



Children's Hospital of Michigan

## Long Range Master Plan Concept

...a potential direction for redevelopment of the CHM site for the enhancement of Emergency, Surgery, Interventional and Diagnostic Radiology, Critical Care, Patient Care Units, Primary Care and Research.

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## Objectives of a Long Range Master Plan



A Long Range Master Plan looks at a hospital's Mission, existing conditions, and long-term goals. It assesses the marketplace, patient volume demands, methods of operation and key planning and design issues. The Master Plan establishes a framework for the growth and/or change of the hospital site and facilities.

The Benefits of a Long Range Master Plan:

- Establish a framework for future decisions
- Discover new development opportunities
- Establish physical and financial limits for future project development.
- Develop a pro-active versus a reactive response to needs.
- Identify opportunities and solve immediate needs
- Improve staff and employee morale
- Improve potential for re-cycling buildings.
- Communicate Mission to constituency better and in detail.

## Existing Conditions at Children's Hospital of Michigan



Children's Hospital of Michigan has a phenomenally successful reputation as a provider of high quality health care. The facilities that house these activities are quite another issue, however.

### **Hospital**

The hospital facility opened for service in 1971. It was planned along the same concepts as an adult hospital of that era.

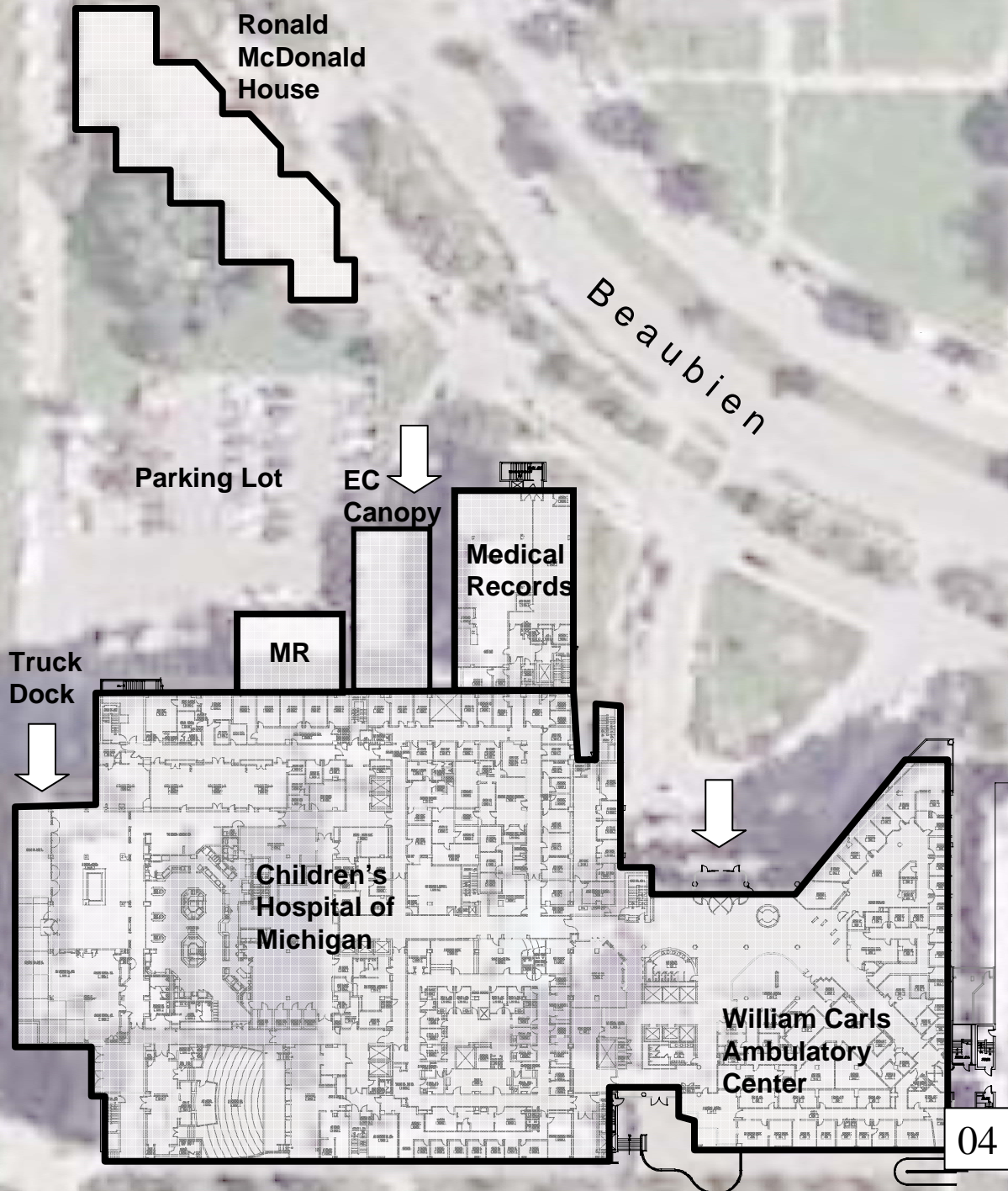
- The “inboard” toilet rooms block visibility of patients by the nursing staff, without entering the patient room. There is little space for parents and families, especially for overnight accommodations.
- The Emergency Center is located on the basement service level and is not readily accessible. Walk-ins and ambulances attempt to co-exist in the same approach drive.
- Surgery has been renovated repeatedly, but is still crowded.
- There is no zone for expansion or change for specialty imaging. The existing MR suite interferes with vehicular traffic and blocks any expansion to the east.
- Outpatient therapies occur throughout many floor levels of the hospital in addition to the Carls Ambulatory Care Center.
- Research space has been carved out of the third floor level, but all office groups are crowded and space is apparently assigned on an availability basis rather than by functional zoning.

