WASHINGTON STATE UNIVERSITY
SOUTHSIDE DINING CENTER RENOVATION - DESIGN NARRATIVE

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The Focus

This narrative brings together the planning team's comments, observations, and recommendations for the renovation and expansion of the existing Southside Dining Hall, which currently houses Southside Café and Southside Market. It is intended that these recommendations will contribute to the creation of the best possible solutions for WSU students, prospective students, faculty, staff, alumni, and visitors. The final renovated facility will seat approximately 585 students in an All-You-Care-To-Eat (AYCTE) dining center on the main level with additional seating for a separate retail Late Night Venue on the lower level. The AYCTE level will contain multiple venues called Micro-Restaurants™-- which are designed to allow staff to prepare and serve food during peak periods with minimal support from the kitchen, while also providing students with opportunities to enjoy variety in menu, seating, and décor. The long-term benefit of a Micro-Restaurant™ approach is that its variety helps to attract and retain student interest and, from a capital planning perspective, it significantly reduces the long-term costs of keeping the facility vibrant and appealing.

Contemporary higher education dining trends were an important reference point for these recommendations. This planning effort, the analysis and the recommendations contained in this report considered these trends and their influence on the dining program, both of which will add value to the WSU student experience.

History of the Mission

To fully appreciate the character and extent of the foodservice needs of the university, the foodservice consultants and architects worked closely with the university's project team to reach consensus on the operational, market, and facility goals of the project.

Information was gathered during in-person and virtual meetings with the project planning team to identify critical planning elements, e.g., pedestrian and material pathways, plans for the other program elements of the facility, and additional factors that might bear on the foodservice outcome.

As the planning continued, the planning team reviewed their findings, discussed development options, identified rough order of magnitude needs for mechanical, electrical, and plumbing related to the foodservice areas, and identified back of house support space needs. In addition, Bakergroup provided numerous charts and graphs to facilitate decisions related to the number of dining seats needed to support the program.

Bakergroup also completed an equipment survey, in which each piece of foodservice equipment was cataloged and evaluated for reuse.

Planning Assumptions, Observations, and Goals - Highlights

- The Southside Dining facility will host a dynamic and innovative dining program offering food choices and amenities crafted to be consistently interesting and relevant to student interests. The dining options that emerge in the planning should foster and reinforce the unique identity of the site, and the broad appeal of WSU.
- It is intended that this facility becomes a desirable destination site for restaurant-level dining, for non-meal period socialization, and as a showpiece for campus tour groups and prospective students.
- WSU continues to attract international students and students from domestic locales. There will be clear benefits to offering global cuisine, assembled from authentic ingredients. These offerings are valued by students and provide fun learning opportunities that allow students to expand their appreciation of foods from often unfamiliar countries.
- The university's goal is to create cutting-edge, restaurant-style experiences that will help students connect with other students in an environment where students will be able to "find their place" to engage, dine, and refresh.
- Guests using this building will enjoy easy circulation and logically located dining options. Students and other customers should be able to move freely through the facility without getting caught up in the queuing lines for each venue. Appropriate signage, intentionally designed traffic flow, and sightlines will be important to the outcome.
- Visible success: activity and "buzz" in the dining spaces should be visible, inviting, and easily accessed by students passing through the common areas.
- Students will have direct and convenient access to restroom facilities within the AYCTE operation.
- The design will anticipate the need to scale the operation during slower day parts, e.g., during breakfast, lunch, and on weekends.
- Many dining venues will include display preparation, where guests can watch an appealing mix of foods being prepared in full view. This preparation and service approach is usually perceived as reinforcing the expertise of the culinary staff, and is helpful to young students new to cooking and food prep. This approach to prep and service also creates important social bonds between students and the staff serving them.
- The AYCTE dining space should emphasize variety in seating. This is to be achieved by incorporating a variety of seating and table types, varying in both character and form.
- Food and supplies for AYCTE foodservice operations will enter through the loading dock on the east side of the First Floor. The delivery space will be designed to accommodate two semis or a semi and a box truck. Product for the market will continue to enter on the lower level until the market is phased out of the building.
- Finishes throughout the Micro-Restaurant™, retail, and seating areas will be a mix of basic,

mid-level, and premium materials – all of which are focused on creating restaurant-level dining and serving environments. This approach will require specialty lighting, custom fabricated counters, and a variety of seating types.

- The dining program will be developed on two levels, as follows:
    1. Level 1: The existing market will remain in place with no modifications until Phase 3, in which this level will be renovated to accommodate a Late Night Venue and additional seating.
    2. Level 2: This level contains the AYCTE facility that will be renovated over a period of 3 phases, including intermediary phases within those phases.
- There will be one main entry/exit point for the AYCTE facility, with the ability to have 1-2 staff overseeing this area. This approach will reduce staffing and security needs for the AYCTE operation.
- The seating areas should provide a relaxing environment for students to study and/or socialize with friends. In select areas, power outlets and USB ports will be available for students.
- All lighting in the Retail and Micro-restaurant™ locations should be dimmable, with work areas, counters and décor lighting all dimmed separately (three circuits) reflecting their unique purpose. Dining areas and dining area décor lighting should also be separately controlled and dimmed.
- All finish materials, including light fixtures, should be easily cleaned and within reasonable reach.

Technology Highlights

- Order-Ahead App will be considered for those short on dining time in addition to reusable to-go containers.
- Each walk-in refrigerator and freezer will have an alarm system, which may be connected to a campus system. Based on campus desires, walk-in refrigerators can be supplied with emergency power, to protect temps in the event of a power failure.
- Security cameras will be strategically placed throughout the dining areas to monitor transactions and flow of people, food, and supplies.
- Televisions may be located in the dining areas.
- Audiovisual sound systems, projectors, screens, and theatrical lighting may be required for the programming spaces in the facility.
- Consideration should be given to mobile device door access for all rooms in the facility.
- Consideration should be given to mobile device monitoring and control of lights in the dining areas. A system for staff to communicate between floors will need to be included in the technology plan.

Defining the Dining Experience

A recognized and strong trend, especially on campuses with multiple foodservice options, is to intentionally seek to create variety at each site; a market-competitive mix of varied student dining

options. For most campuses, the model for creating appealing options has centered on closely echoing the social and experiential qualities of the off-campus, retail market – with an emphasis on creating single site variety of experience and, often, a disconnect from the known and often too corporate or institutional identity of older, more traditional and now largely obsolete approaches to campus dining.

It is crucial to balance customer traffic and demand across different dining concepts. This balance reduces workload -- in managing production processes, product flow, product costs, control, and reduction of food waste -- while simultaneously enhancing customer service. To that point, it is strategically important that the concepts selected for the Southside dining program closely align with student interests while allowing for the flexibility in menu offerings required to continually adjust to maintain this balance.

Ease of movement through the spaces and facility will enhance customer service experiences, as will any outcome that rewards customers with regular and evolving engagement in culinary activities. This includes offering unique, freshly made, inspiring, authentic, and healthy menu choices.

Each of the concepts and Micro-restaurants™ can be considered as separate restaurant entities, with varied menus, lighting, and design character, creating their own sense of identity while striking an overall chord of harmony with the student interests at WSU.

The Program – Described by Area:

AYCTE

Dining Areas

Approach: Dining areas will take advantage of the views of the campus and, of course, the natural light resulting from windows. As much as possible, the dining areas will be developed to improve the connection with the adjacent campus environs, other building elements, and to offer a view of the preparation of fresh food.

The dining areas should offer variety in both seating and table styles. This will have great appeal to the student customer -- whether they are accompanied by friends, dining as individuals, or in concert with a larger group. Seating configurations will include intimate spaces where students can enjoy a quieter moment and active dining places to allow students to “see and be seen.”

Seating and table options should include community tables for up to 14 persons, rectangular tables for 2 and 4 people, bar counter seating, bar-height tables, booths, community tables, and banquette seating. In some areas of the dining spaces, the table arrangement will allow for the grouping of rectangular tables to accommodate larger groups of students. This is to encourage socialization and community building.

Example Equipment List: Tables, chairs, booths, banquettes, power at tables, wireless routers.

Finishes: The decor of the seating area may relate to the character of adjacent spaces. In consideration of the menu items consumed in the dining areas, colors and materials should be selected for their resistance to staining and damage.

Variety is sought in material and finish selection. Dimmable and specialty lighting should set the stage for the restaurant dining experience.

The Micro-Restaurants

Each Micro-restaurant™ and Retail Concept is envisioned to have its own identity, creating its own unique destination within the facility. Specialty lighting is a critical component of creating restaurant ambiance.

Equipment for each Micro-restaurant™ will be provided to support production and service. Individual restaurants will have their own character/brand identity. Graphics, signage, lighting, character, and experience will vary by restaurant. Lights should be dimmable and provide contrast throughout the space. Restaurant and menu signage may require power, data, and lighting to illuminate the signage. Some restaurants may be appropriately provided with background music.

Ceilings above all prep areas are required to be easily cleanable.

Select restaurants will remain open for extended hours of service. Those Micro-restaurants that are closed should not detract from the customer experience at those Micro-restaurants that remain open.

Finishes for the Micro-restaurant™ and Retail Concepts must be cleanable and durable yet create character and appeal.

Phased Approach - Overview

The Southside Dining Hall renovation will be built over 3 phases with sub-phases within each phase. The following identifies the foodservice scope within each phase and details the components of those areas.

- **Phase 1.1**
  - Relocate warewashing
  - Relocate Pizza, Continental and Dessert to center venues
  - Renovate Deli and Salad
  - Remove POS stations and convert to seating
  - Reset Beverage stations
  - Construct Southwest Venue
  - Reset seating area as part of base build-out
- **Phase 2.2**
  - Construct Naturals venue
  - Utilize existing Dairy Cooler for dedicated Naturals cooler
  - Build new Dairy Cooler in existing Pot Wash
- **Phase 2.4**
  - Renovate existing Chef/Grill venues
- **Phase 2.6**
  - Enclose East loading dock
  - Create Receiving area
  - Add compactors and bailers
- **Phase 3.0**
  - Add Pan-Asian venue
  - Add restrooms and serving staff areas

Phase 1.1

Queuing and Access Control

Approach: The access to the dining areas will include space required for customers to queue while being admitted into the AYCTE area as well as at each individual venue. The queuing areas for each concept should provide adequate space to handle the peak demand period.

Example Equipment List (see Bakergroup cost estimates): Secured key card accessed gated entry, staffed Point of sale (POS registers)

Finishes: The décor communicates to the customers that their dining experience will be restaurant quality.

Area: Beverages

Approach: Four beverage stations will be conveniently located throughout the AYCTE facility.

Example Equipment List: Soft drink dispensers, water dispensers, coffee makers, tea brewers, juice dispensers, milk dispensers, under-counter refrigeration

Area: Pizza

Approach: Pizza, a staple in many college students' diets, will be featured at this Micro-restaurant. To facilitate the baking of a high volume of pizzas, an impinger pizza oven in addition to a highly visible Stone Hearth pizza oven will be utilized in the concept preparation space, which will also allow for the option of baked pasta dishes. This venue is positioned so that it can be supported from behind by the main kitchen. *Example Equipment List:* Ventilation hood with fire suppression, Impinger pizza oven, refrigerated pizza-making worktable, heated product holding, hot plates, breath protection, pizza cutting space/board, hand sink.

Area: Southwest

Approach: The southwest venue will feature cuisine inspired by South American and Mexican cuisines. There will be adequate space for both cold and hot preparation, with limited visibility to the customer to experience the excitement of production. The majority of production will take place in this venue, equipped with a dedicated cooler and a small dry storage area.

Example Equipment List: Planchas with refrigerated base, combi oven, charbroiler with refrigerated base, fryers, tortilla press, prep table with sink, hand sink, hot and cold wells, and breath protection.

Area: Deli

Approach: This venue will serve both hot and cold sandwiches with an appealing menu providing exciting and fresh options with the ability to easily adjust the menu. It will be made to order with a limited menu to provide efficient speed of service. There will be panini presses and/or rapid cook ovens for hot sandwiches to order, with all production being in full view of the customer. Most of the "mise en place" will be produced within the First Floor back of house production area to be transported to the venue prior to meal service. There will also be a small grab-and-go area with a selection of pre-made sandwiches.

Example Equipment List (see Bakergroup cost estimates): Panini presses, rapid cook ovens,

refrigerated prep tables, cold wells, breath protection, worktable, walk-in cooler, soup wells, hand sinks, and storage racks.

