Seaholm Intake Structures
Redevelopment Investigation

March 2012

prepared for The City of Austin's Parks and Recreation Department

by COTERA+REED ARCHITECTS

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The City of Austin
Parks and Recreation Department

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Preface

The Seaholm Intake Structures that lie south of Cesar Chavez, along the Lady Bird Lake shoreline sit within designated parkland, and have since been turned over to their new owner-The City of Austin Parks and Recreation Department. The Intake Structures have been a visual icon along the Lady Bird Lake shoreline for over 50 years now. There is considerable interest from The City of Austin and the community to reuse these remarkable 1950's buildings. Everyone knows that the buildings worked as Intake Structures but no studies have ever been conducted to find out what it would take to adapt these buildings into a use that would blend with the urban fabric set up for the downtown area and also support and be supported by the developments planned for the Seaholm District. The City of Austin Parks and Recreation Department has enlisted this investigative study team to do just that. This study will outline what considerations should be made in the adpative-reuse of The Seaholm Intake Structures and the site surrounding them.

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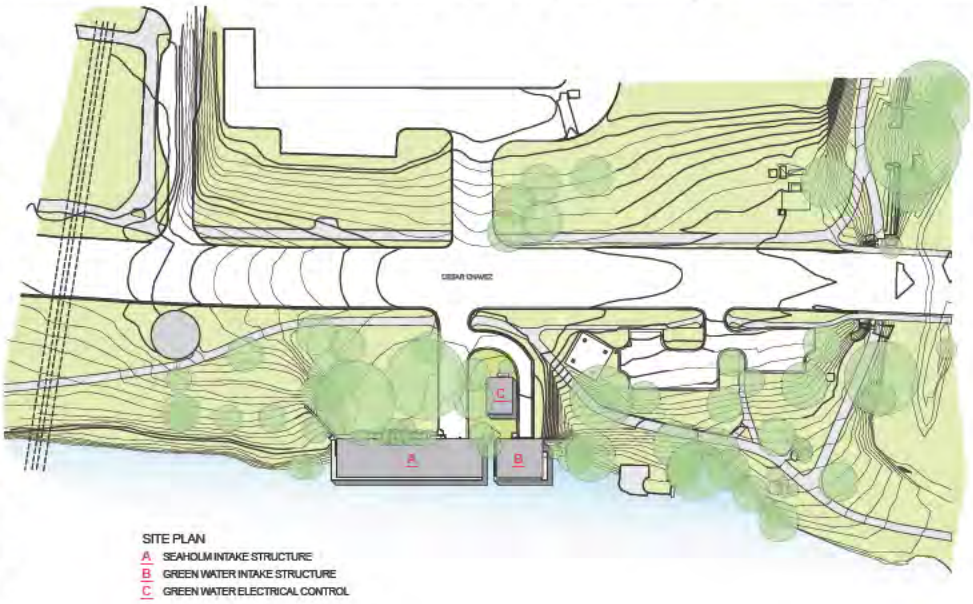
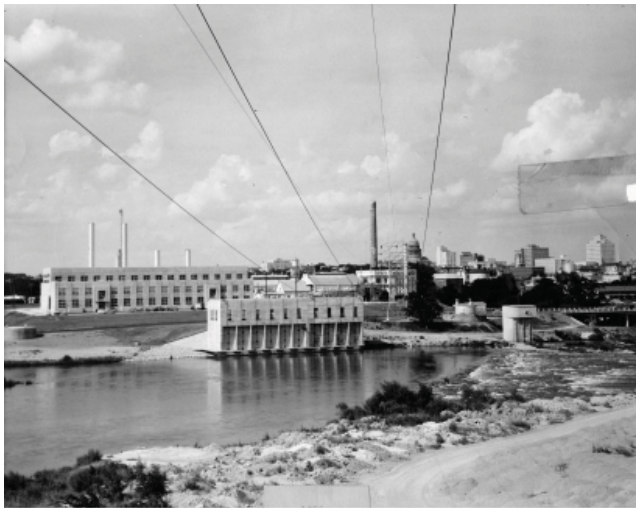
History of Buildings and Area Description

The site located across West Cesar Chavez street to the south of the Seaholm Power Plant houses three buildings. The most recognizable and largest of the three is the Seaholm Water Intake Building, which will be referred to as Building A throughout this study. The building to the east of Building A is the Water Intake Structure for the now non-existent Green Water Treatment Plant, which will be referred to as Building B. Both of these buildings sit directly on the water between a Parks and Recreation historic pavilion and a parking lot which is often used by the trail-goers. Just north of Buildings A and B but still south of Cesar Chavez is Building C. Building C was also associated with the Green Water Treatment Plant and functioned as an electrical control building until it's decommissioning. The Ann and Roy Butler Hike and Bike Trail currently passes in front of the three buildings along the edge of Cesar Chavez.