### **William Carls Ambulatory Care Center**

- Most specialties are assigned dedicated spaces for clinics, offices and physician billing groups.
- Only one multidisciplinary clinic exists (second floor). Planned (1994) modular clinics (4<sup>th</sup> & 5<sup>th</sup> floors) are not used in that manner.

# Children's Hospital of Michigan

## Existing Site



# Proposed Long Range Master Plan



## **Concept**

The proposed Long Range Master Plan seeks to establish a framework for accommodating growth or change in those areas most likely to change as a result of technology or clinical technique. It seeks to bring Emergency, Critical Care, and Surgery into closer proximity. It also seeks to create an Interventional Imaging zone directly adjacent to Surgery and perhaps contiguous with it, as the distinction between traditional departments diminishes.

The existing Ronald McDonald House must be demolished and reconstructed as a three or four level facility with a much smaller footprint, in order to facilitate this proposed expansion of the hospital.

The Carls Building is renovated (or reassigned) for additional (or larger) multidisciplinary, modular clinics. The balance of the building is reserved for administrative and faculty offices.

## **Basement Floor Level**

This floor level is reserved for service functions with all patient activities removed to other floor levels. Additional parking is constructed at this level, to serve Emergency and other needs. Access to the hospital is through a new elevator core.

## **First Floor Level**

A new Emergency Center is constructed at this level, which allow direct access for ambulances and walk-ins. This places Emergency directly above new Critical Care Units, and Surgery (see Second Floor Level). An adjacent Observation Unit will serve Emergency (by night) and Surgery (by day). Administration spaces are relocated to the Carls Building.

# Proposed Long Range Master Plan



## **Second Floor Level**

New construction for Critical Care (NICU and PICU) places this function adjacent to Surgery. Interventional Imaging spaces may be located within space on this floor level.

## **Third Floor Level**

A new Patient Care Unit(s) is constructed that provides a better footprint for pediatric acute care. Space adjacent to this new patient unit will provide special therapy or clinical support spaces.

