

ARCHITECTURAL NARRATIVE MVHS INTEGRATED HEALTH CAMPUS

Background

Faxton St. Luke's Healthcare (FLSH) and St. Elizabeth Medical Center (SEMC) affiliated in 2014 to become the Mohawk Valley Health System (MVHS). MVHS's mission is to provide excellence in healthcare for its communities. Substantial effort has been focused on consolidating existing resources, eliminating redundancies, expanding the depth and breadth of services, improving access and elevating the quality of healthcare services in the region. MVHS has been successful in its efforts thus far, but has been constrained by the age and physical limitations of the existing facilities.

SEMC opened in 1917 and the St. Luke's Campus opened in 1957. Since they were built in a time when healthcare was much different than it is today, these facilities were not designed to accommodate the programs, equipment and overall patient-care delivery and safety that are part of MVHS service today.

MVHS incurs considerable expenses in order to remain code compliant and significant duplication of services for two hospital settings. Current services are provided in a space that is not optimal for patient flow, staff efficiency or patient/family experiences. The two existing campuses, especially SEMC, are also constrained by size and location and cannot easily accommodate much needed parking areas.

In order to deliver higher quality, more effective care with better community outcomes and at a lower cost, a single new hospital which combines services from both campuses will be built and transform healthcare for the community consistent with the vision of Triple Aim. The new MVHS integrated health campus and state-of-art hospital will replace SEMC and FSLH, will reduce the number of beds in the community and consolidate patient services to one campus.

The decision to consolidate the two inpatient campuses to a single facility represents the logical progression of efforts to achieve the MVHS mission and was spurred by several key factors:

- The desire and need to build a facility with the newest technology, services and advancements in patient safety and quality so that our community can receive the most up to date healthcare services that rivals those found in large cities.
- The growing demand for healthcare due to the rapidly increasing and aging population in this region.
- The increasing need to improve accessibility and availability by attracting specialists and providing services that otherwise would not be available to our community.
- The opportunity to gain greater operational efficiencies through the elimination of duplicative and redundant functions will help to reduce the rate of increase in healthcare spending and to achieve improved financial stability

DESCRIPTION BY FLOOR LEVEL AND SERVICE PROGRAM

LEVEL 1

General Description

Level 1 represents the primary public and service components for the building. A public circulation concourse towards the north and a separate service, "back-of-house" corridor to the south effectively create an on-stage/off-stage environment and setting.

Public entries and drop-offs are positioned along the Lafayette Street corridor. A gracious Main Entry allows for patient drop-off and easy access to the MVHS parking garage. This concourse connects all public facing programs and services including the chapel, outpatient imaging, visitor elevators, the gift shop, dining and conference center spaces.

The primary service corridor runs along Columbia Street. To the west are both emergency department walk-in entries and the ambulance entry. To the east is the service yard with access to docks, a service center and the Central Utility Plant. A controlled staff entry along the south is planned.

920 Public Areas (Public Entry, Lobby, Waiting)

The single, main entrance and lobby is accessed from the drop-off. A canopy extends past the driver side door on arrival cars to protect visitors from the elements. Visitors arriving via the parking garage are directed towards the main entry via a covered walkway. A large vestibule provides wheelchair storage and secure entry to the hospital.

The two-story lobby welcomes visitors, patients and the community with simple and clear wayfinding along the main concourse. To ensure a secure environment, the security department staffs the information desk. This entry is designed to accommodate metal detectors should that be required. Otherwise, visitors check-in at the security monitoring desk and are given a visitor badge.

Along the public concourse is an array of seating options directly adjacent to and along the Lafayette corridor. The outdoor area here is intended to serve as an amenity space with walkways, gardens and other design elements helping to create a healing environment. The concourse seating area should be light-filled and restful.

Additionally, the concourse is connected to the Emergency Department waiting area so that family members in the ED can access other public functions and so that patients arriving at the wrong entry can access needed services.

The main visitor elevators are directly off the lobby. These are convenient to visitors accessing inpatient floors or to outpatients traveling to procedures.

920 Public Areas (Gift Shop)

Central to the lobby area is the MVHS gift shop where staff, visitors and patients have access to sundries such as newspapers, magazines, books, snack and other gift items. The gift shop is run by volunteer services.

Patron access is directly off the main lobby. Volunteer staff can visualize the gift shop area, staff the check-out and access the storage room from a single point. There is back-of-house access to the storage room for

ease of servicing the gift shop.

920 Public Areas (Public Dining, Vending)

A welcoming dining and servery area is conveniently located off the main lobby. This setting will serve healthy food choices and provide a variety of menu choices for visitors and staff. The new seating area will offer different seating options and is positioned to allow views to the outdoors. A separate physician dining area is also considered to enhance the physician experience at MVHS. Vending areas will be accessible 24/7.

901 Administration (Security)

Security is positioned to allow easy access for officers throughout the building. The main security monitoring room is off the concourse and positioned such that staff can also man the main check-in/info desk. While security officers are stationed in other high priority areas, including the ED and Birthing Center, this location allows for a central point of control. The monitoring area here will also function as the fire command center for the hospital.

901 Administration (Volunteers)

The Volunteer office serves as home base for Volunteer director and coordinators. While some lockers and workstations are available in this location, most volunteers report directly to their assigned positions. The first floor location allows Volunteer coordinators to more easily recruit and review potential volunteer applicants.

903 Admitting (Patient Access)

Nearly all admitting and outpatient registration processes are completed prior to patient arrival, or at the bedside in the case of the ED and Inpatient direct admits. Outpatients only access the imaging/noninvasive department on this level and the intervention/procedure suite on the second level. Kiosks will be available in the main lobby area as well as on the second level for self-service check-in. The reception desk at Imaging is staffed by registration personnel and serves as a reception point for admitting/patient access.

This department offers additional financial counseling for interface with patients needed additional service. Three private patient interview spaces (2 certified admitting counselors (CAC) offices and 1 flex office) are directly off the imaging waiting area. The reception point at the imaging area serves as reception for this location as well.

The director, manager and administrative staff comprise the remaining areas of the department. Direct admissions from physician offices or other locations will be identified by the Patient Flow Command Center and arrivals will be coordinated such that they are directed immediately to the awaiting patient room. If patients arrive for admission without the prior notification, they will be escorted to the emergency department where proper clinical monitoring may occur.

922 Chapel/ Meditation

A non-denominational chapel provides spiritual comfort for those of all faiths. The main chapel area will be designed to convert easily for services and needs based on requirements. This includes supporting Catholic services, Protestant, Jewish and Muslim services. Movable seating and storage for faith implements are provided in the space.

A shared office is provided for visiting clergy members and is easily accessible for the public.

106 Emergency Department

Emergency Department unit room overview:

- 2 Triage
- 4 Quick/Turn
- 2 Trauma
- 6 Behavioral Health
- 10 Observation
- 44 ED Treatment rooms

The Emergency Department is located on the first level with access at grade from the west side of the building (State St) and is designed to support clear wayfinding and provide separate entry flows for walk-in patients and those arriving by EMS/Ambulance.

The ambulatory/walk-in entrance on the west side of the building is directly adjacent to the parking garage which also has a covered connector to the ED entrance to provide protection from outdoor elements. At this entry, there has been adequate space provided for wheelchair storage that is easily accessible for patients and staff.

The ambulance drive up and entrance is restricted and is located south of the walk-in entrance on the west side of the building. Patients arriving by ambulance will be taken immediately to a treatment station within the ED. A Helipad is directly adjacent to the EMS/Ambulance entrance with clear paved connection to the ambulance entrance to deliver patients to the ED or to take them directly up a dedicated back elevator to the OR or ICU.

Patients arriving via the walk-in entrance will pass through a metal detector manned by security and then be greeted for treatment at the main triage/quick look desk. This patient-first philosophy provides a welcoming destination staffed by nurses who can make immediate decisions about a patient's disposition. The organization and layout of this area is based on improving patient flow to ensure patient safety and to support a strategy that incorporates immediate bedding, split flow for lower acuity patients and rapid assessment for others to provide appropriate patient treatment.

There is waiting space provided for families and patients adjacent to the main desk so that the area is in direct line of sight of nursing and security to ensure safety of patients, and it is designed to provide a calm environment with access to daylight and amenities via a connection to the main concourse of the hospital. There is also consultation space provided in this area when needed.

Directly behind 2 triage rooms are 4 quick turn exam rooms for further triage and treatment of lower acuity patients. This area has a designated provider, nurse and tech assigned to this space and staff have ready access to all equipment and supplies needed for blood draws, EKGs and medications. All exam rooms in quick turn are private and equipped the same as all ED exam rooms along with a patient toilet/shower in this zone. This area has direct access to all imaging modalities that are adjacent to the ED.

The main Emergency Department is comprised of 6 pods that are organized across the floorplate in groupings of 2 to support flexibility in acuity, staffing ratios for nursing and physicians, and provide ability to flex up and down during fluctuations in volume. A degree of standardization has been carried out across the pod configuration so that each pod contains the same supply/equipment resources, workstation space, medication rooms and patient support located within the center of the pod. This concept assists with minimizing staff travel, improved communication between providers, and enhances timely care to patients. Isolation rooms (All, Airborne Infection Isolation) with dedicated toilets have been provided within 2 of the main ED pods. Lab services within the hospital will be accessible via pneumatic tube with point of care

testing as appropriate within the department. Pharmacy services will also be accessible via pneumatic tube with the plan for the hospital or supporting retail pharmacy to dispense discharge medications with patient instructions and education.