Area: Salad

Approach: Salad bars are extremely popular in AYCTE facilities. This self-service salad bar will have a robust array of offerings from fresh vegetables, fruit, toppings, and dressings for customers to build their own salads. There will be flexibility to produce a tossed to order featured salad of the day. It will include a self-service soup bar. This venue will require minimal staffing.

Example Equipment List: Cold wells, breath protection, induction soup wells, speed racks, hand sinks, worktable, prep sink, pass-through refrigeration, and storage racks.

Area: Desserts

Approach: Menu offerings may include donuts, cookies, and other specialty dessert items. Most items, such as cookies and pastries, will be made from scratch.

Example Front of House Equipment List): Bakery displays to include both ambient and cold items, counters, hand sink, undercounter refrigeration, worktables, breath protection and frozen yogurt machine.

Area: Cereal/Continental

Approach: The cereal and continental bar will be entirely self-service and will include items such as cold cereal dispensers, waffle makers, milk, and toast stations. Customers can help themselves during any meal service.

Example Equipment List: Cereal dispensers, undercounter refrigerator, conveyor toasters, ambient bread display case, milk dispensers, and alternative milk dispensers.

Area: Ware washing | Pot & Pan Washing

Approach: The current warewashing in the front of house will be relocated and reset to accommodate the addition of pot and pan washing. It will be directly accessible through the back of house from the main production kitchen on the first floor and from the service venues.

The dishwashing functions will be supported by equipment designed to facilitate the efficient cleaning of pots and pans, as well as serving ware. Proper drainage, water-resistant wall surfaces, and hose reels will enable staff to clean the equipment and room efficiently and thoroughly. Adequate ventilation is needed to remove heat, steam, and moisture from the air.

A custodial closet with a mop sink and storage for cleaning supplies and products will be located near this area. Disposers will be installed adjacent to the scrapping table in the dish room.

Example Equipment List: Dish machine (flight-style), accumulator, scrapping station, disposers, 3-compartment pot sink, soak sinks, silverware sorting table, drying racks, hose and reel, utility carts, hand sinks, storage racks, and floor troughs.

Phase 2.2

Area: Naturals

Approach: The Naturals venue will feature a Top 9 allergen-free menu and selection of allergen-

friendly continental items. The venue will have a dedicated cooler and dry storage for securing allergen items. It will also feature a dedicated cold and hot production area with customer visibility, allowing them to see curated aspects of production.

Example Equipment List: Walk-in cooler, reach-in freezers, griddle with refrigerated base, combi oven, charbroiler with refrigerated base, fryers, prep table with sink, hand sink, hot and cold wells, breath protection, and condiment dispensers.

Phase 2.4

Area: Grill

Approach: The existing grill venue will be renovated and expanded in its current location. The grilling equipment is located behind the service counter, with customer views into the preparation area, allowing students to see their food being prepared.

Example Equipment List: Griddle with refrigerated base, combi oven, charbroiler with refrigerated base, fryers, prep table with sink, hand sink, hot and cold wells, breath protection, and condiment dispensers.

Area: Chef Action

Approach: The existing Chef Action venue will be renovated and reset in its current location. The equipment will be located behind the service counter, with customer views into the preparation area, allowing students to see their food being prepared.

Example Equipment List: Griddle with refrigerated base, combi oven, charbroiler with refrigerated base, fryers, carving station, smoker, rotisserie prep table with sink, hand sink, hot and cold wells, breath protection, and condiment dispensers.

Phase 2.6

Area: Receiving

A two-bay dock will be included as part of the general support spaces for the building. The dock will be screened from public view as much as possible. The dock will be raised, and one dock leveler and a ramp will be installed to assist with loading and unloading food and supplies. The receiving space will house bulk CO_2, a power wash station for cleaning carts and racks, a central oil waste collection system, parking space for floor cleaning machines, a battery charging station, and storage for the following: flatbed trucks, pallet jacks, milk crates, bread racks, bins for soiled linens and uniforms, and other miscellaneous items.

Air curtains will assist in keeping pests from entering the building. Outdoor dock storage needs to include space for trash, compost bins, cardboard recycling, other recycling bins, and drainage.

Area: Pan Asian

Approach: The Pan Asian venue will feature a variety of Asian cuisines with the option to offer self-serve items or made to order bowls. This venue will focus on authenticity in cuisine and made from scratch preparation with finished to order cooking in front of the customers. A portion of the preparation will occur in the second floor back of house production kitchen and be brought out prior to service.

Example Equipment List: Ventilation hood with fire suppression, wok ranges, rice cookers, soup wells, hot wells, breath protection, worktable with undercounter hot holding and refrigeration, cold wells, and hand sink.

Area: Support Spaces

Finishes: The interior finishes of all back-of-house spaces, including kitchen, ware washing, and receiving will be selected for ease of maintenance. The production kitchen and ware washing could have some finishes in colors, creating a more appealing work environment. Lighting levels throughout the back-of-house spaces will be bright, to reduce eye fatigue.

Walls below all ventilation hoods need to be stud framed, non-combustible, and water resistant. Cement board should be used on any walls surrounding hoods.

If FRP is selected as a finish for the back of house spaces, then it should be fully sealed at seams(strip over then fully seal on each side of the strip to eliminate any chance of water seeping behind FRP).This finish is typically provided in all wet/damp areas but can also be provided in back-of house (BOH) kitchen areas if tile is not used.

Area: Offices and Building Support

Approach: Offices to support the dining management team will be located mainly on the Second Floor, with a bakery office on the First Floor. Employee support spaces include locations for clocking in and out, accessing communication, changing rooms, restrooms, and lockers.

Example Equipment List: Lockers, power, time clocks, storage racks, data and phone lines.

Retail

In Phase 3.0, the ground floor will be renovated to remove the existing market. A new private dining room will be located in the existing market location, which will provide flexibility depending on demand. A new late night retail venue will be built within the existing space with a back of house area adjacent to the existing passenger elevator for direct access to storage for goods received.

Queuing and Access Control – Late Night Venue

Approach: The access to the Late Night Venue on the lower level will be on that level from the exterior. Access and seating design will accommodate queuing space for customers and include queuing for order-ahead pickup.

Finishes: The décor communicates to the customers that their dining experience will be restaurant quality.

Dining Areas

Approach: Dining areas will take advantage of the views of the campus and, of course, the natural light resulting from windows. As much as possible, the dining areas will be developed to improve the connection with the adjacent campus environs and other building elements.

Seating and table options should include a mix of soft seating, rectangular tables for 2 and 4 people, booths, and banquette seating. In some areas of the dining spaces, the table arrangement will allow for the grouping of rectangular tables to accommodate larger groups of students or individuals with the ability to transition it to a private dining space.

Example Equipment List: Tables, chairs, booths, banquettes, power at tables, wireless routers.

Finishes: The decor of the seating area may relate to the character of adjacent spaces. In consideration of the menu items consumed in the dining areas, colors and materials should be selected for their resistance to staining and damage.

Variety is sought in material and finish selection. Dimmable and specialty lighting should set the stage for the late night dining experience.

Area: Ware washing | Pot & Pan Washing

Approach: The dishwashing functions will be supported by equipment designed to facilitate the efficient cleaning of pots and pans. Proper drainage, water resistant wall surfaces and hose reels will enable staff to clean the equipment and room efficiently and thoroughly. Adequate ventilation is needed to remove heat, steam, and moisture from the air.

A custodial closet with a mop sink and storage for cleaning supplies and products will be located near this area.

Example Equipment List : three compartment pot sink, single-door dish machine, drying racks, hose and reel, utility carts, hand sinks, storage racks, and floor troughs.

Area: Receiving

The late night venue will share receiving with the AYCTE on the main level. Product will be received in the receiving area on this floor and transported to the BOH of the Late Night Venue from the elevator located by the entrance to the AYCTE.

Waste Management

The late night venue will share the waste and recycling facilities located at the receiving dock on the main level.

END OF FOODSERVICE NARRATIVE

BACKGROUND

NAC has subcontracted with Keller Associates to provide civil predesign service for the Southside Dining Hall renovations at the Washington State University (WSU) campus. The project location is shown in Figure 1, depicting Southside Dining Hall adjacent to Stadium Drive.

Figure 1 Project Location

PROJECT DESCRIPTION

The project will be completed in three phases. NAC has provided the proposed site plan for the Phase 1 and 2 work, shown in Figure 2. The exterior site improvements and building addition are located in the northwest of the site with new generator, mechanical yard, revised parking, loading dock and small building expansion for Phase 2. The remaining work is interior to the building and not impacted by site constraints.

Phase 1 includes interior renovations with no civil site components. It is also our understanding that WSU uses an above-grade oil-water separator for kitchen operations so no new facilities are needed for that aspect of the sewer.