## **Fourth, Fifth, and Sixth Floor Levels**

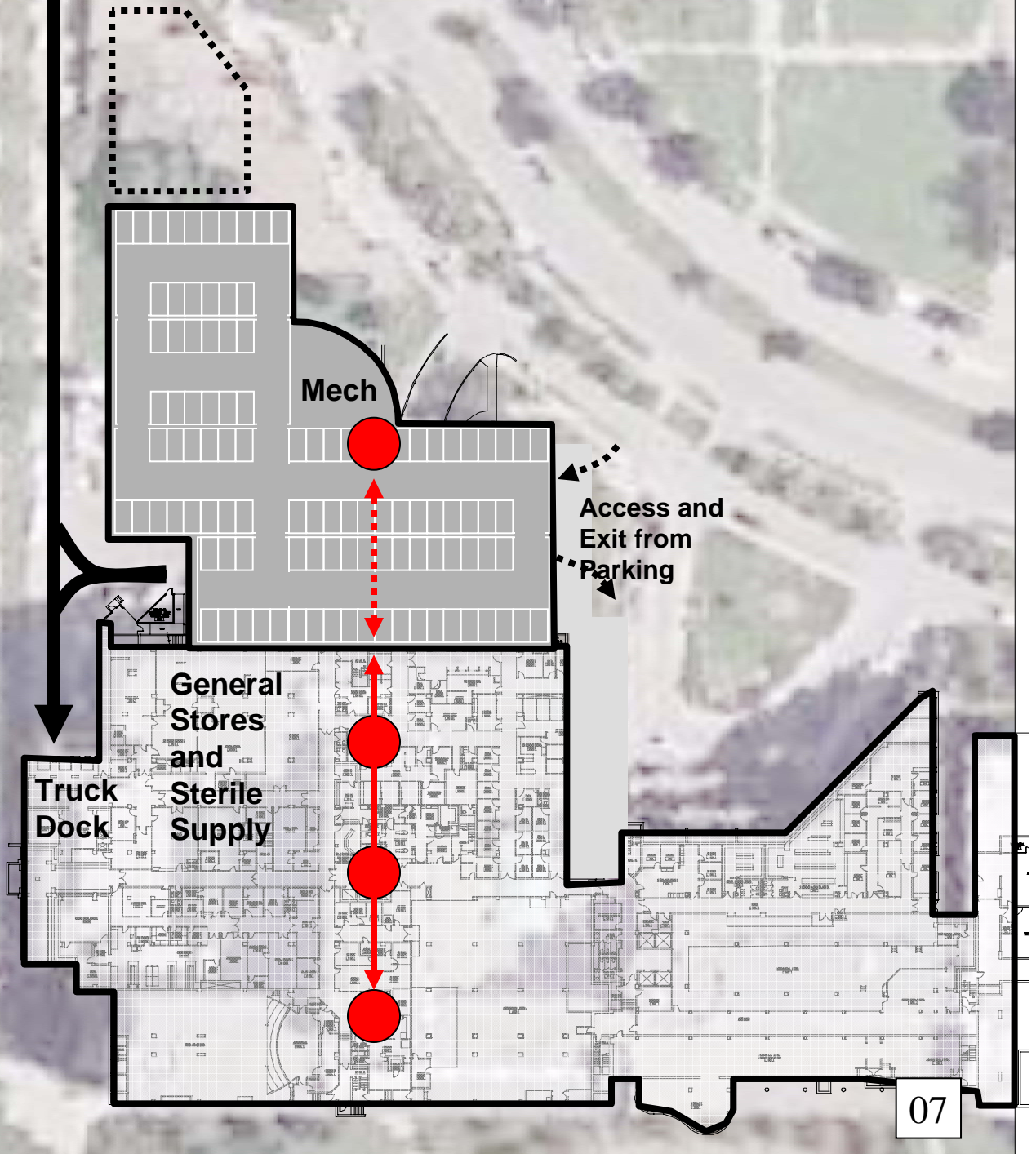
These floor levels will provide new Patient Care Units adjacent to the existing east wing of the hospital, which is converted to special therapy or clinical spaces in support of the adjacent Patient Care Units.

The existing west wings of these three floor levels are renovated to provide basic research spaces.



