



State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Department of Administrative Services

KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management

DAVID G. BUXTON
Director

ADDENDUM #2

Date: 26 August 2009

To: CMGC'S

From: Bill Bowen, Project Manager, DFCM

Reference: University Neuropsychiatric Institute Expansion

DFCM Project #: 09029750

Subject: **Addendum No. 2**

Pages:	Addendum	1 page
	UNI Program (draft copy)	221 pages
	Total Pages	222 pages

Note: *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.*

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

1. **SCHEDULE CHANGES** – No schedule changes
2. **General:**
 - 2.1. A “DRAFT” copy of the program is attached. Please use at your own discretion.

End of Addendum



University Neuropsychiatric Institute Expansion
Program Document
August 25th 2009

DFCM Project #: 09029750
UofU Project #: 20161





Table of Contents

Table of Contents	1	3.7 Code Analysis	42
Review Signatures	3	3.8 Structural	48
Acknowledgements	4	3.09 Mechanical/Plumbing	50
1.0 EXECUTIVE SUMMARY	7	3.10 Electrical	55
1.1 Project Description	8	Lighting	55
1.2 Code Authority and Project Jurisdiction	9	Power Distribution	55
1.3 Area Summary	10	Fire and Safety	57
1.4 Cost Estimate Summary	11	Special Systems	57
1.5 Project Schedule	12	3.11 Sustainability	58
2.0 SITE ANALYSIS	13	4.0 SPACE OUTLINE	61
2.1 Location	14	4.1 Site Considerations	62
2.2 Topography	14	4.2 Internal Relationships	62
2.3 Existing Conditions	14	4.3 Adjacency Diagrams	65
2.4 Building Orientation and Views	15	Level One Public Area Adjacency Diagram	65
2.5 Site Access	16	Patient Services Suite Adjacency Diagram	67
2.6 Site Utilities	16	Operations Adjacency Diagram	67
Storm Drainage Plan	19	Patient Unit Adjacency Diagram	68
Utilities Plan	20	4.4 Zoning Diagrams	69
2.7 Research Park Requirements	21	4.5 Circulation Diagrams	71
2.8 Parking Analysis	21	4.6 Area Summary	73
2.9 Geotechnical Considerations	22	5.0 ROOM DATA SHEETS	85
2.10 Site Analyses and Site Planning Schemes	23	6.0 COST ANALYSIS	191
Site Planning Scheme 1	25	6.1 Program Phase Cost Model	192
Site Planning Scheme 2	26	6.2 Furnishings Cost Estimate	197
Site Planning Scheme 3	27	7.0 APPENDIX	199
Site Planning Scheme 4	28	7.1 Preliminary LEED Checklist	200
Site Planning Scheme 5	29	7.2 Geotechnical Report	205
2.11 Construction Phasing Diagrams	30		
3.0 BUILDING REQUIREMENTS	33		
3.1 Building Functions	34		
Existing Building	34		
New Building	34		
3.2 Building Expansion Organization	36		
3.3 Special Requirements	37		
3.4 Current Patient Population	38		
3.5 Behavioral Health Facility Design Challenges	39		
3.6 Food Facility Design Narrative	40		



Review Signatures

University of Utah Neuropsychiatric Institute
Building Expansion Program Document

We have reviewed the College of Nursing Program Document and warrant that it adequately represents our request for a facility to fulfill our mission and programmatic needs. All appropriate parties representing the University have reviewed it for approval.

Ross VanVranken Date
Director, University Neuropsychiatric Institute

William McMahon, M.D. Date
Chair, University of Utah Department of Psychiatry

Chrissy Daniels Date
University Hospital Executive Offices

Deborah Alto Date
Project Manager, University of Utah

William Bowen Date
Project Manager, DFCM

Steven D. Panish Date
Assistant Vice President, Health Sciences

Acknowledgements

Department of Facilities Construction and Management

William Bowen, Project Manager

University of Utah

Campus Design and Construction

Deborah Alto, Project Manager

Office of Senior Vice President Health Sciences

Steve Panish, Assistant Vice President for Capitol Programming and Space Management

James Bardsley, Associate Vice President for Finance and Planning

University Health Care Executive Offices

Quinn McKenna, Chief Operating Officer

University Health Care

Chrissy Daniels, University Hospital Executive Offices

William Holt, University Hospital Executive Offices

Facilities Planning

Eric Browning, Campus Planner

University Neuropsychiatric Institute

Ross Van Vranken, Executive Director

Thomas Woolf, Director of Clinical Services

Michael Lowry, Medical Director

Dennis Moss, Director of Operations

Mary Talboys, Assistant Executive Administrator

Cristine Platt, Manager of Communications

Karen Fullmer, Administrative Assistant to the Medical Director

Department of Psychiatry

William McMahon, Department Chair

Programming User Groups

Patient Services Suite/Admissions/UR Group

Mary Talboys, Group Leader

John Benich

John Higgs

Stephanie Johnson

Julia McDaniel

Stacey Leventis

Ilona Fasselin

Adult Locked Unit Group

Lucy Vanwagoner, Group Leader

Greg Smith

Galena Reiter-Thomson

Jason Hunziker

Mike Trapletti

Roxanne Bartel

Paula Gibbs

Stefan Lalor

Gerri Ulibarri

Christine Burns

Ellois Bailey

Barbara Jefries

Carolyn Fugal

Dennis Moss

Adult Open Group

Barbara Kahl, Group Leader

Bob Birch

Beth Howell

Lowry Bushnell

Julee Millard

John Workman

Teresa Lopez

Amanda Speer

Shannon Simonelli

Deanna Reilly

Acknowledgements (Continued)

Programming User Groups (Continued)

Youth Unit Group

Rachelle Wilson, Group Leader
Howard Weeks
Dyana Adamson
Thomas Woolf
Amanda Miller
Kristi Kleinschmit
Scott Sonntag
Joel Covington
Margaret McKinney

Operations Group

Dennis Moss, Group Leader
Blaine Castagno
Sheila Flores
Carolyn Klassen
Rebecca Hyde

Existing Building Group

Becky Schaefer, Group Leader
Dennis Moss
John Higgs
Jim Kahn
Erin Taylor
Jeff Watabe
Laura Steiner
Cris Platt
Karen Morlock
Russ Spence

Department of Psychiatry Group

William McMahon, Department Chair
Dan Hogge
Josette Dorius
Doug Gray
Len Schmidt
Steve Ross
Michael McIntosh
Michael Lowry

Program Consultant Team

FFKR Architects

Rick Frerichs, Project Manager
Michael Dolan, Assistant Project Manager
Eric Thompson, Architect
Russ Bachmeier, Architect

Behavioral Health Facility Consulting

Jim Hunt, Architect

Reaveley Engineers + Associates

Jeff Miller, Structural Engineer

Colvin Engineering Associates

Thomas Colvin, Mechanical Engineer
Jon Burrows, Mechanical Engineer

Spectrum Engineers

Jeff Richards, Electrical Engineer
Carlton Getz, Electrical Engineer

Stantec Consulting Inc.

Ken Engstrom, Civil Engineer

Miller & Jedrziwski Associates

Ric Jedrziwski, Food Service Consultant

Construction Control Corporation

Ken Ament, Cost Estimator
Kris Larson, Cost Estimator

ArcSitio Design, Inc.

Steven Gilbert, Landscape Architect



1.0 EXECUTIVE SUMMARY

1.1 Project Description	8
1.2 Code Authority and Project Jurisdiction	9
1.3 Area Summary	10
1.4 Cost Estimate Summary	11
1.5 Project Schedule	12

1.1 Project Description

Introduction

The existing University Neuropsychiatric Institute is a full service psychiatric hospital located in the southeast corner of University Research Park in Salt Lake City. The facility was completed in 1985 and includes 90 beds in 45 double occupancy rooms, as well as all necessary facilities to support inpatient and outpatient psychiatric care. UNI has been operating at capacity for several years, and is regularly turning patients away due to lack of bed space. Furthermore, there is a critical shortage of psychiatric hospital space serving the Salt Lake area, and the region. The expansion of the University Neuropsychiatric Institute will be an important step in filling this critical need. The following are the critical issues that have been identified by the programming effort which must be addressed in the design of the UNI expansion.

Additional In-patient Beds

UNI has determined through business analysis and this programming process that the expansion should optimally accommodate 5 additional patient care units, each containing 16 beds. The new units will be designed with excellent common patient areas and adequate staff support space.

Single Occupancy Rooms

The existing UNI facility has only double occupancy rooms. While double occupancy rooms will continue to be acceptable for certain patient populations, the standard of care in psychiatric hospitals has moved to single occupancy rooms. The new facility will contain only single occupancy rooms.

Appropriate Entrances

The front door of the existing facility serves as the entrance for walk-in patients, ambulance arriving patients, family members, visitors, and staff. This commingling of building users is not appropriate or workable, and will be corrected by the new, expanded facility.

Properly Located Patient Services Suite

The existing patient services suite is too small and inefficient to serve the expanded facility. It is also poorly located with respect to the main entrance of the existing building. It is recommended that a new Patient Services Suite be constructed in the new building that is strategically located to serve the needs of the patient.

Adequate Meeting Space

Meeting space at the current UNI facility is limited to one small and one medium sized conference room. The expansion must provide additional small, medium, and large conference rooms.

New Kitchen Facilities

UNI serves meals to both patients and staff in the current kitchen and dining facility. The kitchen also prepares meals on trays for patients who are confined to their units. The existing kitchen and serving facilities are inadequate, and the inadequacy will be compounded with the addition of more patient beds. Furthermore, the existing kitchen and dining facility will not be centrally located in the expanded facility. A new, centrally located kitchen and dining facility, with a tray-line for preparation of on-unit tray service, and a scramble type dining rooms serving area are required in the new facility.

Outdoor Space for Patients

The average patient stay at UNI is 9 days, and it is important that patients have access to outdoor spaces. The current UNI facility has limited secure outdoor space for patients. The expansion should be designed to provide convenient access to outdoor space that is secure without feeling confining. The space should take advantage of the wonderful views to nature afforded by the site.

Department of Psychiatry

The University of Utah Department of Psychiatry offices are currently located in the School of Medicine. The program for the UNI expansion creates space to allow the Department to be located within the Institute. Consolidating the Department functions into one area in the expanded UNI facility will strengthen the missions of both the Department and UNI.

Adequate Parking

The existing UNI facility has 177 surface parking spaces, and there are currently times when there is not adequate parking. The biggest demand is during the shift change between 3:00 pm and 3:30 pm when the staff for two shifts are in the building simultaneously. Additional parking is needed to correct the current deficiencies as well as to accommodate the facility expansion. It is anticipated that planning for the expanded facility should provide for at least 325 parking spaces.

Design Goals to Facilitate Effective Patient Treatment

In order for the new facility to be an effective tool in the treatment of psychiatric patients, the following design goals should be at the forefront during the design phase of the project.

1. The entrance to the facility should be designed to calm the fears of arriving patients and family members. The use of warm, natural materials, and natural light should be encouraged. Help should be immediately apparent, and way-finding should be direct and obvious.
2. The patient intake suite should be immediately accessible to the entrance. The design of this facility should allow intake activities to be carried out in a way that does not contribute to the anxiety or agitation of the patient. The intake suite should be integrated in to the total facility so that transport to the proper unit is accomplished quickly and without crossing public areas.
3. Safety in the patient rooms must be of foremost consideration, but the rooms must also not be overly institutional, and should afford views to nature.
4. Effective psychiatric treatment typically dictates that patients not isolate themselves in their rooms, but rather spend their time in the units common activity areas. The design of the unit and the activity areas must encourage patient use, and allow for appropriate staff control.
5. The public spaces in the building which are accessible to patients with privileges must be calming and normalizing. Circulation and access must be straightforward, and the spaces should incorporate warm materials and provide natural light and views.

1.2 Code Authority and Project Jurisdiction

Building Official

DFCM Utah State Building Official Contact: Enzo Calfa

Fire Marshal

UofU Hospital's Office of the State Fire Marshal Contact: David Limberg

Healthcare Facility Licencing

Utah Department of Health Contact: William Bonn

Codes and standards that apply to the design of this building:

- 2006 International Building Code
- 2006 International Fire Code
- 2006 International Energy Conservation Code
- DFCM Design Manual – March 15, 2006
- AIA Design Guidelines for Health Care Facilities (2003)
- 2003 Utah Administrative Code Health Facility Licensing Construction Rules
- NFPA 99, 1999 Edition, Standards for Health Care Facilities
- NFPA 101, 2000 Edition, New Health Occupancies

Structural

- American Institute of Steel Construction (AISC) with Commentary
- ACI 318 Building Code Requirements for Reinforced Concrete
- ACI 530 Building Code Requirements for Masonry Structures
- American Iron and Steel Institute (AISI) Specifications for the design of Cold-Formed Steel Structural Members
- American Welding Society (ANSI/AWS) D1.1 Structural Welding Code
- Steel Joist Institute (SJI) for open web Joists and Girders
- Steel Deck Institute (SDI) for Metal floor and roof Decks

Mechanical

- 2006 International Mechanical Code
- 2006 International Plumbing Code

Electrical

- NFPA 70 - National Electrical Code (2009)
- NFPA 101 - National Life Safety Code (2006)

1.3 Area Summary

Note: Net to gross area ratios based on test fit floor plans

LEVEL 1	
Department of Psychiatry	
Psychiatry NSF	10,385
Psychiatry Department Gross	15,010
Psychiatry Net/Gross Ratio	69.19%
Patient Services Suite	2,374
Common Areas	9,070
Level One NSF Total	21,829
Level One Gross Footprint	33,963
Level One Net/Gross Area Ratio	64.27%
LEVEL 2	
Common Areas	9,490
Operations	2,034
Acute Stabilization Unit	7,370
Unit Service Areas	870
ITU North Expansion	550
Level Two NSF Total	20,314
Level Two Gross Footprint	32,455
Level Two Net/Gross Area Ratio	62.59%

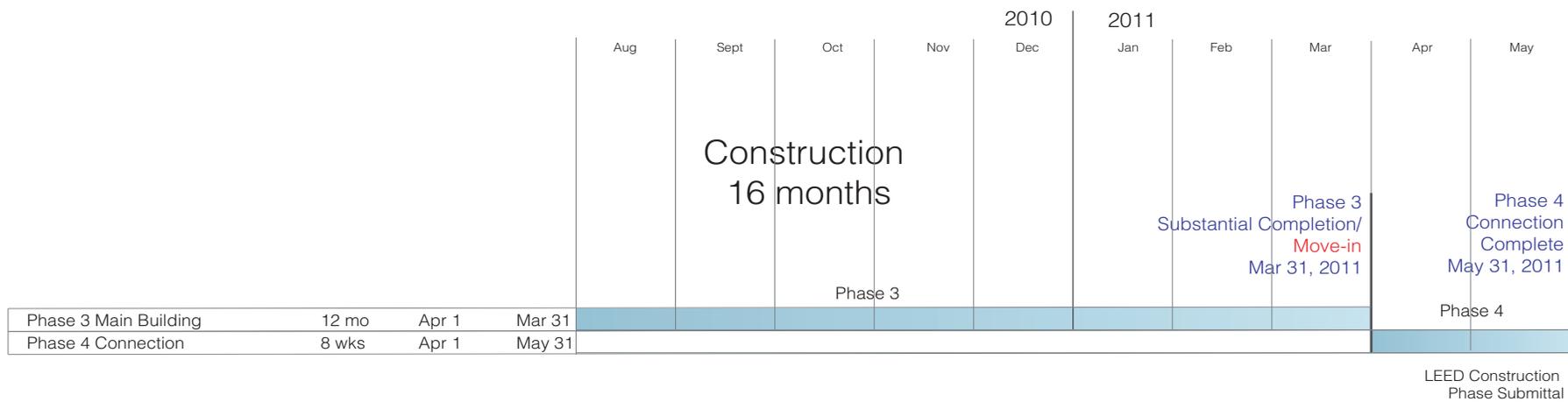
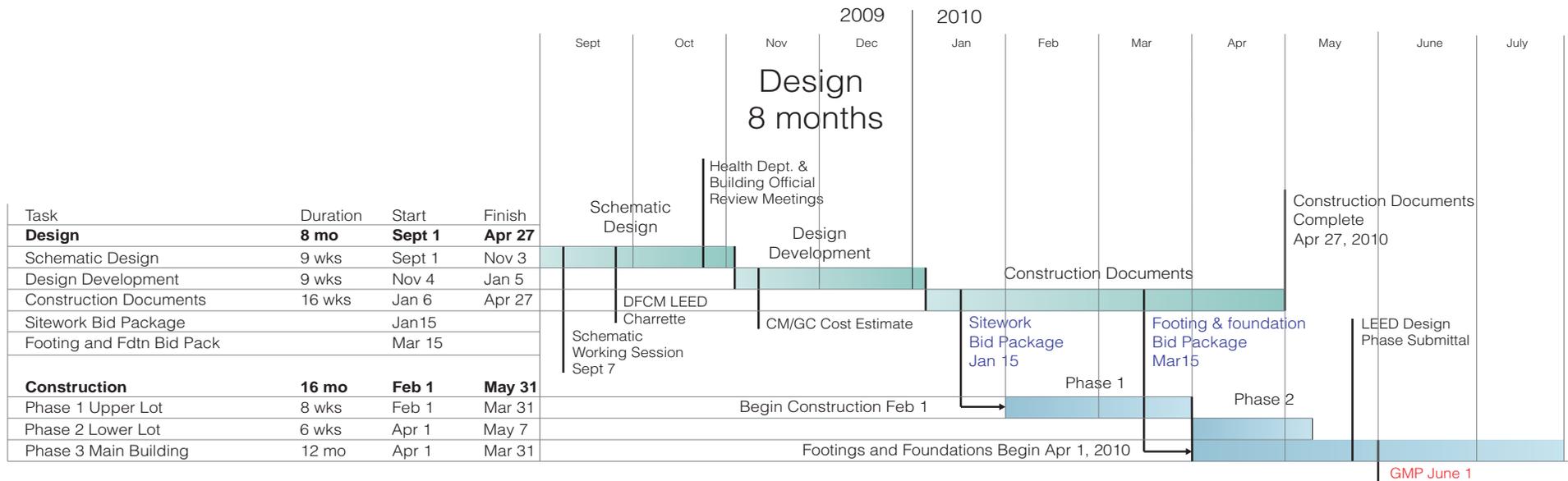
LEVEL 3	
Adolescent Unit	7,360
Childrens Unit	7,370
Shared Unit Service Areas	1,080
Level Three NSF Total	15,810
Level Three Gross Footprint	24,350
Level Three Net/Gross Area Ratio	64.93%
LEVEL 4	
New Adult North Unit	7,360
New Adult South	7,370
Shared Unit Service Areas	1,080
Level Four NSF Total	15,810
Level Four Gross Footprint	24,350
Level Four Net/Gross Area Ratio	64.93%
Building Totals	
Net SF Total	73,763
Building Gross	115,118
Building Net/Gross Area Ratio	64.08%

1.4 Cost Estimate Summary

Detailed cost model presented in Chapter 6.

PROJECT ESTIMATE		CONSTRUCTION CONTROL CORPORATION		8/25/2009
PROJECT NAME.....UNIVERSITY NEUROPSYCHIATRIC INSTITUTE ADDITION				
LOCATION.....SALT LAKE CITY, UT				
ARCHITECT.....FFKR SF 115763				
STAGE OF DESIGN.....PROGRAMMING				
CSI #	DESCRIPTION	UNIT QTY	UNIT COST	
BUILDING COST ESTIMATE				
02	SITE WORK		\$ 25.12	\$ 2,908,163
03	CONCRETE		\$ 8.60	\$ 995,714
04	MASONRY		\$ 11.96	\$ 1,384,553
05	METALS		\$ 25.04	\$ 2,898,544
06	WOODS & PLASTICS		\$ 8.89	\$ 1,029,111
07	THERMAL & MOISTURE PROTECTION		\$ 9.86	\$ 1,140,925
08	DOORS & WINDOWS		\$ 18.97	\$ 2,196,421
09	FINISHES		\$ 25.55	\$ 2,957,918
10	SPECIALTIES		\$ 2.83	\$ 327,853
11	EQUIPMENT		\$ 5.83	\$ 675,000
12	FURNISHINGS		\$ 0.88	\$ 101,889
13	SPECIAL CONSTRUCTION		\$ 2.70	\$ 312,500
14	CONVEYING EQUIPMENT		\$ 2.89	\$ 335,000
15	MECHANICAL		\$ 44.88	\$ 5,195,602
16	ELECTRICAL		\$ 34.03	\$ 3,939,763
SUBTOTAL			\$ 228.04	26,398,953
	GENERAL CONDITIONS	8%	\$ 18.24	2,111,916
	OVERHEAD & PROFIT	4%	\$ 9.12	1,055,958
	DESIGN CONTINGENCY	15%	\$ 34.21	3,959,843
TOTALS			\$ 289.61	\$ 33,526,671

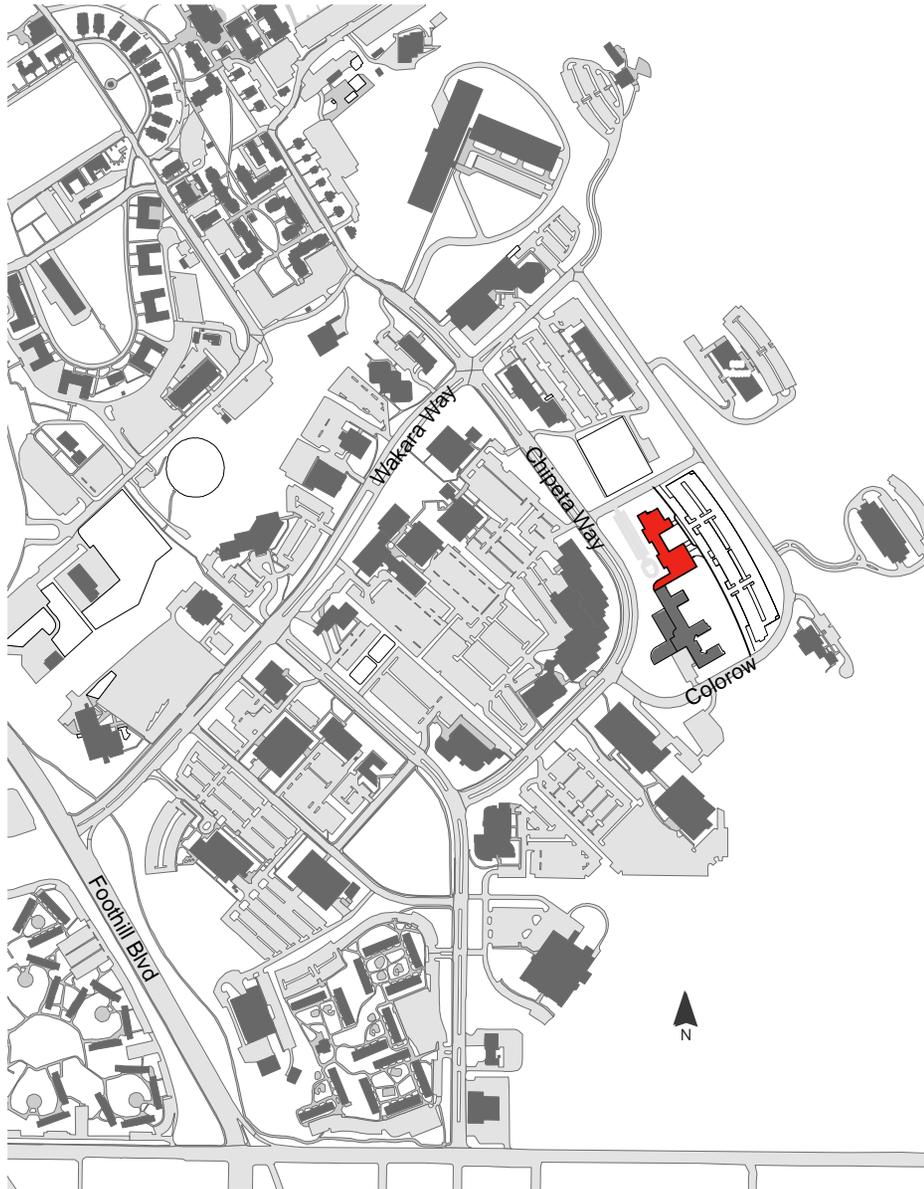
1.5 Project Schedule



2.0 SITE ANALYSIS

2.1 Location _____	14
2.2 Topography _____	14
2.3 Existing Conditions _____	14
2.4 Building Orientation and Views _____	15
2.5 Site Access _____	16
2.6 Site Utilities _____	16
Storm Drainage Plan	19
Utilities Plan	20
2.7 Research Park Requirements _____	21
2.8 Parking Analysis _____	21
2.9 Geotechnical Considerations _____	22
2.10 Site Analyses and Site Planning Schemes _____	23
Site Planning Scheme 1	25
Site Planning Scheme 2	26
Site Planning Scheme 3	27
Site Planning Scheme 4	28
Site Planning Scheme 5	29
2.11 Construction Phasing Diagrams _____	30

2.1 Location



2.2 Topography

The site of the Neuropsychiatric Hospital slopes steeply up from Chipeta Way towards the mountains to the east. The total elevation gain across the site is approximately 85 feet. Several schemes were tested during the feasibility planning. The selected scheme efficiently places the building and parking lots parallel to the site contours. The scheme places the main public entrance of the overall facility at Level 1 facing Chipeta Way. The Ambulance, Staff, and Service Entrance are located on the back side of the building where, because of the site slope, they enter the building on Level 2.

2.3 Existing Conditions

The site is located in the University of Utah, Research Park on the east bench of Salt Lake City. The site is bounded by Salt Lake City streets, Chipeta Way on the west, Colorow Drive on the south, east and northeast, and Tabby Lane on the northwest. Research Park is a low density research intensive area, with most of the buildings several hundred yards apart, abundant green space and large areas of on-grade parking. Northwest of the site across Tabby Lane is a historic military cemetery. West of the site across Chipeta is a large 2 story research lab. East of the site across Colorow is a small private treatment facility at the corner and a major corporate headquarters set higher on the bench away from the road. There is moderate to low traffic on Chipeta Way with low traffic on the other two roadways.

The existing hospital building is located in the south corner of the site with the existing parking to the northwest. The main patient, visitor and staff parking is accessed off of Tabby Lane, with service access and a small staff parking area off Colorow Drive. The existing building is a two story structure located primarily parallel with the natural slope of the terrain. The main entry is located at the northwest end of the building, and the service entry is on the south side.

Pedestrian traffic is concentrated on site between the parking and the building. There is no pedestrian traffic from off site to the building, except from the bus stop at the corner of Chipeta and Tabby. Bus riders now walk up the hill to the site access drive and walk up the drive to the building.

2.4 Building Orientation and Views

The existing UNI facility is oriented with its front entry facade facing the site's main approach road, Chipeta Way, to the southwest. The feasibility planning determined that the expanded facility should continue to present its front face and public entrance towards Chipeta Way. The expanded facility will be over 800 feet in length, and the new four story building addition presents the opportunity to create an entrance that is a clear landmark to the public.

Views

The site of the University Neuropsychiatric Institute is blessed with excellent views in nearly every direction. The exception is that on the lower levels, the views to the valley and mountains to the west have as their foreground the unsightly rooftop mechanical systems of the building across the street. Because the main building entrance was determined to face Chipeta Way to the west, the feasibility plan envisioned that the main entry sequence focus patients and visitors immediately thorough a transparent lobby to a new courtyard, with mountain views beyond.



Southeast View



North View



West View

2.5 Site Access

The site is high up in the east corner of Research Park, and there are several points of vehicle access into and through Research Park. The primary vehicular route to the site will be from the north or the west on Chipeta Way. Because of the density of buildings and distance between buildings there is no pedestrian circulation to the site. There is a public bus stop on the west corner of the site at the intersection of Chipeta Way and Tabby Lane. This bus stop will remain.

The visitor, patient, and ambulance access to the site will be off Tabby Lane just northeast of the intersection with Chipeta. This will provide a large drop-off area at the main entrance to the building, designated visitor parking with accessible parking, and the ambulance entrance to the facility. All of the access to this side of the building will be at Level One, which aligns with Level One of the existing building.

The existing staff / service parking area is accessed off Colorow Drive on the south side of the existing building. This parking area and access to the site will remain unchanged.

All of the new and relocated staff parking will be northeast of the building complex. A new access road will be constructed northeast of the building complex connecting to Colorow Drive on the south and Tabby lane on the north. This new road will provide access to the staff parking as well as service access to the building. All of the access to this side of the building will be at Level Two.

The visitor parking and drop-off turn around will provide fire department truck access to the main entrance and west side of the building. The new access road on the northeast side of the building will provide fire department truck access to the uphill side of the facility. The fire department access to the existing parking area on the south side of the existing building will remain.

An accessible route needs to be incorporated from the existing public bus stop, up the hill, to the main building entrance. No upgrade or improvement to the existing bus stop is planned.

2.6 Site Utilities

Power

Utility power will be supplied by Rocky Mountain Power to the site through a single utility connection point approximately located at the northeast end of the new building. Rocky Mountain Power will provide utility service to the building at 480/277 volts, three phase.

Utility infrastructure will be primarily installed by the contractor with limited installation of primary feeders by the utility company.

Presently, it is currently anticipated that Rocky Mountain Power will locate a sectionalizer near the intersection of Tabby Road and the west entrance to the new parking lot, served from an existing sectionalizer located at the southwest corner of the intersection of Chipeta Road and Tabby Road. The sectionalizer will feed the building's utility transformer located in the vicinity of the open space between the staff entry to the building and the service entry to the building, located on the east side of the building. A new current transformer (C/T) cabinet and utility meter will be located on the exterior of the building in this general area. The infrastructure installed by the contractor for utility grid services will consist of (2) 6" empty conduits with pull strings from the existing sectionalizer to the new sectionalizer, (2) 6" empty conduits with pull strings from the new sectionalizer to the new utility transformer, and (12) 4" conduits with #500 kcmil copper feeders from the new utility transformer to the new switchboard serving the building.

The existing building is served by an existing switchboard fed from an existing utility transformer on the south side of the existing building. It is currently anticipated that this service will be disconnected and a new service will be provided to this existing switchboard subfed from the new switchboard installed in the new building. The subfeed feeders will run from the location of the new switchboard underground and exterior to the building along the east side and south sides of the existing building. The subfeed infrastructure will consist of (6) 4" conduits with #500 kcmil copper feeders running from the new switchboard to the existing building switchboard. The subfeed feeders will enter the existing building at essentially the same location as the existing utility service to the existing building.

Telecommunications

Fiber optic telecommunication cabling will be provided from the existing tele-communications manhole located at the southwest corner of Chipeta Way roughly located on the north end of the new site. Fiber optic cable will be provided from this existing location via (2) 4" conduits with 2" interduct in each from the manhole location running along the north end of the new building and into the new utility yard.

Lighting

Site lighting will comply with the recommended lighting levels as recommended by the IEEE guidelines for site lighting applications. In order to minimize lighting levels and energy use while meeting the client's lighting objectives for site lighting, localization sensors may be incorporated into the site lighting fixtures to increase local illumination levels based on usage. Parking lot site lighting will be achieved using directional LED fixtures with directional refractor lenses mounted on poles while site lighting for walkways, stairs, etc., will be achieved using LED fixtures mounted in bollard fixtures or, depending on the application, within side-walls for staircases, etc.

Culinary Water

Water is provided by Salt Lake City. Existing public 12" water lines exist in Chipeta Way and Colorow Drive. No water line exists in Tabby Lane. Approximate static water pressures from the city's water model are 57 psi at the high point in Colorow on the east side of the project site, 65 psi at the intersection of Colorow and Tabby and 85 psi at the intersection of Chipeta and Tabby.

Salt Lake City Public Utilities Department has stated that only a single water meter will be allowed to serve the existing building and the new expansion. This is due to a city ordinance that only allows one water service and meter for each property. The existing building has a 4" size service and meter on the south side which is likely to be large enough for the existing building and new addition. The mechanical engineer will need to study the existing and new building water demands to verify this. A new on-site water line will connect to the existing 4" water service after the existing meter and will extend around the existing building to connect to the new building expansion. A separate new water service and meter may cost less than extending a new water line around the existing building. Further investigation needs to be done with Salt Lake City to see if this option would be allowed despite the city's initial rejection.

Fire Protection

The existing public water lines are expected to provide fire protection water to the new building expansion. Flow tests on the existing water lines should be done to verify the water pressures and flow capacities. The existing building has two 8" fire protection water connections. These may be sufficient to serve the new building expansion, and this will be verified by the mechanical engineer. The existing connection on the north side of the existing building will need to be rerouted to avoid having the existing connection under the new building expansion. The existing 8" fire line will be extended into a riser closet in the new addition to supply this portion of the building. A new 6" fire line will be routed through the new connector link back into the riser on the north end of the existing building to supply the north end of the existing building.

Three new fire hydrants will be required along the new east side site access road. A new 8" fire line will connect to the Salt Lake City water line in Colorow on the south end of the site, run north along the new site access road to Tabby Lane, and then turn east to connect back into the city water line near the intersection of Tabby and Colorow.

Sanitary Sewer

Sanitary sewer service is provided by Salt Lake City. Existing public 8" sanitary sewer lines exist in Chipeta Way, Colorow Drive and Tabby Lane. The existing building has a 6" sanitary sewer lateral that connects to the main in Chipeta Way.

Salt Lake City allows multiple sanitary sewer laterals for a single property. The new building expansion will need a new sanitary sewer lateral that will connect to the existing main in Chipeta Way. A grease separator will be needed for kitchen waste. The alignment and location of the new sanitary sewer lateral should be designed to avoid the existing historic site wall on the west side of the property.

Gas

Questar Gas Company provides gas service. An existing 4" intermediate high pressure gas line is in Colorow Drive and Chipeta Way. No gas line is in Tabby Lane. The existing building has a 2" gas service and meter on the south side of the building and connected to the main in Colorow Drive.

A new separate gas service will be provided for the new building expansion.

The new service will connect to the gas main in Colorow either on the south side of the site or on the east side and run to the area of the service yard on the east side of the new addition. There will be two gas meters for the property.

Storm Drainage

Storm drainage service is provided by Salt Lake City. There is an existing 14" storm drain on the north side of Tabby Lane and an 18" size storm drain at the intersection of Chipeta Way and Colorow Lane. Salt Lake City requires storm water runoff to be detained on-site before release to the city storm drain system. The existing site is drained through two on-site detention ponds before being released to the existing street curb and gutter. The existing site does not have a direct connection to the piped portion of the city storm drains.

The new building expansion and parking will need to provide storm runoff detention for the 100 year storm to meet the city's requirements. Due to site constraints and the sloping nature of the existing site, it is expected that underground detention storage will be required, rather than surface ponds. The existing detention pond at the northwest corner of the site is expected to be able to provide storage for the new building expansion and the pavement to the west. The upper parking on the east side will need new detention storage. The new detention storage could then connect to the existing on-site storm drain pipes and flow through the existing on-site detention ponds. An on-site system of inlets and pipes will be required to collect the surface runoff, direct it to the new underground detention storage and then connect to the existing on-site storm drain pipes.

Secondary Water

There is no secondary water in the area. The existing building has a 4" irrigation service and meter adjacent to Chipeta Way. New irrigation water can be obtained from this existing meter if the capacity is reviewed, or from the culinary water service for the new building expansion. Further investigation to determine the best method to obtain irrigation water is required.

Subsurface Drainage

The possibility exists for shallow ground water. The existing building has a subsurface collection system on the uphill portion of the site. New site excavations are likely to expose the ground water which will require collection. To collect the subsurface ground water different methods will be used for different areas of the site. The cut slope east of the new parking terraces will have trench drains

parallel to the parking to prevent ground water from coming out of the face of the cut slope. Under the parking areas on the east side a gravel drain rock layer will drain any ground water from under the pavement and a collection pipe will direct the water away. Both the slope trench drains and pavement drain rock collection pipes should not be connected to the surface storm drainage system in order not to impact the detention storage system. They can be connected to the existing city storm pipe on the north side of Tabby Lane. The new building expansion will need to have foundation drains on the uphill side where retaining walls will be part of the building. These foundation drains would connect to the surface storm drain system.

LEED, HPBRS and Sustainable Design

There are two storm drain related credits which can be earned for LEED Certification.

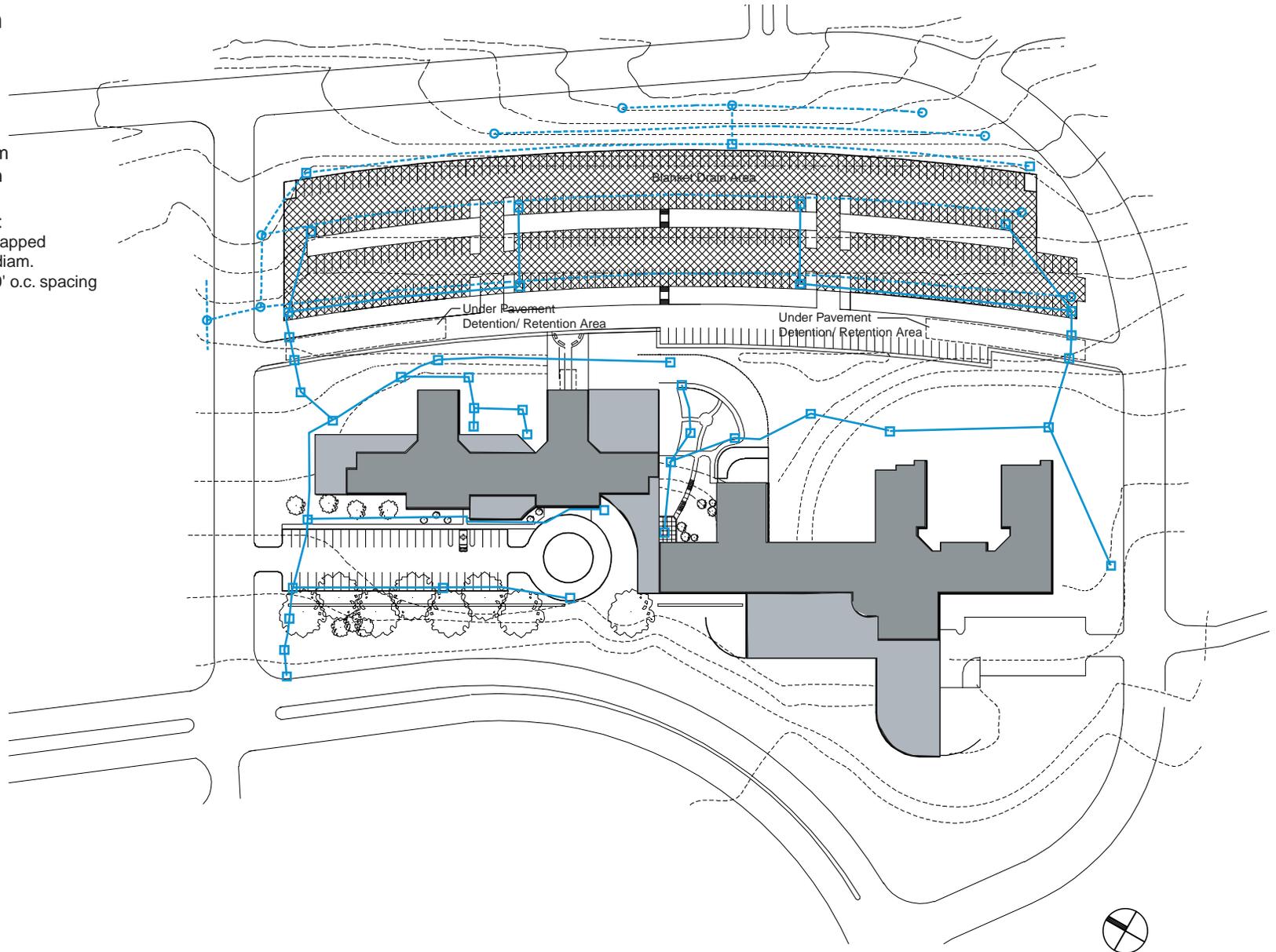
SS Credit 6.1 requires that the post-developed storm water rate and quantity not exceed that of the pre-developed site. Detention and retention storage and percolating the water into the ground are acceptable methods to accomplish this. Other techniques can include pervious pavement and green roof. The quantity limitation for this LEED credit will require additional storage volume.

SS Credit 6.2 calls for improving the quality of the storm water before it leaves the site. Removing the total suspended solids (TSS) can be performed using acceptable best management practices (BMPs). These include vegetated roofs, vegetated swales, wetlands as well as mechanical treatment systems. The most likely techniques for this site would be "snout" hoods on inlets and infiltration of the retained storm water.

Storm Drainage Plan

Site Utilities Legend

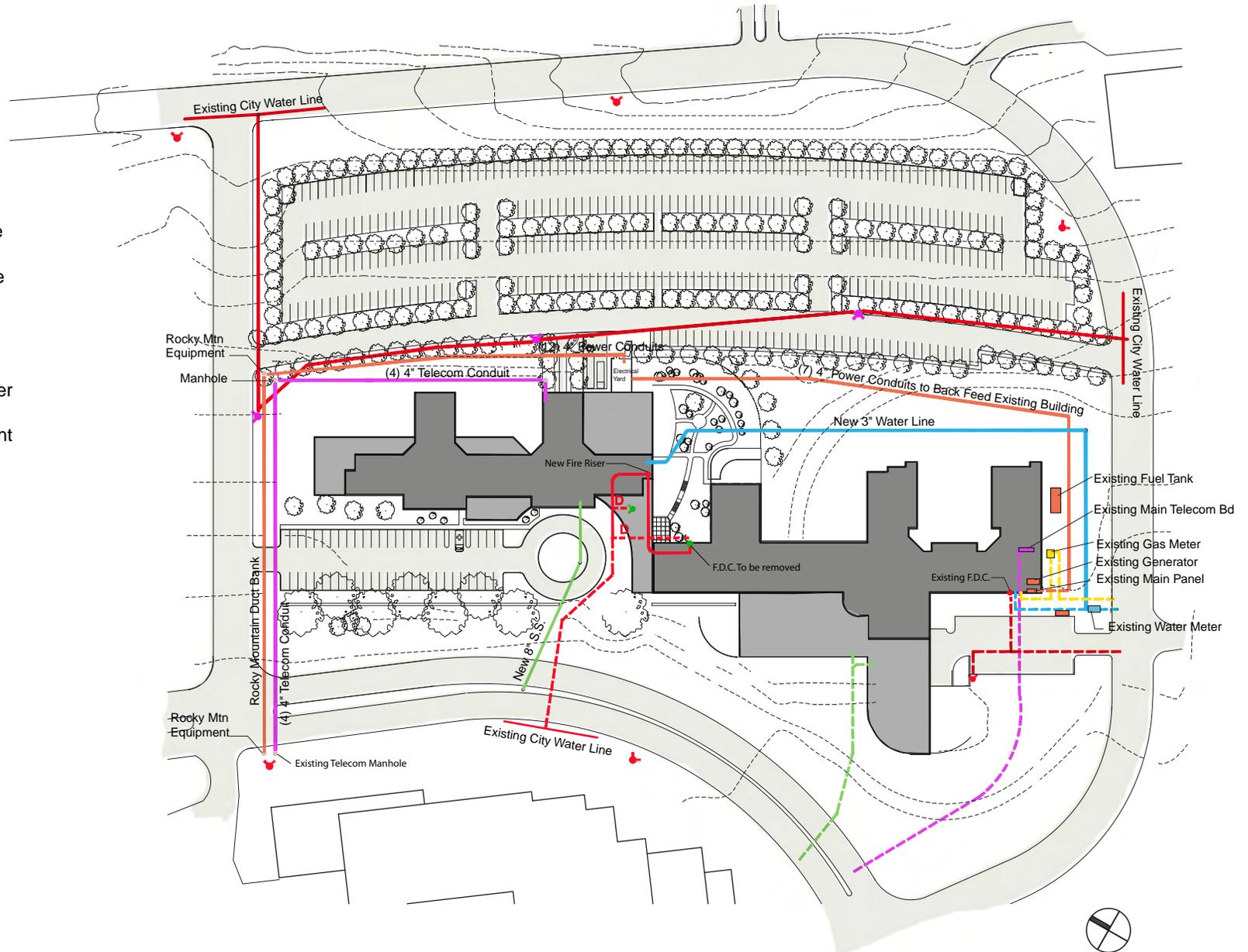
-  Storm Drain System
-  Trench Under Drain
-  Catch Basin
-  Blanket Drain Area:
12" thk. drain rock, wrapped
in filter fabric with 4" diam.
perforated pipes at 30' o.c. spacing



Utilities Plan

Site Utilities Legend

- Existing Fire Line
- - - Demo Fire Line
- New Fire Line
- Existing Sewer Line
- New Sewer Line
- Existing Phone Line
- New Comm Line
- Existing Gas Line
- Existing Domestic Water Line
- New Domestic Water
- Power
- Existing Fire Hydrant
- Demo Fire Hydrant
- New Fire Hydrant



2.7 Research Park Requirements

This project is located in the Research Park area of the University of Utah campus. Research Park has its own Protective Covenants and Architect's Guide with specific requirements which must be incorporated into the project. University owned and funded projects in research Park are exempt from Salt Lake City Zoning and Building Department review. All roadway connections to Salt Lake City Streets and utility connections to Salt Lake City utilities must be coordinated and approved by the applicable city department.

All loading facilities and truck maneuvering areas shall be located off the public streets and screened from view.

All exterior building signage and site signage shall comply with the Research Park signage guidelines.

Screens or other suitable enclosures must be provided to screen all objectionable items outside the building from view. Objectionable items may include mechanical and electrical equipment, cooling towers, transformers, trash dumpsters and compactors, etc.

Building activities or operations shall not be allowed to disperse hazardous materials, smoke, dust odor, radiation, noise, gases, or vibration to any adjacent properties. Refer to the Research Park Architects Guide for specific requirements and allowable limits pertaining to each of these items.

Refer to the Parking Analysis section of the program for Research Park parking requirements.

A major planting concept has been developed for the entire Research Park area. The concept is a forest of high canopy trees, a single species of grass to provide continuity, and a variety of lower specimen trees, shrubs and ground covers for individual accents. The development of the landscape design for the project must be closely coordinated with the Research Park Architectural Advisory Board. The Architect's Guide identifies specific species of plant materials that are acceptable in Research Park.

2.8 Parking Analysis

Parking requirements were reviewed in three ways. First, the requirements of Salt Lake City Planning and Zoning ordinances were reviewed, even though the project does not fall within City jurisdiction. Second, the AIA Guidelines for Design and Construction of Health Care Facilities were reviewed. And finally, parking needs based on UNI experience were considered. A summary of those analysis is as follows.

The Research Park Protective Covenants, and Architect's Guide states that parking shall be provided at 1 stall per 200 gross square feet of building area. 115,000 sq. ft. divided by 200 equals 575 stalls for the addition. 575 new stalls plus the existing 177 stalls would be a total of 692 stalls. The Architect's Guide does allow for a reduction in the number of stalls provided if the calculated number results in more spaces than the building owner needs.

The first analysis is based on FFKR's interpretation of Section 21A.44.060 of the Current Salt Lake City Zoning Ordinance, as follows.

Classification	Spaces Required
Sanitarium 90 existing beds plus 72 net new beds = 162 beds Zoning requires 1 parking space per 4 beds	41
Employees 170 existing employees + 30 for expansion Assume 200 employees exclusive of doctors Zoning requires 1 space per 4 employees, exclusive of doctors.	50
Dining Rooms (Used for Banquets) Assume 150 seats Zoning requires 1 space per 5 seats	30

Psychiatry Office Assume 15,000 gsf Zoning requires 3 spaces per 1,000 gsf	45
Approximate Total Per Salt Lake City Requirements	166

The second parking analysis is per the 2003 Edition of the AIA Guidelines for Design and Construction of Health Care Facilities. Section 11.1.C indicates that the facility shall provide at least 1.5 spaces per patient. For a 162 patient facility that would equate to 244 parking spaces.

The final parking analysis is based on UNI experience. The current UNI facility has 177 surface parking spaces. UNI experience is that there are currently times when they do not have adequate parking. The biggest demand is during the shift change between 3:00 pm and 3:30 pm when the staff for two shifts are in the building simultaneously. Based on current parking demand, it is preliminarily anticipated that the expanded facility should provide parking in the range of 325 cars.

2.9 Geotechnical Considerations

A geotechnical investigation and report for the project site was prepared by Gordon Spilker Huber Geotechnical Consultants Inc. A summary of their findings and recommendations are presented here. The complete report is included in the appendix to this program document.

The soils encountered below pavement areas and topsoil consists of layers of silty clay, clayey sand, clayey gravel, occasional silty sands, and combinations of these soils. The silty clay layers are predominant in the area and depths of the new addition foundation system and therefore will control foundation design. Existing fill material is anticipated in some areas of the graded parking, however there is no fill material in any of the boring locations. One boring did hit refusal at a depth of 16 feet.

Ground water was not observed within the depth of borings. Seasonal isolated and random perched groundwater conditions near the surface must be anticipated, especially during late spring and early summer. Springs are known to be present in the hillside area.

The soils were tested and did not exhibit collapsible characteristics, and moderately low compressibility characteristics.

Subdrains

Perimeter foundation drains should be installed on all up-gradient and side-gradient portions of below-grade foundation walls. Sub-surface drains may be required on cut slopes or other areas of the site that encounter spring water.

Pavements

Parking area, with light to moderate traffic:

Flexible – 2.5 inches of asphalt concrete over 7 inches aggregate base course
Rigid – 5 inches of Portland cement concrete (non-reinforced) over 4 inches aggregate base course.

Primary roadways with moderate to heavy traffic:

Flexible – 3 inches of asphalt concrete over 8 inches aggregate base course.
Rigid - 6 inches of Portland cement concrete (non-reinforced) over 4 inches aggregate base course.

2.10 Site Analyses and Site Planning Schemes

The principal planning objectives, and drivers of the site design are listed below. On the accompanying pages are shown five possible schemes for placing the expansion on the site. Each diagram shows comparative data for travel distance, and floors required to achieve the required program spaces. Each scheme lists advantages and disadvantages of the scheme relative to the site planning criteria described above. Scheme 1 was selected in the programming process as the scheme that most successfully achieved the projects planning objectives.

Maintaining Existing Operations

One of the overriding criteria of the programming studies was the definitive need to keep the existing facility fully open and operational during construction of the new facility. In addition to providing the best overall function for the expanded facility, an expansion must be designed that can be constructed without interfering with existing hospital operations.

Parking Requirements

The existing Neuropsychiatric Institute facility has 177 surface parking spaces. The expanded facility will require approximately 325 parking spaces. There is not adequate budget to consider a parking structure, therefore, the design of the site must allow for all of these parking spaces to be placed on the surface. This requirement will command a significant portion of the available site, and necessitate an efficient usage of the site.

Topography

The site of the Neuropsychiatric Institute slopes steeply up from Chipeta Way towards the mountains to the east. The total elevation gain across the site is approximately 85 feet. The most efficient and cost effective design solution will likely need to orient building and parking elements parallel to the contours to avoid excessive excavation, and to avoid burying significant portions of the building below grade.

Building Orientation

The existing UNI facility is oriented with its front entry facade facing the site's main approach road, Chipeta Way, to the southwest.

Existing Building Entrances

The existing UNI facility has two primary entrances. The main entrance is located on the north end of the facility facing the parking lot and serves as the entrance for walk-in patients, ambulance arriving patients, family members, visitors, and staff. The existing consolidation of divergent building users at one entrance is not appropriate or workable. One of the goals of the hospital expansion is to correct all of these deficiencies, and provide excellent entrances and building circulation for all of the populations served.

New Main Building Entrance

The main building entrance will normally be staffed with a single FTE. This person will direct walk-in patients, out-patients, family, and other visitors to their proper destination. The main building entrance must communicate from the street to patients, family members, and visitors that they are in the right place. The main building entrance of the expanded facility needs to be located on the site to provide appropriate parking and drop-off, and a clear and straightforward entrance sequence for each of the populations described. The main entrance must be located within the building plan to allow it to be an effective distribution point for those using the main entrance.

New Ambulance Entrance

Approximately 60% of UNI patients arrive via ambulance as they are transferred from the emergency department of a primary care hospital. From the standpoint of patient dignity, it is desirable to separate the ambulance patient arrival from the main building entrance. At the same time the ambulance entrance desires proximity to the Patient Services Suite, and therefore will need to be close to the main building entrance.

New Service Entrance

The existing kitchen and dining facilities are inadequate to serve the expanded hospital. A new kitchen and dining room are planned for the new building which will require convenient receiving and trash facilities. The existing building does not have adequate loading dock and receiving facilities, and there is currently not a raised dock area for unloading large trucks. Furthermore, because the new building will be built as a nearly stand alone facility, a new location for electrical and mechanical service entry is required. A complete new service entrance for the expanded facility must be planned on the site.



New Staff Entrance

The UNI complex will be served by approximately 200 staff members, most of whom will drive to the facility. A separate staff entrance should be provided which is convenient to staff parking, and provides a straightforward route to work and patient care areas of the hospital.

Staff Travel Distance

A key driver in the site planning will be the development of a building expansion plan that minimizes travel distance from the southern most patient care unit in the existing hospital to the patient care units in the expanded facility. In considering this it is important to understand that an essential element in the design of a psychiatric hospital is that public and staff circulation cannot occur through the patient care unit secure corridors. The hospital expansion must be arranged so that circulation between patient care units occurs outside the units. This is demonstrated on the site planning scheme included herewith, and the travel distances are noted.

Views from Patient Care Spaces, and Outdoor Courtyards

The quality and location of the site views have been discussed earlier in this section. The patient benefit of views to nature is well documented. Similarly, patients must have convenient access to secure outdoor space which is pleasant, and also provides views to nature. Planning of the site, and well as the building, should provide for optimal views and outdoor space.

Site Planning Scheme 1

Data

Travel Distance Between Nurse Station Point "A" to Point "B": 729 Feet

Number of Floors Required: 4

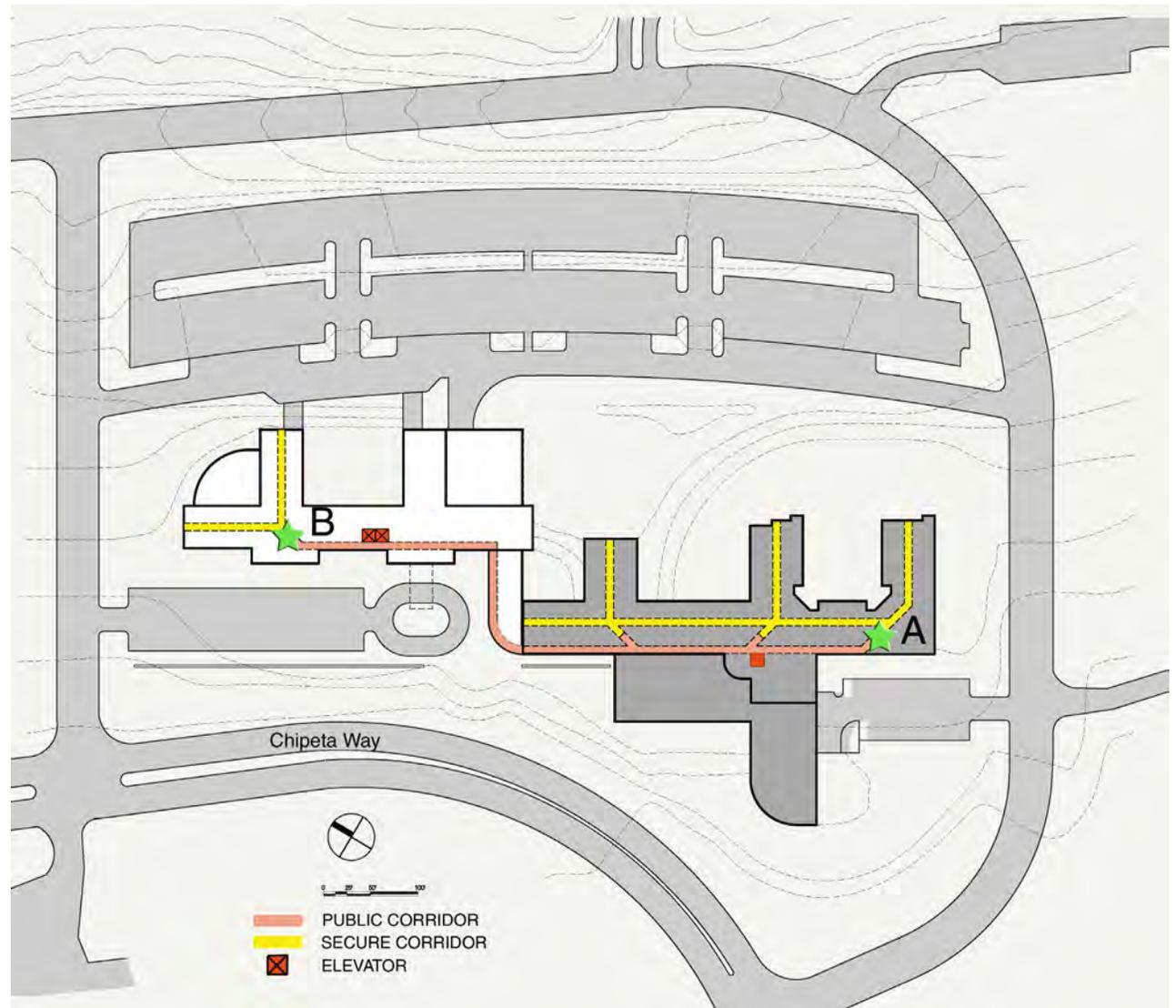
Floor Level of New Patient Rooms: 2, 3, and 4

Advantages

1. Minimizes travel distance between point "A" and point "B", which are the most remote nurses stations in the existing and new building.
2. Maintains views to natural landscapes from all patient rooms.
3. Provides "front of building" on Chipeta Way, with enhance entry presence.
4. Provides separate patient and visitor parking lot.
5. Allows consolidation of all adult acute level patients on level 2 of existing and new building.