Building A was constructed in two phases. The first phase completed in 1950 along with the Seaholm Power Plant. The first phase of Building A was to accommodate boiler units 5 and 6 located in the Seaholm Power Plant. Phase 2 of building A was complete in 1955. This expansion coincided with the addition of boiler units 7, 8, and 9 within the Seaholm Power Plant. Each boiler unit had only two water intakes associated with them, therefore Phase 1 of Building A contained only 4 sluice gates. The Phase 2 expansion to the west added six more sluice gates and pump gears. The building phasing is very apparent by the double concrete wall that can be seen in the plan drawings in the subsequent pages of this study. Building A consists of a sub-basement, a basement, and a ground floor. The sub-basement level is completely submerged beneath the water. This is where the water entered into the structure. That water passed through the sluice gates then through screens that removed debris from the lake water. These screens, linked in a belt like a bicycle chain, were moved by a drive mechanism located on the south side of the ground floor, which is often referred to as the operation floor. These screens were housed in the double height shaft spaces along the lake level of the building. (Refer to the sections in the subsequent pages). After the lake water would pass through the screens the water was pumped to the Turbine Generator Building of the Seaholm Power Plant through 42-inch diameter pipes by massive pumps at the bottom of the sump pits, which were on the basement level on the north end of building A. After cooling the steam that spun the turbines, the water was discharged into Shoal Creek. The Seaholm Power Plant ceased operations in 1989 and the decommissioning of Building A was completed in 2005.

Building A, Phase 1; PICA 26689, Austin History Center, Austin Public Library



Building A, Phase 1 and 2; PICA 20129, Austin History Center, Austin Public Library

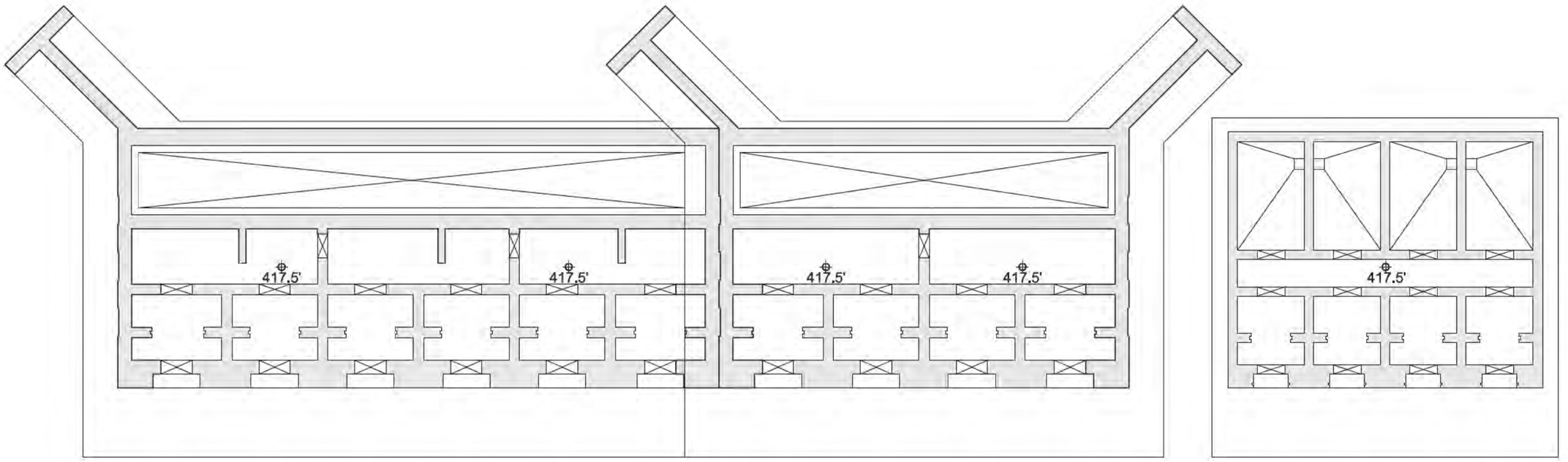
The Green Water Treatment Plant started construction in 1924 and also included an intake building along the water. The original intake building had a steel bridge that connected it to a pump well. That pump well still sits under the parking lot to the east of the current intake buildings. That original intake building and the bridge can be seen in the photo below. The ruins of the original intake structure can still be seen in the form of a concrete pad to the east of Building B. Building B was constructed in the 1960's. It is much smaller than Building A, but takes on the same characteristics and building form. It does only have 4 chambers within it. Which were used to draw raw water in from the lake. The water was then pumped through large pipes underground to the Green Water Treatment Plant for filtration.