In order to service the many types of needs of the ED patient population and reduce admissions, one of the pods is designated to care for Observation patients and is dedicated for those that have been seen in the ED but need to be monitored for a period of time before they can be discharged. All of the observation beds meet the standards in size and are the same square footage as the ED exam rooms which include space for family, med gases, entertainment monitors, and wardrobe for storage. There are dedicated patient toilets within the pod to support this area. In this pod there is also one isolation room (All) that has its own dedicated toilet. The central support area is the same as the main ED pods with space for the clinical staff, clean supplies, soiled utility, medication, and a nourishment station.

To address Trauma/Resuscitation patient needs and the Behavioral Health patient population, one pod with a direct back of house connection to EMS and closest access to imaging and critical care services was identified to be the best location for both patient types. This created a division of a pod with one side consisting of 2 trauma rooms with equipment and support and a separate 6 bed behavioral health unit on the other side. Each area has its own designated support; trauma with equipment/supplies, imaging and medication Pyxis with direct access to a dedicated large elevator to transport patients to the operating room or critical care.

The Behavioral side of the pod is a closed area with secure doors(controlled access), a dedicated team space, all support services, behavioral health toilet/shower room and a location for security and monitoring equipment to assist with safety of patients and staff.

A Decontamination treatment room is located near the ambulance entry. It provides one way flow for patient from the exterior into the treatment area, as well as, one way flow for staff into the treatment area via an anteroom. This space is designed to accommodate 2 patients at a time with 2 shower heads. Locker spaces are divided into men and women's rooms. Each locker room will provide space for potential use of scrub vending machines, toilet and shower areas and storage for coats and outer footwear. This locker space will be shared between the ED and Imaging staff. In addition, there is a staff lounge that will be shared for breaks and lunches. Administrative offices that support the ED and Imaging are also in this zone to provide close proximity to key program elements and provide flex workstation space for those who are not within the hospital.

210 Diagnostic Imaging

The Diagnostic Imaging & Non-invasive diagnostics suite consists of the following:

- 2 General Radiology
- 2 Fluoroscopy
- 3 CT
- 1 MRI
- 3 Ultrasound
- 2 Echo/Stress
- 2 SPECT
- 1 Mammography

Diagnostic Imaging will provide state-of-the-art imaging services to inpatients and outpatients at MVHS. The imaging department has been strategically located on the 1st floor so that it can be directly adjacent to

the Emergency department for quick access and near the main hospital entry and inpatient elevators for patients coming to the hospital for out-patient testing or for quick access to back of house in-patient elevators reducing travel distances for patients and staff.

The entry point for imaging is off of the main hospital lobby concourse and will have a key entry point with appropriate signage for point of check in. It is planned that all patients will be pre-registered prior to appointment and will stop at a main check-in point to notify of arrival. A dedicated waiting space has been provided for patients and family along with consultation rooms for private conversations or review of results.

Inpatients coming to the diagnostic imaging department connect vertically from all floors and will use the dedicated elevators adjacent to imaging for transport. This quick connection will reduce transport time for all patients.

The imaging department opens directly into the Emergency department with 1 CT and 1 Gen Rad room dedicated to servicing the ED. Staff within imaging will effectively coordinate flow of patients between rooms to ensure maximum utilization. Both the General Radiology/CT pod and Cardiology testing pod have a dedicated core with workstations for team, support, and medications. This core area will enhance communication for all team members. Each CT contains a control room, with 1 large for 2 rooms and the other CT independent.

All Gen Rad, Fluoroscopy and CT rooms have patient toilets. Toilet rooms will be used for patient changing and will contain lockers and gowns to support privacy.

The MRI diagnostic suite contains an MRI, Control room, wait/holding area, MRI equipment room, patient toilet and MRI work room. All necessary facility radiation safety measures incorporating the four MRI safety zones will be implemented.

2 SPECT nuclear medicine tomographic imaging rooms are located together contiguous to a hot lab and radioactive waste storage. Segregated patient and staff flows ensure that there is no exposure to radiation. Radiology offices for physicians have been provided within the department for digital reading capabilities. Full access to electronic interface will be required to facilitate consultations with other physicians on or off campus.

Alcoves are provided to support portable imaging devices. Most portable equipment is being distributed throughout departments to improve accessibility to key imaging tests, reduce travel time and provide quicker turnaround time on results.

930 Education & Research

A robust education center offers a variety of learning environments for community, staff and patients. The large auditorium seats up to 150 and is convertible to smaller conference/classrooms for use in a variety of settings. Storage for chairs and tables in adjacent rooms allows these conference rooms to be arranged as the demand requires.

In addition to the main auditorium, several other conference rooms and training rooms are outfitted with the latest A/V technology. The IT computer training room and Patient Simulation room are for staff use only. While conference rooms throughout the facility are intended to be shared resources and are managed by the education staff, the Level 1 conference rooms are typically dedicated to broader learning needs. The location adjacent to the kitchen allows for easy catering.

734 Baseline Dietetic (Kitchen, Servery, Nutrition Offices)

The main kitchen, server and nutrition offices support both public cafeteria and inpatient meal service. The kitchen area has back-of-house access to loading docks, both clean and dirty, as well as simple access to a service elevator dedicated primarily to food and pharmacy transport.

A room-service type model is anticipated for patient meals.

733 Baseline Clinical Laboratory Services

The Clinical Laboratory at MVHS efficiently performs and coordinates all inpatient and on-site and off-site outpatient clinical specimen tests ordered by physicians and providers. The Clinical Lab examines materials derived from the human body for the purpose of providing information on diagnosis, prognosis, prevention, or treatment of disease. The Clinical Lab also manages procurement, storage, testing and dispensing of blood products for MVHS. The department procures specimens (phlebotomists or RN collected specimens), processes specimens, performs STAT and routine test, and communicates results to a physician's/providers accurately, in a timely manner.

Services Provided:

- **Outpatient Blood Draw:** The lab will not have a phlebotomy area within the lab, but there will be a phlebotomy area in an adjacent medical office building
- **Phlebotomy Services / Specimen Acquisition:** Provides Phlebotomy Services to the Hospital and other outpatient clinic sites. Phlebotomists also work in the Lab, but mainly obtain blood and urine specimens at the bedside. Other specimens are acquired by on-site RN's or physicians. A number of specimens will be acquired from off-site and on-site physician offices or clinics. Specimens collected at medical office buildings off campus will be picked up by MVHS courier service and processed at this lab.
- **Accessioning and Processing:** Accessions and processes specimens obtained from Blood Draw, RN's and physicians. All specimens will be processed at this lab as it will be the designated Reference Lab for testing including other microbiology, special chemistry, molecular/serology and other specimens scheduled for more esoteric testing.
- **Pathology:** performs surgical specimen processing, frozen sections, and transcription and reporting of pathological findings
- **Frozen Section:** Specimens from the Surgery Suite will be processed/accessed and evaluated in the Histology area

Testing:

- Provides STAT testing for inpatients and outpatients (Chemistry, Hematology, Coagulation, and Microbiology) and routine testing for inpatients and outpatients (Chemistry, Hematology, Coagulation)
- Assume to provide Anatomical Pathology
- Could provide back-up to other MVHS locations and clinics if their instruments go down

Results Reporting: Analyzes results and sends to physicians. Re-tests or adds tests as required. Stores specimens for a prescribed period of time after testing

Blood Banking: Receives blood product from outside providers. Tests patient specimens. Cross Matches specimens and blood product. Prepares and stores blood products. Dispenses blood product as needed for the hospital or the clinics

PoCT Coordination: Coordinates, calibrates, and services point-of-care testing equipment.

Blood Gas analysis will be provided by Respiratory Therapy outside of the purview of the Lab

Key Interdepartmental/ Support Relationships

- Close relationship with Blood Draw which must, in turn, be accessible to outpatients in the MOB. Phlebotomists cross cover Blood Draw, Clinical Lab and point-of-care draws to level workload
- Requires back of the house access from blood product and specimen couriers. This has been created with a direct connection from the dock to the drop off location area. Dedicated parking for courier to be provided.
- Location of Lab requires access to Loading Dock for delivery of supplies and packages, therefore the Lab is directly adjacent to the loading dock on the west side of the building
- While some blood can be tubed to the patient destination, bulk blood will need to be picked-up and delivered to Surgery, ED, and other critical areas via the back of houses service elevators directly adjacent to the lab
- All phlebotomists will have their blood draw carts stored on inpatient units and will decentralize from the lab. Carts will not be stored in the lab, and will be restocked on the unit. Proximity to the back of house elevators is currently planned to enhance delivery of specimens to the clinical lab if they cannot be tubed.
- Phlebotomy supplies will be available on the units to limit need for phlebotomists to go to the Lab
- Pneumatic tubes will transport specimens and blood from the floors to the lab

Changes in Practice

- Addition of additional equipment to the hospital lab driving a broader test menu, more STAT's, and Blood Banking.
- Drive for greater efficiency (Lean), as well as the need for faster turnaround times and broader test menus have made Total Lab Automation systems a viable alternative to individual instruments for smaller laboratories. Continue to add automation and will continue evaluate opportunities
- Test volume is growing due to aging population, expanding market share, additional mandated tests, new technology, broadened test menu, taking on additional outpatient testing and community standards. Some additional tests will be accommodated by available instruments sized for growth.
- Some rapid molecular tests (HIV, TB, MRSA) will continue to be done in house.
- Lean planning to enhance staffing compliment, enable cost savings for supplies, increase turnaround time and foster greater reliability is now an integral part of design.
- Tubing of blood product reduces the need for a satellite Blood Bank in the OR. A blood bank refrigerator will be available to and monitored by OR staff. Potential for one in the ED for trauma.
- Emerging pathogens (H5N1, SARS, MRSA, etc.) require greater attention to staff and public safety.
- Intradepartmental
- P-tube system to provide access to all patient care areas.