Disadvantages

1. Requires removal of existing parking lots.



Site Planning Scheme 2

Data

Travel Distance Between Nurse Station Point "A" to Point "B": 1,033 Feet

Number of Floors Required: 4

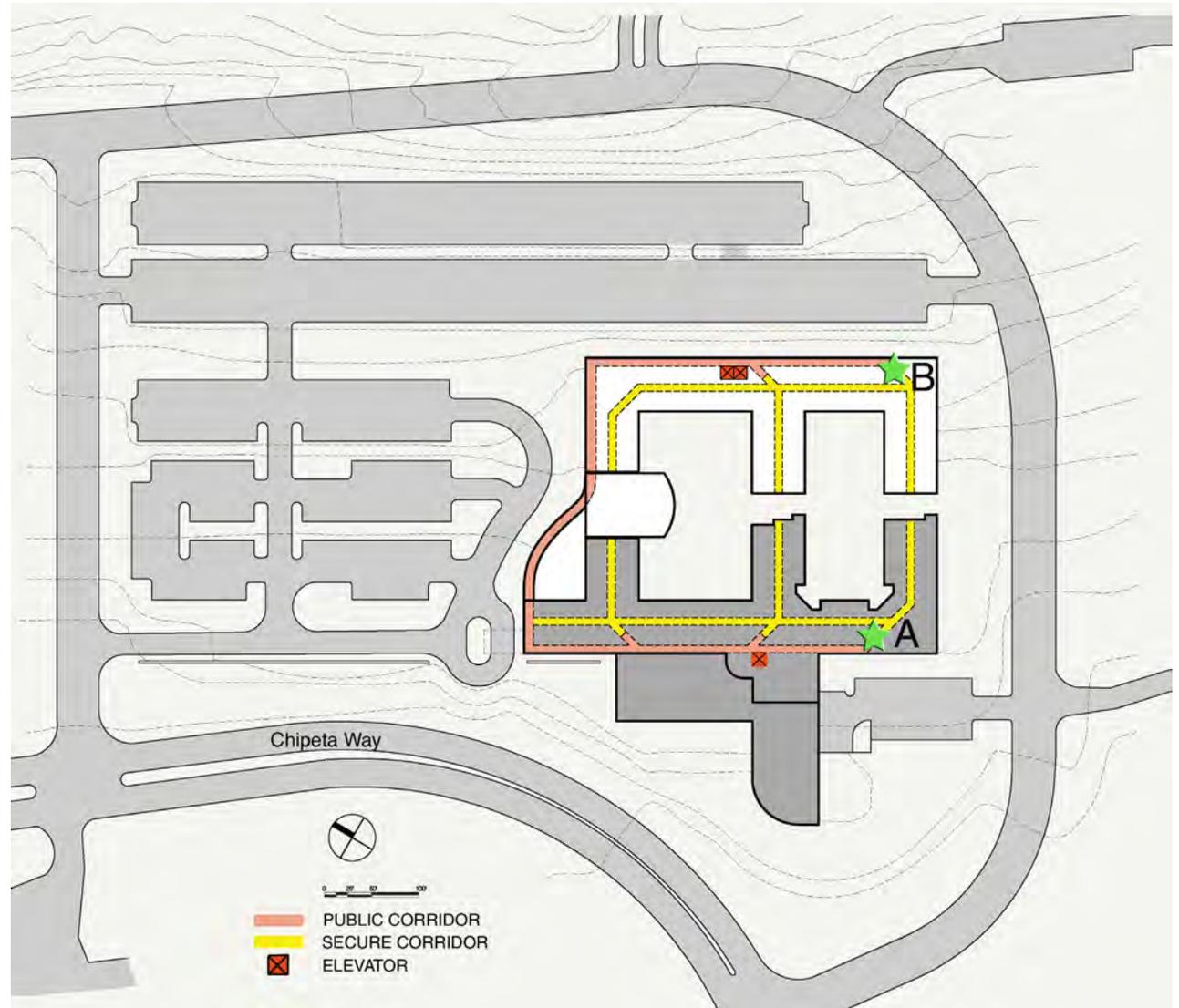
Floor Level of New Patient Rooms: 3 and 4

Advantages

1. Retains existing parking lots and drives.

Disadvantages

1. Excessive travel distance between point "A" and point "B", which are the most remote nurses stations in existing and new building.
2. Travel from existing level 2 patient units to patient units in new building will require 2 separate elevator rides.
3. New building blocks views to natural landscapes from patient rooms in existing building.
4. Significant new building area will be buried underground.



Site Planning Scheme 3

Data

Travel Distance Between Nurse Station Point "A" to Point "B": 546 Feet

Number of Floors Required: 4

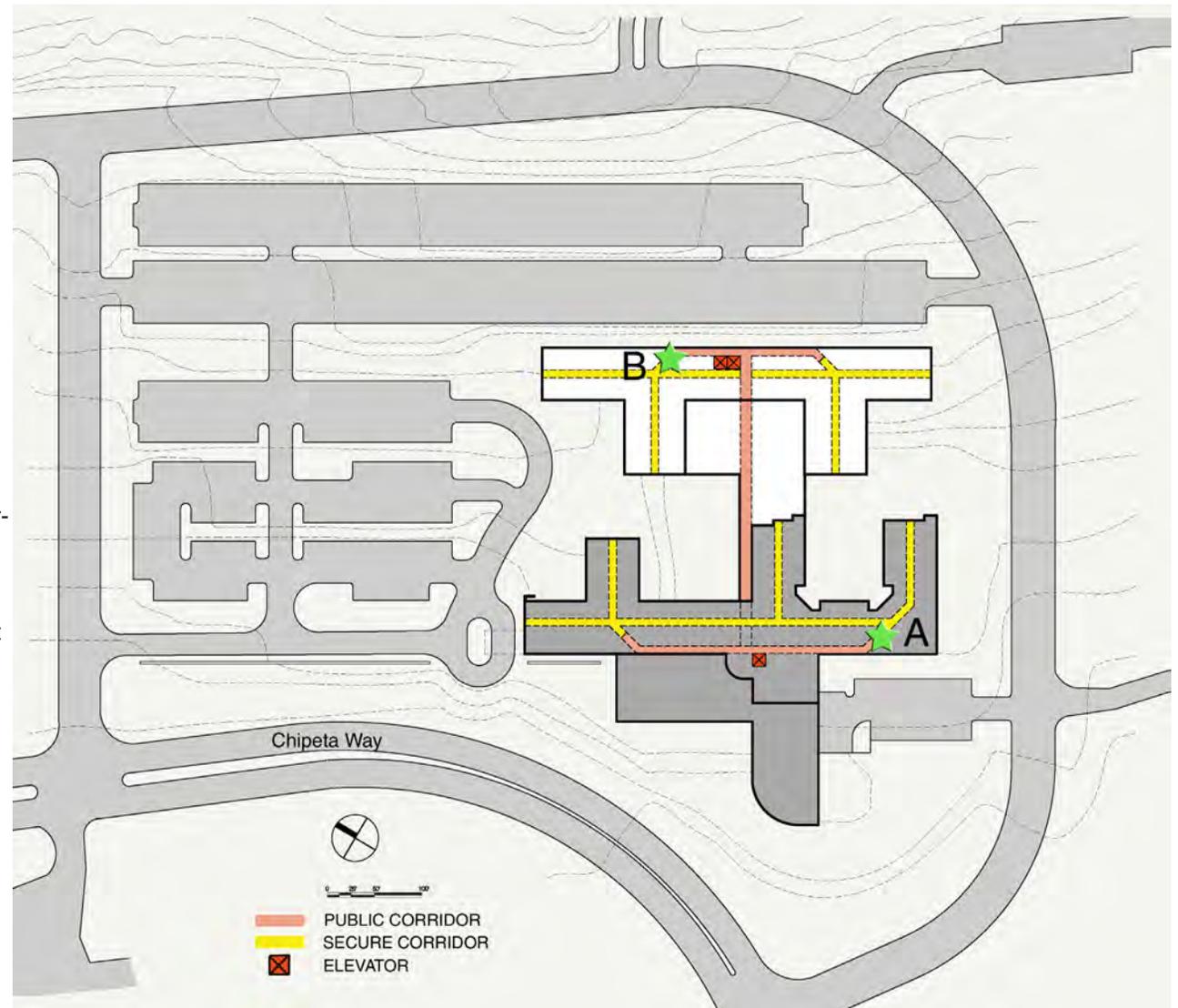
Floor Level of New Patient Rooms: 3 and 4

Advantages

1. Minimizes travel distance between point "A" and point "B", which are the most remote nurses stations in the existing and new building.
2. Retains existing parking lots and drives

Disadvantages

1. New building blocks views to natural landscapes from patient rooms in existing building.
2. Significant new building area will be buried underground
3. Does not allow for correction of existing patient intake flow problems.
4. Travel from existing level 2 patient units to patient units in new building will require 2 separate elevator rides.



Site Planning Scheme 4

Data

Travel Distance Between Nurse Station Point "A" to Point "B": 736 Feet

Number of Floors Required: 4

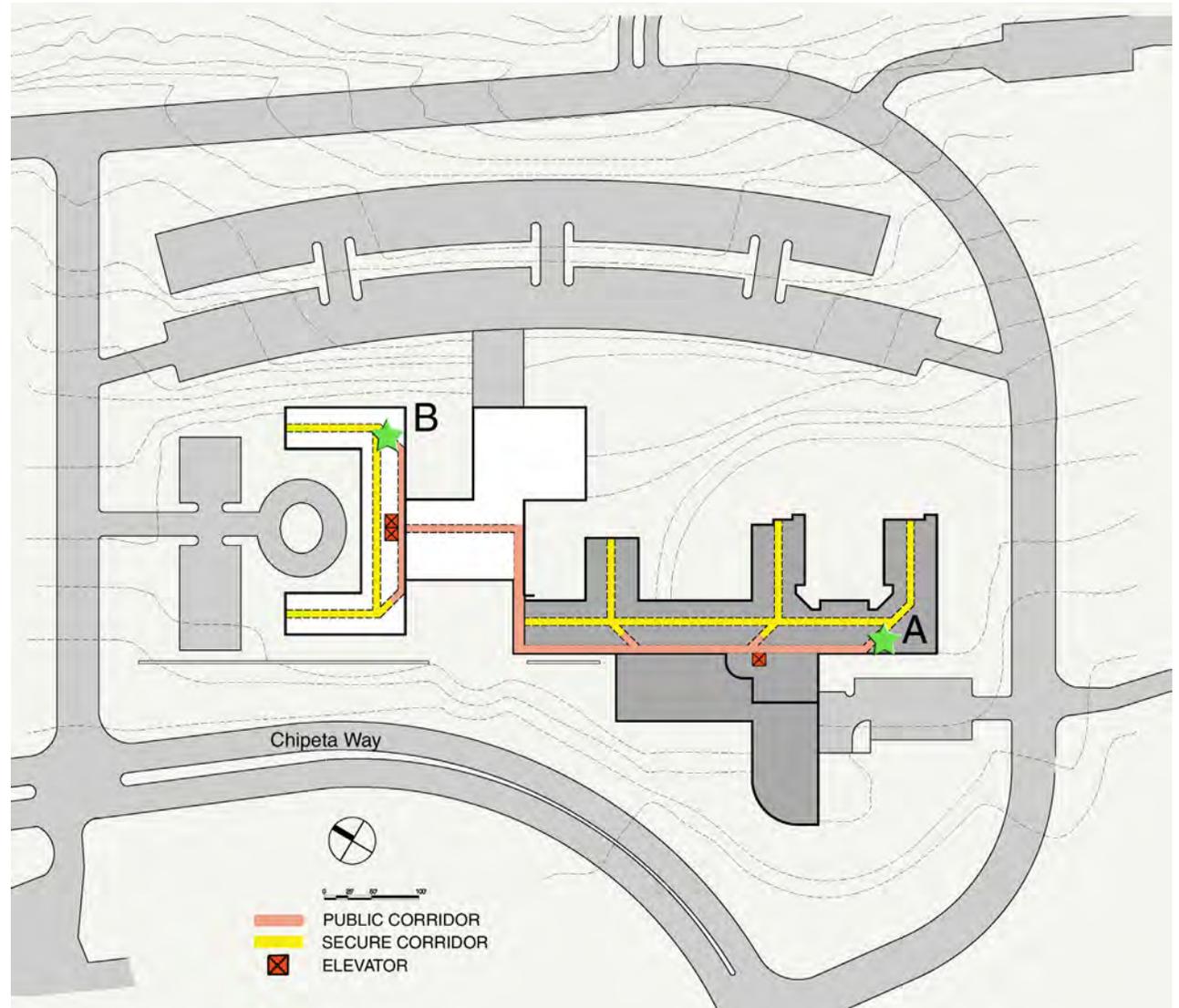
Floor Level of New Patient Rooms: 2, 3 and 4

Advantages

1. Minimizes travel distance between point "A" and point "B", which are the most remote nurses stations in the existing and new building.
2. Maintains views to natural landscapes from all patient rooms.
3. Provides separate patient and visitor parking lot.
4. Allows consolidation of all adult acute level patients on level 2 of existing and new building.

Disadvantages

1. Requires removal of existing parking lots.
2. Due to site constraints, configuration and size of new patient care units is less than optimal.



Site Planning Scheme 5

Data

Travel Distance Between Nurse Station Point "A" to Point "B": 926 Feet

Number of Floors Required: 4

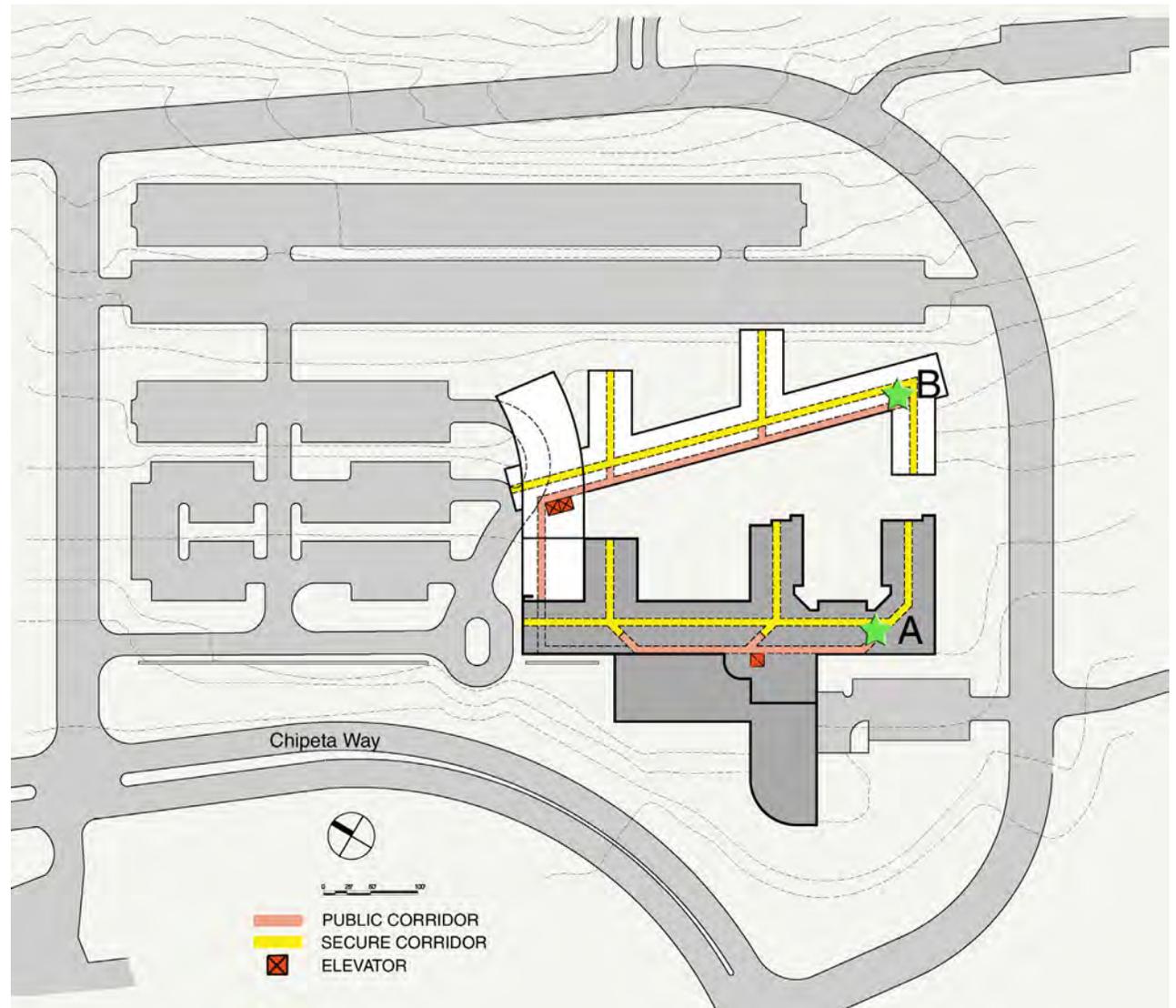
Floor Level of New Patient Rooms: 3 and 4

Advantages

1. Retains existing parking lots and drives.

Disadvantages

1. Excessive travel distance between point "A" and point "B", which are the most remote nurses stations in existing and new building.
2. Travel from existing level 2 patient units to patient units in new building will require 2 separate elevator rides.
3. New building blocks views to natural landscapes from patient rooms in existing building.
4. In order to preserve existing parking drive, parts of connector building would have to be built on two story high stilts.



2.11 Construction Phasing Diagrams

The project will need to be phased such that the existing facility remains fully functional during the construction of the expansion. The following four diagrams illustrate the suggested phasing of construction.

Phase One

Phase One would consist of the construction of the southern portion of the new parking lot on the south east corner of the site. This lot will need to be constructed before the demolition of the existing lot can take place. All storm and sub-drainage for the east side of the site would take place at this time as well. A construction staging area can be cleared in preparation for Phase Two construction.



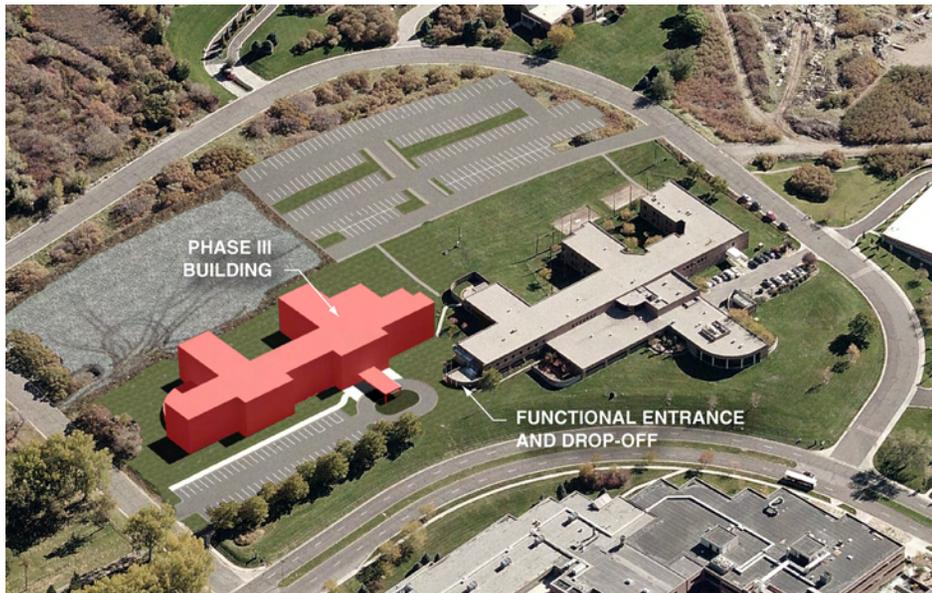
Phase Two

Phase Two Construction would demolish the existing parking lot and complete a new lower lot and drop-off to be utilized during the remainder of construction. During this phase, a temporary public entrance would need to be utilized at the south west building entrance. The expansion footings and foundations and construction fence could begin in conjunction with this phase.



Phase Three

Phase Three, the majority of the construction project, consists of the construction of the main building. It is expected that the new lower parking and drop-off and the existing main building entrance will be maintained as operational during this phase.



Phase Four

Phase Four, the final phase, would consist of building the connection between the existing facility and the main portion of the expansion and completing the north portion of the new east lot.





3.0 BUILDING REQUIREMENTS

3.1 Building Functions _____	34
Existing Building _____	34
New Building _____	34
3.2 Building Expansion Organization _____	36
3.3 Special Requirements _____	37
3.4 Current Patient Population _____	38
3.5 Behavioral Health Facility Design Challenges _____	39
3.6 Food Facility Design Narrative _____	40
3.7 Code Analysis _____	42
3.8 Structural _____	48
3.09 Mechanical/Plumbing _____	50
3.10 Electrical _____	55
Lighting _____	55
Power Distribution _____	55
Fire and Safety _____	57
Special Systems _____	57
3.11 Sustainability _____	58

3.1 Building Functions

Existing Building

The existing University Neuropsychiatric Hospital is a full service psychiatric hospital providing both inpatient and outpatient services. Functions within the existing hospital include the following.

Patient Care Services

Inpatient Beds

The existing facility provides 90 inpatient beds in double occupancy rooms. The rooms are grouped in patient care units as follows:

ITU North - Step Down Unit	16 Beds
ITU East - Admitting Unit	14 Beds
ITU South - Geriatric Unit	12 Beds
Adult Unit	24 Beds
Youth Unit	<u>24 Beds</u>
TOTAL	90 Beds

Each patient care unit contains within its secured area patient treatment support functions such as day rooms, group rooms, family rooms, interview rooms, and seclusion rooms. Each unit also contains staff support space including nurses station, work rooms, break rooms, and medication rooms.

Outpatient Clinics

Electro-Convulsive Therapy
Patient Services Suite

Patient Support Services

Administrative Offices
Physicians Offices
Psychiatric Residents Clinic
Kitchen and Dining Room

Educational Facilities

The existing UNI facility also houses an accredited K-12 school for special needs population. This school will remain in the current facility and is unaffected by the proposed expansion.

Existing Building Organization

The existing UNI facility is a two story building. All of the in-patient units are located on the second floor of the existing building. No other functions are located on the second floor. The first floor houses all other building functions, including out-patient facilities and administrative space.

New Building

New Beds and Patient Care Units

The University Neuropsychiatric Institute has developed a future business model that requires an additional 66 to 72 patient beds in private rooms to meet future demand and service the debt which will be incurred by the proposed expansion. Through extensive evaluation by the Director and his staff through the programming process, it has been determined that the new beds should be arranged into 5 units. The patient population of the each unit was identified as follows.

Acute Stabilization Unit
Children's Unit
Adolescent Unit
Adult Unlocked
Adult Special Circumstances

The basic unit should include 14 patient rooms. 4 of the 5 units should be arranged in pairs, with the possibility of an additional 4 rooms shared between the pair, with could become part of one unit or the other depending on unit census.

New Non-Patient Care Unit Spaces

The following non-patient care unit spaces were identified to be located in the new building expansion.

Central Kitchen and Dining Room

During the Feasibility Planning stage of the project Miller and Jedzrewski Associates was retained to study options for food service to the expanded facility. Three options were identified, and the merits and faults of each presented. The options considered were as follows.

1. Remodel Existing Facility

2. Use Existing Kitchen for on-unit meal prep. Build new kitchen to support new dining room in expansion.
3. Provide all new kitchen and dining facility in expansion.

It was determined in the feasibility planning and confirmed in the programming phase that Option 3, providing all new kitchen and dining facility in the expansion, was the only feasible option.

Patient Services Suite

The existing patient services suite is too small and inefficient to serve the expanded facility. They are also poorly located with respect to the main entrance of the existing building which, as discussed below, also has significant functional deficiencies. It is recommended that a new Patient Services Suite be constructed in the new building that is carefully located to serve the needs of the patient.

Wellness Center

The facility expansion will include an exercise space consisting of aerobic equipment, resistance training equipment, stretching area, and small locker and shower facilities. The Center will be used by staff, and may be made available to patient populations with specific privileges.

Large and Medium Size Meeting Rooms

The existing UNI facility is woefully lacking adequate meeting rooms space. The program space summary indicates the types of rooms which are needed to fill the Institutes needs.

Building Operations

The program envisions that building operations functions will be relocated or created in the expanded facility. These functions include shipping and receiving, which will be co-located with the new kitchen facility, and facility and kitchen management staff.

New Building Entrances

The existing UNI facility has two primary entrances. The main entrance is located on the north end of the facility facing the parking lot and serves as the entrance for walk-in patients, ambulance arriving patients, family members, visitors, and staff. The existing consolidation of divergent building users at one entrance is not appropriate or workable. One of the goals of the hospital expansion is to correct all of these deficiencies, and provide excellent entrances

and building circulation for all of the populations served. To accomplish this it is recommended that all of the primary entrances of the building be located in the addition, and arranged to provide effective circulation for each group of building users, as follows:

New Main Building Entrance

The main building entrance will normally be staffed with a single FTE. This person will direct walk-in patients, out-patients, family, and other visitors to their proper destination. The main building entrance must communicate from the street to patients, family members, and visitors that they are in the right place. The main building entrance of the expanded facility needs to be located on the site to provide appropriate parking and drop-off, and a clear and straightforward entrance sequence for each of the populations described. The main entrance must be located within the building plan to allow it to be an effective distribution point for those using the main entrance.

New Ambulance Entrance

Approximately 60% of UNI patients arrive via ambulance as they are transferred from the emergency department of a primary care hospital. From the standpoint of patient dignity, it is desirable to separate the ambulance patient arrival from the main building entrance. At the same time the ambulance entrance desires proximity to the Patient Services Suite, and therefore will need to be close to the main building entrance.

New Service Entrance

The existing kitchen and dining facilities are inadequate to serve the expanded hospital. A new kitchen and dining room are planned for the new building which will require convenient receiving and trash facilities. The existing building does not have adequate loading dock and receiving facilities, and there is currently not a raised dock area for unloading large trucks. Furthermore, because the new building will be built as a nearly stand alone facility, a new location for electrical and mechanical service entry is required. A complete new service entrance for the expanded facility must be planned on the site.

New Staff Entrance

The UNI complex will be served by approximately 200 staff members, most of whom will drive to the facility. A separate staff entrance should be provided which is convenient to staff parking, and provides a straightforward route to work and patient care areas of the hospital.

New Offices for the Department of Psychiatry

It is the desire of the University to relocate the offices of the Department of Psychiatry from the existing School of Medicine building to the UNI expansion. The program also calls for moving the Psychiatric Residents Clinic from the existing UNI building to their space in the new building. Consolidating the Department functions into one area in the expanded UNI facility will strengthen the missions of both the Department and UNI.

3.2 Building Expansion Organization

Several different organizational concepts were studied for organizing the expanded facility. Test fits on the site indicate that the building expansion of 115,000 gsf would be best organized into four stories. The Site Analyses Diagrams presented in this section concluded that the most effective expansion concept was to expand the existing building in a linear fashion to the north, in the existing parking lots. This scheme has the advantage of allowing level one of the expansion to be at the same elevation as level one of the existing building, and have access to natural light and views on the majority of the perimeter. The following are the main building organizational concepts.

Administrative Functions

Because level one of the existing facility houses all of the current out-patient and administrative functions, a scheme which continues this organizational concept was selected. Accordingly, the Patient Services Suite and the Department of Psychiatry offices are anticipated to be located on level one. It was also determined that the most desirable design scheme would place the new Main Building Entry and the Ambulance Entry on Level 1 adjacent to the Patient Services Suite. Placing these entrances on Level 1 allows the expanded building to maintain its entry presence on Chipeta Way.

Kitchen and Dining Functions

The new kitchen facility will need a direct relationship to a new loading dock, which is most logically placed on the east, uphill side of the building on level 2. The dining room of the new facility should be located so that outdoor seating and garden areas are available. Because of the social importance of the dining room for both patients and staff, the space should be afforded the best possible views of nature, and the best possible solar orientation. All of these factors combine to drive a probable location of the kitchen and dining room on the south end of level 2 of the expansion, where existing grade will not allow a first floor, and a Level 2 garden area outside the dining room is possible.

Patient Care Unit Organization

UNI has determined that five patient care units are required in the expanded facility to meet their business plan, as listed above. Two each of these five units will be paired on levels 3 and 4. These units can be organized to share a flex room corridor. The fifth unit can be located on the half of level 2 that is not occupied by the dining and building operations complex.

It was determined by UNI management that it would be operationally ideal to move the existing Youth Unit to a new Children’s Unit and Adolescent Unit that could be paired with flex rooms on Level 3 of the new facility. Relocating the Youth Unit to Level 3 of the new building will free up 12 existing rooms on level 2 of the existing building for additional adult high acuity beds. Adding 12 to 14 additional high acuity beds in a new Acute Stabilization Unit on Level 2 of the expansion will allow UNI to place all of their adult locked beds on level 2 of the existing and expanded facility. Circulation between all adult locked units would be via the extended semi-private corridor as shown in Site Analysis Scheme 1.

The final 2 patient care units will be located on level 4 of the expansion. The final nature of these units will require further exploration during the schematic design phase. It is anticipated that they will serve special populations such as eating and mood disorders, and high profile clients seeking a private environment. At the same time it is anticipated that the units and rooms will provide for the universal precautions necessary so that they can serve any patient population in the future.

3.3 Special Requirements

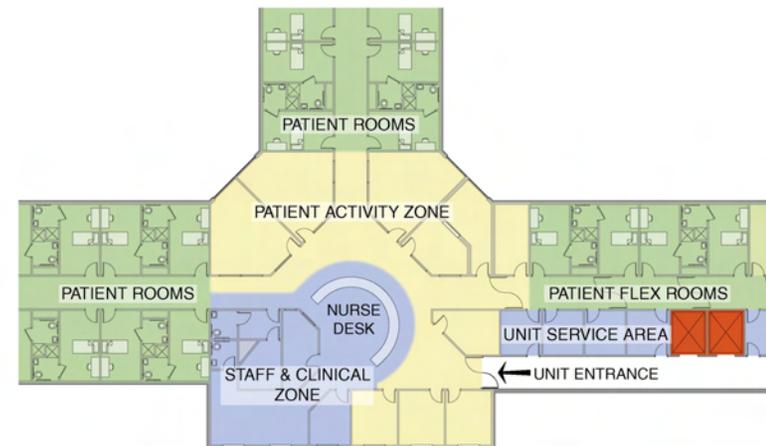
Encourage Patient Interaction

The driving concept of the unit design is to encourage patients to spend their time in patient activity areas with other patients, and minimize time spent in their rooms by themselves. The design places patient activity spaces near the nurses desk so that patients can be monitored, and cannot return to their rooms unnoticed.

Unit Activity Zones

Within each unit, functions are clearly separated into specific activity zones. Those zones can be categorized as:

- Patient Sleeping Rooms
- Patient Activity Areas
- Staff and Clinical Space



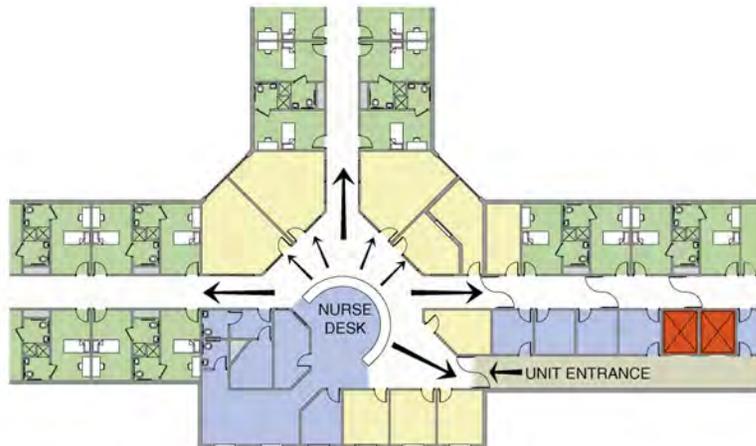
Special Unit Features

- Direct access to natural light and views on every side of the unit
- Minimize outside traffic on the unit
- Develop security vestibule at unit entrance

Patient and Staff Safety

Safety of patients and staff is a primary concern in behavioral health care facilities. The overall layout of the patient care unit plans developed with the expansion feasibility study focused on the following safety features:

- Unobstructed observation from nursing desk to all parts of unit.
- Nursing desk direct observation of unit entrance.
- Minimized distance from nursing desk to patient rooms.



3.4 Current Patient Population

Fiscal Year 2006 through 2009

ITU East	Max	Min	Average
Monthly Admissions	65	40	53
Average Daily Census	13.5	10	11.75
Average Length of Stay (days)	15	7	11

ITU North	Max	Min	Average
Monthly Admissions	85	48	66
Average Daily Census	15.25	13.75	14.5
Average Length of Stay (days)	14	7	10.5

ITU South	Max	Min	Average
Monthly Admissions	42	14	28
Average Daily Census	11.5	9.5	10.5
Average Length of Stay (days)	18	8	13

Adult Unit	Max	Min	Average
Monthly Admissions	70	40	55
Average Daily Census	22	16	19
Average Length of Stay (days)	9	5	7

Youth Unit	Max	Min	Average
Monthly Admissions	82	38	60
Average Daily Census	22	12	17
Average Length of Stay (days)	14	6	10

Current Daily Average Admissions Totals

Transfer / Ambulance	4.8
Clinical Assessment Center	3.4
Total	8.2

3.5 Behavioral Health Facility Design Challenges

Behavioral healthcare facilities are unique among healthcare environments. The following are some of the special challenges unique to behavioral health that must be successfully addressed during the design phase.

- The danger that patients may pose to themselves or others is the single greatest risk that must be dealt with in the design and construction of a behavioral healthcare facility. The primary challenge of the design phase of this project will be to create an environment that provides for the safety of the patient and staff in a setting that fosters healing, and is normalizing rather than institutional. The design team should review with UNI the aspects of the building that could pose a risk to the patient or the staff, and determine the level of risk UNI is willing to tolerate. Risks may be identified that UNI is willing to accept in order to create a reasonable balance between safety and a livable environment.
- The patient care units of the new facility should be flexible. The likelihood of future increases in acuity level of behavioral health patients must be anticipated. The average length of stay for patients has steadily declined in recent years as the acuity level has risen. Therefore, a “Universal Precautions” approach for the design of the patient units should be explored during the design phases so that all facilities will be able to accommodate patient populations different from those initially planned.
- The design must respect the dignity of each patient. The patient path of patients being admitted in a highly agitated state should be separated to the greatest extent possible from other patients, family members, and the public.
- The design of the new facility should be easy to navigate for those patients who have earned the privilege of circulating to common spaces such as the dining room or secure outdoor areas without direct supervision.
- The new facility must not be institutional in appearance. While the need to create an environment that is safe for both patients and staff of behavioral healthcare facilities adds complexity to the design solution, it is possible to meet the security requirements while creating an optimum healing environment for the mind, body, and spirit. The design team must comply with necessary programmatic safety requirements while creating a facility that communicates an aesthetic of nurturing and healing rather than one that is purely institutional.
- The design should incorporate an abundance of natural daylight and comfortable open spaces throughout the facility. Secure courtyards, outdoor dining area and gardens should be incorporated to address the needs of the varied patient population. The use of a warm color palette, and easy way-finding techniques will further compliment the nature oriented environment concept.

3.6 Food Facility Design Narrative

The following Food Facility Design Analysis was prepared for this program by Miller & Jedziewski Associates of Salt Lake City.

DESIGN CRITERIA

The purpose of the food facilities for this facility is to serve a variety of menu options for breakfast, lunch and dinner meals to the (133) existing resident patients and the projected expansion of (60) additional resident patients. The facility will also serve approximately 100 breakfast, (100) diner and (200) lunch meals to staff. Additionally the facility will serve a variety of menu options for paying guests and visitors. The total meal count is approximately 1,000 meals per day.

It is preferred to serve the residents in a community dining setting shared with staff and visitors; however, approximately 40% of the resident meals are served to the patient rooms. It is anticipated that there will be two or three meal periods.

EXISTING FACILITY

The existing facility is located on the lower floor in the southwest end of the building. The facility includes a preparation kitchen and a small cafeteria. It is not anticipated that this space will be modified or that any of the existing equipment will be used in the facility.

FOOD PREPARATION KITCHEN DESIGN REQUIREMENTS

This facility is to include all of the functions required to serve and clean up the required patient meals for breakfast, lunch, dinner and snacks. This facility will also be tasked with preparing and serving meals for conferences and catering in the building. The following identifies specific design and square footage requirements for the food preparation areas. The total area anticipated for these functions is 2,500 square feet.

A) **STORAGE AREA:** A separate exterior receiving area with access to the kitchen is planned. The storage area will include a check-in desk, storage shelving, meat and dairy cooler box, freezer box and produce cooler box. An exterior remote air-cooled refrigeration unit will provide the refrigeration for the walk-in's. The location for this unit is to be determined. The method of trash removal is to be determined and appropriate facilities will be provided. If warranted a conditioned trash room will be provided at the receiving area. Total (800) SF.

B) **OFFICES:** The kitchen plan will provide for an office with two occupants with an interior window to view the kitchen facility. A separate dietician office will be provided. Total (100) SF.

C) **SUPPORT:** A unisex handicapped employee toilet, lockers and a dedicated janitor closet will be provided. Total (100) SF.

D) **FOOD PREPARATION:** A food preparation area will be provided adjacent to the cook line with access to the dry and refrigerated walk-in boxes and reach-in refrigerators. This area also will include ice-making equipment. Total (400) SF.

E) **COOKING:** The cooking area will provide all of the cooking equipment required to prepare varied and flexible menu options. The equipment will include ovens, steamer, kettles, tilt skillets, fryers and ranges, located under a Type I exhaust hood. The exhaust hood will be designed with removable centrifugal type filter cartridges. Exhaust ducts will exit the building through an internal chase to the roof. A Utility Distribution System may be considered and implemented as budget considerations are discussed. Continuous floor troughs as required will be located in front of the steam kettles and tilt skillets. Reach-in refrigerators will also be provided for additional support. Total (400) SF.

F) **TRAY MAKE UP:** The meals served in the patient rooms will be assembled on trays through a straight line four operator tray make-up system. Assembled trays will be transported in insulated carts. This area will also house these carts when not in use. Total (300) SF.

G) **POT WASHING:** A separate pot washing area with storage shelving will be located adjacent to the cook line. A power wash tank, final rinse sink chamber with booster heater and a garbage disposer will be provided. Total (100) SF.

H) **WARE WASHING:** Ware washing facilities will be located to allow for as direct an access as possible from the dining area, serving lines and kitchen. Soiled trays are to be dropped at a collection point near the exit of the dining area and transported by tray conveyor system or dirty dish table to the ware washing facility. Ware washing will be accomplished with an in-line conveyor dish machine with a pre-wash, wash chamber and final hot water rinse supported by a dedicated hot water rinse booster heater. A Type II Exhaust vent hood

will be provided at the dish washer. Exhaust ducts will exit the building through an internal chase to the roof. Storage area for clean dishes and glassware will be provided. Total (300) SF.

CAFETERIA SERVICE AREA DESIGN REQUIREMENTS

The cafeteria meals will be served through a “scramble” type with multiple serving areas, a controlled circulation area with a common cashier at the exit. The facilities will be serving a variety of breakfast, lunch and dinner menu options where the residents can eat as much as they desire without paying; however, the staff and guests will be required to pay. Dirty trays and soiled dishes will be transported to a ware washing area either through a bussing method or adjacent tray drop-off area. The following identifies specific design and square footage requirements for the cafeteria serving area. The total area anticipated for these functions is 1,500 square feet, with nearly half of that for circulation and cueing.

A) **SERVING FUNCTIONS:** The serving area will be accomplished with a “scramble” type serving area. There will be a minimum of three distinct food type service areas including a hot food entrée, pizza and a grill. Each service area will include the specific cooking equipment as required for each menu type. Type I exhaust hoods as required will be provided at these areas. The exhaust hoods will be designed with removable centrifugal type filter cartridges. Exhaust ducts will exit the building through an internal chase to the roof.

Additional self serve functions will include tray pick-up, hot and cold beverages including a merchandising refrigerator for specialty and branded beverages and products, pre-made salads and ‘grab ‘n go’ items. Additionally there will be a self serve salad bar, sandwich bar, soup and deserts including ice cream bars, bakery display and chilled items.

B) **SERVING AREA:** The overall appearance of the serving area is to be high quality without the appearance of cafeteria tray slides and over-use of commercial food service equipment. Service equipment supporting plates, flatware, glasses and cups will be provided. Adequate circulation space and cueing space will be provided to limit congestion and increase customer flow. It has been determined that there will be two or three meal periods to spread the use of the facility allowing for better service and a higher quality of food.

C) **ENTRY:** A distinct approach to the serving area will be provided from the main circulation area of the facility.

D) **EXIT/CASHIER:** Cashiers will be provided at the exit of the serving area. The exit will be located to minimize the cross traffic of customers entering and exiting the serving area as well as those exiting the dining area and dropping soiled trays at the tray drop area.

E) **CONDIMENTS:** Condiment stations including a sink, trash, microwaves and water and ice dispenser will be located outside the serving area and available for use whenever the dining room is open.

F) **TRAY DROP:** A location to drop trays will be located near the exit of the dining facility so that soiled trays can be returned to the ware washing area in the kitchen. The drop area and/or the tray conveyor will be large enough to allow for easy access to drop trays and prevent stacking during rush times.

SATELLITE SERVICE AREA DESIGN REQUIREMENTS

A small café will be developed in the main level near the entry lobby. This facility will function like a ‘Starbucks’ and will serve coffee, snacks, baked goods and limited prepared items. There will be a seating area directly adjacent to the serving area with approximately 32 seats. The total area anticipated for these functions is 280 square feet for the service area and 500 square feet for the dining area.

DINING AREA DESIGN REQUIREMENTS

A dining area accessible to authorized patients, staff and guests will be developed to eat the meals acquired from the cafeteria or brought in by staff. This area will include a seating, condiments area with ice, water and microwave. An exterior dining patio directly adjacent to the inside dining room is also planned. It has been determined that there will be two or three meal periods to spread the use of the facility allowing for less square footage in the dining room. The total area anticipated for the interior dining area is 2,000 square feet and should accommodate approximately 130 seats.

BUILDING REQUIREMENT AND UTILITY REQUIREMENTS

A) **ARCHITECTURAL:** The kitchen will be provided with quarry tile floors, washable walls and washable ceiling materials. The walk-in freezers will be pro-

vided with an integral built-in insulated floor system. The structure will accommodate the weight of the exhaust hoods. Blocking will be provided in the walls for wall mounted equipment. The serving area finishes including counter tops and counter faces are to be high quality and decorative.

B) **PLUMBING:** An exterior grease trap as required by code is to be provided. The appliances associated with grease are to be connected to the grease trap except the dishwasher, which is prohibited by code. Hot water at 140 degrees Fahrenheit is to be provided to the dishwasher booster heater. Cooking equipment will be fueled by natural gas. It is estimated that approximately 3 million Btu/hr will be required for the cooking appliances. Built-in floor troughs at the steam cooking equipment and ware washing areas is to be provided

C) **ELECTRICAL:** It is anticipated that 120-208 volt three phase power will be available. The food service equipment will require a total load of approximately 1,600 amps. 208 volt, three phase equipment will be specified wherever applicable.

D) **MECHANICAL:** Numerous exhaust hoods will be required for the operation of this facility. It is estimated that the total exhaust for these hoods will be approximately 20,000 CFM at 1.5 SP. The exhaust hoods will be part of the food service equipment; however, the mechanical system will provide the exhaust ducts and fire rated chases required by the exhaust hoods. Make-up air at 80% of the exhausted air is to be provided by the mechanical system. The kitchen will require air conditioning for both summer and winter conditions.

3.7 Code Analysis

Existing Building

1985 – Type II – I hour construction

2006 – Type II A construction

Group I Occupancy

Group A2.1 for gymnasium

Total building area: 99,180 square feet

2006 IBC with 2009 Utah Administrative Code IBC Amendments.

Table 1004.1.1 Occupant Loads:

Patient Care Areas - I-2	
Treatment Areas	240 Gross
Sleeping Areas	120 Gross
Assembly without fixed seating - B or A-3	15 Net
Meeting Rooms – A-3	7 Net
Office – B	100 Gross
Exercise Rooms/Locker Rooms – B	50 Gross
Dining Room - A-2	15 Net
Kitchen A-2 Accessory	200 Gross
Accessory Storage - S-1	300 Gross
Mechanical, Electrical, Telecom – Incidental to occupancy	300 Gross

Section 404-Atriums

404.1.1 – Opening connecting 2 or more stories is considered an atrium.

404.3 – Automatic sprinkler protection required and provided.

404.4 – Exception - Smoke control not required for atriums which only connect 2 stories.

404.5 – Atriums must be separated from adjacent spaces by 1 hour fire barrier.

Exception 3 - adjacent spaces on any 3 floors (this building only has 2 open) are not required to be separated if the space is included in the design of the smoke control system.

404.7 – Atrium finishes must be at least class B.

404.8 – Exit access travel within atrium cannot exceed 200 feet.

Section 407 Group I-2 Occupancies

407.2 Corridors Required

407.2.1 Waiting areas can be part of corridor

407.2.2 Nurses Station can be part of corridor

407.2.3 Mental health patient areas can be part of the corridor. Review list of requirements.

407.2.4 Gift shop less than 500 sq. ft. can be part of corridor.

407.3 Corridor walls shall be constructed as smoke partitions. Not required to be fire rated.

407.3.1 Corridor doors do not have to be rated unless required by other sections of this code. Do not require a closer. Doors shall have positive latching and smoke seals.

407.3.2 Corridor doors locking devices – shall not restrict means of egress from patient room except in mental health facilities.

407.4 Smoke Barriers

- Every story used for patient sleeping or treatment shall be divided into at least 2 smoke compartments.
- Other stories of I-2 occupancy with an occupant load of 50 or more shall be divided into at least 2 smoke compartments.
- Smoke compartment areas shall not exceed 22,500 square feet
- Travel distance from any point a smoke compartment to a smoke barrier door shall not exceed 200 feet.

407.4.1 - Refuge Areas

- 30 NSF per non ambulatory patient
- 6 NSF for ambulatory patient

On each side of each smoke barrier for total number of occupants in adjoining smoke compartment.

407.4.2 A means of egress shall be provided from each smoke compartment created by smoke barriers without having to return through the smoke compartment from which means of egress originated.

407.5 Automatic sprinkler system with quick response or residential heads in patient sleeping units

407.6 Automatic fire detection only required if required by section 407.2

* Note: The only part of 407.2 that requires automatic fire detection is if mental health treatment areas are open to the corridor.

407.7 Secured yards – Typically not applicable to this project. Review if any means of egress discharge into secure yard areas.

414 Hazardous Materials – The only area that has measureable quantities of hazardous materials is the Oxygen Storage Room. Oxygen room as a control area has an allowable quantity of 3,000 cubic feet. If quantity exceeds the allowable the room will be classified as a H-3 occupancy, with a 2 hour rated occupancy separation wall.

Chapter 5 General Building Heights and Areas

Section 504 – Building Height

- Actual height 4 stories. 55-60 feet
- Table 503 allowable height
 - Type I – B Construction – 4 stories, 160 feet
 - Type II – A Construction – 2 stories, 65 feet

504.2 Automatic sprinkler system increase: 1 story and 20 feet of height

* Current 4-story height dictates Type I-B Construction

504.3 Roof Structures – Review as needed

Section 505 Mezzanines - Review as needed

Section 506 Area Modifications

- Table 503 Allowable area
- Type I-B Construction – unlimited
- Type II-A Construction – 15,000 Base (I-2 occupancy controls)

506.2 Frontage Increase:

$$I_f = [F/P - 0.25] w/30$$

$$I_f = [.90 - .025] 30/30$$

$$I_f = .65$$

506.1 Area Modification:

$$A_a = A_t + [A_t \times I_f] + [A_t \times I_s]$$

$$A_a = 15,000 + (15,000 \times .65) + (15,000 \times 2)$$

Aa= 15,000 + 9750 + 30,000

Aa= 54,780 total allowable per floor

506.4 Area Determination

54,750 (4) = 219,000 total allowable for building (Type II-A construction)

Section 508 - Mixed Use and Occupancy

508.2 Incidental Uses

- Furnace Room – I-2 or B – No separation if protected with sprinkler system
- Boiler Room – I-2 or B – No separation if protected with sprinkler system
- Laboratories in group I2 – No separation if protected with sprinkler system
- Laundry rooms > 100 sq.ft. I-2 – No separation if protected with sprinkler system
- Storage Rooms > 100 sq.ft. I-2 or B- No separation protected with sprinkler system
- Group I-2 waste and linen rooms - 1 hour fire barrier separation

508.2.2.1- Rated construction of Incidental Uses shall be a fire barrier per section 706

- Sprinkler protected Incidental Uses shall be separated with construction resisting the passage of smoke. Doors must be self closing with smoke seals.

508.3.1 Accessory Occupancies

- Shall not occupy more than 10% of the area of the story
- Accessory assembly occupancies less than 750 square feet not considered separate occupancies

508.3.2 Non Separated Occupancies:

508.3.2.1 Each different occupancy shall be classified per section 302.1. Code requirements shall apply to each portion of the building based on the occupancy classification of that space except that the most restricting applicable provisions of section 403 (not applicable) and chapter 9 shall apply to the entire building.

508.3.2.2 Allowable area and height – based on the most restrictive allowances for the occupancy groups under consideration for the type of construction per section 503.1 and table 503.

Height - I-2 controls – 4 stories

Area – I-2 controls – Unlimited

508.3.3 Separated Occupancies – N/A

Chapter 6 – Types of Construction

Table 601

Type I-B Construction:

Structural frame floors	2 Hours
Structural frame roof	1 Hour
Exterior Bearing Walls	2 Hours
Interior Bearing Walls - Floors	2 Hours
Interior Bearing Walls - Roof	1 Hour
Interior Non-Bearing Walls	0 Hours
Floor Construction	2 Hours
Roof Construction	1 Hour

Table 602

Exterior walls with less than 30' of fire separation distance shall be 1 hour rated.

Chapter 7 Fire Resistance Rated Construction

704- Exterior Walls

704.3- Buildings on the same lot - Considered separate buildings

704.5 Fire separation distance greater than 5 feet. The exterior wall shall be rated for exposure from the inside only.

704.8 Allowable area of openings – review as needed

704.10 Vertical Exposure – opening in wall above adjoining roof requirements – review as needed.

Exception – opening protection not required if roof has a minimum 1 hour fire resisting rating.

704.11 Parapet Requirements – review as needed.

704.12 Opening Protection Requirements – review as needed.

705 Fire Wall

705.1 – Construction separation between buildings.

- The existing building is Type II-A construction and the new addition will be

Type I-B construction. One building with two different construction types must be separated with a fire wall and considered two buildings on the same lot.

705.1.1 – Party Wall – Fire wall for this building not considered a party wall because it is not located on a property line or lot line separating two different properties

705.2 – Fire wall must have sufficient structural stability under fire conditions to allow collapse of the construction on either side of the wall without collapse of the wall for the duration required.

705.3 – Fire walls may be of any approved non-combustible material.

705.4 – Table 705.4 – The fire resistance rating for the fire wall shall be 3 hours.

705.5 thru 705.11 – Additional detailed requirements for the fire wall.

706 Fire Barriers – Most of the fire-rated walls in the building will be fire barriers – Review as needed.

707 Shaft Enclosed and Shaft Enclosure Requirements.

707.4 Shafts connecting 4 stories or more shall be 2 hour fire rated
Shafts penetrating a 2 hour fire resistant floor assembly shall be 2 hour fire rated even if less than 4 stories.

707.14 Elevator Hoistway – Review as needed.

707.14.1 Elevator Lobby
Elevator lobbies are not required per exception #4 – Building is protected by an automatic sprinkler system.

708 Fire Partition Requirements

- The only possible fire partitions will be corridor walls as required by 1017.1
- Table 1017.1-Corridors in Sprinklered Building in A, B & S occupancies have a 0 hour rating. Refer to Section 407 for I-2 occupancies.

709 Smoke Barriers Requirements

- Smoke barriers must be 1 hour rated (fire barriers)
- Smoke barriers are required by section 407.4

710 Smoke Partitions Requirements – Review as needed

711 Horizontal Assemblies – Review as needed

712 Penetrations – Review as needed

713 Fire Resistant Joint Systems – Review as needed

714 Rating of Structural Members – Review as needed

715 Opening Protection – Review as needed

716 Ducts and Air Transfer Openings – Review as needed

720 Prescriptive Fire Resistance – Review as needed

Table 803.5 - Wall and Finish Requirements:

I-2 Occupancies- Class B finishes with fire sprinklers

903.3.2 – All Spaces within a smoke compartment containing patient sleeping units in I-2 occupancy require quick response heads.

905.3.1 Exception 1. – Where the highest floor level is more than 30 feet above fire department vehicle access a stand pipe system is required. In sprinklered building it may be a Class I stand pipe system.

912.2.1 Fire department connection shall be location on the street side of the building and fully visible from the street or nearest fire department access point.

Chapter 10 - Means of Egress

Table 1005.1 - Egress Width

For I-2 Occupancies	0.3" per occupant for stair
	0.2" per occupant for all other

* Means of egress system for I-2 occupancy must be sprinklered.

1007 Accessible means of Egress

1. Accessible Routes
2. Stairways within vertical exit enclosures.
3. Exterior exit stairs
4. Elevators

1007.2.1 – If a required accessible floor is 4 stories or more above level of exit

discharge (5 story building per IBC Commentary); one accessible means of egress must be an elevator.

- East side stairs discharge at 2 stories. West side at 3 stories. Elevator not required as part of accessible means of egress.

1007.3 – Accessible Exit Stairs

- Requires an area of refuge for enclosed stairs.
- The 2009 State of Utah Amendments add an exception that the area of refuge is not required in a sprinklered building.

1008.1.1 - Means of egress doors in I-2 occupancies. Used for movement of beds shall have a clear width of 41.5 inches.

1008.1.3.4 – Access controlled egress doors not allowed in I-2 occupancy

1008.1.8.3 - Locks and latches are permitted to prevent operations of doors in places of detention or restraint.

- State of Utah Amendments add a subparagraph (5) which allows access controlled egress in I-2 occupancies where the clinical needs of the patients require specialized security measures, when the listed criteria is met.
- The criteria is similar to the criteria in Section 1008.1.9.6 from 2009 IBC, but more restrictive. (We can review with Enzo the use of Section 1008.1.9.6 from 2009 IBC if the UNI staff feels it would be beneficial.)

1009.11 – One stairway needs to extend to the roof. Roof access may be by alternating tread device because roof is not occupied.

1009.11.1 Roof Access may be by roof hatch because roof is not occupied.

1009.11.2 If roof hatch is within 10 feet of roof edge of a guardrail must be supplied.

1012 – Handrails – Review as needed.

1013 – Guards – Review as needed.

1014 – Exit Access

1014.2.2 - Group I-2 – Habitable rooms or suites in I-2 occupancy must have exit access door opening to a corridor

* Note: Other total area requirements for I-2 Rooms and suites, are listed in this code section. Review as needed.

1014.3 Common path of egress travel

I-2 and A – 75 feet

B and S – Sprinklered – 100 feet

1014.4.3 – Exit access aisles for seating at tables – Review as needed.

