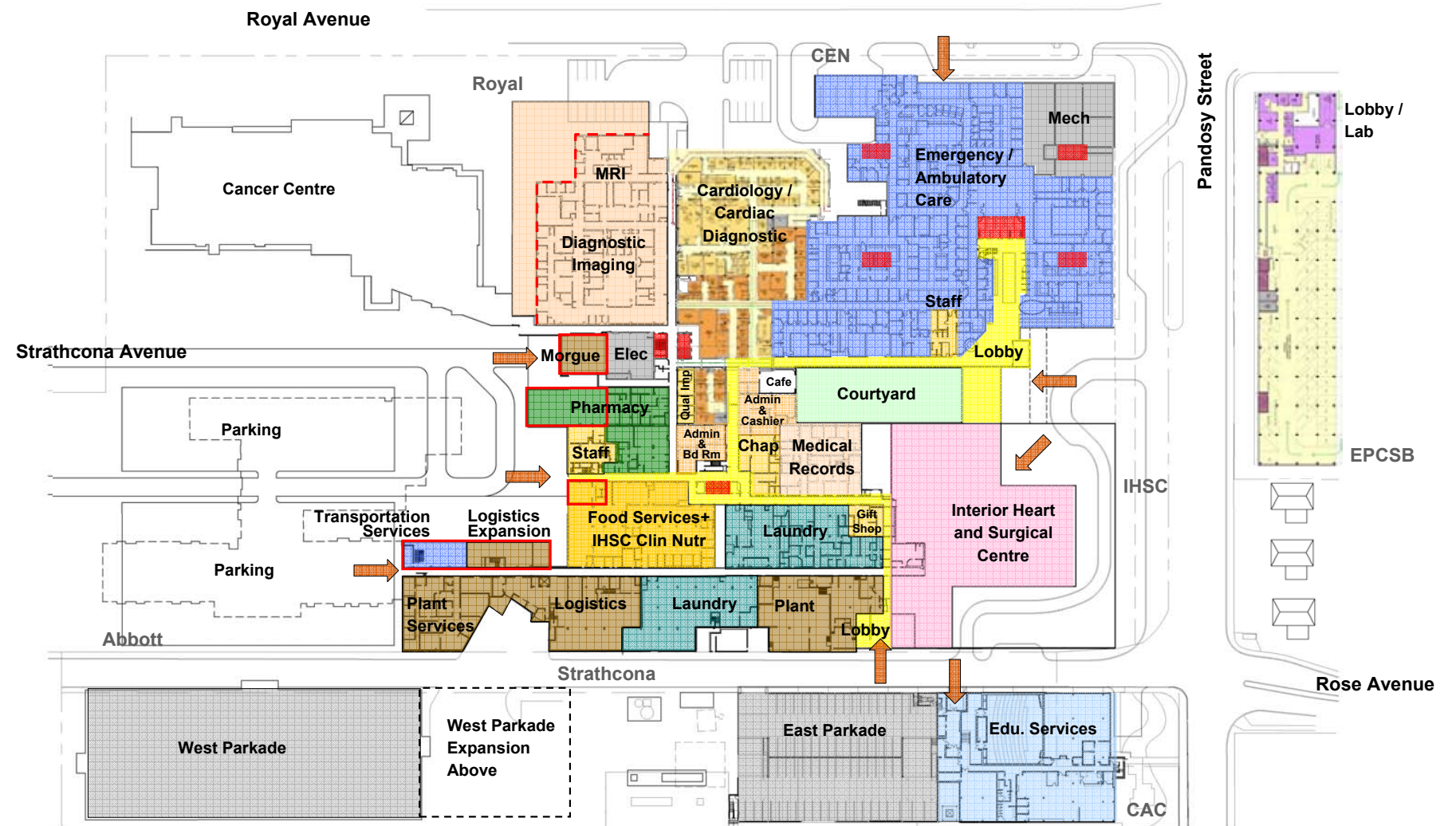
- Existing clinics and programs to remain. (No work required)
- Outdoor courtyard with landscaping to be provided. (Renovation)

Interior Heart and Surgical Centre

- Proposed Surgical programs, including site works to remain. (No work required) *Note: Design development for the IHSC should be in alignment with the proposed parking and circulation site works as shown in the Master Plan update.*

Strathcona

- New Lobby and corridor integrated with IHSC to be provided as indicated per KGH planning directive. (Renovation)
- New Gift Shop to be constructed into area previously occupied by Cardiac Programs. Area of Gift Shop (30sm) based on current precedents, exact area to be determined during subsequent design development stages. (Renovation)
- Laundry to expand into area previously occupied by Cardiac Programs. (Laundry area deficiency of 30sm results from proposed Gift Shop.) (Renovation)
- Food Services to expand into area previously occupied by Administration / Boardroom program. Renovation to also include Clinical Nutrition area currently assigned to the IHSC program (19sm). (Renovation)



- Construction of Logistics and Plant Engineering expansion wing as necessary. Expansion to also include Transportation Services program. (New construction)
- Administration to expand into select area previously occupied by Medical Records and Chaplain. Area includes Cashier and new Boardroom. (Renovation)
- Medical Records to expand into area previously occupied by Administration and Cardio programs. (Renovation)
- Chaplain to relocate to space previously occupied by portion of Medical Records program. (Renovation)
- Site works to include consideration for vehicle access to Royal Avenue via existing lands between Cancer Centre and Lodge. Access to include

landscaping, pedestrian pathways, and traffic calming devices as necessary. Additional site works to include provision of surface parking and access to Morgue via Strathcona Avenue.

East Pandoso Clinical Support Building

- All existing programs to remain as constructed or proposed. (No work required)

Clinical Academic Campus

- All existing programs to remain as constructed or proposed. (No work required)

Level 2

Royal

- Existing 31-bed Critical Care IPU to remain and be renovated as required. Note IPU does not meet current area standards. (Renovation)
- Links to be provided as indicated per KGH planning directive (New construction and renovation)

Centennial

- Existing clinics and programs to remain. (No work required)
- Physician's Lounge to occupy portion of current shelled space. (Renovation)
- Remaining shelled space to remain unassigned. (Renovation)

Interior Heart and Surgical Centre

- Proposed Surgical programs, including 8-bed ICU / CSICU to remain. (No work required)

Strathcona

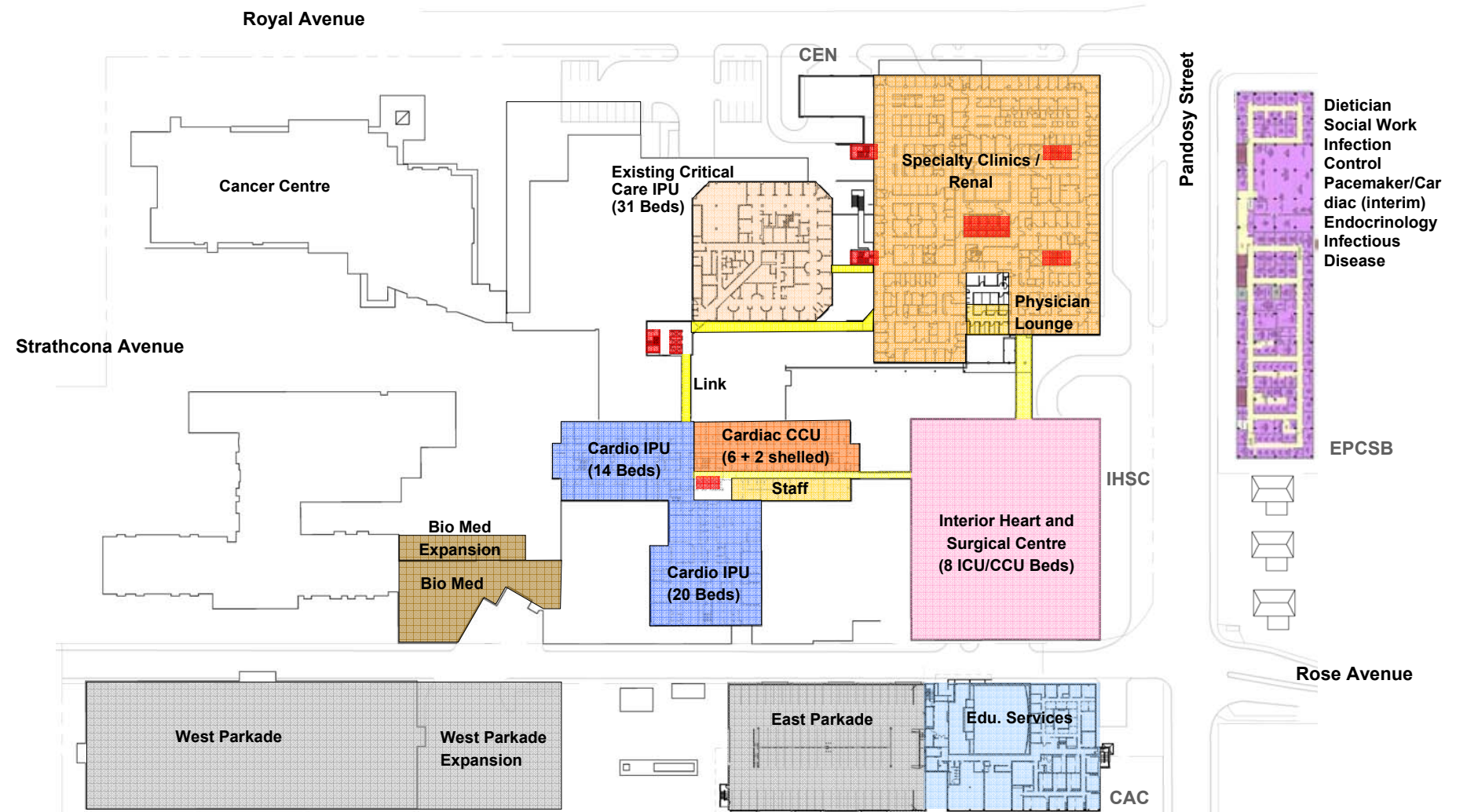
- Proposed future 34-bed Cardiac IPU to be constructed as indicated per KGH advance planning directive. (Renovation)
- Proposed future 8-bed Cardiac CCU to be constructed as indicated per KGH advance planning directive. (Renovation)
- Proposed future staff spaces to be constructed as indicated per KGH advance planning directive. (Renovation)
- Proposed future connector links with IHSC to be constructed as indicated per KGH advance planning directive. (New construction)
- Existing Bio Med program to expand as part of Logistics Level 1 expansion. (New construction)

East Pandosy Clinical Support Building

- All existing programs to remain as constructed or proposed. (No work required)

Clinical Academic Campus

- All existing programs to remain as constructed or proposed. (No work required)



Level 3

Royal

- Existing Mechanical space to remain. (No work required)

Centennial

- Existing Surgical / MDR programs to remain. (No work required)
- Current shelled space to remain unassigned. (Renovation)

Interior Heart and Surgical Centre

- Proposed Surgical programs to remain. (No work required)

Strathcona

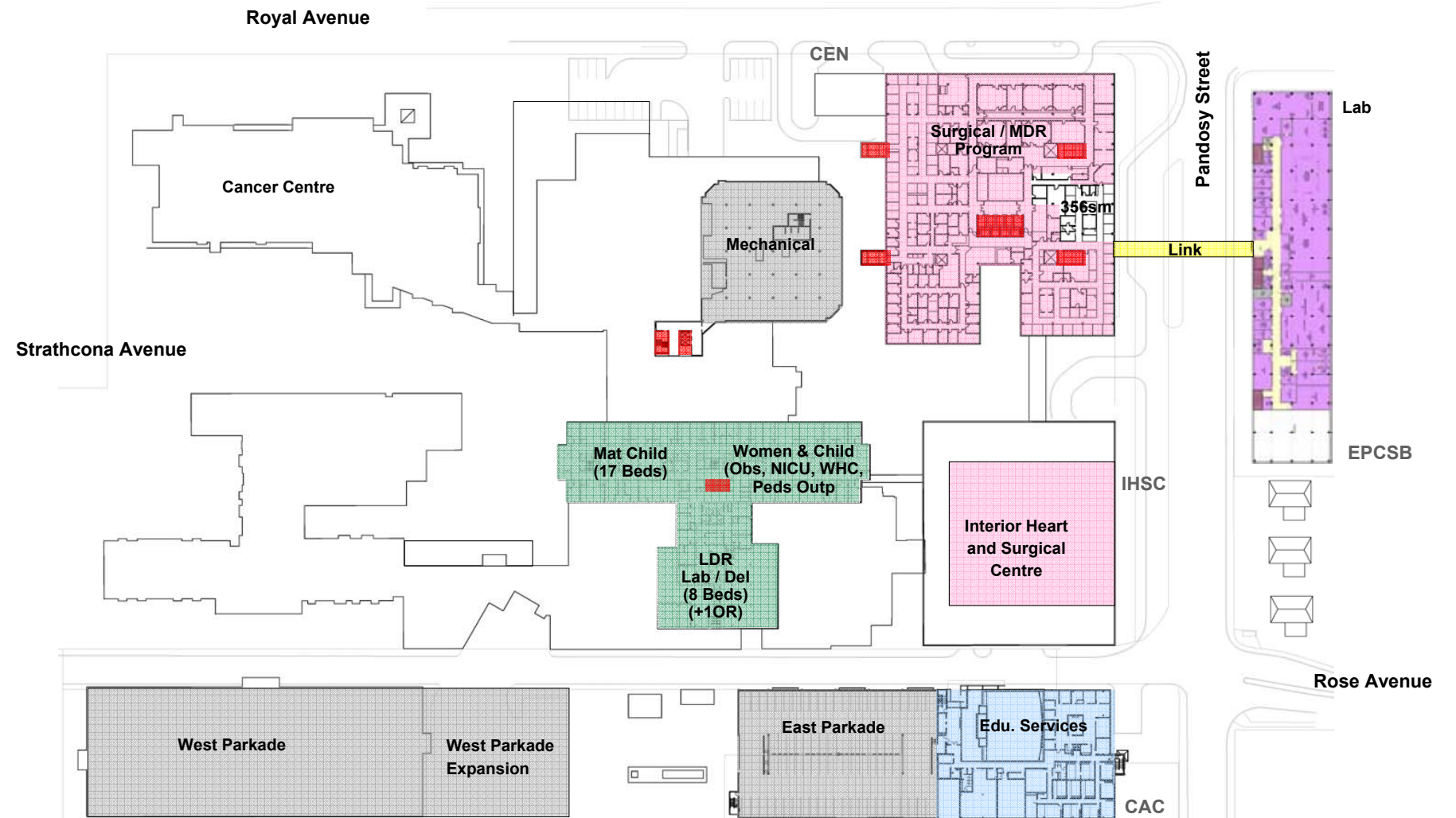
- Existing 17-bed Maternal / Child IPU to remain and be renovated as necessary. Note IPU does not meet current area standards. (Renovation)
- Existing LDR / Labour and Delivery / OR unit to remain and be renovated as necessary. Note IPU does not meet current area standards. (Renovation)
- Existing 33-bed Surgical IPU to vacate and be retrofitted to accommodate additional Women and Child programs including Obstetrics, NICU, and Pediatrics Outpatient programs. Note unit to meet current area standards at time of construction. (New construction)

East Pandosy Clinical Support Building

- All existing programs to remain as constructed or proposed. (No work required)

Clinical Academic Campus

- All existing programs to remain as constructed or proposed. (No work required)



Level 4

Royal

- Existing Medical / Surgical IPU to be retrofitted to accommodate 54-bed Medical IPU, 7-bed Surgical IPU, and related support space. (Renovation)