Staff Areas

- Lab staff will have a dedicated locker and lounge for storage of coats, personal effects and area for respite.

Access and Circulation

- Entry/window for hospital staff and couriers delivering /picking up blood products, delivering/sending out provided at 3 locations: Blood Bank, Histology and Main Lab.

ANATOMICAL PATHOLOGY

Operational Objectives: Departmental and Integrative

- The core function of Pathology services is diagnostic pathology. The Pathology Laboratory at MVHS will provide Frozen Section and Grossing, and STAT Cytology services for on-site patients. The Pathology Department examines human tissues and body fluids for the purpose of providing information on diagnosis, prognosis, and treatment planning.

Services:

- Specimen Acquisition: Pathologists may advise other physicians on the acquisition of specimens or obtain cytology specimens directly from patients as in Fine Needle Aspiration (FNA).
- Accessioning: Staff will accession specimens into the Pathology LIS in the Pathology Laboratory, or, in future, at point-of-care.
- Frozen Section: Un-fixed STAT specimens, acquired intra-operatively, will be prepared, stained and taken directly to the lab for analysis
- Grossing: Grossing stations for pathologists and pathology assistants will be provided in conjunction with Frozen Section to level workload between frozen cases.
- Histology: Blocks prepared at MVHS will be sent to the on-site Pathology Department for processing and interpretation.
- Cytology: STAT body fluids will be rapidly processed in Frozen / Grossing Lab. Routine specimens will be sent to the on-site Pathology Department for processing and interpretation.
- Autopsy: Autopsies will be performed at MVHS. A morgue has been provided adjacent to the lab with an area for autopsies and family viewing.

Key Interdepartmental/ Support Relationships

- Pathologists require access to the Surgical Suite and to clinics where specimens are collected.
- Pathologists need to be accessible to other physicians for consults using multi-headed microscopes therefore offices will incorporate required space to support a multi-headed scope within pathology
- Frozen/Grossing has direct access to the Loading Dock for delivery of supplies and packages

Key Design Features Clinical Lab/ Pathology

- Planned the processing and testing areas of the lab as a large open, rectangular space to maximize future flexibility and reconfiguration of workflow, benches and equipment. The open lab concept permits team members to see each other, enhances supervision and night shift can also see each other, entrances, and pneumatic tubes more easily to increase efficiency and security.
- Offices and other fixed elements are located on the perimeter.
- Direct access to Blood Bank for product delivery provided with a separate entry door off main back of house corridor.
- Frozen/Grossing currently planned as a large open space to permit flexible workflow and also provide an environment for pathologists to dictate cases

General

- Including provisions to temporarily hold bio hazardous waste.
- Incorporated limited access features to provide security to staff.

Patient and Staff Safety

- Biosafety cabinets to control pathogens.
- Chemical fume hood to control odors.
- Hand washing sinks distributed in all areas for staff.

- Adaptable casework systems to adjust work surface height for staff ergonomics.

Environmental Quality and Utilities

- Appropriate air exchanges – 100% exhaust, single pass air for Labs. Design a minimum of 6 air exchanges per hour but air changes may be governed by heat load from equipment.
- ~10 meg ohm RO/DI water is required to support the chemistry instruments and some reagent prep.
- Power will run in wire mold mounted to casework frames or on walls, or in overhead service carriers.
- Cat 6 data will run in the casework cores or in wire mold or overhead service carriers with adapters.
- Cup sinks will be provided in the casework cores 18" AFF for drainage.
- Given the on-grade location, a grid of drains (~11' x 5.5' starting in the perimeter walls) will be provided under the slab to permit equipment and casework changes over time.
- Central uninterruptable power supply (UPS) system will be located where possible to avoid providing UPS at each instrument. UPS is required for all equipment requiring calibration after emergency shutdown (most analyzers, computers).
- Providing emergency power for all equipment including computers and refrigerators.
- Providing FDA compliant monitoring of all Blood Bank refrigerators and freezers.
- Provision for future wireless tele-data access for instruments, computers, and PDAs.
- Key Card access at all entrances.
- Include cable trays in the ceiling.
- Emergency Eyewash and Shower Station with trap primer floor drain and removable cover will be provided
- Lab waste system capable of withstanding chemicals planned for use in lab (while chemicals should not be poured down the drains, an accident could occur). CPVC is not acceptable.
- Lab sinks will have a combination foot control/wrist blade faucet while hand wash sinks could have electric eye faucet as well as an emergency eyewash/face-wash unit.

943 Maintenance & Housekeeping (Loading Docks)

A dedicated clean and soiled loading dock for the MVHS hospital is located directly off of Columbia on the east side of the building at ground level and provides 4 truck loading clean receiving bays, and 3 bays for soiled (trash/recyclables/medical waste/linen) and 3-4 locations for short term parking for small truck or courier deliveries/pick up. Two of the bays will be equipped with a dock leveler and one bay will have a dock lift. This space supports the receipt and staging of all incoming clean equipment, supplies, mail, linen and food with a dedicated separation for waste stream management to the soiled bays. The new receiving docks have direct and immediate access to service elevators that are within the receiving area that can go directly to the interventional platform, CSP and Pharmacy on the 2nd floor and a direct dedicated restricted service connection to an additional back of house elevator bank that services the upper inpatient floors. A receiving check-in office, dedicated portable gas storage tank room, secure holding room, clean linen and temporary cart staging is directly connected to the unloading areas and provides space for primary supply distribution and staging areas/ transferring JIT totes for the supply chain department.

943 Maintenance & Housekeeping (Gas Storage Rooms)

The gas storage room located adjacent to the dock will provide temporary storage for oxidizing and non-oxidizing gases. The gas storage rooms are limited to the maximum allowable gas quantities by code. Full and empty cylinders will be clearly marked and a gas manifold will be provided adjacent to the dock area and be part of the facilities department responsibility.

943 Maintenance & Housekeeping (Central Storage)

The main warehouse storage space is to be located in a separate facility. A central storage room is located adjacent to the loading docks and service elevators which allows for ease of distribution or pick up from user departments. Some bulk non JIT items, including IV fluids disaster preparedness stock, and routine high use items in low unit of measure format will be stored within the MVHS material management storeroom. Most supplies will be shipped in reusable totes from various vendors ready for end-users distribution. All 'STAT' supply storage will be maintained in the storeroom. Bulk supplies, such as IV fluids will be de-cased within the storeroom and delivered to Pharmacy for preparation and distribution.

Materials Management will handle the re-stocking of most supplies in all areas of the hospital including SPD (for redistribution in the case cart system), with Surgery and to other clinical departments. Security will assist materials management with monitoring receipt of supplies and pedestrian traffic in and around the loading dock area.

943 Maintenance & Housekeeping (Linen)

A linen service area for receiving of clean linen is located on the dock with immediate access to service elevators to provide dedicated storage, cart make up, dispatch and distribution of clean linen throughout the hospital. The linen room will accommodate a secure area for additional carts to serve as emergency linen backup supply.

943 Maintenance & Housekeeping (Trash & Linen Chute Rooms)

The waste stream management, including the collection, transport and disposal of general trash, recyclables, and RMW (regulated medical waste) is maintained using manual cart transport and vertical linen and trash gravity chutes along dedicated soiled distribution routes, which terminate on the Ground floor level in separate dedicated collection rooms. EVS staff will transport trash and linen collection carts to the soiled side of the dock for pick up.

943 Maintenance & Housekeeping (Facilities & EVS Admin)

Facilities and EVS leadership and supervisors are located adjacent to the Materials Management area, shops and connected by a corridor to the main dock. This general location of offices and shared conference room provides direct connection and supervision to those departments, creates opportunities of collaboration and communication between staff and leaders and provides an area to have department meetings, team discussions or education. Senior Facilities leadership and the Safety Director are located on the 2nd floor.

943 Maintenance & Housekeeping (Shops)

Shop space has been dedicated contiguous to the CEP to provide space for work benches, as well as storage for multiple items that support the daily operations of the hospital. HVAC, Plumbing, Paint, Electrical, Carpentry, Metal General shops have dedicated spaces to support the work of each specialty. In addition, the shop area is located off a corridor that connects directly to the CEP providing quick access if needed. Staff in this area will share a common locker room and lounge with the dock and materials management team directly adjacent to their area

LEVEL 2

General Description

Level 2 is the main procedure and interventional center for the MVHS hospital. A consolidated interventional platform for outpatients, same day procedure patients, inpatients and trauma patients provides the flexibility and shared services necessary to enhance patient care delivery. Administrative functions as well as clinical support areas, including pharmacy and sterile processing, occupy the remainder of the floor.