1015 – Exit Door and Exit Access Doors

A&B Occupancies – 50 or more occupants – 2 exits

S Occupancy – 30 or more occupants – 2 exits

I-2 Occupancy – See 1014.2.2

1015.3 – Boiler and furnace rooms over 500 sq. ft. and equipment exceeds 400,00 BTU input capacity requires 2 exits

1016 – Exit Access Travel Distance

A&S Occupancies 250 feet

B Occupancy 300 feet

I-2 Occupancy 200 feet

1017 – Corridors – Review as needed.

1020 – Vertical Exit Enclosures

1020.1 - Vertical exit enclosure connecting 4 stories - 2 hour fire barrier.

Chapter 11 – Accessibility

1106.3 – 10% of patient parking and visitor parking must be accessible, about 5 stalls

1106.1 – 301 to 400 Parking 8 accessible spaces for about 450 staff spaces

1106.5 – 1 of 6 accessible spaces must be van accessible

- 1 patient/visitor space

- 2 staff spaces

1106.7.2 – A passenger loading zone is required for medical facilities

1107.5.3.1 – 10 percent of dwelling and sleeping units shall be accessible units.

1210 Surrounding Materials

1210.1 Floors – Toilet and bathing room floors shall have a smooth, hard, non-

absorbent surface that extends up onto the wall a minimum of 6 inches.

1210.2 Walls – Walls within 2 feet of urinals and water closets shall have a smooth, hard, non-absorbent surface to a height of 4 feet above the floor. The materials used in the wall construction shall not be adversely affected by moisture.

1210.3 Showers – Showers and walls above bath tubs shall have a smooth, hard, non-absorbent surface to a height of not less than 70 inches above the drain inlet.

1210.5 Toilet rooms – Toilet rooms shall not open directly into a room used for the preparation of food for service to the public.

Chapter 14 – Exterior Walls

Address sections as needed as exterior wall materials are selected.

Chapter 15 – Roof Assemblies and Rooftop Structures

1505.1 Minimum roof fire classification – Table 1505.1 – Construction Type I-B – Class B roof.

1509 Rooftop Structures – Review as needed.

1604.5 – Table 1604.5 – Occupancy Category

UNI will be classified as a Category III Building – Health care facility with 50 or more resident patients, but without surgery or emergency treatment facilities.

2902.1 Minimum Number of Plumbing Fixtures – Table 2902.1

I-2 Occupancy – Patient Rooms – 1 water closet and 1 lavatory per patient room, 1 shower per 15 patients.

Level One - A-3 assembly areas, B office areas, Incidental mechanical and electrical areas, and I-2 patient assessment areas – 6 male water closets, 6 male lavatories, 7 female water closets, and 6 female lavatories.
- B Office of Psychiatry – 3 male water closets, 3 male lavatories, 3 female water closets, and 3 female lavatories.

Level Two – A-2 dining areas, A-3 assembly areas, B office areas & wellness center, I-2 treatment areas – 7 male water closets, 6 male lavatories, 7

female water closets, 6 female lavatories.

Level Three – B staff work areas and I-2 treatment areas – 2 male water closets, 2 male lavatories, 2 female water closets, 2 female lavatories for each of the 2 units on Level 3.

Level Four – B staff work areas and I-2 treatment areas – 2 male water closets, 2 male lavatories, 2 female water closets, 2 female lavatories for each of the 2 units on Level 4.

There is one service sink required per floor. Additional showers and drinking fountains will be calculated and located in Schematic Design. Utah State Amendments require that when diaper changing facilities are provided in public toilet rooms, there shall be an equal number in the male and female toilet rooms.

Chapter 30 - Elevators

3002.4 - Elevator car to accommodate ambulance stretcher. At least one elevator serving all floors shall be provided for fire department emergency access. The elevator must be sized to accommodate an ambulance stretcher, 24" x 84".

3004.1 Hoistway venting is required for all elevators serving an I-2 occupancy.

3004.2 Hoistway vents shall be located at the top of the hoistway and open directly to the outside or be ducted directly to the outside.

3004.3 Area of the vents shall be not less than 3 ½ percent of the area of the hoistway served by the vent, nor less than 3 sq. ft. for each elevator car in the hoistway.

3006.2 Elevator Machine Room ventilation – Machine rooms containing solid-state equipment shall be provided with independent ventilation or air-conditioning system to keep the equipment from over-heating.

3006.4 The elevator machine room shall be protected by a fire barrier with a fire resistance rating equal to the required hoistway rating for the elevator served by the machine room. 2 hour fire barrier for this project.

3.8 Structural

The structural design for this project should provide a building system which will integrate with the program requirements for space layout, as well as with the architectural and building service needs, while meeting current code standards for vertical and horizontal load carrying capacity. User needs in terms of current flexibility of the spaces and future adaptability of use should be considered. The level of user comfort determined by the acoustic and vibration sensitivity of the structure should also be addressed.

Structural/Service Coordination

Layout of the structural grid will need to respect the planning modules established for the various building functions. During the design phase, a completely integrated approach to building systems is recommended. Distribution of HVAC, plumbing and electrical services must be carefully coordinated with the structural elements, particularly at framing intersections and major crossover points. This close coordination must be achieved in order to avoid conflicts between building systems and limit penetrations of major structural members.

Geotechnical Criteria

A geotechnical report for the new addition has been completed by GSH Geotechnical. The report indicates that existing soils consist of a layer of pavement and road base underlain by layers of silty clay, clayey sand, clayey gravel, silty sand, and mixtures of these soils. No fill materials were identified in the borings.

The geotechnical report indicates that the structure may be supported on reinforced concrete spread footings bearing on undisturbed native soils or structural fill extending to undisturbed native soils. Footings may be designed for net bearing pressures of 3,500 psf. Varying thicknesses of structural fill will be placed below footings based on the magnitude of the total load imposed on the column or wall supported by the footings. For more lightly loaded columns and walls, no structural fill will be required. For more heavily loaded columns and walls, structural fill up to 36 inches thick will be placed below the footings.

Footings under shear walls or braced frames will be individual mat footings placed under each of the braced frames, and rectangular in configuration. The mat footings will be sized to keep soil bearing pressures at the toe of the footings within the limits of the geotechnical report.

The report indicates that no water table was encountered in the borings at the time of drilling to the maximum depth investigated, which was approximately 41.5 feet below existing ground surface. The report indicates the liquefaction potential at the site is very low.

The seismic spectral accelerations of the ground at the site are high as indicated in the Earthquake Design section of this program. The nearest known potentially active fault of concern is the East Bench portion of the Wasatch Fault located about one half to one mile to the west of the site. It does not appear that active mapped faults pass through the site. The geotechnical report indicates that the site is classified as a Site Class D for calculating earthquake loads on the building. The report indicates that liquefaction of the native soils is not anticipated to occur when they are subjected to earthquake shaking.

BASIS OF DESIGN

Loading Criteria

The structural systems in the facility shall be designed to meet the requirements of the 2006 International Building Code (IBC), Minimum Design Loads for Buildings ASCE 7-05 and the DFCM Design Manual adopted by the Utah State Building Board. Copies of the Design Manual can be obtained from the Division of Facilities Construction Management (DFCM) web site. Section 3.1 deals with enhancements of building code requirements and section 3.4 lists general design requirements. The following minimum requirements should be anticipated:

- Wind Velocity: 90 mph, Exposure “B” or “C”, for the building structure, as appropriate to the site. Exposure “C” shall be used for elements and components including the exterior window wall system
- Seismicity: 2006 IBC and ASCE 7-05 Seismic requirements with a “Seismic Importance Factor” of $I = 1.25$ for an occupancy category III building.
- Roof Base Snow Load: 33 psf minimum plus snow drift where appropriate.
- Snow Load Importance Factor $I = 1.1$ in accordance with Table 7.4, ASCE 7-05.
- Floor Design Live Loads: Floor design live loads shall be in accordance with the latest edition of the DFCM Design Criteria Manual and as follows:
 1. Private rooms and wards: 80 psf distributed load and 2,500 lb. concentrated load.
 2. Office areas: 80 psf distributed load plus 15 psf minimum partition load, and 2,500 pound concentrated load.

3. Corridors, exits, and assembly areas: 100 psf distributed load
4. Areas of concentrated standard file storage: 125 psf
5. Heavy paper storage areas: 250 to 350 psf as appropriate
6. Mechanical Equip. Rooms: 125 psf minimum, or more if required by the actual weight of equipment.

Areas where heavy load concentrations exceed the normal loading requirements shall be designed for the specific load case.

The more stringent requirement between the 2006 IBC, the DFCM Design Criteria Manual and the loads given above shall govern.

Structural System Selection and Cost Comparison

The structural system chosen for the building shall be selected based upon the following criteria:

- A cost comparison of at least two structural systems shall be investigated. The comparison should be broken down in detail with each component of cost significance being listed separately. The overall cost impact of alternate foundation systems as they relate to the foundation load magnitudes from different structural systems (i.e. steel versus concrete) shall be considered as part of this investigation.
- Various structural systems comparing building construction time, material availability, coordination of various trades, lead times for ordering materials, appearance, owner preference, maintenance costs, flexibility for future remodeling, and compatibility with surrounding buildings should be considered when choosing the final structural systems for the building.
- The structural system comparison shall include considerations of vibration performance of the finished structural system to provide the vibration environment needed for the comfort of the building occupants. The suggested guideline for vibration evaluation of floor systems is AISC Design Guide 11 "Floor Vibrations due to Human Activity". Present plans for the building do not include any vibration sensitive equipment that would require more stringent vibration performance than what is suggested for comfort of the building occupants.
- Damage to the building structure and its contents due to lateral earthquake and/or wind loads should be evaluated between various structural systems.

Damage control to building non-structural systems is a pertinent and important consideration when selecting the building structural system.

More rigid shear wall and/or braced frame lateral force resisting systems generally experience a lower degree of lateral drift from earthquake forces than more flexible systems such as moment resistant frames. This lower degree of lateral drift can result in greater damage control to a buildings non-structural elements and contents than a more flexible movement frame type lateral force resisting system. On the other hand, the more rigid lateral force resisting systems impose higher earthquake acceleration forces on the non-structural elements and contents. The non-structural elements need to be designed to resist the acceleration forces imposed on them during an earthquake. One clear advantage of moment frame lateral force resisting system that needs to be considered is that they provide almost unlimited programmatic and planning flexibility initially and during the life of the building.

Cast-in-place reinforced concrete shear wall lateral systems usually work most economically with a cast in place reinforced concrete structural floor framing system while diagonally braced steel lateral systems are usually most economical in conjunction with composite steel floor framing systems.

All cost comparisons between structural systems shall include interface costs between other building components such as architectural finishes, exterior enclosure systems, mechanical systems, and electrical systems. Life cycle costing methods shall be used where applicable.

Future Building Expansion

- Future vertical expansion is not anticipated, but this topic shall be considered and decided upon by the design team in the early phases of the design process.
- Future horizontal expansion of the structure is a possibility and merits further consideration during the design phase. It is anticipated that any future horizontal expansion of the building will be separated from the building by an expansion/seismic joint.

Earthquake Design

The proposed structure shall be designed according to the requirements of the adopted edition of the International Building Code and "Minimum Design Loads for Buildings" ASCE 7-05. According to the project geotechnical report,

the closest distance to a known seismic source is the Wasatch Fault about 0.75 miles to the east of the site. Spectral acceleration values for the site taken from the 2006 IBC maps are $S_s = 1.48$ and $S_1 = 0.577$. These spectral acceleration values shall be verified during the design process.

Health care facilities with 50 or more resident patients, but not having surgery or emergency treatment facilities are classified as Occupancy Category III buildings. An Earthquake Importance Factor, "IE" of 1.25 shall be used in earthquake design analysis according to Table 11.5-1 of ASCE 7-05.

Wind Design

Health care facilities with 50 or more resident patients, but not having surgery or emergency treatment facilities are classified as Occupancy Category III buildings. A Wind Importance Factor, "IW" of 1.15 shall be used in wind design analysis according to Table 6-1 of ASCE 7-05.

Roof Snow Load Design

Health care facilities with 50 or more resident patients, but not having surgery or emergency treatment facilities are classified as Occupancy Category III buildings. A Snow Load Importance Factor, "IS" of 1.10 shall be used in snow load design analysis according to Table 7-4 of ASCE 7-05.

Testing and Inspections

The Architect/Engineer, and the selected testing lab, shall perform periodic construction observations, testing, and special inspections, as outlined in Chapter 17 of the International Building Code. The design engineer shall list all required special inspections on the contract drawings, and perform periodic construction observations as required by the A/E agreement. Costs for special inspections and testing services will be paid by the owner.

3.09 Mechanical/Plumbing

Available Utilities

CULINARY WATER

Anticipated service size for the addition is 3". Water will be supplied through the existing 4" meter serving the existing portion of the building and split off from the existing line after the meter to run to the new addition.

NATURAL GAS

Anticipated service size is 2".

SANITARY SEWER

Anticipated building drain size = 3".

Gravity-flow sanitary sewer is required. Sewage ejection is not acceptable.

STORM SEWER

An 8" line will be extended to the existing storm water drainage system.

FIRE SERVICE

New 8" service will be provided to the new addition.

GENERAL REQUIREMENTS FOR MECHANICAL DESIGN

Temperature

Outdoor design temps: winter:	12.1 oF (ASHRAE 99%)
(Salt Lake City) summer:	90.4DB /60.4WB oF (ASHRAE 1%)
dehumidification:	72.8DB /61.9WB oF (ASHRAE 1%)
evaporative:	82.0DB /63.6WB oF (ASHRAE 1%)
Heating Degree Days (base 65):	5,946
Cooling Degree Days (base 65):	867

Indoor design temperatures:

Maintain at temperatures specified in the following table, +/- 3 °F.

	Occupied		Unoccupied	
	Cooling	Heating	Cooling	Heating
Patient Rooms	75	70	80	55
Staff Rooms	75	70	80	55
Exam/Procedure Rooms	75	75	72	72
Util. Spaces, including mech. rooms	90	55	90	55

Noise

Use the RC Mark II method for rating HVAC system related noise, and use the following table for maximum allowable noise levels generated by HVAC equipment:

Room Type	RC(N)
Patient Rooms	25
Private Offices	35
Open Plan Offices	40
Conference Rooms	35
Corridors	40

Ventilation/Indoor Air Quality

Comply with 2006 AIA Guidelines for Design and Construction of Health Care Facilities, ASHRAE 62.1-2007, and the International Codes for minimum ventilation requirements. Where discrepancies occur between the AIA guideline, Codes, and the ASHRAE standard, use the more stringent requirements.

Design a ventilation system that results in an air change effectiveness greater than or equal to 0.9 as determined by ASHRAE 129-1997. Follow recommended design approaches in ASHRAE 2005 Fundamentals, Chapter 33.

Develop and implement an IAQ Construction Management Plan that includes the use of high efficiency filters (Minimum Efficiency Reporting Value (MERV) = 8, as determined by ASHRAE 52.2-1999), at each return air grille for systems used during construction.

Provide MERV 7 pre-filters and MERV 13 final filters at central air handlers upon completion of project.

In addition to toilet exhaust, provide separate exhaust system as noted in the space conditions matrix, and demonstrate that the rooms are maintained at a negative pressure of 0.02" wg relative to adjoining spaces.

Humidity

Humidification of the building is not required. Upper relative humidity levels inside the building are to be passively limited by the central air handling system to no greater than 55%.

Infiltration

Calculate infiltration in accordance with the pressurization method described in Chapter 16 of ASHRAE Fundamentals, 2009, assuming average wall construction.

Project Documentation

Provide a design narrative that includes the following:

- Basis of design, including all information required to prepare the design
- Sequence of operation of all systems, as well as their interaction with other systems
- System description, including operating parameters and assumptions
- Acceptance testing requirements, in tabular form, for use by the installing contractor and verification by the design engineer. This may be incorporated into the commissioning documentation
- A description of the methods used by the design team to achieve sustainability, including the integrated design process; and a description of the results, i.e. a description of the sustainable elements included in the design. Include in this section how the requirements of this program were met.
- Results of the energy simulation, with a design energy performance standard for the building.

Energy Efficiency

Determine the energy cost budget for this building in compliance with ASHRAE/IESNA 90.1-2007, Section 11, then document that the proposed design reduces annual energy cost by at least 34%, using the methodology of ASHRAE/IESNA 90.1-2007, Appendix G. Cost-effective energy efficiency measures beyond this goal are encouraged.

Additionally, comply with the latest DFCM standards for building energy performance in effect at start of design.

Design in accordance with the minimum requirements of ASHRAE/IESNA 90.1-2007. Document compliance using COMcheck-EZ.

Strategies that the mechanical engineer can implement to reduce the building energy consumption for heating and cooling include:

- Oversize the duct and piping systems for low static pressure losses.
- Oversize coils to reduce pressure drop.

- Design coils for higher temperature range on fluid side to reduce system flow.
- Use variable flow heating, chilled and condenser water systems
- Provide demand controlled ventilation in areas with varying occupancy.
- Evaluate a dedicated outdoor air system with zone radiant heating and cooling
- Evaluate a dedicated outdoor air system with variable refrigerant flow fan coils in each zone.

Building Envelope

Reference IECC 2006, Climate Zone 5 for minimum envelope requirements

Internal Loads

Use the following loads if more specific design information is not available:

People:	250 Btuh, sensible 200 Btuh, latent
Lights:	1.0 watts/ft ² , overhead
Equipment:	0.75 laptop PC per person in staff areas 1 desktop PC per seat in offices 1 copier per 10 people in staff areas 3 watts/ft ² in high equipment density areas
Server / Network Operations:	100 watts/ft ²

Modify internal load calculations as required when more specific design information becomes available, in order to maintain indoor design temperatures and optimize size and cost of mechanical systems.

Commissioning

Coordinate construction documents with the DFCM-selected commissioning agent. Commissioning of the building will comply with requirements for building commissioning detailed in the DFCM Solicitation for Commissioning Services.

Measurement And Verification

Provide continuous metering equipment and 4-20 MA signal outputs, integrated with building BMS system for the following uses:

Steam (condensate) consumption at building.
Domestic water consumption at building

SYSTEMS

General Description

Do not oversize mechanical equipment. Provide load calculations with no more than 10% safety factor, applied after all calculations are complete.

Ventilation System

Provide dedicated outdoor air handlers with heat recovery, heating, and cooling coils to provide neutral temperature ventilation air to all occupied zones. Size air handler for at least 30% more air than required by ASHRAE 62. Use backward-inclined centrifugal fans with variable speed control. Locate air handling equipment indoor mechanical rooms with adequate service clearance. Locate prime-source mechanical equipment (i.e. heat exchangers, pumps) in mechanical room.

Provide single duct air distribution, with control dampers serving each zone. Provide ducted exhaust back to air handlers for heat recovery.

Heating Water

Heating water will be provided by condensing boilers (approximately 10,000,000 Btu/hr total input) at 130°F and returned at 90°F.

Heating water transport energy consumption is limited as follows:

Load	Max Water Transport Energy(bhp/1,000,000 Btuh)
Full Load	2.50
50% Load	1.15

Provide air handler coils as follows:

Tube		Fins	
Min Rows	Min Thickness(in)	Max Spacing(fpi)	Max Thickness(in)
6	0.035	10	0.0075

Specify piping of domestic manufacture.
Design piping system, including isolation valves and appropriate piping arrangements to allow maintenance of sub-zones of the heating water system without requiring complete shutdown.
Review piping schematic with Physical Plant personnel.

Chilled Water

Provide two water-cooled constant-speed screw chiller, approximately 150 tons, with minimum efficiency of 4.90 COP and 4.95 IPLV
Design the chilled water transport energy consumption as follows:

Load	Max Water Transport Energy(bhp/ton)
Full Load	0.05
50% Load	0.04

Provide air handler coils as follows:

Tube		Fins	
Min Rows	Min Thickness(in)	Max Spacing(fpi)	Max Thickness(in)
6	0.035	10	0.0075

Specify piping of domestic manufacture.
Provide isolation valves at each air handler.

Condenser Water

Provide a stainless steel counter flow or cross flow cooling tower, mounted on the roof or at grade, to accomplish water side economizer as well as chiller condenser heat rejection.
Minimum efficiency at design conditions = 38.2 gpm/hp
Provide chemical-free water treatment.
Size cooling tower for 5° approach on evaporative design day.
Provide variable speed control of cooling tower fan(s).

Zone Temperature Control

Provide 4-pipe fan coils in each occupied zone with ECM motors.
Document fan sizing calculations with zone-by-zone load calculations.
Use automatic dampers on exhaust and ventilation ducts.
Document that transport energy consumption meets the following criteria:

Load Maximum Air Transport Energy(bhp/1,000 cfm)

Full Load 1.0
50% Load 0.30

Require pressure testing of all duct systems in accordance with 2009 IMC.
Provide each space with individual room temperature control. Provide zoning plan during schematic design review that indicates proposed zoning plan for review and approval by Facilities Planning staff.

Air Distribution

Construct all new supply and transfer air ductwork with galvanized sheet metal.
Construct all new medium pressure ductwork to SMACNA 6" pressure class.
Construct all new low pressure ductwork to SMACNA 2" pressure class.
Seal both types of ductwork to SMACNA seal class A.
Leak test all medium pressure ductwork.
Do not duct return air outside the mechanical rooms. Return air path will be through return air plenums above ceilings, or unducted through spaces without ceilings. Short metal transfer ducts/sound boots will be used to allow return air paths to penetrate walls that extend to the structural deck above.
Duct return air inside the mechanical rooms to the air handlers.
Coordinate location of outdoor air intakes relative to loading docks, generators and other sources of local air pollution.

Plumbing

Design the plumbing system so that the annual potable water consumption by interior plumbing fixtures is no more than 80% of the Energy Policy Act of 1992 plumbing fixture maximum.
Provide pressure reducing valve station for domestic water service in mechanical room.
Use Type L copper supply piping, no-hub SV service cast-iron waste piping above grade and PVC below grade.
Specify piping of domestic manufacture.
Size hot and cold water piping to maintain 30 psi at hydraulically most remote fixture, and with maximum velocity of 6 fps.
Size roof drain system for 2" / hour maximum rainfall.
Support all piping from building structure via approved hangers and supports.
Support piping to maintain required grading and pitching of lines, prevent vibration, and allow for expansion and contraction.
Insulate hot water, domestic cold water and primary roof drain piping. Provide all-service jacket in concealed areas, PVC jacket in exposed.

Identify all piping with markers at 20'-0" on center.
Provide full sized isolation ball valve at each floor, and at each terminal device.
Preferred plumbing fixtures are Kohler, with Zurn flush valves (1/8 gpf automatic sensor flush, hard-wired valve urinal, manual dual flush water closet). Wall hung, vitreous china.
Waterless urinals are not acceptable.
Provide wall-hung, vitreous china lavatories, single temperature supply with hard-wired 0.5 gpm sensor faucet.
Provide deep seal traps for floor drains. No trap primers.
Provide hose bibs on outside walls, two on each exposure, with freeze-proof quarter turn valve.
Provide a hose bib in each public toilet room, with loose key handle and quarter-turn valve.
Generate hot water from condensing water heater or heat exchanger on building heating water loop.
Terminate hot water within 5'-0" of last fixture. Soft water is required.

Fire Protection

Provide fire sprinkler protection throughout building. System to comply with NFPA and State of Utah Fire Marshal requirements.
Provide individual floor control assembly, including zone check assembly, at each floor
Sprinkler Occupancy Hazard Classifications are as follows:
Patient Rooms: Light Hazard
Office and Public Areas: Light Hazard.
Service Areas: Ordinary Hazard, Group 1.
Mechanical Equip. Rooms: Ordinary Hazard, Group 1.
Building Service Areas: Ordinary Hazard, Group 1.
Electrical Equipment Rooms: Ordinary Hazard, Group 1.

Minimum Density for Automatic-Sprinkler Piping Design as follows: (Reduce Design areas with quick response heads when applicable and increase design area as required for pitched ceilings.)

Light-Hazard Occupancy: 0.10 gpm over 1,500 ft² area.
Ordinary-Hazard, Group 1 Occupancy: 0.15 gpm over 1,500 ft² area.
Ordinary-Hazard, Group 2 Occupancy: 0.20 gpm over 1,500 ft² area.
Special Occupancy Hazard: As determined by authorities having jurisdiction.

Maximum Protection Area per Sprinkler: As follows (except as modified by authorities having jurisdiction)

Office Space:	225/400 ft ²
Storage Areas:	130/400 ft ²
Mechanical Equipment Rooms:	130 ft ²
Electrical Equipment Rooms:	130 ft ²
Other Areas:	According to NFPA 13 recommendations, unless otherwise indicated.

Components and Installation: Capable of producing piping systems with 175-psi minimum working-pressure rating, unless otherwise indicated.
Specify all piping and components Schedule 40 minimum, and of domestic manufacture.

Controls

Provide Direct Digital Control (DDC) system.
Integrate the mechanical and electrical systems. Provide microprocessor to microprocessor communication between the DDC and variable frequency drives, air handler(s), electrical distribution, lighting, emergency generators, UPS system and building power. Provide 15% reserve capacity for additional points to be made available for non-mechanical/electrical monitoring.
Provide written sequence of operation on drawings for all systems controlled by the DDC system.

3.10 Electrical

Lighting

Interior lighting will comply with the recommending lighting levels as specified in the applicable IEEE guidelines for interior lighting applications. In general, interior lighting will operate at 277 volts and will utilize linear or compact fluorescent lamps in all public and patient areas, generally in recessed down-lights (for compact fluorescent fixtures) and recessed troffer fixtures utilizing prismatic lenses (for linear fluorescent fixtures). In specific applications, such as reception areas, specialty lighting may be installed for aesthetic purposes, but such lighting will be limited to specific areas in public spaces not generally accessible by patients.

In monitored patient areas (such as common rooms, activity rooms, corridors, etc.), light fixtures will comply with the required vandal and tamper resistant criteria established for psychiatric hospitals requiring suicide prevention, and will be absent of any ledges, edges, or other devices upon which patients may be able to injure themselves or assist in injuring themselves.

In patient rooms, all light fixtures shall be both vandal and tamper resistant to minimize the risk of injury to patients and patient's ability to cause injury to themselves. Patient room lighting shall consist of a wall mounted fluorescent bed fixture, one or two recessed ceiling mounted fluorescent fixtures for general lighting, and in restrooms, a single wall mounted fluorescent basin fixture and recessed ceiling mounted fluorescent fixture to general lighting.

Automatic control of lighting shall be provided in all public spaces and other areas where automatic control is not inappropriate for the use of the space. Site lighting and corridor lighting in public (non patient) spaces will be controlled through an astronomical time clock controlled central lighting control system with adjustable settings and local override switches where required for occupant use. Lighting in distinct rooms, such as offices, conference rooms, clean and dirty rooms, storage room, medication rooms, etc., shall be locally controlled by ceiling mounted dual technology occupancy sensors. Lighting in patient areas, such as nurse stations, patient area corridors, and patient rooms shall not be automatically controlled and shall be controlled only through manual switches.

Power Distribution

Normal Power

The building will be supplied from a Rocky Mountain Power utility transformer at 480/277 volts (nominal), three phase. The building's primary service point will be a 4,000 ampere, 480/277 volt, three phase, distribution switchboard located in the main electrical room. The distribution switchboard shall provide service to the existing building switchboard (via the subfeed feeders), to the normal side of each of the three automatic transfer switches in the emergency power distribution system, to a general main distribution panelboard (1,200 amperes, 480/277 volts, three phase) designated to provide general power to the building, to an equipment main distribution panelboard (800 amperes, 480/277 volts, three phase) designated to provide power to mechanical equipment and related systems, and to any other large electrical loads requiring 480/277 volt services. The general main distribution panelboard will in turn distribute power to branch circuit panelboards located in the electrical rooms on each floor (primarily for lighting and other miscellaneous loads) as well as to a 500 kVA transformer. The transformer shall in turn provide power at 208/120 volts, three phase, to a general main distribution panelboard (1,600 amperes, 208/120 volts, three phase) which will in turn distribute power to branch circuit panelboards located in the kitchen as well as in each electrical room on the various floors of the building.

Distribution on the patient room floors shall be provided from an electrical room located near the center of each patient room floor. Each electrical room shall have:

- two (2) 208/120 volt, three phase, double section normal power branch circuit panelboards with mains rated at 225 amperes;
- one (1) 208/120 volt, three phase, double section critical branch emergency power branch circuit panelboards with mains rated at 225 amperes;
- one (1) 208/120 volt, three phase, single section life safety branch emergency power branch circuit panelboard with mains rated at 150 amperes;
- one (1) 208/120 volt, three phase, single section equipment branch emergency power branch circuit panelboard with mains rated at 100 amperes;
- one (1) 480/277 volt, three phase, single section normal power branch circuit panelboard with mains rated at 225 amperes; and
- one (1) 480/277 volt, three phase, single section life safety branch emergency power branch circuit panelboards with mains rated at 225 amperes;

Receptacle and lighting circuits shall be #12 AWG except where such circuits exceed 100 linear feet in length, at which point they shall be #10 AWG.

Receptacles will be provided in accordance with the following schedule:

- in corridors, normal power duplex receptacles shall be provided at intervals of not more than 50 feet to provide for general housekeeping requirements;
- in nurse stations, critical power quadruplex receptacles shall be provided at each work station location in addition to normal power duplex receptacles for general service, copiers, and other selected non-critical office equipment;
- in medicine rooms, critical power quadruplex receptacles shall be provided for all medicine equipment and, where provided, a wall mounted or free-standing computer, in addition to at least one normal power duplex receptacle for housekeeping purposes;
- in nutrition rooms, duplex receptacles on the critical branch shall be provided for all cooking and refrigeration equipment in addition to a duplex receptacle on the normal power circuit for housekeeping purposes;
- in patient rooms, a receptacle on the normal branch shall be provided at either side of the patient bed location, and on each other wall within the patient room;
- in all offices, a quadruplex receptacle on normal power shall be provided for the desk in addition to two duplex receptacles for a printer or other office equipment and housekeeping purposes;
- in all other spaces, duplex receptacles shall be provided to meet the needs and requirements of the respective space.

Receptacles in patient rooms shall be controlled via a keyed switch located in the common corridor immediately outside the door of each patient room. The keyed switch shall permit the medical staff to disconnect electrical power to the receptacles within a specific patient room at their discretion while preventing patients or other non-medical staff from changing the setting determined by the medical staff within the unit.

Receptacles located in all patient accessible areas (patient rooms, unit corridors, common areas, etc.) shall be tamperproof and, where required by code, shall be served by GFCI circuit breakers within the respective electrical panelboards.

Emergency Power

Emergency power will be supplied to the building by a 750 kVA (937.5 kW) standby emergency generator. The standby emergency generator shall utilize diesel fuel as its primary fuel source. The standby emergency generator will generate and provide power to the building at 480/277 volts, three phase and shall be supplied from a 6,000 gallon diesel fuel storage tank located in the vicinity of the utility/services yard in order to provide , The standby generator will be supplied from a 7,500 gallon diesel fuel supply tank located in the vicinity of the utility yard to provide 96 hours of continuous run time at full load (based on an estimated full load consumption of 72.0 gallons per hour).

The standby emergency generator will provide power to an emergency power main distribution panelboard (rated for 1,200 amperes, 480/277 volts, three phase) which will in turn provide distribution to each of the three emergency power branches (critical, life safety, and equipment) as well as to the existing automatic transfer switch located in the existing building. The three emergency branches shall generally consist of the following:

- Critical Branch - The critical branch shall be served by an automatic transfer switch (400 amperes, 480/277 volts, three phase) which shall serve a critical branch emergency main distribution panelboard (400 amperes, 480/277 volts, three phase), which shall provide power to a transformer and any critical loads operating at 480/277 volts. The transformer, rated for 225.0 kVA, will convert the voltage to 208/120 volts, three phase, and provide power to a separate critical branch emergency main distribution panelboard (800 amperes, 208/120 volts, three phase) which will in turn distribute critical branch power to the branch circuit panelboards located within the electrical rooms on each floor of the building.
- Equipment Branch - The equipment branch shall be served by an automatic transfer switch (800 amperes, 480/277 volts, three phase) which shall serve an equipment branch emergency main distribution panelboard (800 amperes, 480/277 volts, three phase). This main distribution panelboard will provide power to various mechanical equipment, medical equipment, etc., requiring 480/277 volts, as well as a transformer for 208/120 volt equipment loads. The transformer, rated for 225.0 kVA, will convert the voltage to 208/120 volts, three phase, and provide power to a separate equipment branch emergency main distribution panelboard (800 amperes, 208/120

volts, three phase) which will in turn distribute equipment branch power to the branch circuit panelboards located within the electrical rooms on each floor of the building.

- Life Safety Branch - The life safety branch shall be served by an automatic transfer switch (400 amperes, 480/277 volts, three phase) which shall serve a life safety branch emergency main distribution panelboard (400 amperes, 480/277 volts, three phase). This main distribution panelboard will distribute life safety branch power to the branch circuit panelboards located within the electrical rooms on each floor of the building.

Fire and Safety

The building will be provided with a standard fire alarm system interconnected to the existing building fire alarm system as indicated below. The fire alarm system shall be a Class A, Style Y, configuration consisting of loops on each floor of the building serving devices located on the respective floor. At least one notification appliance cabinet (NAC) panel shall be provided on each floor of the new building. The fire alarm system will be a horn-based evacuation fire alarm system with strobe visual notification. Devices will be located per the applicable requirements of the applicable codes, but generally in accordance with the following criteria:

- in corridors, strobe devices shall be located not less than 15 feet from the end of each corridor and not more than 100 feet between devices, provided that any corridor of 30 feet or less shall be provided with a single device;
- in rooms with a typical occupancy of more than one person, one or more strobe and/or horn/strobe device(s) shall be installed of a candela rating sufficient to completely provide coverage for the respective area;
- in rooms with a typical occupancy of one person, such as service areas, clean rooms, etc., a strobe and/or horn strobe device shall be provided to provide adequate coverage of the area;
- in patient rooms, fire alarm devices shall not be installed.

Combination horn/strobe devices shall be used where required. Horn devices shall be of the selectable variety (horn/chime/silent) for control of evacuation signals with respect to the use of the respective ward and the requirements therein.

A new fire alarm control panel will be installed in the new building and interconnected to the existing fire alarm control panel in the existing building such that the existing building fire alarm control panel will be a “slave” to the “master” panel installed in the new building.

Special Systems

Communications

Telecommunications and data ports shall be provided in all public spaces, as well as at all nurse stations, medicine rooms, nutrition rooms, staff areas, and office areas, with at least one telephone and one data port provided at each designated workstation location. Provisions for wall phones, etc., shall be made per the requirements of the program and the users of each individual space.

Cabling for all telecommunications and data ports shall be CAT5e unless otherwise required by the specific equipment served. Cabling shall be installed in conduit within walls and shall be routed in either cable trays or j-hooks provided in corridors for proper installation and support of such cabling. The cabling shall be installed from each telecommunications and equipment port to the communications room located on each floor, where such cables shall be terminated per the owner’s specifications. Fiber optic connections shall be provided from each communications room to the main communications room located on the first floor of the building where the fiber optic service to the building enters the building.

Wireless access points shall be provided throughout the facility, generally in corridors, spaces at an approximate distance of 50 feet on center, subject to the specific construction and design considerations of specific spaces.

Patient rooms will not have any communications ports located within the room.

Security

The building will be provided with a new fully digital central security system to control and monitor access to various locations throughout the building. The central security system shall use proximity cards for access control to allow the recording of specific access information for better control of the respectively secured spaces.

Proximity card readers shall be provided at each entrance to the building from

the exterior, as well as at the entrance and exit of each controlled psychiatric unit to control access and release from psychiatric units. Proximity card readers shall also be provided to access all locations containing equipment or medication which must be secured or may be preferable to secure, including all medications rooms, nutrition rooms, and other rooms designated by the owner as critical control rooms.

The new building shall be monitored by constantly recorded security cameras generally located at entrances to and exits from the building or individual psychiatric units. Security cameras shall also be provided to monitor specific outdoor locations, such as outdoor fitness or recreation areas and courtyards, as well as other locations specifically identified by the owner.

The new security system will not connect to the existing security system in the existing building which is generally a locally controlled system at each psychiatric unit and is not a comprehensive central security system.

Nurse Call

Nurse call systems shall be located within the psychiatric units. The nurse call system shall consist of a wireless local call allowing each medical staff member and patient, if desired, to carry a device which will permit them to call for assistance as required. The nurse call system shall be designed to be operative within the respective psychiatric unit in which the system is installed, and shall not notify individuals outside of the specific unit. Individual or wall mounted nurse call devices shall not be provided in patient rooms, except where expressly required by code, and shall comply with the requirements associated with psychiatric hospitals and suicide prevention standards.

3.11 Sustainability

The intentions of sustainable design and the goals of patient care at the University Neuropsychiatric Institute complement each other. Efforts to protect the environment are directly related and reflected in improving healthcare. Sustainable design lends itself well to a healing, comfortable, safe and appealing environment that promotes the therapeutic responses that will assist in the nature of psychiatric treatment.

Connection with Nature

The UNI Expansion will have a human connection with nature, which has been found to have a positive influence on the physical, emotional, and spiritual healing of the patient, especially in psychiatric hospitals. Sustainable strategies such as creating more access to daylight and by incorporating views help to create an ideal healing environment. In addition, the building should be oriented to allow patients views of natural and landscaped areas.

Natural environments, gardens and green spaces will surround the building and will allow secured patient access. The project will maintain the mature trees on the site and provide an integrated connection of programmed outdoor spaces as healing environments.

The expansion is located on a previously developed site. The project will condense the footprint on the site to maintain as much open space as possible. Building the project along the natural contours on the site allows the expansion to be a four-story building while maximizing the amount of perimeter wall to provide for daylighting and views.

Energy, Water and Indoor Air Quality

In general, healthcare projects present a significant challenge and opportunity for fostering sustainability because their energy use requirements are typically greater when compared to other building types. Healthcare buildings should promote healthy indoor environments while limiting natural resource consumption.

The expansion will provide improved indoor air quality and explore operational savings through energy efficiency and water conservation. This will be partially accomplished by the “right-sizing” of building systems to reflect real use. In addition, the project will investigate a whole-building design modeling approach to

energy and water conservation.

Sustainable Requirements

The University Neuropsychiatric Institute must meet all requirements as outlined in the State of Utah's newly adopted High Performance Building Rating System. These requirements include achieving LEED Silver Certification and meeting all DFCM Design Standards.

LEED Silver Certification

The UNI Expansion has been evaluated for LEED Silver based on the LEED 2009 New Construction rating system during programming. Due to the nature of the building, the project would also qualify under the LEED for Healthcare rating system. However, at the time of programming, the United States Green Building Council is pending approval on the LEED for Healthcare and certification requirements are not available. Upon release of the new rating system, the project will evaluate the benefits and drawbacks of certification under the Healthcare track. The following narrative and LEED Checklist (see index) are based on the LEED 2009 New Construction rating system.

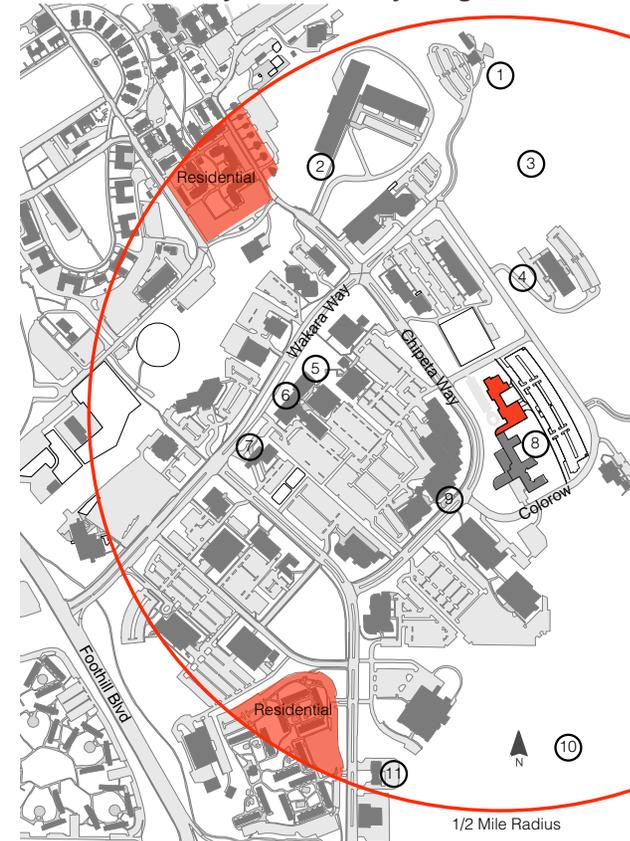
LEED Silver Certification consists of meeting the requirements of 8 prerequisites and achieving the minimum point threshold of 50 Points. During programming, it was established that three credits could be achieved solely based on the existing site of the project. These three credits would provide 12 points towards certification. These credits include:

- SS Credit 1: Site Selection (1 Point)
- SS Credit 2: Development Density & Community Connectivity (5 Points) (see graphic)
- SS Credit 4.1: Alternative Transportation: Public Transportation Access (6 Points)

Based on the state's performance system, the UNI Expansion must achieve 5 Required LEED credits for an additional 7 points. The credits were selected as requirements and include:

- WE Credit 1.1: Water Efficient Landscaping: Reduce by 50% (2 Points)
- EA Credit 3: Enhanced Commissioning (2 Points)
- EQ Credit 3.1: Construction IAQ Management Plan: During Construction (1 Point)
- EQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealants (1 Point)
- EQ Credit 4.2: Low-Emitting Materials: Paints & Coatings (1 Point)

LEED SS Credit 2 Community Connectivity Diagram



1. Red Butte Garden (Theater)
2. School of Medicine – Department of Pediatrics (School)
3. Utah Museum of Natural History (Museum)
4. The Point Bistro Mountainside (Restaurant)
5. Bright Horizons at University (Day Care)
6. Deli Grill (Restaurant)
7. University of Utah Credit Union (Bank)
8. University Neuropsychiatric Institute (Pharmacy)
9. Red Butte Health Center (Medical)
10. This is the Place State Park (Park)
11. Salt Lake City Fire station (Fire Station)



4.0 SPACE OUTLINE

4.1 Site Considerations	62
4.2 Internal Relationships	62
4.3 Adjacency Diagrams	65
Level One Public Area Adjacency Diagram	65
Patient Services Suite Adjacency Diagram	67
Operations Adjacency Diagram	67
Patient Unit Adjacency Diagram	68
4.4 Zoning Diagrams	69
4.5 Circulation Diagrams	71
4.6 Area Summary	73

4.1 Site Considerations

Ambulance Entrance

Certain patient populations arrive at UNI via ambulance. The arrival of these patients can be disruptive and disconcerting to other patients and visitors. Ambulance patients currently arrive at the front door of the existing building. The feasibility planning determined that the new building should provide a separate ambulance entrance with a straightforward, dedicated access to the Clinical Assessment Center.

Service Entrance

The feasibility planning identified that the existing kitchen and dining facilities were inadequate to serve the expanded hospital. A new kitchen and dining room are planned for the new building which will require convenient receiving and trash facilities. Furthermore, because the new building will be built as a nearly stand alone facility, a new location for electrical and mechanical service entry is required.

Staff Entrance

The majority of the 325 parking spaces required by the project are for staff use. It was determined during feasibility planning that a separate staff entrance that is convenient to the staff parking was desirable. That entrance point should provide direct access to the patient care areas.

Outdoor Courtyards for Patients

One of the over-arching considerations in the feasibility planning was the need to develop therapeutic outdoor spaces conveniently located for patient use. An important consideration was for the courtyards to be secure without feeling confining. Further, it was felt that the courtyards should be open on at least one side, with an orientation that would provide vistas to the foothills or mountains.

Dining Room

The most spectacular views from the site of the expansion are generally considered to be to the south, as viewed behind the existing building. The feasibility planning identified that the new dining room should be placed in this location to take advantage of these views. By locating the dining room on level 2 of the addition, due to the slope of the site, the dining room will have direct access to the outdoor patio and gardens.

4.2 Internal Relationships

Level 1

The feasibility planning envisioned the building addition would create on level 1 a new entrance for the entire facility. This entrance would serve as a central distribution point for patients, family members, and other building user groups. One of the significant design features we envision is that the entry experience will focus one's view through the lobby to the new courtyard created by the building, and to the mountain views east of the site.

Circulation requirements at the main entrance include the following.

- Secure Access to Patient Floors
- Direct Access to Elevator to Clinical Assessment Center
- Secure Access to Level 2 Dining Facilities
- Wellness Center Access for In-Patients and Out-Patients
- Access to Outpatient Facilities in Original Building
- Access to Family Resource Center
- Access to Level 1 Café
- Access to Department of Psychiatry
- Access to Meeting Room

Level 2

One of the five patient care units to be housed in the new building, the acute stabilization unit, will be located on Level 2. As with the units located on the upper floors, the acute stabilization unit is placed so that no external traffic passes through the unit.

The remainder of the floor is given to support functions serving the entire, expanded hospital facility. Specific challenges and features identified by the feasibility study for Level 2 are as follows.

Level 2 of the expansion feasibility design scheme has significant circulation demands, including the following.

- Direct access from the patient care floor in the existing building to the new patient care units. This circulation should be separate and discrete

from public circulation to the dining room.

- Convenient access for family members to the dining room.
- Separate, convenient access from the staff entrance to the patient care areas.
- Convenient access to the level 2 gardens from all patient care units.

New Dining Room

The University Neuropsychiatric Institute encourages patients to have their meals in the dining room whenever possible, and family members are encouraged to join them there. The environment in the dining room is of primary importance to the success of the UNI expansion. The feasibility study plan places the dining room in a location where it can enjoy the outstanding mountain views and sunshine to the south. The envisioned dining room location also provides the opportunity for access to outdoor patio seating and garden access.



Kitchen Facilities

The feasibility study determined that new a new kitchen was required to serve the expanded psychiatric hospital. For some patients, meals are delivered to the patient units. The feasibility scheme places the new kitchen as conveniently as possible to the middle of the semi-private circulation corridor serving patient units in both the existing and new buildings.

Levels 3 and 4

Levels 3 and 4 are envisioned to be devoted almost exclusively to patient care functions, with two care units per floor. The acuity levels of patients on Levels 3 and 4 of the new building will generally be lower than that in the remainder of the facility. The feasibility study envisions that patient care units will be located as follows.

Level 3 Units

- Children's Unit
- Adolescent Unit
- Shared Flex Rooms Between Units

Level 4 Units

- Bed Mood Disorders Unit
- Eating Disorders Unit Paired with a VIP Unit.
- Shared Flex Rooms Between Units

Encourage Patient Interaction

The driving concept of the unit design is to encourage patients to spend their time in patient activity areas with other patients, and minimize time spent in their rooms by themselves. The design places patient activity spaces near the nurses desk so that patients can be monitored, and cannot return to their rooms unnoticed.

Unit Activity Zones

Within each unit functions are clearly separated into specific activity zones.

Those zones can be categorized as:

- Patient Sleeping Rooms
- Patient Activity Areas
- Staff and Clinical Space

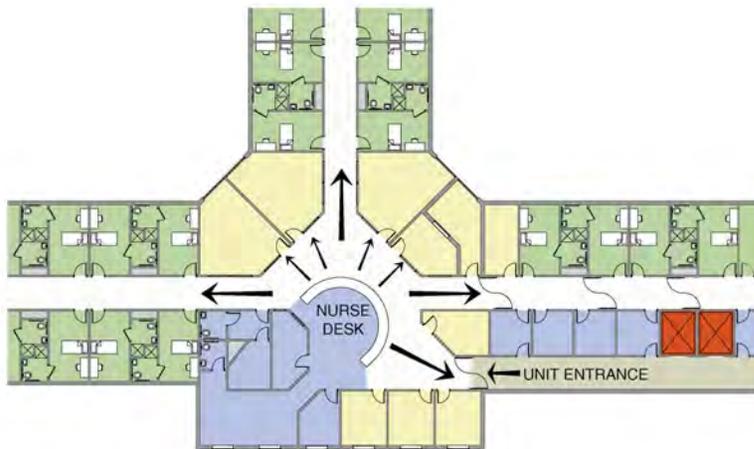
Special Unit Features

- Direct access to natural light and views on every side of the unit.
- Screened fresh air porches on unit.
- Minimize outside traffic on the unit

Patient and Staff Safety

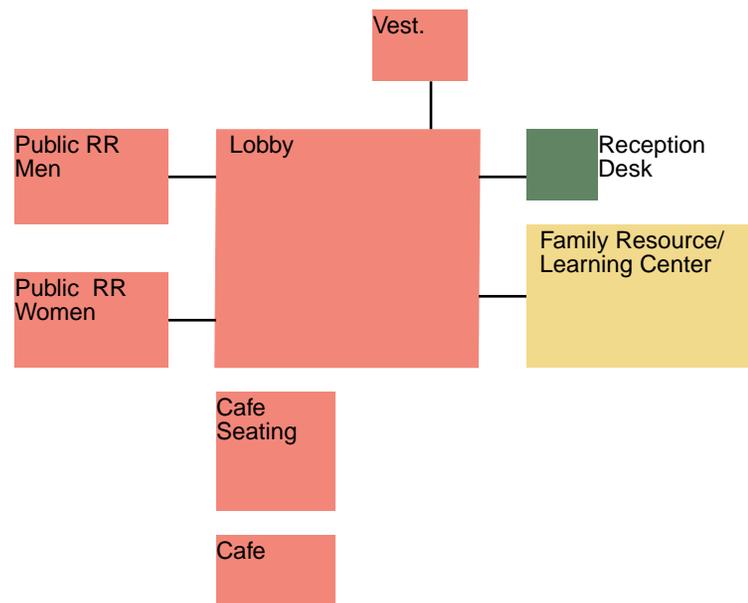
Safety of patients and staff is a primary concern in behavioral health care facilities. The overall layout of the patient care unit plans developed with the expansion feasibility study focused on the following safety features:

- Unobstructed observation from nursing desk to all parts of unit.
- Nursing desk direct observation of unit entrance.
- Minimized distance from nursing desk to patient rooms.