Centennial

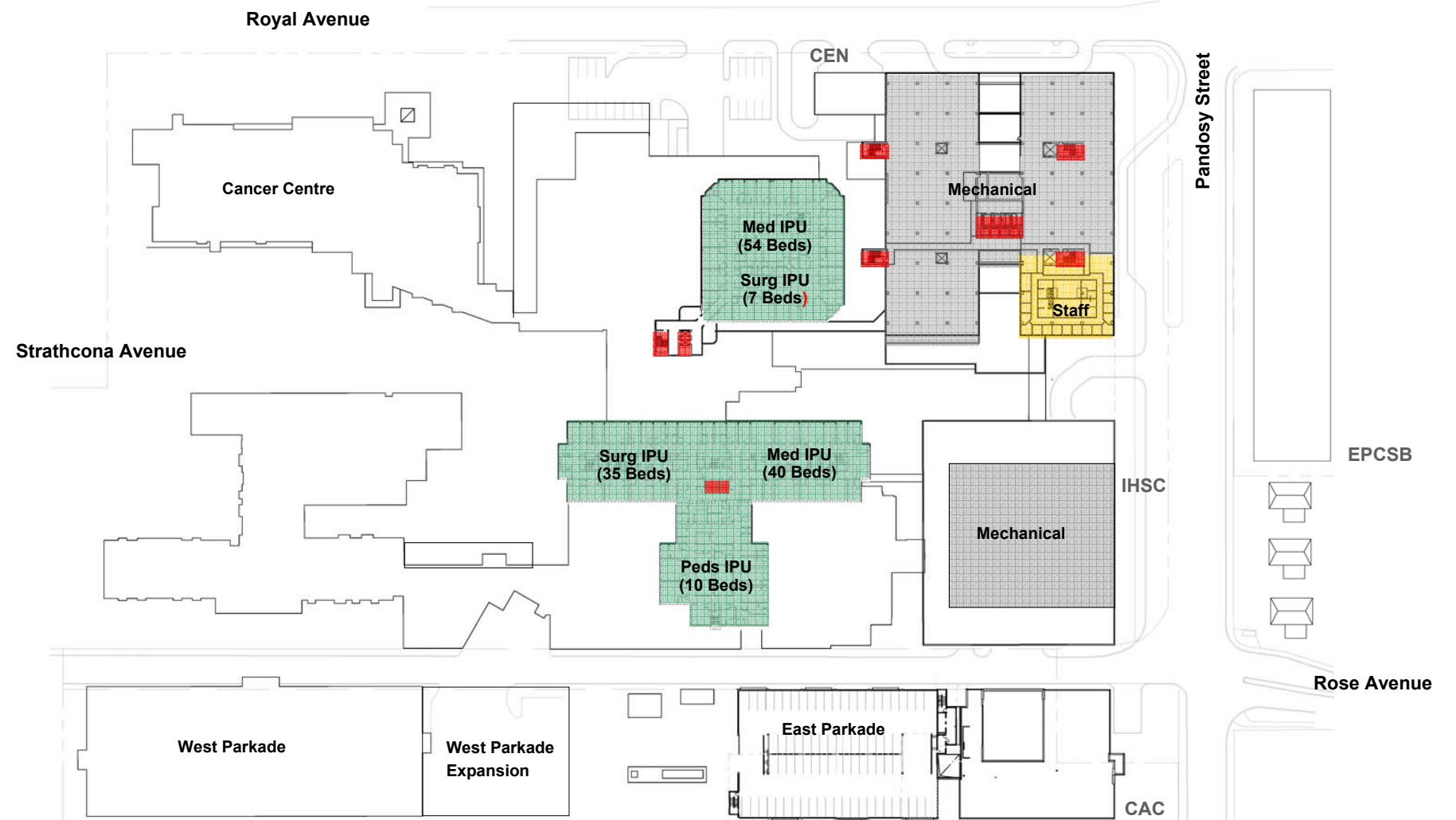
- Existing Mechanical space to remain. (No work required)

Interior Heart and Surgical Centre

- Proposed Mechanical space to remain. (No work required)

Strathcona

- Existing 35-bed Surgical IPU to remain and be renovated as necessary. Note IPU does not meet current area standards. (Renovation)
- Existing 40-bed Medical IPU to remain and be renovated as necessary. Note IPU does not meet current area standards. (Renovation)
- Existing 10-bed Pediatrics IPU to remain and be renovated as necessary to accommodate one additional bed if possible. Note IPU does not meet current area standards. (Renovation)



Level 5

Royal

- Existing 16-bed Renal Medical IPU to remain and be renovated as necessary. (Renovation)
- Existing Adolescent Psych IPU to relocate to CEN and be renovated to accommodate 46-bed Medical IPU and related support space. (Renovation)

Centennial

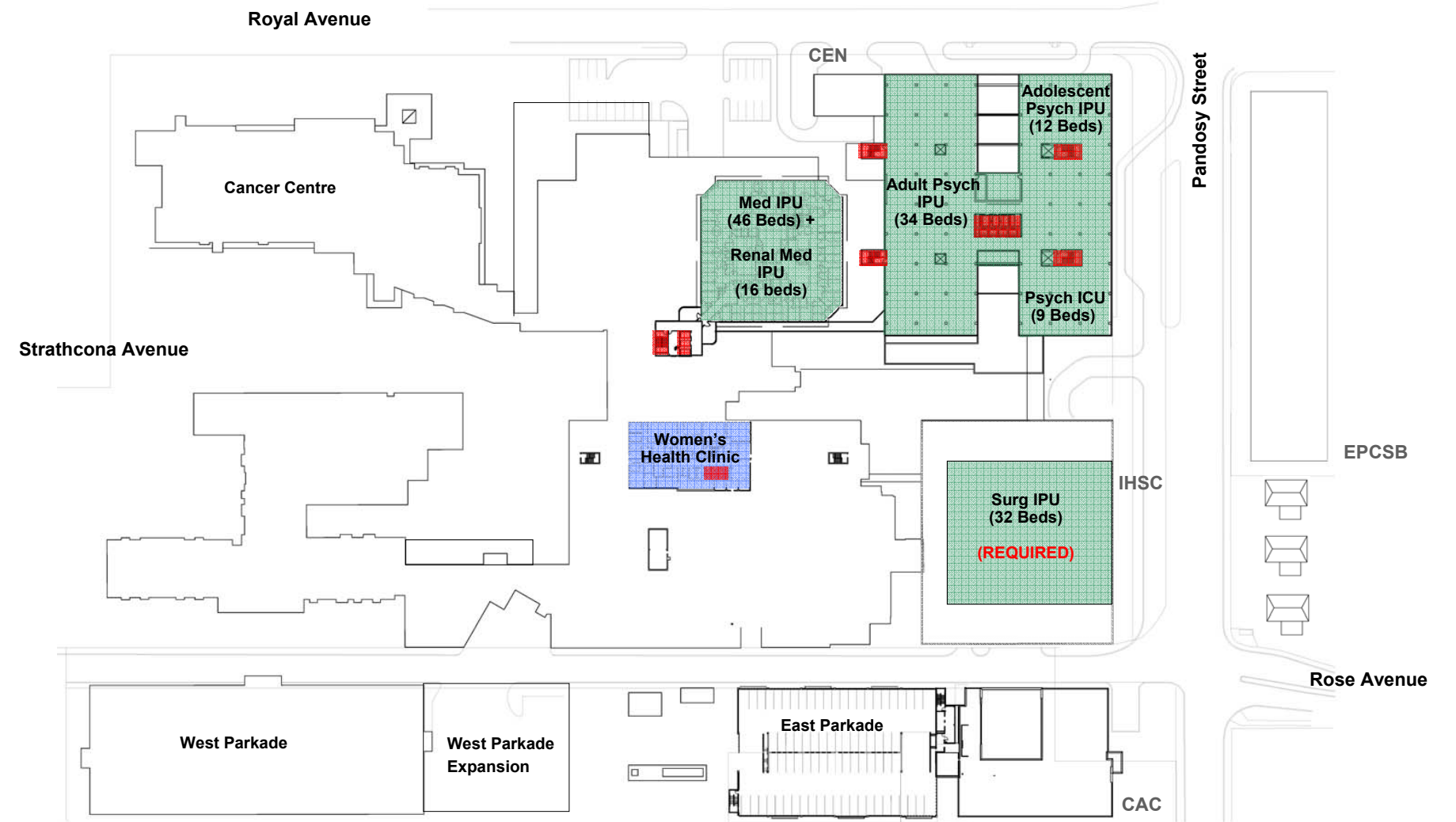
- Adult Psych (43-bed) program to relocate (from Pandosy) to CEN. (New fit-out)
- Adolescent Psych (12-bed) to relocate (from Royal Level 5) to existing shelled space within CEN. (New fit-out)

Interior Heart and Surgical Centre

- Required construction of 32-bed surgical IPU (Required in Option 2 to meet Master Program projected bed counts) (New construction)

Strathcona

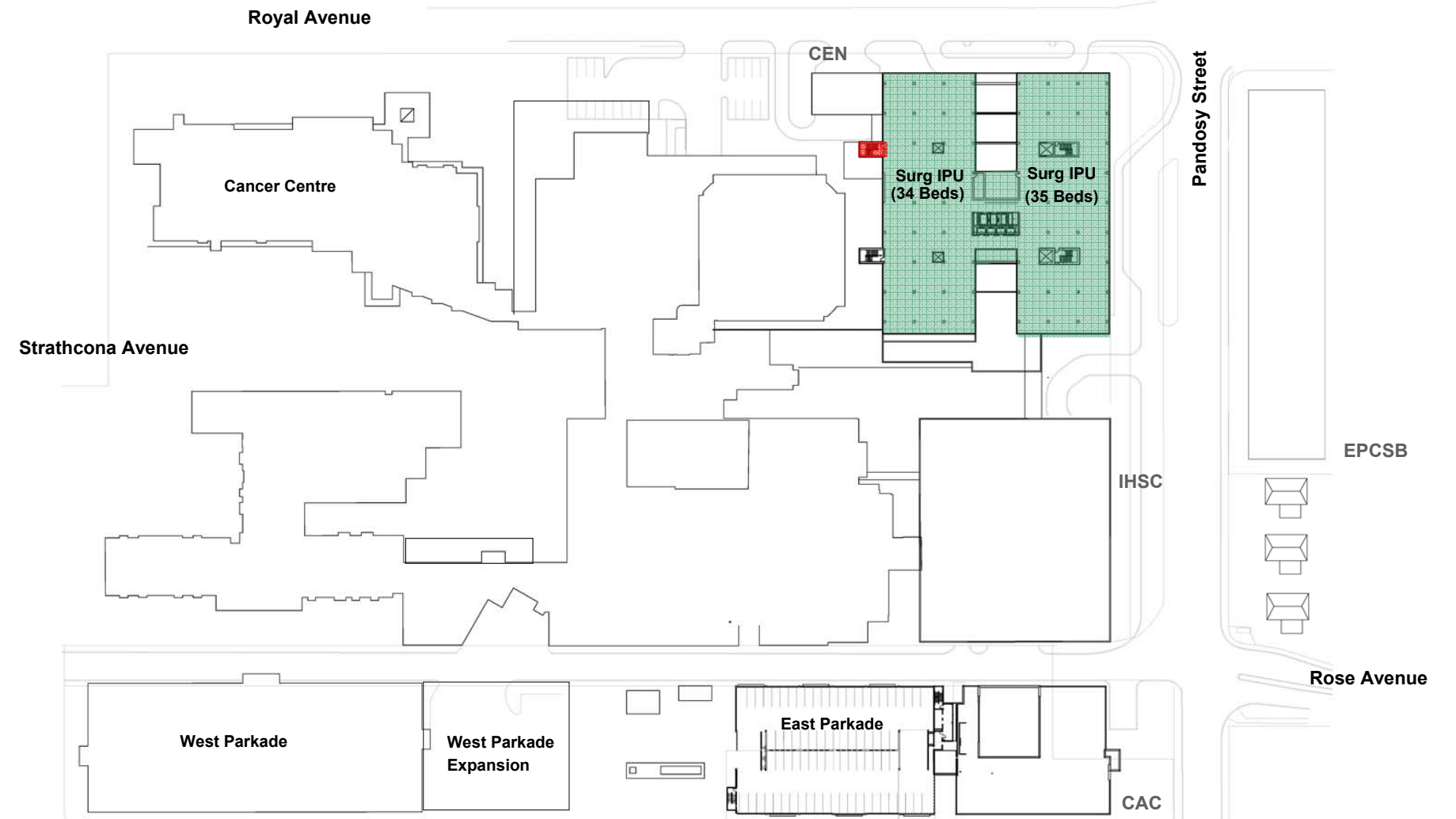
- Existing Women's Health Clinic to remain and be renovated as necessary. (Renovation)



Level 6

Centennial

- Existing 34-bed Surgical IPU within CEN (west) to remain. No cosmetic renovations are necessary. (No work required)
- New 35-bed, Surgical IPU to be constructed within existing shelled space in CEN (east). (New fit-out)



Access and Circulation - Option 2

Vehicle Access

As with Option 1, vehicle access to the site is via two points – Rose Avenue and Pandosy Street as the primary point of entry for most vehicles, including service vehicles, and via Strathcona Avenue, a link which appears to be utilized mostly by staff or visitors to the Abbott Rehabilitation facility. A third access route via Abbott Street (extension of Rose Avenue) was recently closed, at the request of the City, in an attempt to limit the amount of traffic on Abbott Street. There is also an access to the main campus (Cancer Centre and Lodge) and a separate access to the EPCSB via Royal Avenue. The Master Plan update in this option responds to these conditions with the following proposals:

- Enhances the main Rose Avenue access route with decorative paving, landscaping, lighting and bollards both along Rose Avenue and Pandosy Street.
- Permanently closes the Rose Avenue extension at Abbott Street and incorporates this land into the proposed green space.
- Extends the internal access road between the Rotary Cancer Lodge and the Cancer Centre to create a formal intersection with Royal Avenue. (It is noted that the City was present at the project design charrettes and offered its support for this proposed route.)
- Separate and discreet vehicle access to the future Morgue via Strathcona.
- The proposed Emergency route off Royal, as part of the CEN project, is preserved as designed.
- The proposed access route off Pandosy as part of the IHSC project is preserved as designed with enhancements as noted below.

Known planning directives by KGH include proposals for internal circulation routes that link the CEN main lobby and travel beneath the future IHSC. Identical to Option 1, the Master Plan update (at the direction of KGH) proposes an internal road running parallel to Pandosy that links the current Emergency drop-off area with the proposed IHSC drop-off. Also like Option 1, this route will also include access to approximately 30 short-term parking for Emergency patients and separate entry from the Emergency access.

Note: Design development for the IHSC should be in alignment with the proposed parking and circulation site works as shown in the Master Plan update.

Also as with Option 1, the Master Plan update proposes a new access point be created on Royal Avenue. It responds to the same concerns regarding road width and pedestrian crossing and provides similar landscape and traffic calming devices.

Loading in this option remains in the same location as current. Service vehicles will continue to enter the site via Rose and follow the same back-load path. The Master Plan update proposes the expansion of the parkade in the area that service vehicles use for turning and cueing. The parkade expansion recognizes this and is designed to allow for service vehicle turning at grade. Identical to Option 1, the Master Plan update also proposes a one-way route beginning at Pandosy Street and Rose Avenue and exiting via Royal. A disadvantage of this condition, as opposed to Option 1, is that service vehicles will still need to back-up and cross a main circulation route (Rose Avenue) to access the loading docks.