This level also supports a front of house and back of house organization. The main visitor elevators offer views to the entry and Lafayette corridor – aiding in wayfinding. Visitors, family and patients access is controlled to the main second floor lobby and waiting areas.

Surgical and interventional areas are controlled access and allow for private, back-of-house transport for patients, services and staff.

A future physician office building located on Columbia could potentially have controlled staff-only access to this level at the east end of the building.

920 Public Areas (Toilets, Waiting)

Outpatients arriving for outpatient surgery, cath, intervention or endoscopic procedures come to the second level with family to be checked in and wait for the procedure. The main visitor elevators bring patients directly to a second floor lobby overlooking the main entry. The intervention center reception desk is immediately off the elevators.

Amenities for family waiting in the lounge include a variety of seating choices, adjacent public restrooms and access to refreshments. Patient tracking technology will be utilized to keep family informed of patient progress throughout his or her procedure. This would allow family to remain on this level or use the first floor amenities as desired.

Consult rooms are immediately adjacent to the family lounge area. Concierge staff will notify family when physicians are ready to speak with them and will direct family to the appropriate consult room. Physicians/surgeons arrive from the opposite direction.

When appropriate, family will be able to stay with patients during pre and post op care via direct access to these areas.

744 Baseline Recovery Room (PreOp, Post Op, PACU)

Directly off the waiting area is a large Periop unit, consisting of PreOp, PACU and Phase 2 recovery functions. This suite is designed as a highly flexible suite to allow for flexing of function based on schedule demands. It is universally designed so that each holding bay or room is able to accommodate both pre-op and post-op patients' requirements.

This suite support the operating rooms, Cath labs, EP labs, interventional rooms, Hybrid OR and endoscopy rooms. It consists of the following areas:

- 24 PACU bays (including 1 isolation with attached toilet, 5 enclosed rooms)
- 60 Periop Rooms (2 are isolation with attached toilets)
- 2 Procedure/Block rooms
- Supporting care giver work, med, clean, soiled, nutrition and other support functions

The Periop suite is consists of several clusters of 8 to 10 Periop patient rooms surrounding support functions. These areas are intended to flex as needed, but will be zoned such that patients are generally positioned nearer to the procedure rooms to which they are scheduled. For instance, the two clusters south of the main elevator bank are adjacent to the endoscopy suite and near Cath lab rooms. This area will primarily serve those procedure rooms

The Periop areas are connected via controlled access corridors where staff and materials are free to move, but public access is limited and controlled. These controlled corridors also lead to the entry of the semi-restricted corridors of the interventional suite as well as patient, staff and service elevators. The control desk areas are central to the entire suite in order to manage traffic and flow around these areas.

741 Baseline Operating Room (OR, Cath/EP,IR, Endo)

The interventional platform creates a dedicated suite to all procedure-based services. This includes the following:

- 8 General ORs
- 4 Specialty ORs (Cardiac, Ortho, Neuro)
- 3 Cath Labs
- 2 EP Labs
- 2 IR rooms
- 1 Hybrid OR
- 6 Endoscopy rooms, including 1 Advanced Endo room and 1 Flex Fluoro room

The suite is comprised of 4 cores with procedure rooms surrounding a clean core, these are organized as follows:

- Eight (8) ORs (general ORs)
- Six ORs (2 general, 2 Ortho, 2 cardiac) plus soft space for 2 future ORs
- Four intervention rooms (3 IR, 1 Hybrid/IR)
- Four cardiac intervention rooms (2 EP, 2 Cath)
- An Endoscopy suite (1 Advanced Endo, 1 Flex Endo/Fluoro (labeled TEE/TILT/ENDO), 4 Endo with 1 capable for Bronchoscopy)

The presence of the clean core or supply core for the procedure rooms means that each will have two points of entry - one off the semi-restricted corridor for patients, staff and the other off the restricted clean core. This is true regardless of the specialty assignment of the procedure room (cardiovascular, neurology, etc...). Universally, the procedure rooms will all be designed to basic operating room standards, yet technologically rich. This includes providing the capability of obtaining OR air exchange rates; specifying cleanable surfaces; and integrating lights, monitors, and booms. The procedure rooms will also include nurse documentation stations with lighting controls, audio-visual componentry for monitoring and education, emergency power, and supply cabinets. Rooms that have significant imaging equipment presence also integrate a control room.

The intervention suite will follow the trend of keep both surgical and interventional rooms behind the "redline" for flexibility and to help mitigate infection risks. However, the endoscopy rooms and potentially a set of cath lab rooms will follow similar protocols but will not be within the semi-restricted corridors. This arrangement is designed flexibility to change in the future should it be necessary.

Infection risks will also be mitigated with a strong sterile processing departments solely responsible for the sterilization of instruments, scope and other material. A closed case cart system will be employed to bring

clean and dirty instruments to and from the operating rooms.

Staff support areas, including offices, lounges, and locker rooms are provided at the east most edge of the suite. The staff lockers and lounge are shared by all interventional staff and physicians as well as sterile processing department staff.

901 Administration (Quality)

The northeast area of the second floor is comprised of several administrative functions. Quality management and analytics are distributed to two locations in the hospital. The administrative suite on Level 2 across from family waiting supports twelve quality management professionals in open office workstations. These staff members support many department throughout the hospital. They access each area and have a particularly strong relationship with physicians, therefore, the location adjacent to physician services proves useful.

901 Administration (Physician Services, GME)

Physician Services and the General Medical Education department are co-located on the second floor of the hospital adjacent to administration and the Interventional platform. This location provides a dedicated space for a Resident lounge, active lounge, medical library, lockers, kitchenette and hoteling workstations for residents in the MVHS program. The GME space supporting internship, residency, sub-specialty and fellowship programs has an office for the Director, Coordinator, 3 Credentialing staff, and space for credentialing records. The space provides a quiet calm atmosphere with access to light and amenities to support the program. This location provides a hub that is close to easy access to elevators for the patient tower or to access conference space for meetings and group education.

901 Administration (Administration, Nursing Administration)

The senior executive Administration suite and Nursing administration are located in adjacent areas. The Administration suite supports the CEO, 7 senior VP offices and associated administrative professionals. This suite is accessible by visitors if directed to the area. A dedicated consultation room is provided to meet with family, patients or visitors as needed.

A large boardroom supports the hospital's mission of community involvement. Adjacent catering, restrooms and direct access to the Administrative suite allow for its use serving a number of functions. Nursing Administration is a primarily distributed service. This suite allows the three AVPs to share an office suite with dedicated staff support and the central locations supports easy access for physicians, nurses, staff and senior administration.

901 Administration (Employee Health)

The MVHS employee health program will primarily be located off-site and will have a robust telehealth presence. However, a small suite is on-site for easy staff access when needed. This location may primarily support quick checks and serve as a triage station for other staff needs.

943 Maintenance & Housekeeping (Facilities Administration)

The AVP for facilities, facilities admin, safety officers and training rooms are dispersed on this level. Other facilities staff are located on the first floor and/or near the annex building.

948 Equipment & Maintenance (Clinical Engineering)

A robust clinical engineering program supports all clinical services. The main clinical engineering work room include work benches for 8 engineers and is located adjacent to the bed repair shop. This second floor location helps to serve the intervention platform effectively and gives the staff here central access to

elevators for easy access throughout the building.

948 Equipment & Maintenance (Patient Transport)

Patient transport staff will be deployed throughout the hospital and will be outfitted with communication tools to aid rapid deployment as needed. The dispatch staff are located with the Patient Flow Command Center on the 3rd floor. This patient transport area is a quick touchdown area for staff and holds additional stretchers and wheelchairs for use if the decentralized transport is not available.

742 Baseline Pharmaceutical Services

The pharmacy department is located on the second floor and is adjacent to the interventional platform and central sterile processing departments. This location puts this important support service in the place of highest use and close to vertical circulation to support the bed tower. The development of the pharmacy plan focused on bringing the most efficient methods of dispensing and service to support inpatient needs. Determining the method of medication distribution on the inpatient units was critical to determining the physical layout of the pharmacy as well as the use of automated technology and medication management throughout the hospital. The pharmacy will utilize the carousel system for comprehensive medication inventory management. This allows for fewer pharmacists needed in the pharmacy due to the efficiency for cart fill, which supports the organizations goal to have pharmacists out on the units. The pharmacy space contains dedicated area for techs and pharmacists, IV Prep w/ hood, Anteroom and pass thru, Narcotic Vault, Bulk receiving, Pneumatic Tubes and Carrousel with a packaging area.

In addition, there is a service window for clinical staff that may need to pick up medication directly from the Pharmacy which is located on the West end of the department, closest to the elevators. This model assumes physician order entry which will be utilized for medication ordering.

Key Services Provided

- Bulk purchasing of stock medications for pharmacy dispensing
- Dispensing medications to all clinical areas
- Admixture to IV solutions for distribution to clinical areas and for inpatient administration
- Clinical pharmacy program: pharmacists deployed to inpatient units/departments to consult with physicians/providers; provide patient education and counseling
- Employee prescription dispensing – potential retail location in Medical Office Building

Changes in Practice

- Potential for additional partnering with retail pharmacy for discharge medications
- Workload changes and new efficiencies due to having a pneumatic tube system that goes to all departments and can carry other medications not currently able to be dispensed via tube.
- Multiple Pyxis locations that will require pharmacy support

Pharmacy staff have a dedicated lounge and locker room and 2 staff toilets adjacent to the department. Pharmacy offices are connected to the main pharmacy within a suite and also accessible through the pharmacy. Spaces for clinical pharmacists, director, operations manager, purchasing, IT and admin are located in this area to support the department.