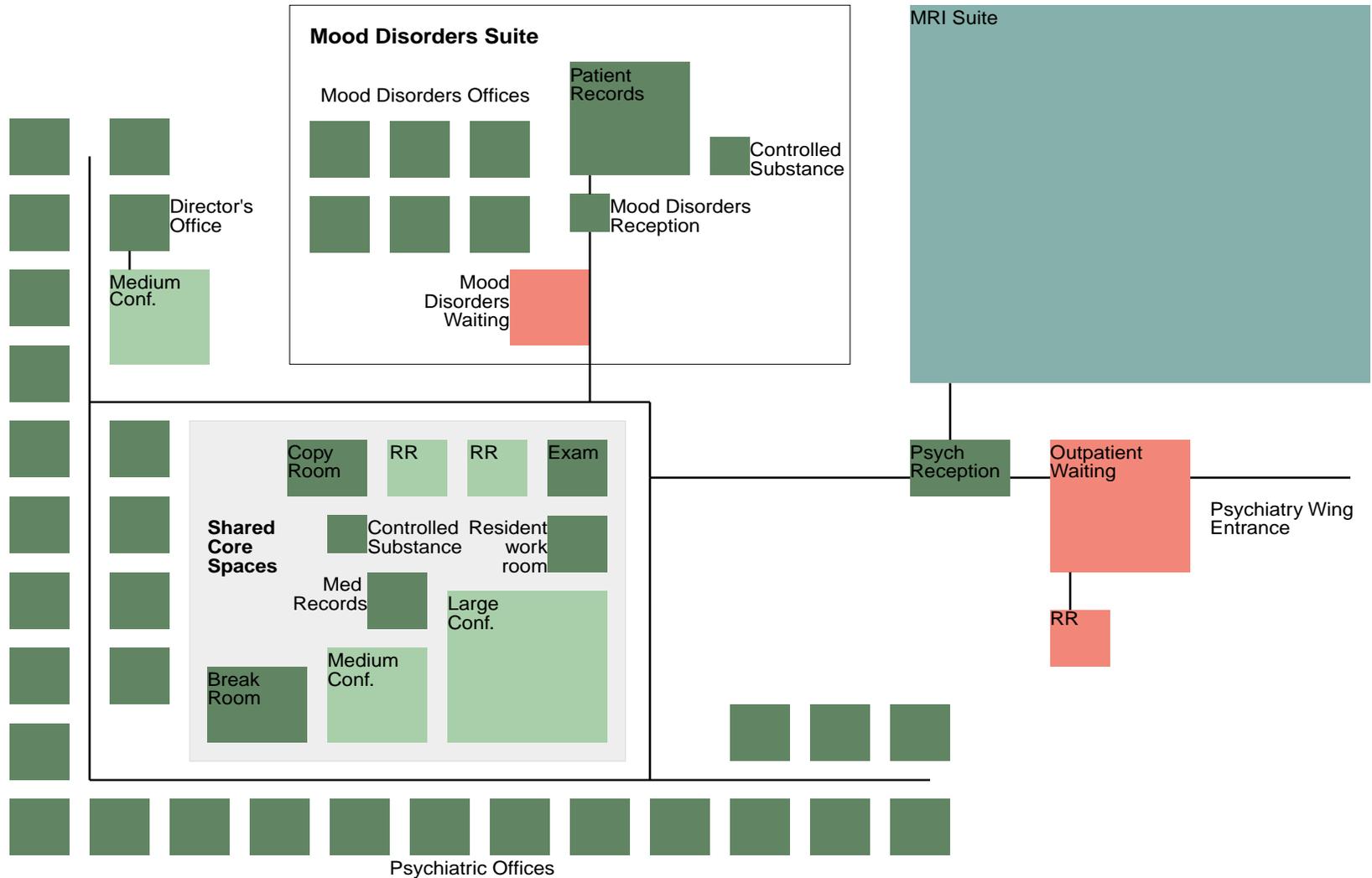


4.3 Adjacency Diagrams

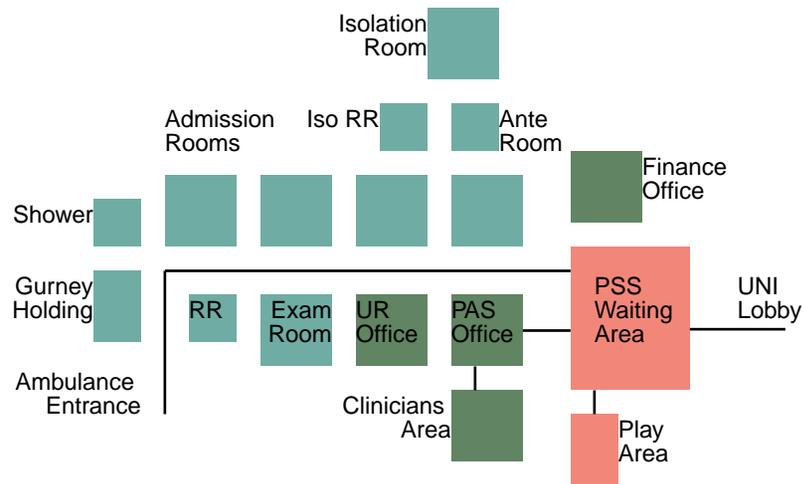
Level One Public Area Adjacency Diagram



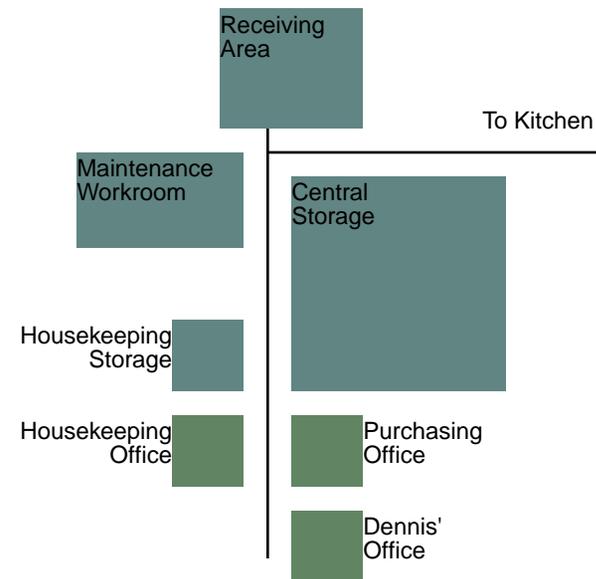
Psychiatric Wing Adjacency Diagram



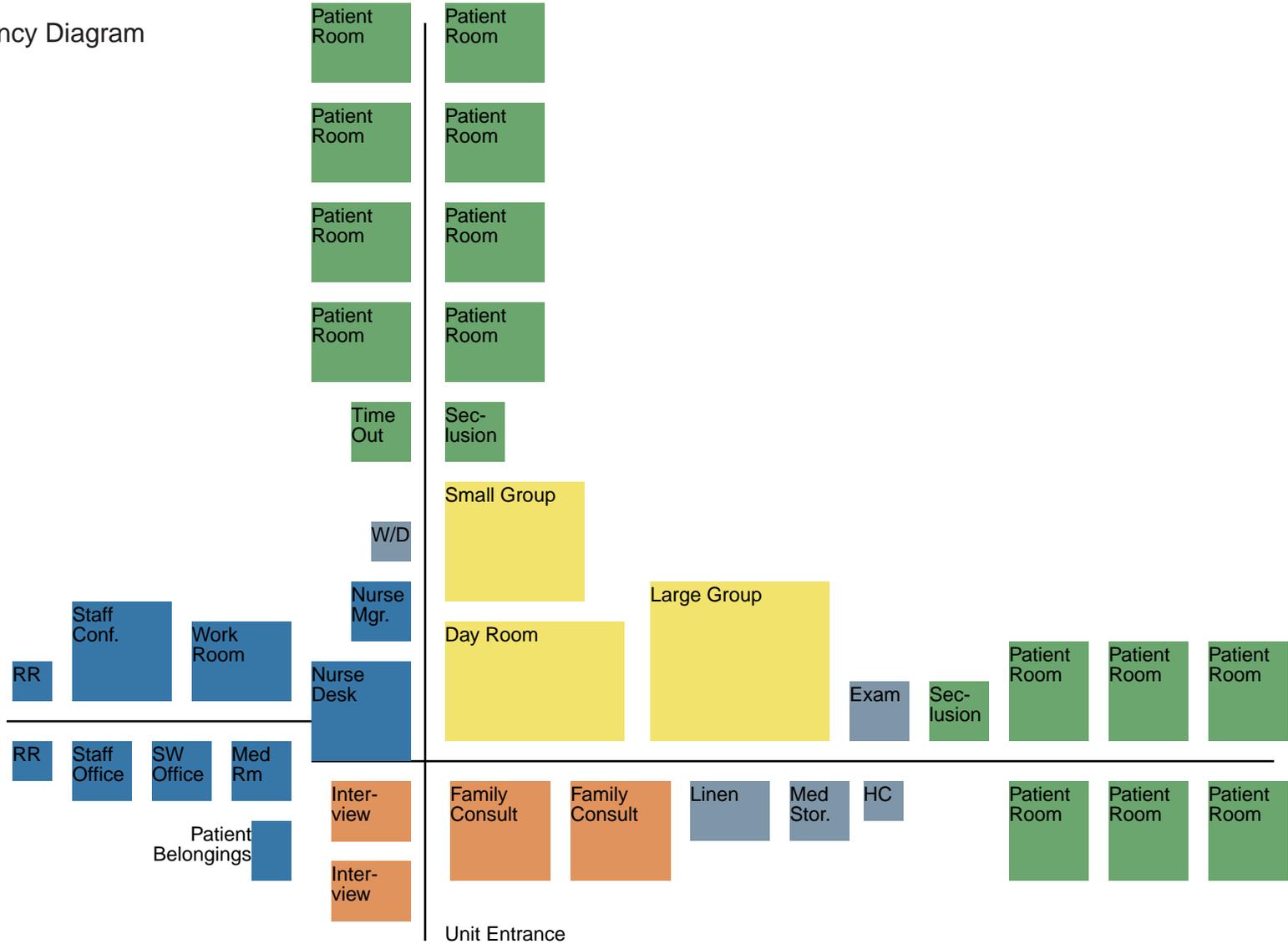
Patient Services Suite Adjacency Diagram



Operations Adjacency Diagram

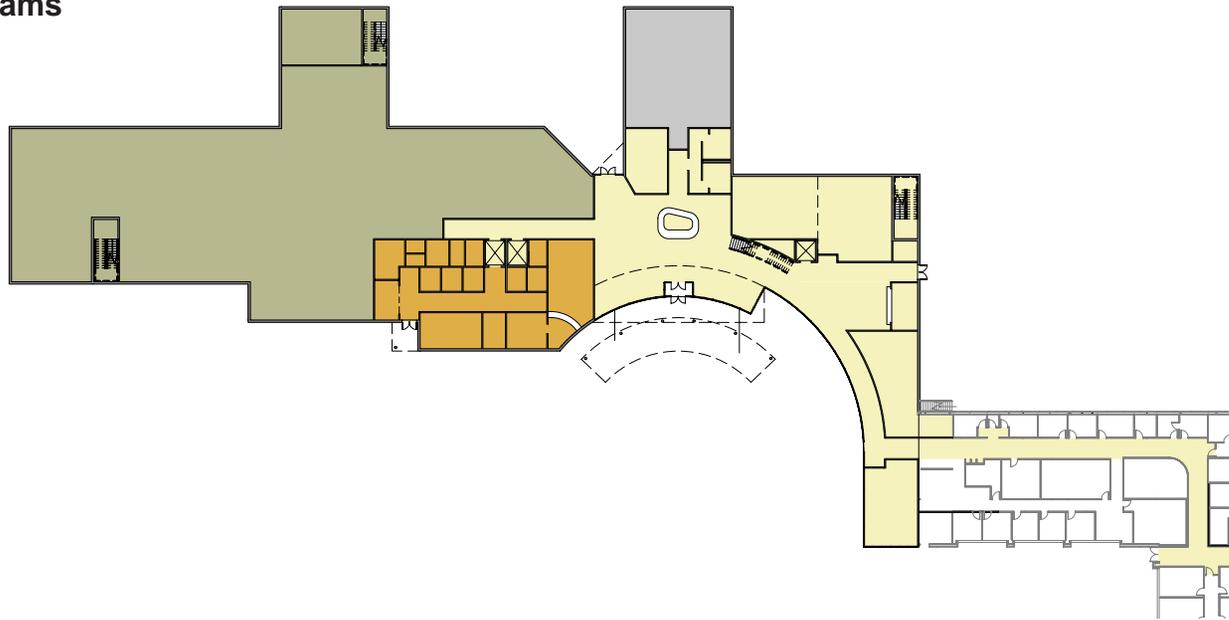


Patient Unit Adjacency Diagram



4.4 Zoning Diagrams

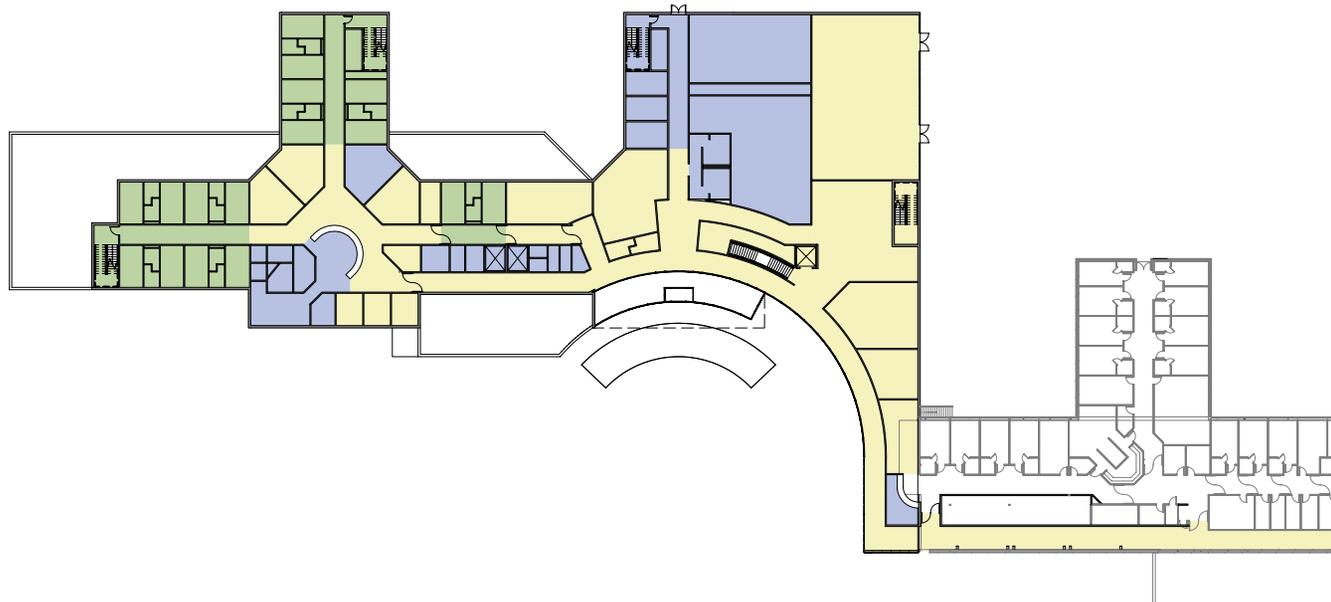
Level One



Room Legend

- Building Support
- Common Areas
- Department of Psychiatry
- Patient Services Suite
- Patient Sleeping Areas
- Support Areas

Level Two





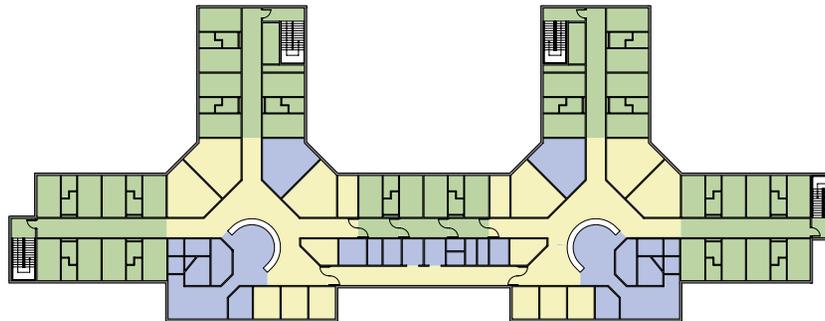
Level Three



Room Legend

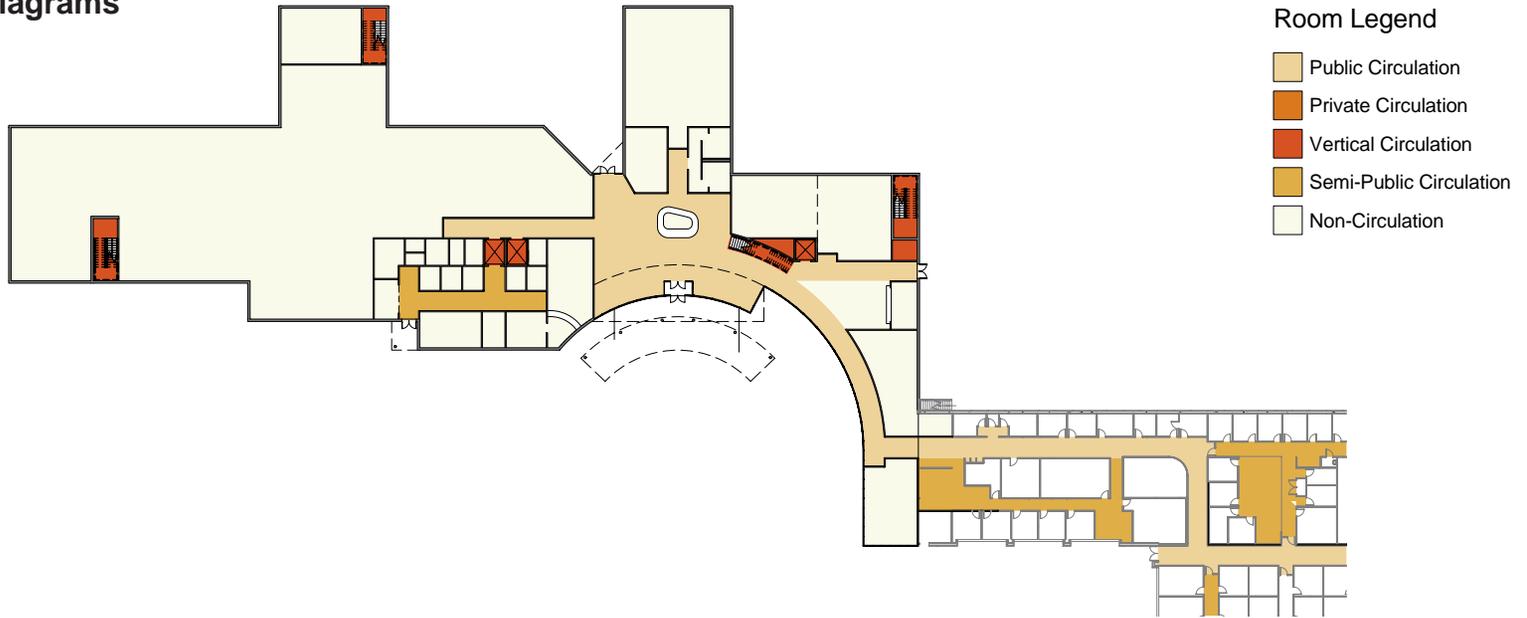
- Building Support
- Common Areas
- Department of Psychiatry
- Patient Services Suite
- Patient Sleeping Areas
- Support Areas

Level Four



4.5 Circulation Diagrams

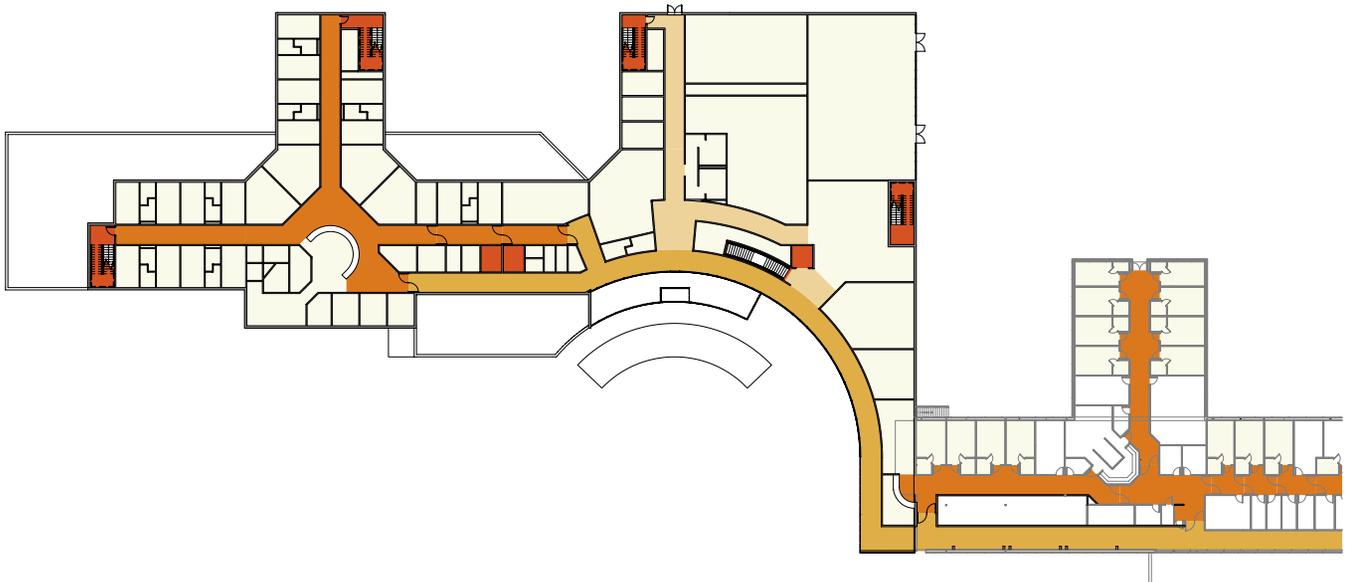
Level One



Room Legend

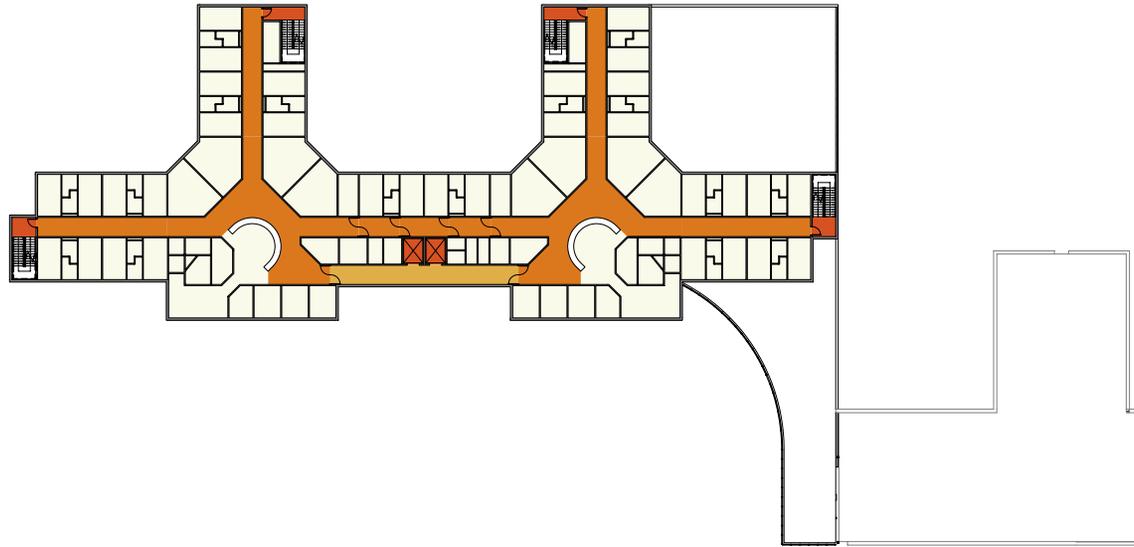
- Public Circulation
- Private Circulation
- Vertical Circulation
- Semi-Public Circulation
- Non-Circulation

Level Two





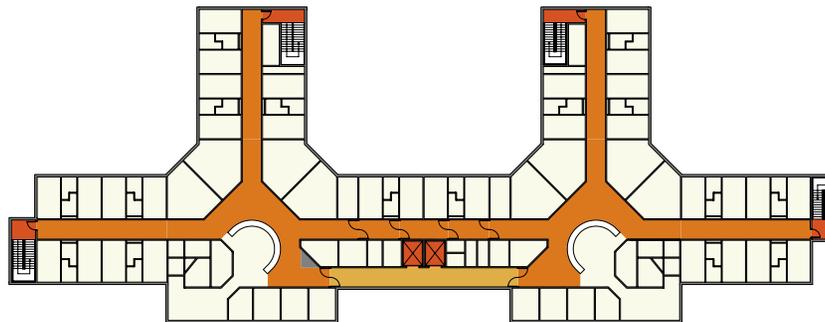
Level Three



Room Legend

-  Public Circulation
-  Private Circulation
-  Vertical Circulation
-  Semi-Public Circulation
-  Non-Circulation

Level Four



4.6 Area Summary

Level 1						
Department of Psychiatry						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
1.10	Psychiatric Office	25	144	3600		
1.11	Psychiatric Reception	1	275	275	Between Psych waiting and dept.	
1.12	Outpatient Waiting	1	500	500	Near Psychiatric wing entrance	
1.13	Medium Conference Room	2	280	560		
1.14	Break Room	1	190	190		
1.15	Copy Room	1	250	250	Central to dept.	
1.16	Department Chair	1	240	240		
1.17	Medical Records Storage	1	130	130		
1.18	Controlled Substance Storage	2	50	100	Near Psych Reception	
1.19	Restroom	3	45	135	Central to dept.	
1.20	Administrative Office	10	120	1200		
1.21	Resident work rm.	1	120	120	Near Large Conference	
1.22	Mood Disorders Waiting	1	180	180	Within sight line of Mood Disorders Reception	
1.23	Exam Room	1	120	120	Central to dept.	
1.24	Patient Records	1	470	470	Within Mood Disorders Suite	
1.25	Mood Disorders Reception	1	100	100		
1.26	Storage	1	100	100		
1.30	MRI Suite	1	2115	2115		
			Subtotal	10385		
	Psychiatry Dept Gross			15010		
	Psychiatry Net/Gross Ratio			69.19%		

Common Areas						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
1.40	Reception	1	200	200	Within main lobby	
1.41	Lobby	1	3000	3000		
1.42	Vestibule	1	155	155		
1.43	Café Seating	1	600	600		
1.44	Café	1	280	280		
1.45	Family Resource/Learning Cntr.	1	460	460		
1.46	Women's Public Restroom	1	225	225		
1.47	Men's Public Restroom	1	225	225		
1.48	Housekeeping Closet	1	50	50		
1.49	Security Office	1	100	100		
1.50	Meeting Room A	1	900	900		
1.51	Meeting Room B	1	1100	1100		
1.52	Administrative Meeting Room	1	800	800		
1.53	UNI Office Space	1	975	975		
			Subtotal	9070		
Patient Services Suite						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
1.61	Waiting Area	1	500	500	Adjacent to Main Lobby	
1.62	Play Area	1	100	100	Contiguous w/Waiting Area	
1.64	PAS Office	1	180	180	Contiguous w/Clinicians Area	2 Workstations
1.65	Clinicians Area	1	162	162	Contiguous w/PAS Office	4 Workstations +1 Flex
1.66	UR Office	1	210	210		4 Workstations
1.67	PSS Manager	1	100	100		
1.68	Financial Office	1	150	150		3 Workstations
1.69	Admission Room	4	96	384		
1.70	Exam Room	1	120	120		
1.71	Shower Room	1	36	36		
1.72	Visitor Toilet	1	50	50		
1.73	Patient Toilets	1	50	50		
1.74	Supply Room	1	64	64		
1.75	Seclusion Room	1	100	100		
1.76	Gurney Holding	1	168	168		
			Subtotal	2374		
	Area Total			21829		
	Level One Gross Footprint			33963		
	Level One Net/Gross Area Ratio			64.27%		

Level 2						
Common Areas						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
2.00	Dining Room	1	2000	2000	Adjacent to Kitchen/Scramble	South facing glass wall
2.01	Scramble	1	1500	1500	Adjacent to Kitchen/Dining Room	
2.02	Kitchen	1	2500	2500	Adjacent to Scramble/Dining Room	
2.03	Executive Dining	1	800	800		
2.04	Wellness Center	1	950	950	Adjacent to Shower Rooms	
2.05	Men's Shower Room	1	170	170	Adjacent to Wellness/Restrooms	
2.06	Women's Shower Room	1	170	170	Adjacent to Wellness/Restrooms	
2.07	Men's Public Restroom	1	200	200	Adjacent to Shower Rooms	
2.08	Women's Public Restroom	1	200	200	Adjacent to Shower Rooms	
2.09	Crafts Room	1	400	400		
2.10	Conference Room	1	600	600		
			Subtotal	9490		
Operations						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
2.31	Operations Office	1	120	120		
2.32	Purchasing Office	1	100	100		
2.33	Receiving Area	1	300	300		
2.34	Loading Dock	1	120	120	Adjacent to Receiving	
2.35	Oxygen Storage	1	80	80	Adjacent to Receiving	Provide exterior ventilation
2.36	Central Storage	1	400	400		
2.37	Housekeeping Storage	1	300	300		
3.32	Dirty Equipment	1	50	50		
2.39	Clean Equipment	1	50	50		
2.40	Maintenance Workroom	1	300	300		
2.41	Forms Workroom	1	150	150		
2.42	Equipment/Fuel Storage	1	64	64	Exterior entrance near dock	
			Subtotal	2034		

Acute Stabilization Unit						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
3.00	Patient Room A	14	160	2240		Storage available for a daily change of clothes for 7 days.
3.01	Patient Toilet Room A	14	50	700	Within Patient Rooms	
3.02	Patient Room B	2	170	340		Storage available for a daily change of clothes for 7 days.
3.03	Patient Toilet Room B	2	55	110	Within Patient Rooms	
3.09	Seclusion Room	2	90	180	Adjacent to staff area	One seclusion room for each 24 beds required. Direct nursing staff supervision. 60 sq. ft. minimum with a minimum wall length of 7 ft and a max wall length of 11 ft. 80 sq. ft. required if restraint beds are required.
3.10	Seclusion Anteroom	2	50	100	Adjacent to Seclusion room	3'-8" Door
3.11	Seclusion Toilet Room	2	50	100	Adjacent to Seclusion Anteroom	3'-8" Door
3.12	Day Room	1	350	350	Central to Unit	Eating area for all patients in this population
3.13	Large Group Room	1	300	300	Central to Unit	Potentially these rooms could be divided by a collapsible partition. Moveable furniture for flexibility. Group therapies with 20+ people occasionally. Therapy groups are often between 8-10 and 10-14.
3.14	Small Group Room	1	250	250	Central to Unit	
3.16	Large Interview Rooms	2	200	400	Near Unit Entrance	Conference phone setup. 6+ people in the interview rooms. Min of 100 sq. ft.
3.17	Small Interview Rooms	2	100	200	Near Unit Entrance	Conference phone setup. 4-5 people in the interview rooms. Min of 100 sq. ft.
3.20	Nurse Desk	1	200	200	Central to unit and adjacent to unit entrance	2 Workstations
3.21	Nurse Work Office	1	160	160	Within central staff zone	4 Workstations
3.22	Social Workers/Therapists Office	1	190	190	Within central staff zone	6 Workstations; Permanent office space
3.23	Physicians Office	1	230	230	Within central staff zone	8 Workstations; Temporary office space
3.22	Coordination Room	1	150	150	Adjacent to staff offices	2 Temporary workstations
3.25	Staff Restroom	2	50	100	Within central staff zone	Unisex toilets
3.26	Med Room	1	150	150	Within central staff zone	Large enough for 2 people to be working in the area at a time.
3.27	Staff Lounge/Report Room	1	250	250	Within central staff zone	Breakroom/report room (8-10 people at reporting) with locker area (40 half-height lockers) for staff use

3.28	Patient Belongings Area	1	90	90	Within central staff zone	Lots of built in areas including shalves, closets. Bins with patients name would be ideal. Investi-gate the Spacesaver by Henrickson Butler
3.29	Nurse Manager Office	1	120	120	Within central staff zone	This is the only private office on the unit.
3.30	Washer/Dryer	1	50	50	Central to Unit	Access directly off of corridor
3.31	Dictation Room	1	150	150	within central staff zone	
3.32	Visitor Area	1	260	260	Adjacent to Unit entrance	Buffer area with visitor lockers in direct view of the nurse desk
			Subtotal	7370		
Unit Service Area						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
3.41	Public Restroom	1	50	50	Adjacent to Waiting Area	One per floor.
3.42	Exam Room	1	120	120	Central to unit	Min of 120 Sq. Ft. Hand washing station; stor-age facilities; and a desk, counter or shelf for writing.
3.43	Staff Conference Room	1	250	250		16 People Max.
3.44	Medical Storage	1	120	120	Within central staff zone	
3.45	Housekeeping Closet	1	50	50	Central to Unit	
3.46	Clean Linen Closet	1	70	70	Central to Unit	Room should only be big enough to stock linens, shelves and an exchange cart. Pass through area.
3.47	Dirty Linen Closet	1	70	70	Central to Unit	
3.48	Therapy Storage Closet	1	100	100		
3.49	Shower Room	1	40	40	Adjacent to Exam Room	Large enough for 3 people
			Subtotal	870		
ITU North Expansion						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
3.12	Day Room	1	300	300		
3.20	Nurse Desk	1	250	250		
			Subtotal	550		
	Level Two Total			20,314		
	Level Two Gross Footprint			32,455		
	Level Two Net/Gross Area Ratio			62.59%		

Level 3						
Adolescent Unit						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
3.00	Patient Room A	14	160	2240		Storage available for a daily change of clothes for 7 days.
3.01	Patient Toilet Room A	14	50	700	Within Patient Rooms	
3.02	Patient Room B	2	170	340		Storage available for a daily change of clothes for 7 days.
3.03	Patient Toilet Room B	2	55	110	Within Patient Rooms	
3.09	Seclusion Room	2	90	180	Adjacent to staff area	One seclusion room for each 24 beds required. Direct nursing staff supervision. 60 sq. ft. minimum with a minimum wall length of 7 ft and a max wall length of 11 ft. 80 sq. ft. required if restraint beds are required.
3.10	Seclusion Anteroom	2	50	100	Adjacent to Seclusion room	3'-8" Door
3.11	Seclusion Toiletroom	2	50	100	Adjacent to Seclusion Anteroom	3'-8" Door
3.12	Day Room	1	350	350	Central to Unit	
3.13	Large Group Room	1	300	300	Central to Unit	Potentially these rooms could be divided by a collapsible partition. Moveable furniture for flexibility. Group therapies with 20+ people occasionally. Therapy groups are often between 8-10 and 10-14.
3.14	Small Group Room	1	250	250	Central to Unit	
3.16	Large Interview Rooms	2	200	400	Near Unit Entrance	Conference phone setup. 6+ people in the interview rooms.
3.17	Small Interview Rooms	2	100	200	Near Unit Entrance	Conference phone setup. 4-5 people in the interview rooms.
3.20	Nurse Desk	1	200	200	Central to unit and adjacent to unit entrance	2 Workstations
3.21	Nurse Work Office	1	160	160	within central staff zone	4 Workstations
3.22	Social Workers/Therapists Office	1	190	190	within central staff zone	6 Workstations; Permanent office space
3.23	Physicians Office	1	230	230	within central staff zone	8 Workstations; Temporary office space
3.24	Coordination Room	1	150	150	Adjacent to staff offices	2 Temporary workstations
3.25	Staff Restroom	2	50	100	within central staff zone	Unisex toilets
3.26	Med Room	1	150	150	within central staff zone	Large enough for 2 people to be working in the area at a time.
3.27	Staff Lounge/Report Room	1	250	250	within central staff zone	Break room/report room (8-10 people at reporting) with locker area (40 half-height lockers) for staff use
3.28	Patient Belongings Area	1	90	90	within central staff zone	Lots of built in areas including shelves, closets. Bins with patients name would be ideal. Investigate the Spacesaver by Henrickson Butler
3.29	Nurse Manager Office	1	120	120	within central staff zone	This is the only private office on the unit.

3.30	Washer/Dryer	1	40	40	Central to Unit	Access directly off of corridor
3.31	Dictation Room	1	150	150	within central staff zone	
3.32	Visitor Area	1	260	260	Adjacent to Unit entrance	Buffer area with visitor lockers in direct view of the nurse desk
			Subtotal	7360		
Childrens Unit						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
3.00	Patient Room A	10	160	1600		Storage available for a daily change of clothes for 7 days.
3.01	Patient Toilet Room A	10	50	500	Within Patient Rooms	
3.02	Patient Room B	2	170	340		Storage available for a daily change of clothes for 7 days.
3.03	Patient Toilet Room B	2	55	110	Within Patient Rooms	
3.04	Patient Room U	4	160	640		Storage available for a daily change of clothes for 7 days.
3.05	Patient Toilet Room U	4	50	200	Within Patient Rooms	
3.08	Time Out Room	2	100	200		
3.09	Seclusion Room	1	90	90	Within patient rooms	One seclusion room for each 24 beds required. Direct nursing staff supervision. 60 sq. ft. minimum with a minimum wall length of 7 ft and a max wall length of 11 ft. 80 sq. ft. required if restraint beds are required.
3.10	Seclusion Anteroom	1	50	50	Adjacent to Seclusion room	3'-8" Door
3.11	Seclusion Toilet Room	1	50	50	Adjacent to Seclusion Anteroom	3'-8" Door
3.12	Day Room	1	350	350	Central to Unit	
3.13	Large Group Room	1	300	300	Central to Unit	Moveable furniture for flexibility. Group therapies with 20+ people occasionally. Therapy groups are often between 8-10 and 10-14.
3.15	Special Population Day Room	1	250	250	Located in Patient Wing	
3.16	Large Interview Rooms	2	200	400	Near Unit Entrance	Conference phone setup. 6+ people in the interview rooms.
3.17	Small Interview Rooms	2	100	200	Near Unit Entrance	Conference phone setup. 4-5 people in the interview rooms.
3.20	Nurse Desk	1	200	200	Central to unit and adjacent to unit entrance	2 Workstations
3.21	Nurse Work Office	1	160	160	within central staff zone	4 Workstations
3.22	Social Workers/Therapists Office	1	190	190	Within central staff zone	6 Workstations; Permanent office space
3.23	Physicians Office	1	230	230	Within central staff zone	8 Workstations; Temporary office space
3.24	Coordination Room	1	150	150	Within central staff zone	2 Temporary workstations

Level 4						
New Adult North Unit						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
3.00	Patient Room A	14	160	2240		Storage available for a daily change of clothes for 7 days.
3.01	Patient Toilet Room A	14	50	700	Within Patient Rooms	
3.02	Patient Room B	2	170	340		Storage available for a daily change of clothes for 7 days.
3.03	Patient Toilet Room B	2	55	110	Within Patient Rooms	
3.09	Seclusion Room	2	90	180	Adjacent to staff area	One seclusion room for each 24 beds required. Direct nursing staff supervision. 60 sq. ft. minimum with a minimum wall length of 7 ft and a max wall length of 11 ft. 80 sq. ft. required if restraint beds are required.
3.10	Seclusion Anteroom	2	50	100	Adjacent to Seclusion room	3'-8" Door
3.11	Seclusion Toiletroom	2	50	100	Adjacent to Seclusion Anteroom	3'-8" Door
3.12	Day Room	1	350	350	Central to Unit	
3.13	Large Group Room	1	300	300	Central to Unit	Potentially these rooms could be divided by a collapsible partition. Moveable furniture for flexibility. Group therapies with 20+ people occasionally. Therapy groups are often between 8-10 and 10-14.
3.14	Small Group Room	1	250	250	Central to Unit	
3.16	Large Interview Rooms	2	200	400	Near Unit Entrance	Conference phone setup. 6+ people in the interview rooms.
3.17	Small Interview Rooms	2	100	200	Near Unit Entrance	Conference phone setup. 4-5 people in the interview rooms.
3.20	Nurse Desk	1	200	200	Central to unit and adjacent to unit entrance	2 Workstations
3.21	Nurse Work Office	1	160	160	within central staff zone	4 Workstations
3.22	Social Workers/Therapists Office	1	190	190	within central staff zone	6 Workstations; Permanent office space
3.23	Physicians Office	1	230	230	within central staff zone	8 Workstations; Temporary office space
3.24	Coordination Room	1	150	150	Adjacent to staff offices	2 Temporary workstations
3.25	Staff Restroom	2	50	100	within central staff zone	Unisex toilets
3.26	Med Room	1	150	150	within central staff zone	Large enough for 2 people to be working in the area at a time.
3.27	Staff Lounge/Report Room	1	250	250	within central staff zone	Break room/report room (8-10 people at reporting) with locker area (40 half-height lockers) for staff use
3.28	Patient Belongings Area	1	90	90	within central staff zone	Lots of built in areas including shelves, closets. Bins with patients name would be ideal. Investigate the Spacesaver by Henrickson Butler
3.29	Nurse Manager Office	1	120	120	within central staff zone	This is the only private office on the unit.

3.30	Washer/Dryer	1	40	40	Central to Unit	Access directly off of corridor
3.31	Dictation Room	1	150	150	within central staff zone	
3.32	Visitor Area	1	260	260	Adjacent to Unit entrance	Buffer area with visitor lockers in direct view of the nurse desk
			Subtotal	7360		
New Adult South Unit						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
3.00	Patient Room A	10	160	1600		Storage available for a daily change of clothes for 7 days.
3.01	Patient Toilet Room A	10	50	500	Within Patient Rooms	
3.02	Patient Room B	2	170	340		Storage available for a daily change of clothes for 7 days.
3.03	Patient Toilet Room B	2	55	110	Within Patient Rooms	
3.06	Patient Room V	4	160	640		Storage available for a daily change of clothes for 7 days.
3.07	Patient Toilet Room V	4	50	200	Within Patient Rooms	
3.08	Time Out Room	2	100	200		
3.09	Seclusion Room	1	90	90	Within patient rooms	One seclusion room for each 24 beds required. Direct nursing staff supervision. 60 sq. ft. minimum with a minimum wall length of 7 ft and a max wall length of 11 ft. 80 sq. ft. required if restraint beds are required.
3.10	Seclusion Anteroom	1	50	50	Adjacent to Seclusion room	3'-8" Door
3.11	Seclusion Toilet Room	1	50	50	Adjacent to Seclusion Anteroom	3'-8" Door
3.12	Day Room	1	350	350	Central to Unit	
3.13	Large Group Room	1	300	300	Central to Unit	Moveable furniture for flexibility. Group therapies with 20+ people occasionally. Therapy groups are often between 8-10 and 10-14.
3.15	Special Population Day Room	1	250	250	Located in Patient Wing	
3.16	Large Interview Rooms	2	200	400	Near Unit Entrance	Conference phone setup. 6+ people in the interview rooms.
3.17	Small Interview Rooms	2	100	200	Near Unit Entrance	Conference phone setup. 4-5 people in the interview rooms.
3.20	Nurse Desk	1	200	200	Central to unit and adjacent to unit entrance	2 Workstations
3.21	Nurse Work Office	1	160	160	within central staff zone	4 Workstations
3.22	Social Workers/Therapists Office	1	190	190	Within central staff zone	6 Workstations; Permanent office space
3.23	Physicians Office	1	230	230	Within central staff zone	8 Workstations; Temporary office space
3.24	Coordination Room	1	150	150	Within central staff zone	2 Temporary workstations

3.25	Staff Restroom	2	50	100	within central staff zone	Unisex toilets
3.26	Med Room	1	150	150	Within central staff zone	Large enough for 2 people to be working in the area at a time.
3.27	Staff Lounge/Report Room	1	250	250	Within central staff zone	Break room/report room (8-10 people at reporting) with locker area (40 half-height lockers) for staff use
3.28	Patient Belongings Area	1	90	90	Within central staff zone	Lots of built in areas including shelves, closets. Bins with patients name would be ideal. Investigate the Spacesaver by Henrickson Butler
3.29	Nurse Manager Office	1	120	120	Within central staff zone	This is the only private office on the unit.
3.30	Washer/Dryer	1	40	40	Within central staff zone	Access directly off of corridor
3.31	Dictation Room	1	150	150	within central staff zone	
3.32	Visitor Area	1	260	260	Adjacent to Unit entrance	Buffer area with visitor lockers in direct view of the nurse desk
			Subtotal	7370		
Shared Unit Service Area						
No.:	Space Name:	Units:	Area:	Net SF:	Adjacencies:	Comments:
3.40	Computer Lab	1	220	220		Therapeutic Learning Program; 10 Workstations, 1 Printer
3.41	Public Restroom	1	50	50	Central to Floor	One per floor.
3.42	Exam Room	1	120	120	Central to Floor	Min of 120 Sq. Ft. Hand washing station; storage facilities; and a desk, counter or shelf for writing.
3.43	Staff Conference Room	1	280	280	Within central staff zone	16 People Max.
3.44	Medical Storage	1	120	120	Central to Floor	
3.45	Housekeeping Closet	1	50	50	Central to Floor	
3.46	Clean Linen Closet	1	70	70	Central to Floor	Room should only be big enough to stock linens, shelves and an exchange cart. Pass through area.
3.47	Dirty Linen Closet	1	70	70	Central to Floor	
3.48	Therapy Storage Closet	1	100	100		
			Subtotal	1080		
	Level Four Total			15810		
	Level Four Gross Footprint			24350		
	Level Four Net/Gross Area Ratio			64.93%		

5.0 ROOM DATA SHEETS



Room Name

1.10 Psychiatric Office

General Description:

Office

Occupants:

1 Occupant + 3 visitors

Desired SF Area:

144

ARCHITECTURAL

Windows :

1" insulated

Window Covering:

Horizontal louver blinds

Doors :

Flush wood glazed

Door Hardware:

Office Latchset

Walls

Painted gypsum board on metal studs

Floor:

Carpet with rubber base

Ceiling:

Acoustical Tile

Millwork:

None

Acoustical Requirements:

STC 50

ENGINEERING SYSTEMS

HVAC

Individual temp control

Plumbing

None

Lighting

Direct/Indirect Fluorescent Troffers

Phone/Data Ports

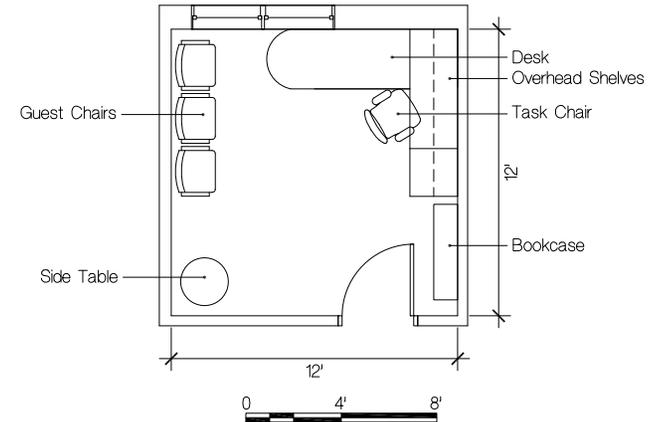
coordinate with furnishings plan

Special Requirements

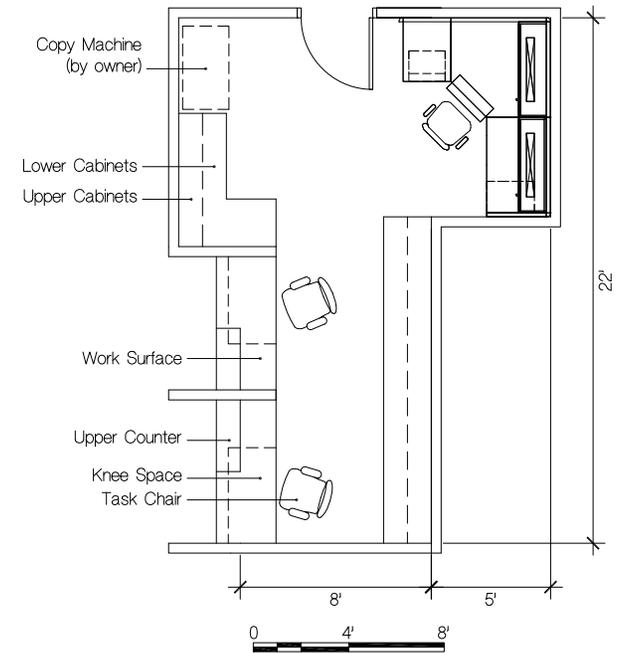
FURNISHINGS/EQUIP.

Desk w/ overhead book shelves, task chair, three guest chairs, end table, Bookcase

Comments:



Room Name	1.11 Psychiatric Reception
General Description:	Reception/ registration desk
Occupants:	3 Occupants
Desired SF Area:	275
ARCHITECTURAL	
Windows :	not required
Window Covering:	N/A
Doors :	Not required
Door Hardware:	N/A
Walls	Painted gypsum board on metal studs
Floor:	Carpet with rubber base
Ceiling:	Acoustical Tile NRC ≥.90
Millwork:	Work surface with cabinets and Knee space, Upper and Lowers behind
Acoustical Requirements:	None
ENGINEERING SYSTEMS	
HVAC	Individual Temp Control
Plumbing	None
Lighting	Direct/Indirect Fluorescent Troffers and Task Lighting
Phone/Data Ports	Extra data and power above lower cabinets
Special Requirements	
FURNISHINGS/EQUIP.	Two task chairs Locking Counter Doors



Comments:

Room Name

1.12 Outpatient Waiting

General Description: Waiting Area
Occupants: 18 Occupants
Desired SF Area: 500

ARCHITECTURAL

Windows : Not required
Window Covering: N/A

Doors : None
Door Hardware: N/A

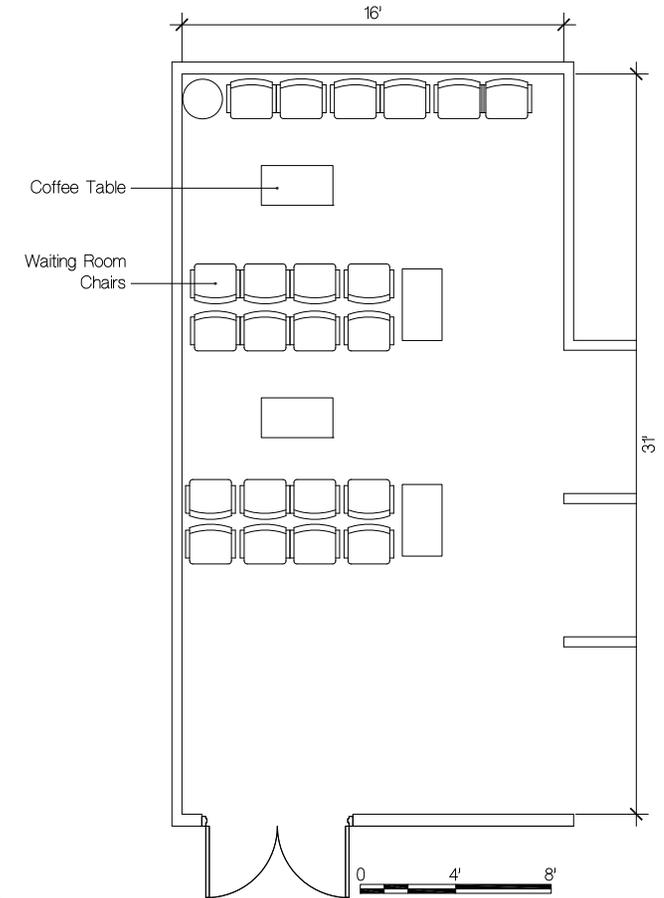
Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: None
ENGINEERING SYSTEMS
HVAC Controlled with adjacent hallway

Plumbing: None
Lighting: Direct/Indirect Fluorescent Troffers
Phone/Data Ports
Special Requirements

FURNISHINGS/EQUIP. 4 guest chairs, 2 end tables, sofa, coffee table



Comments:

Room Name **1.13 Medium Conference Room**

General Description: Conference
Occupants: 22 Occupants
Desired SF Area: 280

ARCHITECTURAL

Windows : 1" insulated
Window Covering: Horizontal louver blinds

Doors : Flush wood
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual temp control

Plumbing None

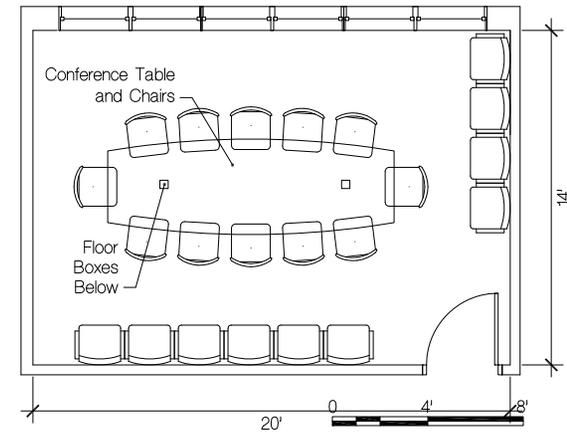
Lighting Direct/Indirect linear pendants

Phone/Data Ports 2 floor boxes coordinate with furnishings plan

Special Requirements Room Wizard

FURNISHINGS/EQUIP.

Large Conference Table and Chairs
Recessed Projection Screen, Whiteboard



Comments:

Room Name

1.14 Break Room

General Description: Kitchen
Occupants: 8 Occupants
Desired SF Area: 190

ARCHITECTURAL

Windows : Not required
Window Covering: N/A

Doors : Flush wood, Glazed
Door Hardware: Passage Latchset

Walls Painted gypsum board on metal studs

Floor: VCT with rubber base
Ceiling: Acoustical Tile
Millwork: Upper and Lower Cabinets

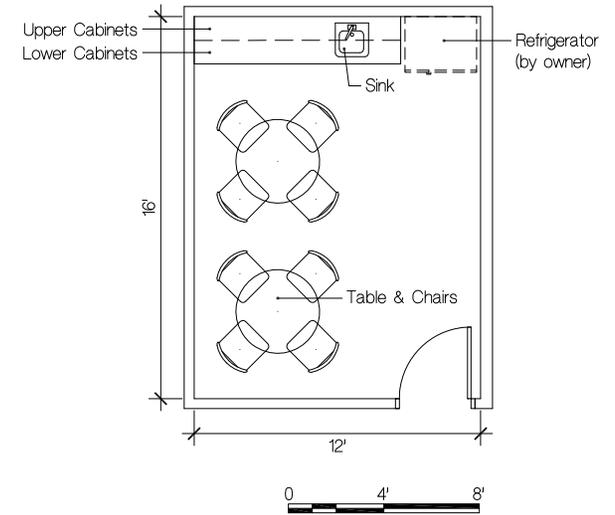
Acoustical Requirements: None

ENGINEERING SYSTEMS

HVAC Individual temp control

Plumbing Sink
Lighting Direct/Indirect linear pendants
Phone/Data Ports
Special Requirements

FURNISHINGS/EQUIP. Tables and Chairs



Comments:

Room Name **1.15 Copy Room**

General Description: Clerical
Occupants and Hours of use: 3 Occupants
Desired SF Area: 250

ARCHITECTURAL

Windows : Not required
Window Covering: N/A

Doors : Not required
Door Hardware: N/A

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: Upper and Lower storage cabinets, Mail slots

Acoustical Requirements: None

ENGINEERING SYSTEMS

HVAC Controlled with hallway

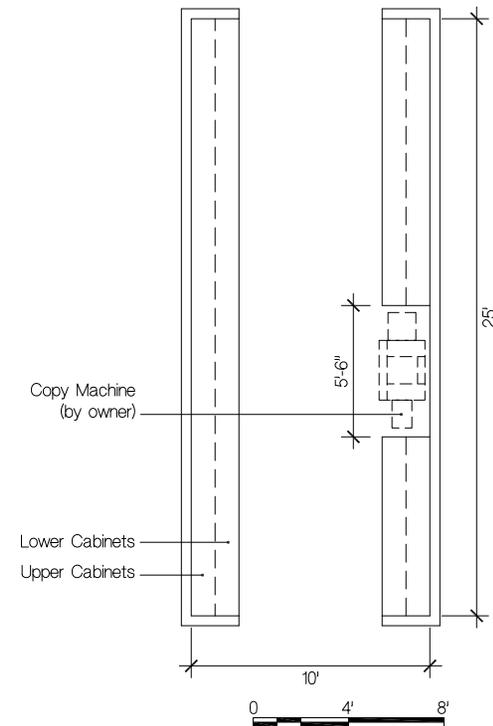
Plumbing None

Lighting Direct/Indirect Fluorescent Troffers, Under-cabinet lighting.

Phone/Data Ports coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP. Desk, task chair, two guest chairs, sofa, end table



Comments:

Room Name

General Description:

Occupants:

Desired SF Area:

ARCHITECTURAL

Windows :

Window Covering:

Doors :

Door Hardware:

Walls

Floor:

Ceiling:

Millwork:

Acoustical Requirements:

ENGINEERING SYSTEMS

HVAC

Plumbing

Lighting

Phone/Data Ports

Special Requirements

FURNISHINGS/EQUIP.

1.16 Department Chair Office

Office

1 Occupant + 13 visitors

240

1" insulated

Horizontal louver blinds

Flush wood glazed

Office Latchset

Painted gypsum board on metal studs

Carpet with rubber base

Acoustical Tile

None

STC 50

Individual temp control

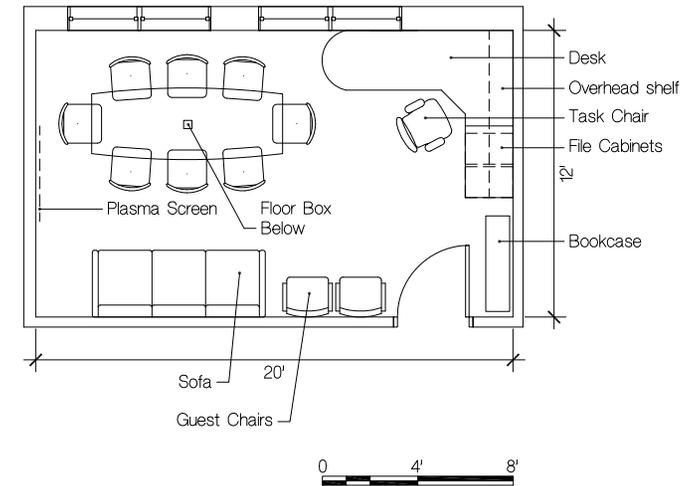
None

Direct/Indirect Fluorescent Troffers

coordinate with furnishings plan

Desk w/ overhead book shelves, task chair, three guest chairs, end table, Bookcase, File Cabinets, Sofa, Conference table and chairs

Comments:



Room Name **1.17 Medical Records Storage**

General Description: Storage
Occupants: Not normally occupied
Desired SF Area: 130

ARCHITECTURAL

Windows : none desired
Window Covering: N/A

Doors : Flush wood
Door Hardware: Store room Latchset

Walls Painted gypsum board on metal studs

Floor: VCT with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: None

ENGINEERING SYSTEMS

HVAC Ventilation not required

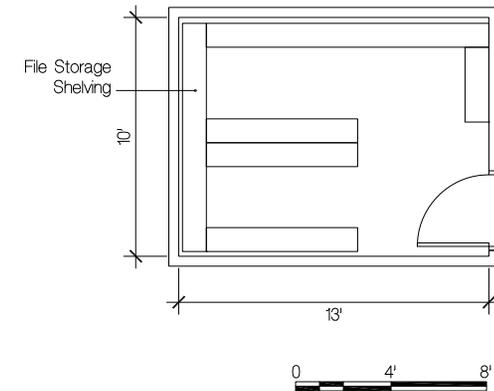
Plumbing None

Lighting Direct/Indirect Fluorescent Troffers

Phone/Data Ports none

Special Requirements

FURNISHINGS/EQUIP. File storage shelving



Comments:

Room Name

1.18 Controlled Substance Storage

General Description:

Storage

Occupants:

Not normally occupied

Desired SF Area:

49

ARCHITECTURAL

Windows :

none desired

Window Covering:

N/A

Doors :

Flush wood

Door Hardware:

Store room Latchset

Walls

Painted gypsum board on metal studs

Floor:

VCT with rubber base

Ceiling:

Acoustical Tile

Millwork:

Lockable Cabinets

Acoustical Requirements:

none

ENGINEERING SYSTEMS

HVAC

Ventilation not required

Plumbing

None

Lighting

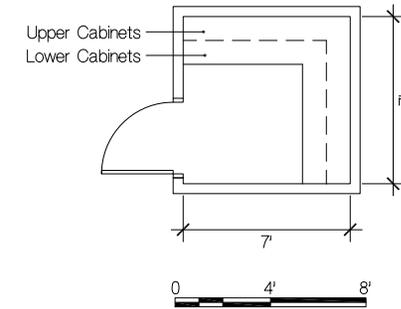
Recessed troffers

Phone/Data Ports

none

Special Requirements

FURNISHINGS/EQUIP.



Comments:

Room Name **1.19 Restroom**

General Description: Restroom
Occupants: 1 Occupant
Desired SF Area: 45

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : Flush Wood
Door Hardware: Restroom Latchset

Walls Ceramic Tile

Floor: Ceramic Tile
Ceiling: Painted Gypsum Board
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

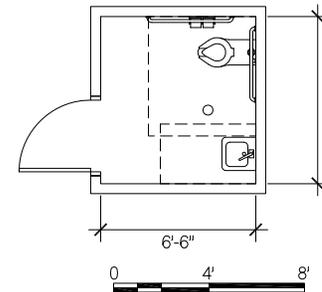
Plumbing Accessible Lav and Toilet

Lighting Tamper Resistant

Phone/Data Ports None

Special Requirements Recessed Toilet Paper Holder (Norix ITP110)
Safebar Grab Bars, Reliable XL-INST Breakaway sprinkler Heads

FURNISHINGS/EQUIP.



Comments:

Room Name

1.20 Administrative Office

General Description:

Office

Occupants:

1 Occupant + 2 visitors

Desired SF Area:

120

ARCHITECTURAL

Windows :

1" insulated

Window Covering:

Horizontal louver blinds

Doors :

Flush wood glazed

Door Hardware:

Office Latchset

Walls

Painted gypsum board on metal studs

Floor:

Carpet with rubber base

Ceiling:

Acoustical Tile

Millwork:

None

Acoustical Requirements:

STC 40

ENGINEERING SYSTEMS

HVAC

Individual temp control

Plumbing

None

Lighting

Direct/Indirect Fluorescent Troffers

Phone/Data Ports

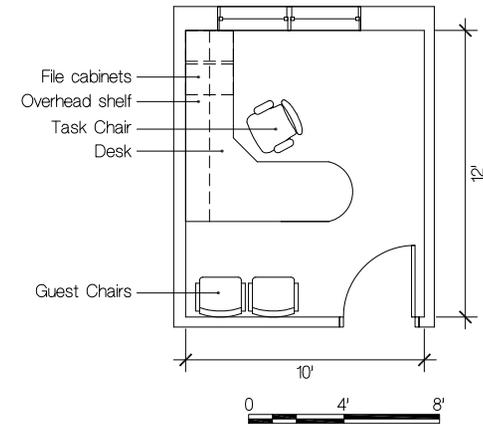
coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP.