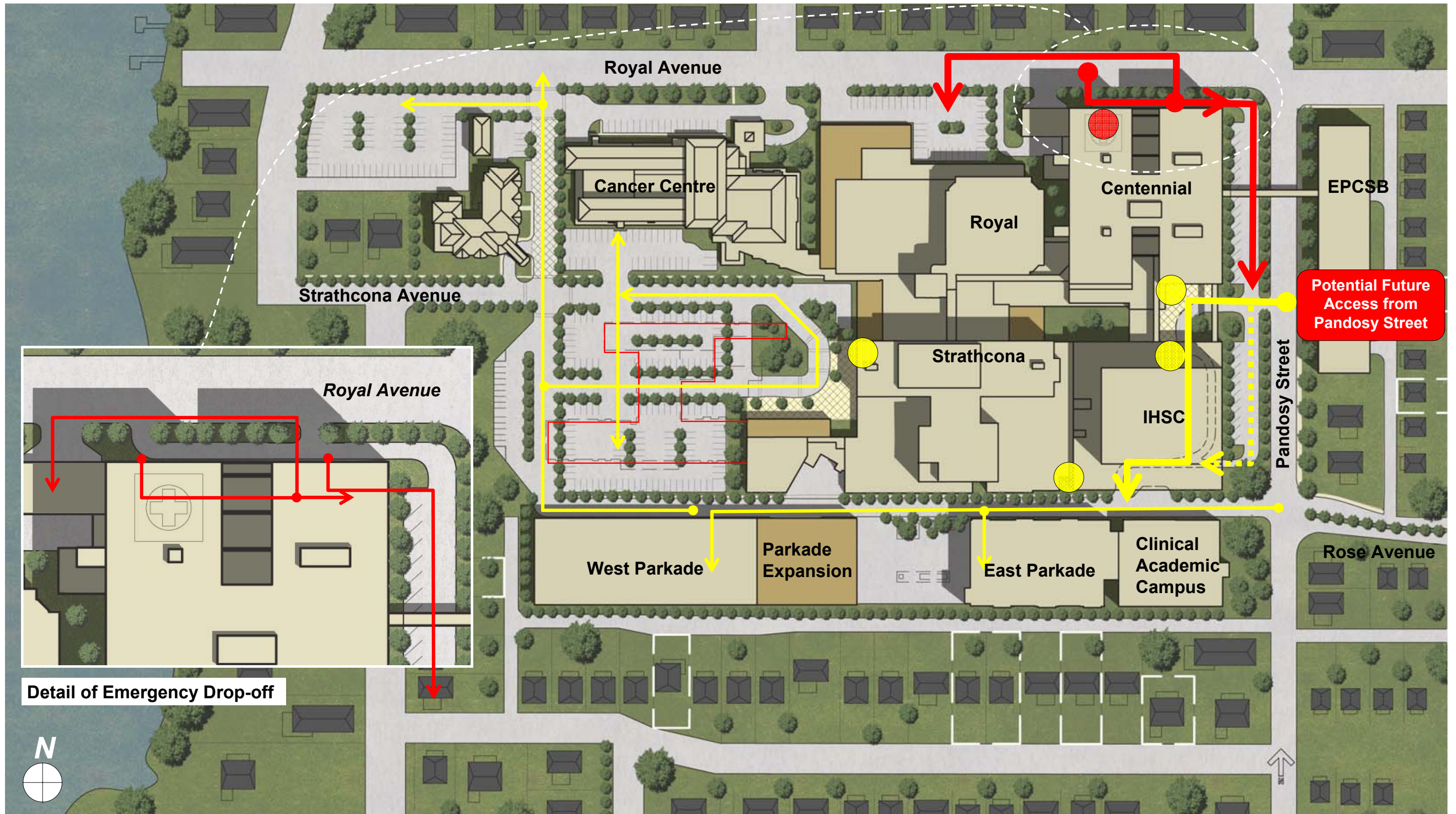
Again, regarding any potential conflicts with emergency vehicles attempting to enter the site, service vehicles exiting the site at Royal and Pandosy will not impede the access of emergency vehicles who will be entering the site at the same intersection to access CEN as they are in opposite lanes regardless of travel direction.

Pedestrian (Public / Staff) Access

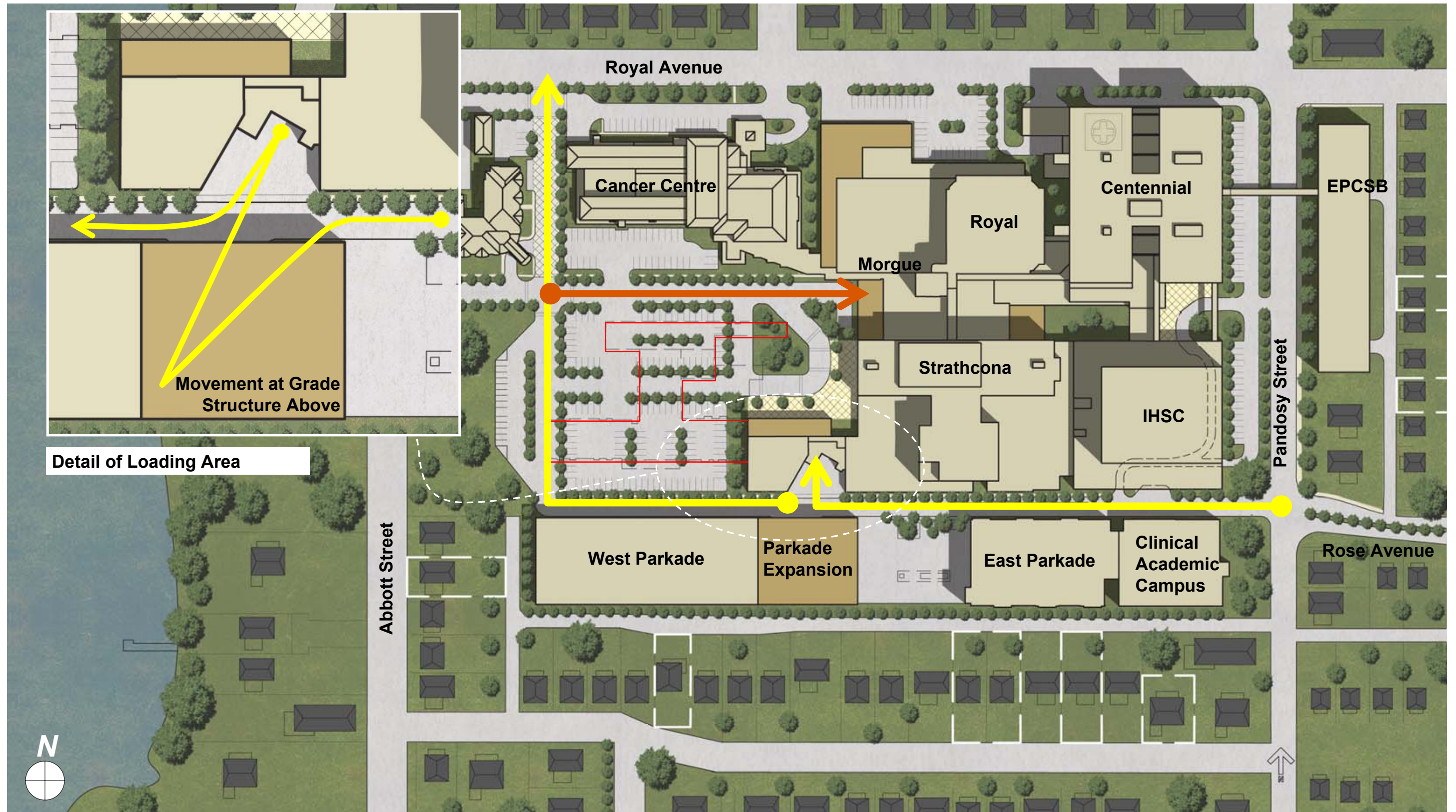
As this option did not require any significant internal modifications or department relocation, beyond what is already proposed by KGH (internal corridor realignment to accommodate future IHSC), the current circulation routes within the existing Strathcona remain as is. Exceptions to this include:

- Provision of a new entry in proximity to the Morgue and Pharmacy expansion.
- Provision of new front-of-house entry adjacent to the existing Staff areas and Food Service expansion area.
- Clear and legible routes from Parking Structures to CEN ER.

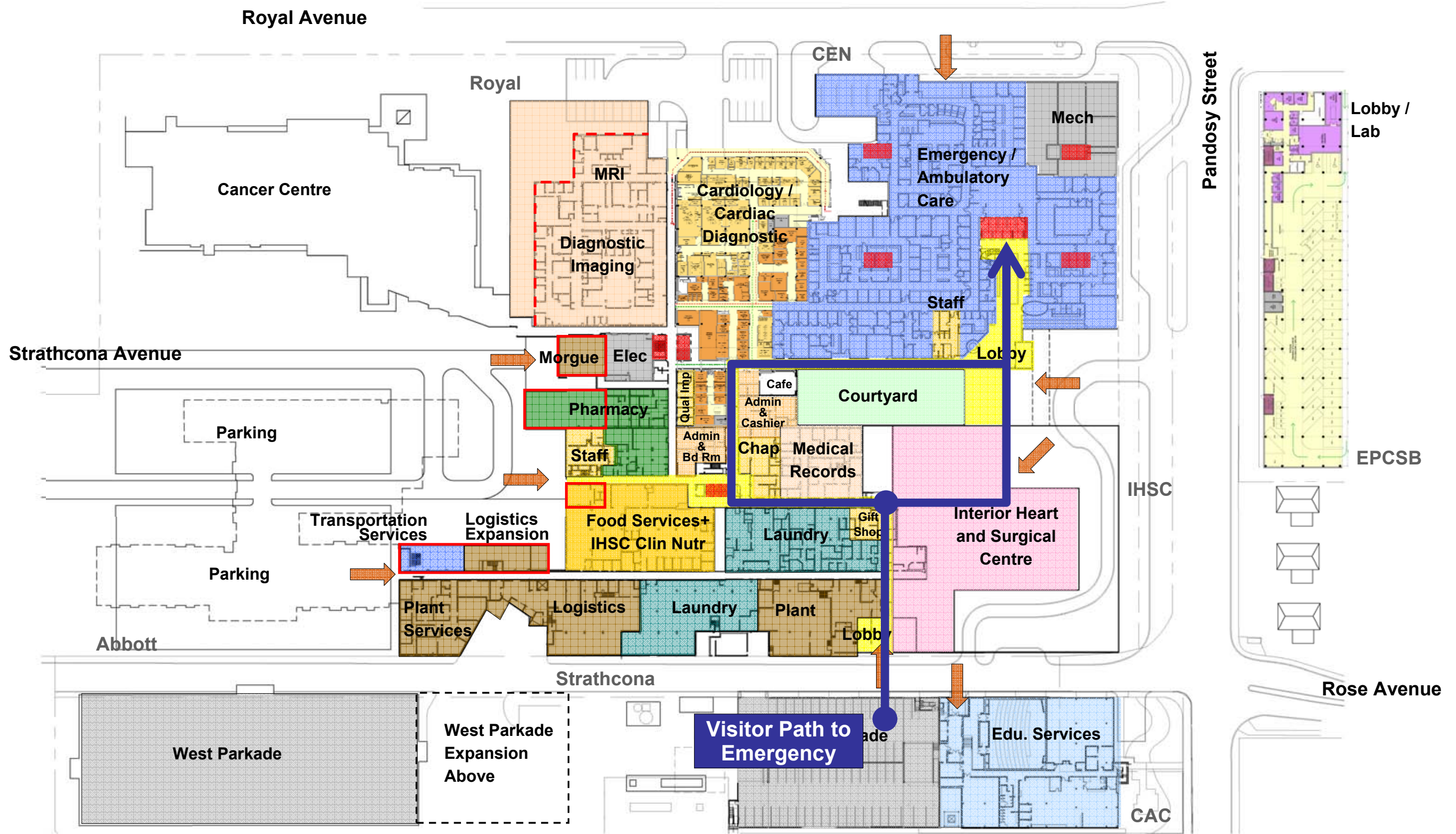
VEHICLE MOVEMENT - OPTION 2



SERVICE VEHICLE MOVEMENT - OPTION 2



PEDESTRIAN (VISITOR / STAFF) MOVEMENT - OPTION 2



Parking Recommendations - Option 2

As stated in Chapter 4 Site Evaluation the site currently has a total on-site capacity of 982 spaces through a combination of surface and structure (capacity provided to the Design Team by KGH Staff). This total parking capacity includes a recent increase of 350 spaces with the construction of the 5-level CAC parking structure.

At the time of this writing, traffic reports reviewed by the Design Team (Kelowna General Hospital – Pandosy Street Full Hospital Development 2020 Transportation Impact Assessment Report, Opus International Consultants, November 2010) indicate a total on-site capacity of 1,098 spaces and indicate a current shortfall of 209 spaces. Facilities included within this study include :

- 3-storey UBC CAC building
- Centennial building (CEN)
- East Pandosy Clinical Support Building (EPCSB)
- Proposed IHSC building
- Royal building retrofit and refurbishment

As this information differs from that provided by KGH staff, the Design Team has assumed the current on-site capacity of 982 spaces and adjusted the shortfall to include this difference. Thus the Master Plan assumes a shortfall of 325 spaces.

While the traffic studies reviewed include a number of existing and proposed structures, the study does not include any additional parking required with the future growth of the hospital over the next 15 years as illustrated in the Master Plan update.

It is anticipated that there will be little significant net new growth of the existing KGH facility beyond that which is included in the Diagnostic Imaging, Logistics and Pharmacy expansions. It is estimated that this growth will generate approximately 1,500sm of net new building area. Utilizing standard parking ratios of +/-1.5 cars / 100bgsm, it is estimated that this growth will generate a need for an additional 25 spaces, in addition to the current shortfall (325 spaces) bringing the total shortfall to 345 spaces. Therefore the total spaces required at the completion of the Master Plan update will be approximately 1330 spaces.

It should be noted that the eventual removal of the Abbott building will also reduce the overall total spaces required. A detailed and current parking and traffic study that incorporates the information within this update should be completed to fully understand the parking requirements.

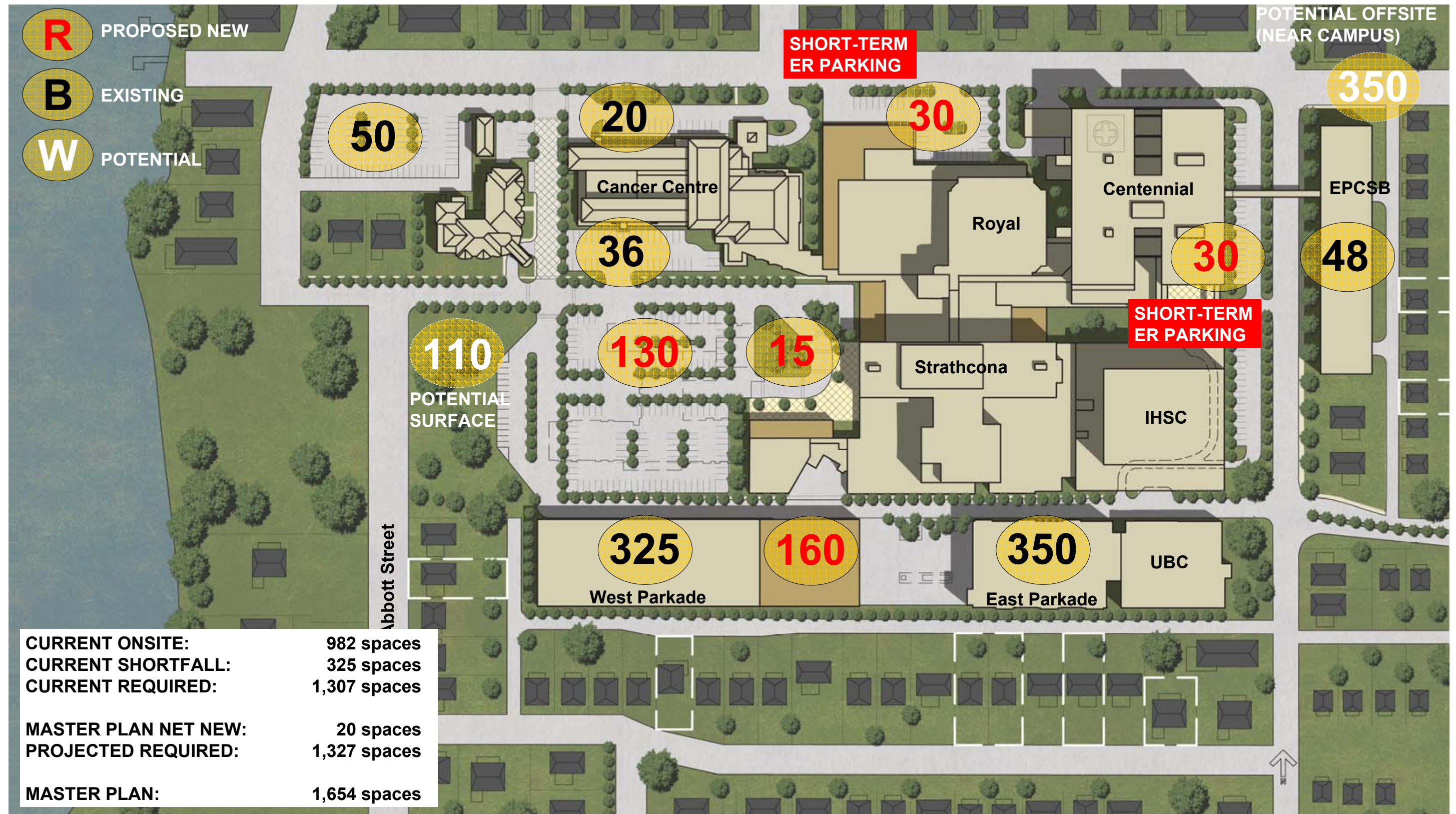
The diagram provided illustrates a high-level summary of the existing and proposed spaces available within the site, and also at off-site lands currently owned by KGH. Totals noted in BLACK indicate existing KGH spaces and

are not summarized below. Totals noted in RED indicate those proposed by the Master Plan update. Totals noted in WHITE illustrate other potential opportunities for parking which KGH may explore in the future. Highlights of the proposed parking strategy include:

- Provision of approximately 130 surface spaces on lands made available through the demolition of the existing Abbott building.
- Provision of approximately 15 surface spaces on lands adjacent to morgue and also made available through the demolition of the existing Abbott building and the creation of a second hospital entry point.
- Provision of approximately 30 surface spaces dedicated to short-term emergency parking as part of Diagnostic Imaging expansion.
- Provision of approximately 30 surface spaces dedicated to short-term emergency parking as part of Pandosy Street ring road site works.
Note: Design development for the IHSC should be in alignment with the proposed parking and circulation site works as shown in the Master Plan update.
- Provision of approximately 160 structured spaces as part of existing parkade expansion.
- Potential for 50 surface spaces on lands north-west of the Rotary Cancer Lodge.
- Potential for 110 surface spaces on lands currently owned by KGH but indicated as park space in the Master Plan update.
- Potential for 350 surface spaces located off site at the Burnett lands, currently owned by KGH.

It should be noted that this site plan is illustrative in nature and the exact location, configuration and amounts of parking will vary slightly depending on site conditions, building configuration, final IHSC design, final Diagnostic Imaging expansion, and total area / program requirements at the time of design development.

PARKING - OPTION 2



PROS AND CONS

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

PROS

- Meets projected IPU "bed" demand counts
- Co-locates and consolidates Women / Child programs on Strathcona Level 3
- Integrates with current planning initiatives/investments
- Additional site area available for long term expansion
- Relocation of Rehab programs off-site and Abbott demolition is optional
- Preserves Abbott Building for additional programs such as Laundry or Food Services if desired

CONS

- Does not resolve the need to meet current area and related design planning standards for the majority of inpatient units.(Implication on staff working environment, safety, recruitment and retention etc.) w
- Does not address IPU current planning/area standards (Potential implications regarding working environment and staff safety)
- Requires construction of 32-beds on IHSC Level 5 to meet inpatient bed demand projections
- Retains aging building stock (Strathcona) with long-term life-cycle cost implications
- Does not address longer term Pandosy entrance congestion

8.0 - PROPOSED SPACE SUMMARY

INTRODUCTION

This chapter provides a proposed bgsm area / space summary for major programmatic components identified within the 2008 Master Program and included within the Master Plan update for the two development options.

Parking structures are not calculated in area totals.

For detailed program and area information, refer to *Kelowna General Hospital Master Plan Master Program*, RMC Resources Management Consultants, June 2008 (submitted under separate cover).

MAGNITUDE SUMMARY OF SPACE

The following table provides a summary of programmatic gross square metres and variance for both options for the proposed Master Plan update. 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. Consideration should therefore be given for adjustments and allowances in total area during subsequent costing and design development stages.

Additionally, as outlined in the *Chapter 7 – Development Assumptions and Qualifiers*, the Master Plan update assumes that programs currently located within the CEN and CAC or programs proposed to be relocated to the future IHSC or EPCSB buildings have met the Master Program growth area requirements and therefore are not included within the Master Plan update. Only programs highlighted (yellow) within the table indicate those that are included within this update.

Also, area deficiencies that exist within Inpatient / Critical Care areas are the result of the KGH directive to reuse existing beds where possible. Therefore, as indicated in the following tables, while total bed counts have been achieved, respective total Inpatient area requirements may not necessarily have been achieved.

Note: The following table lists area and variances for programs included within the Master Plan update scope of work only. As stated in Chapter 5 – Master Program Summary, programs currently located within the CEN, or programs proposed for relocation to either the IHSC, EPCSB or the CAC are assumed to have met their projected future area requirements and therefore are not included and not listed.

Department	Current Area (SM)	Master Program Area (SM) (2024/2025)	Variance	Option 1 Master Plan Area (SM) (Strathcona Demolished)	Variance	Option 2 Master Plan Area (SM) (Strathcona Retained)	Variance
Access							
Acute Respiratory Therapy							
Admin Services	210	320	-110	320	0	320	0
Adult Inpatient	5,598	15,000	-9,402	15,000	0	12,600	-2,400
Biomed	324	340	-16	340	0	340	0
Cashier	40	40	0	40	0	40	0
Chaplain	94	206	-112	206	0	206	0
Clinical Lab							
Clinical Lab - Morgue	55	145	-90	145	0	169	24
Clinical Nutrition							
Critical Care	1,750	2,470	-720	1,750	-720	1,750	-720
Diagnostic Imaging	2,005	2,855	-850	2,855	0	2,855	0
Education/Student Placement							
Ophthalmology Clinic							
Food Services	981	1,021	-40	1,021	0	1,021	0
Health Records	375	535	-160	535	0	535	0
Housekeeping							
Human Resources							
Workplace Health and Safety							
IMIT							
Infection Control							
Foundation							

Department	Current Area (SM)	Master Program Area (SM) (2024/2025)	Variance	Option 1 Master Plan Area (SM) (Strathcona Demolished)	Variance	Option 2 Master Plan Area (SM) (Strathcona Retained)	Variance
Laundry	710	1,550	-840	1,550	0	1,520	-30
Logistics	380	540	-160	540	0	540	0
Medical Device Reprocessing							
Pharmacy	276	730	-454	730	0	730	0
Plant	628	850	-222	850	0	850	0
Psychiatry/Mental Health	1,596	2,085	-489	2,085	0	2,085	0
Quality Improvement	48	72	-24	72	0	72	0
Rehab							
Social Work							
Staff Facilities							
Transition Services	70	155	-85	155	0	155	0
Transportation Services	0	140	-140	140	0	140	0
Adolescent Psychiatry	1,200	1,200	0	1,200	0	1,200	0
UBC Medical School							
Women's Health and Child Health	2,915	3,887	-972	3,887	0	4,370	483
TOTAL MASTER PLAN UPDATE AREA	19,255	34,141	-14,886	33,421	-720	31,498	-2,643

Notes:

- Bio Med - Includes main shop and offices only. Satellite workspaces are located in CEN and IHSC
 - Diagnostic Imaging - Assumes 200sm satellite within CEN (Master Program Total 3,055sm)
 - Current Area is determined as listed in Master Program. Actual building area is not confirmed
 - Morgue area in Option 2 is based on measurement of schematic drawings provided by IHA
 - Psych / Mental Health / Adolescent Psych to relocate to Level 5 Psych floor within Centennial
 - Women's and Child Health Option 2 includes co-located program on Level 2 (Strathcona), Peads IPU on Level 3 (Strathcona), and Women's Clinic on Level 5 (Strathcona)
 - Critical Care area deficiency due to program remaining in current location in Royal Level 2
 - Adult Inpatient area deficiency (Option 2) due to reuse of existing Inpatient Units within Royal and Strathcona
 - Adult Inpatient area for new construction (Option 2) reflects program area of 1500sm per IPU
 - New Inpatient Units as drawn reflect current planning standards of 2100sm per IPU to ensure site ability to meet current standards when constructed
 - New morgue is included within the scope of services for the Master Plan update (anticipated construction start June 2011)
 - Laundry area deficiency in Option 2 result of proposed adjacent gift shop and may vary depending on final gift shop size.
- Exact area of gift shop based on current precedents and may vary depending on future needs

INPATIENT BED DISTRIBUTION

The following table provides a summary of proposed Inpatient bed allocations for each of the two development options. Beds are organized per building and per floor. Surpluses or deficiencies are summarized in the notes below each table.

Additionally, as outlined in *Chapter 7 – Development Assumptions and Qualifiers*, the mandate of this Master Plan update was not to replace all existing Inpatient beds but rather to replace existing Inpatient beds where feasible and possible but also to utilize existing beds as necessary.

Option 1

Option 1 - Demolish Strathcona. Utilizes all Shelled Space within CEN. Does not include potential 32 beds within IHSC

	Current	MP (2024/25)	Master Plan Update																				Total	Variance
			Level 2				Level 3				Level 4				Level 5				Level 6					
			Strath New	Royal	CEN	IHSC	Strath New	Royal	CEN	IHSC	Strath New	Royal	CEN	IHSC	Strath New	Royal	CEN	IHSC	Strath New	Royal	CEN	IHSC		
Medical	141	156					34				34	22			34	32							156	0
Surgical	79	141									34	4			34						69		141	0
ICU / CCU / CSICU	45	38		31		8	6																45	7
Maternal Child Gynecology	25	23	25																				25	2
Pediatrics	10	11	11																				11	0
Psychiatry (Adult and Adolescent)	43	40															55						55	15
Cardiac IPU / CCU	34	34					34																34	0
TOTAL	377	443	36	31	0	8	74	0	0	0	68	26	0	0	68	32	55	0	0	0	69	0	467	24

Option 2

Option 2 - Retain Strathcona (Utilizes all Shelled Space)

	Current	MP (2024/25)	Master Plan Update																				Total	Variance
			Level 2				Level 3				Level 4				Level 5				Level 6					
			Strathcona	Royal	CEN	IHSC	Strathcona	Royal	CEN	IHSC	Strathcona	Royal	CEN	IHSC	Strathcona	Royal	CEN	IHSC	Strathcona	Royal	CEN	IHSC		
Medical	141	156									40	54					62						156	0
Surgical	79	141									35	7						32			69		143	2
ICU / CCU / CSICU	45	38	6	31		8																	45	7
Maternal Child Gynecology	25	23					25																25	2
Pediatrics	10	11									10												10	-1
Psychiatry (Adult and Adolescent)	43	40															55						55	15
Cardiac	34	34	34																				34	0
TOTAL	377	443	40	31	0	8	25	0	0	0	85	61	0	0	0	62	55	32	0	0	69	0	468	25

9.0 - IMPLEMENTATION AND PHASING

INTRODUCTION

This chapter outlines a preliminary phasing and decanting strategy for the two planning options including demolition, construction of new structures, internal renovations of existing, site works, and any necessary enabling projects.

An estimated timeline is also provided. The phases proposed are based on several factors including overall IHA strategic direction, service and delivery models, funding and facility condition and lifespan. This phasing strategy also considers existing projects currently underway (CEN, EPCSB and IHSC), existing buildings (CAC) and availability of additional lands.

PHASING STRATEGY – OPTION 1

The intent of the phasing strategy for this option (Strathcona demolished) is to ensure for a logical and realistic sequence for decanting of the programs within Strathcona and that demolition / construction can occur without causing multiple moves for departments. Additionally, the phasing must also account for decanting and construction timelines between the construction of the two major blocks within the New Strathcona building. Additionally, large growth areas (Medical and Surgical IPU, Diagnostic Imaging) have also been considered to ensure that they are constructed as early as possible allowing for additional moves to occur later according to physical need and capital availability. A summary of the major moves required for this option is outlined below.

The Master Plan recognizes that changes in program scope and delivery may occur and therefore flexibility in phasing order may be required over time. Additionally, the Master Plan does not assume a rigid sequential process, and assumes overlap may occur between phases.



PHASE 1 - OPTION 1

Phase 1 includes the expansion of the existing parking structure to the east. This will enable KGH to meet a large portion of its parking demands resulting from the projected long-term growth of the site.

Consideration should be given to the existing loading docks and the need for trucks to have access to this area for turning and manoeuvring. Parking deck should therefore be designed to accommodate truck access at grade and be refitted to allow parking at grade in the long term when the new loading docks are constructed in subsequent phases.

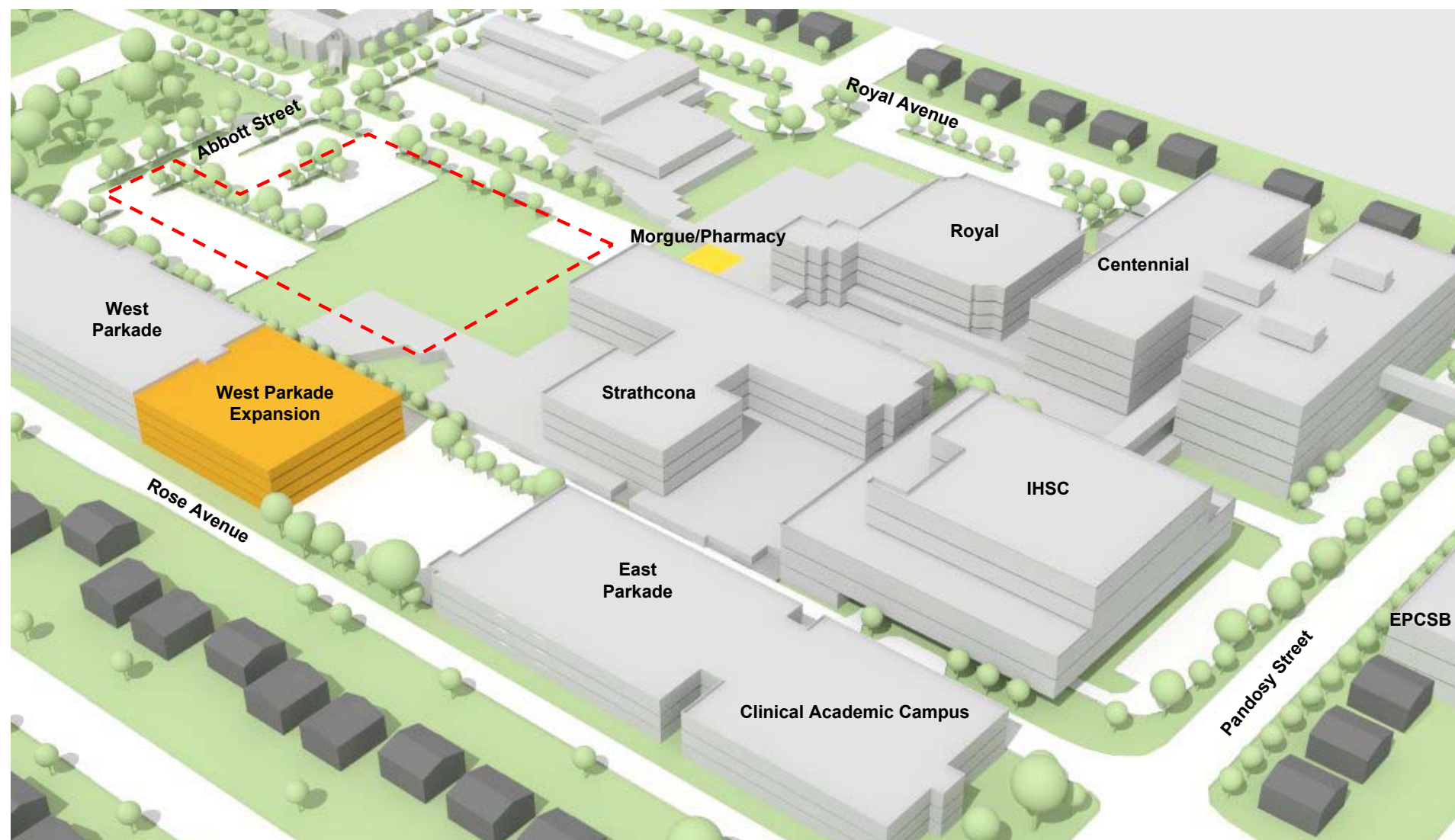
This phase may also include additional surface parking and related site works (including short-term emergency parking and road / parking site works along Pandosy) as indicated in the Master Plan Site Plan as required.