941 Central Sterile & Supply (Sterile Processing Department)

Central Sterile (now the Sterile Processing Department (SPD)) will employ the latest equipment technology and lean processes, including a 3-zone design, employing automated pass-thru steam sterilizers and automated instrument washer-decontaminators. Low temperature sterilization will exclude high-risk

ethylene oxide in favor of the efficiency and safety of gas plasma technology. The initial configuration will include four (4 ea.) instrument washer decontaminators, one automated cart and utensils washers and one manual cart washer, four (4 ea.) large capacity floor-loading, pass-thru steam sterilizers, plus one (1 ea.) smaller sterilizers to support rapid turnaround. The department will be staffed 24 hours daily, 7 days each week. The Sterile Processing department is located on the 2nd floor of the hospital and is adjacent to the interventional platform for ease of access and quick turnaround on instrumentation.

Operational Objectives: Departmental and Integrative

- SPD will adhere to the highest standards of care through practice, uniform training and staff certification and the use of advanced technology for reprocessing and sterilization
- SPD is designed to be the single point of responsibility for routine decontamination, sterilization and infection control for MVHS
- The department design, reprocessing equipment and work flows will be consistent with contemporary infection control protocols and will support the department's role as the focal point of the interventional supply chain
- Together with Materials Management, SPD will coordinate the supply and instrument requirements for the Interventional Suite, primarily via a case cart system.

Services

- Decontamination of critical medical devices, including surgical instruments, floor and procedural trays
- Decontamination and sterilization of all scopes which will not be processed at the point-of-care. This reflects provisions in the upcoming 2018 FGI to help optimize the quality of processing.
- Sterilization of all critical medical devices including surgical instrument sets, powered tools and individual instruments used in any surgical/interventional setting
- Storage and distribution of surgical supplies that are maintained within SPD for the case cart system, as well as most consumables supplies, implants and other materials used in any surgical/interventional setting
- Assembly of case carts, specialty carts, room carts and procedure carts/set-ups.
- Monitoring and quality assurance testing of all sterilization equipment used throughout the campus including any point of use decontamination or sterilization units used in patient care settings
- Reprocessing of all flexible scopes used throughout the hospital system

Physical Layout

Decontamination

- Equipment will include high-level washer disinfectors; ultrasonic cleaner/dryer and an automated cart washer
- An automated cart washer shall have a utensil cart/rack option to handle hard goods such as ridged instrument containers and miscellaneous utensils that do not require high level decontamination
- Equipment washroom will be provided to accommodate the washing of large equipment and will provide a back-up option for washing carts, stretchers and other wheeled goods
- A clinical sink and the appropriate number of 2, and 3 basin clean-up sinks will be provided. A pass-through window from decontam will be provided to allow delicate instruments to be processed and then wrapped and sterilized in the Prep and Pack area
- A vendor drop off area for loaner tools and sets will be provided. Vendors will also use this area to pick up the loaned items.
- Decontam will be accessed from the adjoining service corridor via vestibule/interchange. This transition area will include a hand wash sink PPE storage anyone entering or leaving the decontam area.

Scope Processing

- SPD will be processing all scopes from Endoscopy
- A dedicated area for the arrival of dirty scopes is located adjacent to endoscopy. Dirty scopes will arrive in totes to the decontam side of scope processing
- Scopes will be cleaned in scope processing and returned to endoscopy to be stored in cabinets within the department.

Prep and Pack

- The equipment clean up room and automated cart washer will exit into the clean side of SPD. The cleaned but still empty case carts will be staged awaiting assembly.
- The completed/filled case carts will be positioned in cart staging
- Instrument racks will exit the washer decontaminators on to accumulation conveyors. Staff will use transfer carts to move the racks from the conveyors to the prep & pack workstations. The racks will be moved to the assembly area for re-assembly and wrapping. As the racks are emptied, they will be returned to Decontam via a return conveyor.
- Once the instruments and instrument sets are wrapped, the heat stable items will be loaded on to special carts and moved to the steam sterilizers.
- Heat and moisture sensitive items will be processed using gas plasma technology such as
- STERRADTM or another replacement technology for ethylene oxide (EtO) sterilization.
- The hot, sterile instruments will cool upon removal from the steam sterilizer. The sterilized goods will be stored on carts to await picking (case carts) or dispatch (floor trays, etc.)
- Pick sheets or preference cards from the surgical information system (SIS) will be printed at a workstation. Technicians will assemble the case carts for distribution to the surgical/interventional suite and other defined users

Sterile and Clean Stores

- SPD will have the capability to store most (80%+) of the surgical instruments, instrument sets and the routine supplies used by the Interventional Suite. The rest of the interventional instrumentation and supplies will be stored in the clean cores, and within the individual operating and/or procedure rooms.
- SPD technicians will pick the required items using the preference cards generated by the surgical information system (SIS). Supplies and instrument sets will be placed into the case cart, and then staged according to their scheduled use and destination.
- Case carts will be transported via a dedicated back of house corridor in the restricted zone of the platform and delivered to the Interventional Suite
- General floor trays and patient utensils will be held for pick-up and delivery by Materials Management distribution staff
- Supply replenishment within SPD will be provided by Materials Management. Items will be de-cased prior to delivery to SPD or to the Interventional Suite
- De-casing can occur at the loading dock or at the vendor facility if a tote/JIT system is employed

Planning Guidelines

Technology Implications

- Use of a computerized information system with instrument management, productivity monitoring and locator/tracking capabilities
- Potential use of robotics to facilitate the routine delivery and return of surgical case carts
- Use of automated loading/unloading capabilities for the instrument washers

- Access to the SIS information system for comprehensive management of case carts and physician preference requirements.
- Other equipment and/or information technology to streamline departmental operations and support to all end users

Intradepartmental

- Decontamination room shall include workstations for unloading case carts and separating instruments; clean up sinks will allow for initial and supplemental cleaning; decontamination will be achieved using automated pass through washers that exit into the prep and pack area
- Staff working in decontamination will enter and depart through an anteroom where they will don protective over garments
- A staging area will be required for holding soiled case carts. Space will also be needed for rinsing, soaking and cleaning of special instrumentation prior to loading onto an ultrasonic cleaner.
- Cleaning solutions will be located in a room, with close proximity to the washers.
- Dedicated environmental service closets are located in the decontamination area and for the clean area of SPD.
- The storage will accommodate case cart staging along with high-density storage systems with access from both ends and adequate aisle space

Staff Areas

- Dedicated male and female lockers, breakroom and toilets are directly across the corridor from SPD and will be shared with the interventional platform.

Access and Circulation

- Physical layout reflects the appropriate flow of staff and instrumentation from contaminated to clean areas as outlined; appropriate storage of sterile goods within department is essential

Ancillary Services – Support from / for

- Material Management is a key supplier to SPD.
- Materials Management will replenish supplies to the Interventional Suite (non-case cart items) and to all other patient care areas including the inpatient-nursing units.

Key Design Features

- Equipment will require specialized power, enclosure systems and water, steam and drain lines. Deionized water systems should be anticipated in the decontamination room
- HVAC system will be designed to meet ANSI/AMMI ST-79, state health department and MVHS infection control standards.
- Ductwork handling exhaust air from the instrument washers, cart washer and sterilizers must be constructed of stainless steel or other non-corroding, non-rusting material.
- Emergency power will be required to keep certain equipment operational at all times
- Floor and wall surfaces must be waterproof and finished with non-organic materials.
- Local steam generators will be required if house steam boilers are not part of the building central plant.

Patient and Staff Safety

- Appropriate personal protective equipment (PPE) storage will be planned for the decontamination area
- Emergency eyewash stations and separate hand washing sinks to be provided in the decontamination area
- Floor surfaces will be slip resistant

Environmental Quality

- Equipment and activities within SPD create unique environmental and mechanical requirements; the entire area must be located, planned and designed to mitigate potential damage to adjacent areas from water leakage or water vapor accumulation
- Soiled areas of SPD must be maintained under negative air pressure; all clean areas within the department must be maintained under positive air pressure (see ANSI/AMMI ST-79)
- There should be sufficient air exchanges, humidity and temperature controls (see ANSI/AMMI ST-79) to mitigate the heat dissipation of the SPD equipment. This is for staff comfort as well as to protect the sterility of instrument packs

LEVELS 3 TO 9

General Description

The design of the typical inpatient care unit is consistent throughout the remaining seven levels. The organization and layout of the floors are based on delivering superior patient-centered care with integrated, multi-disciplinary care teams, maximizing patient safety, reducing error, accommodating families and providing the opportunity for an enhanced patient, family and staff experience.