Desk w/ overhead book shelves, task chair, two guest chairs

Comments:



Room Name

1.21 Resident Work Room

General Description: Office
Occupants: 4 Occupants
Desired SF Area: 120

ARCHITECTURAL

Windows : 1" insulated
Window Covering: Horizontal louver blinds

Doors : Flush wood glazed
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: None

ENGINEERING SYSTEMS

HVAC Individual temp control

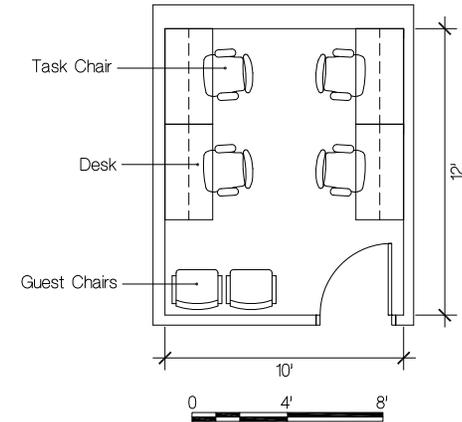
Plumbing None

Lighting Direct/Indirect Fluorescent Troffers

Phone/Data Ports coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP. Desks, task chairs, guest chairs



Comments:

Room Name **1.22 Mood Disorders Waiting**

General Description: Waiting Area
Occupants: 13 Occupants
Desired SF Area: 180

ARCHITECTURAL

Windows : Not required
Window Covering: N/A

Doors : None
Door Hardware: N/A

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

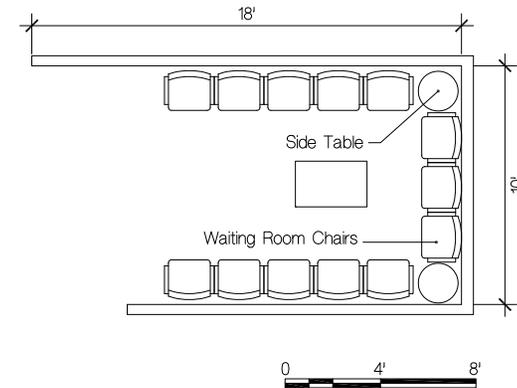
Acoustical Requirements: None

ENGINEERING SYSTEMS

HVAC Controlled with adjacent hallway

Plumbing None
Lighting Direct/Indirect Fluorescent Troffers
Phone/Data Ports
Special Requirements

FURNISHINGS/EQUIP. guest chairs, end tables, coffee table



Comments:

Room Name **1.23 Exam Room**

General Description: Medical
Occupants: 3 Occupants
Desired SF Area: 120

ARCHITECTURAL

Windows : Not required
Window Covering: N/A

Doors : Flush Wood
Door Hardware: Passage

Walls Painted gypsum board on metal studs

Floor: VCT with rubber base
Ceiling: Acoustical Tile
Millwork: Upper and Lower Cabinets

Acoustical Requirements: STC 50

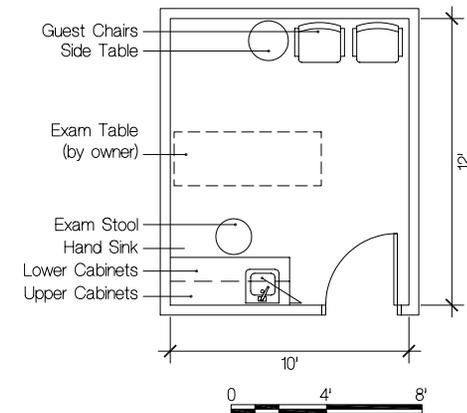
ENGINEERING SYSTEMS

HVAC Individual Temp Control

Plumbing Hand sink
Lighting Recessed Direct/Indirect troffers

Phone/Data Ports
Special Requirements

FURNISHINGS/EQUIP. 2 guest chairs



Comments:

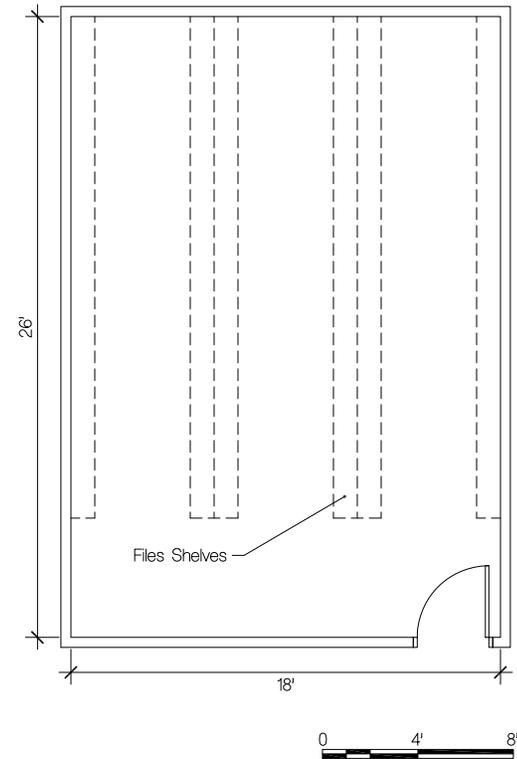
Room Name

1.24 Patient Records

General Description: Storage
 Occupants: Not normally occupied
 Desired SF Area: 470

ARCHITECTURAL

Windows : none desired
 Window Covering: N/A
 Doors : Flush wood
 Door Hardware: Store room Latchset
 Walls Painted gypsum board on metal studs
 Floor: Carpet with rubber base
 Ceiling: Acoustical Tile
 Millwork: None
 Acoustical Requirements: None
ENGINEERING SYSTEMS
 HVAC
 Plumbing None
 Lighting Recessed troffers
 Phone/Data Ports none
 Special Requirements
FURNISHINGS/EQUIP. File shelving



Comments:

Room Name **1.25 Mood Disorders Reception**

General Description: Reception Workstation
 Occupants: 1 Occupants
 Desired SF Area: 100

ARCHITECTURAL

Windows : not required
 Window Covering: N/A

Doors : Not required
 Door Hardware: N/A

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base

Ceiling: Acoustical Tile

Millwork: Work surface with cabinets and Knee space, Upper and Lower behind

Acoustical Requirements: None

ENGINEERING SYSTEMS

HVAC Controlled with adjacent hallway/waiting

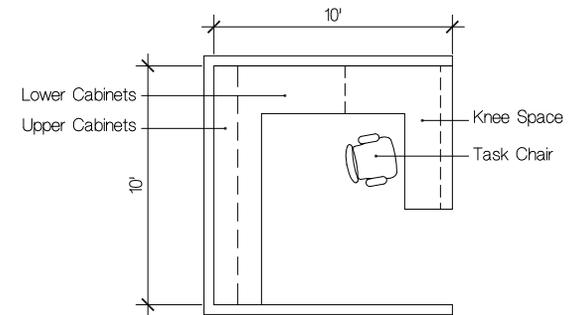
Plumbing None

Lighting Direct/Indirect troffers and Task Lighting

Phone/Data Ports Coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP. Task chair



Comments:

Room Name

1.26 Storage

General Description:

Storage

Occupants:

Not normally occupied

Desired SF Area:

100

ARCHITECTURAL

Windows :

not required

Window Covering:

N/A

Doors :

Not required

Door Hardware:

N/A

Walls

Painted gypsum board on metal studs

Floor:

VCT with rubber base

Ceiling:

Acoustical Tile

Millwork:

None

Acoustical Requirements:

None

ENGINEERING SYSTEMS

HVAC

Not required

Plumbing

None

Lighting

Fluorescent troffers

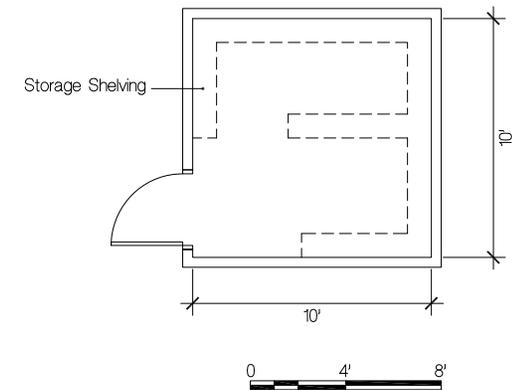
Phone/Data Ports

Not required

Special Requirements

FURNISHINGS/EQUIP.

Storage Shelving



Comments:

Room Name **1.40 Reception**
 General Description: Main Building Reception Desk
 Occupants: 1
 Desired SF Area: 200

ARCHITECTURAL

Windows : None
 Window Covering: N/A

Doors : None
 Door Hardware: N/A

Walls N/A

Floor: Natural Stone
 Ceiling: Wood panel
 Millwork: Reception desk

Acoustical Requirements: None

ENGINEERING SYSTEMS

HVAC Not required

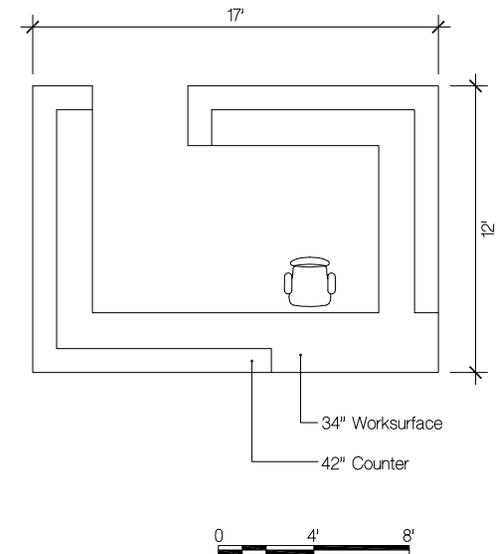
Plumbing None

Lighting Undercounter and Task Lighting

Phone/Data Ports power and data at each side

Special Requirements

FURNISHINGS/EQUIP.



Comments:



Room Name

1.41 Lobby

General Description:

Main Building Lobby

Occupants:

30

Desired SF Area:

3000

ARCHITECTURAL

Windows :

storefront/curtainwall

Window Covering:

None

Doors :

Aluminum Entrance

Door Hardware:

Panic hardware and mag-lock devices

Walls

Masonry and wood panel

Floor:

Natural Stone

Ceiling:

Wood panel

Millwork:

Reception desk

Acoustical Requirements:

None

ENGINEERING SYSTEMS

HVAC

Not required

Plumbing

None

Lighting

High performance decorative pendants

Phone/Data Ports

Coordinate with furnishings

Special Requirements

FURNISHINGS/EQUIP.

Premium quality sofas, sidetables, chairs

Comments:

Room Name

1.42 Vestibule

General Description:

Main Building Lobby

Occupants:

not normally occupied

Desired SF Area:

130

ARCHITECTURAL

Windows :

storefront/curtainwall

Window Covering:

None

Doors :

Aluminum Entrance

Door Hardware:

Panic hardware and mag-lock devices

Walls

storefront/curtainwall

Floor:

Natural Stone with recessed entrance mat

Ceiling:

Wood panel

Millwork:

none

Acoustical Requirements:

None

ENGINEERING SYSTEMS

HVAC

Not required

Plumbing

None

Lighting

Recessed cans

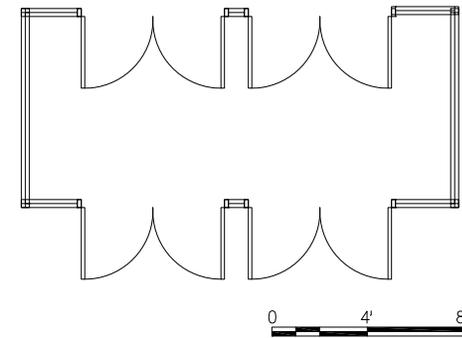
Phone/Data Ports

None

Special Requirements

FURNISHINGS/EQUIP.

None



Comments:

Room Name

1.43 Cafe Seating

General Description: Cafe Seating
Occupants: 32
Desired SF Area: 600

ARCHITECTURAL

Windows : open to corridor
Window Covering: N/A

Doors : Not required
Door Hardware: N/A

Walls Painted gypsum board on metal studs

Floor: VCT with rubber base
Ceiling: Acoustical Tile
Millwork: None

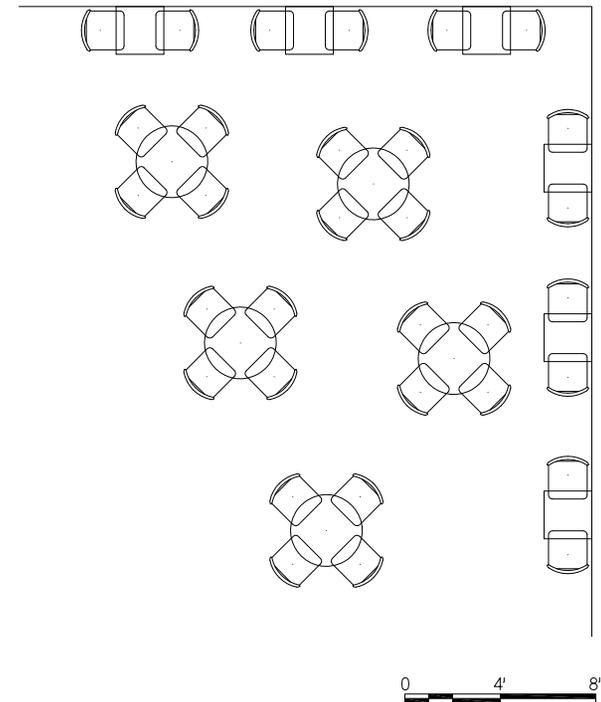
Acoustical Requirements: n/a

ENGINEERING SYSTEMS

HVAC Zoned with adjacent corridor

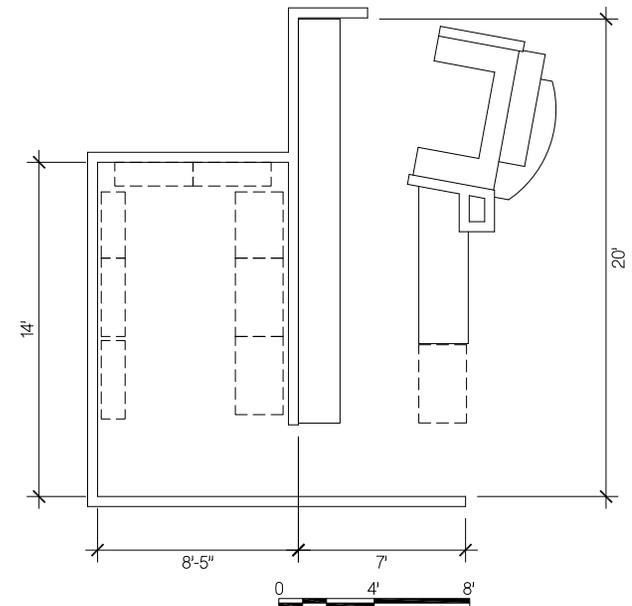
Plumbing None
Lighting Fluorescent troffers
Phone/Data Ports Not required
Special Requirements

FURNISHINGS/EQUIP.



Comments:

Room Name	1.44 Cafe
General Description:	Coffee shop
Occupants:	2
Desired SF Area:	280
ARCHITECTURAL	
Windows :	open to cafe seating
Window Covering:	N/A
Doors :	Not required
Door Hardware:	N/A
Walls	Painted gypsum board on metal studs
Floor:	VCT with rubber base
Ceiling:	Acoustical Tile
Millwork:	Storage Cabinets/ Retail Service and Serving counters
Acoustical Requirements:	None
ENGINEERING SYSTEMS	
HVAC	Zoned with adjacent Seating
Plumbing	Sink
Lighting	Fluorescent troffers
Phone/Data Ports	Power and Data required at retail serving counter.
Special Requirements	Plugmold at all back-bar work surfaces
FURNISHINGS/EQUIP.	See Foodservice narrative for details.



Comments:

Room Name

1.45 Family Resource/Learning Center

General Description:

Library/ study lounge

Occupants:

6

Desired SF Area:

1250

ARCHITECTURAL

Windows :

not required

Window Covering:

N/A

Doors :

Flush Wood Glazed

Door Hardware:

Office

Walls

Painted gypsum board on metal studs

Floor:

Carpet with rubber base

Ceiling:

Acoustical Tile

Millwork:

None

Acoustical Requirements:

STC 40

ENGINEERING SYSTEMS

HVAC

Individual Temperature Control

Plumbing

None

Lighting

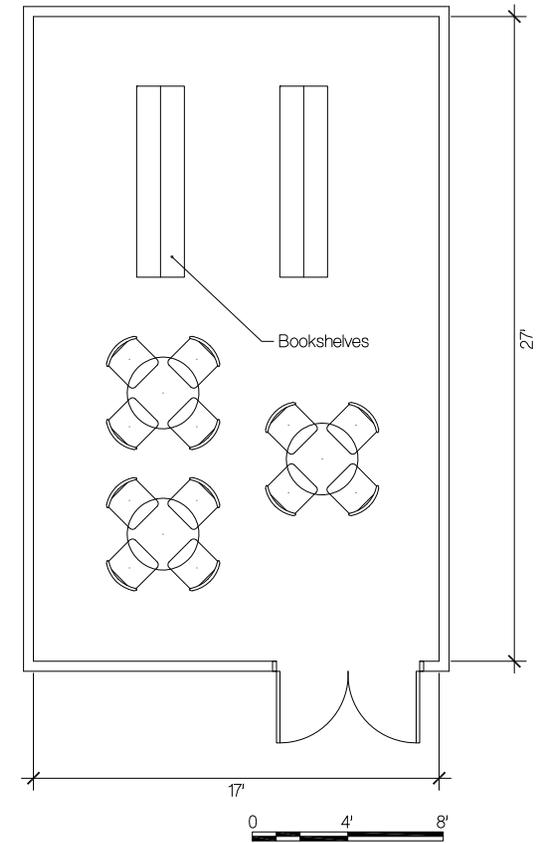
Fluorescent troffers

Phone/Data Ports

Special Requirements

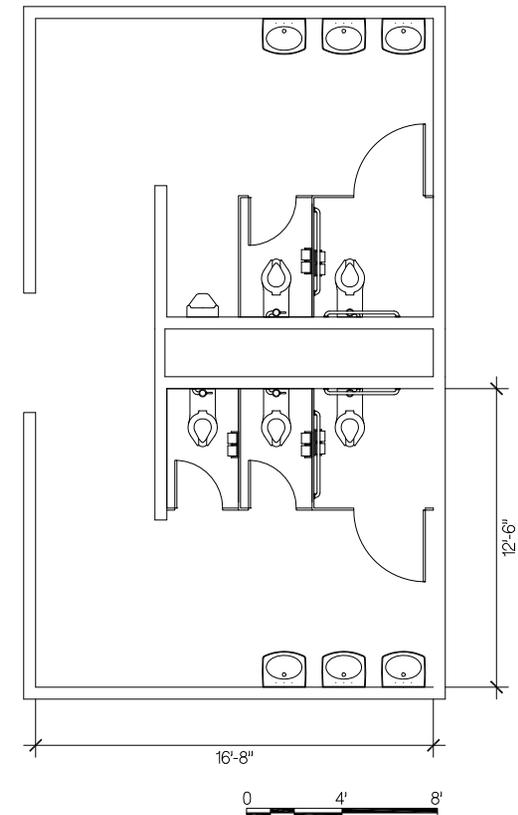
FURNISHINGS/EQUIP.

Tables, chairs, bookshelves



Comments:

Room Name	1.46 Women's Public Restroom
General Description:	Restroom
Occupants:	3 Occupants
Desired SF Area:	225
ARCHITECTURAL	
Windows :	None
Window Covering:	N/A
Doors :	None
Door Hardware:	N/A
Walls	Ceramic Tile
Floor:	Ceramic Tile
Ceiling:	Painted Gypsum Board
Millwork:	None
Acoustical Requirements:	STC 50
ENGINEERING SYSTEMS	
HVAC	Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)
Plumbing	Accessible Lavs and Toilets
Lighting	Tamper Resistant
Phone/Data Ports	
Special Requirements	GFCI Circuit
FURNISHINGS/EQUIP.	Safebar Grab Bars, Reliable XL-INST Breakaway sprinkler Heads



Comments:

Room Name

1.47 Men's Public Restroom

General Description: Restroom
Occupants: 3 Occupants
Desired SF Area: 225

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : None
Door Hardware: N/A

Walls Ceramic Tile

Floor: Ceramic Tile
Ceiling: Painted Gypsum Board
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

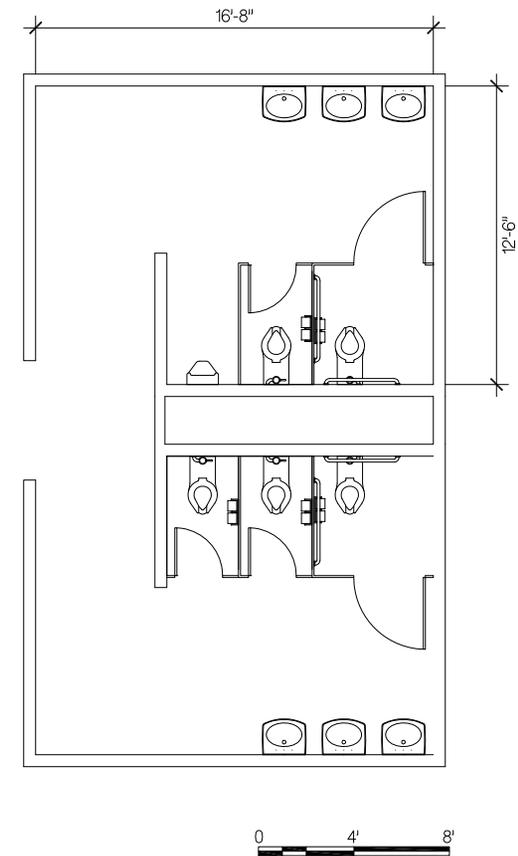
Plumbing Accessible Lavs and Toilets

Lighting Tamper Resistant

Phone/Data Ports None

Special Requirements GFCI Circuit

FURNISHINGS/EQUIP. Safebar Grab Bars, Reliable XL-INST Breakaway sprinkler Heads



Comments:

Room Name **1.48 Housekeeping Closet**

General Description: Service
Occupants: Not normally occupied
Desired SF Area: 50

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : flush wood
Door Hardware: Storeroom

Walls Epoxy painted gypsum board

Floor: VCT
Ceiling: Acoustical Tile
Millwork: None

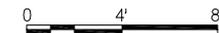
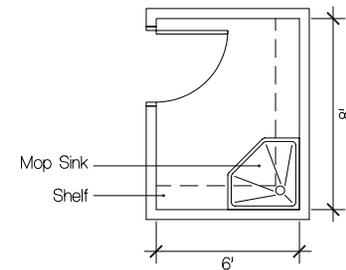
Acoustical Requirements: none

ENGINEERING SYSTEMS

HVAC not required

Plumbing Mop Sink
Lighting Industrial fluorescent
Phone/Data Ports none
Special Requirements GFCI Circuit

FURNISHINGS/EQUIP. SS mop shelf



Comments:

Room Name

1.49 Security Office

General Description:

Office

Occupants:

1 Occupant

Desired SF Area:

100

ARCHITECTURAL

Windows :

Not Required

Window Covering:

N/A

Doors :

Flush wood

Door Hardware:

Office Latchset

Walls

Painted gypsum board on metal studs

Floor:

Carpet with rubber base

Ceiling:

Acoustical Tile

Millwork:

None

Acoustical Requirements:

STC 40

ENGINEERING SYSTEMS

HVAC

Individual temp control

Plumbing

None

Lighting

Direct/Indirect linear pendants

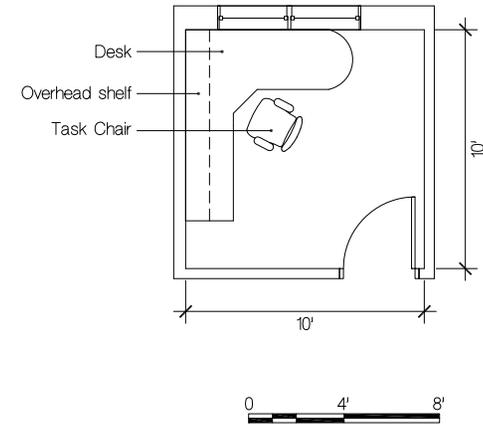
Phone/Data Ports

coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP.

Desk w/ overhead book shelves, task chair



Comments:

Room Name	1.50 Meeting Room A
General Description:	Conference
Occupants:	40 Occupants
Desired SF Area:	900
ARCHITECTURAL	
Windows :	Not Required
Window Covering:	N/A
Doors :	Flush wood
Door Hardware:	Office Latchset
Walls	Painted gypsum board on metal studs
Floor:	Carpet with rubber base
Ceiling:	Acoustical Tile
Millwork:	None
Acoustical Requirements:	STC 50
ENGINEERING SYSTEMS	
HVAC	Individual temp control
Plumbing	None
Lighting	Direct/Indirect linear pendants
Phone/Data Ports	3 floor boxes coordinate with furnishings plan
Special Requirements	Room Scheduling Wizard
FURNISHINGS/EQUIP.	Seminar Tables and Chairs Recessed Projection Screen, Whiteboard

Comments:

Operable partition between meeting rooms A & B



Room Name

1.51 Meeting Room B

General Description: Conference
Occupants: 60 Occupants
Desired SF Area: 1100

ARCHITECTURAL

Windows : Not Required
Window Covering: N/A

Doors : Flush wood
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual temp control

Plumbing None

Lighting Direct/Indirect linear pendants

Phone/Data Ports 3 floor boxes coordinate with furnishings plan

Special Requirements Room Scheduling Wizard

FURNISHINGS/EQUIP.

Seminar Tables and Chairs
Recessed Projection Screen, Whiteboard

Comments:

Operable partition between meeting rooms A & B

Room Name **1.52 Administrative Meeting Room**

General Description: Conference
Occupants: 30 Occupants
Desired SF Area: 800

ARCHITECTURAL

Windows : 1" Insulated
Window Covering: Horizobtal louver blinds

Doors : Flush wood
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: STC 40

ENGINEERING SYSTEMS

HVAC Individual temp control

Plumbing None

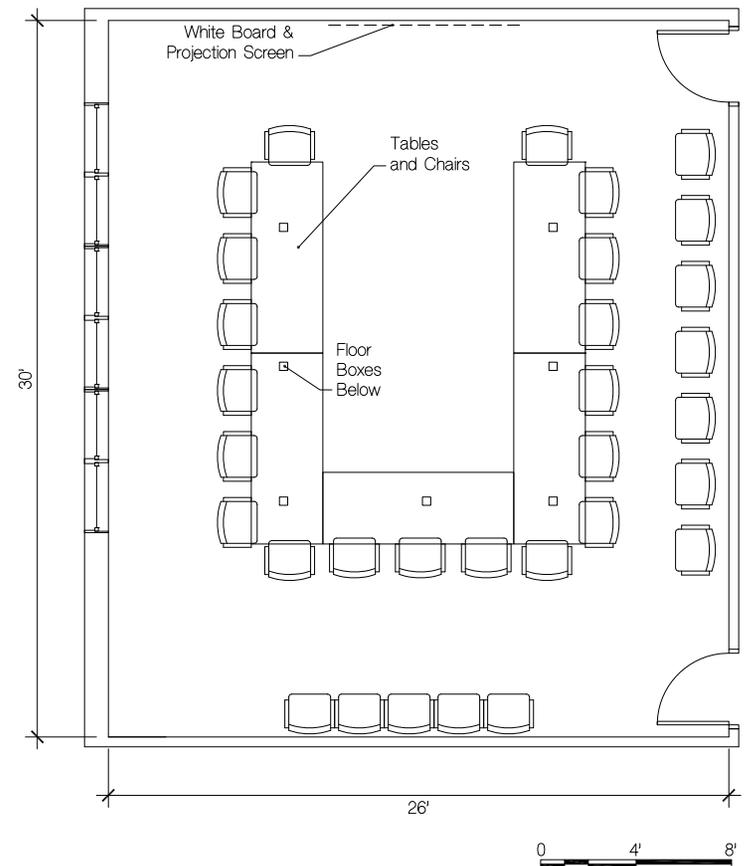
Lighting Direct/Indirect linear pendants

Phone/Data Ports floor boxes; coordinate with furnishings plan

Special Requirements Room Scheduling Wizard

FURNISHINGS/EQUIP.

Tables and Chairs
Recessed Projection Screen, Whiteboard



Comments:

Room Name

1.61 Waiting Area

General Description: Waiting Area
Occupants: 16 Occupants
Desired SF Area: 500

ARCHITECTURAL

Windows : Not required
Window Covering: N/A

Doors : None
Door Hardware: N/A

Walls Painted gypsum board on metal studs

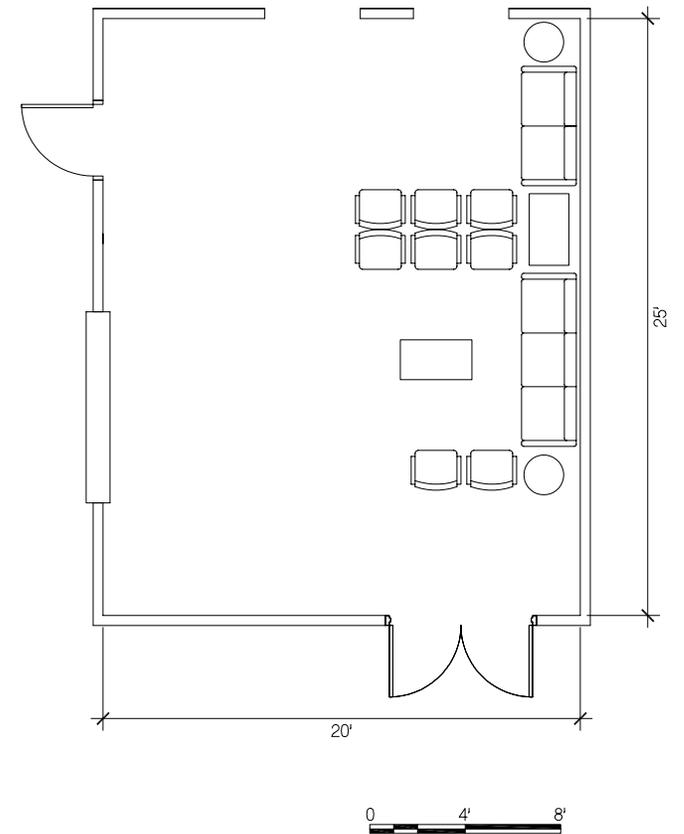
Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: None

ENGINEERING SYSTEMS
HVAC Controlled with adjacent hallway

Plumbing None
Lighting Recessed Direct/Indirect troffers
Phone/Data Ports
Special Requirements

FURNISHINGS/EQUIP. guest chairs, end tables, coffee table



Comments:

Room Name **1.62 Play Area**

General Description: Waiting Area
Occupants: 3 Occupants
Desired SF Area: 100

ARCHITECTURAL

Windows : Not required
Window Covering: N/A

Doors : None
Door Hardware: N/A

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: None

ENGINEERING SYSTEMS

HVAC Controlled with adjacent waiting room

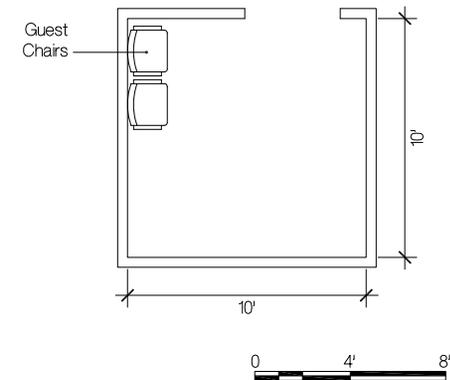
Plumbing None

Lighting Recessed Direct/Indirect troffers

Phone/Data Ports

Special Requirements

FURNISHINGS/EQUIP. Two Guest chairs



Comments:

Room Name

1.64 PAS Office

General Description:

Office

Occupants:

2 Occupants

Desired SF Area:

180

ARCHITECTURAL

Windows :

1" insulated

Window Covering:

Horizontal louver blinds

Doors :

Flush wood glazed

Door Hardware:

Office Latchset

Walls

Painted gypsum board on metal studs

Floor:

Carpet with rubber base

Ceiling:

Acoustical Tile NRC \geq .90

Millwork:

Workstations and upper counter window to waiting area.

Acoustical Requirements:

STC 40

ENGINEERING SYSTEMS

HVAC

Individual temp control

Plumbing

None

Lighting

Direct/Indirect linear pendants

Phone/Data Ports

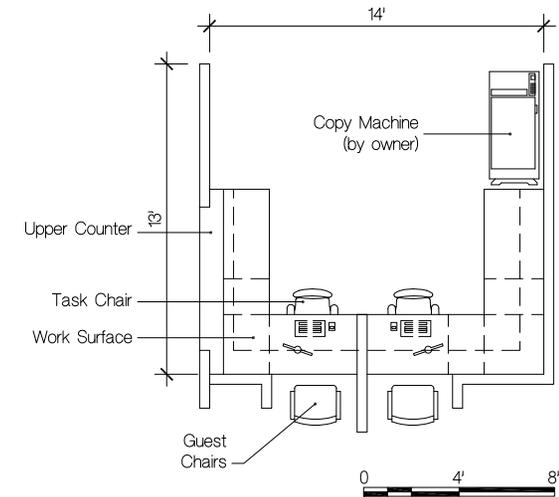
coordinate with furnishings plan

Special Requirements

Acoustically absorbent wall panels.

FURNISHINGS/EQUIP.

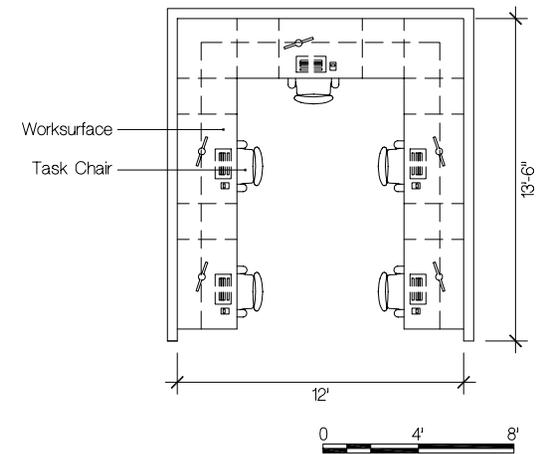
task chairs, guest chairs, Large white board



Comments:

Contiguous with Clinicians work area.

Room Name	1.65 Clinicians Area
General Description:	Office
Occupants:	4 Occupants + 1 flex workstation
Desired SF Area:	162
ARCHITECTURAL	
Windows :	1" insulated
Window Covering:	Horizontal louver blinds
Doors :	Flush wood glazed
Door Hardware:	Office Latchset
Walls	Painted gypsum board on metal studs
Floor:	Carpet with rubber base
Ceiling:	Acoustical Tile
Millwork:	Workstations.
Acoustical Requirements:	STC 40
ENGINEERING SYSTEMS	
HVAC	Zoned with PAS area
Plumbing	None
Lighting	Direct/Indirect linear pendants
Phone/Data Ports	coordinate with furnishings plan
Special Requirements	Acoustically absorbent wall panels.
FURNISHINGS/EQUIP.	task chairs, share white board with PAS



Comments:
Contiguous with PAS work area.

Room Name

1.66 UR office

General Description:

Office

Occupants:

4 Occupants

Desired SF Area:

210

ARCHITECTURAL

Windows :

1" insulated

Window Covering:

Horizontal louver blinds

Doors :

Flush wood glazed

Door Hardware:

Office Latchset

Walls

Painted gypsum board on metal studs

Floor:

Carpet with rubber base

Ceiling:

Acoustical Tile

Millwork:

Workstations.

Acoustical Requirements:

STC 40

ENGINEERING SYSTEMS

HVAC

Individual temperature control

Plumbing

None

Lighting

Direct/Indirect linear pendants

Phone/Data Ports

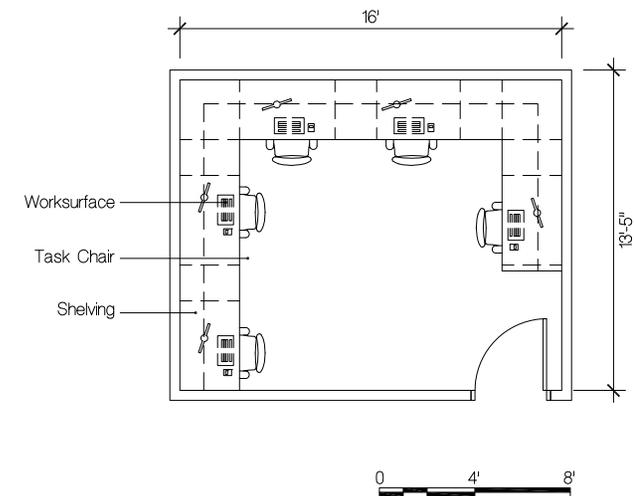
Coordinate with furnishings plan

Special Requirements

Acoustically absorbent wall panels.

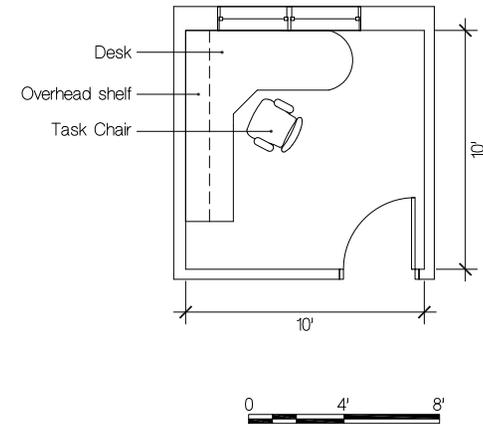
FURNISHINGS/EQUIP.

task chairs



Comments:

Room Name	1.67 PSS Manager
General Description:	Office
Occupants:	1 Occupant
Desired SF Area:	100
ARCHITECTURAL	
Windows :	1" insulated
Window Covering:	Horizontal louver blinds
Doors :	Flush wood glazed
Door Hardware:	Office Latchset
Walls	Painted gypsum board on metal studs
Floor:	Carpet with rubber base
Ceiling:	Acoustical Tile
Millwork:	None
Acoustical Requirements:	STC 40
ENGINEERING SYSTEMS	
HVAC	Individual temp control
Plumbing	None
Lighting	Direct/Indirect linear pendants
Phone/Data Ports	coordinate with furnishings plan
Special Requirements	
FURNISHINGS/EQUIP.	Desk w/ overhead book shelves, task chair



Comments:



Room Name **1.68 Financial Office**

General Description: Office
Occupants: 3 Occupants
Desired SF Area: 150

ARCHITECTURAL

Windows : 1" insulated
Window Covering: Horizontal louver blinds

Doors : Flush wood glazed
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: Workstations.

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Zoned with PAS

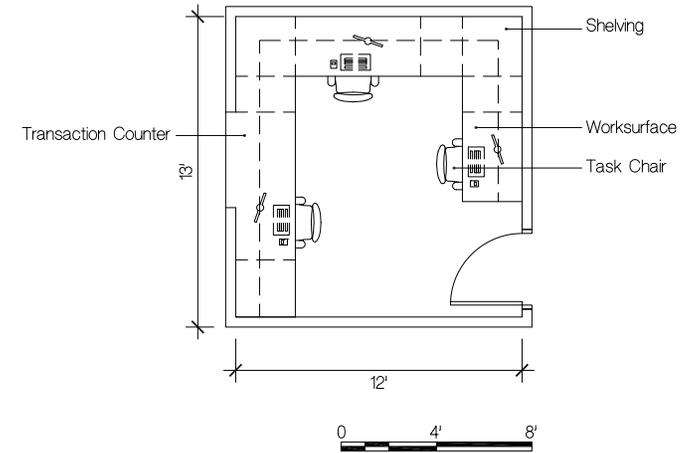
Plumbing None

Lighting Direct/Indirect linear pendants

Phone/Data Ports coordinate with furnishings plan

Special Requirements Acoustically absorbent wall panels.

FURNISHINGS/EQUIP. task chairs



Comments:

Room Name **1.69 Admission Room**

General Description: Office
Occupants: 1 Occupant + 3 visitors
Desired SF Area: 96

ARCHITECTURAL

Windows : 1" insulated
Window Covering:

Doors : Flush wood glazed
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Gypsum Board
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

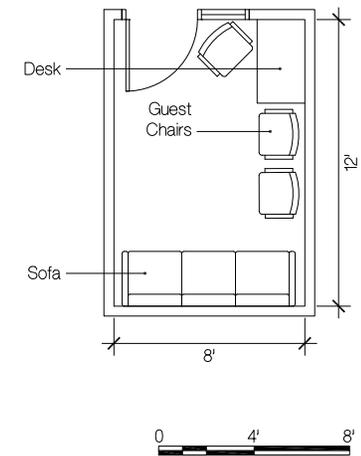
HVAC Individual temp control

Plumbing None

Lighting
Phone/Data Ports coordinate with furnishings plan
Special Requirements

FURNISHINGS/EQUIP. Desk w/ overhead book shelves, task chair, three guest chairs, end table

Comments:



Room Name **1.70 Exam Room**

General Description: Medical
Occupants: 1 Occupant + 2 visitors
Desired SF Area: 120

ARCHITECTURAL

Windows : 1" insulated
Window Covering:

Doors : Flush wood
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: VCT with rubber base
Ceiling: Acoustical Tile
Millwork: Lower and Upper cabinets

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

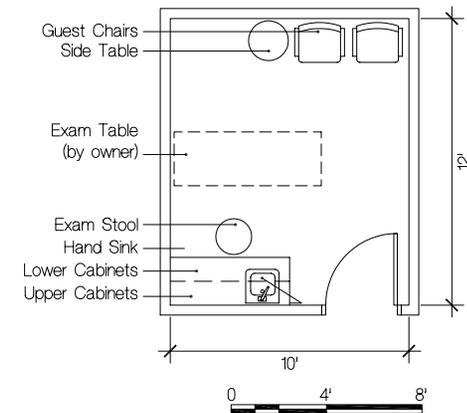
HVAC Individual temp control

Plumbing None

Lighting
Phone/Data Ports coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP. two guest chairs, Exam stool, and Exam Table (by owner)



Comments:

Room Name **1.71 Shower Room**

General Description: Assisted Patient Bathing
Occupants: 1 Occupant + 3 visitors
Desired SF Area: 36

ARCHITECTURAL

Windows : none
Window Covering:

Doors : Flush wood
Door Hardware: Storage Latchset

Walls Ceramic Tile

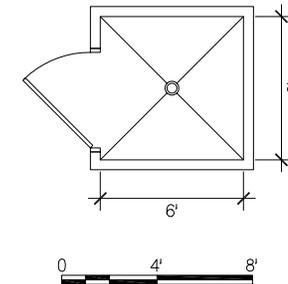
Floor: Ceramic Tile
Ceiling: Gypsum Board
Millwork: None

Acoustical Requirements: STC 50
ENGINEERING SYSTEMS
HVAC Shared with Hallway control

Plumbing Shower
Lighting Waterproof fixture
Phone/Data Ports None
Special Requirements

FURNISHINGS/EQUIP. Grab Bars

Comments:



Room Name **1.72 Visitor Toilet**

General Description: RR
Occupants: 1 Occupant
Desired SF Area: 45

ARCHITECTURAL

Windows : none
Window Covering:

Doors : Flush wood
Door Hardware: Privacy Latchset

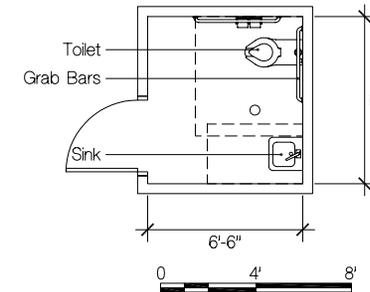
Walls Ceramic Tile and Painted gypsum board on metal studs

Floor: Ceramic Tile
Ceiling: Gypsum board
Millwork: None

Acoustical Requirements: STC 50
ENGINEERING SYSTEMS
HVAC Individual temp control

Plumbing None
Lighting
Phone/Data Ports
Special Requirements

FURNISHINGS/EQUIP.



Comments:

Room Name **1.73 Patient Toilet**

General Description: RR
Occupants: 1 Occupant
Desired SF Area: 45

ARCHITECTURAL

Windows : none
Window Covering:

Doors : Flush wood
Door Hardware: Privacy Latchset

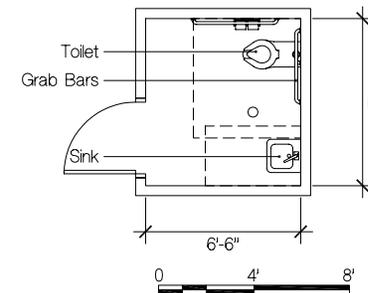
Walls Ceramic Tile and Painted gypsum board on metal studs

Floor: Ceramic Tile
Ceiling: Gypsum board
Millwork: None

Acoustical Requirements: STC 50
ENGINEERING SYSTEMS
HVAC Individual temp control

Plumbing None
Lighting
Phone/Data Ports
Special Requirements

FURNISHINGS/EQUIP.



Comments:



Room Name

2.00 Dining Room

General Description:

Occupants:

130 Occupants

Desired SF Area:

2000

ARCHITECTURAL

Windows :

Curtain wall

Window Covering:

Roller Window Shades

Doors :

Glazed Aluminum Entrance

Door Hardware:

Panic hardware

Walls

Painted gypsum board on metal studs acoustical fabric panels

Floor:

Stone Tile

Ceiling:

Acoustical Tile NRC \geq .90

Millwork:

None

Acoustical Requirements:

STC 40

ENGINEERING SYSTEMS

HVAC

Individual temp control

Plumbing

None

Lighting

Dimmable Direct/Indirect decorative pendants on daylighting sensor

Phone/Data Ports

coordinate with furnishings plan

Special Requirements

Wall-mounted acoustical fabric panels

FURNISHINGS/EQUIP.

Tables and Chairs

Comments:

Room Name **2.01 Scramble**

General Description:

Occupants: 30 Occupants

Desired SF Area: 1500

ARCHITECTURAL

Windows : None

Window Covering: N/A

Doors : Glazed Aluminum Entrance

Door Hardware: Panic hardware

Walls Ceramic Tile

Floor: Stone Tile

Ceiling: Acoustical Tile NRC \geq .90

Millwork: None

Acoustical Requirements: STC 40

ENGINEERING SYSTEMS

HVAC Zoned with Dining

Plumbing

Lighting Direct/Indirect decorative pendants on daylighting sensor. Decorative Track

Phone/Data Ports lighting.

Special Requirements At point of sale

FURNISHINGS/EQUIP.

See Foodservice Narrative

Comments:



Room Name

2.02 Kitchen

General Description:

Occupants: 4 Occupants

Desired SF Area: 2500

ARCHITECTURAL

Windows : None

Window Covering: N/A

Doors : Hollow Metal

Door Hardware: Office

Walls Ceramic Tile

Floor: Quarry Tile

Ceiling: Mylar Acoustical Tile

Millwork: None

Acoustical Requirements: STC 40

ENGINEERING SYSTEMS

HVAC

Plumbing See Foodservice Narrative

Lighting Recessed fluorescent.

Phone/Data Ports none

Special Requirements

FURNISHINGS/EQUIP. See Foodservice Narrative

Comments:

Room Name **2.03 Executive Dining Room**

General Description: Conference
Occupants: 30 Occupants
Desired SF Area: 800

ARCHITECTURAL

Windows : 1" Insulated
Window Covering: Horizotal louver blinds

Doors : Flush wood
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: STC 40

ENGINEERING SYSTEMS

HVAC Individual temp control

Plumbing None

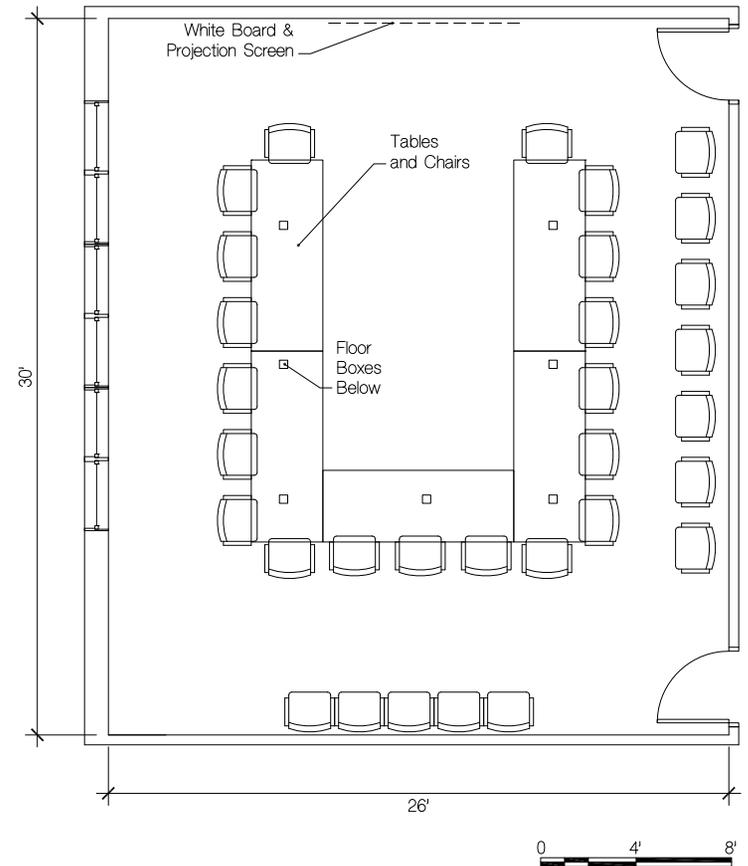
Lighting Dimmable Direct/Indirect linear pendants

Phone/Data Ports floor boxes; coordinate with furnishings plan

Special Requirements Room Scheduling Wizard

FURNISHINGS/EQUIP.

Tables and Chairs
Recessed Projection Screen, Whiteboard



Comments:



Room Name

2.04 Wellness Center

General Description:
Occupants:
Desired SF Area:

Excercise Room
20 Occupants
950

ARCHITECTURAL

Windows :
Window Covering:

1" Insulated
Horizontal louver blinds

Doors :
Door Hardware:

Flush wood
Office Latchset

Walls

Painted gypsum board on metal studs

Floor:
Ceiling:
Millwork:

Rubber Sports floor
Acoustical Tile
None

Acoustical Requirements:
ENGINEERING SYSTEMS
HVAC

STC 50
Individual temp control

Plumbing
Lighting
Phone/Data Ports
Special Requirements

None
Recessed Fluorescent
none

FURNISHINGS/EQUIP.

Exercise equipment (by owner)

Comments:

Room Name **2.05 Men's Shower Room**

General Description: shower and change room
Occupants: 2 Occupants
Desired SF Area: 170

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : Flush Wood
Door Hardware: Restroom Latchset

Walls Ceramic Tile

Floor: Ceramic Tile
Ceiling: Painted Gypsum Board
Millwork: None

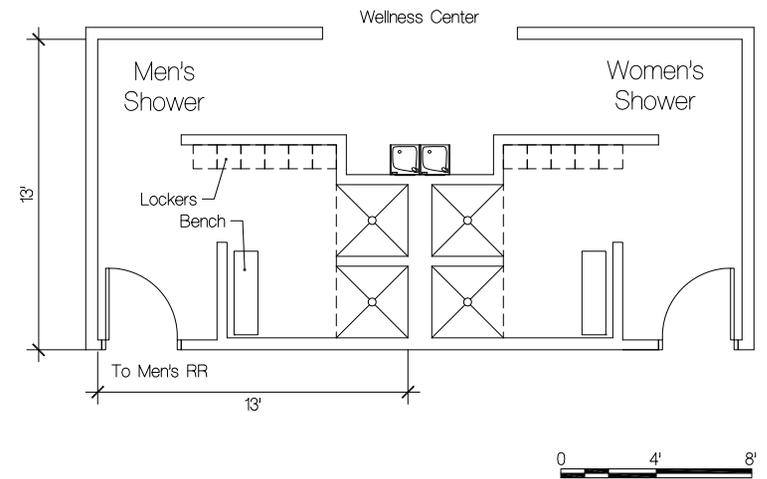
Acoustical Requirements: STC 50

ENGINEERING SYSTEMS
HVAC

Plumbing Accessible Shower

Lighting
Phone/Data Ports None
Special Requirements

FURNISHINGS/EQUIP. Lockers, wooden changing bench



Comments:

Room Name **2.06 Women's Shower Room**

General Description: shower and change room
Occupants: 2 Occupants
Desired SF Area: 170

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : Flush Wood
Door Hardware: Restroom Latchset

Walls Ceramic Tile

Floor: Ceramic Tile
Ceiling: Painted Gypsum Board
Millwork: None

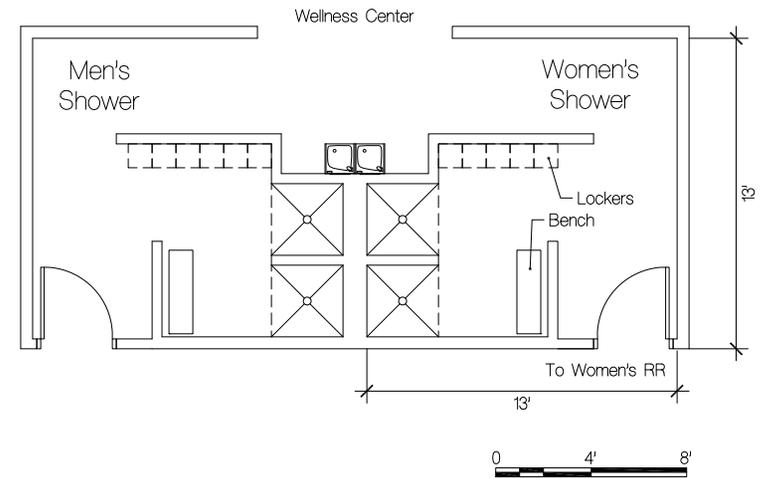
Acoustical Requirements: STC 50

ENGINEERING SYSTEMS
HVAC

Plumbing Accessible Shower

Lighting
Phone/Data Ports None
Special Requirements

FURNISHINGS/EQUIP. Lockers, wooden changing bench



Comments:

Room Name **2.07 Men's Public Restroom**

General Description: Restroom
Occupants: 3 Occupants
Desired SF Area: 225

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : None
Door Hardware: N/A

Walls Ceramic Tile

Floor: Ceramic Tile
Ceiling: Painted Gypsum Board
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

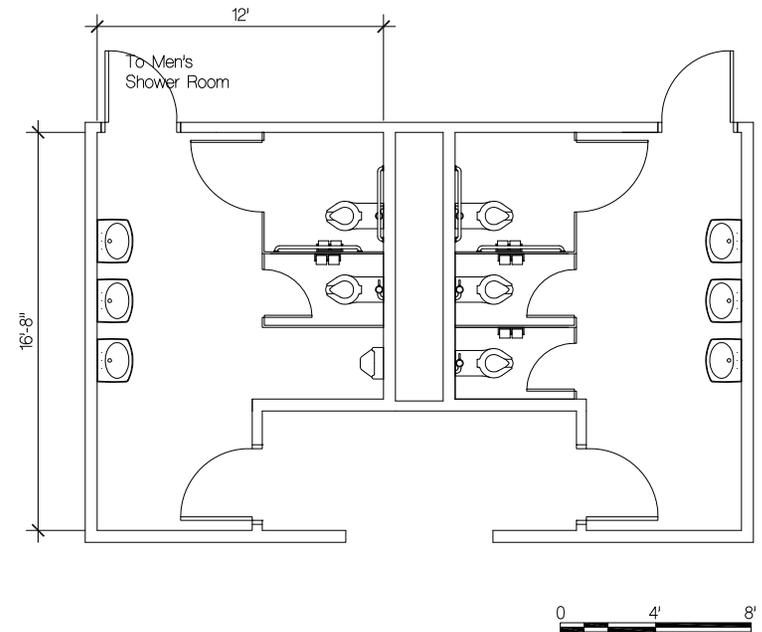
Plumbing Accessible Lavs and Toilets

Lighting Tamper Resistant

Phone/Data Ports None

Special Requirements GFCI Circuit

FURNISHINGS/EQUIP. Safebar Grab Bars, Reliable XL-INST Breakaway sprinkler Heads



Comments:



Room Name

2.08 Women's Public Restroom

General Description: Restroom
Occupants: 3 Occupants
Desired SF Area: 225

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : None
Door Hardware: N/A

Walls Ceramic Tile

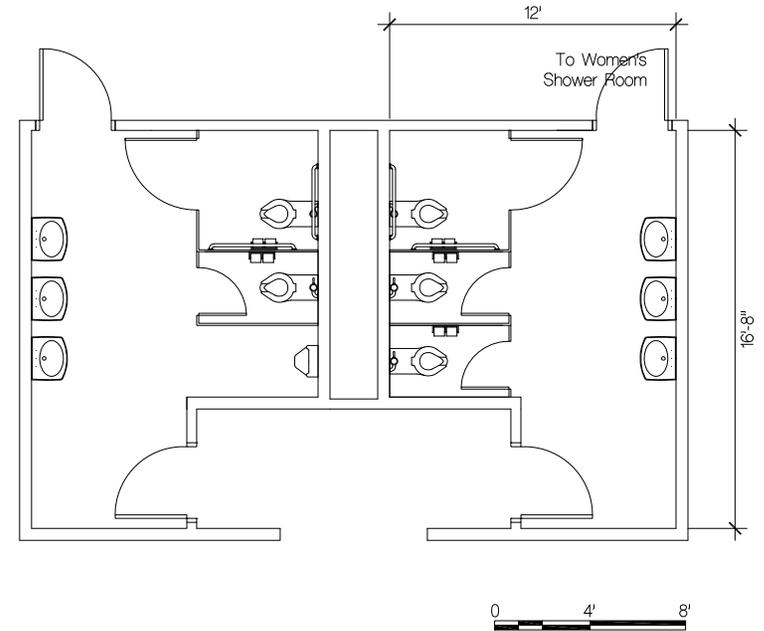
Floor: Ceramic Tile
Ceiling: Painted Gypsum Board
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)
Plumbing Accessible Lavs and Toilets
Lighting Tamper Resistant
Phone/Data Ports None
Special Requirements GFCI Circuit

FURNISHINGS/EQUIP. Safebar Grab Bars, Reliable XL-INST Breakaway sprinkler Heads



Comments:

Room Name

2.09 Crafts Room

General Description: Group Activity
Occupants: 25 Occupants
Desired SF Area: 400

ARCHITECTURAL

Windows : 6" maximum opening 1" insulated with 1/4" inboard laminated
Window Covering: Flame retardant breathable window fabric on flush mounted Aluminum curtain track

Doors : Flush wood glazed
Door Hardware: Sargent 114 Push/Pull

Walls Impact resistant gypsum board

Floor: Carpet with rubber base. VCT at sink.
Ceiling: Gypsum board
Millwork: Upper and lower cabinets with p-lam counter top

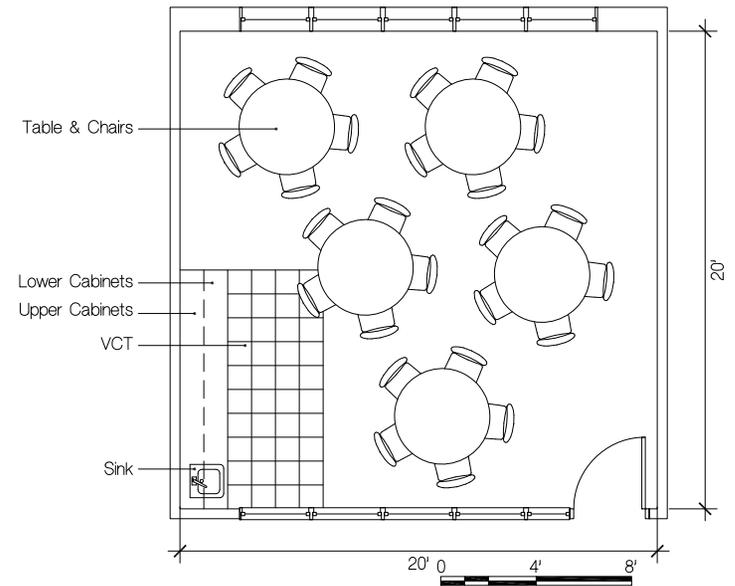
Acoustical Requirements: STC 40

ENGINEERING SYSTEMS

HVAC Individual Temperature Control

Plumbing Sink
Lighting Recessed Fluorescent troffers
Phone/Data Ports None
Special Requirements Tamper resistant GFCI

FURNISHINGS/EQUIP. Tables, chairs



Comments:

Room Name

2.31 Operations Office

General Description:

Office

Occupants:

1 Occupant + 2 visitors

Desired SF Area:

120

ARCHITECTURAL

Windows :

1" insulated

Window Covering:

Horizontal louver blinds

Doors :

Flush wood glazed

Door Hardware:

Office Latchset

Walls

Painted gypsum board on metal studs

Floor:

Carpet with rubber base

Ceiling:

Acoustical Tile

Millwork:

None

Acoustical Requirements:

STC 40

ENGINEERING SYSTEMS

HVAC

Individual temp control

Plumbing

None

Lighting

Direct/Indirect linear pendants

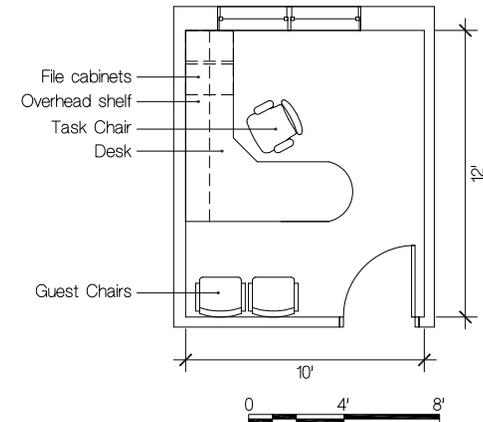
Phone/Data Ports

coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP.