PHASE 2 - OPTION 1

Phase 2 includes the decanting of the Rehabilitation Inpatient and Out-patient programs to an off-site location and the demolition of the existing Abbott building to facilitate expansion and construction of New Strathcona building.

This phase would also incorporate related site works including reconfiguration of surface roads and provision of surface parking as necessary. This phase may allow for the construction of additional surface parking in the lands proposed for the New Strathcona building until such time when construction begins. Phase 2 also includes the provision of a landscaped parkette on the east side of Abbott Street as part of the related site works package.



PHASE 3 - OPTION 1

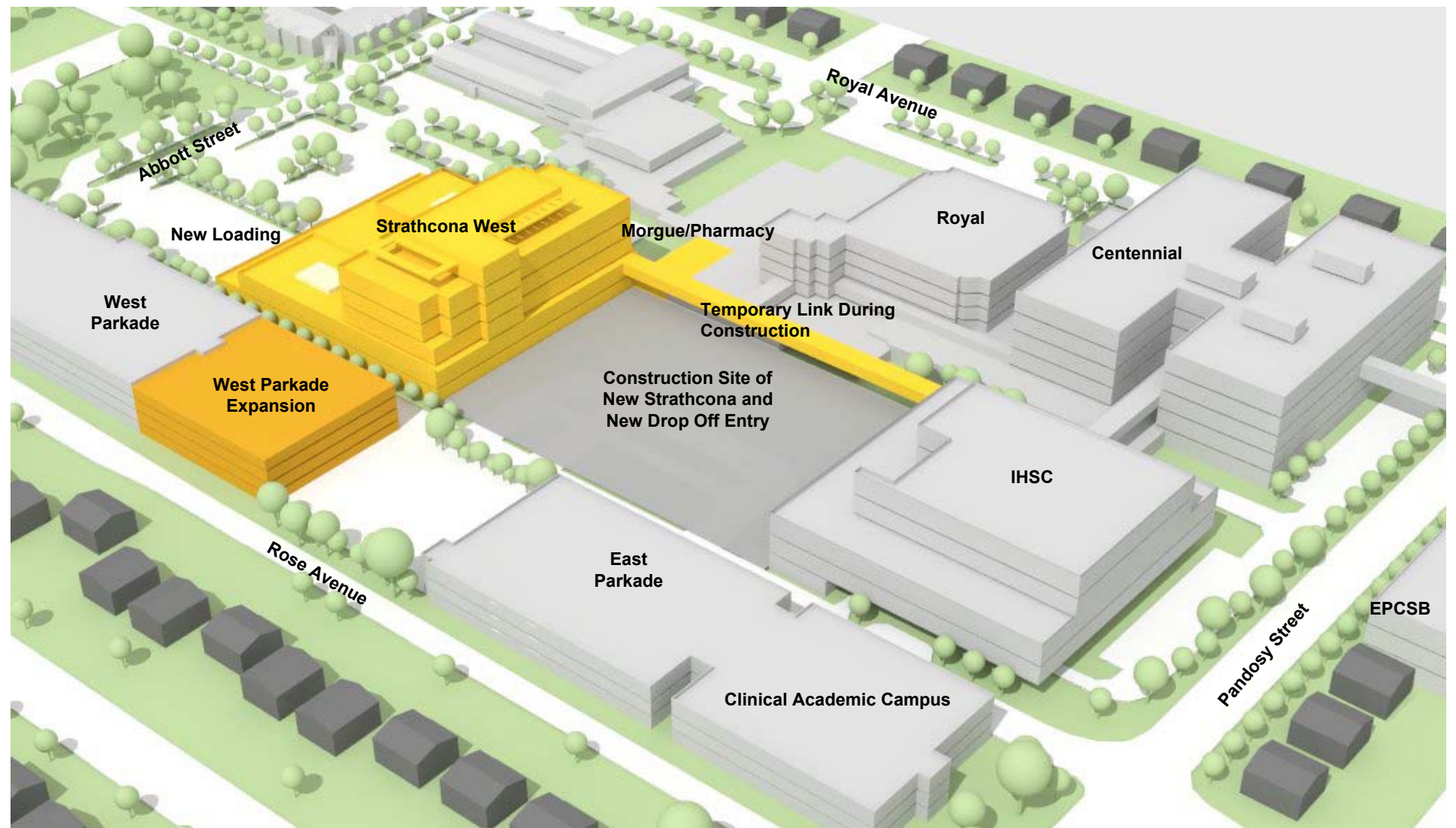
This phase includes the construction of the New Strathcona (west) building and related site works to accommodate construction and operation of the new and existing structures during the construction period. New Strathcona structure will include new (and temporary) Loading Docks and Plant Services, Mat / Child programs and Medical IPU levels. Structure can also (potentially) accommodate temporary location for existing Cardiac beds currently located in existing Strathcona. This phase also includes the construction of the Pharmacy expansion adjacent to the new morgue, and the relocation of the cafeteria atop the Pharmacy and Morgue blocks. Block elements and program decants within this phase include:

- Construct Pharmacy expansion adjacent to Morgue. Phase provides additional area than what is currently available. Remainder of program to be constructed in subsequent phase
- Construct New Strathcona (West) to receive existing Strathcona programs
- Decant Logistics, Plant and Laundry services to final location within New Strathcona (West). Temporary Loading Docks within Strathcona (West) to be phased and provided as necessary depending on construction details.
- Decant Food Services and Nutrition programs to final location within New Strathcona (West)
- Decant portion of Medical Records to final location within New Strathcona (west) Remainder of program to be constructed in subsequent phase
- Decant Cardiac IPU and Cardiac CCU to temporary location within New Strathcona (West) (Proposed location subject to KGH discretion – alternate includes IHSC or CEN)
- Decant existing Maternal Child and Women's Services programs to final location within New Strathcona (West)
- Decant remaining Medical / Surgical beds to various locations as required (Royal, CEN, IHSC and New Strathcona West)
- Relocate Adolescent Psych program (12-beds) to CEN Level 5
- Occupy Med / Surg IPU shelled space within CEN Level 6 as indicated
- Construct Diagnostic Imaging expansion. (Note this expansion may occur at any time and is not dependant on elements within the proposed Master Plan update scheme)



PHASE 4 - OPTION 1

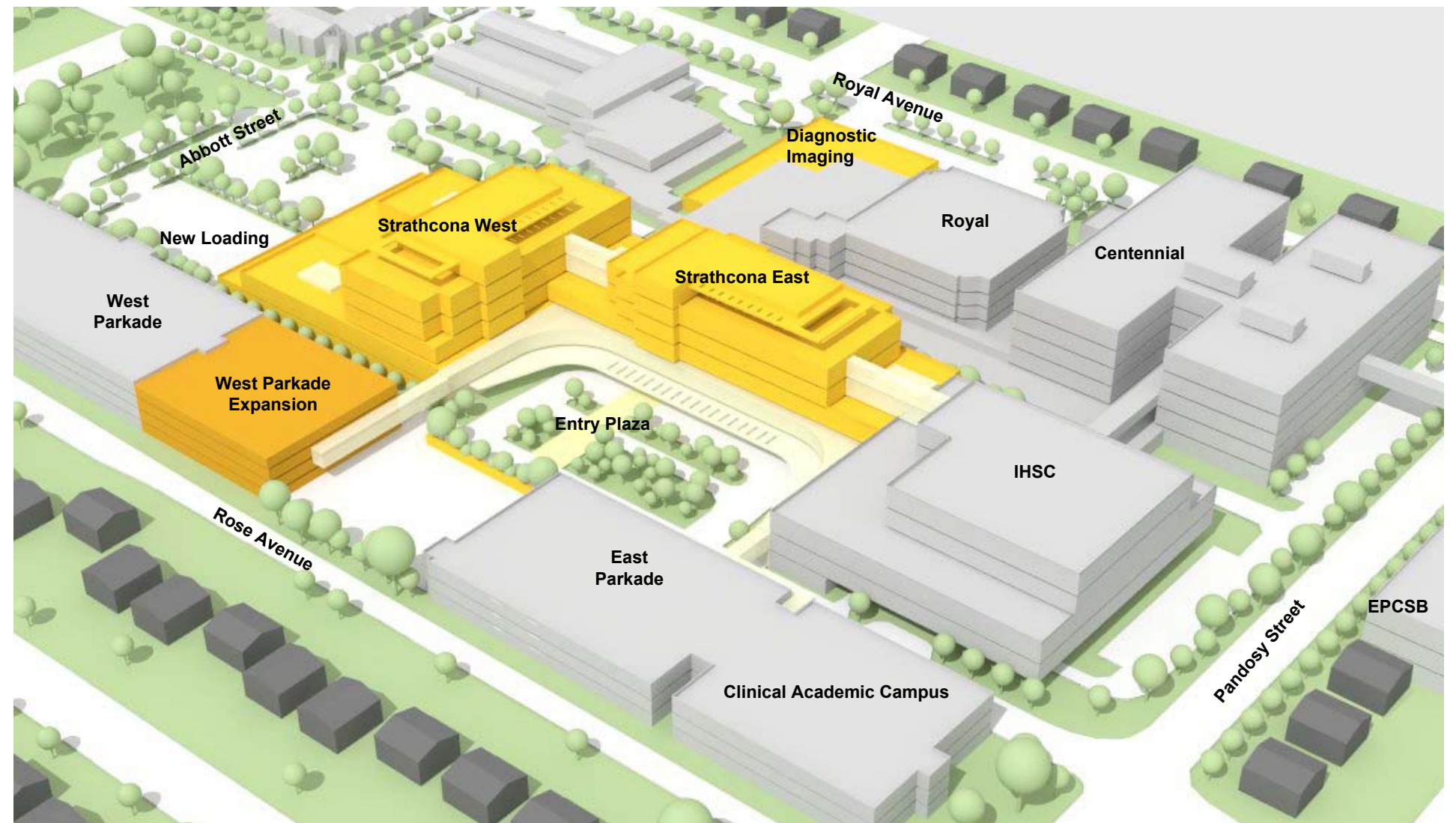
This phase includes the demolition of the existing and now vacated Strathcona building. Phase should also include the construction of a temporary link between the New Strathcona West building and the existing hospital including Royal and the IHSC building. Phase should also include surface area for construction access and material decanting as necessary.



PHASE 5 - OPTION 1

This phase includes the construction of the New Strathcona (East) building along with the new Entry Lobby, Concourse and Drop-off / Site Works elements. Additional programs not fully accommodated during the previous phase are also completed in this phase. Block elements and program decants within this phase include:

- Construct New Strathcona (East) building
- Construct New Lobby and Entry Concourse
- Complete Entry Plaza site works as necessary
- Complete remainder of Pharmacy and Medical Records expansion
- Relocate Cardiac IPU and Cardiac CCU to final location within New Strathcona
- Reconfigure Royal IPU to receive Medical / Surgical beds as required
- Construct links to existing buildings as necessary
- Reconfigure site access along Pandosy as required. (Note this may occur in previous phases depending on KGH desire and Municipal approvals)



IMPLEMENTATION DURATION - OPTION 1

This section provides an estimated design, tendering, and construction duration for each of the phases outlined for Option 1. In setting out an estimated duration for the plan's primary phases, this high level schedule considers several factors including the original 2024/25 planning horizon, phasing and decanting, demolition and any existing projects currently underway. Duration is based on logical assumptions of completion time required for each primary phase and sub-stage.

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

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

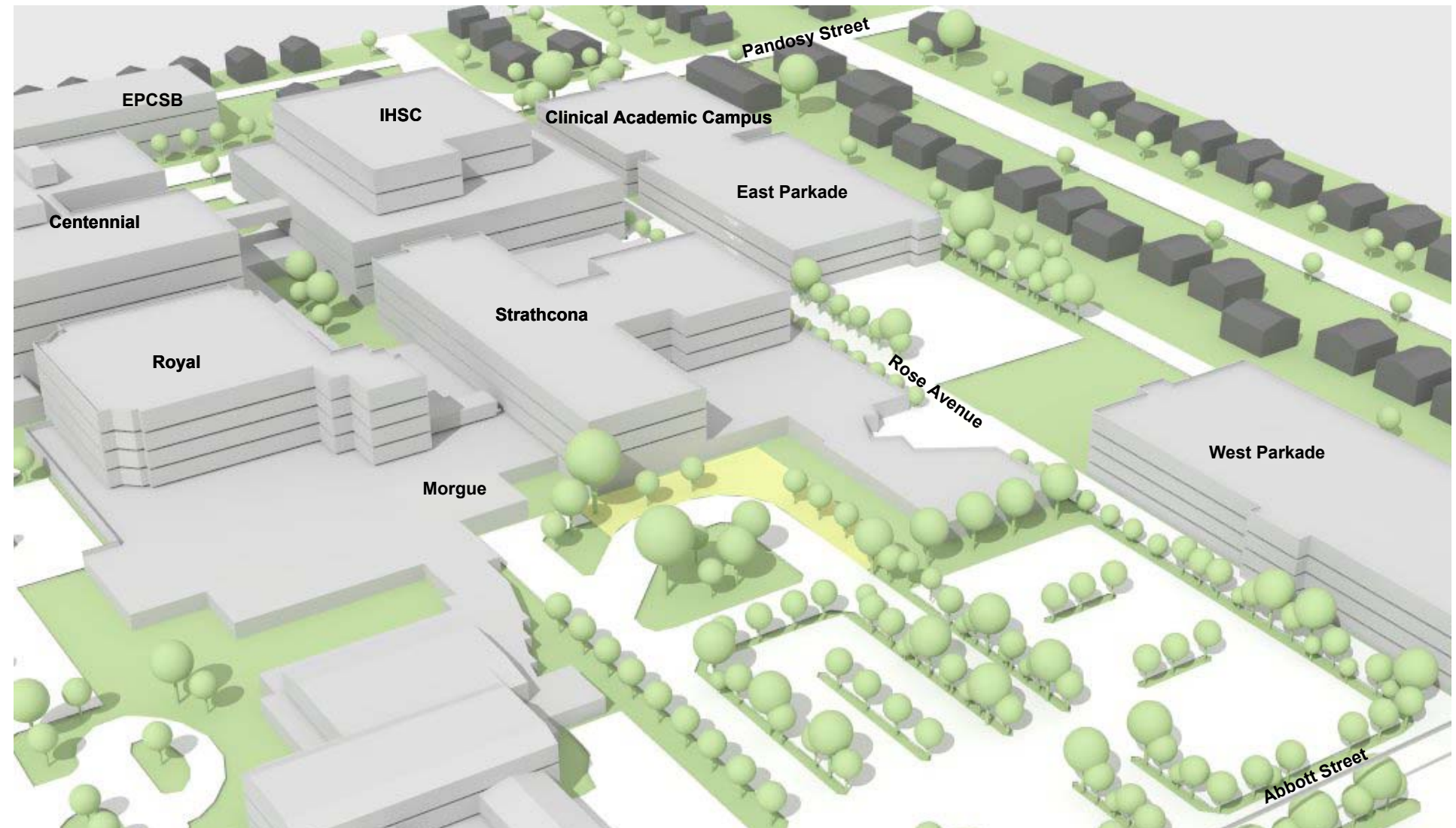
Note: Timeframe represents approximate design and construction duration for each phase and does not represent sequential timing. Concurrent development and phase overlap can occur.