Each level generally consists of two (2) inpatient units along with shared and other support functions occupying the center hub. The programs throughout the bed tower include:

- Level 3 Critical Care, Administrative, Respiratory Care, Tenant, Housing On Call, Case Management, Risk Management, Infection prevention
- Level 4 Birthing Center (LDR, Postpartum) ,Neonatal Intermediate Care
- Level 5 Intermediate Care, Inpatient Dialysis
- Level 6 Medical/Surgical Care, Pediatric support, Therapy Gym, PT/OT/Speech offices
- Level 7 Medical/Surgical Inpatient Care, Therapy Gym, Quality Analytics
- Level 8 Medical Surgical Inpatient Care, IT Help desk staff
- Level 9 Behavioral Health

Open Core Inpatient Unit Bed Model (Basis for Design of Inpatient Units)

The basis of design for all inpatient care units is the open core model. This arrangement and configuration was strongly supported by and advocated for by nursing, physician and support staff involved in the design process, which included both testing of various floorplan designs and visiting numerous unit examples.

The premise of this plan is to increase visibility and connections between nursing, physicians, patients and other staff. It also strives to bring care closer to the patients and allow the care team to work in a more decentralized manner while still benefiting from team connections.

The overall unit organization consists of patient rooms surrounding a 16 foot wide patient care corridor. One side (8') of the corridor is clear for patient movement. The other 8' zone of the center includes alternating caregiver stations and supply/equipment alcoves along with clear 8' access to patient rooms.

The caregiver stations support every four patient rooms – two pairs across from each other. It includes two seated workstations, two standing workstations and counter area for team use. There is line of sight between each caregiver station as well as throughout the unit. Acoustical controls will be included along corridors and surrounding the care team stations. Patients and families benefit from knowing that the care team is nearby.

The supply/equipment alcoves are standardized along the corridor and will be the same unit to unit so that staff may work anywhere and understand the floorplan layout. While these details have not yet been determined, it is anticipated that alcoves will be dedicated to functions such as, linen, carts, equipment, standard high-use supplies and other functions.

Central to each unit is an additional support zone. This area houses the central medication room, nutrition, clean and soiled rooms. Additional equipment rooms are located towards the center area of the patient floor. It is important to note that no doors are across from patient rooms which also aids in reducing noise levels on the units. To reduce steps by nursing and enable pharmacy efficiency, three med rooms are planned per typical med/surg unit – giving nursing a med room for every 10 rooms.

The entry to each unit includes the 'team center'. This is an open desk for the unit clerk and charge nurse

and serves as a reception point on the unit. In the middle of each unit is an enclosed collaboration room support conversations between care team members and providing additional workspace for physicians and other staff.

Visitors arrive on the floor via the main elevators and are oriented visually towards the family waiting area. They would then go towards the west or south to reach a particular patient's room. At the end of each wing will be a family respite area, encompassing a few seats to allow for a brief getaway from the patient room. Otherwise, family are welcome in patient rooms and are invited to stay overnight. Specific rules regarding numbers of visitors and timing will be determined by hospital and unit leadership. Staff support is located centrally and shared by both units. A large conference room, staff lounge, lockers and offices create the support core.

Each med/surg or intermediate care unit consists of 30 patient rooms, 1 of which is an isolation room. Two rooms per unit also are capable of flexing up to semi private rooms in the event of emergency surge capacity needs. Thus, the actual capacity of the typical unit is 32 beds.

Typical Patient Room

Details of the typical patient room will be design further in the next phases. There are several principles upon which the room layout is based. This includes:

- Standardization of all rooms for easy of use
- Large patient door openings to support patient movement
- Zones for caregivers, patient and family
- Simple direct access from bed to toilet room

Each room is anticipated to support mobile documentation stations dedicated to the patient room. While this could be a "workstation on wheels", the capability to support future technology, including tablet technology is expected.

Each patient room has its own dedicated toilet, automatic bedpan washer, sink and shower. ICU rooms do not include a shower, but otherwise are similar to typical acute care rooms.

Each patient room has a small cabinet for Personal Protection Equipment (PPE). The intention is that this will be accessible from both inside and outside of the patient room. To be developed in future design phases.

LEVEL 3

107 Critical Care (Intensive Care) (note that "Critical Care" terminology to be used to be consistent with FGI)

West Unit: 22 Total Critical Care Beds
1 Critical Care AII (Airborne Infection Isolation) room
2 Critical Care ADA rooms
19 Critical Care typical rooms

East Unit: 20 Total Critical Care Beds
1 Critical Care (Airborne Infection Isolation) room
2 Critical Care ADA rooms
17 Critical Care typical rooms

42 TOTAL Critical Care BEDS

The Critical Care Units follow the typical acute inpatient floor design with modifications to meet requirements for Critical Care level of care.

All the rooms on the Critical Care floor meet the clinical requirements of Critical Care level care, including SF, clear floor area, clearances around bed, headwall dimension, and observation into patient rooms, with some additional space for family presence. The toilet rooms contain toilet, automatic bedpan washer, and sink. 10% of the rooms are fully ADA accessible. Two separate shower rooms are located on each unit for patients who may require a shower.

Care Team Stations

- Decentralized care team stations are positioned around every four patient rooms, approximately. These stations provide seated documentation for 2 staff and standing documentation for another 2 staff. In addition, a central desk is positioned on each unit to support unit clerk, charge nurse and other team members. An enclosed documentation workroom offers ancillary team members, physicians and nursing staff to collaborate within the unit.

Supply/Equipment

- Clean supply rooms, medication rooms, equipment rooms and alcoves and soiled utility rooms are positioned both centrally and distributed along the patient care unit. Equipment storage SF requirement of 20SF per patient room has been met with a central equipment storage per unit and four equipment/supply alcoves per unit with additional equipment alcoves for stretchers/wheelchairs near the patient transport elevators.

Family Spaces

- FGI requirements for critical care include a ratio of 1.5 visitor seats per patient room. This has been accommodated through family lounge space on each unit, and floor lounge space at the main visitor elevators. Additionally, because all rooms are single bedded rooms, family presence is welcomed within the room and a family member may sleep overnight. Per FGI, seating for 2 visitors will be provided in each patient room. There are a number of other family support spaces throughout the hospital.

901 Administrative (Infection Prevention, Case Management, Risk Management)

Infection Prevention staff offices and Case Management administrative offices are located within the 3rd floor center core area. These functions serve the entire hospital. While case managers and social work staff are located on each inpatient unit, supervisors/leadership and support staff are located in this administrative suite.

Infection prevention staff use and open workstation environment and use this office suite as their touchdown space. Infection prevention staff travel to other department areas when meeting with clinical team members.

901 Administrative (Patient Flow Command Center)

The Patient Flow Command Center is a multi-disciplinary suite intended to bring all components of patient flow and movement together. This suite includes bed control, transfer center, dispatch and EVS dispatch into a single center. A large bank of monitors create a visual, real-time patient flow information for all team members.

228 Respiratory Care

The Respiratory Care department specializes in treating respiratory illnesses including chronic lung problems such as asthma, bronchitis, emphysema, and COPD, as well as acute breathing problems associated with serious or life-threatening conditions such as traumatic injury, heart attack, or stroke. MVHS Respiratory therapists are experts in managing life support devices, airway management, mechanical ventilation, and other aspects of critical care medicine.

The respiratory care department includes touchdown space for RT staff who are assigned to various care areas, administrative offices and spaces for cleaning and repairing equipment such as ventilators, C-pap and Bipap machines. Critical Care nursing unit, ED, and PACU all have on unit storage of clean ventilators. Minimal storage is located in this area.

Tenant Masonic Lab

The Masonic Lab is a tenant space to be developed. This location is intended to house research lab space associated with heart tissue procurement. There is a relationship with the cardiac operating rooms on the level directly below this area.

982 Housing On-Call

Six (6) single occupant on-call rooms with attached toilet/showers are positioned centrally on this floor. These are shared use on-call rooms by physicians, residents or others requiring sleeping quarters. Additional on-call rooms are located on the Birthing Center floor (Level 4).

LEVEL 4

General Description

Maternity services, at MVHS called the "Birthing Center", occupies the entire fourth floor.

West Unit:

1	Butterfly PP room (for fetal demise parents)
<u>20</u>	<u>Typical Postpartum single patient rooms with toilet/shower</u>
21	Total Postpartum patient rooms

Center Unit:

1	NICU All (Airborne Infection Isolation) room
<u>7</u>	<u>NICU typical rooms</u>
8	NICU beds

East Unit:

2 Antepartum patient rooms

31TOTAL INPATIENT BIRTHING CENTER beds (includes NICU)

East Unit	8 LDR rooms (1 All Room, Airborne Infection Isolation)
3	Triage/ early labor exam rooms
2	C-Section Operating Rooms
3	Recovery bays

Please note that the LDR beds are not considered inpatient beds on the operating certificate. The total number of inpatient beds on this unit is 23 (comprised of 20 post-partum +1 butterfly room +2 ante partum)."

The Birthing Center is located on the 4th floor of the main bed tower which can be directly accessed from the main entry via elevator or through the Emergency Department via a dedicated back of house elevator. Patients arriving in the ED in active labor will be assessed at ED triage and escorted via cart or wheelchair to the Birthing Center. The overall strategy and approach is to create a unit that supports birthing, postpartum care, and Specialty Care nursery needs within a unified environment that is safe, calming, and supportive of new mothers. Maximizing patient and infant safety spanning the entire continuum of care is paramount and patient, staff and visitor flows are optimized to support this approach.