Desk w/ overhead book shelves, task chair, two guest chairs



Comments:

Power and data need to be provided in staff area somewhere in the Operations suite for a Time clock.

Room Name **2.32 Purchasing Office**

General Description: Office
Occupants: 1 Occupant
Desired SF Area: 100

ARCHITECTURAL

Windows : 1" insulated
Window Covering: Horizontal louver blinds

Doors : Flush wood glazed
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: STC 40

ENGINEERING SYSTEMS

HVAC Individual temp control

Plumbing None

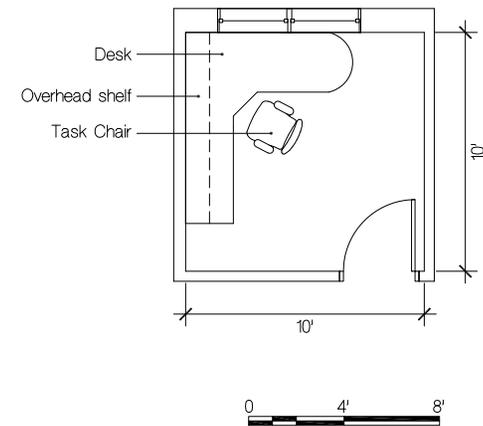
Lighting Direct/Indirect linear pendants
Phone/Data Ports coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP.

Desk w/ overhead book shelves, task chair, Bookcase, 4 drawer file cabinet
Printer/Fax (by owner)

Comments:



Room Name

2.33 Receiving

General Description:

Storage/workroom

Occupants:

Not normally occupied

Desired SF Area:

300

ARCHITECTURAL

Windows :

none

Window Covering:

n/a

Doors :

Hollow Metal, Insulated Hollow Metal, and Insulated overhead.

Door Hardware:

Entrance Latchset

Walls

Painted Impact Resistant gypsum board on metal studs

Floor:

Sealed Concrete

Ceiling:

Exposed structure

Millwork:

42" worksurface with overhead open shelving

Acoustical Requirements:

STC 40

ENGINEERING SYSTEMS

HVAC

Plumbing

None

Lighting

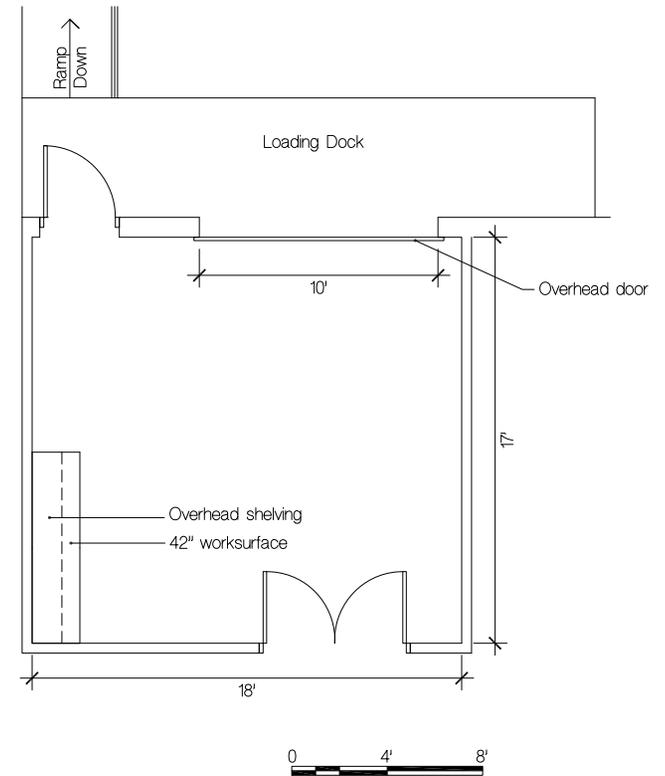
industrial fluorescent

Phone/Data Ports

power and data above worksurface

Special Requirements

FURNISHINGS/EQUIP.



Comments:

Pallet access to kitchen storage.

Room Name

General Description:
Occupants:
Desired SF Area:

2.34 Loading Dock

Exterior Slab on Grade
Not normally occupied
120

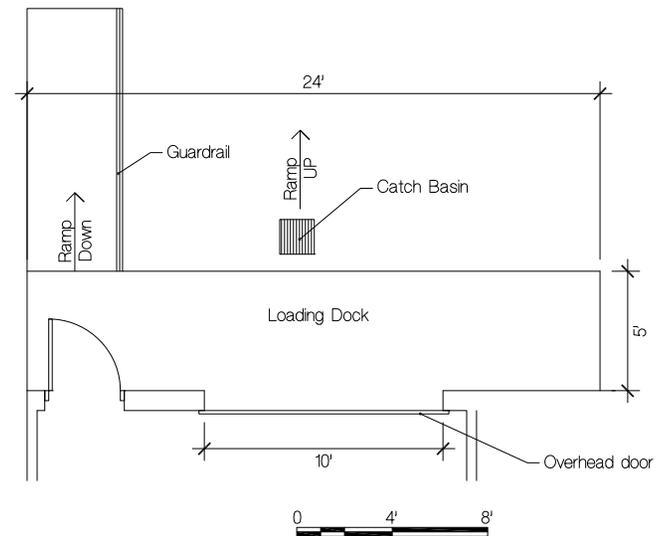
ARCHITECTURAL

Floor: Concrete
Ceiling: Suspended corrugated metal

ENGINEERING SYSTEMS

Plumbing: Pressure washing equipment
Lighting: Exterior recessed fluorescent
Fire Sprinkler: yes, Dry pipe
Special Requirements:

FURNISHINGS/EQUIP.



Comments:

Room Name

2.35 Oxygen Storage

General Description:

Storage

Occupants:

Not normally occupied

Desired SF Area:

80

ARCHITECTURAL

Windows :

none

Window Covering:

n/a

Doors :

Insulated Hollow Metal

Door Hardware:

Storage Latchset

Walls

Painted Impact Resistant gypsum board on metal studs

Floor:

Sealed Concrete

Ceiling:

Exposed structure

Millwork:

none

Acoustical Requirements:

None

ENGINEERING SYSTEMS

HVAC

Exterior louvered venting as required.

Plumbing

None

Lighting

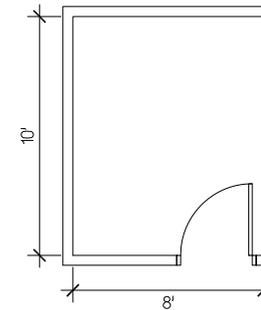
industrial fluorescent

Phone/Data Ports

Special Requirements

FURNISHINGS/EQUIP.

Comments:



Room Name **2.36 Central Storage**

General Description: Storage
Occupants: Not normally occupied
Desired SF Area: 400

ARCHITECTURAL

Windows : none
Window Covering: n/a

Doors : Hollow Metal, Insulated Hollow Metal, and Insulated overhead.
Door Hardware: Storage Latchset

Walls Painted gypsum board on metal studs

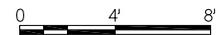
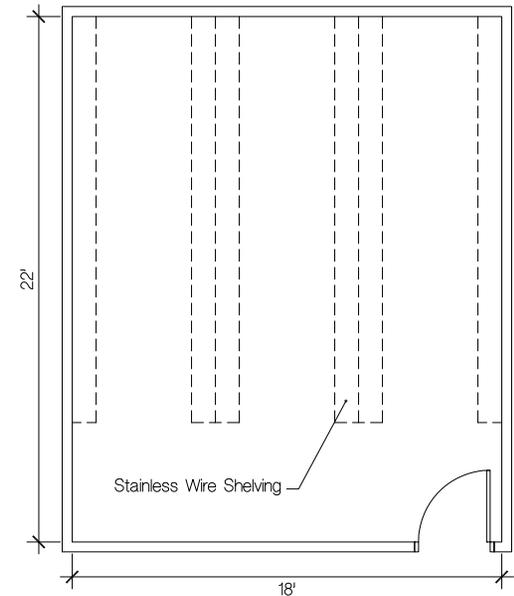
Floor: Sealed Concrete
Ceiling: Exposed structure
Millwork:

Acoustical Requirements: None

ENGINEERING SYSTEMS
HVAC

Plumbing None
Lighting industrial fluorescent
Phone/Data Ports power and data above worksurface
Special Requirements Area for Pneumatic tube system.

FURNISHINGS/EQUIP. Stainless Steel Wire mesh shelving



Comments:

Room Name **2.37 Housekeeping Storage**

General Description: Storage
Occupants: Not normally occupied
Desired SF Area: 400

ARCHITECTURAL

Windows : none
Window Covering: n/a

Doors : Hollow Metal, Insulated Hollow Metal, and Insulated overhead.
Door Hardware: Storage Latchset

Walls Painted gypsum board on metal studs

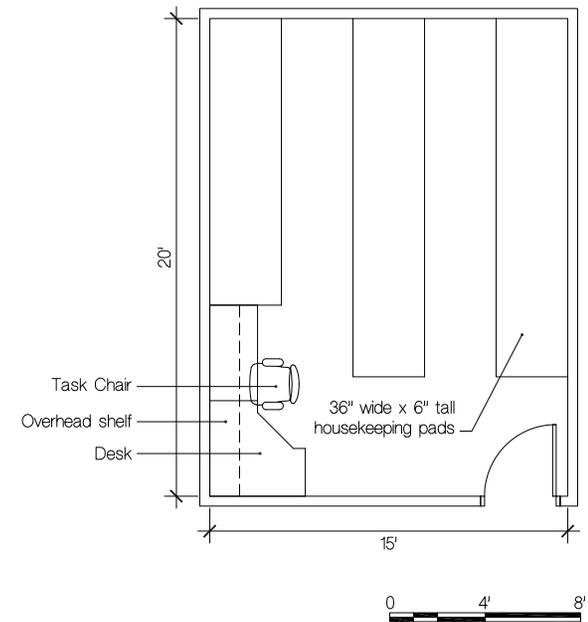
Floor: Sealed Concrete
Ceiling: Exposed structure
Millwork:

Acoustical Requirements: None

ENGINEERING SYSTEMS
HVAC

Plumbing None
Lighting industrial fluorescent
Phone/Data Ports power and data above worksurface
Special Requirements

FURNISHINGS/EQUIP. Stainless Steel Wire mesh shelving



Comments:

Room Name **2.38 Dirty Equipment**

General Description: Storage
Occupants: Not normally occupied
Desired SF Area: 50

ARCHITECTURAL

Windows : none
Window Covering: n/a

Doors : Flush Wood
Door Hardware: Storage Latchset

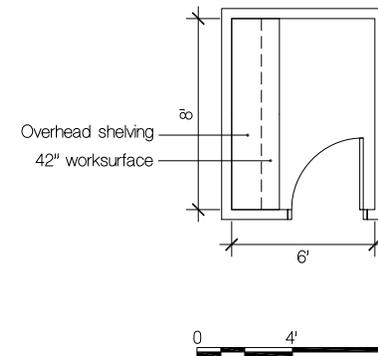
Walls Painted gypsum board on metal studs

Floor: VCT
Ceiling: Acoustical Tile
Millwork:

Acoustical Requirements: STC 40
ENGINEERING SYSTEMS
HVAC

Plumbing None
Lighting Industrial fluorescents
Phone/Data Ports
Special Requirements Plugmold above work surface.

FURNISHINGS/EQUIP.



Comments:

Room Name **2.39 Clean Equipment**

General Description: Storage
Occupants: Not normally occupied
Desired SF Area: 50

ARCHITECTURAL

Windows : none
Window Covering: n/a

Doors : Flush Wood
Door Hardware: Storage Latchset

Walls Painted gypsum board on metal studs

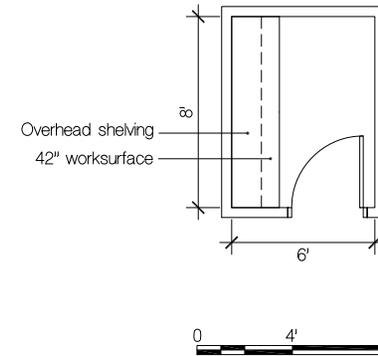
Floor: VCT
Ceiling: Acoustical Tile
Millwork: Work surface at 42" with 18" shelving above.

Acoustical Requirements: STC 40

ENGINEERING SYSTEMS
HVAC

Plumbing None
Lighting Industrial fluorescent
Phone/Data Ports Plugmold above work surface
Special Requirements

FURNISHINGS/EQUIP.



Comments:

Room Name **2.40 Maintenance Workroom**

General Description: Utility and office
Occupants: 3 occupants
Desired SF Area: 300

ARCHITECTURAL

Windows : not required
Window Covering: n/a

Doors : 6'-0" flush wood
Door Hardware: Office Latchset

Walls Painted Impact Resistant gypsum board on metal studs

Floor: Sealed Concrete
Ceiling: Open to structure

Millwork:

Acoustical Requirements: STC 50

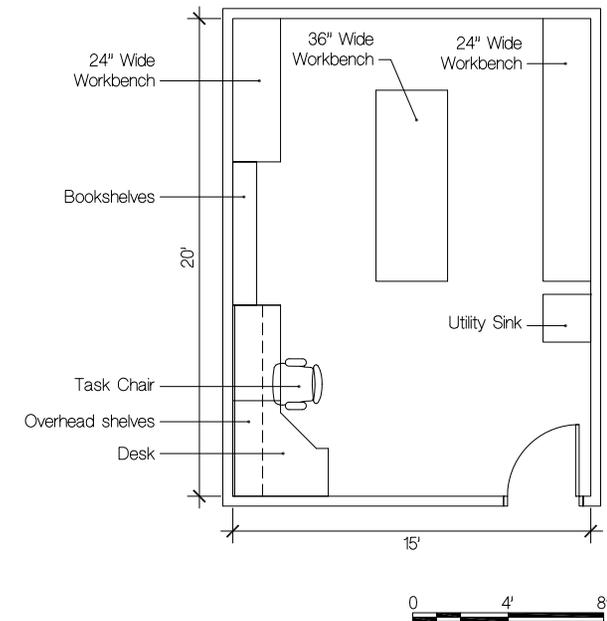
ENGINEERING SYSTEMS
HVAC

Plumbing Utility sink
Lighting industrial fluorescent

Phone/Data Ports

Special Requirements Plugmold above work surfaces and overhead box over central workbench.

FURNISHINGS/EQUIP. 24" and 36" work benches, bookshelves, task chair and desk.



Comments:

Room Name

2.41 Forms Workroom

General Description: Utility/Storage
Occupants: 1 occupant
Desired SF Area: 150

ARCHITECTURAL

Windows : not required
Window Covering: n/a

Doors : flush wood
Door Hardware: Storage Latchset

Walls Painted gypsum board on metal studs

Floor: VCT

Ceiling: Acoustical Tile

Millwork: Lower and upper cabinets and P-lam worksurface

Acoustical Requirements: STC 40

ENGINEERING SYSTEMS
HVAC

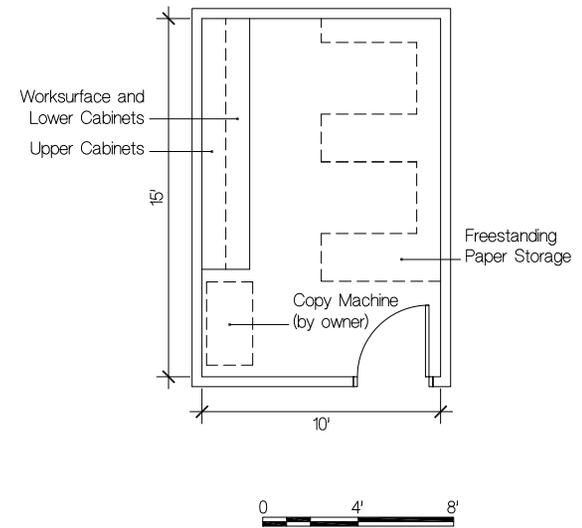
Plumbing none

Lighting industrial fluorescent

Phone/Data Ports

Special Requirements Plugmold above work surface.

FURNISHINGS/EQUIP. Copy machine (by owner), Paper storage shelving



Comments:

Room Name **2.42 Equipment/Fuel Storage**

General Description: Storage
Occupants: Not normally occupied
Desired SF Area: 64

ARCHITECTURAL

Windows : none
Window Covering: n/a

Doors : 6'-0" hollow metal
Door Hardware: Storage Latchset

Walls

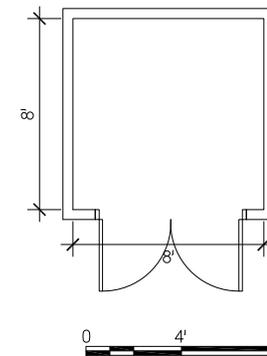
Floor: Sealed Concrete
Ceiling: Open to structure
Millwork:

Acoustical Requirements: None

ENGINEERING SYSTEMS
HVAC

Plumbing None
Lighting industrial fluorescent
Phone/Data Ports
Special Requirements Fire rated

FURNISHINGS/EQUIP.



Comments:

Room Name

3.00 Patient Room A

General Description:

Sleeping quarters

Occupants:

1 occupant

Desired SF Area:

160

ARCHITECTURAL

Windows :

6" maximum opening 1" insulated with 1/4" inboard laminated

Window Covering:

Flame retardant breathable window fabric on flush mounted aluminum curtain track

Doors :

Total Door w/ Emergency Release Hinge

Door Hardware:

External push plate and M33 inside pull handle
Emergency Release Hinge
Pressure sensitive strip at top of door

Walls

Painted Impact resistant gypsum board on metal studs

Floor:

Carpet w/carpet base.

Ceiling:

Suspended Gypsum Board (painted)

Millwork:

None

Acoustical Requirements:

STC 50

ENGINEERING SYSTEMS

HVAC

Individual Temperature Controls, Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

Plumbing

None

Electrical

Tamper proof outlets on each room on GFCI dedicated circuits

Lighting

Tamper resistant

Phone/Data Ports

none

Special Requirements

Reliable XL-INST breakaway heads

N/A

FURNISHINGS/EQUIP.

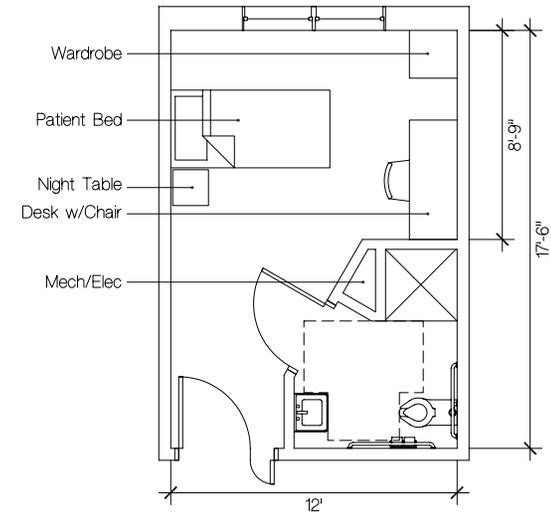
BED: NON-ADJUSTABLE WITHOUT WIRE SPRINGS OR STORAGE DRAWERS

CHAIR:

DESK:

WARDROBE: WOOD, THERMOPLASTIC OR COMPOSITE WITH OPEN SHELVING.

NO CABINET DOORS OR DRAWERS. (NORIX, ATTENDA SERIES)



Comments:

Room Name 3.01 Patient Restroom A

General Description: Restroom
Occupants: 1 Occupant
Desired SF Area: 50

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : Solid wood. Top and bottom to be 6" short with top edge sloped.
Door Hardware: N/A

Walls Epoxy painted impact resistant gypsum board on metal studs.
Solid sheet Corian.

Floor: Troweled epoxy w/ integral coved base.
Ceiling: Suspended Gypsum Board (Epoxy painted)
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

Plumbing Solid surface lavatory (Bradley lavatory express SS-1N)
Floor mounted toilet with
Recessed push button flush valve (Zurn ZH6142AV)
Thermostatically limited hot water
Institutional shower head (OBI SP7) w/ OBI shower valve

Electrical Tamper proof outlets (each room on GFCI dedicated circuits)

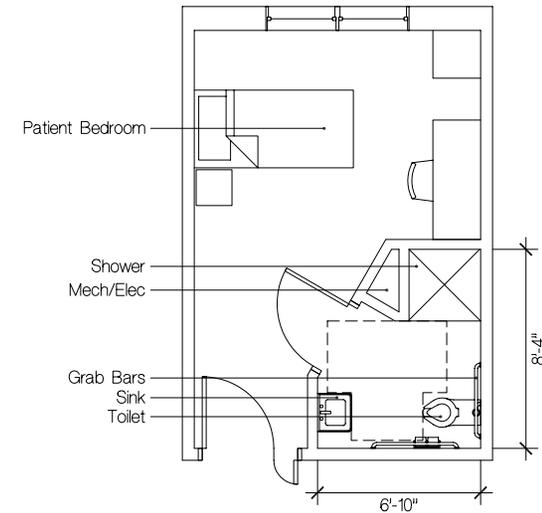
Lighting Tamper resistant

Phone/Data Ports none

Fire Sprinkler Reliable XL-INST breakaway heads

Special Requirements

FURNISHINGS/EQUIP. Recessed toilet paper holder (Norix ITP110)
Safebar grab bars
CLOSED GRAB BARS (IFP SAFEBAR)
POLY CARBONATE MIRROR
BREAK AWAY TOWEL HOOKS



Comments:

Room Name

3.02 Patient Room B

General Description:

Sleeping quarters

Occupants:

1 occupant

Desired SF Area:

170

ARCHITECTURAL

Windows :

6" maximum opening 1" insulated with 1/4" inboard laminated

Window Covering:

Flame retardant breathable window fabric on flush mounted vinyl curtain track

Doors :

Total Door w/ Emergency Release Hinge

Door Hardware:

External push plate and M33 inside pull handle
Emergency Release Hinge
Pressure sensitive strip at top of door

Walls

Painted Impact resistant gypsum board on metal studs

Floor:

Carpet w/carpet base.

Ceiling:

Suspended Gypsum Board (painted)

Millwork:

None

Acoustical Requirements:

STC 50

ENGINEERING SYSTEMS

HVAC

Individual Temperature Controls, Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

Plumbing

None

Electrical

Tamper proof outlets on each room on GFCI dedicated circuits

Lighting

Tamper resistant

Phone/Data Ports

none

Special Requirements

Reliable XL-INST breakaway sprinkler heads

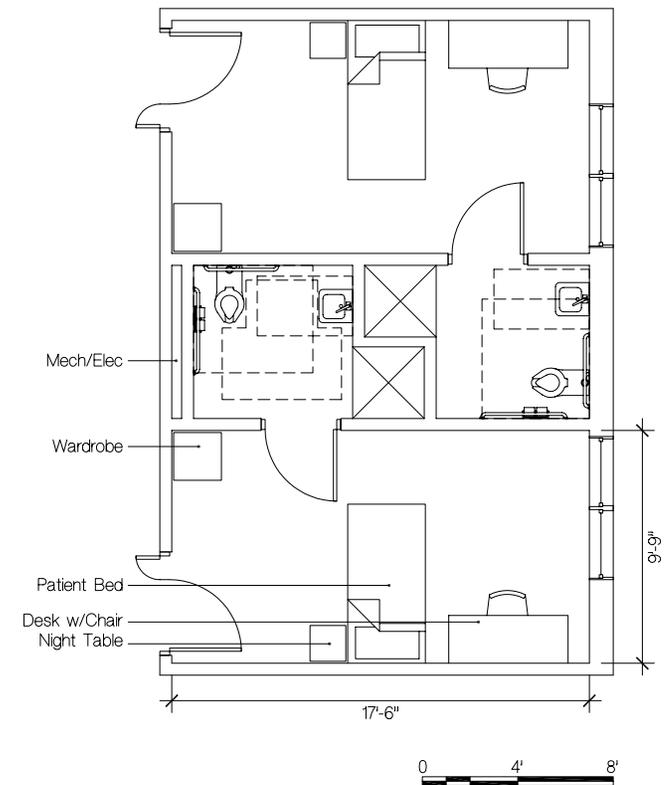
FURNISHINGS/EQUIP.

Bed: Non-adjustable without wire springs or storage drawers

Chair:

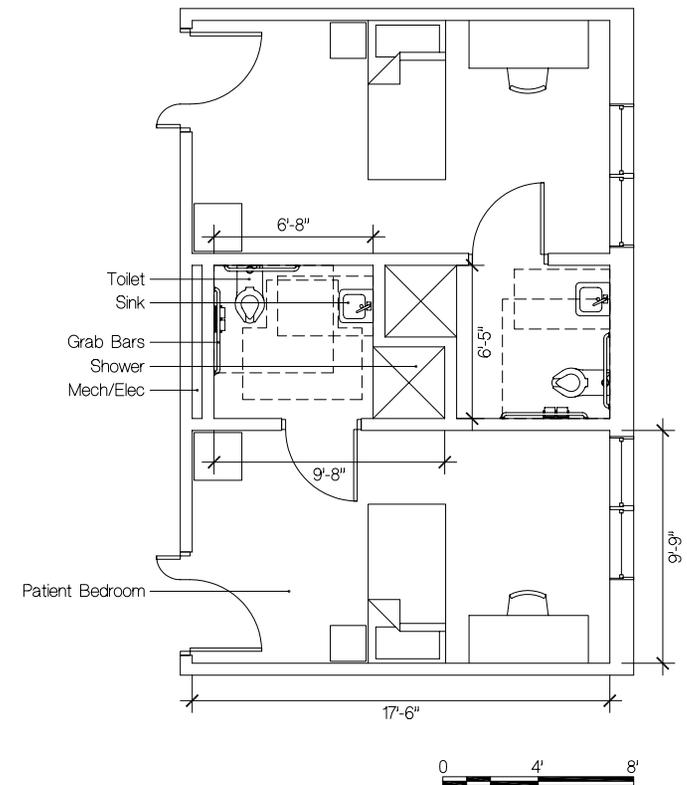
Desk:

Wardrobe: Wood, thermoplastic or composite with open shelving.
No cabinet doors or drawers. (Norix, Attenda series)



Comments:

Room Name	3.03 Patient Restroom B
General Description:	Restroom
Occupant:	1 Occupant
Desired SF Area:	55
ARCHITECTURAL	
Windows :	None
Window Covering:	N/A
Doors :	Solid wood. Top and bottom to be 6" short with top edge sloped.
Door Hardware:	N/A
Walls	Epoxy painted impact resistant gypsum board on metal studs. Solid sheet Corian.
Floor:	Troweled epoxy w/ integral coved base.
Ceiling:	Suspended Gypsum Board (Epoxy painted)
Millwork:	None
Acoustical Requirements:	STC 50
ENGINEERING SYSTEMS	
HVAC	Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)
Plumbing	Solid surface lavatory (Bradley lavatory express SS-1N) Floor mounted toilet with Recessed push button flush valve (Zurn ZH6142AV) Thermostatically limited hot water Institutional shower head (OBI SP7) w/ OBI shower valve
Electrical	Tamper proof outlets (each room on GFCI dedicated circuits)
Lighting	Tamper resistant
Phone/Data Ports	none
Fire Sprinkler	Reliable XL-INST breakaway heads
Special Requirements	
FURNISHINGS/EQUIP.	
	Recessed toilet paper holder (Norix ITP110) Safebar grab bars CLOSED GRAB BARS (IFP SAFEBAR) POLY CARBONATE MIRROR BREAK AWAY TOWEL HOOKS



Comments:

Room Name

General Description:

Occupants:

Desired SF Area:

3.04 Patient Room U

Sleeping quarters; Autistic Population

1 occupant 24 hrs/7days

160

ARCHITECTURAL

Windows :

Window Covering:

Doors :

Door Hardware:

Walls

Floor:

Ceiling:

Millwork:

Acoustical Requirements:

ENGINEERING SYSTEMS

HVAC

Plumbing

Electrical

Lighting

Phone/Data Ports

Special Requirements

6" maximum opening 1" insulated with 1/4" inboard laminated

Flame retardant breathable window fabric on flush mounted vinyl curtain track

Total Door w/ Emergency Release Hinge

External push plate and M33 inside pull handle

Emergency Release Hinge

Pressure sensitive strip at top of door

Painted Impact resistant gypsum board on metal studs

Carpet w/carpet base.

Suspended Gypsum Board (painted)

None

STC 50

Individual Temperature Controls, Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

None

Tamper proof outlets on each room on GFCI dedicated circuits

Tamper resistant

none

Reliable XL-INST breakaway sprinkler heads

FURNISHINGS/EQUIP.

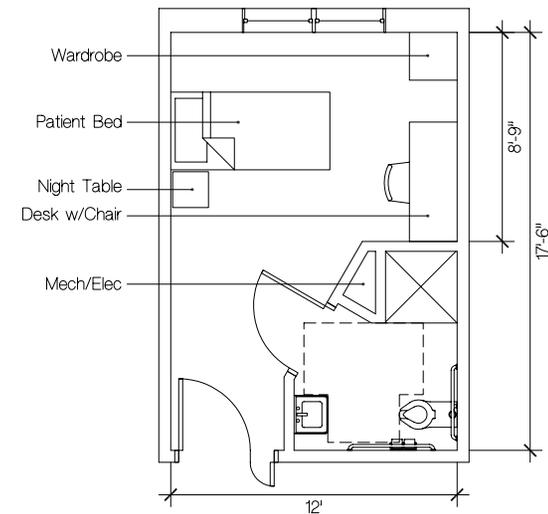
Bed: Non-adjustable without wire springs or storage drawers

Chair:

Desk:

Wardrobe: Wood, thermoplastic or composite with open shelving.

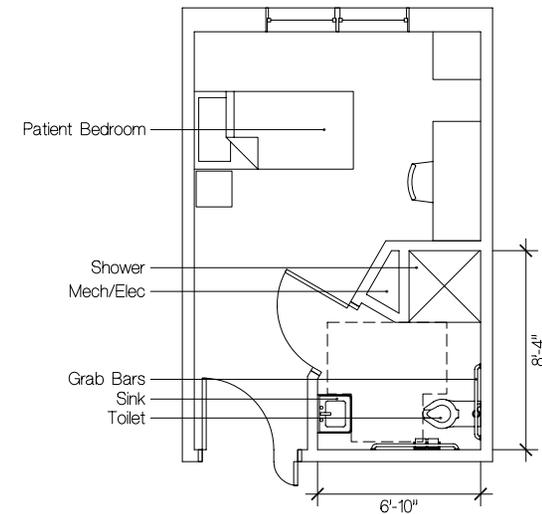
No cabinet doors or drawers. (Norix, Attenda series)



Comments:

Room Name **3.05 Patient Restroom U**

General Description:	Restroom; Autistic Population
Occupants:	1 Occupant
Desired SF Area:	50
ARCHITECTURAL	
Windows :	None
Window Covering:	N/A
Doors :	Flush wood
Door Hardware:	N/A
Walls	Epoxy painted impact resistant gypsum board on metal studs. Solid sheet Corian.
Floor:	Troweled epoxy w/ integral covered base.
Ceiling:	Suspended Gypsum Board (Epoxy painted)
Millwork:	None
Acoustical Requirements:	STC 50
ENGINEERING SYSTEMS	
HVAC	Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)
Plumbing	Solid surface lavatory (Bradley lavatory express SS-1N) Floor mounted toilet with Recessed push button flush valve (Zurn ZH6142AV) Thermostatically limited hot water Institutional shower head (OBI SP7) w/ OBI shower valve
Electrical	Tamper proof outlets (each room on GFCI dedicated circuits)
Lighting	Tamper resistant
Phone/Data Ports	none
Special Requirements	Reliable XL-INST breakaway sprinkler heads
FURNISHINGS/EQUIP.	
	Recessed toilet paper holder (Norix ITP110) Safebar grab bars CLOSED GRAB BARS (IFP SAFEBAR) POLY CARBONATE MIRROR BREAK AWAY TOWEL HOOKS



Comments:

Room Name

3.06 Patient Room V

General Description:

Sleeping quarters; VIP Population

Occupants:

1 occupant 24 hrs/7days

Desired SF Area:

160

ARCHITECTURAL

Windows :

6" maximum opening 1" insulated with 1/4" inboard laminated

Window Covering:

Flame retardant breathable window fabric on flush mounted vinyl curtain track

Doors :

Total Door w/ Emergency Release Hinge

Door Hardware:

External push plate and M33 inside pull handle
Emergency Release Hinge
Pressure sensitive strip at top of door

Walls

Painted Impact resistant gypsum board on metal studs

Floor:

Carpet w/carpet base.

Ceiling:

Suspended Gypsum Board (painted)

Millwork:

None

Acoustical Requirements:

STC 50

ENGINEERING SYSTEMS

HVAC

Individual Temperature Controls, Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

Plumbing

None

Electrical

Tamper proof outlets on each room on GFCI dedicated circuits

Lighting

Tamper resistant

Phone/Data Ports

none

Special Requirements

Reliable XL-INST breakaway sprinkler heads

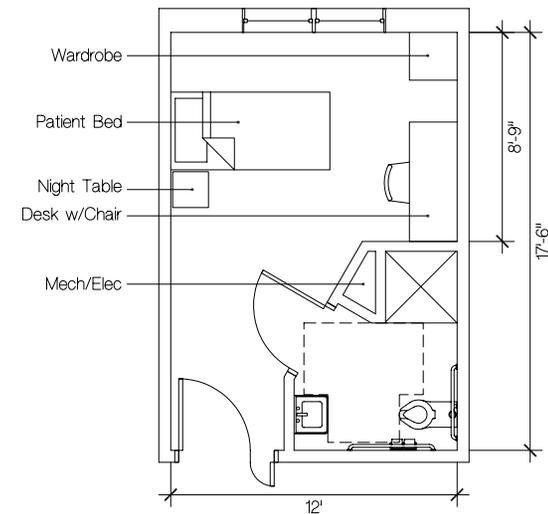
FURNISHINGS/EQUIP.

Bed: Non-adjustable without wire springs or storage drawers

Chair:

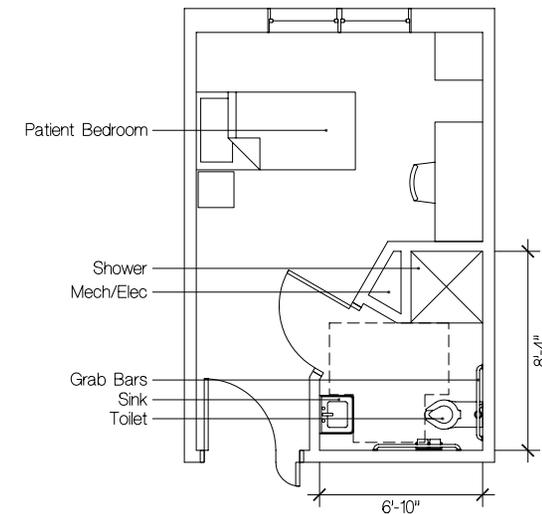
Desk:

Wardrobe: Wood, thermoplastic or composite with open shelving.
No cabinet doors or drawers. (Norix, Attenda series)



Comments:

Room Name	3.07 Patient Restroom V
General Description:	Restroom; VIP Population
Occupants:	1 Occupant
Desired SF Area:	50
ARCHITECTURAL	
Windows :	None
Window Covering:	N/A
Doors :	Flush wood
Door Hardware:	N/A
Walls	Epoxy painted impact resistant gypsum board on metal studs. Solid sheet Corian.
Floor:	Troweled epoxy w/ integral covered base.
Ceiling:	Suspended Gypsum Board (Epoxy painted)
Millwork:	None
Acoustical Requirements:	STC 50
ENGINEERING SYSTEMS	
HVAC	Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)
Plumbing	Solid surface lavatory (Bradley lavatory express SS-1N) Floor mounted toilet with Recessed push button flush valve (Zurn ZH6142AV) Thermostatically limited hot water Institutional shower head (OBI SP7) w/ OBI shower valve
Electrical	Tamper proof outlets (each room on GFCI dedicated circuits)
Lighting	Tamper resistant
Phone/Data Ports	none
Special Requirements	Reliable XL-INST breakaway sprinkler heads
FURNISHINGS/EQUIP.	Recessed toilet paper holder (Norix ITP110) Safebar grab bars CLOSED GRAB BARS (IFP SAFEBAR) POLY CARBONATE MIRROR BREAK AWAY TOWEL HOOKS



Comments:

Room Name

3.08 Time Out Room

General Description: Quiet room
Occupants: 1 occupant
Desired SF Area: 120

ARCHITECTURAL

Windows : 6" maximum opening 1" insulated with 1/4" inboard laminated
Window Covering: Flame retardant breathable window fabric on flush mounted aluminum curtain track
Doors : Removable Total Door
Door Hardware: External push plate and M33 inside pull handle
Emergency Release Hinge
Walls Painted Impact resistant gypsum board on metal studs

Floor: Sheet vinyl w/integral covered base
Ceiling: Suspended Gypsum Board (painted)
Millwork: None

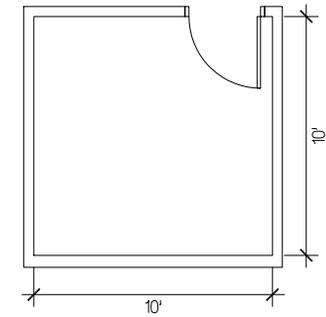
Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual Temperature Controls, Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)
Plumbing None
Lighting Tamper resistant
Phone/Data Ports none
Special Requirements Reliable XL-INST breakaway sprinkler heads

FURNISHINGS/EQUIP. N/A

Comments:



Room Name **3.09 Seclusion Room**

General Description: Isolation room
Occupants: 1 occupant
Desired SF Area: 90

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : Hollow Metal
Door Hardware: External push plate and M33 inside recessed pull
Emergency Release Hinge

Walls 6" CMU

Floor: Concrete
Ceiling: Suspended Gypsum Board (painted)
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual Temperature Controls, Grilles to be security type
None

Plumbing Tamper resistant

Lighting None

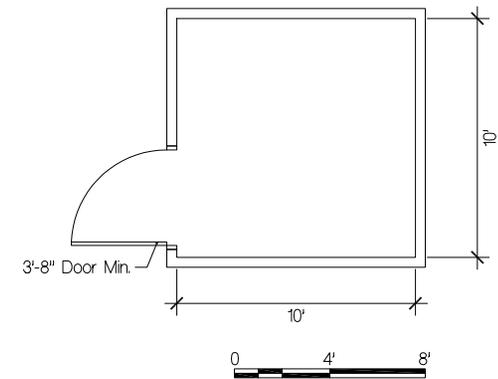
Phone/Data Ports Reliable XL-INST breakaway sprinkler heads

Special Requirements

N/A

FURNISHINGS/EQUIP.

-



Comments:

Room Name

3.10 Seclusion Ante Room

General Description:

Entrance to Seclusion Rooms

Occupants:

Not typically occupied

Desired SF Area:

50

ARCHITECTURAL

Windows :

None

Window Covering:

N/A

Doors :

Hollow Metal

Door Hardware:

Walls

Painted Impact resistant gypsum board on metal studs

Floor:

Carpet w/carpet base

Ceiling:

Suspended Gypsum Board (painted)

Millwork:

None

Acoustical Requirements:

STC 50

ENGINEERING SYSTEMS

HVAC

Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

Plumbing

None

Lighting

Tamper resistant

Phone/Data Ports

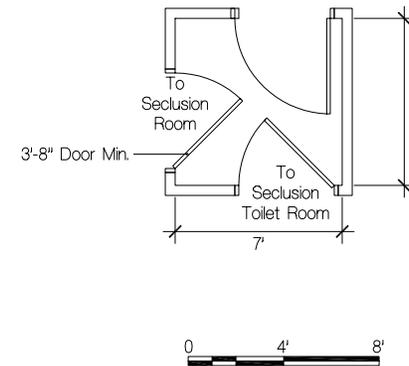
None

Special Requirements

Reliable XL-INST breakaway sprinkler heads

FURNISHINGS/EQUIP.

None



Comments:

Room Name **3.11 Seclusion Toilet Room**

General Description: Restroom
Occupants: 1 Occupant
Desired SF Area: 40

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : Hollow Metal
Door Hardware: N/A

Walls Epoxy painted impact resistant gypsum board on metal studs.
Solid sheet Corian.

Floor: Troweled epoxy w/ integral covered base.
Ceiling: Suspended Gypsum Board (Epoxy painted)
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Grilles to be security type

Plumbing Solid surface lavatory (Bradley lavatory express SS-1N)
Floor mounted toilet with
Recessed push button flush valve (Zurn ZH6142AV)
Thermostatically limited hot water

Electrical Tamper proof outlets (each room on GFCI dedicated circuits)

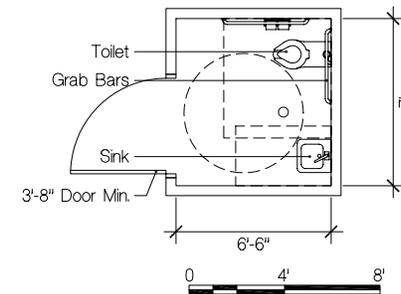
Lighting Tamper resistant

Phone/Data Ports none

Special Requirements Reliable XL-INST breakaway sprinkler heads

FURNISHINGS/EQUIP.

Recessed toilet paper holder (Norix ITP110)
Closed grab bars (IFP Safebar)
Poly carbonate mirror
Break away towel hooks



Comments:

Room Name

General Description:
Occupants:
Desired SF Area:

3.12 Day Room

Group Activity
16 Occupants
350

ARCHITECTURAL

Windows : 6" maximum opening 1" insulated with 1/4" inboard laminated
Window Covering: Flame retardant breathable window fabric on flush mounted vinyl curtain track

Doors : Flush wood glazed
Door Hardware: Sargent 114 Push/Pull

Walls Impact resistant gypsum board

Floor: carpet with carpet base
Ceiling: Gypsum board
Millwork: Upper and lower cabinets with p-lam counter top

Acoustical Requirements: STC 50

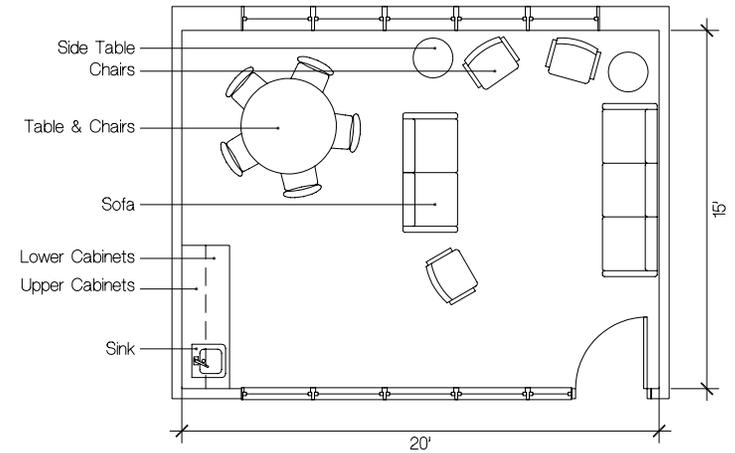
ENGINEERING SYSTEMS
HVAC

Individual Temperature Control

Plumbing Sink
Lighting Tamper resistant GFCI
Phone/Data Ports Recessed Fluorescent troffers
Special Requirements None

FURNISHINGS/EQUIP.

Tables, chairs, sofas, wall mount flat screen TV



Comments:

Room Name

3.13 Large Group Room

General Description: Group Activity
Occupants: 30 Occupants
Desired SF Area: 300

ARCHITECTURAL

Windows : 6" maximum opening 1" insulated with 1/4" inboard laminated
Window Covering: Flame retardant breathable window fabric on flush mounted vinyl curtain track

Doors : Flush wood glazed
Door Hardware: Sargent 114 Push/Pull

Walls Impact resistant gypsum board

Floor: carpet with carpet base
Ceiling: Gypsum board
Millwork: Storage cabinets

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual Temperature Control

Plumbing None

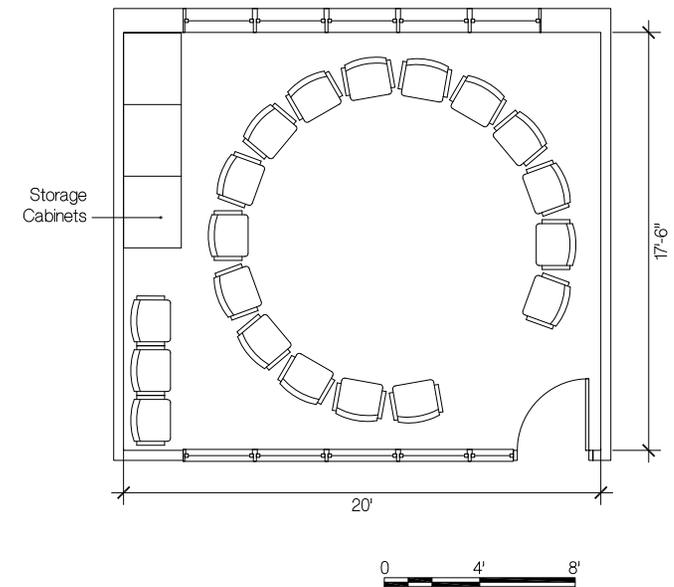
Lighting Tamper resistant GFCI

Phone/Data Ports Recessed Fluorescent troffers

Special Requirements None

FURNISHINGS/EQUIP.

Chairs, wall mount flat screen TV



Comments:

Room Name

General Description:
Occupants:
Desired SF Area:

3.14 Small Group Room

Group Activity
10 Occupants
250

ARCHITECTURAL

Windows :
Window Covering:

6" maximum opening 1" insulated with 1/4" inboard laminated
Flame retardant breathable window fabric on flush mounted vinyl curtain track

Doors :
Door Hardware:

Flush wood glazed
Sargent 114 Push/Pull

Walls

Impact resistant gypsum board

Floor:
Ceiling:
Millwork:

carpet with carpet base
Gypsum board
None

Acoustical Requirements:
ENGINEERING SYSTEMS
HVAC

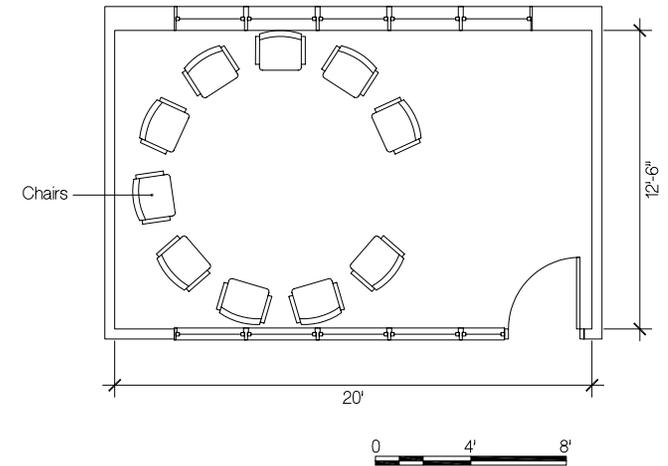
STC 50
Individual Temperature Control

Plumbing
Lighting
Phone/Data Ports
Special Requirements

Tamper resistant GFCI
Recessed Fluorescent troffers
None

FURNISHINGS/EQUIP.

Chairs



Comments:

Room Name

3.15 Special Population Day Room

General Description: Group Activity
 Occupants: 10 Occupants
 Desired SF Area: 250

ARCHITECTURAL

Windows : 6" maximum opening 1" insulated with 1/4" inboard laminated
 Window Covering: Flame retardant breathable window fabric on flush mounted vinyl curtain track

Doors : Flush wood glazed
 Door Hardware: Sargent 114 Push/Pull

Walls Impact resistant gypsum board

Floor: carpet with carpet base
 Ceiling: Gypsum board
 Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

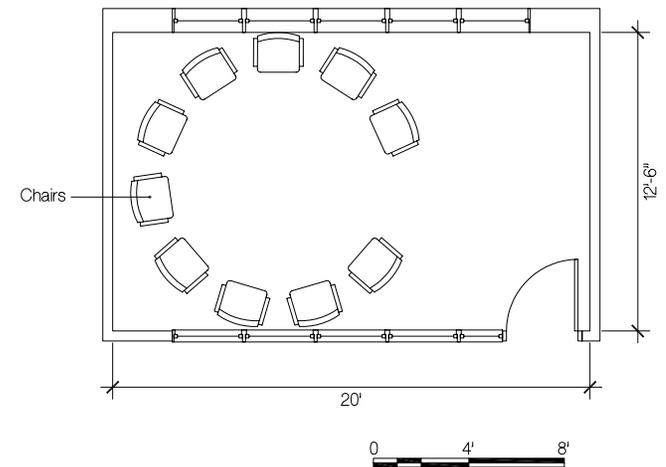
HVAC Individual Temperature Control

Plumbing

Electrical Tamper resistant GFCI
 Lighting Recessed Fluorescent troffers
 Phone/Data Ports None

Special Requirements

FURNISHINGS/EQUIP. Chairs



Comments:

Room Name

3.16 Large Interview Room

General Description: Group Activity
Occupants: 8 Occupants
Desired SF Area: 200

ARCHITECTURAL

Windows : 6" maximum opening 1" insulated with 1/4" inboard laminated
Window Covering: Flame retardant breathable window fabric on flush mounted vinyl curtain track
Doors : Flush wood.
Door Hardware: Sargent 114 Push/Pull

Walls Impact resistant gypsum board

Floor: carpet with carpet base
Ceiling: Gypsum board
Millwork: Upper and lower cabinets with p-lam counter top

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual Temperature Control

Plumbing None

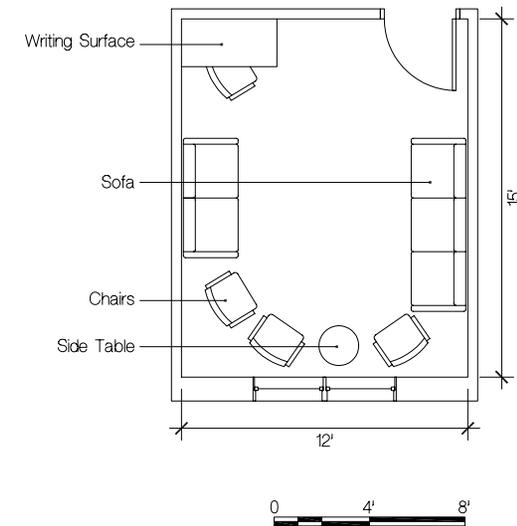
Electrical Tamper resistant GFCI

Lighting Recessed Fluorescent troffers

Phone/Data Ports None

Special Requirements

FURNISHINGS/EQUIP. Tables, chairs, sofas



Comments:

Room Name

3.17 Small Interview Room

General Description: Group Activity
Occupants: 5 Occupants
Desired SF Area: 100

ARCHITECTURAL

Windows : 6" maximum opening 1" insulated with 1/4" inboard laminated
Window Covering: Flame retardant breathable window fabric on flush mounted vinyl curtain track
Doors : Flush wood glazed
Door Hardware: Sargent 114 Push/Pull

Walls Impact resistant gypsum board

Floor: carpet with carpet base
Ceiling: Gypsum board
Millwork: None

Acoustical Requirements: STC 50

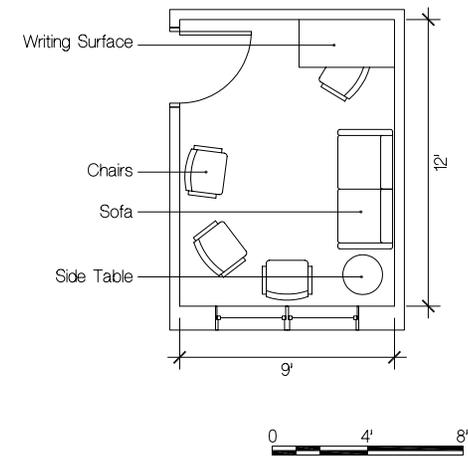
ENGINEERING SYSTEMS

HVAC Individual Temperature Control

Plumbing

Electrical Tamper resistant GFCI
Lighting Recessed Fluorescent troffers
Phone/Data Ports None
Special Requirements

FURNISHINGS/EQUIP. Chairs



Comments:

Room Name **3.20 Nurse Desk**

General Description: Administration
Occupants: 3 Occupants
Desired SF Area: 200

ARCHITECTURAL

Windows : none
Window Covering: N/A

Doors : None
Door Hardware: N/A

Walls Impact resistant gypsum board

Floor: carpet with carpet base
Ceiling: Acoustical Tile
Millwork: P-lam Work surface with raised counter, Upper and lower cabinets behind

Acoustical Requirements: N/A

ENGINEERING SYSTEMS

HVAC Zoned with corridor

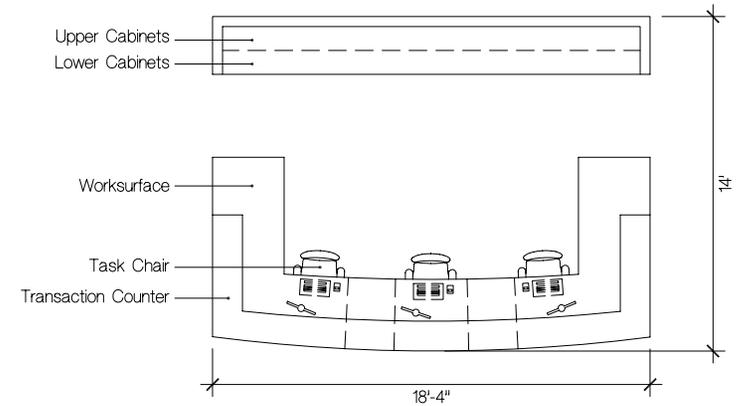
Plumbing None

Lighting Recessed Fluorescent troffers

Phone/Data Ports Power and data at workstations

Special Requirements

FURNISHINGS/EQUIP. Task Chairs



Comments:

Room Name **3.21 Nurse Work Office**

General Description: Administration
Occupants: 4 Occupants
Desired SF Area: 160

ARCHITECTURAL

Windows : 1" Insulated
Window Covering: Horizontal Louver blinds

Doors : Flush wood, glazed
Door Hardware: Office Latchset

Walls painted gypsum board

Floor: carpet with carpet base
Ceiling: Acoustical Tile
Millwork: P-lam Work surface

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual temp control

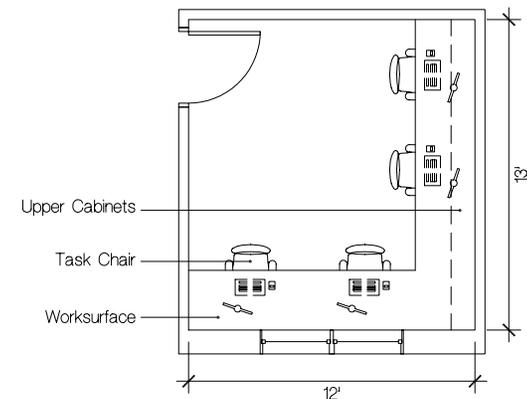
Plumbing None

Lighting Recessed Fluorescent troffers

Phone/Data Ports Power and data at workstations, dedicated power and data for copier.