**Children's Hospital  
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*proposed*  
**Ground Floor**

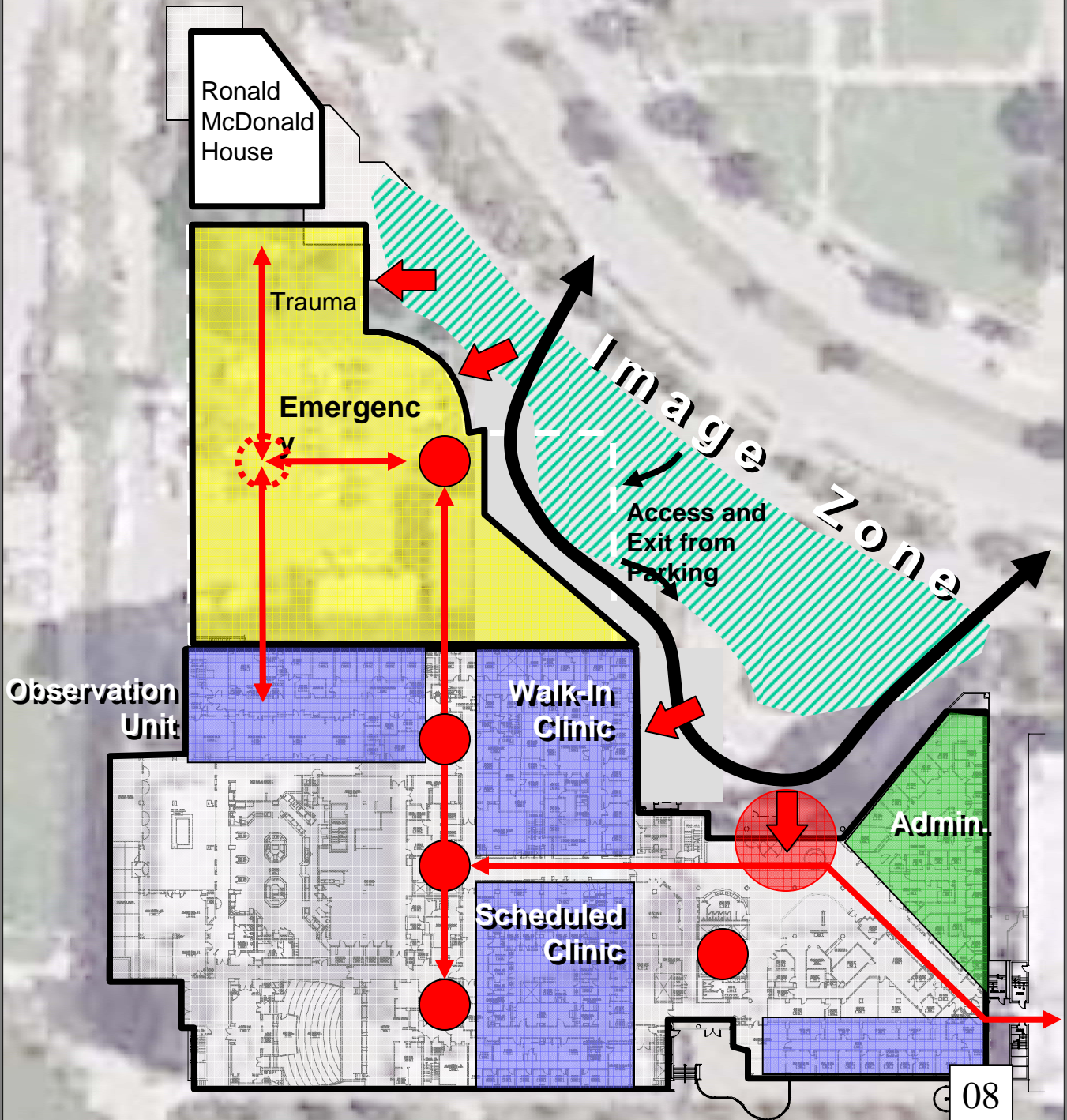




# Children's Hospital of Michigan

## *proposed* First Floor

Demolition and  
reconstruction  
of Ronald  
McDonald  
House, required





**Children's Hospital  
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*proposed*  
**Second Floor**

Ronald  
McDonald  
House

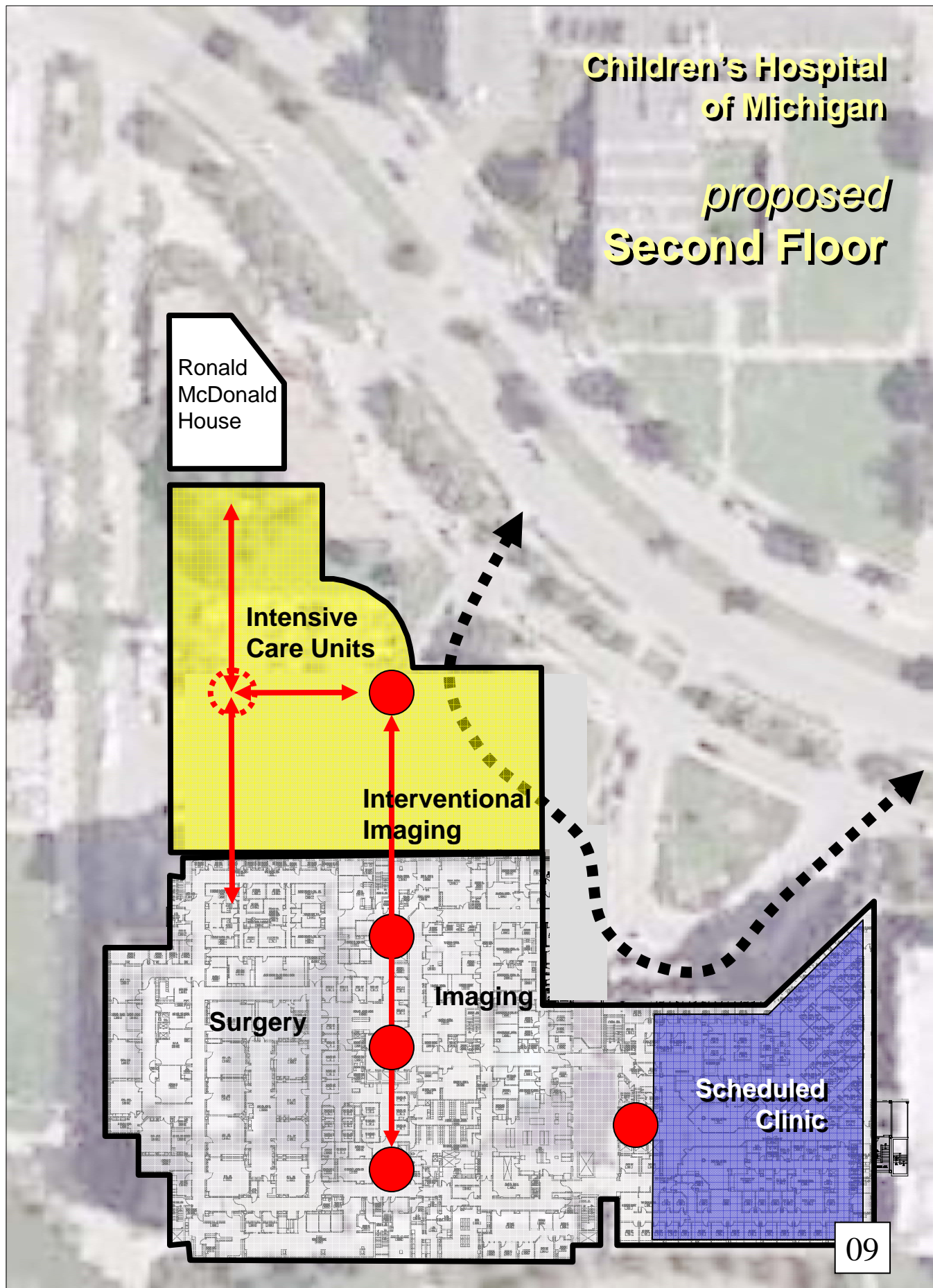
**Intensive  
Care Units**

**Interventional  
Imaging**

**Surgery**

**Imaging**

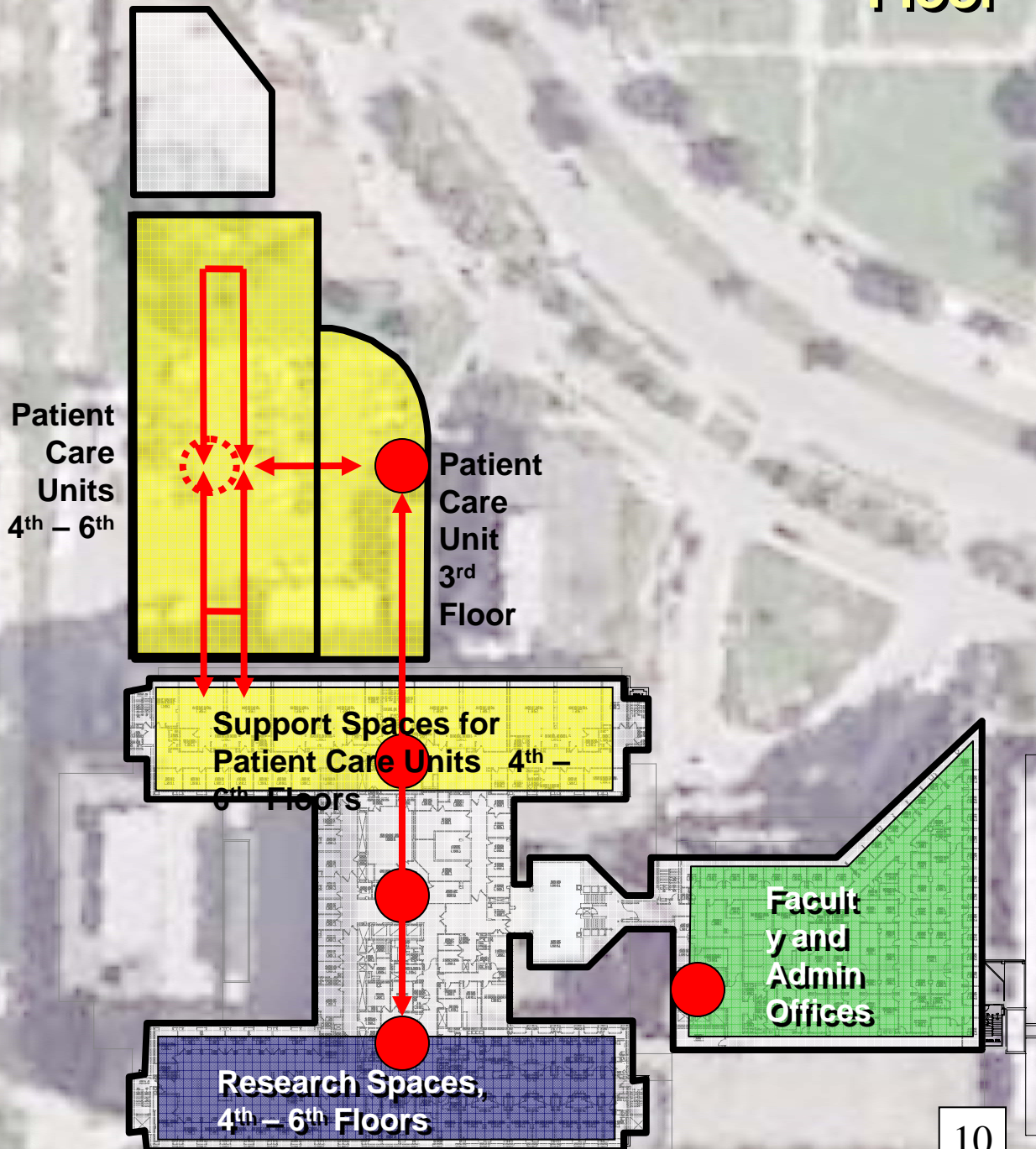