Both Building A and B share a retaining wall between them. While the basement level elevations are different between these two buildings, they each have a catwalk that extends out over the water at the same elevation. On the interior of both buildings there is a beam along the north and south wall that allowed a crane to operate from them. This crane was used to help move and service the equipment within the buildings on the operation floor and down in the pump rooms.

Building C was constructed in the 1990's and, while its exterior draws on the same elevational proportions of A and B, it's construction is very different, using concrete block and synthetic stucco instead of reinforced cast in place concrete. Buildings A and B are solid concrete. A detailed structural survey for all three buildings can be found in the appendix of this study. The decommissioning report for Buildings B and C, for the Green Water Treatment Plant can also be found in the appendix.

Original intake building for Green Water Treatment Plant; PICA 22123, Austin History Center, Austin Public Library

Buildings A and B; PICA 14499, Austin History Center, Austin Public Library



01 SUB BASEMENT PLAN

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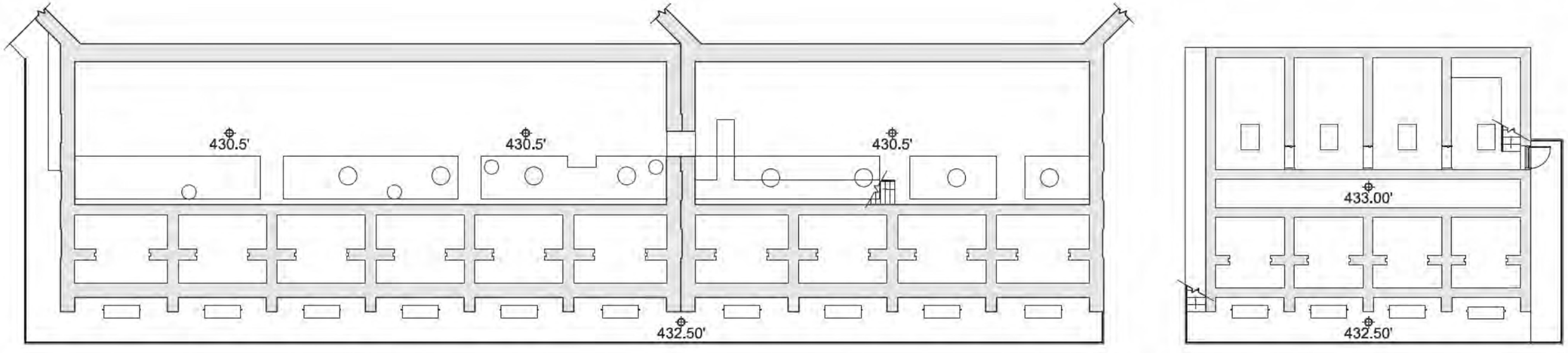

01 BASEMENT PLAN

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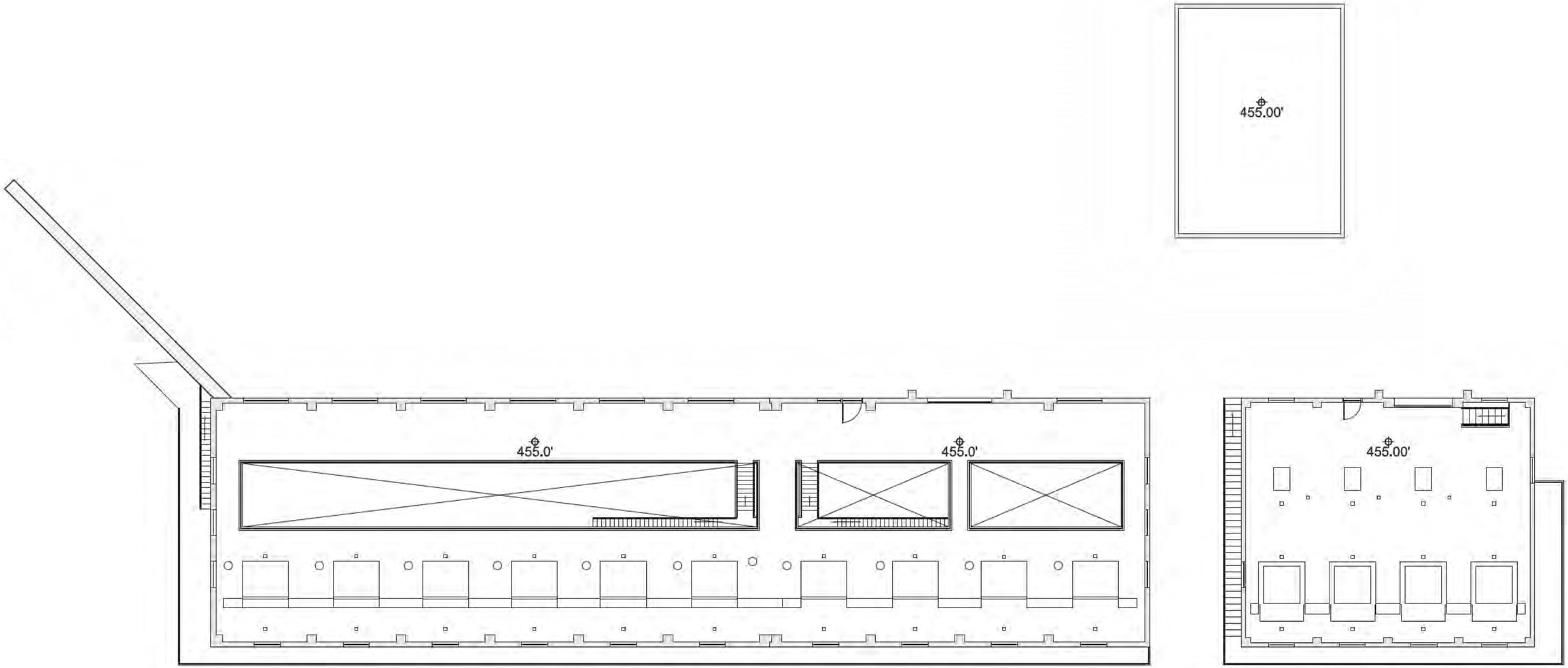