214 Maternity (Birthing Center – LDR)

Patients arrive via patient dedicated elevators and are greeted on the unit at a single intake point and triaged and evaluated in an exam room pod. Registration will occur at bedside for this patient population. This area is supported by 3 exam rooms, 1 patient toilet and clinical team station. After evaluation, the patient can be moved directly to one of the 2 antepartum rooms adjacent to the triage/exam area or to an LDR room. The LDR rooms are positioned in the back of the unit, closest to team collaborative workstations and decentralized nursing hubs to ensure line of site and patient safety. Dedicated soiled, clean, medication rooms and a pneumatic tube are located in the center to provide ease of access and reduce travel for staff and provide timely care.

LDR rooms (8) are designed to provide care to a delivering mother from arrival to delivery. This room also provides space for the baby after delivery for assessment and evaluation. The rooms are designed to

support all clinical situations for mother and baby and will be equipped with the following items: Birthing bed and ceiling mounted light, warmer, wall mounted gases for mother and baby, cabinets for storage at headwall for fetal monitoring and emergency equipment, clinical documentation workstation and cabinetry with sink upon arrival to support hand hygiene practices, linen storage, and PPE. While provisions are included for baby after delivery, a separate Infant Resuscitation room is also provided to support the unit.

Antepartum rooms (2) adjacent to triage will provide initial care or post-delivery care to mothers that will be delivering in the C-Section room. These rooms are also equipped to provide an environment for initial patient exam, ultrasound or other evaluation. The room will be equipped with the following: Maternity bed, over bed table and bedside chair, bassinette or warmer, wall mounted gases, clinical documentation workstation and cabinetry and sink upon arrival to support required hand hygiene practices, linen storage, supplies and PPE.

214 Maternity (Birthing Center – C-Section Suite)

The C-Section suite consists of 2 C-Section ORs and 3 PACU bays. This area is behind the triage exam space with connection from both triage and LDR via semi-restricted corridor. Surgery/delivery staff entering this space will need to enter via the central core thru a dedicated locker room with staff toilet/shower, change into appropriate attire and exit into the suite on the restricted side. All staff entering from the patient floor side will don appropriate PPE located before doors to surgery suite and will require badge access only. The recovery area has 3 PACU bays with a nurse station supporting both flow of patients coming in and out of suite and monitoring of PACU patients. The PACU bays are adjacent to the ORs and are easily accessed via the restricted corridor. The bays have a standard configuration with 3 walls and a curtain for privacy.

Hand washing sinks will be provided at the bays. Bays will contain post procedure patient cart, supplies and emergency equipment at the headwall. Each bay will have required med gases and clinical workstation for documentation and medication administration.

The OR suite is also supported by a dedicated soiled room, clean/equipment/gas room, Anesthesia work/supply and environmental service room. A locker area supports the unit and C-Section suite. All instrumentation, trays and case carts will be processed by SPD on the second floor with some frequently used processed trays to be stored within the OR suite clean supply room.

214 Maternity (Birthing Center – Post Partum)

The postpartum unit is located in the west wing of the bed tower on the same floor as Labor and Delivery. A separate waiting and family arrival zone is directly off the main visitor elevator bank with controlled access to the unit. The postpartum unit is designed to reflect the typical inpatient room type and size (accommodating FGI post-partum requirements) and provides a toilet/shower room and place for family and visitors. All rooms support a couplet care approach for mother/baby bonding and care. There is one isolation room on the unit to support any airborne infection control situations. A small well baby nursery, contiguous to the Special care nursery is located at the beginning of the unit if the mother is away at a procedure or needs a break to rest. The nursing staff are at decentralized hubs throughout the unit with decentralized supplies and medications distributed across the floorplate.

In a central hub on the floor, there is dedicated soiled, clean supply, and a medication room and pneumatic tube to decrease travel distance for these activities. This design is reflective of all inpatient floors and is standardized throughout the inpatient tower to ensure ease of access, reduce errors and improve timeliness of patient care. The unit also has a team space for huddles or quick conferences with multidisciplinary providers located at the front of the unit. One post-partum room is a dedicated "Butterfly Room" for those mothers and families that have experienced a loss. This room will be located at the end of

the unit and reflect a slightly different design and experience to help mothers and families cope during a difficult time.

To support physician and resident needs, there are 2 sleep rooms for OB/GYN physicians and Anesthesia services located at the end of the unit for quick access when needed.

214 Maternity (Birthing Center – Staff Offices, Support)

Additional support services and staff offices are located within the main hub (bar) of the building. Nurse Manager offices are located near their respective units with offices for case management, social work, clinical educators and laborists collocated. A staff lounge, locker and conference room space is also within the hub and can be accessed from the back of house stair/elevator area. This space will be shared by all units on this floor.

110 Neonatal Intermediate Care

Centrally located between the LDR/C-Section unit and the postpartum unit is an 8 bed special care nursery with space for 4 well baby bassinets. This level II nursery supports and provides basic care to infants that are moderately ill with problems that are expected to resolve rapidly or who are recovering from a serious illness that was treated in a level III nursery. If the level of complexity of an infant should change, the infant would be transported via ambulance or helicopter to another facility. The unit has immediate and direct access to a dedicated large elevator that leads directly to the ambulance entrance and helipad location.

All private Special Care Nursery rooms are provided with doors to provide privacy for families and an environment conducive for neonates. All rooms will have required headwall gases, workstations for documentation, sinks to support appropriate handwashing and space for family to stay overnight if needed.

There is a clinical team station in the center providing line of site to all bays to ensure visibility of patients Alcoves are located within the unit for different bed types required in addition for space to store crash carts and emergency equipment. A dedicated space for the neonatologist is provided adjacent to the unit for documentation and a sleep space if needed. Additional accommodations for long term stay will be provided outside the hospital.

The unit will be controlled by badge access and an infant abduction system will be employed throughout the Birthing Center platform for infant safety. Within the unit, the area is supported by a clean & equipment supply, soiled utility and medication room. Staff will utilize the centrally located staff lounge

LEVEL 5

West Unit:	32	Total 24 Intermediate Care Beds and 8 Coronary Care beds
	1	All private room (Airborne Infection Isolation)
	2	Semi-private rooms (typically used as private room. Sized for 2 patients for emergency use)
	27	Typical private rooms

East Unit:	32	Total Intermediate Care Beds
	1	All private room (Airborne Infection Isolation)
	2	Semi-private rooms (typically used as private room. Sized for 2 patients for emergency use.)
	27	Typical Acute Inpatient private rooms
	64	TOTAL Acute Care Inpatient Beds

Center: 8 Inpatient Dialysis Bays

This represents a typical acute care inpatient floor comprised of two (2) separate units each with 30 inpatient rooms. These units will operate as 30 private bed room in all typical situations. Two (2) rooms on each unit are capable of flexing up to a semi-private room in times of emergency need. Thus, the actual bed capacity on the floor is 64 beds.

736 Baseline Medical Surgical (Intermediate Care Unit) – West Unit

All the rooms on the floor meet the clinical requirements of intermediate level care, including SF, clear floor area, clearance around bed, headwall dimension, and observation into patient rooms, with additional space for family presence. The toilet rooms contain toilet, automatic bedpan washer, shower and sink. All patient toilet rooms accommodate ADA requirements. Each All **(Airborne Infection Isolation) room** (one per unit) includes a dialysis box.

Care Team Stations

- Decentralized care team stations are positioned around every four patient rooms. These stations provide seated documentation for two staff and standing documentation for another two staff. In addition, a team station desk is positioned at the entry of each unit to support unit clerk, charge nurse and transient care team. A centrally located, enclosed collaboration room (labeled documentation) offers ancillary team members, physicians and nursing staff to collaborate within the unit. This room will have glass or other transparent walls at the front edge to maintain overall visualization of the unit.

Supply/Equipment

- Clean supply rooms, medication rooms, equipment rooms and alcoves and soiled workrooms are positioned both centrally and distributed along the patient care unit. Equipment storage SF requirement of 10 SF per patient room has been met or exceeded, with a central equipment storage per unit and six equipment/supply alcoves per unit with additional equipment alcoves for stretchers/wheelchairs near the patient transport elevators.

Family Spaces

- All rooms are single bedded rooms and family presence is welcomed within the room and a family member may sleep overnight. A family lounge is located at the entry to the floor by the visitor elevator. A small respite space is also provided at the end of each unit. There are a number of other family support spaces throughout the hospital.

101 Acute Renal Dialysis

The inpatient dialysis unit supports all acute care units with dialysis needs. The dialysis team travel to the Critical Care units and isolation rooms for patient dialysis. All other acute care inpatients are transported to this setting for dialysis. Eight patient bays surround a team care station. These bays accommodate appropriate clearances and work space for staff.

Dialysis staff clean and store portable units in this suite. Additional spaces include, office (manager), water treatment room, clean supply, equipment storage, cart alcoves, a patient toilet and staff toilet.