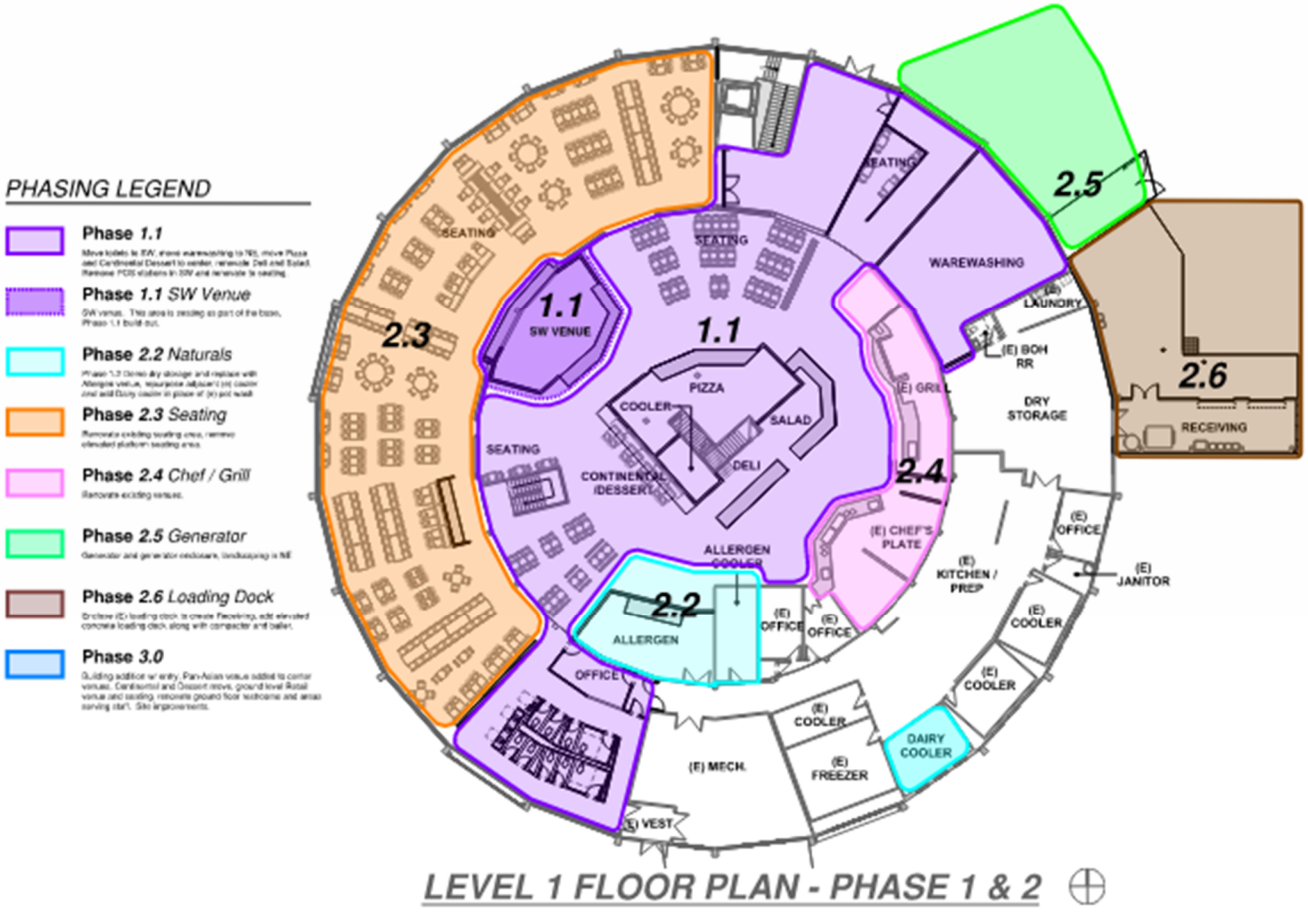
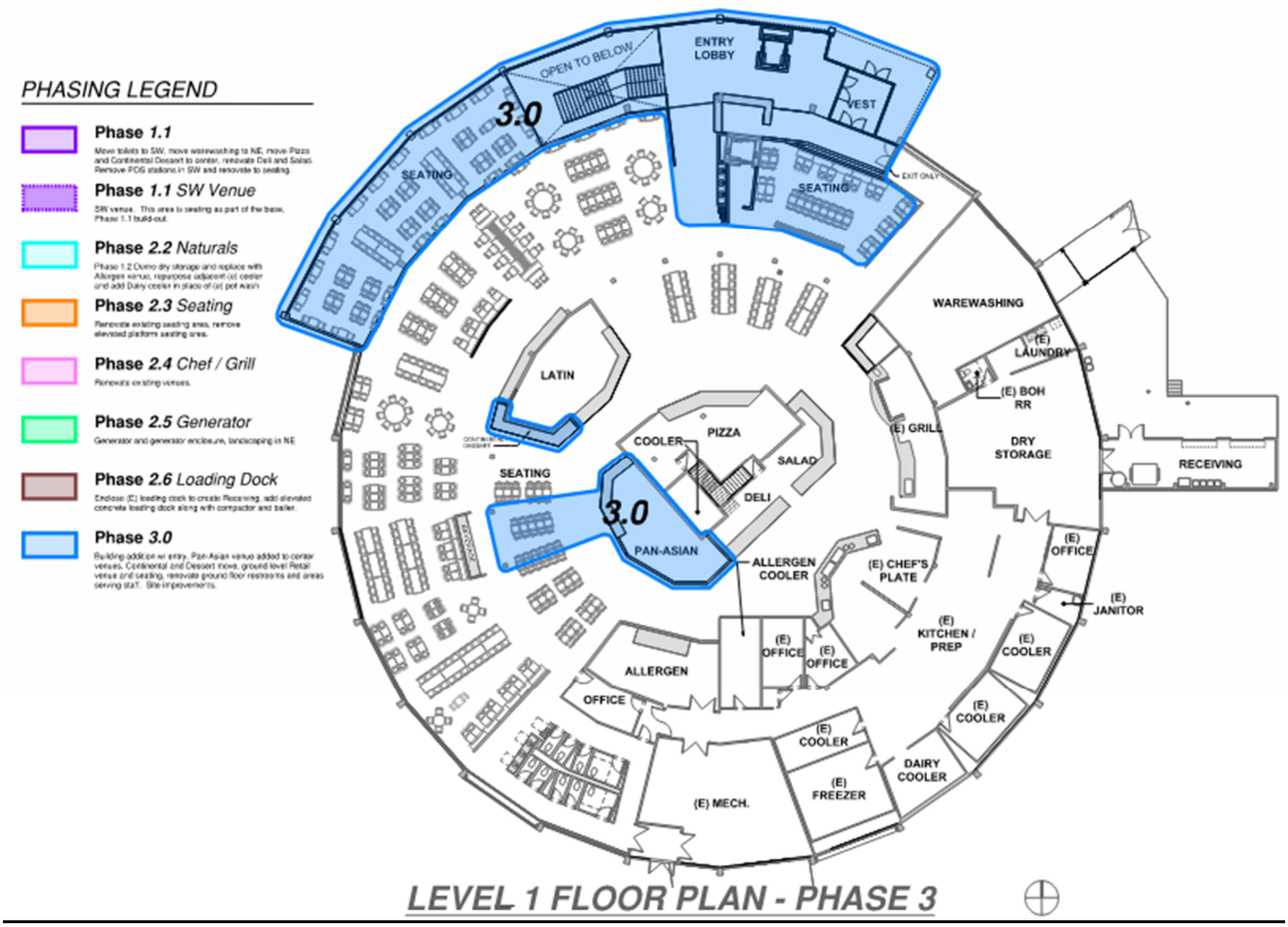


Figure 2 Proposed Base Phase 1

Phase 3 includes an addition to the northwest third of the building with some lower-level expansion along with a larger upper-level expansion. See Figure 3 for the expansion footprint at the northwest

Figure 3 Phase 3 Improvements

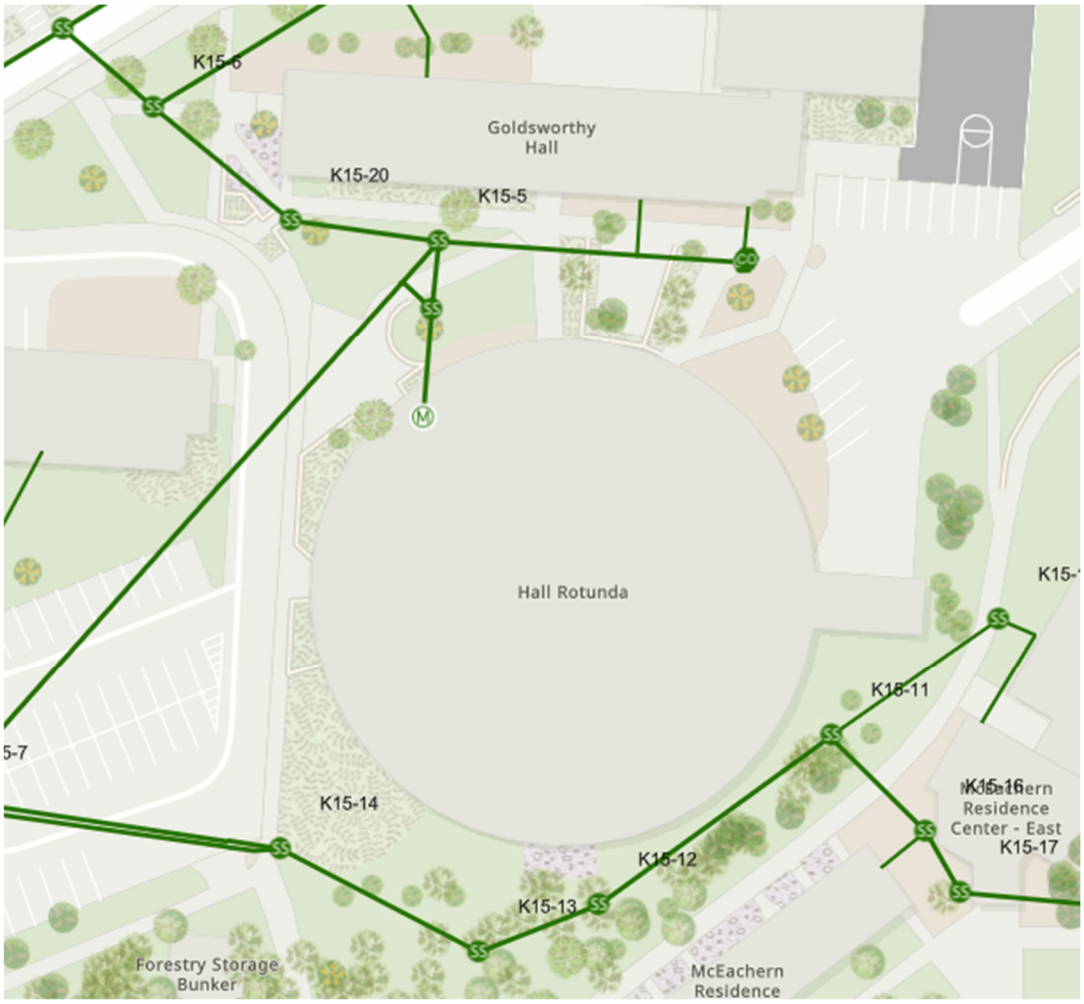


UTILITY REVIEW

Sewer

Southside Dining Hall is currently served by City of Pullman's sewer service with an 8-inch service to the north between Southside and Goldsworthy Hall see Figure 4. WSU GIS mapping shows that an 8-inch sewer service ties into the building with a meter toward the northwest corner of the structure. A sewer manhole is directly north of this service with a rim elevation of 2494. Additionally, there is an 8-inch sewer line on the southerly perimeter of the building. However, this line is not within the limits of project disturbances. This sewer has capacity for the renovations as it is an 8-inch line.

Figure 4 Existing Sewer Mapping

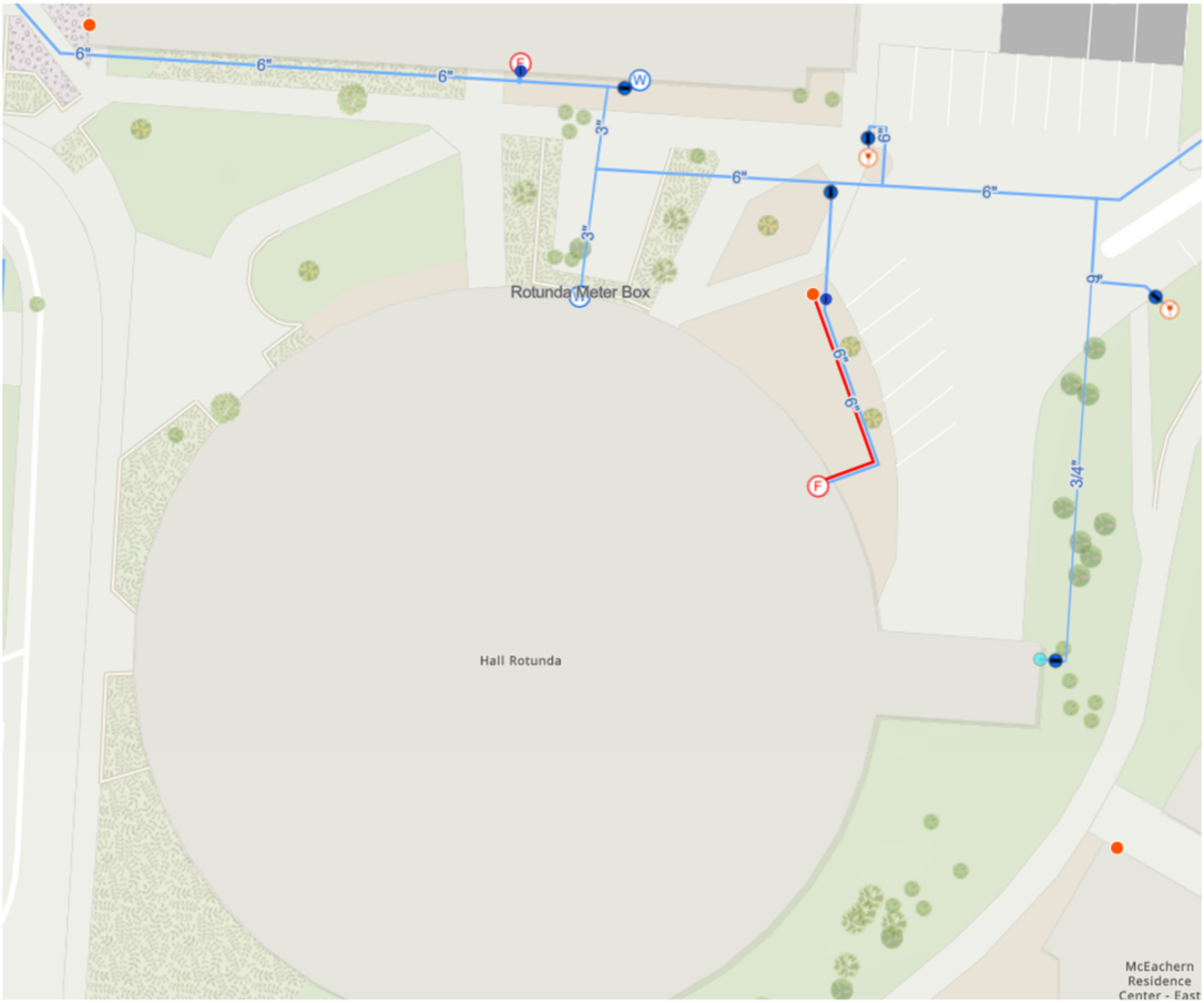


The sanitary sewer service connection (denoted by “M”) may be impacted by Phase 3 with the expansion. Additionally, one footing is situated close to the northerly manhole that may require a modification to the sewer service.

Domestic and Fire Suppression Water

WSU owns and operates its own water system. Southside Dining in served by the low-pressure water distribution system and has a 6-inch fire suppression line with PIV and FDC to the northeast corner of the existing structure. The PIV, FDC, and adjacent hydrant are located in planter islands west of the existing parking area. A 3-inch water service and meter are located toward the north central side of the building. A ¾-inch service line extends to the existing loading dock from the 6-inch main. An additional fire hydrant is located northeast of the building adjacent to the stairs leading to McEachern Residence Center. Fire capacity and pressures for the water are sufficient to serve the building with estimates of 60 to 80 psi and 2,000 to 3,000 gpm.