01 GROUND LEVEL PLAN

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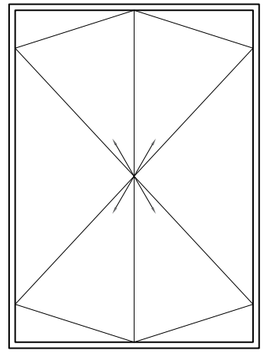

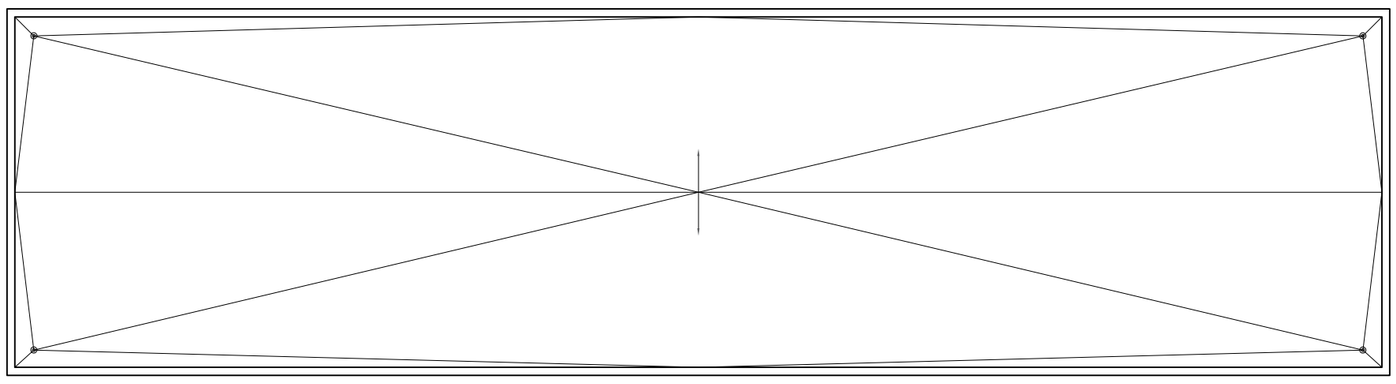