Phase	Description	Duration (est)
Phase 1: Parking Structure	Expand existing parking structure	½ to 1 year
Phase 2: Decant Demolish Abbott	Decant Rehab programs off-site and demolish existing Abbott building with related site works	1 to 1½ years
Phase 3: New Strathcona (West)	Construct New Strathcona (West)	3½ to 4 years
Phase 4: Decant and Demolish Existing Strathcona	Decant and demolish existing Strathcona programs including internal renovations to existing structures (Royal)	½ to 1½ years
Phase 5: New Strathcona (East)	Construct New Strathcona (East) and related site works including Main entry Plaza	3½ to 4 years

PHASING STRATEGY – OPTION 2

The intent of the phasing strategy for this option (Strathcona retained) is to outline a logical and realistic sequence for decanting and expansion of the existing programs within the existing Strathcona. It also outlines a strategy for meeting proposed bed requirements. A summary of the major moves required for this option is outlined below.

The Master Plan recognizes that changes in program scope and delivery may occur and therefore this strategy is presented as one possible option, with the acknowledgement that several alternate sequences are possible. Regardless, the Master Plan update includes flexibility in the phasing order which may be required over time. Additionally, the Master Plan does not assume a rigid sequential process, and assumes overlap may occur between phases.

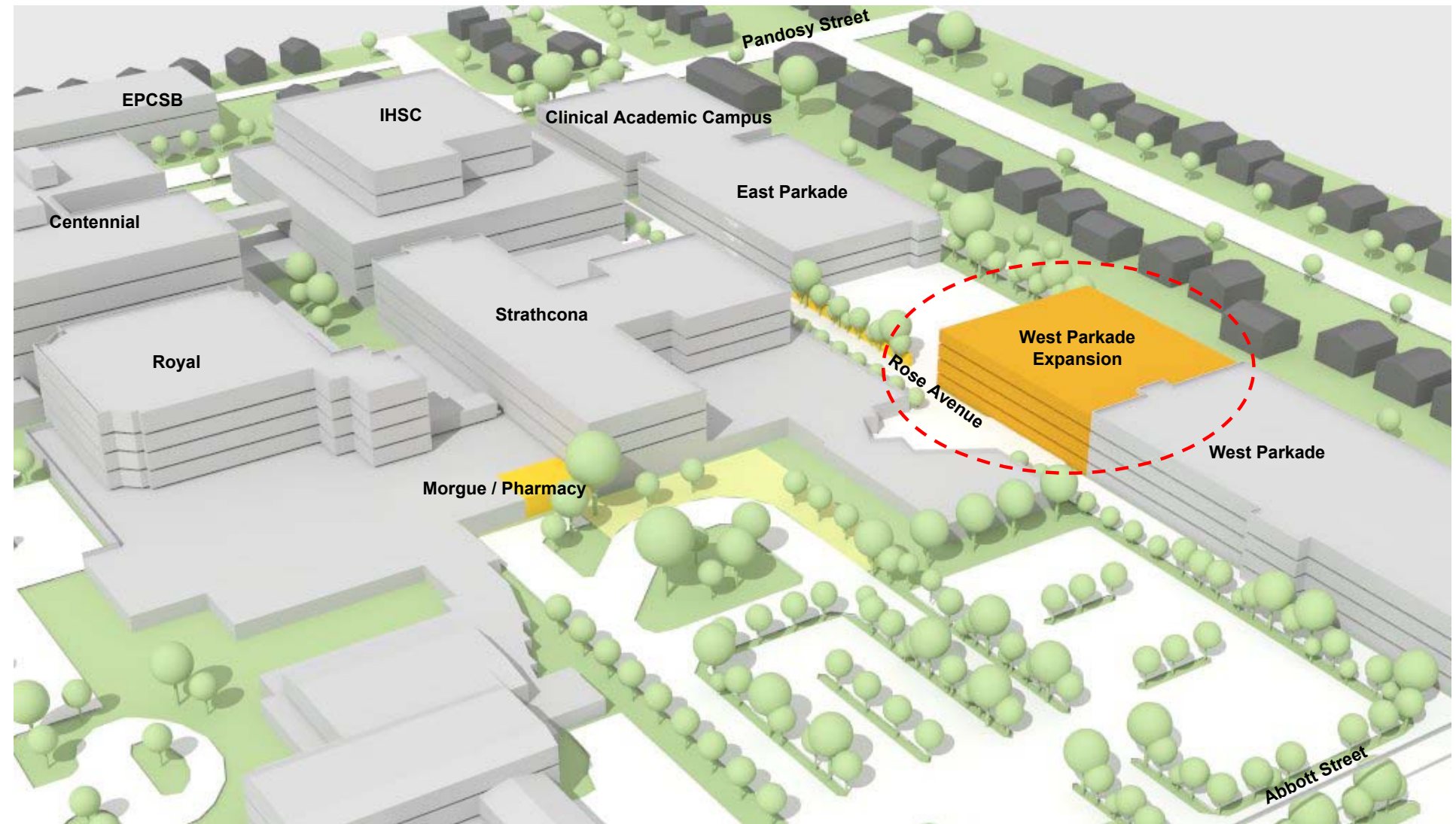


PHASE 1 - OPTION 2

Phase 1 includes the expansion of the existing parking structure to the east and the expansion of the Pharmacy Department. This will enable KGH to meet a large portion of its parking demands resulting from the projected long-term growth of the site.

Consideration should be given to the existing loading docks and the need for trucks to have access to this area for turning and manoeuvring. Parking deck should therefore be designed to accommodate truck access at grade.

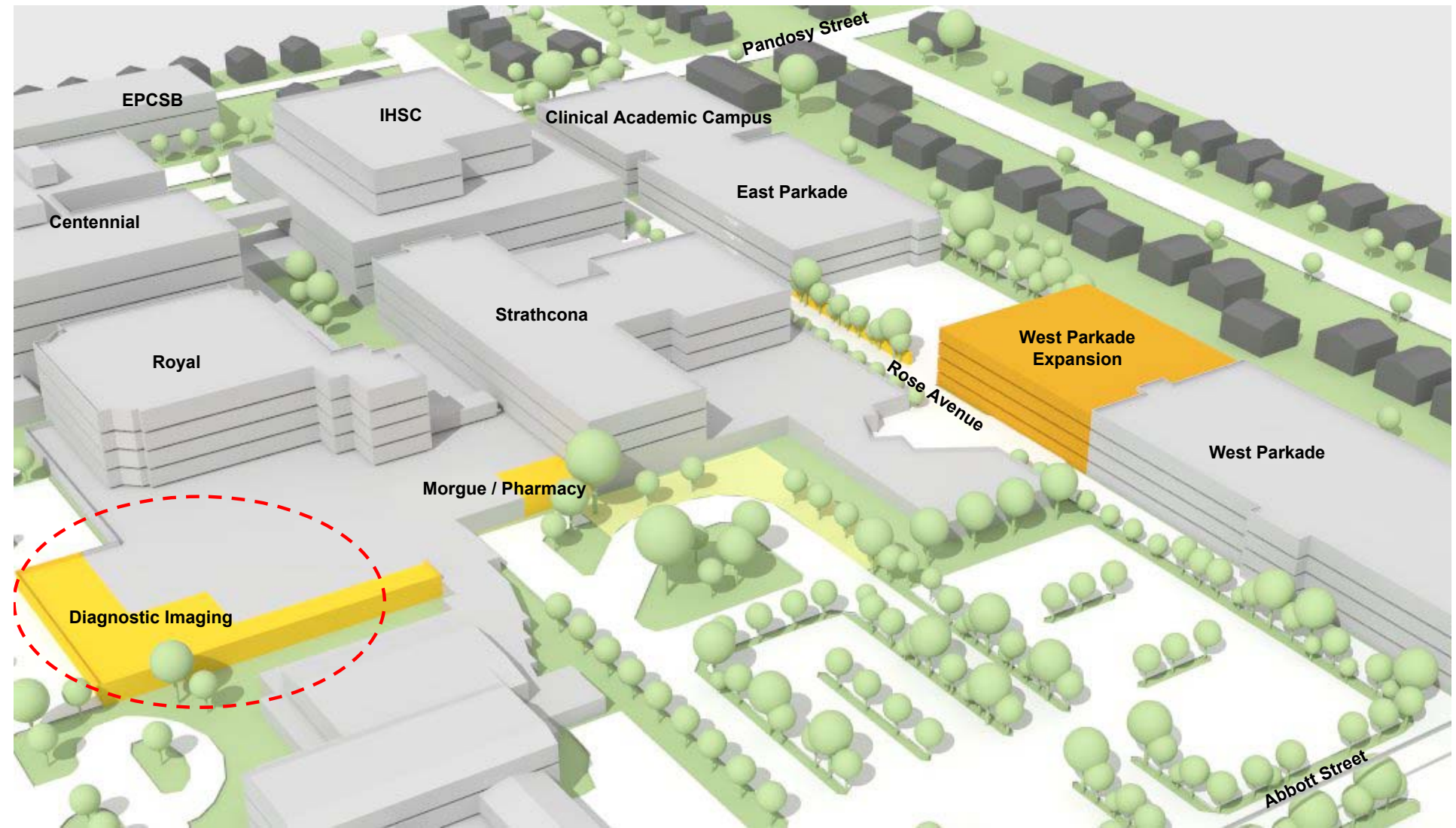
This phase may also include additional surface parking and related site works as indicated in the Master Plan Site Plan as required.



PHASE 2 - OPTION 2

Phase 2 proposes the expansion of the Diagnostic Imaging department. This expansion may occur at any time and is not dependant on elements within the proposed Master Plan update scheme.

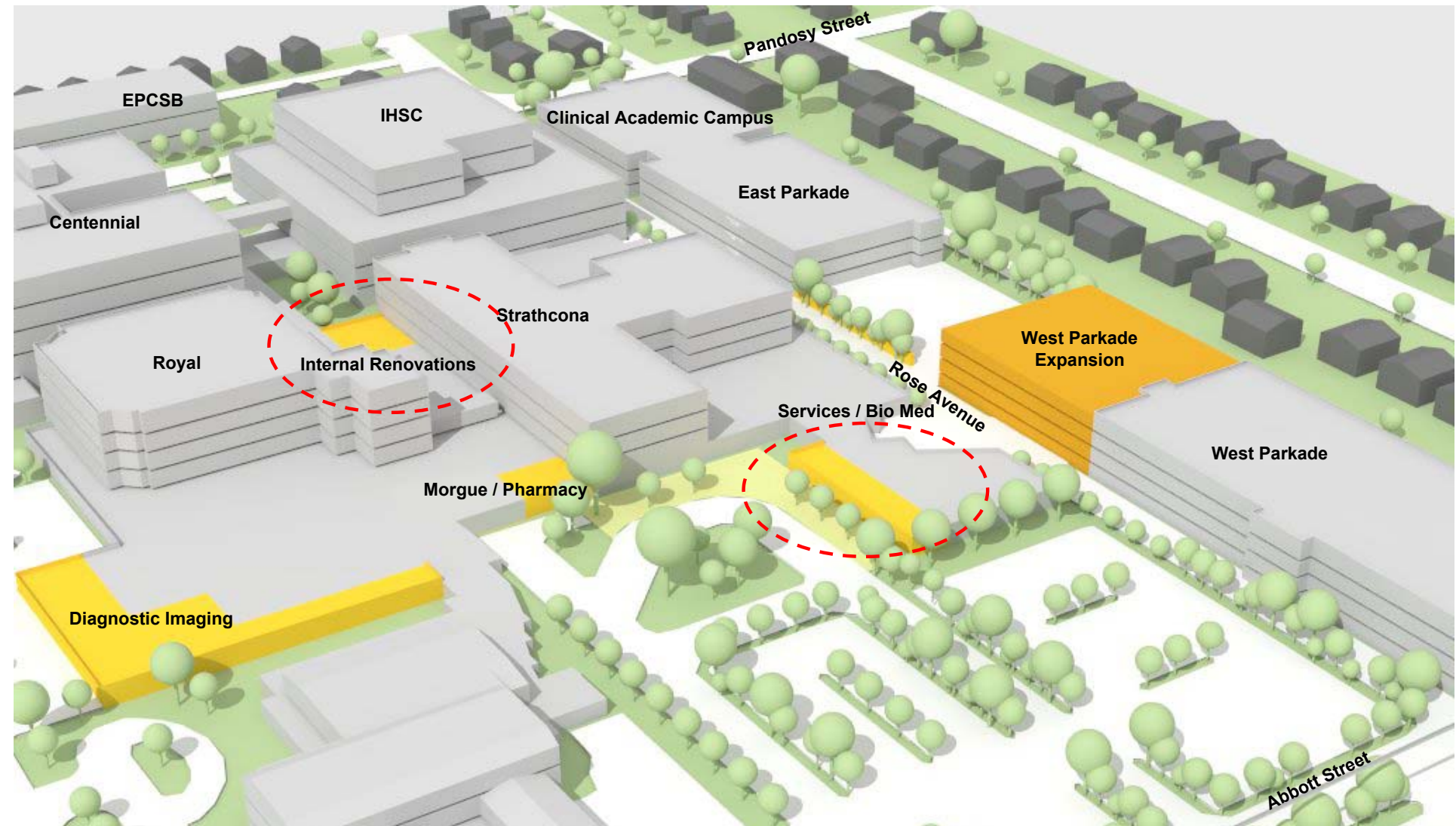
This phase also captures related site works including provision of short-term emergency parking (adjacent to Rotary Cancer Lodge) and road / parking site works along Pandosy.



PHASE 3 - OPTION 2

This phase includes remaining internal renovations required to meet select growth projections as indicated in the Master Program. Select block moves (in no particular order) include:

- Relocate Cardiac program to allow for Laundry expansion and Gift Shop
- Relocate and expand Administration into portion of space previously occupied by Medical Records
- Expand Medical Records into space previously occupied by Administration and Cardiac programs
- Relocate Boardroom to proposed Administration area to allow for Food Services expansion
- Reconfigure Royal IPU to receive Medical / Surgical beds as required
- Relocate Strathcona (Level 3E) 33-Surgical beds to desired location (Royal, CEN or IHSC)
- Expand Women / Child programs in space now available on Strathcona (Level 3E)
- Construct expansion of Logistics and Bio-Med programs
- Relocate Adolescent Psych program (12-beds) to CEN Level 5
- Occupy proposed IHSC 32 Surgical beds



IMPLEMENTATION DURATION – OPTION 2

This section provides an estimated design, tendering, and construction duration for each of the phases outlined for Option 2. In setting out an estimated duration for the plan's primary phases, this high level schedule considers several factors including the original 2024/25 planning horizon, phasing and decanting, demolition and any existing projects currently underway. Duration is based on logical assumptions of completion time required for each primary phase and sub-stage.

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

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

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

Phase	Description	Duration (est)
Phase 1: Parking Structure / Morgue and Pharmacy	Expand existing parking structure. Construct Morgue and Pharmacy expansion simultaneously	1 to 1½ years
Phase 2: Diagnostic Imaging	Expand existing Diagnostic Imaging department and related site works including short-term emergency parking	1 to 1½ years
Phase 3: Strathcona Renovations	Select internal renovations to existing Strathcona	3½ to 4 years

10.0 - CONCLUSIONS AND RECOMMENDATIONS

INTRODUCTION

This chapter provides conclusions to the Master Planning update process and offers justifications for these conclusions. The overall Master Plan update is tested against the development considerations 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 KGH to move forward.

Chapter 6 Planning Process of this document initially set out a series of planning considerations against which the various planning options were then measured and evaluated. These considerations include:

- 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 to the lake?
- How can we engage the community?
- Demolish or reuse existing buildings (Strathcona and Abbott)
- Circulation improvements?
- Parking opportunities and constraints?

As noted, several scenarios were considered during the collaborative planning process that resulted in a preferred development strategy (retain Strathcona), and a second alternate approach (demolish Strathcona). Greenfield design opportunities were not pursued.