Figure 5 Existing Water Mapping



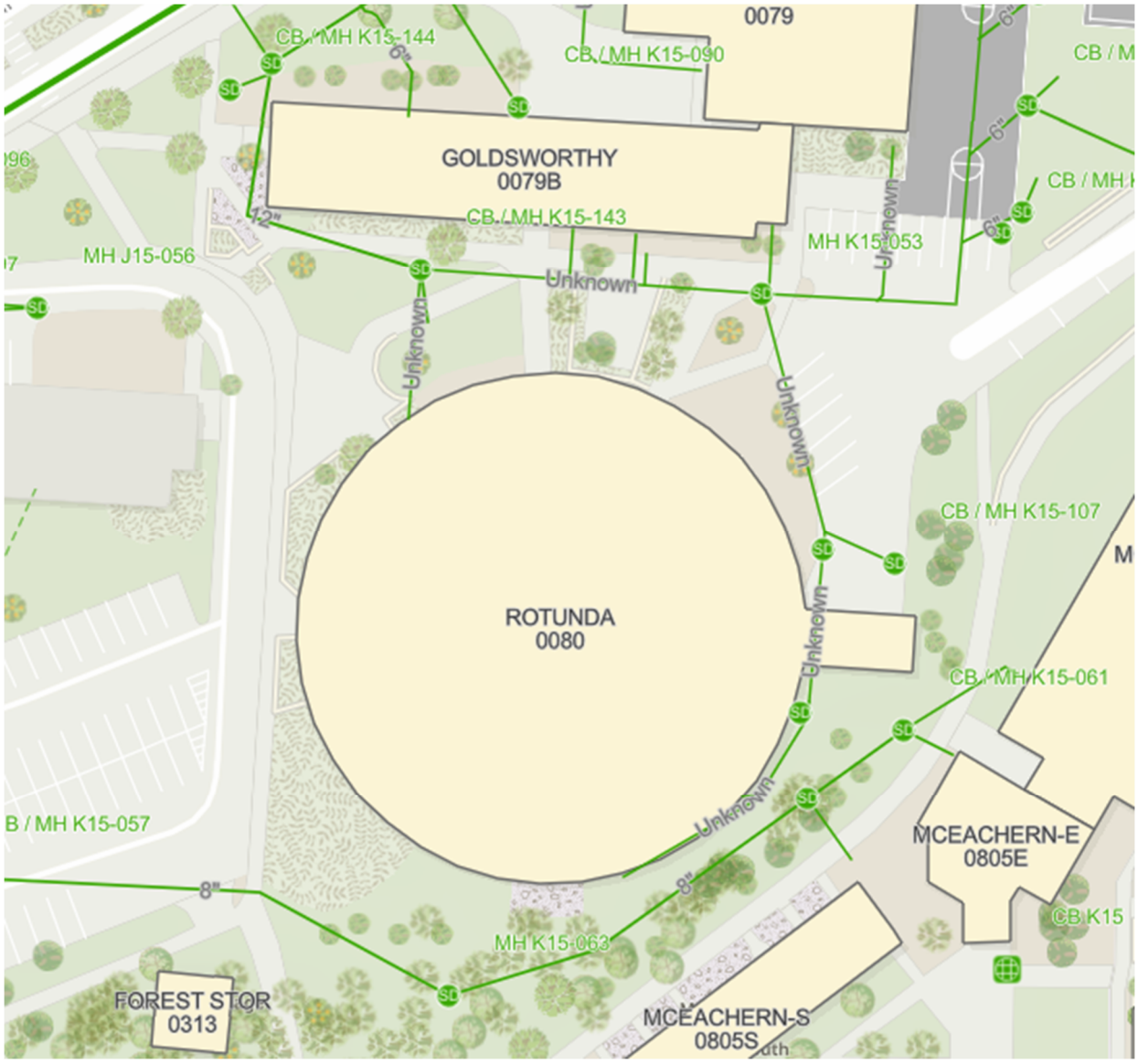
The FDC, PIV, 6-inch fire line, and ¾-inch service may be impacted by the Phase 2 extents. Depending on the construction of the fire supply line, this line could be left in place in the space allocated for the generator but with the generator placed in a location as to not impede the functionality or accessibility of the FDC and PIV.

The meter and service line may be affected by Phase 3 construction. The meter will be moved north of the Phase 3 expansion.

Stormwater

WSU GIS mapping shows storm infrastructure to the north of the building, within the northeast parking area and an unknown line along the southeast edge of the Southside Dining Hall as seen in Figure 6.

Figure 6 Existing Storm Mapping



The line extending under the loading dock is likely footing and roof leader connector piping but should be investigated during design. The catch basin on the west side of the parking area will require removal and replacement to revised location along with extension of the existing pipes to the new catch basin location.

Phase 2 includes approximately 1,300 sf of additional roof area in lieu of existing landscaped areas. As this is under non-pollutant generating and 10,000 sf, no additional stormwater controls such as detention swale are required. Phase 3 includes approximately 3000 sf of additional impervious area that is existing landscaped area. Even if both phases are combined, they still fall below the 10,000 sf threshold trigger for new stormwater controls with approximately 4,300 for phase 2 and 3. No additional facilities are needed for the project aside from roof leader and footing drain connections to existing stormwater infrastructure. As Palouse soils do not accommodate infiltration of stormwater into the subgrade, all roof drains and footing drains shall be hard piped to existing infrastructure.

Electric and Gas

Electric and gas services are provided by WSU and Avista.

END OF CIVIL NARRATIVE

Structural Design Narrative

The following design narrative provides a general overview of the structural design including project overview, design criteria, material specifications, and structural framing descriptions.

Project Overview

The project consists of renovating an existing concrete building over different phases of construction. The existing building is a partial two-story round structure with a pre-cast concrete floor and roof.

Design Criteria

- 2021 International Building Code and Referenced Code Standards Therein
- Roof (Snow) 30 PSF
  - Designed for drifting snow in accordance with ASCE 7.
  - Importance Factor = 1.10
- Floor Live Load
  - Dining and Kitchen Area 100 PSF
  - Stairs and Exit Ways 100 PSF
  - Mechanical 125 PSF
  - Roof Live Load 20 PSF
- Roof Total Load Deflection Limit L/240
- Roof Live Load Deflection Limit L/360
- Frost Depth 36”
- Wind Design
  - Basic Wind Speed (3-second gust) 110 MPH
  - Exposure B
  - Occupancy Category III
- Seismic Design
  - Occupancy Category III
  - Importance Factor 1.25
  - Site Class D – Assumed
  - Seismic Design Category C – Assumed

Material Specifications

- Concrete Strengths (at 28 days)
  - Foundations and Footings 3,000 PSI
  - Slab on Grade 3,000 PSI
- Reinforcing Bars (Rebar) ASTM A615, Gr. 60
- Tube Steel
  - Glazing Support ASTM A500, Gr. C
  - Columns ASTM A500, Gr. C
- Wide Flange
  - Beams ASTM A992, Gr. 50
- Miscellaneous Shapes & Plates ASTM A36
- Miscellaneous Shapes & Plates ASTM A36
- Metal Decking
  - Metal Roof/Floor Decking ASTM A653, Gr. 50
- Cold-Formed Steel
  - 43 mil and Lighter ASTM A653 or A1003, Gr. 33
  - 54 mil and Heavier ASTM A653 or A1003, Gr. 50

Phase 1

The structural scope of work in Phase 1 will be to identify locations in the structure for new mechanical penetrations that cause minimal impact to the structure.

Phase 2

Enclose the existing loading dock with cold-formed steels studs and build a new concrete loading dock to the north.

Phase 3

Expand the seating area to the north and west on Level 1 and relocate the main stairs between the ground level and Level 1.

The ground level will be expanded with a new concrete stemwall and a 6 inch thick reinforced slab on grade.

Level 1 will be expanded with 3 ½ inches of concrete over a 3 inch composite metal decking and supported with wide flange beams. The roof will be framed with HSS steel framing and 1 ½ inch metal decking to match the slopes of the existing roof.

It is not anticipated that the additional floor and roof area will require a seismic upgrade of the building.

Existing Conditions

The existing building is served by the campus steam system for heating and a local air-cooled chiller located on the south side of the building for cooling. The lower level is served by two air handling units: one serving the perimeter of the lower level and one serving the core areas. The upper level is served by a single variable air volume air handler with cooling only terminal units controlling airflow to each zone. The perimeter of the upper level uses baseboard heating when re-heat is required. A make-up air handling unit with evaporative cooling and gas heat provides tempered air to replace air exhausted by the various kitchen hoods. A closed-circuit cooling tower provides year-round cooling for walk-in coolers and freezers.

Steam powered domestic water heater provided softened hot water to the building. Steam powered booster heaters serve kitchen appliances that require high temperature hot water. The waste from the grease-producing drains is routed to an above grade grease interceptor located in the lower-level mechanical room.

Codes and Standards

The mechanical systems will be designed to conform, at a minimum, to the following codes and standards:

International Building Code
International Mechanical Code
International Fuel Gas Code
International Fire Code
Uniform Plumbing Code
Washington State Non-Residential Energy Code
Americans with Disabilities Act (ADA)
American Society of Civil Engineers Minimum Design Loads for Buildings and Other Structures ASCE 7-16 (seismic)
American Water Works Association (AWWA)
The National Fire Protection Association (NFPA)
Sheet Metal and Air Conditioning Contractors' National Association (SMACNA)
Underwriters Laboratories (UL)
Applicable state and local ordinances

Design Temperatures

Conditions	Cooling Mode	Heating Mode
Outdoor	94 ˚F DB/ 64 ˚F WB*	2 ˚F*
Occupied Areas	76 ˚F	70 ˚F
Telecom Rooms	76 ˚F	70 ˚F
Mechanical and Electrical Equipment Rooms	85-90 ˚F	55 ˚F

*The outdoor conditions noted are prescribed by the WA State Energy Code,

Appendix C, and will be used for the basis of the HVAC loads. Provisions for handling higher and lower temperatures, as they occur, will be evaluated.

General Approach

The existing air handling systems (air handling units, make-up air handling unit and exhaust fans) will be re-used with diffusers and terminal units modified to suit the new program. Grease exhaust from Type 1 kitchen hoods serving the venues in the core area will be routed to the mechanical penthouse, using existing penetrations and re-using existing exhaust fans where feasible. Additional new equipment will be provided to serve building additions or significant program changes, when necessary.

The existing chiller and closed-circuit cooling tower will be replaced with a heat pump chiller that will provide both heating and cooling capacity for the building. A section of the new heat pump chiller will include heat recovery to take advantage of the year-round cooling loads from the walk-in freezers and coolers. The new heat pump chiller will act as the first stage of heating, providing low temperature heating water (LTHW) to the building. Baseboard heaters on the perimeter of the upper level and steam heating coils in existing air handling units will be replaced with new LTHW coils. The new LTHW system will be glycoled to prevent freezing in coils exposed to outside air. The existing steam system will be used to provide supplemental heat to the LTHW system when the heat pump chiller cannot provide sufficient heat on its own. The LTHW system will also have connection points through a heat exchanger for a future campus LTHW system that can replace the use of steam as supplemental heat.

Ventilation Requirements

Locate new fresh air intakes away from exhaust vents, plumbing vents, outdoor smoking areas, kitchen exhaust, and building loading areas. Provide outside air ventilation rates in accordance with the Washington State Energy Code and ASHRAE Standard 62.

Provide an exhaust rate in toilet rooms at the rate of 10-12 air changes per hour. Provide exhaust for kitchen and dishwasher hoods in accordance with equipment requirements as specified by the kitchen consultant. Makeup air shall be reintroduced by means of existing make-up air handling unit and air handling unit fresh air intakes to meet or exceed the minimum exhaust requirements. Existing pressurization issues in the building will be addressed when the steam heating coils are replaced in the make-up air unit and the air handling unit serving the upper level. The new coils will be sized to handle additional outside air to allow additional make-up air to be brought into the building without compromising occupant comfort.

Serviceability

Provide easy access to all valves, traps, and strainers in the plumbing and hydronic systems. Provide access to all DDC system controllers, fans, filters, balancing dampers and other equipment requiring service. Each main restroom shall have its own valves.