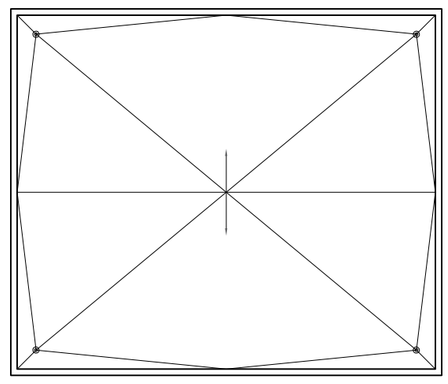

01 ROOF PLAN

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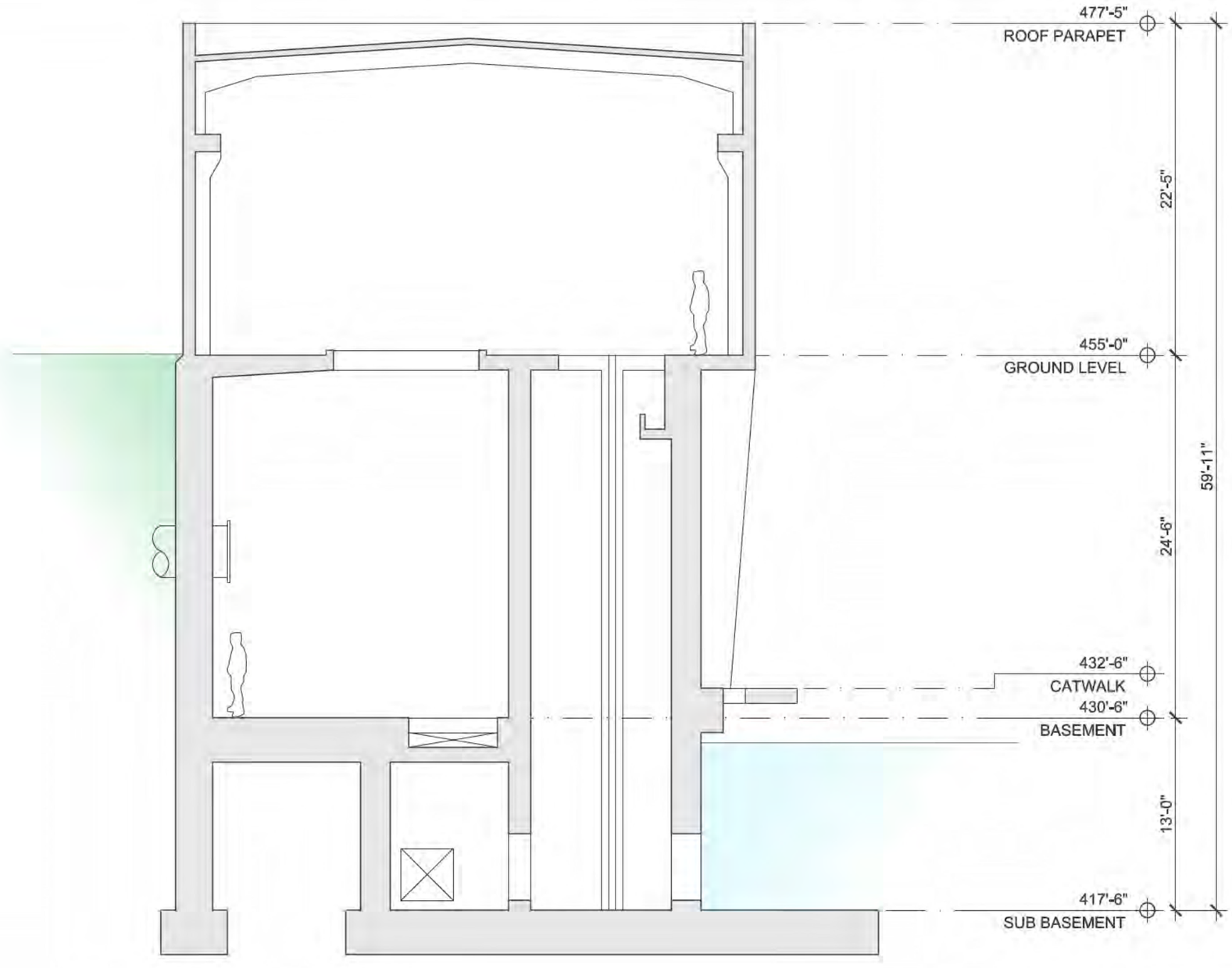