**Scheduled  
Clinic**

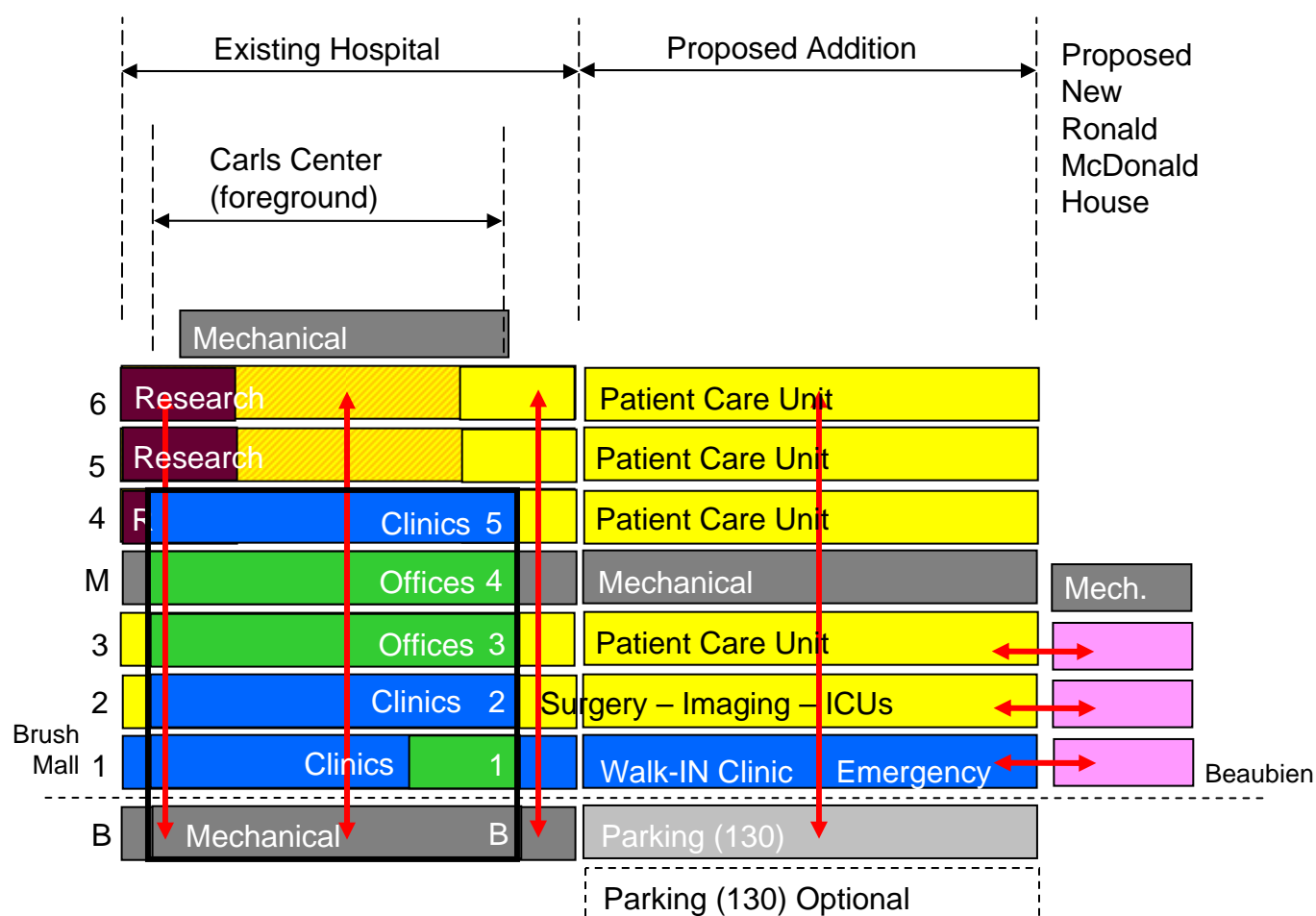




**Children's Hospital  
of Michigan**

*proposed*  
**Third - Sixth  
Floor**





Buildings Section & Stacking Diagram looking North



# Advantages and Opportunities of the Proposed Long Range Master Plan



## Advantages

- Relocating Emergency to the first floor level makes it more readily access and improves vehicular circulation.
- Locating a Walk-In Urgent Care Clinic between Emergency and the Carls Building sets up a hierarchy of outpatient care that is accessible from the first floor level and from any entrance at that level.
- Locating Critical Care Units directly adjacent to Surgery allows for the PICU to serve as a Surgical Intensive Care Unit with no need for elevator transit of patients from Surgery to the PICU (or NICU).
- Locating the Critical Care Units one floor level above Emergency improves accessibility and simplifies admissions from Emergency.
- Adding new space adjacent to Surgery and Imaging assists in the opportunities to create new interventional imaging space adjacent to surgical procedures spaces.
- Creation of new parking beneath Emergency provides additional parking without the need for valet assistance.
- Relocation of Emergency provides additional space for support services.
- Creating new patient care floors allows for a more appropriate footprint able to accommodate improved access, visual control and family spaces for patients.
- Renovation of the west wing (after new patient care units are constructed) allows for creation of a new Research Center. Stacking floors provides opportunities for grouping exhausts from fume hoods and other equipment.