LEVEL 6**General Description**

West Unit:	32	Total Acute Med/Surg Beds
	1	All private room (Airborne Infection Isolation)
	2	Semi-private rooms (typically used as private room. Sized for 2 patients for emergency use)
	27	Typical Acute inpatient private rooms
East Unit:	32	Total Acute Med/Surg Beds
	1	All private room (Airborne Infection Isolation)
	2	Semi-private rooms (typically used as private room. Sized for 2 patients for emergency use)
	27	Typical Acute inpatient private rooms
	64	TOTAL Acute Care Inpatient Beds
Center:	1	Therapy Gym
	3	Pediatrics Support rooms (multipurpose play, exam and staff work)

This represents a typical acute care inpatient floor comprised of two (2) separate units each with 30 inpatient rooms. These units will operate as 30 private rooms in all typical situations. Two (2) rooms on each unit are capable of flexing up to a semi-private room in times of emergency need. Thus, the actual bed capacity on the floor is 64 beds.

736 Baseline Medical Surgical (Medical Surgical Unit) - East and West Unit

This unit follows the typical acute care unit design. This med/surg unit is designated as the location for pediatric inpatients when needed.

218 Pediatrics

The East wing med/surg inpatient unit houses any pediatric inpatients requiring general medical/surgical care. Currently, pediatrics has a 1 or 2 day average daily census. An exam room, multi-purpose play room and a child life staff workroom are near the unit entrance.

302 Medical Rehabilitation

Levels 6 and Level 7 have a small inpatient Therapy Gym. The Therapy Gyms support all inpatients needing therapy, which is not accommodated within the patient room or unit. One of these floors will be the primary orthopedics floor and another will be for neuroscience/stroke patients.

The gym includes mat, stairs, parallel bars, suspended gait and an ADL toilet room and floor space for additional treatment. A ceiling lift provides safe patient handling for patients as needed.

Administrative functions for physical therapy, occupational therapy and speech therapy are located on Level 6. Therapists are decentralized to their assigned units, but frequently return to this home-base for collaboration or meetings with managers.

LEVEL 7**General Description**

West Unit:	32	Total Acute Med/Surg Beds
	1	All private room (Airborne Infection Isolation)
emergency use)	2	Semi-private rooms (typically used as private room. Sized for 2 patients for
	27	Typical Acute inpatient private rooms
East Unit:	32	Total Acute Med/Surg Beds
	1	All private room (Airborne Infection Isolation)
emergency use)	2	Semi-private rooms (typically used as private room. Sized for 2 patients for
	27	Typical Acute inpatient private rooms
	64	TOTAL Acute Care Inpatient Beds
Center:	1	Therapy Gym
	1	Quality Management/Analytics offices

This represents a typical acute care inpatient floor comprised of two (2) separate units each with 30 inpatient rooms. These units will operate as 30 private rooms in all typical situations. Two (2) rooms on each unit are capable of flexing up to a semi-private room in times of emergency need. Thus, the actual bed capacity on the floor is 64 beds.

736 Baseline Medical Surgical (Medical Surgical Unit – West Unit)

This unit follows the typical acute care unit design. No additional features have been added

736 Baseline Medical Surgical (Medical Surgical Unit – East Unit)

This unit follows the typical acute care unit design. No additional features have been added

302 Medical Rehabilitation

Levels 6 and Level 7 have a small inpatient Therapy Gym. The Therapy Gyms support all inpatients needing therapy, which is not accommodated within the patient room or unit. One of these floors will be the primary orthopedics floor and another will be for neuroscience/stroke patients.

The gym includes mat, stairs, parallel bars, suspended gait and an ADL toilet room and floor space for additional treatment. A ceiling lift provides safe patient handling for patients as needed.

901 Administration (Quality)

This suite is the main administrative suite for quality analytics and management programs. It includes offices for director, AVP and a workroom for quality improvement physicians. Workstations for administrative assistants support staff in this location.

General Description

West Unit:	32	Total Acute Med/Surg Beds
	1	All private room (Airborne Infection Isolation)
	2	Semi-private rooms (typically used as private room. Sized for 2 patients for emergency use)
	27	Typical Acute inpatient private rooms
East Unit:	32	Total Acute Med/Surg Beds
	1	All private room (Airborne Infection Isolation)
	2	Semi-private rooms (typically used as private room. Sized for 2 patients for emergency use)
	27	Typical Acute inpatient private rooms
	64	TOTAL Acute Care Inpatient Beds
Center:	1	IT Help Desk and IT professionals
	1	tbd/ unassigned office area

This represents a typical acute care inpatient floor comprised of two (2) separate units each with 30 inpatient rooms. These units will operate as 30 private bed room in all typical situations. Two (2) rooms on each unit are capable of flexing up to a semi-private room in times of emergency need. Thus, the actual bed capacity on the floor is 64 beds.

736 Baseline Medical Surgical (Medical Surgical Unit – West Unit)

This unit follows the typical acute care unit design. No additional features have been added

736 Baseline Medical Surgical (Medical Surgical Unit – East Unit)

This unit follows the typical acute care unit design. No additional features have been added

901 Administration (IT Systems)

The administrative suite on Level 8 houses IT help desk staff and other IT professionals needed for support of the hospital functions. The suite includes mainly open office workstations for approximately 16 staff, a director office and a small area for IT storage and set-up. This area is intended for small scale work and is supplemented by other off-site IT locations.

General Description

West Unit:	22	Behavioral Health Beds
	18	Private room
	2	Semi-Private rooms
East Unit:	22	Behavioral Health Beds
	18	Private rooms
	2	Semi-Private rooms
	44	TOTAL Behavioral Health Beds

The inpatient mental health unit at MVHS is located on the 9th floor of the inpatient bed tower and has direct connection to the Emergency Department via a dedicated back of house elevator that is in close proximity to the behavioral health pod in the ED. This allows convenient access for patient, families and staff and facilitates safe transport of this patient population. The goal of this locked inpatient unit is to promote a safe recovery oriented environment. Some key concepts of this unit involve open bright spaces, non-institutional home-like environment and configuration, neighborhood or pod like design to promote social engagement and interaction with staff.

201 Psychiatric (Behavioral Health Beds)

There are two behavioral health units with 20 patient bedrooms in each bed wing. Each room has a bathroom that is planned to provide patient safety while maintaining a normal environment that respects privacy and dignity. The overall unit design supports a neighborhood configuration with an activity room, group room, dining area, nourishment, comfort/quiet space, laundry, and access to secure outdoor space directly off the unit. The space is free of blind corners and the nursing station is located at the beginning of the unit and can view the entire unit and arrival and exit points.

Arrival to each unit consists of two interlocking doors at the entrance (sally port) and is required to prevent patient elopement and ensure items are not brought on to the unit that could cause harm to the patient or others. Behavioral health staff and security will man these entrances based on time of day. Lockers will be provided within a waiting space external to the unit for visitors to utilize when visiting the unit. A small waiting area for family is directly off the main elevator and a consult room is available for private conversations in this zone.

A small suite of 2 seclusion rooms are provided directly off the back of house elevator and corridor to provide safety for patients requiring this level of behavioral control. Space is provided for staff and security to monitor patients directly and document safety requirements. In addition to seclusion, 3 patient rooms are directly adjacent from each unit within the core for initial triage from the Emergency department and utilization for placement decision within the neighborhood. This provides the opportunity to assess patient prior to being within the milieu.

Staff Lockers, lounge and conference room are located in the connector hub towards the north side of the building to provide opportunity to get off the unit and decompress. The area provides daylight and views. Additional offices are also located in the hub area for nurse managers, social work, and counselors. Shared equipment and other storage provided within the core for secure storage

201 Psychiatric (Outdoor Courtyard)

Each behavioral health unit (neighborhood) has direct controlled access to an outside secured courtyard. The space will provide areas for activities, group work, and other events while also providing the opportunity to calm and decompress. This area can only be accessed via card reader and staff will be accompanying and supervising the patients in this area. Patients will not be permitted to utilize this space without staff. The goal is to provide a garden like space for patients to relax and enjoy outdoor space. Walls and screening will be designed to provide safety for all patients.

BUILDING EXTERIOR – ARCHITECTURE and CLADDING

The MVHS Integrated Health Campus consists of a 2 story podium and a 7 story bed tower. All elevations of the building, both the podium and the tower, incorporate a mix of curtain wall glazing and a primarily brick cladding system referencing the history of the architecture in Utica and the adjacent context.

The various solar orientations of the project necessitate a solution that allows for a maximum standardization in natural daylight and views while simultaneously negotiating solar heat gains on various facades. This is accomplished with a glazing system with high-performance coatings, along with a mechanical system, that mitigates heat gain. Other elevations that contain back-of-house support spaces do not require expansive views. Accordingly, these walls have been designed with considerably less glazing, further reducing solar loads.

Vehicular and pedestrian entries are marked by canopy systems that provide adequate coverage for public drop off, ED walk-in and loading. Vestibule geometries are designed to mitigate the prevailing seasonal winds on the site. Ambulance traffic is provided with a sally port adjoined to the podium.

Behavioral Health, located on level 9, has 2 outdoor areas that are surrounded by vertical enclosure that is designed to be non-climbable and at a height to provide proper security for the patient population. The building roofs are understood as a multi-acre façade that will have a major impact on the energy performance of the project. All project roofs have high insulation values and employ cool roof technologies in order to minimize heat island effect. Rooftop mechanical equipment, on the roof of level 2 and roof of level 8 and 9, is screened with an opaque vertical cladding system, open to above, screening direct views from the patients and staff as well as the community.

The 3 story Central Utility Plant, serving the building, is adjoined to the podium and clad in a material to integrate it with the overall project, brick and the appropriate amount of louvers providing air intake and exhaust for the equipment.