Special Requirements

FURNISHINGS/EQUIP. Task Chairs, Copier (by owner)



Comments:

Room Name **3.22 Social Workers / Therapists Office**

General Description: Administration - Permanent Workstations
Occupants: 6 Occupants
Desired SF Area: 190

ARCHITECTURAL

Windows : 1" Insulated
Window Covering: Horizontal Louver blinds

Doors : Flush wood, glazed
Door Hardware: Office Latchset

Walls painted gypsum board

Floor: carpet with carpet base
Ceiling: Acoustical Tile
Millwork: P-lam Work surface

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual temp control

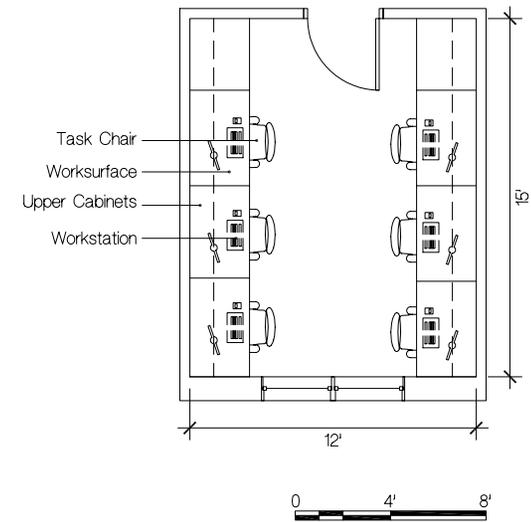
Plumbing None

Lighting Recessed Fluorescent troffers

Phone/Data Ports Power and data at workstations

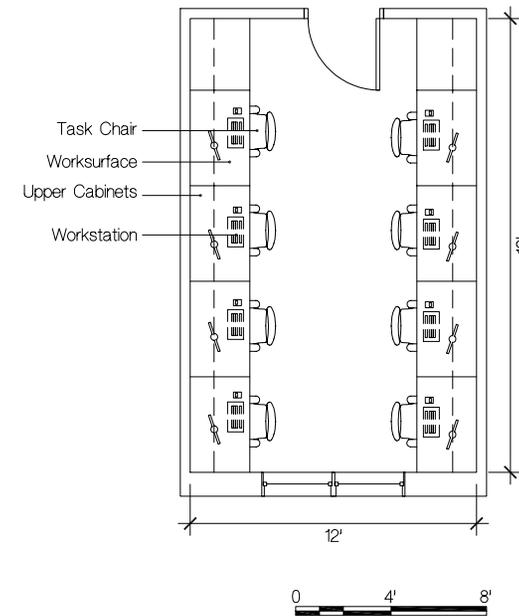
Special Requirements

FURNISHINGS/EQUIP. Task Chairs



Comments:

Room Name	3.23 Physicians Office
General Description:	Administration - Temporary Workstations
Occupants:	8 Occupants
Desired SF Area:	230
ARCHITECTURAL	
Windows :	1" Insulated
Window Covering:	Horizontal Louver blinds
Doors :	Flush wood, glazed
Door Hardware:	Office Latchset
Walls	painted gypsum board
Floor:	carpet with carpet base
Ceiling:	Acoustical Tile
Millwork:	P-lam Work surface
Acoustical Requirements:	STC 50
ENGINEERING SYSTEMS	
HVAC	Individual temp control
Plumbing	None
Lighting	Recessed Fluorescent troffers
Phone/Data Ports	Power and data at workstations
Special Requirements	
FURNISHINGS/EQUIP.	Task Chairs



Comments:

Room Name **3.24 Staff Coordination Room**

General Description: Small Staff Group Room
Occupants:
Desired SF Area: 150

ARCHITECTURAL

Windows : 1" insulated
Window Covering: Horizontal louver blinds

Doors : Flush wood glazed
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

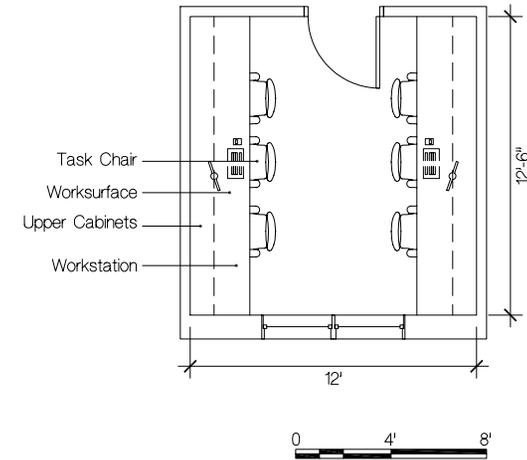
Acoustical Requirements: STC 40

ENGINEERING SYSTEMS
HVAC Individual temp control

Plumbing None
Lighting Direct/Indirect Fluorescent Troffers
Phone/Data Ports coordinate with furnishings plan
Special Requirements

FURNISHINGS/EQUIP. Desk w/ overhead book shelves, task chair, two guest chairs, Bookcase

Comments:



Room Name **3.25 Staff Restroom**

General Description: Restroom
Occupants: 1 Occupant
Desired SF Area: 50

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : Flush Wood
Door Hardware: Restroom Latchset

Walls Ceramic Tile

Floor: Ceramic Tile
Ceiling: Painted Gypsum Board
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

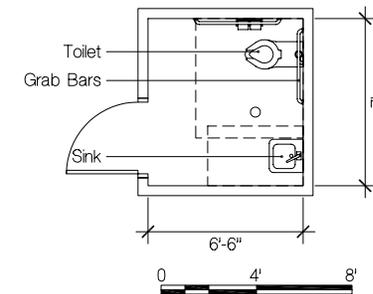
Plumbing Accessible Lav and Toilet

Lighting

Phone/Data Ports None

Special Requirements Recessed Toilet Paper Holder (Norix ITP110)
Safebar Grab Bars, Reliable XL-INST Breakaway sprinkler Heads

FURNISHINGS/EQUIP.



Comments:

Room Name

3.26 Med Room

General Description: Medical Storage and Medication Disbursement
 Occupants: 2
 Desired SF Area: 150

ARCHITECTURAL

Windows : Pass-thru
 Window Covering: N/A

Doors : Flush wood
 Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: VCT with rubber base
 Ceiling: Acoustical Tile
 Millwork: P-Lam work surface with upper and lower cabinets

Acoustical Requirements: None

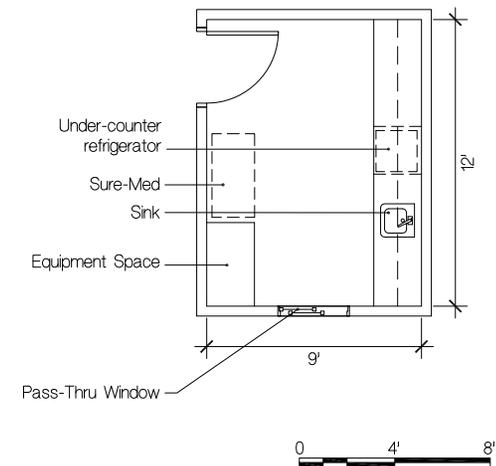
ENGINEERING SYSTEMS

HVAC Individual temp control

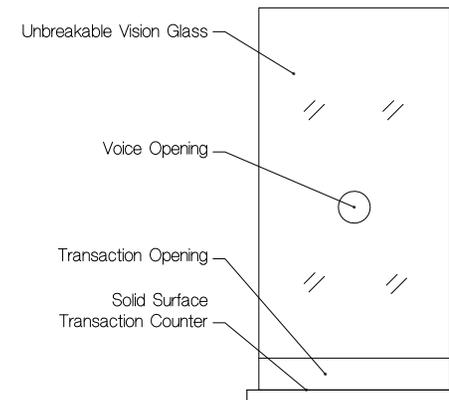
Plumbing Hand Sink
 Electrical Emergency power for Sure-Med, Refrigerator, and Computer
 Lighting Recessed fluorescent troffers
 Phone/Data Ports Data Port for Sure-Med, and Computer
 Special Requirements Coordinate equipment space for pneumatic tube delivery system.

FURNISHINGS/EQUIP.

Sure-Med Drug Dispenser (by owner)
 Under-counter Refrigerator (by owner)
 Computer (by owner)



Note: Verify I-2 Corridor Requirements



Transaction Window

Room Name **3.27 Staff Lounge / Break Room**

General Description: Staff
Occupants: 10 Occupants
Desired SF Area: 250

ARCHITECTURAL

Windows : 1" Insulated
Window Covering: Horizontal Louver blinds

Doors : Flush wood glazed
Door Hardware: Office Latchset

Walls Painted gypsum board

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: Upper and lower cabinets with p-lam counter top

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual temp control

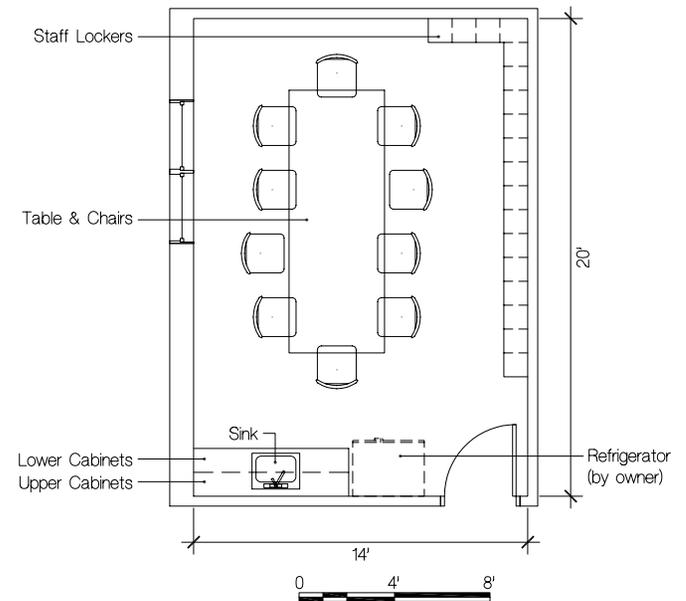
Plumbing Sink

Lighting Recessed Fluorescent troffers

Phone/Data Ports

Special Requirements

FURNISHINGS/EQUIP. Conference table and chairs, 40 Half-height lockers, Refrigerator (by owner)



Comments:

Room Name **3.28 Patient Belongings Area**

General Description: Staff
Occupants: Not normally occupied
Desired SF Area: 90

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : Flush wood
Door Hardware: Storeroom

Walls Painted gypsum board

Floor: VCT
Ceiling: Acoustical tile
Millwork: P-Lam cabinetry

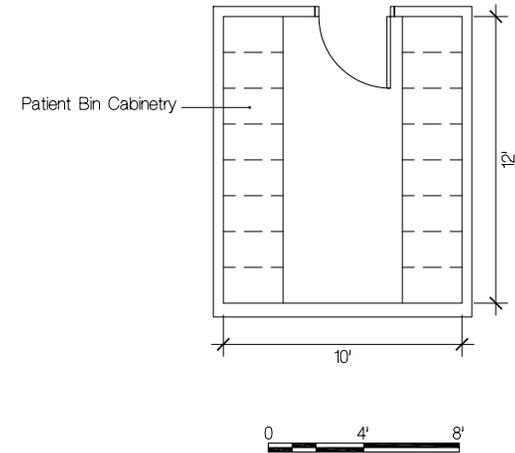
Acoustical Requirements: None

ENGINEERING SYSTEMS

HVAC Not required

Plumbing
Lighting Industrial fluorescent
Phone/Data Ports None
Special Requirements

FURNISHINGS/EQUIP.



Comments:

Room Name **3.29 Nurse Manager Office**

General Description: Staff
Occupants: 1 Occupant + 2 visitors
Desired SF Area: 120

ARCHITECTURAL

Windows : 1" insulated
Window Covering: Horizontal louver blinds

Doors : Flush wood glazed
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: STC 40

ENGINEERING SYSTEMS

HVAC Individual temp control

Plumbing None

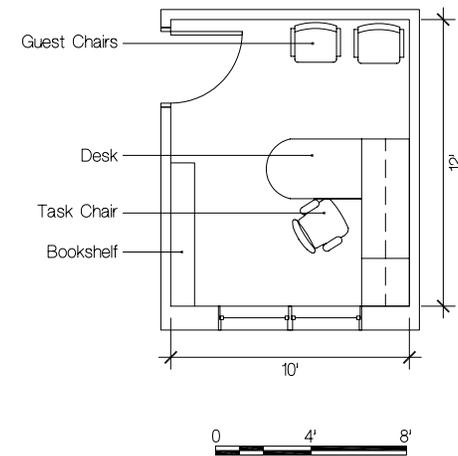
Lighting Direct/Indirect Fluorescent Troffers

Phone/Data Ports coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP. Desk w/ overhead book shelves, task chair, two guest chairs, Bookcase

Comments:



Room Name

General Description:

Occupants:

Desired SF Area:

3.30 Washer/Dryer Area

Service closet

Not normally occupied

40

ARCHITECTURAL

Windows :

none

Window Covering:

none

Doors :

Flush wood 54" pair

Door Hardware:

Store room function, sound seals

Walls

epoxy painted gypsum board

Floor:

VCT

Ceiling:

Gypsum board

Millwork:

none

Acoustical Requirements:

STC 50

ENGINEERING SYSTEMS

HVAC

Exhaust duct for dryer connection.

Plumbing

Hot & cold hook-ups, floor drain

Lighting

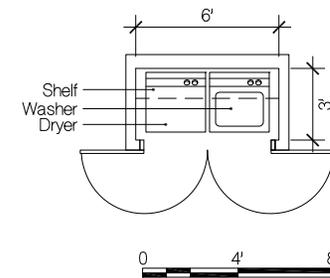
tamper resistant recessed fluorescent

Phone/Data Ports

none

Special Requirements

FURNISHINGS/EQUIP.



Comments:

Room Name

3.31 Dictation Room

General Description: Quiet Administration
Occupants: 4 Occupants
Desired SF Area: 150

ARCHITECTURAL

Windows : 1" insulated
Window Covering: Horizontal louver blinds

Doors : Flush wood glazed
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: P-Lam work surface with upper and lower cabinets

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual temp control

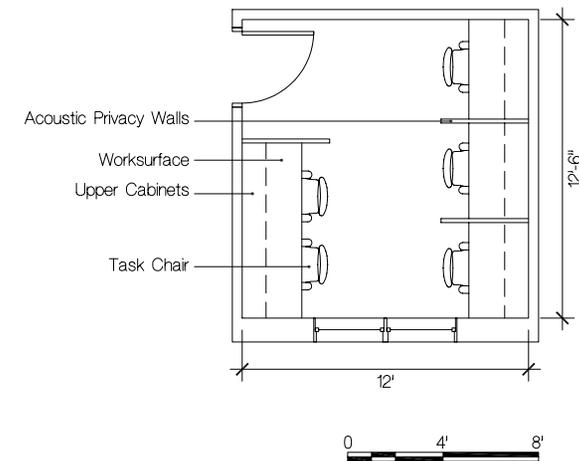
Plumbing None

Lighting Direct/Indirect Fluorescent Troffers

Phone/Data Ports coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP. Task chairs



Comments:

Room Name

3.32 Visitor Waiting Area

General Description: Waiting Area
Occupants: 10 Occupants
Desired SF Area: 260

ARCHITECTURAL

Windows : 1" insulated
Window Covering: Horizontal louver blinds

Doors : Flush wood glazed
Door Hardware:

Walls Painted gypsum board on metal studs

Floor: Carpet with carpet base
Ceiling: Acoustical Tile
Millwork: None

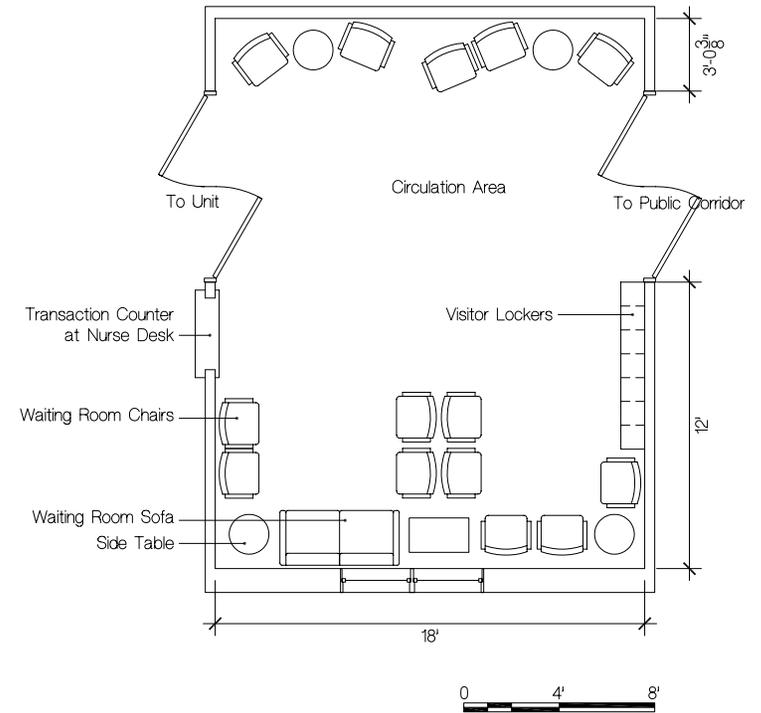
Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual temp control

Plumbing None
Lighting Direct/Indirect Fluorescent Troffers
Phone/Data Ports
Special Requirements

FURNISHINGS/EQUIP. Waiting room chairs and sidetables



Comments:

Room Name **3.40 Computer Lab**

General Description: Patient computer therapy
Occupants: 10 Occupants
Desired SF Area: 220

ARCHITECTURAL

Windows : 1" insulated
Window Covering: Flame retardant breathable window fabric on fuch mounted vinyl curtain track
Doors : Flush wood glazed
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with carpet base
Ceiling: Acoustical Tile
Millwork: P-Lam work surface

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual temp control

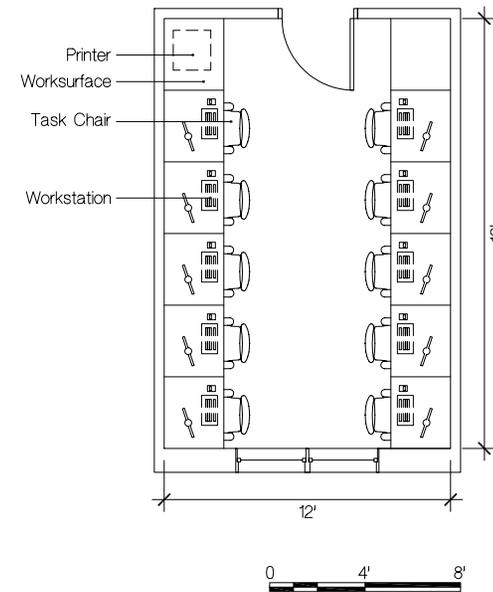
Plumbing None

Lighting Direct/Indirect Fluorescent Troffers

Phone/Data Ports coordinate with furnishings plan

Special Requirements

FURNISHINGS/EQUIP. Task chairs



Comments:



Room Name

3.41 Public Restroom

General Description:

Restroom

Occupants:

1 Occupant

Desired SF Area:

50

ARCHITECTURAL

Windows :

None

Window Covering:

N/A

Doors :

Flush Wood

Door Hardware:

Restroom Latchset

Walls

Ceramic Tile

Floor:

Ceramic Tile

Ceiling:

Painted Gypsum Board

Millwork:

None

Acoustical Requirements:

STC 50

ENGINEERING SYSTEMS

HVAC

Grilles to have small stamped perforations (Carnes; stamped, perforated diffuser)

Plumbing

Accessible Lav and Toilet

Lighting

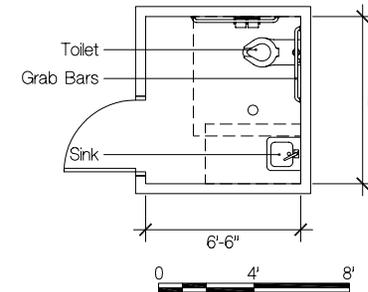
Phone/Data Ports

None

Special Requirements

Recessed Toilet Paper Holder (Norix ITP110)
Safebar Grab Bars, Reliable XL-INST Breakaway sprinkler Heads

FURNISHINGS/EQUIP.



Comments:

Room Name **3.42 Exam Room**

General Description: Medical
Occupants: 1 Occupant + 2 visitors
Desired SF Area: 120

ARCHITECTURAL

Windows : 1" insulated
Window Covering:

Doors : Flush wood
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: VCT with rubber base
Ceiling: Gypsum Board
Millwork: Lower and Upper cabinets

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual temp control

Plumbing Sink

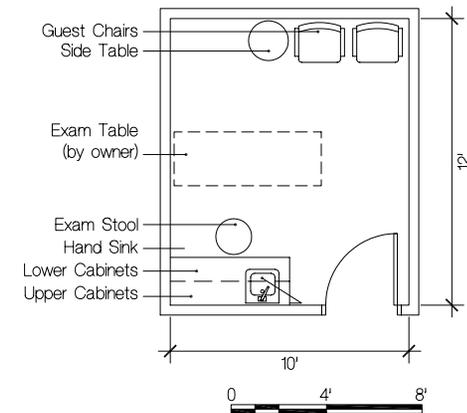
Lighting

Phone/Data Ports

Special Requirements coordinate with furnishings plan

FURNISHINGS/EQUIP.

two guest chairs, Exam stool, and Exam Table (by owner)



Comments:

Room Name

3.43 Staff Conference Room

General Description: Conference
Occupants: 12 Occupants
Desired SF Area: 280

ARCHITECTURAL

Windows : 1" insulated
Window Covering: Horizontal louver blinds

Doors : Flush wood glazed
Door Hardware: Office Latchset

Walls Painted gypsum board on metal studs

Floor: Carpet with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: STC 50

ENGINEERING SYSTEMS

HVAC Individual temp control

Plumbing None

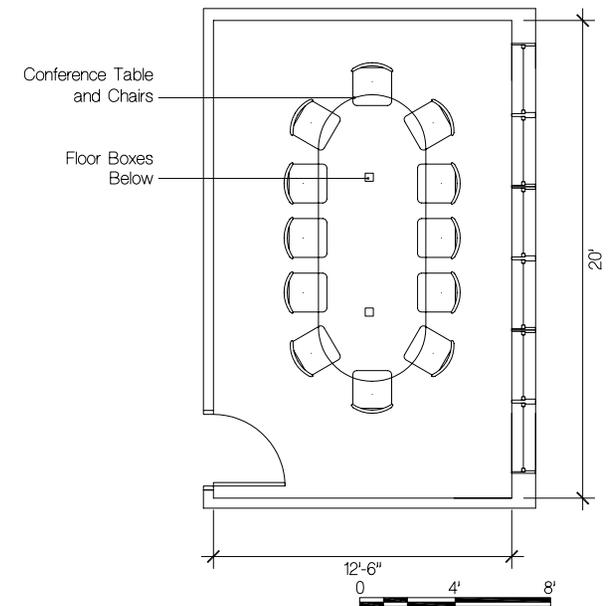
Lighting Direct/Indirect Fluorescent Troffers

Phone/Data Ports 3 floor boxes coordinate with furnishings plan

Special Requirements Room Scheduling Wizard

FURNISHINGS/EQUIP.

Large Conference Table and Chairs
Recessed Projection Screen, Whiteboard



Comments:

Room Name **3.44 Medical Storage**

General Description: Storage
Occupants: Not normally occupied
Desired SF Area: 120

ARCHITECTURAL

Windows : not required
Window Covering: N/A

Doors : Not required
Door Hardware: N/A

Walls Painted gypsum board on metal studs

Floor: VCT with rubber base
Ceiling: Acoustical Tile
Millwork: None

Acoustical Requirements: None

ENGINEERING SYSTEMS

HVAC Not required

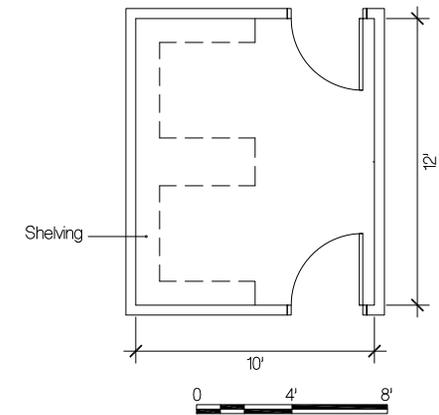
Plumbing None

Lighting Fluorescent troffers

Phone/Data Ports Not required

Special Requirements

FURNISHINGS/EQUIP.



Comments:



Room Name

3.45 Housekeeping Closet

General Description:

Service

Occupants:

Not normally occupied

Desired SF Area:

50

ARCHITECTURAL

Windows :

None

Window Covering:

N/A

Doors :

flush wood

Door Hardware:

Storeroom

Walls

Epoxy painted gypsum board

Floor:

VCT

Ceiling:

Acoustical Tile

Millwork:

None

Acoustical Requirements:

none

ENGINEERING SYSTEMS

HVAC

not required

Plumbing

Mop Sink

Lighting

Industrial fluorescent

Phone/Data Ports

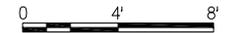
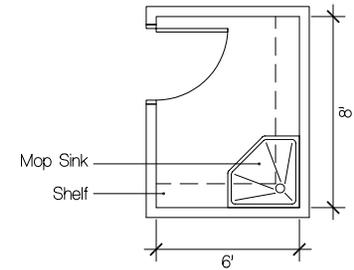
none

Special Requirements

FURNISHINGS/EQUIP.

SS mop shelf

Comments:



Room Name **3.46 Clean Linen Storage**

General Description: Service
Occupants: Not normally occupied
Desired SF Area: 70

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : flush wood
Door Hardware: Storeroom

Walls Painted gypsum board, 1hr rated

Floor: VCT
Ceiling: Acoustical Tile
Millwork: Wall-mount shelves

Acoustical Requirements: none

ENGINEERING SYSTEMS

HVAC not required

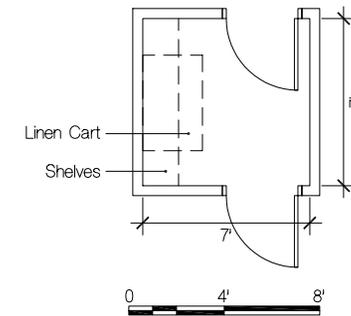
Plumbing

Lighting Industrial fluorescent

Phone/Data Ports none

Special Requirements

FURNISHINGS/EQUIP.



Comments:

Room Name

3.47 Dirty Linen Holding

General Description:

Service

Occupants:

Not normally occupied

Desired SF Area:

70

ARCHITECTURAL

Windows :

None

Window Covering:

N/A

Doors :

flush wood

Door Hardware:

Storeroom

Walls

Painted gypsum board, 1hr rated

Floor:

VCT

Ceiling:

Acoustical Tile

Millwork:

Wall-mount shelves

Acoustical Requirements:

none

ENGINEERING SYSTEMS

HVAC

not required

Plumbing

none

Lighting

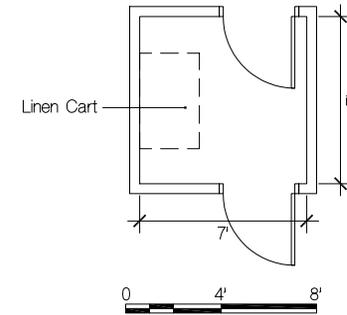
Industrial fluorescent

Phone/Data Ports

none

Special Requirements

FURNISHINGS/EQUIP.



Comments:

Room Name **3.48 Therapy Storage Closet**

General Description: Storage
Occupants: Not normally occupied
Desired SF Area: 100

ARCHITECTURAL

Windows : None
Window Covering: N/A

Doors : flush wood
Door Hardware: Storeroom

Walls Painted gypsum board

Floor: VCT
Ceiling: Acoustical Tile
Millwork: Wall-mount shelves

Acoustical Requirements: none

ENGINEERING SYSTEMS

HVAC not required

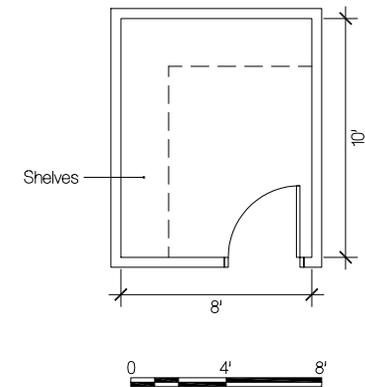
Plumbing

Lighting Industrial fluorescent

Phone/Data Ports none

Special Requirements

FURNISHINGS/EQUIP.



Comments:



Room Name

3.49 Shower Room

General Description:

Assisted Patient Bathing

Occupants:

1 Occupant + 3 visitors

Desired SF Area:

36

ARCHITECTURAL

Windows :

none

Window Covering:

Doors :

Flush wood

Door Hardware:

Storage Latchset

Walls

Ceramic Tile

Floor:

Ceramic Tile

Ceiling:

Gypsum Board

Millwork:

None

Acoustical Requirements:

STC 50

ENGINEERING SYSTEMS

HVAC

Shared with Hallway control

Plumbing

Shower

Lighting

Waterproof fixture

Phone/Data Ports

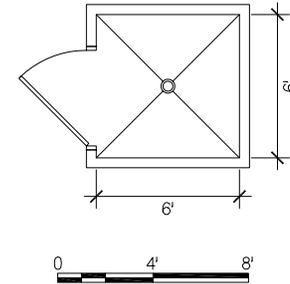
None

Special Requirements

FURNISHINGS/EQUIP.

Grab Bars

Comments:



6.0 COST ANALYSIS

6.1 Program Phase Cost Model	192
6.2 Furnishings Cost Estimate	197

6.1 Program Phase Cost Model

PROJECT ESTIMATE		CONSTRUCTION CONTROL CORPORATION		8/25/2009	
PROJECT NAME.....UNIVERSITY NEUROPSYCHIATRIC INSTITUTE ADDITION					
LOCATION.....SALT LAKE CITY, UT					
ARCHITECT.....FFKR SF 115763					
STAGE OF DESIGN.....PROGRAMMING					
CSI #	DESCRIPTION	UNIT QTY	UNIT COST		
02	SITE WORK				
	Site Clearing	345,600 SF	\$ 0.29	\$	100,224
	Demo Curb & Gutter	4,389 LF	\$ 3.50	\$	15,362
	Demo Asphalt Paving	88,170 SF	\$ 0.45	\$	39,677
	Demo Lot Lights	20 EA	\$ 500.00	\$	10,000
	Site Grading	311,583 SF	\$ 0.31	\$	96,591
	Site Drainage & Protection	1 LS	\$ 15,000.00	\$	15,000
	Mass Site Excavation	115,420 CY	\$ 3.50	\$	403,970
	Building Excavation	15,119 CY	\$ 5.00	\$	75,593
	Backfill Compaction	3,780 CY	\$ 9.65	\$	36,474
	Building Grading	34,017 SF	\$ 0.39	\$	13,267
	Haul off Excess	126,759 CY	\$ 6.00	\$	760,554
	Gravel Under Slab	665 TONS	\$ 20.65	\$	13,737
	Subtotal for Earthwork			\$	1,580,447
	Site Utilities				
	8" Waterline	1,644 LF	\$27.65	\$	45,457
	Fire Hydrant	3 EA	\$1,850.00	\$	5,550
	3" Waterline	731 LF	\$19.68	\$	14,386
	Water Meter w/ Vault	1 Ea	\$3,650.00	\$	3,650
	Hot Tap 8"	2 EA	\$1,250.00	\$	2,500
	Hot Tap 3"	1 EA	\$750.00	\$	750
	Re-route Fire Sprinkler Supply at existing bldg	1 LS	\$6,500.00	\$	6,500
	8" Sewer	230 LF	\$34.00	\$	7,820
	Sewer Connections	1 EA	\$1,250.00	\$	1,250
	Cleanout	1 EA	\$450.00	\$	450
	Perforated SD Drain Pipe	3,754 LF	\$18.98	\$	71,251

PROJECT ESTIMATE		CONSTRUCTION CONTROL CORPORATION		8/25/2009	
PROJECT NAME.....UNIVERSITY NEUROPSYCHIATRIC INSTITUTE ADDITION					
LOCATION.....SALT LAKE CITY, UT					
ARCHITECT.....FFKR SF 115763					
STAGE OF DESIGN.....PROGRAMMING					
CSI #	DESCRIPTION	UNIT QTY	UNIT COST		
	15" SD Pipe	784 LF	\$21.65	\$	16,974
	12" SD Pipe	2,057 LF	\$17.68	\$	36,368
	18" SD Pipe	326 LF	\$24.68	\$	8,046
	SD Cleanouts	7 EA	\$350.00	\$	2,450
	Catch Basins	23 EA	\$1,050.00	\$	24,150
	SD Manholes	3 EA	\$1,150.00	\$	3,450
	Area Drains	14 EA	\$450.00	\$	6,300
	Storm Teck Underground Detention System	13,400 CF	\$4.65	\$	62,310
	12- 4" Power Duct bank	430 LF	\$42.65	\$	18,340
	7- 4" Power Duct bank	760 LF	\$28.90	\$	21,964
	4-4" Telecom Duct bank	792 LF	\$20.65	\$	16,355
	Telecom Manholes	1 EA	\$1,659.00	\$	1,659
	Subtotal for Site Utilities			\$	377,928
	Site Concrete				
	Curb & Gutter	7,502 LF	\$ 17.68	\$	132,635
	Concrete Drive Paving	8,955 SF	\$ 4.65	\$	41,641
	Steps	500 SF	\$ 19.65	\$	9,825
	Sidewalk	15,267 SF	\$ 3.55	\$	54,198
	Loading Dock	1 LS	\$ 25,000.00	\$	25,000
	Enclosure Paving	1,074 SF	\$ 3.65	\$	3,920
	Enclosure Footings	10 CY	\$ 305.00	\$	3,163
	Enclosure Walls	1,400 SF	\$ 14.68	\$	20,552
	Retaining Walls	1 Allow	\$ 50,000.00	\$	50,000
	Subtotal for Site Concrete			\$	340,934
	Asphalt Paving				
	Asphalt Paving	162,940 SF	\$1.55	\$	252,557

PROJECT ESTIMATE		CONSTRUCTION CONTROL CORPORATION		8/25/2009	
PROJECT NAME.....UNIVERSITY NEUROPSYCHIATRIC INSTITUTE ADDITION					
LOCATION.....SALT LAKE CITY, UT					
ARCHITECT.....FFKR SF 115763					
STAGE OF DESIGN.....PROGRAMMING					
CSI #	DESCRIPTION	UNIT QTY	UNIT COST		
	Striping	162,940 SF	\$ 0.04	\$	6,518
	Asphalt Patching	1,250 SF	\$ 2.75	\$	3,438
	Subtotal for Asphalt Paving			\$	262,512
	Site Special Construction				
	Site Specialties	1 LS	\$25,000.00	\$	25,000
	Fence	221 LF	\$14.50	\$	3,205
	Subtotal for Site Special Construction			\$	28,205
	Landscaping	107,843 SF	\$ 2.95	\$	318,137
	TOTAL SITE WORK			\$	2,908,163
03	CONCRETE				
	Continuous Footings	399 CY	\$ 315.00	\$	125,534
	Spot Footings	399 CY	\$ 325.00	\$	129,519
	Foundation Wall- 12"	13,450 SF	\$ 19.68	\$	264,696
	Topping Slab- 6"	81,656 SF	\$ 4.35	\$	355,204
	Slab on Grade Regular 4"	34,017 SF	\$ 3.55	\$	120,761
	TOTAL CONCRETE			\$	995,714
04	MASONRY				
	Brick Veneer	64,940 SF	\$ 15.00	\$	974,100
	CMU	27,960 SF	\$ 14.68	\$	410,453
	TOTAL MASONRY			\$	1,384,553
05	METALS				
	Roof Structure (7#/SF)	238,119 LB	\$ 1.65	\$	392,896
	Floor Structure (11#/SF)	898,216 LB	\$ 1.65	\$	1,482,056
	Metal Floor Deck- 3"	81,656 SF	\$ 2.56	\$	209,039
	Metal Roof Deck	34,017 SF	\$ 2.15	\$	73,137
	Stairs- Regular	3,120 SF	\$ 59.00	\$	184,080
	Stairs Decorative	780 SF	\$ 95.00	\$	74,100

PROJECT ESTIMATE		CONSTRUCTION CONTROL CORPORATION		8/25/2009	
PROJECT NAME.....UNIVERSITY NEUROPSYCHIATRIC INSTITUTE ADDITION					
LOCATION.....SALT LAKE CITY, UT					
ARCHITECT.....FFKR SF 115763					
STAGE OF DESIGN.....PROGRAMMING					
CSI #	DESCRIPTION	UNIT QTY	UNIT COST		
	Free Standing Railing	816 LF	\$ 125.00	\$	102,000
	Wall Mounted Railing	816 LF	\$ 55.00	\$	44,880
	Miscellaneous Metals	90907 LB	\$ 3.70	\$	336,355
	TOTAL METALS			\$	2,898,544
06	WOOD & PLASTICS				
	Carpentry:				
	Wood Plates & Blocking	10,000 BF	\$ 3.68	\$	36,800
	Subtotal for Carpentry			\$	36,800
	Millwork:				
	Vanity	48 LF	\$ 185.00	\$	8,880
	Reception/ Nurse Station Desk	328 LF	\$ 365.00	\$	119,720
	Base Cabinet	144 LF	\$ 185.00	\$	26,640
	Wall Hung Cabinet	162 LF	\$ 165.00	\$	26,730
	Misc Millwork	115,763 SF	\$ 7.00	\$	810,341
	Subtotal for Millwork			\$	992,311
	TOTAL WOOD & PLASTICS			\$	1,029,111
07	THERMAL & MOISTURE PROTECTION				
	R-30 Rigid Insulation	34,017 SF	\$ 2.45	\$	83,342
	Sound Batt	200,625 SF	\$ 0.48	\$	96,300
	Rigid Insulation at exterior wall	64,940 SF	\$ 1.95	\$	126,633
	Batt Insulation at ext wall	64,940 SF	\$ 0.75	\$	48,705
	Single Ply Membrane Roof	34,017 SF	\$ 2.55	\$	86,743
	Exterior Sheathing	64,940 SF	\$ 1.65	\$	107,151
	Vapor Barrier	64,940 SF	\$ 0.21	\$	13,637
	Connection at Existing Building	116 LF	\$ 350.00	\$	40,600
	Metal Wall Cap (Kynar)	1,365 LF	\$ 9.65	\$	13,173
	Metal Flashings	3,500 SF	\$ 6.50	\$	22,750

PROJECT ESTIMATE		CONSTRUCTION CONTROL CORPORATION		8/25/2009	
PROJECT NAME.....UNIVERSITY NEUROPSYCHIATRIC INSTITUTE ADDITION					
LOCATION.....SALT LAKE CITY, UT					
ARCHITECT.....FFKR SF 115763					
STAGE OF DESIGN.....PROGRAMMING					
CSI #	DESCRIPTION	UNIT QTY	UNIT COST		
	Entrance Canopy	1,600 SF	\$ 150.00	\$ 240,000	
	Fireproofing	115,763 SF	\$ 1.80	\$ 208,373	
	Fire Caulking	115,763 SF	\$ 0.35	\$ 40,517	
	Roof Hatches	4 EA	\$ 750.00	\$ 3,000	
	Caulking & Sealants	1 LS	\$ 10,000.00	\$ 10,000	
	TOTAL THERMAL & MOISTURE PROTECTION			\$ 1,140,925	
08	<u>DOORS & WINDOWS</u>				
	Interior Single Doors	346 EA	\$ 1,400.00	\$ 484,400	
	Interior Double Doors	19 EA	\$ 1,850.00	\$ 35,150	
	Total Doors	90 EA	\$ 5,280.00	\$ 475,200	
	Aluminum Single Doors	4 EA	\$ 1,850.00	\$ 7,400	
	Aluminum double Doors	8 EA	\$ 3,650.00	\$ 29,200	
	ADA Door Openers	8 EA	\$ 3,650.00	\$ 29,200	
	Interior Glazing	4,800 SF	\$ 28.50	\$ 136,800	
	Curtain wall- w/ laminated glass	8,280 SF	\$ 72.50	\$ 600,300	
	Aluminum Storefront- w/ laminated glass	9,741 SF	\$ 40.50	\$ 394,511	
	Mirrors	400 SF	\$ 10.65	\$ 4,260	
	TOTAL DOORS & WINDOWS			\$ 2,196,421	
09	<u>FINISHES</u>				
	Exterior Stud wall	64,940 SF	\$ 4.00	\$ 259,760	
	Metal Stud Partitions	200,625 SF	\$ 2.55	\$ 511,594	
	5/8" Gypsum board	421,580 SF	\$ 1.40	\$ 590,212	
	Double Layer Gyp Walls	44,610 SF	\$ 2.09	\$ 93,235	
	Suspended Gyp Ceiling	22,151 SF	\$ 4.00	\$ 88,604	
	Washable Vinyl Ceiling	1,971 SF	\$ 4.00	\$ 7,884	
	Acoustic Ceiling	91,641 SF	\$ 3.25	\$ 297,833	
	Carpet	5,914 SY	\$ 30.00	\$ 177,427	

PROJECT ESTIMATE		CONSTRUCTION CONTROL CORPORATION		8/25/2009	
PROJECT NAME.....UNIVERSITY NEUROPSYCHIATRIC INSTITUTE ADDITION					
LOCATION.....SALT LAKE CITY, UT					
ARCHITECT.....FFKR SF 115763					
STAGE OF DESIGN.....PROGRAMMING					
CSI #	DESCRIPTION	UNIT QTY	UNIT COST		
	Quarry Tile at Kitchen	1,971 SF	\$ 7.00	\$ 13,797	
	Sports Flooring at Wellness	1,075 SF	\$ 10.68	\$ 11,481	
	Corridor Flooring	26,478 SF	\$ 4.00	\$ 105,912	
	Restroom Floor Tile	1,631 SF	\$ 11.50	\$ 18,757	
	Tile Base	544 LF	\$ 8.50	\$ 4,627	
	Wall Tile	4,355 SF	\$ 11.00	\$ 47,902	
	Sheet Vinyl Flooring at Residence Restrooms	5,040 SF	\$ 3.75	\$ 18,900	
	Epoxy Painted Walls at Residence Restrooms	21,760 SF	\$ 1.35	\$ 29,376	
	Base	30,535 LF	\$ 2.65	\$ 80,918	
	Paint/ Stain Doors & Frames	455 EA	\$ 105.00	\$ 47,775	
	Seal Masonry	92,900 SF	\$ 0.39	\$ 36,231	
	Protective Wall covering Wainscot	9,373 SF	\$ 7.65	\$ 71,703	
	Paint Exposed Ceiling structure	4,580 SF	\$ 1.75	\$ 8,015	
	Paint Ceiling	22,151 SF	\$ 0.50	\$ 11,076	
	Wall Coverings	466,190 SF	\$ 0.45	\$ 209,786	
	Paint Gypsum	444,430 SF	\$ 0.48	\$ 213,326	
	Sealed Concrete	4,580 SF	\$ 0.39	\$ 1,787	
	TOTAL FINISHES			\$ 2,957,918	
10	<u>SPECIALTIES</u>				
	Fire Extinguisher w/ Cabinet-	30 EA	\$ 278.00	\$ 8,340	
	Lockers	1 Allow	\$ 25,000.00	\$ 25,000	
	ADA Partitions	22 EA	\$ 850.00	\$ 18,700	
	Standard Partitions	6 EA	\$ 800.00	\$ 4,800	
	Grab Bars	102 EA	\$ 135.00	\$ 13,770	
	Patient Restroom Accessories	80 EA	\$ 1,650.00	\$ 132,000	

PROJECT ESTIMATE		CONSTRUCTION CONTROL CORPORATION		8/25/2009	
PROJECT NAME.....UNIVERSITY NEUROPSYCHIATRIC INSTITUTE ADDITION					
LOCATION.....SALT LAKE CITY, UT					
ARCHITECT.....FFKR SF 115763					
STAGE OF DESIGN.....PROGRAMMING					
CSI #	DESCRIPTION	UNIT QTY	UNIT COST		
	Toilet Accessories	28 EA	\$ 365.00	\$	10,220
	Bumper Rail at Corridors	2,678 LF	\$ 19.65	\$	52,623
	Urinal Screens	2 EA	\$ 450.00	\$	900
	Marker boards	1 Allow	\$ 6,500.00	\$	6,500
	Tack boards	1 Allow	\$ 5,000.00	\$	5,000
	Identifying Devices	1 LS	\$ 50,000.00	\$	50,000
	TOTAL SPECIALTIES			\$	327,853
11	EQUIPMENT				
	Kitchen Equipment	1 LS	\$675,000.00	\$	675,000
	TOTAL EQUIPMENT			\$	675,000
12	FURNISHINGS				
	Entrance Mat	320 SF	\$ 24.65	\$	7,888
	Blinds	9,741 SF	\$ 9.65	\$	94,001
	TOTAL FURNISHINGS			\$	101,889
13	SPECIAL CONSTRUCTION				
	Remodel at Existing Building	2,500 SF	\$ 125.00	\$	312,500
	TOTAL SPECIAL CONSTRUCTION			\$	312,500
14	CONVEYING EQUIPMENT				
	Elevators- Double Sided enlarged- 4 stop	2 EA	\$ 140,000.00	\$	280,000
	Passenger Elevator 2 stop	1 EA	\$ 55,000.00	\$	55,000
	TOTAL CONVEYING EQUIPMENT			\$	335,000
15	MECHANICAL				
	HVAC				
	Air Handler	4 EA	\$ 40,000.00	\$	160,000
	Fan Coils	164 EA	\$ 2,850.00	\$	467,400
	Boiler	4 EA	\$ 45,000.00	\$	180,000

PROJECT ESTIMATE		CONSTRUCTION CONTROL CORPORATION		8/25/2009	
PROJECT NAME.....UNIVERSITY NEUROPSYCHIATRIC INSTITUTE ADDITION					
LOCATION.....SALT LAKE CITY, UT					
ARCHITECT.....FFKR SF 115763					
STAGE OF DESIGN.....PROGRAMMING					
CSI #	DESCRIPTION	UNIT QTY	UNIT COST		
	Chiller	2 EA	\$ 125,000.00	\$	250,000
	Ton Cooling Tower	1 EA	\$ 50,000.00	\$	50,000
	Pumps 300 GPM	8 EA	\$ 4,500.00	\$	36,000
	Registers, Grilles	1 LS	\$ 150,000.00	\$	150,000
	Ductwork	173,645 LB	\$ 5.50	\$	955,045
	Duct liner	123,288 SF	\$ 1.65	\$	203,425
	Air separator	2 EA	\$ 1,650.00	\$	3,300
	Expansion Tank	2 EA	\$ 4,150.00	\$	8,300
	Unit Heaters	15 EA	\$ 2,650.00	\$	39,750
	Piping	115,763 SF	\$ 3.95	\$	457,264
	Temperature Controls	115,763 SF	\$ 2.95	\$	341,501
	Test & Balance	200 HR	\$ 64.50	\$	12,900
	Subtotal for HVAC			\$	28.64 \$ 3,314,884
	Building Fire Sprinkler System	115,763 SF	\$ 3.05	\$	353,077
	Plumbing				
	Toilets ADA	22 EA	\$ 720.00	\$	15,840
	Toilets- Standard	6 EA	\$ 680.00	\$	4,080
	Residence Tamper Proof Toilets	80 EA	\$ 4,500.00	\$	360,000
	Residence Tamper Proof Lavs	80 EA	\$ 2,850.00	\$	228,000
	Residence Showers	80 EA	\$ 2,850.00	\$	228,000
	Urinals	2 EA	\$ 650.00	\$	1,300
	Lavs	22 EA	\$ 650.00	\$	14,300
	Break/ Multipurpose Sinks	8 EA	\$ 600.00	\$	4,800
	Water Cooler	8 EA	\$ 600.00	\$	4,800
	Boiler	4 EA	\$ 15,000.00	\$	60,000



PROJECT ESTIMATE		CONSTRUCTION CONTROL CORPORATION		8/25/2009	
PROJECT NAME.....UNIVERSITY NEUROPSYCHIATRIC INSTITUTE ADDITION					
LOCATION.....SALT LAKE CITY, UT					
ARCHITECT.....FFKR SF 115763					
STAGE OF DESIGN.....PROGRAMMING					
CSI #	DESCRIPTION	UNIT QTY	UNIT COST		
	Circulation Pump	4 EA	\$ 1,650.00	\$	6,600
	Mop Sink	8 EA	\$ 550.00	\$	4,400
	Floor Drains	102 EA	\$ 120.00	\$	12,240
	Roof Drains	48 EA	\$ 160.00	\$	7,680
	Roof Drain Piping	2,880 LF	\$ 15.70	\$	45,216
	Other Plumbing	115,763 SF	\$ 1.25	\$	144,704
	Supply Piping	19,170 LF	\$ 9.60	\$	184,032
	Waste/ Vent Piping	12,844 LF	\$ 15.70	\$	201,649
	Subtotal for Plumbing		\$ 13.20	\$	1,527,641
	TOTAL MECHANICAL			\$	5,195,602
16	<u>ELECTRICAL</u>				
	Service & Distribution	115,763 SF	\$ 6.25	\$	723,519
	Emergency Generator 1250 KW w/ back fed	1 EA	\$350,000.00	\$	350,000
	Power	115,763 SF	\$ 3.60	\$	416,747
	Lighting	115,763 SF	\$ 8.65	\$	1,001,350
	Site Lighting	1 LS	\$250,000.00	\$	250,000
	Fire Alarm	115,763 SF	\$ 2.25	\$	260,467
	Nurse Call System	115,763 SF	\$ 1.75	\$	202,585
	Telecommunication	115,763 SF	\$ 1.95	\$	225,738
	Security System	115,763 SF	\$ 2.95	\$	341,501
	PA System	115,763 SF	\$ 1.45	\$	167,856
	TOTAL ELECTRICAL			\$	3,939,763

6.2 Furnishings Cost Estimate

Area Description	Description of Contents	Unit Cost	Qty.	Total
Office	Wall hung work surface with peninsula/ overhead storage/lateral filing/ bookcase/two side chairs/pencil drawer/ pedestal filing/tackable space/paper management/task lighting/Aeron Chair	\$3,933	16	\$62,928
Private Patient Room	Patient Bed/Bedside Cabinet/ Freestanding Wardrobe/Mattress/Vip Bedsread/ Side tables	\$10,368	80	\$829,440
Interview Room	Seating/Table for Charting/side tables/lamps	\$5,708	22	\$125,576
Group Room	Modular Seating for 18 with side tables	\$31,617	10	\$316,170
Dining Table and Chairs	10 Dining Tables/70 Chairs/10 Lounge Chairs/5 Drum Tables	\$98,142	1	\$98,142
Conference Room	For 10 People/ Conference Tables/Conference/Chairs/Credenza/Marker Board	\$7,274	6	\$43,644
Craft Room	9 Tables/46 Chairs/Wall full of storage/Small desk for working	\$14,938	1	\$14,938
Day Room	Wall full of Modular Seating for 16/Tables for Crafts/3 Freestanding Tables/Side Chairs for Tables	\$31,609	6	\$189,654
Waiting Area	6 Seats/Side Tables/Lamps	\$15,575	6	\$93,450
Storage Room	Wire Shelving Throughout	\$2,980	9	\$26,820
Staff Room	4 Workstations/Overhead Storage/Freestanding Table/Break Area with storage/Seating	\$10,288	20	\$205,760
Nurse Stations	Per Typical UNI Nurse Station Layouts	\$45,000	6	\$270,000
Nurse Manager Office	Wall hung work surface with peninsula/ overhead storage/lateral filing/two side chairs/ pencil drawer/ pedestal filing	\$3,532	5	\$17,660
Laundry Room	Two Wire Shelves	\$870	3	\$2,610
Patio	Industrial Outdoor furniture - Good to be outside for ALL Seasons	\$50,000	1	\$50,000
Seclusion Rooms	Mattresses	\$1,200	5	\$6,000
Lobby	Reception Seating and Artwork	\$40,000	1	\$40,000
Assessment	CAC Move and Reconfigure	\$45,000	1	\$45,000
Custodial Closets	Shelving	\$800	4	\$3,200
Auditorium	Fixed auditorium Seating and Tables	\$80,000	1	\$80,000
Kitchen	1 Kitchen Office/Wire Storage Shelving for bulk storage	\$20,000	1	\$20,000
Café	Waiting Seating/Custom Design	\$7,000	1	\$7,000
Dirty Laundry	Shelving	\$1,000	3	\$3,000
Estimated Installation/Design	For all Areas, based on total purchase price of product	\$260,000	1	\$260,000
				\$2,810,992