# Phased Construction and Options for Development



## Phased Construction Options

**Phase One** must include the interim relocation of the Ronald McDonald House. One possibility is to convert a portion of the DMC's International Guest Apartments for this use, while the new Ronald McDonald House is constructed. The balance of Phase One consists of the Parking (Basement Level) and the Emergency Center with new drives and walkways. Phase One should also include the construction of the new space on the second floor level. If additional expansion is to be achieved in accordance with the proposed Long Range Master Plan, the foundations and structural system of Phase One must be designed to accommodate subsequent phases (additional floors).

### Components of Phase One:

- Parking Garage (Basement Level 130 spaces) 38,500 GSF
- Emergency Center 35,000
- New Ronald McDonald House 19,500
- New Critical Care Units (and shell space) 40,000
- New driveways and approach walks

### Opinion of Probable Cost:

Ronald McDonald House	\$ 3,900,000
Hospital	\$ 33,850,000
Sitework, Drives	\$ 1,750,000
Project Cost Range:	\$ 42,500,000 to \$ 48,500,000
Design:	12 months
Construction:	24 – 30 months

# Phased Construction and Options for Development



## Phased Construction Options

**Phase Two** may not necessarily be the next major construction activity to follow Phase One, but is identified as Phase Two for identification and comparative purposes. This phase requires the new construction to be completed before renovation can begin..

### Components of Phase Two:

- Third through sixth floors of new construction: 108,000 GSF
- Renovation of east wing (3<sup>rd</sup> through 6<sup>th</sup>): 45,000

### Opinion of Probable Cost:

Project Cost Range: \$ 37,500,000 to \$ 43,500,000  
Design: 12 months  
Construction: 28 – 36 months

**Phase Three** is the renovation of the west wing of the existing hospital for Research programs. While these programs are not yet defined in detail, the opportunity to locate Research within such close proximity of the hospital has definite advantages.

### Components of Phase Three:

- Renovation of west wing (4<sup>th</sup> through 6<sup>th</sup>): 33,750 GSF

### Opinion of Probable Cost:

Project Cost Range: \$ 7,500,000 to \$ 9,000,000  
Design: 8 months  
Construction: 16 – 20 months



## Phased Construction and Options for Development



### Phased Construction Options

**Phase Four** is the reassignment and renovation of the Carls Building to accommodate additional multidisciplinary clinics and faculty and administrative offices.

#### Components of Phase Four:

- Administrative Offices: 3,000 GSF
- Renovation for clinics: 10,000

#### Opinion of Probable Cost:

Project Cost Range:	\$ 1,900,000 to \$ 2,400,000
Design:	5 months
Construction:	9 – 12months

### Summary of Options

Phase One:	\$ 42,500,000 to 48,500,000
Phase Two:	37,500,000 to 43,500,000
Phase Three:	7,500,000 to 9,000,000
Phase Four:	1,900,000 to 2,400,000

Totals: \$ 89,400,000 to 103,400,000

All options combined requires a minimum of 52 months and a maximum of 86 months to complete, depending on early and late start dates.

### **Opinion of Probable Cost**

Opinion of Probable Cost is based on historical benchmarks for similar recent projects. It is a guide to approximate costs for purposes of preliminary planning, only. The scope of this document is not sufficiently developed to move beyond the preliminary cost ranges presented in this report.

### **Design and Construction Timeframes**

The estimate of the number of months for design and construction is based on recent experience with similar projects. Since the actual construction schedule requires the commitment of a contractor or construction manager, the actual timeframe may vary from the estimate presented. There may also be alternative ways to phase this project in whole or part which may alter the schedule.



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