01 BUILDING 'A' SECTION

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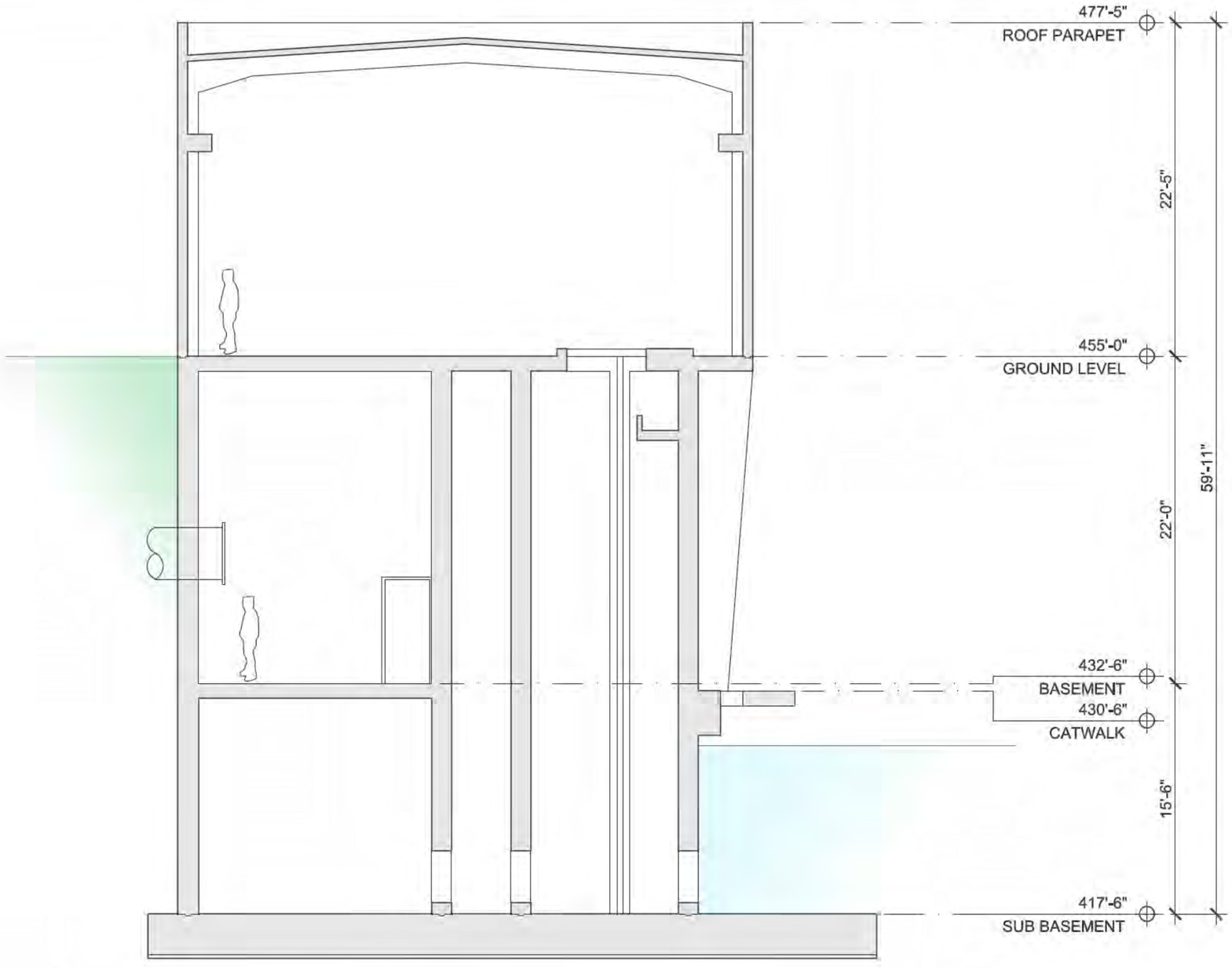

01 BUILDING 'B' SECTION

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Executive Summary

The following report was developed by Cotera+Reed Architects for the City of Austin Parks and Recreation Department in response to considerable public interest in repurposing the Seaholm Intake Structures. The broader purpose of the study was to investigate the development potential of the structures and the site, and to uncover some of the larger and more endemic issues - both physical and regulatory – which would impact and direct the repurposing.

Toward this end, investigations of the building and site were performed, original documents were collected and reviewed, structural reports commissioned, utility lines were tracked down and the existing trees, topography and trail system were studied.

Additionally, the large collection of regulatory jurisdictions which overlap the site were reviewed and those with the broadest or most significant impact on development were isolated and expanded upon in individual sections of this report. City staff in Public Works and other departments were consulted on individual interpretations and an interim version of the report has been reviewed by staff.

Many potential uses for the buildings were envisioned during the course of the exploration and several specific uses were test fit which we felt could be likely and whose exercise would be informative. The Parks and Recreation Department has no predetermined adaptive re-use in mind for the buildings. The uses discussed herein were selected with the intention of extracting as much information as possible from the exercise rather than to promote any specific outcome.

The intake structures are within city park land and are zoned P (Public). This zoning and references to the buildings in the “Auditorium Shores” and “North Shores Central” sub districts of the waterfront overlay speak to the allowable uses in any future development. Allowable uses, as defined by the zoning and the overlay, would include civic uses and commercial uses that are accessory to or in support of the public use. There is strong precedent for disallowing any commercial development in municipal parkland - even public private partnerships - and rather than simply gain the approval of the city council, a variance allowing a commercial use, by state law, requires public approval by referendum.

The investigation illustrated that the buildings and site have considerable value and historic significance - that these are well built buildings that are good candidates for a creative adaptive reuse and could accommodate a variety of new uses – but that there was no obvious and easy use that could be inserted without performing significant work on the buildings and the site.

In their current state, they should be considered architectural shells, missing basic electrical, lighting, mechanical and fire safety systems. There are existing hazards created by unprotected openings, and significant deficiencies in accessibility and parking. These are all significant and expensive issues to address irrespective of how the buildings would be used.

It is possible that some small interim use might be accommodated in one of the buildings (either a part of the upper level of Building A or the small electrical building {Building C} in the front yard) if certain requirements were achieved without any intention to balance revenue against the cost of development. For instance, if the city installed a new wider entrance and fire lane at Cesar Chavez (something necessary for any development) and one or two accessible parking spaces were created, then it would be conceivable that a small use could be created which could be code compliant.