7.0 APPENDIX

7.1 Preliminary LEED Checklist	200
7.2 Geotechnical Report	205

7.1 Preliminary LEED Checklist						
					Project:	University Neuropsychiatric Institute
LEED 2009 Ratings					Date:	06.25.2009
Certified 40-49 Points					Phase:	Programming
Silver 50-59 Points						Worksheet Based on LEED 2009
Gold 60-79 Points						
Platinum 80+ Points						
Sustainable Sites	Points Available	Anticipated	Possible	Long Shot	Not Possible	Notes
SS Prerequisite 1: Construction Activity Pollution Prevention	Required	Yes				Create and implement a control plan for construction
SS Credit 1: Site Selection	1	1				Site does not meet restrictions listed
SS Credit 2: Development Density & Community Connectivity	5	5				Option 2. Community Connectivity
SS Credit 3: Brownfield Redevelopment	1				1	N/A
SS Credit 4.1: Alternative Transportation: Public Transportation Access	6	6				Option 2. Site is within 1/4 mile from several bus routes
SS Credit 4.2: Alternative Transportation: Bicycle Storage & Changing Rooms	1		1			Difficult to accomplish with patients included in FTE
SS Credit 4.3: Alternative Transportation: Low Emitting & Fuel Efficient Vehicles	3		3			Difficult to accomplish with patients included in FTE
SS Credit 4.4: Alternative Transportation: Parking Capacity	2			2		Adding too much parking to qualify for this credit
SS Credit 5.1: Site Development: Protect or Restore Habitat	1			1		Previously developed. Restore 50%
SS Credit 5.2: Site Development: Maximize Open Space	1	1				Case 3. Provide open space for 20%
SS Credit 6.1: Stormwater Design: Quantity Control	1	1				Required by state to achieve
SS Credit 6.2: Stormwater Design: Quality Control	1	1				Optional but could be achieved on this project
SS Credit 7.1: Heat Island Effect: Non-Roof	1		1			Option 1. Shading and light colored hardscape
SS Credit 7.2: Heat Island Effect: Roof	1	1				Option 1. Light colored roof
SS Credit 8: Light Pollution Reduction	1		1			Reduce the light trespass from the building
Total Sustainable Sites Points	26	16	6	3	1	

Water Efficiency	Points Available	Anticipated	Possible	Long Shot	Not Possible	Notes
WE Prerequisite 1: Water Use Reduction	Required	Yes				Native planting and irrigation efficiency
WE Credit 1.1: Water Efficient Landscaping: Reduce by 50%	2	2				Required by the DFCM
WE Credit 1.1: Water Efficient Landscaping: No Potable Water Use or No Irrigation	2		2			
WE Credit 2: Innovative Wastewater Technologies	2			2		
WE Credit 3.1: Water Use Reduction: 30% Reduction	2	2				High-efficiency fixtures
WE Credit 3.2: Water Use Reduction: 35% Reduction	1		1			High-efficiency fixtures
WE Credit 3.3: Water Use Reduction: 40% Reduction	1			1		High-efficiency fixtures
Total Water Efficiency Points	10	4	3	3	0	
Energy & Atmosphere	Points Available	Anticipated	Possible	Long Shot	Not Possible	Notes
EA Prerequisite 1: Fundamental Commissioning of the Building Energy Systems	Required	Yes				
EA Prerequisite 2: Minimum Energy Performance	Required	Yes				
EA Prerequisite 3: Fundamental Refrigerant Management	Required	Yes				
EA Credit 1: Optimize Energy Performance	19	6	12	1		22% above baseline. Difficult in health-care
EA Credit 2: On-Site Renewable Energy	7	2	3	2		3% building energy costs
EA Credit 3: Enhanced Commissioning	2	2				Required by the DFCM
EA Credit 4: Enhanced Refrigerant Management	2	2				A central cooling system will assist with this credit
EA Credit 5: Measurement & Verification	3			3		These points are generally very expensive
EA Credit 6: Green Power	2		2			Optional at the owner's discretion
Total Energy & Atmosphere Points	35	12	17	6	0	
Materials & Resources	Points Available	Anticipated	Possible	Long Shot	Not Possible	Notes
MR Prerequisite 1: Storage & Collection of Recyclables	Required	Yes				

MR Credit 1.1: Building Reuse: Maintain 55% of Existing Walls, Floors & Roof	1				1	N/A
MR Credit 1.1: Building Reuse - Maintain 75% of Existing Walls, Floors & Roof	1				1	N/A
MR Credit 1.1: Building Reuse - Maintain 95% of Existing Walls, Floors & Roof	1				1	N/A
MR Credit 1.2: Building Reuse: Maintain 50% of Interior Non-Structural Elements	1				1	N/A
MR Credit 2.1: Construction Waste Management: Divert 50% From Disposal	1	1				Sort construction waste on site
MR Credit 2.2: Construction Waste Management: Divert 75% From Disposal	1		1			Sort construction waste on site
MR Credit 3.1: Materials Reuse: 5%	1		1			
MR Credit 3.2: Materials Reuse: 10%	1			1		
MR Credit 4.1: Recycled Content: 10% (post-consumer + 1/2 pre-consumer)	1	1				Specify materials with recycled content
MR Credit 4.2: Recycled Content: 20% (post-consumer + 1/2 pre-consumer)	1		1			Specify materials with recycled content
MR Credit 5.1: Regional Materials: 10% Extracted, Processed & Manufactured Regionally	1	1				Product locally extracted and manufactured
MR Credit 5.2: Regional Materials: 20% Extracted, Processed & Manufactured Regionally	1		1			Product locally extracted and manufactured
MR Credit 6: Rapidly Renewable Materials	1		1			
MR Credit 7: Certified Wood	1	1				FSCs principles and criteria
Total Materials & Resources Points	14	4	5	1	4	

Indoor Environmental Quality	Points Available	Anticipated	Possible	Long Shot	Not Possible	Notes
EQ Prerequisite 1: Minimum IAQ Performance	Required	Yes				
EQ Prerequisite 2: Environmental Tobacco Smoke (ETS) Control	Required	Yes				Option 2. Utah Clean Air Act
EQ Credit 1: Outdoor Air Delivery Monitoring	1	1				Monitor ventilation systems
EQ Credit 2: Increased Ventilation	1	1				Mechanically ventilated spaces
EQ Credit 3.1: Construction IAQ Management Plan: During Construction	1	1				Required by the DFCM
EQ Credit 3.2: Construction IAQ Management Plan: Before Occupancy	1	1				Option 1. Flush building out prior to occupancy
EQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealants	1	1				Required by the DFCM
EQ Credit 4.2: Low-Emitting Materials: Paints & Coatings	1	1				Required by the DFCM
EQ Credit 4.3: Low-Emitting Materials: Carpet Systems	1	1				Specify low-emitting materials
EQ Credit 4.4: Low-Emitting Materials: Composite Wood & Agrifiber Products	1	1				Specify low-emitting materials
EQ Credit 5: Indoor Chemical & Pollutant Source Control	1		1			Establish necessary separation and filtration
EQ Credit 6.1: Controllability of Systems: Lighting	1		1			Provide occupants with lighting controls
EQ Credit 6.2: Controllability of Systems: Thermal Comfort	1	1				Allow occupant control of temp. and ventilation
EQ Credit 7.1: Thermal Comfort: Design	1	1				Meet referenced standard for occupant satisfaction
EQ Credit 7.2: Thermal Comfort: Verification	1	1				Verification of occupant satisfaction
EQ Credit 8.1: Daylight & Views: Daylight 75% of Spaces	1		1			Difficult to achieve in healthcare building
EQ Credit 8.2: Daylight & Views: Views for 90% of Spaces	1		1			Difficult to achieve in healthcare building
Total Indoor Environmental Quality Points	15	11	4	0	0	

Innovation & Design	Points Available	Anticipated	Possible	Long Shot	Not Possible	Notes
ID Credit 1.1: Exemplary Performance	1	1				Exceed requirements providing 100% compliance
ID Credit 1.2: Exemplary Performance	1	1				Educate visitors and occupants of the building
ID Credit 1.3: Exemplary Performance	1		1			
ID Credit 1.4: Innovation in Design	1	1				
ID Credit 1.5: Innovation in Design	1		1			
ID Credit 2: LEED Accredited Professional	1	1				Involvement of LEED AP throughout project
Total Innovation & Design Points	6	4	2	0	0	
Regional Priority	Points Available	Anticipated	Possible	Long Shot	Not Possible	Notes
RP Credit 1: Regional Priority - EAc1	1			1		
RP Credit 1: Regional Priority - EAc2	1		1			
RP Credit 1: Regional Priority - WEc1 Opt. 2	1		1			
RP Credit 1: Regional Priority - EQc8.1	1		1			
Total Innovation & Design Points	4	0	3	1	0	
Summary	Points Available	Anticipated	Possible	Long Shot	Not Possible	
Section Totals	110	51	40	14	5	
LEED 2009 Ratings						
Certified 40-49 Points						
Silver 50-59 Points						
Gold 60-79 Points						
Platinum 80+ Points						

7.2 Geotechnical Report



**REPORT
GEOTECHNICAL STUDY
PROPOSED ADDITION TO THE EXISTING
UNIVERSITY NEUROPSYCHIATRIC
INSTITUTE FACILITY
501 CHIPETA WAY
UNIVERSITY OF UTAH RESEARCH PARK
SALT LAKE CITY, UTAH
PROJECT-20161; FMSC-0000000138**

Submitted To:

The University of Utah
Facilities Management
V. Randall Turpin University Services Building
1795 East South Campus Drive, Room 201
Salt Lake City, Utah 84112-9403

Submitted By:

Gordon Spilker Huber Geotechnical Consultants, Inc.
4426 South Century Drive, Suite 100
Salt Lake City, Utah 84123

June 26, 2009

Job No. 0128-042-09

June, 26, 2009
Job No. 0128-042-09

The University of Utah
Facilities Management
V. Randall Turpin University Services Building
1795 East South Campus Drive, Room 201
Salt Lake City, Utah 84112-9403

Attention: Ms. Deborah Alto, Staff Architect/Project Manager

Ladies and Gentlemen:

Re: Report
Geotechnical Study
Proposed Addition to the Existing
University Neuropsychiatric Institute Facility
501 Chipeta Way
University of Utah Research Park
Salt Lake City, Utah
Project-20161; FMSC-0000000138

1. INTRODUCTION

1.1 GENERAL

This report presents the results of our geotechnical study performed at the site of the proposed addition, which is to be constructed onto the north end of the existing University Neuropsychiatric Institute (UNI) facility at 501 Chipeta Way in Salt Lake City, Utah. The general location of the site with respect to major topographic features and existing facilities, as of 1998, is presented on Figure 1, Vicinity Map. A more detailed layout of the site showing the proposed and existing structures, parking areas, roadways, and site-specific topography is presented on Figure 2, Site Plan. The locations of the borings drilled in conjunction with this study are also presented on Figure 2.

During the course of this study, many of the conclusions and recommendations were presented to Ms. Deborah Alto, project manager.

Gordon Spilker Huber Geotechnical Consultants, Inc.
4426 South Century Drive, Suite 100
Salt Lake City, Utah 84123
Tel: (801) 685-9190 Fax: (801) 685-2990
www.gshgeotech.com

University of Utah
Job No. 0128-042-09
Geotechnical Study
June 26, 2009



University of Utah
Job No. 0128-042-09
Geotechnical Study
June 26, 2009



1.2 OBJECTIVES AND SCOPE

The objectives and scope of our study were planned in discussions between Ms. Deborah Alto of The University of Utah, Facilities Management, and Mr. Bill Gordon of Gordon Spilker Huber Geotechnical Consultants, Inc. (GSH).

In general, the objectives of this study were to:

1. Accurately define and evaluate the subsurface soil and groundwater conditions in the area of the proposed new building addition and the proposed new pavement areas to the north and east.
2. Provide appropriate foundation, earthwork, subdrain, and pavement recommendations and geoseismic information to be utilized in the design and construction of the proposed facilities.

In accomplishing these objectives, our scope has included the following:

1. A field program consisting of the drilling, logging, and sampling of seven borings.
2. A laboratory testing program.
3. An office program consisting of the correlation of available data, engineering analyses, and the preparation of this summary report.

1.3 AUTHORIZATION

Authorization was provided verbally and subsequently by returning a signed Notice to Proceed, Contract Number: FMSC-000000138, Project Name: 0881 UNI Expansion (DFCM) University Project Number: Proj-20161, Project Manager: Alto, Deborah, dated May 28, 2009.

1.4 PROFESSIONAL STATEMENTS

Supporting data upon which our recommendations are based are presented in subsequent sections of this report. Recommendations presented herein are governed by the physical properties of the soils encountered in the exploration borings, projected groundwater conditions, and the layout and design data discussed in Section 2., Proposed Construction, of this report. If subsurface conditions other than those described in this report are encountered and/or if design and layout changes are implemented, GSH must be informed so that our recommendations can be reviewed and amended, if necessary.

Our professional services have been performed, our findings developed, and our recommendations prepared in accordance with generally accepted engineering principles and practices in this area at this time.

2. PROPOSED CONSTRUCTION

The proposed addition will be a maximum of four levels in height, will be irregular in configuration, and will attach onto the north end of the existing structure to the immediate southeast. The main level of the proposed addition will be established at the main level of the existing building with matching floor elevations at the interface. At this time, only a preliminary expansion feasibility study has been completed. Anticipated construction will consist of wood or light steel-frame construction with a masonry veneer. Structural loads will be transmitted down through column and bearing walls to the supporting foundations. At this time, maximum column and wall loads are projected to be on the order of 250 to 300 kips and 8 to 10 kips per lineal foot. At-grade floor slabs will be typically light (100 to 150 pounds per square foot).

At present, the site is primarily a terraced parking lot. Site development will require a moderate amount of earthwork in the form of site grading. We estimate that maximum cuts and fills to achieve design building grades could be on the order of six feet and/or the main level will be partially below grade along the east and northeast.

Paved visitor and an extensive staff parking is to be located to the west and east of the proposed addition, respectively, with accompanying access roadways. Projected traffic in the parking areas should consist of a light volume of automobiles and light trucks and occasional medium-weight trucks. In primary roadway areas, traffic is projected to consist of a moderate volume of automobiles and light trucks, a light volume of medium-weight trucks, and occasional heavy-weight trucks.

3. SITE INVESTIGATIONS

3.1 FIELD PROGRAM

In order to define and evaluate the subsurface soil and groundwater conditions at the site, 7 borings were explored to depths ranging from 5.0 to 41.5 feet below existing grade. Auger refusal on dense gravel/cobbles and/or a boulder was encountered in Boring B-3 at a depth of 16 feet below the surface. The borings were drilled using a truck-mounted drill rig equipped with hollow-stem augers. Locations of the borings are presented on Figure 2.

The field portion of our study was under the direct control and continual supervision of an experienced member of our geotechnical staff. During the course of the drilling operations, a continuous log of the subsurface conditions encountered was maintained. In addition, relatively undisturbed and small disturbed samples of the typical soils encountered were obtained for subsequent laboratory testing and examination. The soils were classified in the field based upon visual and textural examination. These classifications have been supplemented by subsequent

University of Utah
 Job No. 0128-042-09
 Geotechnical Study
 June 26, 2009



University of Utah
 Job No. 0128-042-09
 Geotechnical Study
 June 26, 2009



inspection and testing in our laboratory. Detailed graphical representation of the subsurface conditions encountered is presented on Figures 3A through 3G, Log of Borings. Soils were classified in accordance with the nomenclature described on Figure 4, Unified Soil Classification System.

A 3.25-inch outside diameter, 2.42-inch inside diameter drive sampler (Dames & Moore) was utilized in the majority of the subsurface sampling at the site. Additionally, a 2.0-inch outside diameter, 1.380-inch inside diameter drive sampler (SPT) was utilized at select locations. The blow-counts recorded on the boring logs were those required to drive the sampler 12 inches with a 140-pound hammer dropping 30 inches.

Following completion of drilling operations, one and one-quarter-inch diameter slotted PVC pipe was installed in Borings B-1 and B-2 in order to provide a means of future monitoring the groundwater fluctuations.

3.2 LABORATORY TESTING

3.2.1 General

In order to provide data necessary for our engineering analyses, a laboratory testing program was performed. The program included moisture and density, chemical, and collapse-consolidation tests. The following paragraphs describe the tests and summarize the test data.

3.2.2 Moisture and Density Tests

To aid in classifying the soils and to help correlate other test data, moisture and density tests were performed on selected, relatively undisturbed samples. The results of these tests are presented on the boring logs, Figures 3A through 3G.

3.2.3 Chemical Tests

To determine if the site soils will react detrimentally with concrete, chemical tests were performed on a representative sample of the sandy clay/clayey sand soils encountered in Boring B-2 at a depth of 2.5 feet below existing grade. The results of the chemical tests are tabulated below:

Boring No.	Depth (feet)	pH	Total Water Soluble Sulfate (mg/Kg-dry)
B-2	2.5	8.84	9.5

3.2.4 Collapse-Consolidation Tests

A collapse-consolidation test was performed on each of two representative samples of the near-surface clay soils, in order to assess moisture sensitivity and load deformation characteristics. The collapse tests were performed as follows:

1. Load sample at in-situ moisture content to specific axial pressure.
2. Measure and record axial deflection.
3. Saturate sample.
4. Measure and record resulting collapse.

The test results are tabulated below:

Boring No.	Depth (feet)	Soil Type	Natural Dry Density (pcf)	Natural Moisture Content (percent)	Axial Load When Saturated (psf)	Collapse (-) or Swell (+) (percent)
B-1	5.5	CL	110	13.3	100	0.0
B-2	5.5	CL	107	11.8	1,600	.66 (-)

The results of the tests indicate that the near-surface silty clay soils tested do not exhibit collapsible characteristics. Subsequent to the collapse tests, normal consolidation test loading was applied. The results of this loading show that the soils are moderately over-consolidated. When loaded below the over-consolidation pressure, the soils will exhibit moderately low compressibility characteristics. Detailed results of the tests are maintained within our files and can be transmitted, upon your request.

4. SITE CONDITIONS

4.1 SURFACE

The site is located at the southeast corner of Chipeta Way and Tabby Lane, and directly north of the existing UNI building. Overall, the site slopes moderately to the west. The site is generally comprised of an existing paved parking area constructed in a stepped terrace fashion with landscape areas separating each parking level. Ground cover vegetation and numerous trees are also present. Located to the east beyond existing pavements is an undeveloped area covered by a moderate to dense growth of scrub oak and various weeds and grasses with Colorow Way beyond. The site is bound to the west by Chipeta Way with existing two- to three-story buildings beyond. Located immediately north is Tabby Lane with the Fort Douglas Cemetery beyond.

University of Utah
Job No. 0128-042-09
Geotechnical Study
June 26, 2009



University of Utah
Job No. 0128-042-09
Geotechnical Study
June 26, 2009



4.2 SUBSURFACE SOIL AND GROUNDWATER

Borings B-1 through B-4 were completed within the proposed building footprint and Borings B-4 through B-7 were completed within the proposed staff parking area. At Borings B-1 through B-4, the surface is blanketed by three inches of asphalt concrete underlain by five to six inches of aggregate base. The existing pavement is in fair condition with visible cracking throughout. At Borings B-5 through B-7, the surface is blanketed with approximately three inches of topsoil (root mat). Below the pavement and topsoil, the subsurface soils encountered to the depths penetrated consist of layers of silty clay, clayey sand, clayey gravel, occasional silty sands, and mixtures of these soils ranging in thickness from 1.5 feet up to 12.0 feet. The silty clay layers were predominately encountered within the upper 10 feet within Borings B-2 and B-4 and will control foundation design. These clays are stiff to very stiff, moist, dark brown and brown, and moderately over-consolidated. The granular soils encountered range from loose to dense, are moist, and brown. At Boring B-3, auger refusal on dense gravel/cobbles or a boulder was encountered at a depth of 16 feet below the surface.

Existing fills on the order of four to six feet thick are projected in portions of the proposed addition footprint and are related to previous site grading.

Groundwater was not observed within the depths of the borings at the time of the drilling operations. Seasonal isolated and random "perched" groundwater conditions in the near-surface sequence must be anticipated, especially during the late spring and early summer months.

Springs were encountered in conjunction with the construction of the existing facilities to the south.

5. DISCUSSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

The results of this study indicate that the proposed addition can be supported upon conventional spread and continuous wall foundations established upon suitable natural soils or properly placed and compacted structural fill extending to suitable natural soils. Higher footing loads will require some thickness of granular replacement structural fill to control settlements.

At this time, it is projected that the existing and new addition structures will be supported separately and will not be sharing loading at the interface. When further design has been completed, GSH must be notified to review proposed loading so that projected settlements can be checked.

Some existing fills may exist at the surface from previous construction. As potential fills are likely to consist of on-site soil, they may be difficult to identify with respect to the natural soils. Footing and mass excavations must be observed by a qualified geotechnical engineer during initial earthwork.

Page 6

In the following sections, detailed discussions pertaining to earthwork, foundations, lateral resistance and pressure, floor slabs, subdrains, and the geoseismic setting of the site are provided.

5.2 EARTHWORK

5.2.1 Site Preparation

Preparation of the site will consist of the removal of the existing asphalt concrete pavement, surface vegetation, topsoil, root bulbs, sod, rubbish, non-engineered fills, and any other deleterious materials from beneath an area extending out at least three feet beyond the perimeter of the proposed addition and two feet beyond associated exterior flatwork and pavements. In proposed pavement areas, existing pavements may be left in place if they do not interfere with proposed grades and they are broken-up so as to not act as a water trap.

Subsequent to stripping and prior to the placement of floor slabs, structural site grading fill and pavements, the exposed subgrade must be proofrolled by passing moderate-weight rubber tire-mounted construction equipment over the surface at least twice. If excessively soft or loose soils are encountered, they must be removed to a maximum depth of two feet and replaced with structural fill.

As discussed earlier, springs were encountered in conjunction with construction of the existing facilities to the south. Subdrains discussed later in this report may need to be installed during initial construction to control potential springs.

5.2.2 Excavations

Temporary construction excavations in cohesive soil, not exceeding four feet in depth, may be constructed with near-vertical sideslopes. Temporary excavations up to 10 feet deep in fine-grained cohesive soils shall be constructed with sideslopes no steeper than one-half horizontal to one vertical. Excavations deeper than 10 feet are not anticipated at the site.

For granular (cohesionless) soils, construction excavations not exceeding four feet and above the water table shall be no steeper than one-half horizontal to one vertical. For excavations up to 10 feet in granular soils and above the water table, the slopes shall be no steeper than one horizontal to one vertical. Excavations encountering loose and or saturated cohesionless soils will be very difficult and will require very flat sideslopes and/or shoring, bracing and dewatering.

Also, the contractor should anticipate occasional to some cobbles and boulders indicative of soils in the area.

All excavations must be inspected periodically by qualified personnel. If any signs of instability or excessive sloughing are noted, immediate remedial action must be initiated.

Page 7

5.2.3 Structural Fill

Structural fill is defined as all fill which will ultimately be subjected to structural loadings, such as imposed by footings, floor slabs, pavements, etc. Structural fill will be required as backfill over foundations and utilities, as site grading fill, and in some areas, replacement fill below footings. All structural fill must be free of sod, rubbish, topsoil, frozen soil, and other deleterious materials. Structural site grading fill is defined as fill placed over fairly large open areas to raise the overall site grade. For structural site grading fill, the maximum particle size shall not exceed four inches; although, occasional larger particles, not exceeding eight inches in diameter, may be incorporated if placed randomly in a manner such that “honeycombing” does not occur and the desired degree of compaction can be achieved. The maximum particle size within structural fill placed within confined areas should generally be restricted to two inches.

The on-site soils may be re-utilized as structural site grading fill. However, it should be noted that unless moisture control is maintained, utilization of fine-grained soils as structural site grading fill will be very difficult, if not impossible, during wet and cold periods of the year.

Only granular soils are recommended as structural fill below footings and in confined areas, such as around foundations and within utility trenches. Imported granular structural fill should consist of a fairly well-graded mixture of sand and gravel with less than 20 percent fines.

Non-structural site grading fill is defined as all fill material not designated as structural fill and may consist of any cohesive or granular soils not containing excessive amounts of degradable material.

5.2.4 Fill Placement and Compaction

All structural fill shall be placed in lifts not exceeding eight inches in loose thickness. Structural fills beneath the area extending out at least 3 feet from the perimeter of the proposed addition and no more than 10 feet thick must be compacted to at least 95 percent of the maximum dry density as determined by the AASHTO¹ T-180 (ASTM² D-1557) compaction criteria. If the fills are greater than 10 feet, the compaction must be increased to 98 percent of the above-defined criteria. Structural fills extending outside 3 feet from the structure which are greater than 5 feet thick must be compacted to 92 percent of the above-defined criteria. Structural fills greater than eight feet thick are not anticipated at the site. Structural fills less than 5 feet thick, which are not beneath an area extending out at least 3 feet from the perimeter of the structure, should be compacted to at least 90 percent of the above-defined criteria.

Subsequent to stripping and prior to the placement of structural site grading fill, the subgrade should be prepared as discussed in Section 5.2.1, Site Preparation, of this report. In confined areas, subgrade preparation should consist of the removal of all loose or disturbed soils.

¹ American Association of State Highway and Transportation Officials
² American Society for Testing and Materials

Non-structural fill may be placed in lifts not exceeding 12 inches in loose thickness and compacted by passing construction, spreading, or hauling equipment over the surface at least twice.

5.2.5 Utility Trenches

All utility trench backfill material below structurally loaded facilities (flatwork, floor slabs, paved areas, etc.) shall be placed to the same material and density requirements established for structural fill. If the surface of the backfill becomes disturbed during the course of construction, the backfill shall be proofrolled and/or properly compacted prior to the construction of any exterior flatwork over a backfilled trench. Proofrolling may be performed by passing moderately loaded rubber tire-mounted construction equipment uniformly over the surface at least twice. If excessively loose or soft areas are encountered during proofrolling, they shall be removed to a maximum depth of two feet below design finish grade and replaced with structural fill.

Most utility companies and City-County governments are now requiring that Type A-1a or A-1b (AASHTO Designation – basically granular soils with limited fines) soils be used as backfill over utilities. These organizations are also requiring that in public roadways, the backfill over major utilities be compacted over the full depth of fill to at least 96 percent of the maximum dry density as determined by the AASHTO T-180 (ASTM D-1557) method of compaction.

Fine-grained soils, such as the natural on-site silty clays, are not recommended for use as trench backfill.

5.2.6 Areal Settlements

Based on existing topography, some cutting and filling will likely be required to achieve design grades.

Areal settlements resulting from site grading fills as much as eight feet should be less than one-half inch. The majority of this settlement will occur during placement. These settlements are in addition to settlements induced by foundation and floor slab loads. To reduce the total settlement that the structure will realize, site grading fill must be placed as far in advance of other construction as possible.

5.3 SPREAD AND CONTINUOUS WALL FOUNDATIONS

5.3.1 Design Data

The results of our analysis, based on the projected loads, indicate that the proposed structure may be supported upon conventional spread and/or continuous wall foundations established upon suitable natural soils and/or granular structural fill extending to suitable natural soils. Varying thicknesses of granular structural fill will be required beneath the footings to control total and differential settlements.

University of Utah
Job No. 0128-042-09
Geotechnical Study
June 26, 2009



University of Utah
Job No. 0128-042-09
Geotechnical Study
June 26, 2009



For design, the following parameters are recommended:

Minimum Recommended Depth of Embedment for Frost Protection	- 30 inches
Minimum Recommended Depth of Embedment for Non-frost Conditions	- 15 inches
Recommended Minimum Width for Continuous Wall Footings	- 18 inches
Minimum Recommended Width for Isolated Spread Footings	- 24 inches
Recommended Net Bearing Pressure for Real Load Conditions	- 3,500 pounds per square foot
Bearing Pressure Increase for Seismic Loading	- 50 percent

The term "net bearing pressure" refers to the pressure imposed by the portion of the structure located above lowest adjacent final grade. Therefore, the weight of the footing and backfill to lowest adjacent final grade need not be considered. Real loads are defined as the total of all dead plus frequently applied live loads. Total load includes all dead and live loads, including seismic and wind.

5.3.2 Installation

Under no circumstances should the footings be established upon soft, loose or disturbed soils, uncontrolled fills, non engineered fills, sod, rubbish, frozen soils, debris or within ponded water. If unsuitable soils are encountered, they must be totally removed and replaced with compacted granular structural fill. The width of the replacement fill below footings should be equal to the width of the footing plus one additional foot for each foot of fill thickness placed.

5.3.3 Settlements

Settlements of shallow foundations designed and constructed in accordance with the recommendations presented herein and supporting the anticipated loads as discussed in Section 2., Proposed Construction, are tabulated on the following page.

Foundation	Loading	Bearing Pressure (psf)	Replacement Fill Thickness (feet)	Projected Maximum Settlement (inches)
Spread	up to 100 kips	3,500	0	½ to ⅝ ±
	100 to 200 kips	3,500	18	½ to ⅝ ±
	200 to 250 kips	3,500	30	½ to ⅝ ±
	250 to 300 kips	3,500	36	½ to ⅝ ±
Wall	up to 8 kips/ft	3,500	0	½ to ⅝ ±
	8 to 10 kips/ft	3,500	12	½ to ⅝ ±

Settlements will occur rapidly with approximately 50 to 60 percent of the quoted settlements occurring during construction.

5.4 LATERAL RESISTANCE

Lateral loads imposed upon foundations due to wind or seismic forces may be resisted by the development of passive earth pressures and friction between the base of the footings and the supporting soils. In determining frictional resistance, a coefficient of 0.40 should be utilized for natural soils and up to 0.45 may be used for imported granular structural fill soils. Passive resistance provided by properly placed and compacted granular structural fill above the water table may be considered equivalent to a fluid with a density of 300 pounds per cubic foot. Below the water table, this granular soil should be considered equivalent to a fluid with a density of 150 pounds per cubic foot.

A combination of passive earth resistance and friction may be utilized provided that the friction component of the total is divided by 1.5.

5.5 LATERAL PRESSURES

The lateral pressure parameters, as presented herein, are for backfills, which will consist of drained granular soil placed and compacted in accordance with the recommendations presented herein. The lateral pressures imposed upon subgrade facilities will, therefore, be basically dependent upon the relative rigidity and movement of the backfilled structure. For active walls, such as retaining walls which can move outward (away from the backfill), granular backfill may be considered equivalent to a fluid with a density of 35 pounds per cubic foot in computing lateral pressures. For more rigid walls, generally not exceeding 10 feet in height, granular backfill may be considered equivalent to a fluid with a density of 45 pounds per cubic foot. The above values assume that the surface of the soils slope behind the wall is horizontal and that the granular fill within three feet of the wall will be compacted with hand-operated compacting equipment.

For seismic loading of below-grade walls up to 4-feet tall, uniform pressures of 35 and 65 pounds per square foot should be added for active and more rigid walls, respectively. For seismic loading of below-grade walls up to 8-feet tall, uniform pressures of 70 and 130 pounds per square foot should be added for active and more rigid walls, respectively.

5.6 FLOOR SLABS

Floor slabs may be established upon suitable natural soils, and/or upon structural fill extending to these suitable natural soils. Under no circumstances should floor slabs be established upon loose or disturbed surficial soils, non-engineered fills, sod, rubbish, deleterious materials, frozen soils, or within ponded water.

Groundwater was not encountered within the borings at the time of the fieldwork. However, seasonal "perched" conditions may be encountered. To act as a capillary break and to facilitate construction and curing, it is recommended that floor slabs be directly underlain by at least four inches of "free-draining" fill, such as three-quarters- to one-inch minus clean gap-graded gravel. Preferably, the gravel would be crushed; that is, angular, to improve trafficability during construction.

Settlements of at-grade floor slabs supporting light loads will be negligible.

5.7 CEMENT TYPES

Laboratory tests indicate that the site soils contain negligible amounts of water soluble sulfates. Therefore, concrete which will be in contact with the site soils may be prepared using Type I or IA cement.

5.8 SUBDRAINS

5.8.1 General

During the construction of the existing footings, a number of springs and other "perched" groundwater conditions were observed. Collection and subdrains were installed and have collected and controlled the groundwater conditions.

5.8.2 Perimeter Foundation Subdrain

Although groundwater was not observed within the borings at the time of completion, it is our recommendation that a perimeter foundation subdrain system be installed on the up-gradient and side-gradient portions of all below-grade walls of the structure.

Foundation subdrains should consist of two components. The first component consists of placing a four-inch diameter perforated or slotted, plastic or PVC pipe subdrain enclosed in clean gap-graded "free-draining" gravel. The invert of a subdrain should be located at least 18 inches

below the top of the lowest adjacent slab. The gravel portion of the drain should extend 2 inches below and laterally around the pipe and 12 inches above the top of the lowest adjacent slab. The gravel zone must be installed immediately adjacent to the perimeter footings and the foundation walls and separated from natural soils utilizing a geotextile, such as Mirafi 140N or equivalent. The slope of this subdrain should be at least 0.25 percent. The second component of the foundation subdrain is a chimney drain, which must extend up from the top of the foundation subdrain to within 12 inches of final grade. This may consist of a zone of "free-draining" gravel at least six inches wide (construction will likely dictate that it be at least two feet wide), or a synthetic drain board, such as Miradrain or equivalent. Gravel installed within the chimney drain must also be separated from the natural or subsequent backfill soils utilizing a geotextile as described above.

The upper 18 inches above the chimney drain should be capped with compacted fine-grained soil to reduce surface water infiltration into the drain. Adequate surface drainage away from the structure should be maintained.

Prior to the placement of the chimney/foundation subdrain, the outside of the subgrade walls must be appropriately dampproofed as a minimum if the subgrade level is for mechanical purposes or must be waterproofed if occupied.

5.8.3 Area Subdrains

In pavement or other surface areas which become saturated or where springs may be encountered, particularly during construction, an area subdrain or cut off drain may be required. Area subdrain details may be provided, at the owners request, as needed where and when conditions should warrant.

5.9 PAVEMENTS

The natural fine-grained soils will exhibit poor pavement support characteristics when saturated or nearly saturated. Considering these soils as the design subgrade soils and the projected traffic conditions, the pavement sections on the following pages are recommended.

University of Utah
Job No. 0128-042-09
Geotechnical Study
June 26, 2009



University of Utah
Job No. 0128-042-09
Geotechnical Study
June 26, 2009



Parking Areas

(Light to Moderate Volume of Automobiles and Light Trucks,
Light Volume of Medium-Weight Trucks,
and No Heavy-Weight Trucks)
[2 equivalent 18-kip axle loads per day]

Flexible:

2.5 inches	Asphalt concrete
7.0 inches	Aggregate base course
Over	Properly prepared natural subgrade soils, and/or structural site grading fill extending to natural subgrade soils

Rigid:

5.0 inches	Portland cement concrete (non-reinforced)
4.0 inches	Aggregate base course
Over	Properly prepared natural subgrade soils and/or structural site grading fill extending to suitable natural subgrade soils

Page 14

Primary Roadway Areas

(Moderate Volume of Automobiles and Light Trucks,
Light Volume of Medium-Weight Trucks,
and Occasional Heavy-Weight Trucks)
[5 equivalent 18-kip axle loads per day]

Flexible:

3.0 inches	Asphalt concrete
8.0 inches	Aggregate base course
Over	Properly prepared natural subgrade soils, and/or structural site grading fill extending to natural subgrade soils

Rigid:

6.0 inches	Portland cement concrete (non-reinforced)
4.0 inches	Aggregate base course
Over	Properly prepared natural subgrade soils and/or structural site grading fill extending to suitable natural subgrade soils

For dumpster pads, we recommend a pavement section consisting of six and one-half inches of Portland cement concrete, four inches of aggregate base course, over properly prepared natural subgrade or site grading structural fills extending to natural subgrade.

The above rigid pavement sections are for non-reinforced Portland cement concrete. Construction of the rigid pavement should be in sections 10 to 12 feet in width with construction or expansion joints or one-quarter depth saw-cuts on no more than 12-foot centers. Saw-cuts must be completed within 24 hours of the "initial set" of the concrete and should be performed under the direction of the concrete paving contractor. The concrete should have a minimum 28-day unconfined compressive strength of 4,000 pounds per square inch and contain 6 percent ± 1 percent air-entrainment.

Page 15

University of Utah
Job No. 0128-042-09
Geotechnical Study
June 26, 2009



University of Utah
Job No. 0128-042-09
Geotechnical Study
June 26, 2009



5.10 GEOSEISMIC SETTING

5.10.1 General

Utah municipalities adopted the International Building Code (IBC) 2006 on January 1, 2007. The IBC 2006 code determines the seismic hazard for a site based upon 2002 mapping of bedrock accelerations prepared by the United States Geologic Survey (USGS) and the soil site class. The USGS values are presented on maps incorporated into the IBC code and are also available based on latitude and longitude coordinates (grid points).

The addition must be designed in accordance with the procedure presented in Section 1613, Earthquake Loads, of the IBC 2006 edition.

5.10.2 Faulting

Based on our review of available literature, no active faults pass through or immediately adjacent to the site. The nearest active fault is the East Bench portion of the Wasatch fault approximately one-half to one mile west of the site. The Wasatch fault zone is considered capable of generating earthquakes as large as magnitude 7.3³.

5.10.3 Soil Class

For dynamic structural analysis, the Site Class D - Stiff Soil Profile as defined in Table 1613.5.2, Site Class Definitions, of the IBC 2006 can be utilized.

5.10.4 Ground Motions

The IBC 2006 code is based on 2002 USGS mapping, which provides values of short and long period accelerations for the Site Class B-C boundary for the Maximum Considered Earthquake (MCE). This Site Class B-C boundary represents a hypothetical bedrock surface and must be corrected for local soil conditions. The following table summarizes the peak ground and short and long period accelerations for a MCE event and incorporates a soil amplification factor for a Site Class D soil profile in the second column. Based on the site latitude and longitude (40.7591 degrees north and 111.8231 degrees west, respectively), the values for this site are tabulated on the following page.

³ Arabasz, W.J., Pechmann, J.C., and Brown, E.D., 1992. Observational seismology and the evaluation of earthquake hazards and risk in the Wasatch Front area, Utah, in Gori, P.L., and Hays, W.W., eds., Assessment of regional earthquake hazards and risk along the Wasatch Front, Utah: U.S. Geological Survey Professional Paper 1500-D, 36 p.

Spectral Acceleration Value, T Seconds	Site Class B-C Boundary [mapped values] (% g)	Site Class D [adjusted for site class effects] (% g)
Peak Ground Acceleration	59.2	59.2
0.2 Seconds, (Short Period Acceleration)	$S_S = 148.0$	$S_{MS} = 148.0$
1.0 Seconds (Long Period Acceleration)	$S_1 = 57.7$	$S_{M1} = 86.5$

The IBC 2006 code design accelerations (S_{DS} and S_{D1}) are based on multiplying the above accelerations (adjusted for site class effects) for the MCE event by two-thirds ($\frac{2}{3}$).

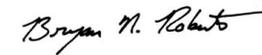
5.10.5 Liquefaction

The site is located in an area that has been identified by Salt Lake County as having a "very low" liquefaction potential. Liquefaction is defined as the condition when saturated, loose, finer-grained sand-type soils lose their support capabilities because of excessive pore water pressure which develops during a seismic event. Groundwater was not encountered within the depths penetrated, 5.0 to 41.5 feet. Additionally due to the clayey nature of the soils and the medium dense to dense nature of the deeper granular soils, liquefaction is not anticipated to occur during the design seismic event.

We appreciate the opportunity of providing this service for you. If you have any questions or require additional information, please do not hesitate to contact us.

Respectfully submitted,

GSH Geotechnical Consultants, Inc.



Bryan N. Roberts, State of Utah No. 276476
Professional Engineer

Reviewed by:



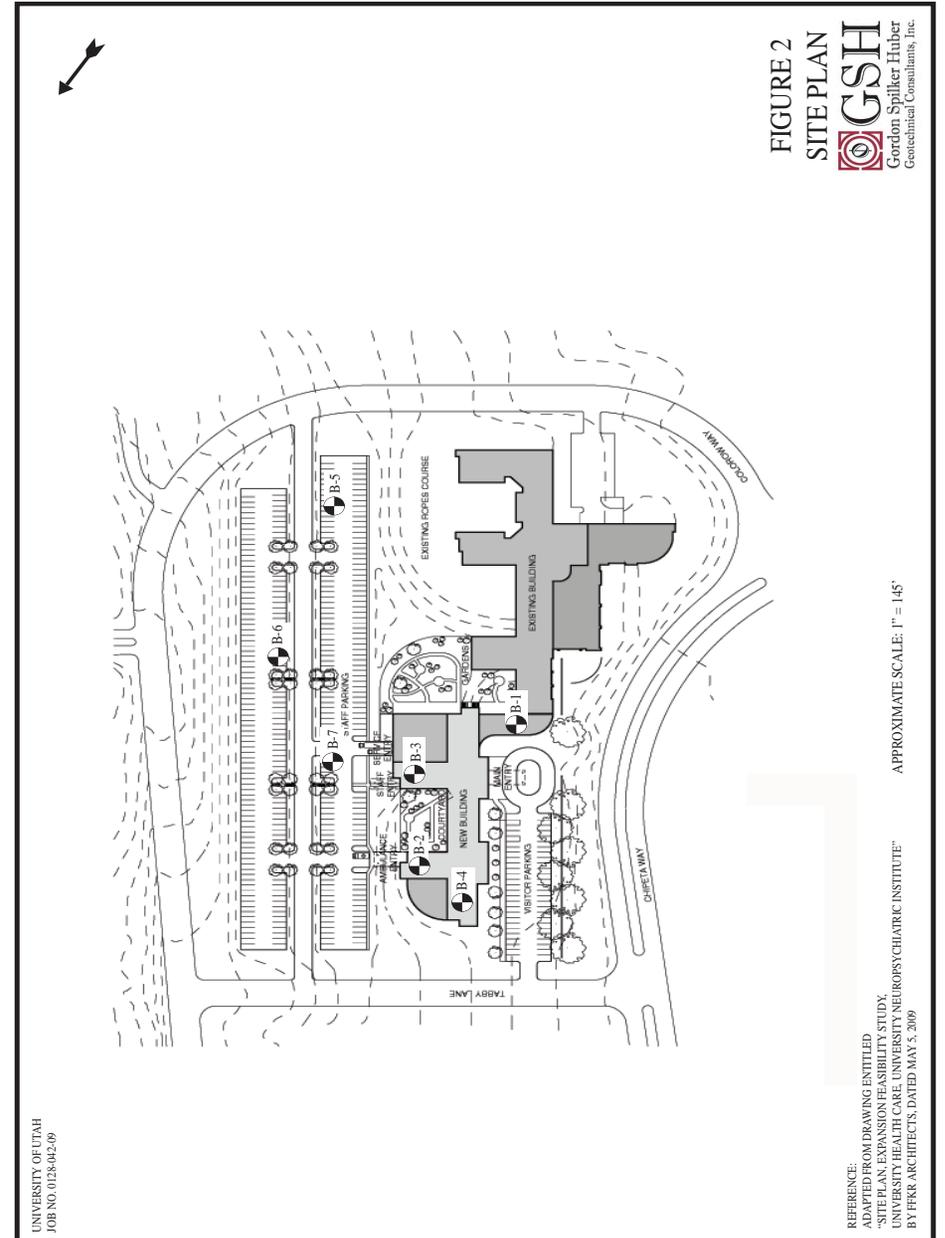
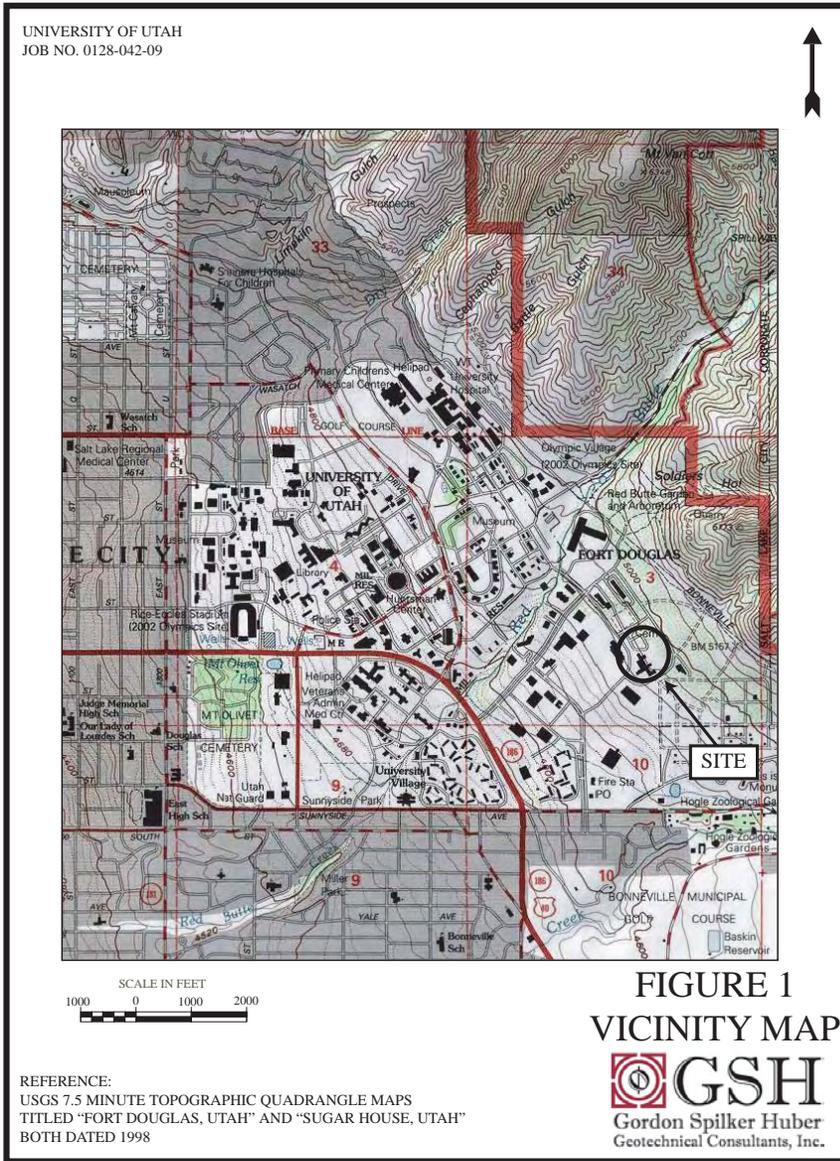
William J. Gordon, State of Utah No. 146417
Professional Engineer

BNR/WJG:sn

Encl. Figure 1, Vicinity Map
Figure 2, Site Plan
Figures 3A through 3G, Log of Borings
Figure 4, Unified Soil Classification System

Addressee (3 + email)

c: Mr. Bill Bowen, State of Utah, DFCM (1 + email)



Gordon Spilker Huber Geotechnical Consultants, Inc.
Salt Lake City, Utah 84123

BOREHOLE B-1

Page: 1 of 2

Project Name: Proposed Addition to the Existing UNI Facility
Location: 501 Chipeta Way, U of U Research Park, SLC, UT
Drilling Method: 3-3/4" ID Hollow-Stem Auger
Elevation: Approximate Overall Site 4945' to 4965' +/-
Remarks:

Project No.: 0128-042-09
Client: University of Utah
Date Drilled: 06-08-09 GSH Field Rep.: RJG
Water Level: No groundwater encountered.

Graphical Log Water Level	DEPTH FT.	BLOWS/FT	SAMPLE SYMBOL	MOISTURE (%)	% PASSING 200	DRY DENSITY (PCF)	Liquid Limit (%)	Plastic Limit (%)	REMARKS
	0								
									Ground Surface
									3" ASPHALT CONCRETE
									6" 3/4" ROADBASE
									CLAYEY FINE AND COARSE GRAVEL with some fine to coarse sand; light mottling; brown (GC)
	47								moist very stiff
									SANDY CLAY/CLAYEY SAND with occasional fine and coarse gravel; fine to coarse sand; trace pinholes; light brown mottling (CL/SC)
	5	29		13.3		110			moist very stiff/medium dense
									SILTY FINE SAND with trace clay; light reddish-brown (SM)
	10	38		13.4		98			moist medium dense
									grades with occasional clay lenses
	15	51							moist medium dense
									CLAYEY FINE AND COARSE GRAVEL with some fine to coarse sand; oxidation; brown (GC)
	20	31							stiff
									FINE AND COARSE GRAVELLY CLAY with some fine to coarse sand; oxidation; brown (CL)
	25								

The discussion in the text under the section titled, SUBSURFACE CONDITIONS, is necessary for a proper understanding of the nature of the subsurface material.

FIGURE 3A

Gordon Spilker Huber Geotechnical Consultants, Inc.
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BOREHOLE B-1

Page: 2 of 2

Project Name: Proposed Addition to the Existing UNI Facility
Location: 501 Chipeta Way, U of U Research Park, SLC, UT
Drilling Method: 3-3/4" ID Hollow-Stem Auger
Elevation: Approximate Overall Site 4945' to 4965' +/-
Remarks:

Project No.: 0128-042-09
Client: University of Utah
Date Drilled: 06-08-09 GSH Field Rep.: RJG
Water Level: No groundwater encountered.

Graphical Log Water Level	DEPTH FT.	BLOWS/FT	SAMPLE SYMBOL	MOISTURE (%)	% PASSING 200	DRY DENSITY (PCF)	Liquid Limit (%)	Plastic Limit (%)	REMARKS
									GRAVELLY CLAY/CLAYEY GRAVEL with numerous clay clasts; fine and coarse gravel; gray and brown (GC)
	23								moist stiff/loose
									CLAYEY FINE AND COARSE GRAVEL with some fine to coarse sand and cobbles at tip; tannish-brown (GC)
	30	93							moist dense
									FINE AND COARSE GRAVELLY CLAY with some fine to coarse sand; light brownish-tan (CL)
	35	41							moist hard
	40	71							
	45								Stopped drilling at 40.0'. Stopped sampling at 41.5'. No groundwater encountered at time of drilling. Installed 1-1/4" diameter skotted PVC pipe to 41.5'.
	50								

The discussion in the text under the section titled, SUBSURFACE CONDITIONS, is necessary for a proper understanding of the nature of the subsurface material.

FIGURE 3A
(con't)

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BOREHOLE B-2

Page: 1 of 2

Project Name: Proposed Addition to the Existing UNI Facility
Location: 501 Chipeta Way, U of U Research Park, SLC, UT
Drilling Method: 3-3/4" ID Hollow-Stem Auger
Elevation: Approximate Overall Site 4945' to 4965' +/-
Remarks:

Project No.: 0128-042-09
Client: University of Utah
Date Drilled: 06-08-09 GSH Field Rep.: RJG
Water Level: No groundwater encountered.

Graphical Log	Water Level	DEPTH FT.	BLOWS/FT	SAMPLE SYMBOL	MOISTURE (%)	% PASSING 200	DRY DENSITY (PCF)	Liquid Limit (%)	Plastic Limit (%)	REMARKS
		0								Ground Surface
		0								3" ASPHALT CONCRETE
		0								6" 3/4" ROADBASE
		0								SANDY CLAY/CLAYEY SAND with trace to some fine and coarse gravel; fine to coarse sand; trace pinholes; light mottling; brown (CL/SC)
		24	24	▲						moist stiff/loose
		5	22	▲	11.8		107			moist stiff
		5								SILTY CLAY with some fine sand; trace pinholes; light brown mottling; brown (CL)
		10	100+	▲	17.5		104			stiff moist very dense
		10								SILTY FINE TO COARSE SAND with occasional fine and coarse gravel; brown (SM)
		10								CLAYEY FINE AND COARSE GRAVEL with some fine to coarse sand; mottling; oxidation; brown (GC)
		15	74	▲						moist dense
		20	56	▲						
		25								

The discussion in the text under the section titled, SUBSURFACE CONDITIONS, is necessary for a proper understanding of the nature of the subsurface material.

FIGURE 3B

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Salt Lake City, Utah 84123

BOREHOLE B-2

Page: 2 of 2

Project Name: Proposed Addition to the Existing UNI Facility
Location: 501 Chipeta Way, U of U Research Park, SLC, UT
Drilling Method: 3-3/4" ID Hollow-Stem Auger
Elevation: Approximate Overall Site 4945' to 4965' +/-
Remarks:

Project No.: 0128-042-09
Client: University of Utah
Date Drilled: 06-08-09 GSH Field Rep.: RJG
Water Level: No groundwater encountered.

Graphical Log	Water Level	DEPTH FT.	BLOWS/FT	SAMPLE SYMBOL	MOISTURE (%)	% PASSING 200	DRY DENSITY (PCF)	Liquid Limit (%)	Plastic Limit (%)	REMARKS
		52	52	▲						SILTY CLAY with some fine to coarse sand and occasional fine and coarse gravel; brown (CL) grades fine and coarse gravelley clay with some fine to coarse sand; gray
		30	100+	▲						CLAYEY FINE AND COARSE GRAVEL with some fine to coarse sand; yellow and brown mottling/oxidation; light gray (GC) grades grayish-brown
		35	100+	▲						moist very dense
		40	54	▲						
		40.0'								Stopped drilling at 40.0'.
		41.5'								Stopped sampling at 41.5'.
		45'								No groundwater encountered at time of drilling.
		45'								Installed 1-1/4" diameter skotted PVC pipe to 41.5'.
		50								

The discussion in the text under the section titled, SUBSURFACE CONDITIONS, is necessary for a proper understanding of the nature of the subsurface material.

FIGURE 3B
(con't)

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Salt Lake City, Utah 84123

BOREHOLE B-5

Page: 1 of 1

Project Name: Proposed Addition to the Existing UNI Facility
Location: 501 Chipeta Way, U of U Research Park, SLC, UT
Drilling Method: 4-1/4" ID Hollow-Stem Auger
Elevation: Approximate Overall Site 4945' to 4965' +/-
Remarks:

Project No.: 0128-042-09
Client: University of Utah
Date Drilled: 06-09-09 GSH Field Rep.: RJG
Water Level: No groundwater encountered.

Graphical Log	Water Level	DEPTH FT.	BLOWS/FT	SAMPLE SYMBOL	MOISTURE (%)	% PASSING 200	DRY DENSITY (PCF)	Liquid Limit (%)	Plastic Limit (%)	REMARKS
		0								Ground Surface
		0								CLAYEY FINE TO COARSE SAND with some fine and coarse gravel; major root (topsoil) to 2"; mottling: brown (SC)
		5								loose to 3" moist "loose" to "medium dense"
		5								Stopped drilling at 5.0'. Stopped sampling at 5.0'. No groundwater encountered at time of drilling.
		10								
		15								
		20								
		25								

The discussion in the text under the section titled, SUBSURFACE CONDITIONS, is necessary for a proper understanding of the nature of the subsurface material.

FIGURE 3E

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BOREHOLE B-6

Page: 1 of 1

Project Name: Proposed Addition to the Existing UNI Facility
Location: 501 Chipeta Way, U of U Research Park, SLC, UT
Drilling Method: 4-1/4" ID Hollow-Stem Auger
Elevation: Approximate Overall Site 4945' to 4965' +/-
Remarks:

Project No.: 0128-042-09
Client: University of Utah
Date Drilled: 06-09-09 GSH Field Rep.: RJG
Water Level: No groundwater encountered.

Graphical Log	Water Level	DEPTH FT.	BLOWS/FT	SAMPLE SYMBOL	MOISTURE (%)	% PASSING 200	DRY DENSITY (PCF)	Liquid Limit (%)	Plastic Limit (%)	REMARKS
		0								Ground Surface
		0								CLAYEY FINE AND COARSE GRAVEL with some fine to coarse sand; major root (topsoil) to 3"; dark brown (GC)
		5								loose to 3"-4" moist "medium dense"
		5								Stopped drilling at 5.0'. Stopped sampling at 5.0'. No groundwater encountered at time of drilling.
		10								
		15								
		20								
		25								

The discussion in the text under the section titled, SUBSURFACE CONDITIONS, is necessary for a proper understanding of the nature of the subsurface material.

FIGURE 3F



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Salt Lake City, Utah 84123

BOREHOLE B-7

Page: 1 of 1

Project Name: Proposed Addition to the Existing UNI Facility
Location: 501 Chipeta Way, U of U Research Park, SLC, UT
Drilling Method: 4-1/4" ID Hollow-Stem Auger
Elevation: Approximate Overall Site 4945' to 4965' +/-
Remarks:

Project No.: 0128-042-09
Client: University of Utah
Date Drilled: 06-09-09 GSH Field Rep.: RJG
Water Level: No groundwater encountered.

Graphical Log	Water Level	DEPTH FT.	BLOWS/FT	SAMPLE SYMBOL	MOISTURE (%)	% PASSING 200	DRY DENSITY (PCF)	Liquid Limit (%)	Plastic Limit (%)	REMARKS
		0								loose to 3" moist "medium dense"
		5								Stopped drilling at 5.0'. Stopped sampling at 5.0'. No groundwater encountered at time of drilling.
		10								
		15								
		20								
		25								

The discussion in the text under the section titled, SUBSURFACE CONDITIONS, is necessary for a proper understanding of the nature of the subsurface material.

FIGURE 3G