Fire Protection

The existing fire sprinkler system will be re-used. Sprinkler heads will be relocated and/or replaced as necessary for the new program. Fire suppression for the kitchen hoods will be provided with the hoods.

Seismic

The Seismic Design Category is assumed to be Seismic Design Category B. This needs to be confirmed by Geotechnical input and with the Structural Engineer. It is assumed that seismic bracing will not be required.

Snowmelt

Not anticipated at this time.

Basic Plumbing

The existing domestic hot and cold-water distribution system will be re-used and modified as necessary for the new program. New water heaters will use the LTHW system through a heat exchanger as a first stage of heating with electric heating coils in storage tanks to supplement the water to 140 degrees. Hand sinks and lavatories will have point of use mixing valves to temper the water down to 120 degrees. A hot water recirculation system will be provided within proximity to fixture banks. The existing water softener will be re-used.

The existing gravity sanitary drainage system will be re-used and modified as necessary for the new program. Grease waste from the kitchen, venues and dishwashing areas will be piped separately from the sanitary drainage system and will be discharged to an existing above ground grease trap located in the lower-level mechanical room.

Automatic solenoid valves to close off the gas supply when the kitchen hood fire suppression is activated will be required for any kitchen equipment utilizing natural gas.

New plumbing fixtures: commercial grade, vitreous china with sensor operated (battery powered faucets and flush valves). Water closets will be wall hung type. All fixtures shall be low flow for water conservation.

PHASING LEGEND

Phase *1.1*

Move toilets to SW, move warewashing to NE, move Pizza and Continental Dessert to center, renovate Deli and Salad. Remove POS stations in SW and renovate to seating.

Phase *1.1* SW Venue

SW venue. This area is seating as part of the base, Phase 1.1 build-out.

Phase *2.2* Naturals

Phase 1.2 Demo dry storage and replace with Allergen venue, repurpose adjacent (e) cooler and add Dairy cooler in place of (e) pot wash

Phase *2.3* Seating

Renovate existing seating area, remove elevated platform seating area.

Phase *2.4* Chef / Grill

Renovate existing venues.

Phase *2.5* Generator

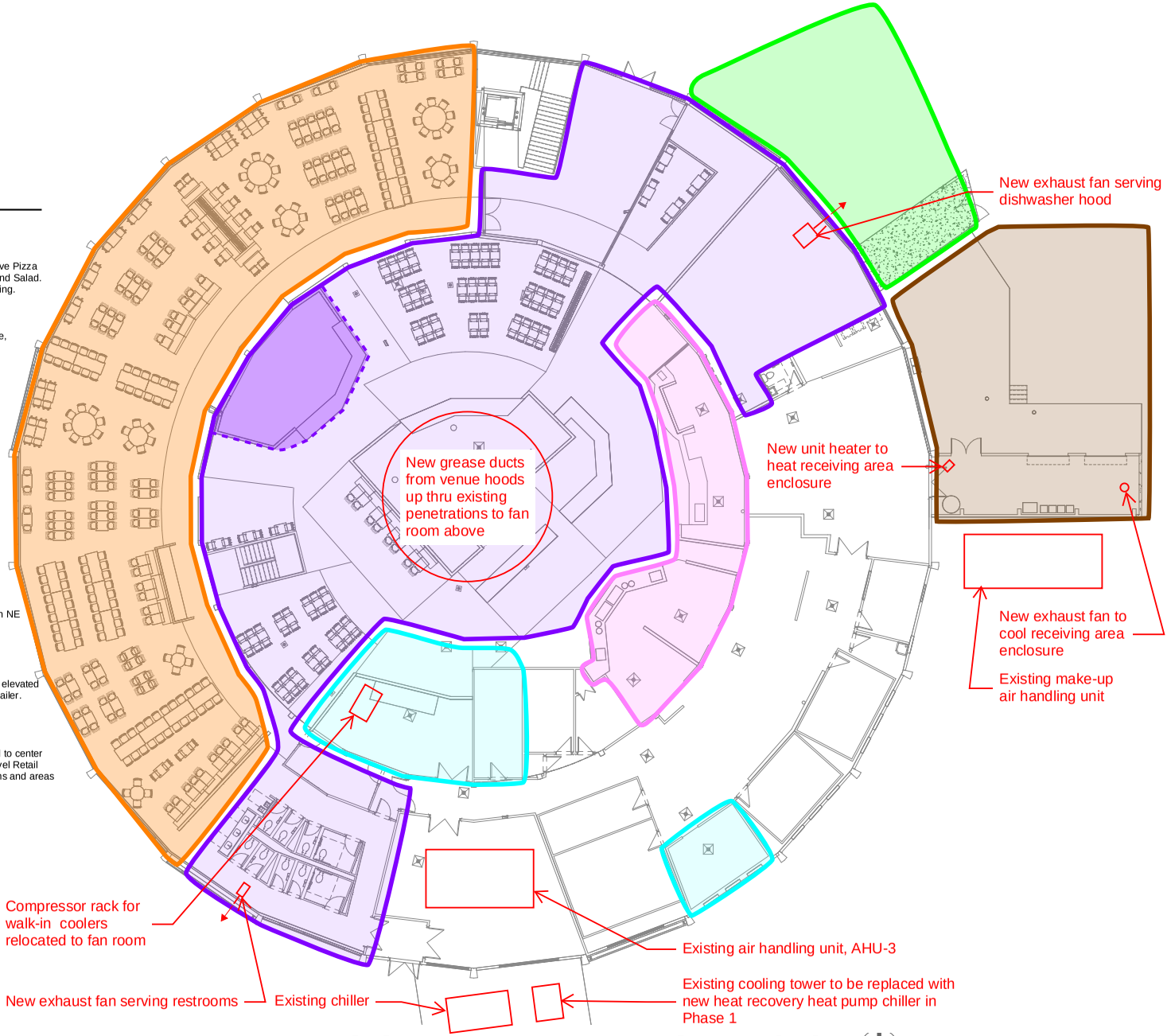
Generator and generator enclosure, landscaping in NE

Phase *2.6* Loading Dock

Enclose (E) loading dock to create Receiving, add elevated concrete loading dock along with compactor and bailer.

Phase *3.0*

Building addition w/ entry, Pan-Asian venue added to center venues, Continental and Dessert move, ground level Retail venue and seating, renovate ground floor restrooms and areas serving staff. Site improvements.



LEVEL 1 FLOOR PLAN - PHASE 1 & 2

PHASING LEGEND

Phase *1.1*

Move toilets to SW, move warewashing to NE, move Pizza and Continental Dessert to center, renovate Deli and Salad. Remove POS stations in SW and renovate to seating.

Phase *1.1* SW Venue

SW venue. This area is seating as part of the base, Phase 1.1 build-out.

Phase *2.2* Naturals

Phase 1.2 Demo dry storage and replace with Allergen venue, repurpose adjacent (e) cooler and add Dairy cooler in place of (e) pot wash

Phase *2.3* Seating

Renovate existing seating area, remove elevated platform seating area.

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Renovate existing venues.

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Generator and generator enclosure, landscaping in NE

Phase *2.6* Loading Dock

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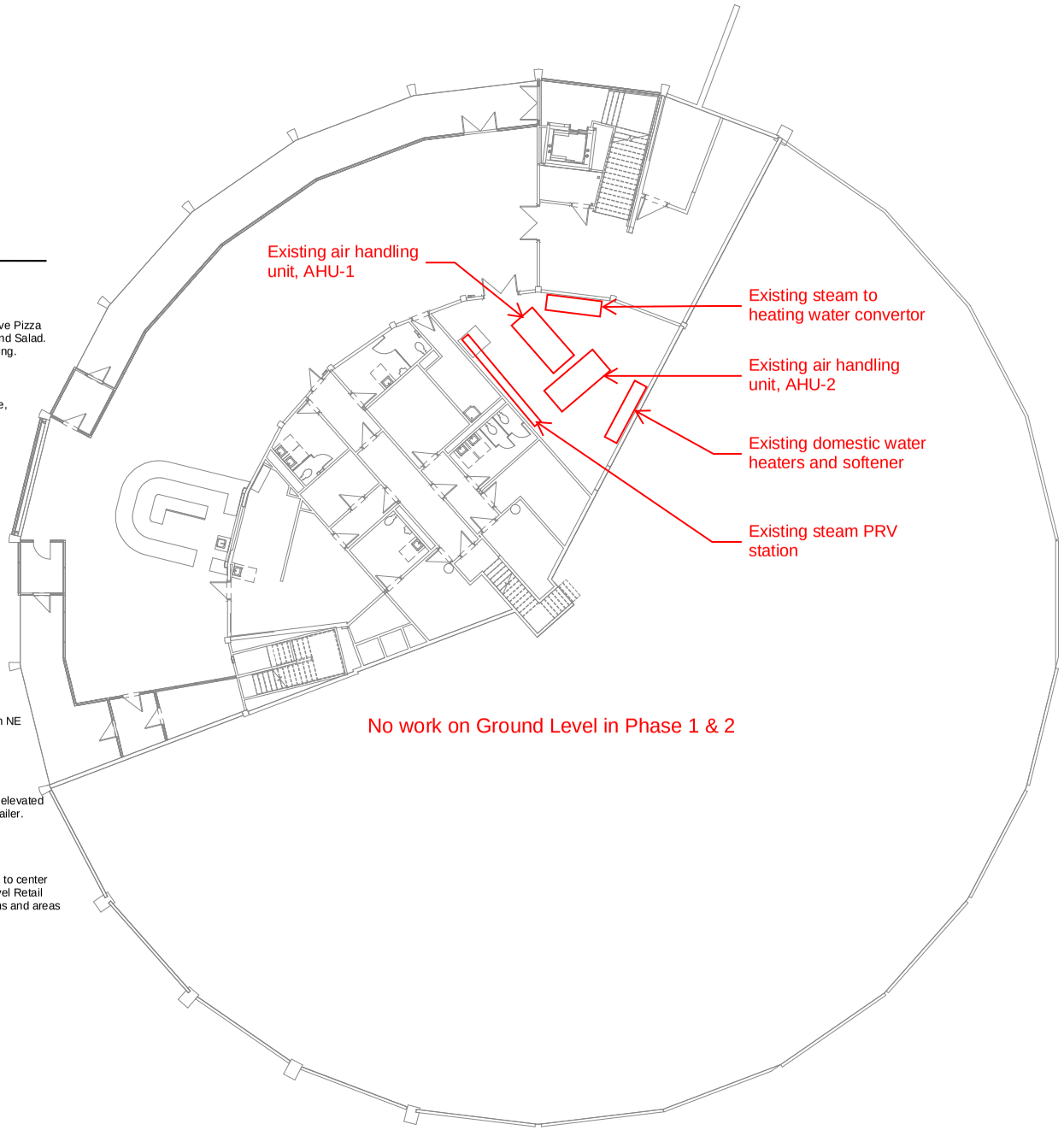

GROUND LEVEL FLOOR PLAN - PHASE 1 & 2

PHASING LEGEND

Phase *1.1*

Move toilets to SW, move warewashing to NE, move Pizza and Continental Dessert to center, renovate Deli and Salad. Remove POS stations in SW and renovate to seating.

Phase *1.1* SW Venue

SW venue. This area is seating as part of the base, Phase 1.1 build-out.

Phase *2.2* Naturals

Phase 1.2 Demo dry storage and replace with Allergen venue, repurpose adjacent (e) cooler and add Dairy cooler in place of (e) pot wash

Phase *2.3* Seating

Renovate existing seating area, remove elevated platform seating area.

Phase *2.4* Chef / Grill

Renovate existing venues.

Phase *2.5* Generator

Generator and generator enclosure, landscaping in NE

Phase *2.6* Loading Dock

Enclose (E) loading dock to create Receiving, add elevated concrete loading dock along with compactor and bailer.