While the buildings do sit at the edge of the lake, within the 25 and 100 year floodplains, the regulatory flood datum is twelve and a half feet below the floor of the upper levels, leaving the upper part of each building and the large front yard between it and the street free from any issues related to the floodplain. Parts of the lower level (below the flood datum) could be incorporated into the redevelopment of the upper levels provided that stairs and an elevator were installed, but opening up the lower level broadly to the river’s edge may prove unrealistic due to the cost of removing numerous thick concrete walls and the requirements associated with occupied

spaces below the floodplain.

The buildings and immediate site have a strong and intact mid-century stylized industrial character and are not currently on the National Registry of Historic Places. Applying for listing would be seen as a positive thing by the Texas Historical Commission and would allow the owner to displace twenty percent of the redevelopment costs through tax credits. It is possible that the small building (Building C) in front of the original intake structures, which was built recently, would need to be removed as part of the application.

The buildings are also eligible for the City of Austin Historic Landmark Status. The City Council currently grants a tax exemption to Austin Historic Landmarks. The amount of exemption depends on whether or not the property is income-producing or not, and income-producing landmark properties may also be eligible for Federal Rehabilitation Tax Credits. Owners are expected to maintain the landmark and are required to apply for a Certificate of Appropriateness for exterior or site changes.

Utilities of all types pass near the buildings and extensions could be made relatively inexpensively and would not be complicated by floodplain issues. Bringing utilities below the floodplain to the lower level would require some specialty components (lift stations, backflow preventers) in each system to decouple them from the systems above the floodplain.

In addition to the buildings, this study also investigates the possible relocation of the Ann and Roy Butler Hike and Bike Trail away from the edge of Cesar Chavez to the lake side of the intake structures, something that would not be hampered by existing trees or topography. The move would result in a much safer trail system by eliminating a conflict with the vehicular entrance to the site. It would also combine the energy of the trail system with any potential use at the building.

The existing entrance drive off Cesar Chavez is narrower than would be required in any redevelopment and would need to be enlarged to allow access for fire trucks and to facilitate cars turning into the site. Entering from Cesar Chavez will produce a conflict in its current configuration due to the volume and speed of traffic in that section. The Seaholm master plan indicates the intention to continue West Avenue south to Cesar Chavez and to install a median west of that intersection which, together with a traffic light, would increase the viability of the entrance to the intake structures.

Parking will be a significant hurdle for any new use and will be difficult to secure. If the small service building (Building C) is removed and the existing pavement rearranged, there should be enough impervious cover in the existing condition to both widen the entrance and install a few accessible spaces, but adding parking beyond that may not be possible. Off-site parking would likely be permitted, as would valet drop-off, but the parking requirements would need to be satisfied in another location north of Cesar Chavez.

All of the issues discussed in the report apply equally to Building A and Building B, however, because Building B sits under a series of high power electrical transmission lines, installing public uses in that building may not be possible. An easement for the lines was not established at the time they were installed, but is currently in development. It is likely that the new easement will limit the use of the buildings within it, even if they were in place prior to the lines or the agreement.

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1.0 Redevelopment Considerations

In an effort to evaluate the redevelopment potential of the project, we have researched the following redevelopment considerations.