Enabling KGH to achieve its objectives and move forward to provide a new direction through improved physical facilities, the preferred development strategy was chosen because it:

- Meets current design standards for majority of Inpatient units (and hence will provide a more efficient, effective work environment that may help reduce errors and will serve as a more supportive work environment, which according to the literature, tends to enhance staff retention and facilitate staff recruitment efforts)
- Locates majority of Surg beds in proximity to IHSC
- Clusters majority of Med beds within New Strathcona
- Locates Mat / Child beds on same floor as OR's with direct horizontal link
- Co-locates Cardiac IPU &CCU beds in proximity to IHSC in new space
- Does not require 5th level IHSC 32 Surg beds
- Flexibility of capital planning options if IHSC beds approved (reduce New Strathcona by one floor)
- Improves overall site circulation access and decongestion of Pandosy
- Preserves surplus land for future development on site

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.

Regarding the alternate strategy (Option 2 Retain Strathcona), it too remains a viable alternative for the following reasons:

- Meets projected IPU "bed" demand counts
- Co-locates Women / Child programs on Strathcona Level 3
- Incorporates current planning initiatives/investments
- Additional site area available for long term expansion
- Abbott demolition is optional

However, when compared against the preferred option, several downsides are also present and should be noted including:

- Does not address IPU current planning/area standards (Potential implications regarding working environment and staff safety)
- Requires construction of 32-beds on IHSC Level 5 to meet inpatient bed demand projections
- Retains aging building stock with life-cycle cost implications
- Does not address longer term Pandosy entrance congestion

LOOKING BACK

As previously stated, it is the intent that the Master Plan update lay out the best way to organize the various new build and internal departmental components based on anticipated growth and known site opportunities / constraints. Key considerations for the successful Master Plan were outlined in Chapter 6.0 Planning Process. The ability of this Master Plan update to meet these considerations is outlined below.

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

- Enhances the presence of KGH in the City of Kelowna.
- Will help the hospital to recruit and retain the best and brightest
- It's the right thing to do for this hospital and site

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

- Validates role of KGH in the community by illustrating site's long-term potential
- Collaborative process prompted discussion and debate on future direction for KGH and its existing physical assets (Strathcona, Abbott).

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

- Plan optimizes existing resources and minimizes capital investment in aging infrastructure (Royal)
- Appropriately distributes activity away from Pandosy while clarifying internal drop-off and circulation routes
- Preserves and strengthens integration with existing CEN and proposed IHSC buildings

FLEXIBLE: *Does it accommodate future scenarios?*

- Retains land to the west future expansion
- Potential for future expansion on adjacent newly purchased and currently owned properties preserved
- Provides several locations for parking structures

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

- Redefined Main Entry and Surgical IPU tower sends clear message of commitment to care
- Proposed new buildings offer increased site presence and clarity of entry and overall facility circulation.

INTEGRATED: *Does it respect the current City of Kelowna growth plans?*

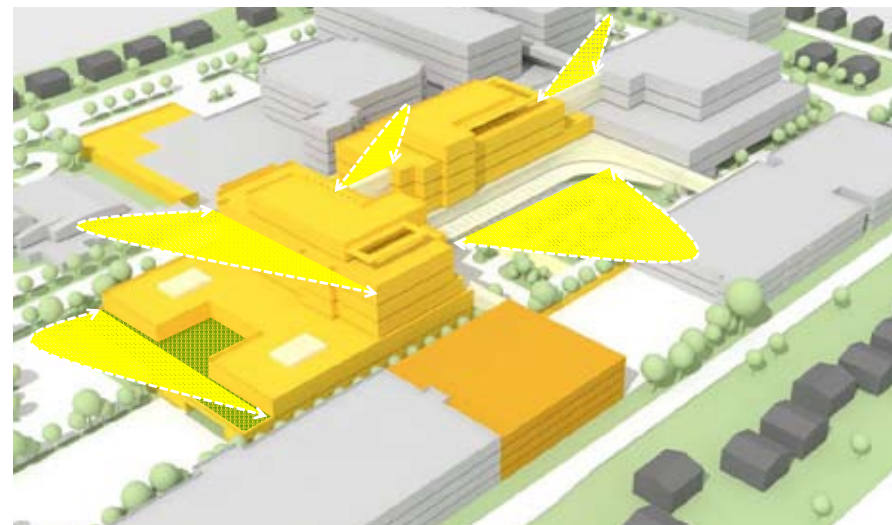
- Building siting respects zoning and height restrictions.
- Building orientation takes full advantage of naturalized spaces.
- Site plan proposes alternate vehicle and pedestrian circulation routes
- Adequate parking opportunities for short- and long-term needs

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

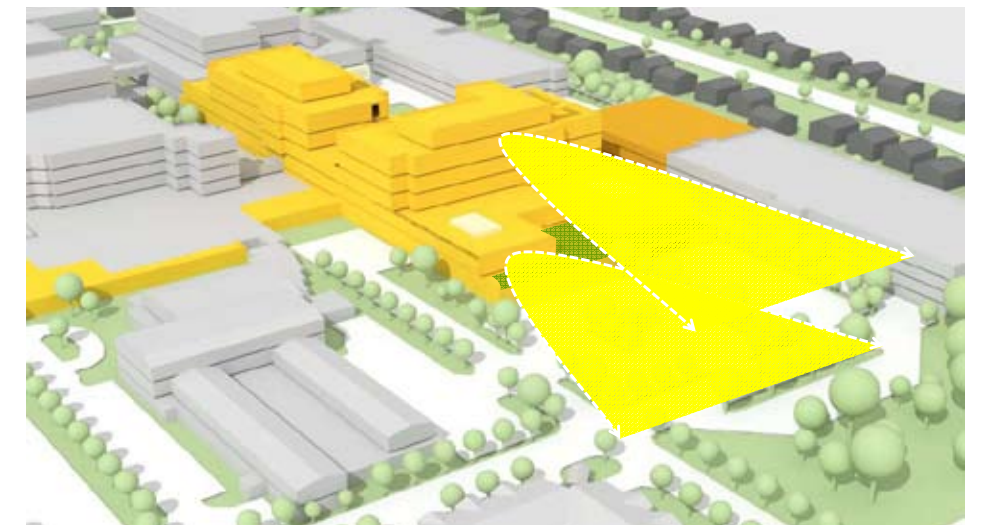
- Master Plan provides potential building area revenue generating programs
- Provides opportunities to fundraise and partner with likeminded organizations
- Integrated planning process reaffirms KGH as stewards for resources at the community level



Brand Improvement - New Face



Access to Light for Patients and Staff



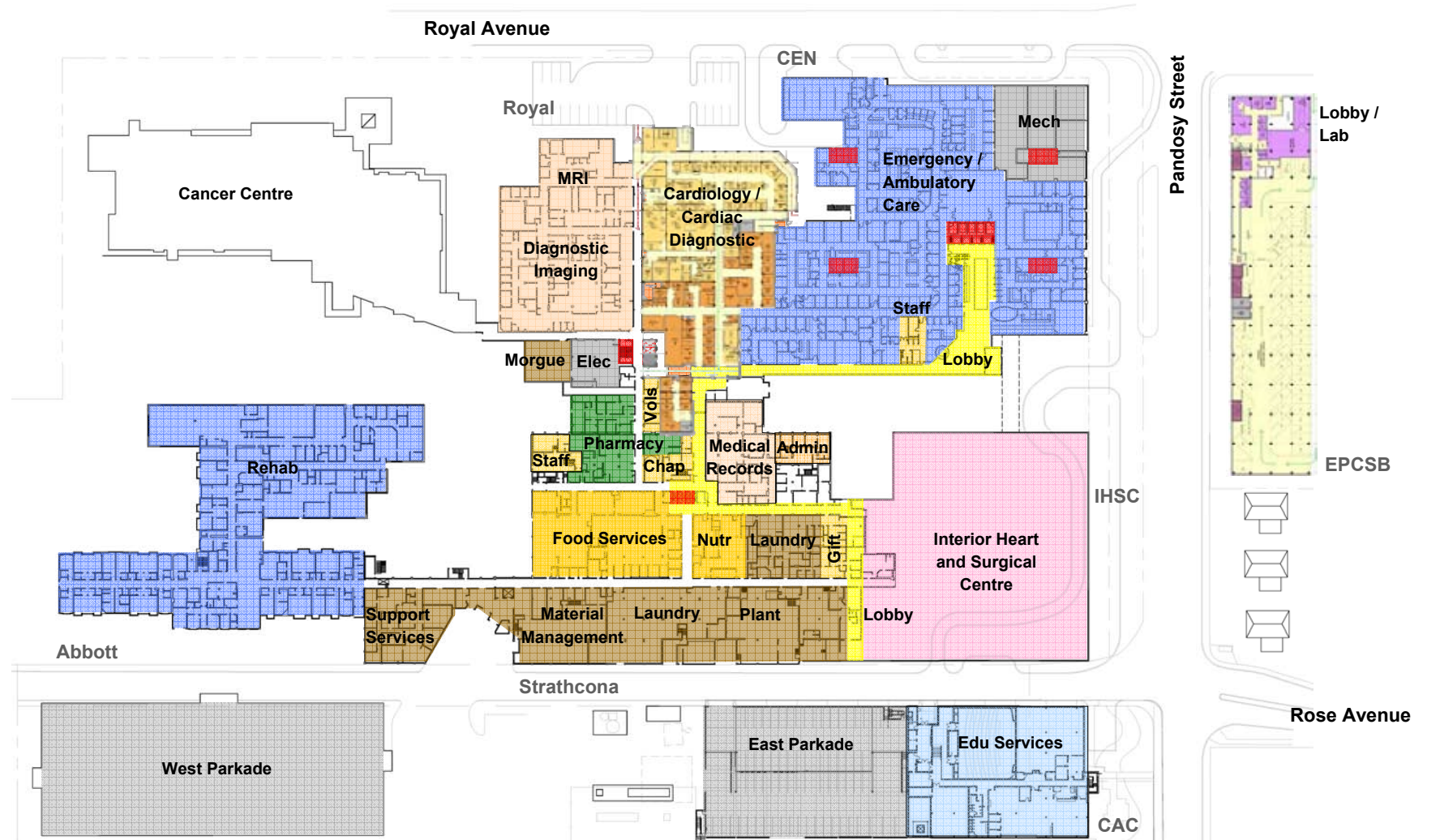
Enhanced Natural Features, Promenades and Views

NEXT STEPS

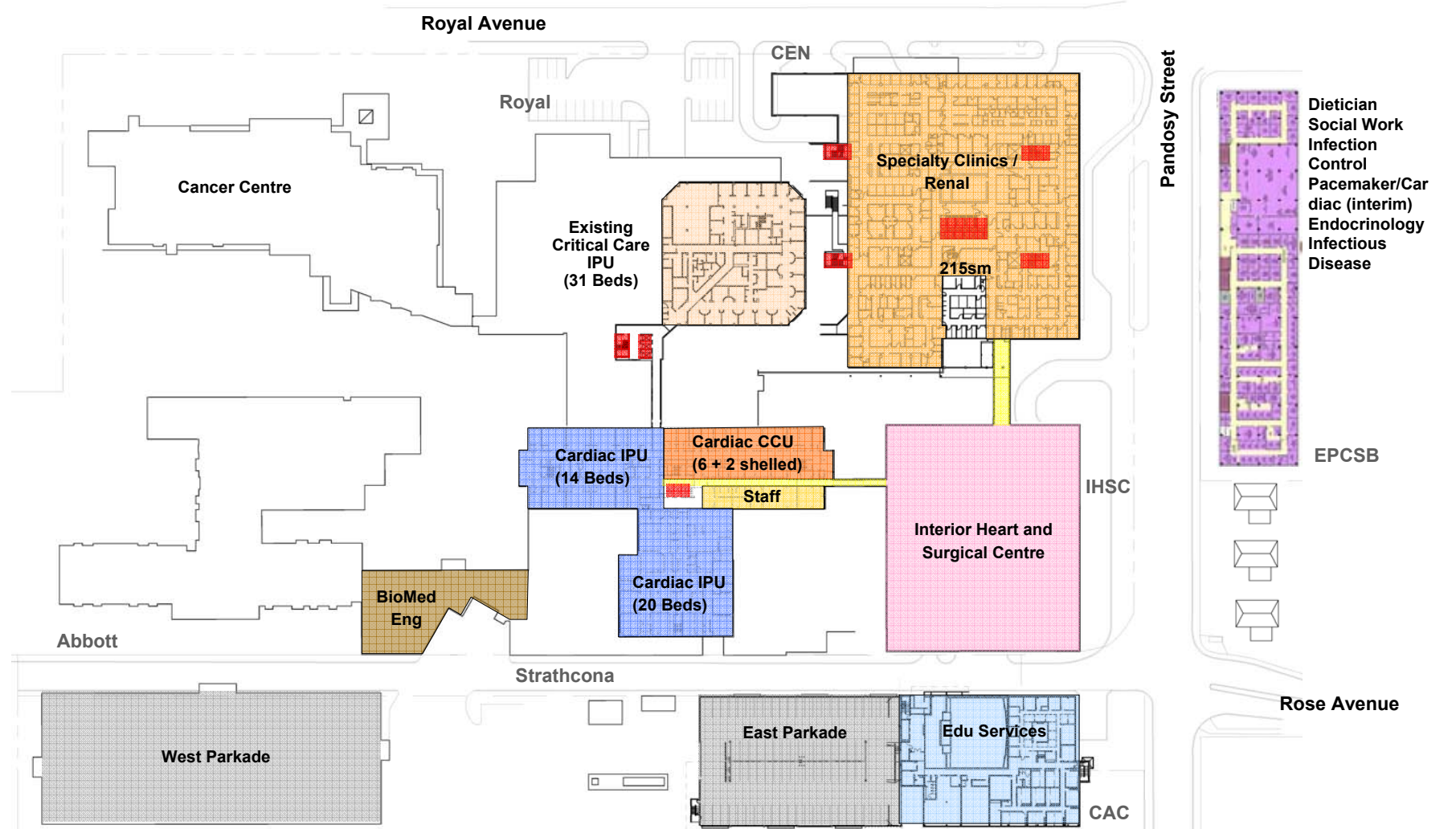
This report is designed to lay out a framework (roadmap) for future long-term growth and development that is in alignment with KGH's vision, goals and development priorities. The intent is that the information contained within will enable KGH to make defensible choices as it grows and proceeds into subsequent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

- KGH planning and development committees should internally review and become familiar with the contents of each section in relation to the proposed rezoning application as well as IHA's vision and proposed growth / operational needs in both short- and long-term.
- Express the considerable design information captured in both the 2008 Master Plan and this Master Plan update in the context of a project business case, that is compelling and concise enough to allow key decision makers within IHA at 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, including the retention / demolition of Strathcona and the relocation of the Rehabilitation program and the demolition of the existing Abbott building.
- Continue to engage with the Cancer Centre staff regarding the impacts of the Master Plan for the Cancer Centre expansion and its integration with the KGH site planning proposal for the Royal Avenue exit route.
- Continue to engage with the Rotary Cancer Lodge staff regarding the impacts of the KGH Master Plan update and in particular the integration with the KGH site planning proposal for the Royal Avenue exit route.
- Continue community stakeholder information sessions to engage and inform the community and to nurture community support for the redevelopment plans.
- Engage architectural / planning team to initiate decanting / headstart / Phase 1 projects as necessary (relocation of Morgue, Pharmacy expansion, Cardiac IPU beds etc).
- Continue to explore partnerships with likeminded, high-profile organizations who may be interested in participating in, and providing financial / political support.
- Communicate with successful proponent of the IHSC that design development and site works should be in alignment with the proposed parking and circulation site works as shown in the Master Plan update.
- Verify and update November 2010 Traffic Impact Study to align with proposed Master Plan Development options, specifically use of Pandosy Street main entrance and trip generation resulting from Rose Avenue entrance.
- Impact on surrounding neighbourhood should be considered and modeled using modeling software such as Vissum or Emme. (Based on City of Kelowna memorandum)
- Verify with City of Kelowna Planning Development future plans for Abbott Street realignment.