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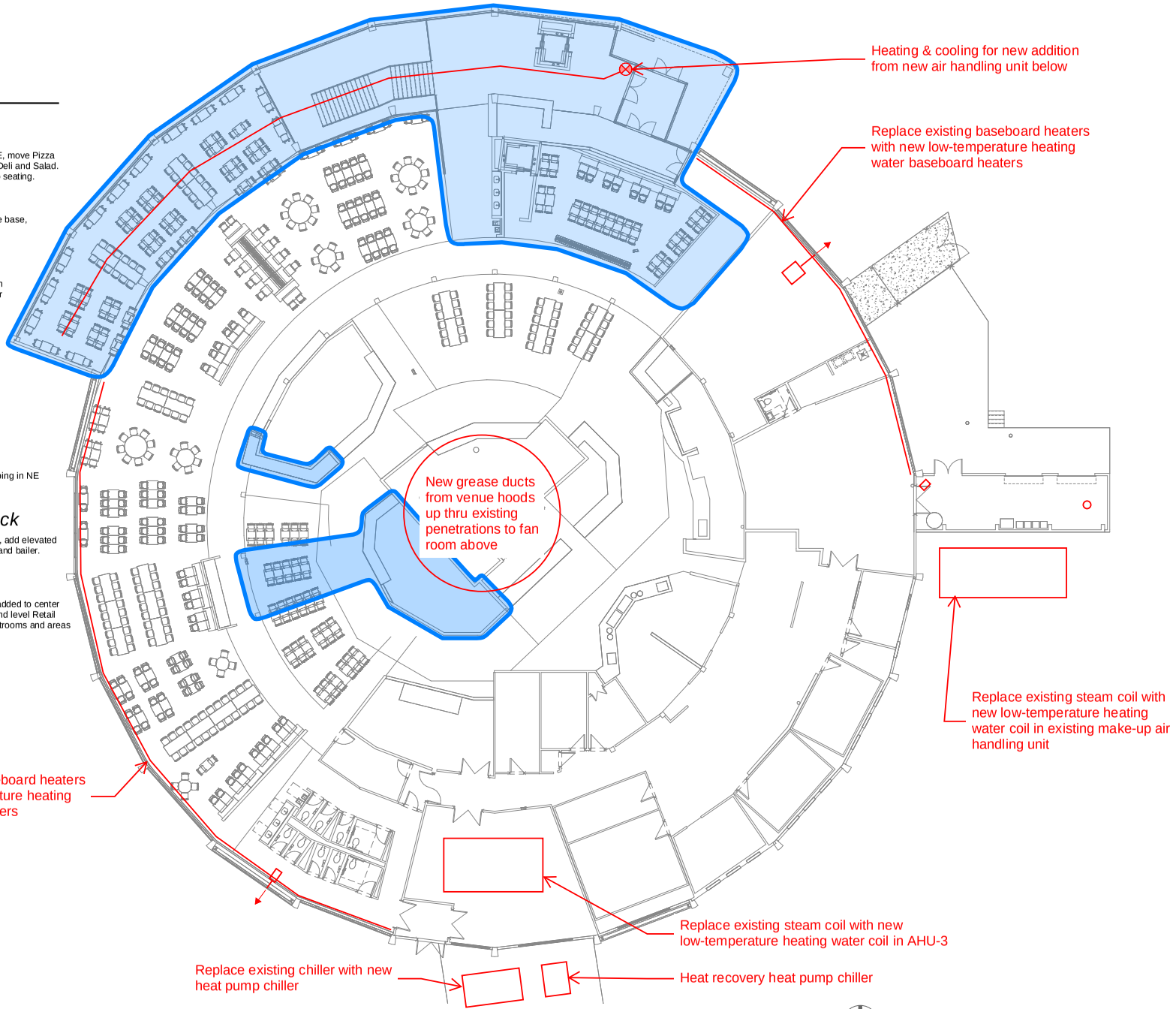
Building addition w/ entry, Pan-Asian venue added to center venues, Continental and Dessert move, ground level Retail venue and seating, renovate ground floor restrooms and areas serving staff. Site improvements.



LEVEL 1 FLOOR PLAN - PHASE 3

PHASING LEGEND

Phase *1.1*

Move toilets to SW, move warewashing to NE, move Pizza and Continental Dessert to center, renovate Deli and Salad. Remove POS stations in SW and renovate to seating.

Phase *1.1* SW Venue

SW venue. This area is seating as part of the base, Phase 1.1 build-out.

Phase *2.2* Naturals

Phase 1.2 Demo dry storage and replace with Allergen venue, repurpose adjacent (e) cooler and add Dairy cooler in place of (e) pot wash

Phase *2.3* Seating

Renovate existing seating area, remove elevated platform seating area.

Phase *2.4* Chef / Grill

Renovate existing venues.

Phase *2.5* Generator

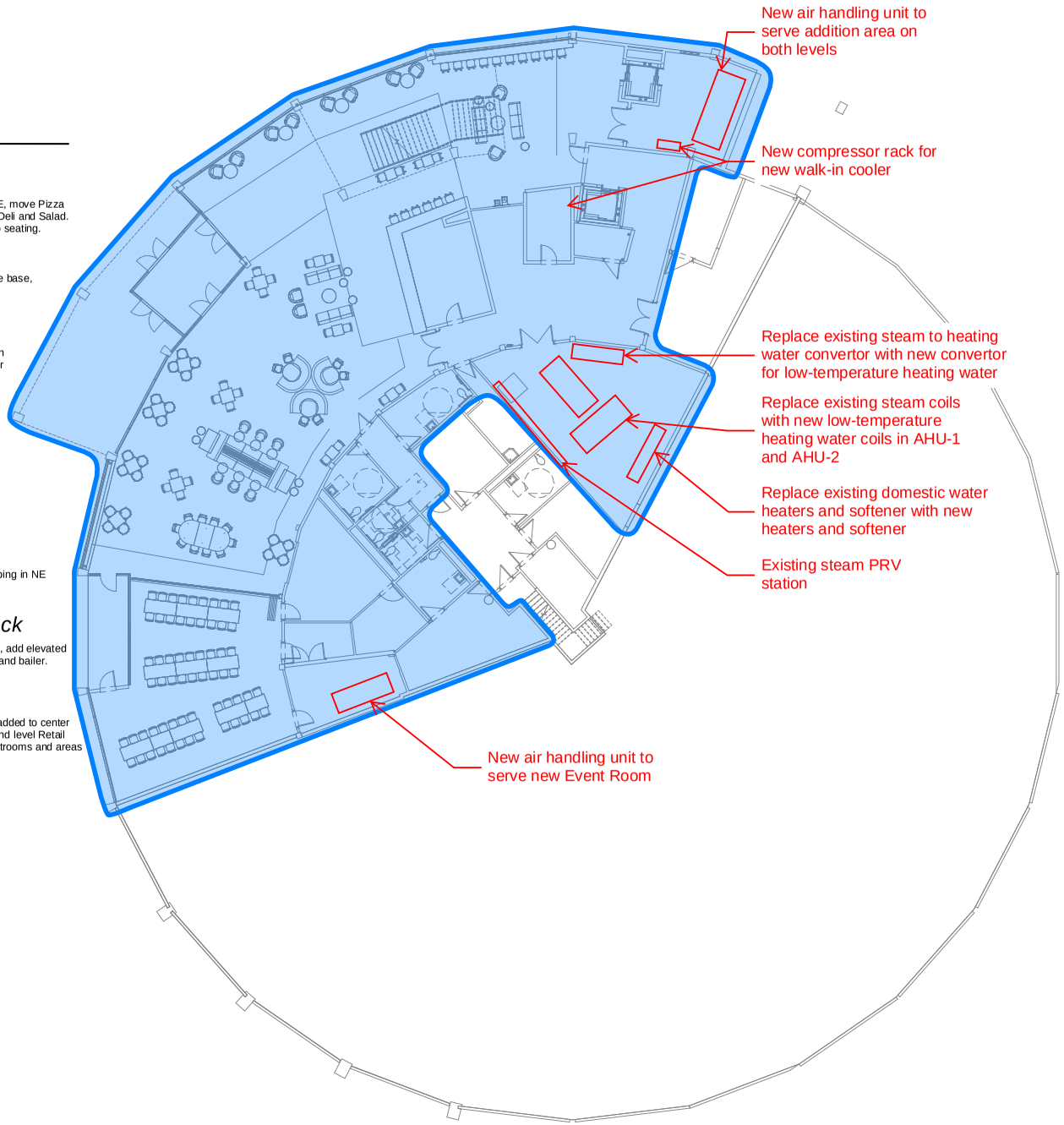
Generator and generator enclosure, landscaping in NE

Phase *2.6* Loading Dock

Enclose (E) loading dock to create Receiving, add elevated concrete loading dock along with compactor and bailer.

Phase *3.0*

Building addition w/ entry, Pan-Asian venue added to center venues, Continental and Dessert move, ground level Retail venue and seating, renovate ground floor restrooms and areas serving staff. Site improvements.



GROUND LEVEL FLOOR PLAN - PHASE 3

Summary

This document outlines the phased electrical and low-voltage systems upgrades for a renovation and expansion project at Washington State University (WSU). The scope of work is organized into multiple phases (1.1 through 3), each addressing work at the Ground Level and Level 1. The work includes infrastructure improvements across power systems, lighting, telecom, fire alarm, and related technologies.

Project Objectives

- Replace outdated 1986 electrical infrastructure with modern switchgear and panelboards.
- Provide new LED lighting and lighting controls throughout renovated areas, compliant with the 2021 Washington State Energy Code and WSU Facility Standards.
- Upgrade and extend low-voltage systems including telecommunications, fire alarm, and paging to meet modern campus requirements and support new functional layouts.
- Ensure code compliance (e.g., NFPA 72, emergency lighting, exit signage).
- Maintain consistent product selection across phases by finalizing standards during Phase 1.

PHASE 1.1 – Ground Level

Power

- Install new 3000A switchgear in the existing electrical room to replace outdated 1986 equipment. The existing switchgear will remain operational until connections are moved to the new switchgear, after which it will be demolished. It is assumed that all existing connections will be transferred and fully operational in phase 1.
- As part of the WSU campus emergency loop, install a distribution panelboard and automatic transfer switch in main electrical room. Provide cabling, conduit and trenching, and connect to the emergency loop.

Lighting

- No work expected in this phase.

Systems

- **Telecom**: In the main telecommunication room, it is recommended that the mechanical and refrigerant pipes above the telecom racks be rerouted. If rerouting pipes is not an option, install drip pans above racks to redirect leakage.
- **Paging, Clocks, CATV**: No work expected in this phase.
- **Access Control**: No work expected in this phase.

- **Fire Alarm**: Replace obsolete Fire Alarm Control Panel. Existing devices and wiring shall remain and be reconnected to new control panels. Perform a complete system test and commissioning per NFPA 72. It is assumed that all existing connections will be transferred and fully operational in phase 1. Code required fire watch shall be provided during system downtimes.

PHASE 1.1 – Level 1

Power

- From the ground level main electrical room, install new breakers and circuits from new switchgear to support new AHU equipment as part of this phase work.
- Install one new 2-section branch panelboard in the renovated Warewashing area to support this phase work.
- Replace and relocate the existing panel K1 located in the new SW venue area. Existing panel K5 in this same area will be removed.
- Replace and relocate the existing panel K2 located in the new salad area. Install new circuits to support the cooler, pizza, salad, deli, and dessert vendors in this area.
- Other branch panels located outside the area of work will remain as is and extended as needed to support new loads for the relocated restrooms and seating areas.

Lighting

- Install new LED lighting and controls throughout this phase area to include the Warewashing, seating, venue, and restroom areas.
- Existing lighting control panels located in electrical room 130L, will remain in place to support areas outside the scope of this project. New lighting controls shall be installed to support all new lighting as part of this phase.
- Lighting for back of house support areas shall be budget friendly, robust luminaires that are rated for their application.
- All kitchen area luminaires shall be NSF (National Sanitation Foundation) rated.
- Simple LED strip lights will be used in storage areas where no ceiling is being installed. In storage areas with ceilings, flat panel LED lights will be specified.
- At each venue, bright, even illumination shall be provided with high color rendering capabilities. Venues shall have lighting that highlight or emphasize signage or branding.
- In seating areas, new luminaires will be provided that enhance the environment for students. A direct one-for-one lighting replacement strategy will be utilized. Existing power connections shall be re-used. Provide new power to new locations in these areas only when necessary.
- Provide new luminaires in each single use restroom and hand wash areas. Provide each space with local control.

- Egress pathways and exit signage shall be provided to meet building codes.
- New lighting controls will be provided in accordance with WSU facility standards, either nLight or Cooper. The product selected during Phase 1 will dictate the manufacturer used throughout the remainder of the phases. Per WSU request, a full review of the features, capabilities, and components for each system will be reviewed during this Phase 1 design period. Lighting control systems will be designed in compliance with the 2021 Washington State Energy Code and WSU Facility Standards.

Systems

- **Telecom Structured Cabling:** The existing cable tray shall remain intact and not be revised. The existing telecommunications system will be extended as needed to support the new areas. Telecom drops will be added for general use, Point-of-Sale, Digital Signage and Wireless Access Points (WAP). Digital Signage locations shall be provided with 2-port data drops and power.
- **Paging, Clocks, CATV**: Any paging speaker affected by ceiling revision shall be removed and reinstalled in the same location. It is assumed clocks are OFOI (owner furnished and owner installed). Any CATV elements impacted by the renovation shall be removed.
- **Access Control:** No work expected in this phase.
- **Fire Alarm:** The Fire Alarm system shall be revised or extended to the renovated areas. This shall include, but not be limited to, venues (kitchen hoods), restrooms, seating and back of house support locations.
- All low voltage systems, in all phases, shall be provided in accordance with WSU facility standards. The product selected during Phase I will dictate the manufacturer used throughout the remainder of all phases. Per WSU request, a full review of the features, capabilities, and components for each system will be reviewed during this Phase I design period and applied to all other phase work.

PHASE 2.2 – Ground Level

Power

- No work expected in this phase.

Lighting

- No work expected in this phase.

Systems

- No telecom, paging, clock, CATV, access control or fire alarm work expected in this phase.

PHASE 2.2 - Level 1

Power

- For the Allergen area extend power circuits from existing M, R, M1, and C panels located in south mechanical room 130R on the north wall.
- For the dairy cooler extend power from M or M1 panels located in south mechanical room 130R on the north wall.

Lighting

- Install new LED lighting and controls in the Allergen area.
- Lighting for back of house support areas shall be budget friendly, robust luminaires that are rated for their application.
- All kitchen area luminaires shall be NSF (National Sanitation Foundation) rated.
- At each venue, bright, even illumination shall be provided with high color rendering capabilities. Venues shall have lighting that highlight or emphasize signage or branding.
- Lighting within the dairy cooler will be provided by the cooler manufacturer.
- Lighting controls shall utilize the same manufacturer as selected in Phase 1.

Systems

- **Telecom**: Extend existing system as needed to support devices in this area such as Point-of-Sale, Digital Signage, and WAPs.
- **Paging, Clocks, CATV**: No paging work expected for this phase. It is assumed clocks are OFOI. Any CATV elements impacted by the renovation shall be removed.
- **Access Control**: No work expected in this phase.
- **Fire Alarm**: The Fire Alarm system shall be revised or extended to the renovated areas and tested.

PHASE 2.3 – Ground Level

Power

- No work expected in this phase.

Lighting

- No work expected in this phase.

Systems

- No telecom, paging, clock, CATV, access control or fire alarm work expected in this phase.

PHASE 2.3 - Level 1

Power

- Extend power circuits to the north end of the seating area from the newly installed 2-section panel in Warewashing as part of phase 1.1.
- Install one new branch panelboard on the south end of the renovated seating area to support this phase work.

Lighting

- Install new LED lighting and controls throughout the seating area in this phase. A direct one-for-one lighting replacement strategy will be utilized. Existing power connections shall be re-used. Provide new power to new locations only when necessary.
- Egress pathways and exit signage shall be provided to meet building codes.
- New lighting controls will be provided in accordance with WSU facility standards, either nLight or Cooper. The product selected during Phase 1 will dictate the manufacturer used throughout the remainder of the phases. Per WSU request, a full review of the features, capabilities, and components for each system will be reviewed during this Phase 1 design period. Lighting control systems will be designed in compliance with the 2021 Washington State Energy Code and WSU Facility Standards.

Systems

- **Telecom**: Extend existing system as needed to support devices in this area such as Digital Signage, and WAPs.
- **Paging, Clocks, CATV**: Any paging speaker affected by ceiling revision shall be removed and reinstalled in the same location. It is assumed clocks are OFOI. Any CATV elements impacted by the renovation shall be removed.
- **Access Control**: No work expected in this phase.
- **Fire Alarm**: The Fire Alarm system shall be revised or extended to the renovated areas and tested.

PHASE 2.4 – Ground Level

Power

- No work expected in this phase.

Lighting

- No work expected in this phase.

Systems

- No telecom, paging, clock, CATV, access control or fire alarm work expected in this phase.

PHASE 2.4 - Level 1

Power

- Re-use existing venue power circuits as part of this phase work. If new circuits are necessary, extend from the existing panel spares.

Lighting

- Install new LED lighting and controls throughout the renovated venues area in this phase. A direct one-for-one lighting replacement strategy will be utilized. Existing power connections shall be re-used. Provide new power to new locations only when necessary.
- New lighting controls will be provided in accordance with WSU facility standards, either nLight or Cooper. The product selected during Phase 1 will dictate the manufacturer used throughout the remainder of the phases. Per WSU request, a full review of the features, capabilities, and components for each system will be reviewed during this Phase 1 design period. Lighting control systems will be designed in compliance with the 2021 Washington State Energy Code and WSU Facility Standards.

Systems

- **Telecom**: Extend existing system as needed to support devices in this area such as Point-of-Sale, Digital Signage, and WAPs.
- **Paging, Clocks, CATV**: Any paging speaker affected by ceiling revision shall be removed and reinstalled in the same location. It is assumed clocks are OFOI. Any CATV elements impacted by the renovation shall be removed.
- **Access Control**: No work expected in this phase.
- **Fire Alarm**: The Fire Alarm system shall be revised or extended to the renovated areas and tested.

PHASE 2.5 – Ground Level

Power

- No work expected in this phase.

Lighting

- No work expected in this phase.

Systems

- No telecom, paging, clock, CATV, access control or fire alarm work expected in this phase.

PHASE 2.5 - Level 1

Power

- Install one 750kW generator on concrete pad. Install associated automatic transfer switch in main electrical room with underground connections to generator.

Lighting

- Install new exterior LED lighting and controls in the generator yard and adjacent exterior areas.
- The LED light fixture and controls shall match those established in Phase 1.

Systems

- No telecom, paging, clock, CATV, access control or fire alarm work expected in this area.

PHASE 2.6 – Ground Level

Power

- No work expected in this phase.

Lighting

- No work expected in this phase.

Systems

- No telecom, paging, clock, CATV, access control or fire alarm work expected in this phase.

PHASE 2.6 - Level 1

Power

- Re-use existing venue power circuits as part of this phase work. If new circuits are necessary, extend from the main electrical room or form newly installed 2-section panel in Warewashing.

Lighting

- Install new LED lighting and controls throughout the new enclosed loading dock area in this phase.
- New lighting controls will be provided in accordance with WSU facility standards, either nLight or Cooper. The product selected during Phase 1 will dictate the manufacturer used throughout the remainder of the phases. Per WSU request, a full review of the features, capabilities, and components for each system will be reviewed during this Phase 1 design period. Lighting control systems will be designed in compliance with the 2021 Washington State Energy Code and WSU Facility Standards.

Systems

- **Telecom**: Extend existing system as needed to support devices in this area such as Point-of-Sale, Digital Signage, and WAPs.
- **Paging, Clocks, CATV**: Any paging speaker affected by ceiling revision shall be removed and reinstalled in the same location. It is assumed clocks are OFOI. Any CATV elements impacted by the renovation shall be removed.

- **Access Control**: No work expected in this phase.
- **Fire Alarm**: The Fire Alarm system shall be revised or extended to the renovated areas and tested.

PHASE 3 – Ground Level

Power

- Replace existing panelboards Y, Y1 and Z with new panelboard in their current locations and reconnect all existing loads.
- Replace existing panelboards Z1, Z2 and Z3 with new panelboard and move to new storage room. These panels will support the new renovation and addition area work in this phase.

Lighting

- Install new LED lighting and controls at the venues and addition which are part of this phase of work. The LED light fixture and controls shall match those established in Phase 1.
- Install site lighting and exterior lighting for perimeter. As required, provide new pedestrian scale light poles to match campus standards.

Systems

- **Telecom**: Extend existing system as needed to support devices in this area such as Point-of-Sale, Digital Signage, and WAPs.
- **Paging, Clocks, CATV**: Add new paging throughout this phase work area to match existing system. It is assumed clocks are OFOI. Existing coax cabling encountered during renovation shall be removed.
- **Access Control**: No work expected in this phase.
- **Fire Alarm**: The Fire Alarm system shall be revised or extended to the renovated areas and tested.

PHASE 3 – Level 1

Power

- Revise power connections to support Pan-Asian, continental dessert and stair renovations.
- Extend circuits from newly added 2-section panel in Warewashing to new addition work in this phase.

Lighting

- Provide new main checkpoint lighting designed as wayfinding.
- Install new LED lighting and controls at the venues which are part of this phase of work. The LED light fixture and controls shall match those established in Phase 1.

- Extended existing lighting circuits to support this area.
- Reposition daylighting sensors installed in early phases, to accommodate the expansion of the building in this phase.

Systems

- **Telecom**: Extend existing system as needed to support devices in this area such as Point-of-Sale, Digital Signage, and WAPs.
- **Paging, Clocks, CATV**: No paging work expected in this phase. It is assumed clocks are OFOI. Existing coax cabling encountered during renovation will be removed.
- **Access Control**: No work expected in this phase.
- **Fire Alarm**: The Fire Alarm system shall be revised or extended to the renovated areas and tested.