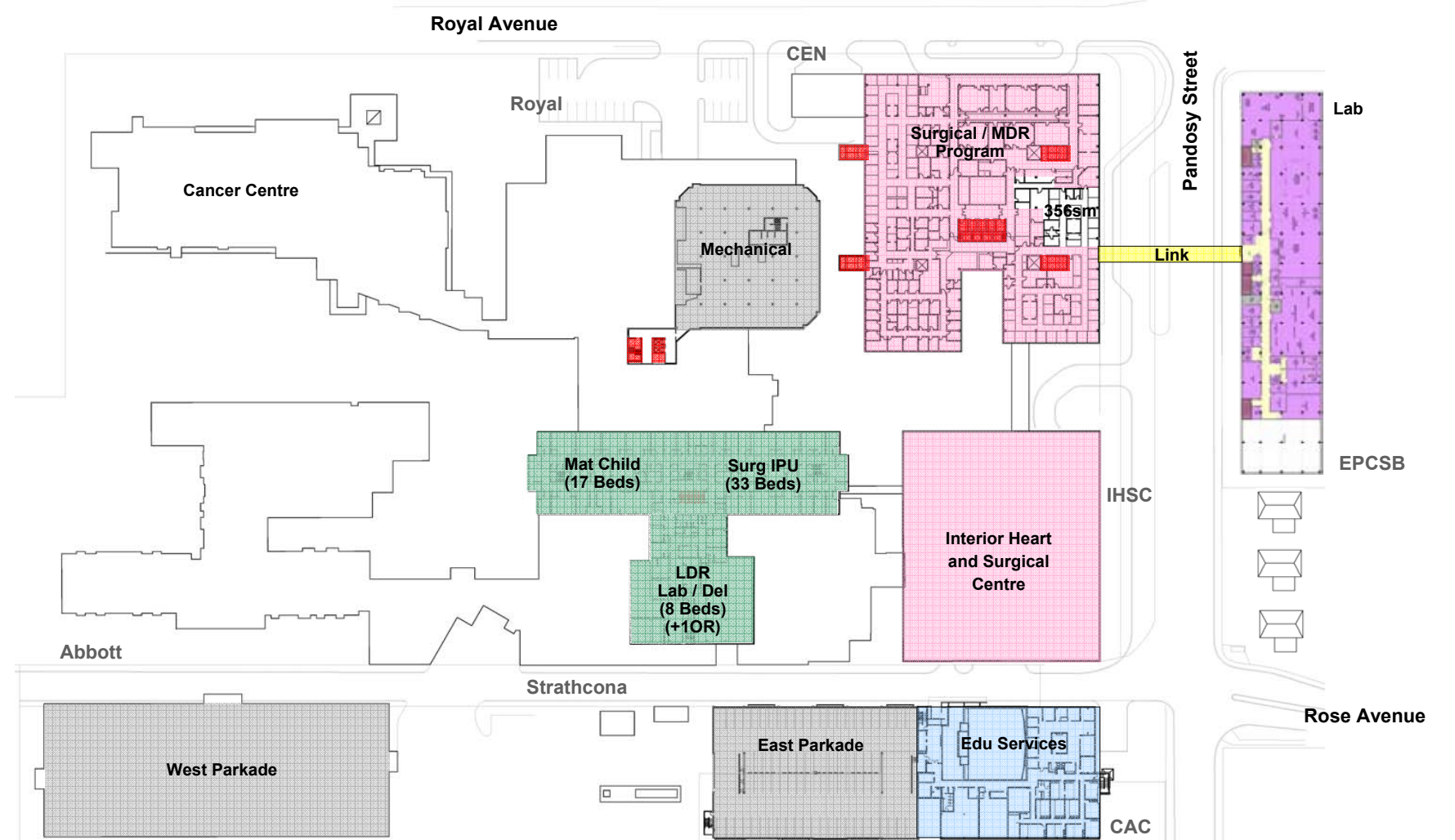
EXISTING PLANS: LEVEL 1



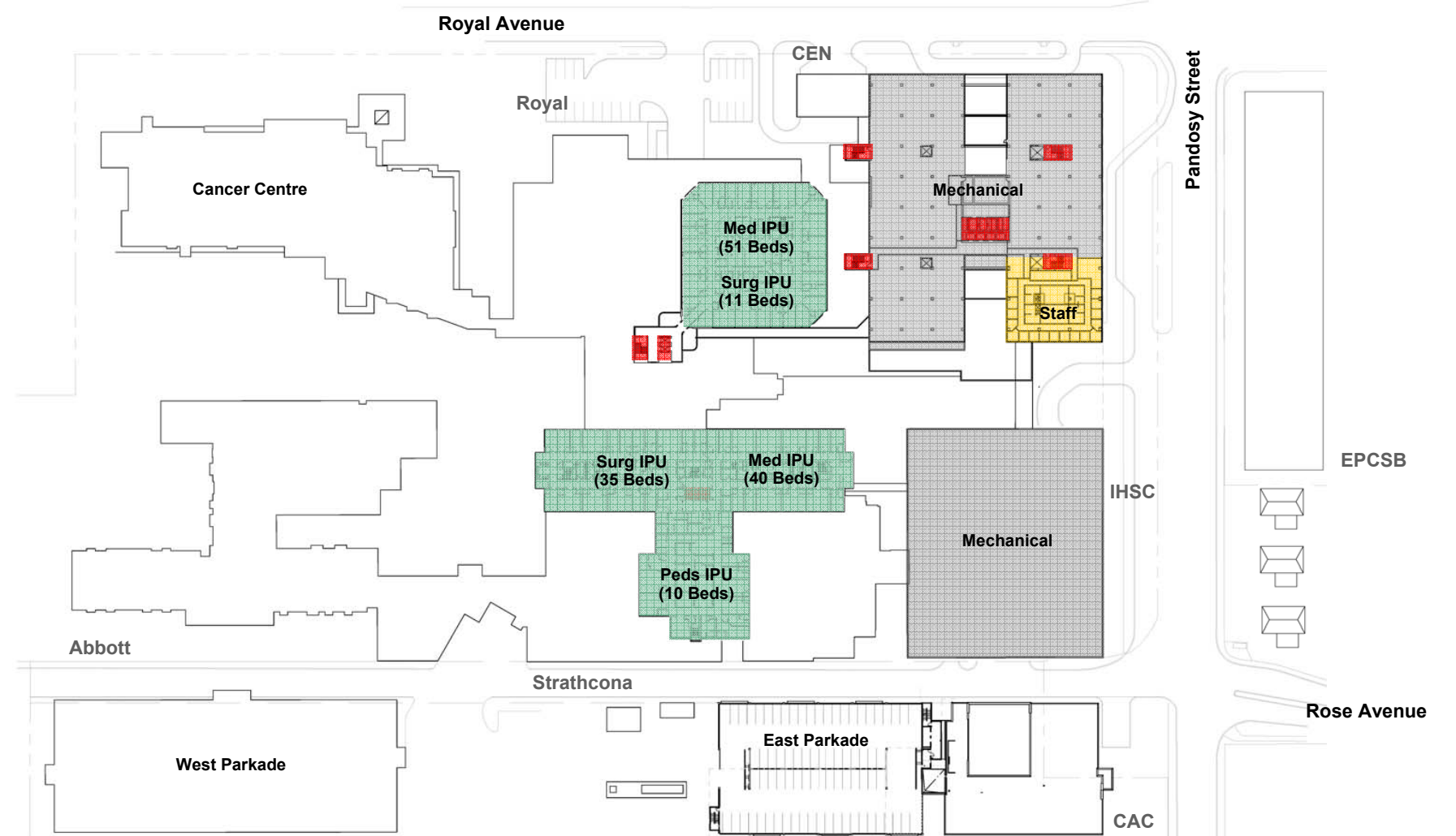
EXISTING PLANS: LEVEL 2



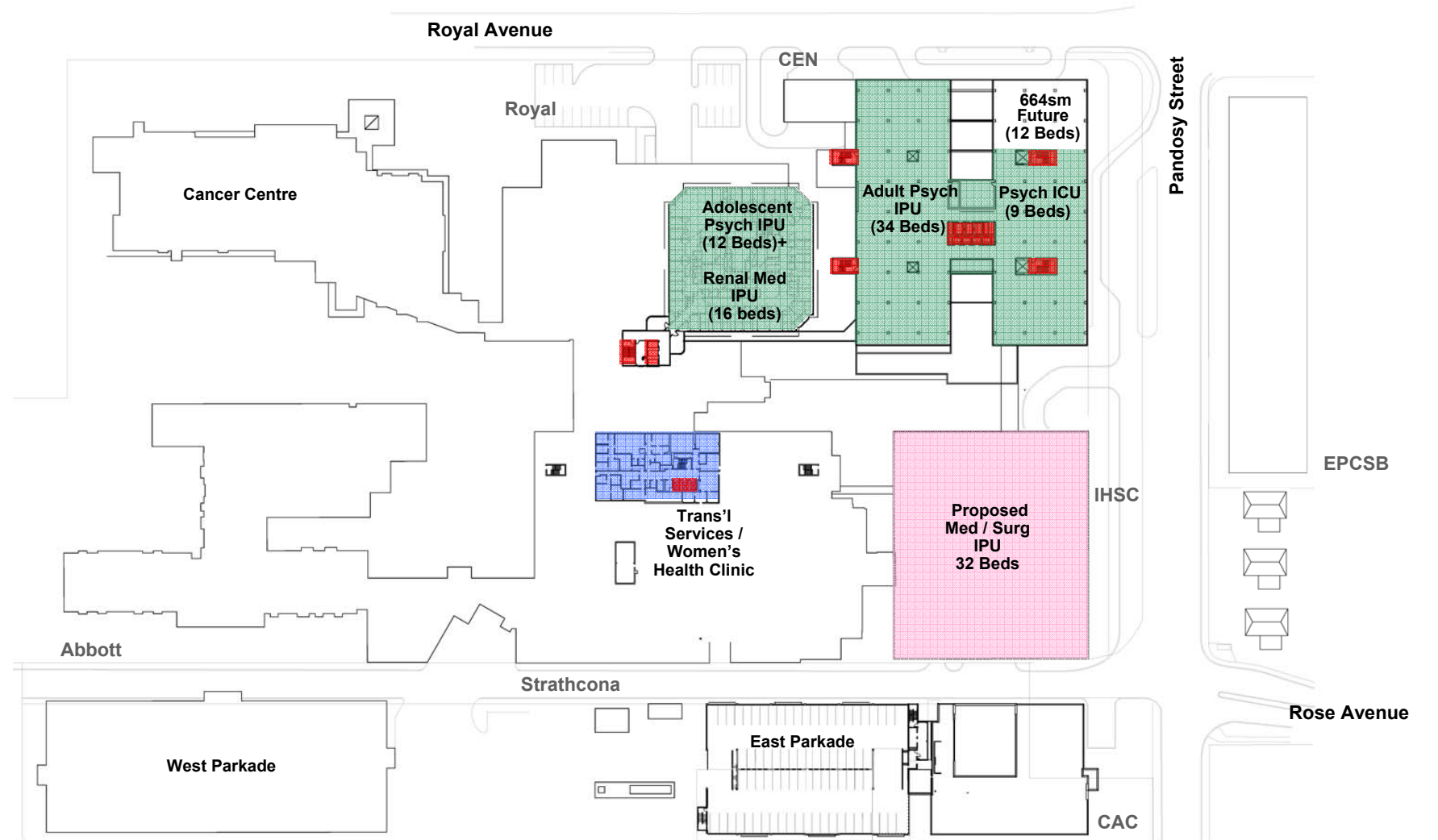
EXISTING PLANS: LEVEL 3



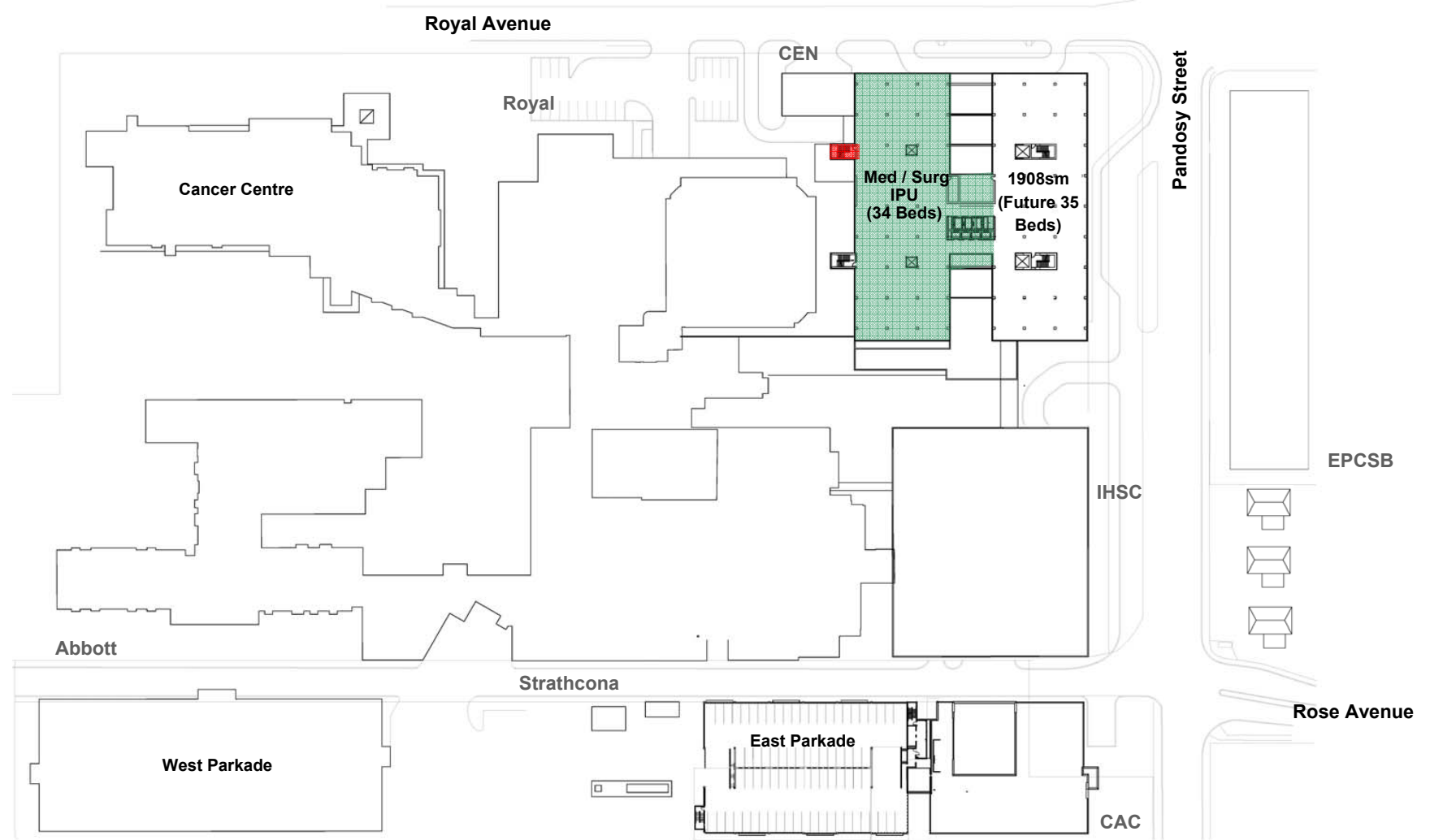
EXISTING PLANS: LEVEL 4



EXISTING PLANS: LEVEL 5



EXISTING PLANS: LEVEL 6



EXISTING BUILDING PHOTOGRAPHY



Rose Street View and Temporary Entrance



CEN from Royal Avenue



View of Cancer Centre



Clinical Academic Campus Entryway



CEN from Royal Avenue



View West Toward Parkade



Front Facade of Clinical Academic Campus



CEN Under Construction



View West of Abbott Building