WSU - Rotunda Condition Assesment

Equipment ID	Building (Bldg)	Floor	Room (Location Code)	Area/Equip. Served	Manufacturer (Manufacture Code)	Serial Number (Serial No)	Model Number (Manu Part Number)	Asset Size	Approx Install Date (Relocation Date)	Industry Estimated Remaining Life	Notes	Retro-Commissioning Notes	Asset Condition (1-5)
AHU-1	Rotunda	LL	Mechanical 15	LL Core	Pace	85-50901-01	A1281	2,695 CFM, (1) Supply Fan - 2 HP, 90.6 MBH cooling, 140.4 MBH heating	1985	-20	- OSA Damper closed. - Interior looked relatively clean for its age. - No apparent problems with motor/dampers. - Coils had some minor damage to fins.	All control functions were tested and found to be operational. Airflow tests indicate airflow has reduced to 61% of design airflow since the 2008 TAB report. Coil pressure drops have increased from 0.52" to 1.92". Recommend cleaning or replacement	4
AHU-2	Rotunda	LL	Mechanical 15	LL Perimeter	Pace	85-50901-02	A1581	4,300 CFM, (1) Supply Fan - 3 HP, 171.1 MBH cooling, 160.0 MBH heating	1985	-20	- OSA Damper closed. - Interior looked relatively clean for its age. - No apparent problems with motor/dampers. - Coils had some minor damage to fins. Steam coil has a leak, condensate was visible on the unit floor.	All control functions were tested and found to be operational. Airflow tests indicate airflow has reduced to 83% of design airflow since the 2008 TAB report. Coil pressure drops have increased from 0.42" to 0.88". Recommend cleaning or replacement	4
AHU-3	Rotunda	L1	Mechanical 130N	L1	Temtrol	U103262-001-00	WF-DHRE71	36,000 CFM, (1) Supply Fan - 50 HP, (1) Return Fan - 20 HP 998.0 MBH cooling, 1,300.0 MBH heating	2006	1	- OSA/relief Dampers closed. - Interior looked relatively clean for its age. - No apparent problems with motor/dampers/coils. - Return is open to mech room and plenum, no filters before return fan. Fan had a lot of buildup on it.	All control functions were tested and found to be operational. Airflow testing shows that the fans are still performing to deisgn airflow as indicated in the 2008 TAB report. Al attached terminal units also are functional.	2
MAU-1	Rotunda	L1	Exterior	Kitchen Hoods	Hastings	59955	SBS-222	23,500 CFM, (1) Supply Fan - 25 HP, Evap Cool Pump - 1/6 HP (120V) Evap Cool - 91% Eff, 1,395 MBH heating	2006	1	- Didn't get inside unit, couldn't shut the unit down without affecting building operation.	Alll control functions were tested and found to be operational. Airflow testing shows that the unit is operating at 109% of design flow. Static pressure setpoint could be adjusted to slow the unit back down to design flow.	3
FCU-1	Rotunda	LL	Telecom. Room 2ET	Telecom. Room	Carrier	217751-10-1	420HC08	870 CFM, (1) Supply Fan - 1/4 HP, 23.2 MBH cooling, no heating	2006	1	- Appears to be in good condition. - Unit along with a lot of plumbing piping running directly over Telecom Room, no ceiling.	All control functions were tested and found to be operational. There is no good access to measure airflow on this unit and it was reported as "not running" in the 2008 TAB report. The unit is running, but has no cooling capacity when the chiller is not running. Suggest a different cooling solution be proposed for this space due to the chiller not running in the colder months.	2
CH-1	Rotunda	L1	Exterior	Building	York	11552E10673874	YLAA010	100 Tons, 20% Glycol	2021	16	- Appears to be in good condition.		2
CCC-1	Rotunda	L1	Exterior	Walk-ins	BAC	U070480911	VEL-012-12F	225 MBH, 45 GPM	2006	1	- Unit appeared to be in fair condition. - Location of unit is directly under eaves, discharge has rotted out the eaves.		3
CWP-1	Rotunda	L1	Mechanical 130N	Chilled Water	B&G	6320320-01J12	1531-2E	255 GPM, 100ft Head, 10 HP	1985?	-20?	- Unit appears newer than 1985. - VFD for pump is an Eaton that appears to be original (1985).	All control functions were tested and found to be operational. No total flow measurement device was located to test total system flow. There were no complaints of capacity from maintenance staff.	2
P-2	Rotunda	L1	Mechanical 130N	Condenser Water	Taco		FI1509E	45 GPM, 70 ft Head, 2 HP	2006	1	- Appears to be in fair condition.	All control functions were tested and found to be operational. No total flow measurement device was located to test total system flow. There were no complaints of capacity from maintenance staff.	3
HWP-1, 2, 3	Rotunda	LL	Mechanical 15	Heating Water	Grundfos		A (P/N: 96439644)	1/2 HP, no flow data	2015	10	- N+1 Configuration - CV circulators, no VFDs. - Valves appear to be original and probably leak.	Pumps operate based on outside air temperature. No flow measurement devices are installed for total pump flows.	1
DHWRP-1	Rotunda	LL	Mechanical 15	DHW Recirc	Taco		009-BF5	1/8 HP, 3250 RPM	???		- Appears to be old, possibly from 1985 remodel or before. - Valves are original to building.		4
CP-1	Rotunda	LL	Mechanical 15	Steam Condensate	Sterlco	53A0699	42450-JDAX	75 GPM, 40PSI, (2) 3 HP Pumps	2023	13	- Installed a few years ago, still like new.		1
PT-1	Rotunda	L1	Mechanical 130N	AHU-3 Condensate Pump Trap	SpiraxSarco		APT14	13.2 lbs/hr	2006	-4	- Appears to be in fair condition.		4
GF-1	Rotunda	L1	Mechanical 130N	Chilled Water Glycol	Axiom		???	55 Gal			- Appears to be newer, no date for installation found.	No operational issues noted.	1
EF-1	Rotunda	LL	Women 7	LL Restrooms	Greenheck		DSQ-100A	1,000 CFM, 0.5" ESP, 1/4 HP	1985	-15	- Above hard lid, inaccessible. Data from 1985 Remodel plans.	Airflow testing shows that the unit is operating at 73% of design airflow. The unit is not accessible for troubleshooting the cause.	4
EF-2	Rotunda	L1	Dry Storage 130T	Walk-in Compressor Rack	Greenheck		SPA-1050	800 CFM, 0.5" ESP, 420W	2006	6	- Didn't get a look at this, condition based on condition of other fans from same remodel.	Unit is fairly dirty, but operational. There is no access for airflow measurement.	3
EF-3	Rotunda	PH	Penthouse 201	Market Hood	Greenheck	07H00395	SWB-212-20-CW-UB-G	1,650 CFM, 3.0" ESP, 1.5 HP	2006	6	- Insulation ripped in multiple locations. - Hood not in use.	Control functions are all operational. Airflow testing shows that the unit is operating at design airflow.	3
EF-4	Rotunda	L1	Exterior on scaffold	Back of House Grease Hood	Greenheck	07G03129	20-BISW-41-G-10-11	6,260 CFM, 3.35" ESP, 7.5 HP	2006	6		Control functions are all operational. Airflow testing shows that the unit is operating at 107% of design airflow.	3

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EF-5	Rotunda	L1	Exterior on scaffold	Chef's Plate Grease Hood	Greenheck	07G03131	24-BISW-41-G-10-11	9,440 CFM, 3.75" ESP, 10 HP	2006	6		Control functions are all operational. Airflow testing shows that the unit is operating at 94% of design airflow.	3
EF-6	Rotunda	L1	Dry Storage 130A	Big Cat Grille Grease Hood	Greenheck	07G03144	TCB-2-10-20	1,760 CFM, 2.5" ESP, 2 HP	2006	6	- Mounted up high, couldn't get to nameplate data. Data from 2006 plans.	Control functions are all operational. Airflow testing shows that the unit is operating at 113% of design airflow.	3
EF-7	Rotunda	L1	Women 101A	Big Cat Grille Grease Hood	Greenheck	07 603147	TBC-2-22-50 G	6,270 CFM, 2.5" ESP, 5 HP	2006	6		Control functions are all operational. Airflow testing shows that the unit is operating at 90% of design airflow.	3
EF-8	Rotunda	L1	Women 101A	Big Cat Grille Grease Hood	GREENHECK	7603145	TBC-2-12-30-6	2,000 CFM, 3.0" ESP, 2 HP	2006	6		Control functions are all operational. Airflow testing shows that the unit is operating at 127% of design airflow.	3
EF-9	Rotunda	PH	Penthouse 201	Bakery Hood	Greenheck	07G02965	SWB-212-20	2,370 CFM, 2.5" ESP, 3 HP	2006	6	- Appears to be for a grease hood, but there is no fire rate duct wrap.	Control functions are all operational. Airflow testing shows that the unit is operating at 97% of design airflow.	3
EF-10	Rotunda	PH	Penthouse 201	Woodstone Pizza Grease Hood	Greenheck	07G92993	SWB-210-3	680 CFM, 1.5" ESP, 1/3 HP	2006	6	- Appears to be leaking somewhere.	Control functions are all operational. Airflow testing shows that the unit is operating at 51% of design airflow. Due to fire wrap, static pressure readings are not available to troubelshoot the cause of the low airflow. Suggest inspection of the fan wheel and confirmation of fan RPM.	3
EF-11	Rotunda	PH	Penthouse 201	Woodstone Pizza Grease Hood	Greenheck	07G02971	SWB-212-20	2,850 CFM, 2.5" ESP, 2 HP	2006	6		Control functions are all operational. Airflow testing shows that the unit is operating at 102% of design airflow.	3
EF-12	Rotunda	PH	Penthouse 201	Naturalis Grease Hood	Greenheck	07G02964	SWB-212-15	1,800 CFM, 2.5" ESP, 1.5 HP	2006	6		Control functions are all operational. Airflow testing shows that the unit is operating at 72% of design airflow. Due to fire wrap, static pressure readings are not available to troubelshoot the cause of the low airflow. Suggest inspection of the fan wheel and confirmation of fan RPM.	3
EF-13	Rotunda	L1	Exterior	Potwash	Greenheck	10881767 0707	CWB-101HP-7-G	970 CFM, 0.625" ESP, 3/4 HP	2006	6		Control functions are all operational. Airflow testing shows that the unit is operating at 99% of design airflow.	3
EF-14	Rotunda	LL	Elevator Mach. Rm 18A	Elevator Mach. Rm.	Greenheck	10940029	SP-A1050-QD	850 CFM, 0.375" ESP, 1/2 HP	2006	6		Fan is controlled by a heating thermostat rather than a cooling thermostat. Recommend replacement of the thermostat with the correct function. Unit is operational and airflow testing shows that the unit operates at 100% design airflow when running.	3
EF-15	Rotunda	L1	Dry Storage 130A	Laundry/Restrooms	Greenheck	10881711 0707	BSQ-90-5	1,030 CFM, 0.60" ESP, 1/2 HP	2006	6		Control functions are all operational. Airflow testing shows that the unit is operating at 72% of design airflow. Discharge pressure is higher than the 2008 TAB report. Recommend cleaning louver and backdraft damper.	3
EF-17	Rotunda	PH	Penthouse 201	Dishwasher Hood	Greenheck	223941566	USF-15-3	1,500 CFM, 2.5" ESP, 2 HP	2006	6		Control functions are all operational. Airflow testing shows that the unit is operating at 136% of design airflow.	3
EF-18	Rotunda	L1	Janitor 130C	Janitor Room	Greenheck		CSP-A125	110 CFM, 0.25" ESP, 55W	2006	6	- Couldn't get to nameplate data. Data from 2006 plans.	Control functions are all operational. Airflow testing shows that the unit is operating at 53% of design airflow. Recommend cleaning louver, Fan wheel, and backdraft damper.	3
EF-19	Rotunda	LL	Trsfr Vault 18B	Transformer Vault	Greenheck		BCF-110	1,700 CFM, 0.375" ESP, 1/2 HP	2006	6	- Couldn't get to nameplate data. Data from 2006 plans.	Control functions are all operational. Airflow testing shows that the unit is operating at 91% of design airflow.	3
VAV-1	Rotunda	L1	Dry Storage 130P	Offices	Krueger		LMHS-8	200-660 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-2	Rotunda	L1	Dry Storage 130P	Salad Bar	Krueger		LMHS-16	750-2,500 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-3	Rotunda	L1	Dish Wash 120A	Woodstone Pizza	Krueger		LMHS-22	1,800-3,400 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-4	Rotunda	L1	Kitchen 120	Big Cat Grille	Krueger		LMHS-22	2,700-4,000 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-5	Rotunda	L1	Office 130K	Chef's Plate	Krueger		LMHS-16	2,680-3,120 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-6	Rotunda	L1	Dry Storage 130P	Kitchen 120	Krueger		LMHS-10	230-1,060 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-7	Rotunda	L1	Dish Wash 120A	Dish Wash 120A	Krueger		LMHS-12	700-1,400 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2

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VAV-8	Rotunda	L1	Dish Wash 120A	Dining Rm 101	Krueger		LMHS-12	500-1,500 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-9	Rotunda	L1	Kitchen 120	Lounge Dining 103	Krueger		LMHS-16	800-2,600 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-10	Rotunda	L1	Kitchen 130	Kitchen 130	Krueger		LMHS-16	1,300-2,400 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-11	Rotunda	L1	Kitchen 130	Office 130B	Krueger		LMHS-5	90-180 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-12	Rotunda	L1	Kitchen 120	Ground Floor Entry	Krueger		LMHS-9	450-900 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-13	Rotunda	L1	Mechanical 130N	Banquet 102	Krueger		LMHS-22	1,260-4,100 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-14	Rotunda	L1	Dining Rm 101	Dining Rm 101	Krueger		LMHS-16	1,000-3,200 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-15	Rotunda	L1	Dining Rm 101	Dining Rm 101	Krueger		LMHS-16	850-2,750 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-16	Rotunda	L1	Kitchen 130	Potwash 130F	Krueger		LMHS-6	450-900 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-17	Rotunda	L1	Dry Storage 130A	Dry Storage 130A	Krueger		LMHS-8	400-800 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
VAV-18	Rotunda	L1	Dry Storage 130A	Laundry/Restrooms	Krueger		LMHS-7	530 CFM	2006	1	- Above ceiling, did not examine. Data from 2006 plans.	All control functions were tested and found operational. Unit calibration is within 10% of design airflow.	2
AC-1	Rotunda	L1	Dry Storage 130A	Dry Storage 130A	Mars	070PF72CH-L(F3)	72CH-2-O	1/2 HP, 5,100 CFM	2006	-2	- Air Curtain over door to receiving area		4
Radiant Baseboards	Rotunda	L1	Perimeter of Building	Level 1 Perimeter	Trane		TAGB	830 BTUh/ft	1985	-15	- No nameplate data, data from 1985 plans.		4
Electric Wall Heaters	Rotunda	L1	Central Core	Central Core	Vector		???	3,000 Watts	??	??	- Appears to be newer, no date for installation found.		2
WH-1A	Rotunda	LL	Mechanical 15	Building	Aerco	H-83-318	SW1A03	140°F to 180°F water heater	1983	-18	- Valves are original.		4
WH-1B	Rotunda	LL	Mechanical 15	Building	Aerco	H-99-368	B+05	140°F water heater	1999	-2	- Valves are original.		4
WF-1	Rotunda	LL	Mechanical 15	Ice Maker water filteration	EverPure		K-Series		??	??			3
WS-1	Rotunda	LL	Mechanical 15	DHW water softener	EcoWater Systems		Series 5000	118.5 Gallons	1999	-11			4
GT-1	Rotunda	LL	Mechanical 15	Grease Waste Interceptor	Grease Guardian		X Series		??	??	- Appears newer with new grease waste piping.		2