1.1 Downtown Austin Plan

1.2 Adjacent Development

1.3 Capital View Corridor

1.4 Zoning

1.5 Waterfront Overlay

1.6 Subchapter E: Design Standards and Mixed Use

1.7 Critical Water Quality Zone

1.8 Impact of Flood Plain

1.9 Vehicular/Fire/Parking/Trash Access

1.10 Existing Site Landscape Parameters

1.11 Existing Site Utilities

1.12 High Power Transmission Lines

1.13 Historic Preservation of the Property / Federal Tax Credits

1.14 Sustainability Assessment

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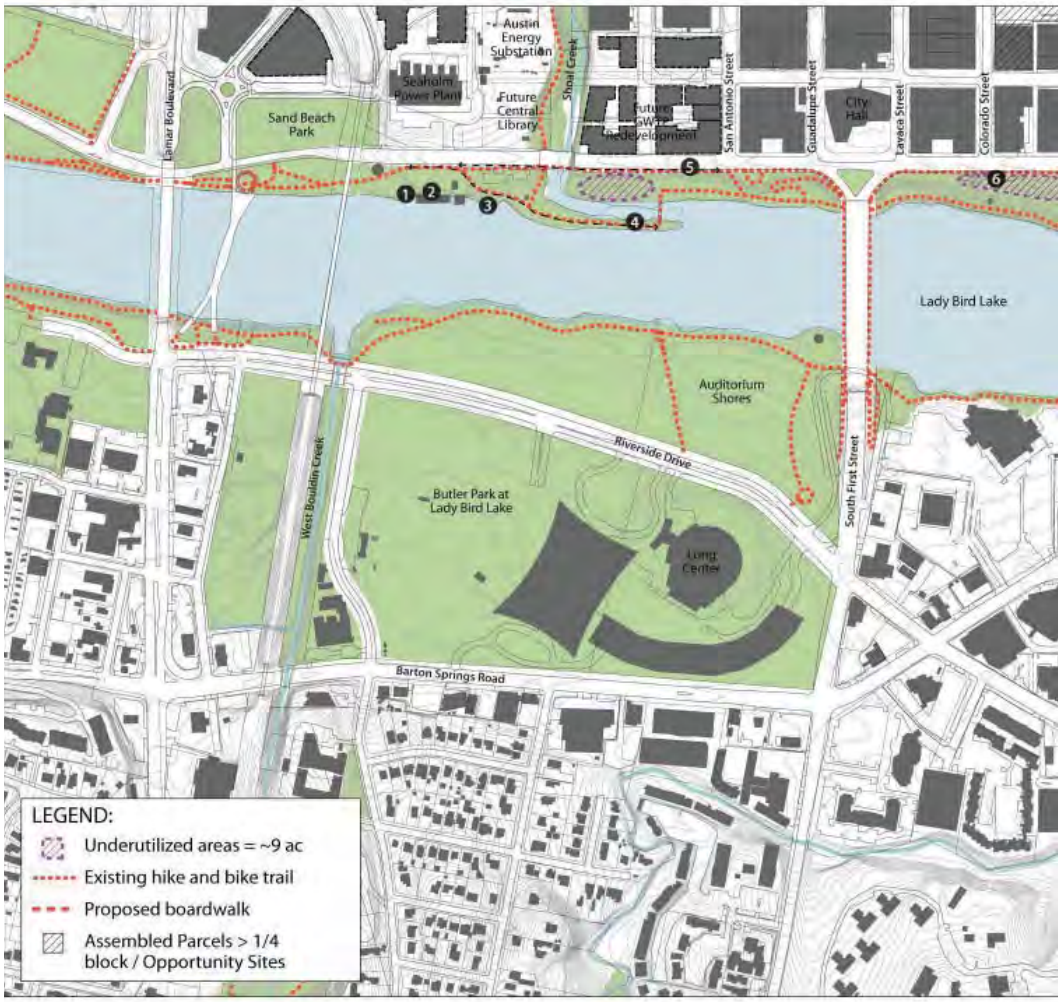
1.1 Downtown Austin Plan

The location of the three intake buildings along the water and south of Cesar Chavez places them within the Parks and Open Space Master Plan, within the City of Austin Downtown Austin Plan and the concept of redeveloping them would seam to align with the plan. The key goals that the city would like introduced into this area are:

1. Introduce additional activities and spaces to attract a greater diversity of users.
2. Program and improve under-utilized parkland along the trail.
3. Manage understory vegetation along the lake to improve views and access to the water.
4. Continue to make trail improvements to accommodate growing bike and pedestrian use.
5. Develop a cohesive trail signage system.[1]

The illustration below, provided in the Parks and Open Space Master Plan suggest specific recommendations for the area, such as enhancing a boat landing around the buildings, reusing the Seaholm Intake Structures as a restaurant, and providing an open view from the sloped meadow to the lake.



SPECIFIC RECOMMENDATIONS

1. Enhance boat landing.
2. Reuse Seaholm Intake Structure as restaurant.
3. Open view from sloped meadow to lake.
4. Widen trail and remove concrete.
5. Extend sidewalk/promenade to Seaholm.
6. Improve as lawn/plaza and remove promenade railing. Add concessions kiosk near Buford Tower.
7. Provide accessible route from Congress Avenue to trail.
8. Improve trail under Congress Avenue.
9. Ensure that future boathouse provides a multi-use attraction.

1 Downtown Austin Plan: Downtown Parks and Open Spaces, By ROMA Austin and HR&A Advisors, Revised January 19, 2010

The Lower Shoal Creek District as laid out by the City of Austin Downtown Austin Plan extends from 7th street south-toward Cesar Chavez and then from Lamar Blvd. east-toward Shoal Creek. This District is just north of the three intake structures and linking these two areas is important to the viability of the reuse of the Intake Structures. Therefore, a couple of the key goals set forth for the Lower Shoal Creek District should be considered in the revitalization of the area surrounding the intake structures. Those goals are:

1. Improve creek as open space amenity, and improve continuity and accessibility of trail.
2. Improve Flood capacity and riparian character of creek corridor.
3. Extend street grid to create stronger bicycle, pedestrian and vehicular linkage to core/waterfront.
4. Promote a mix of restaurant, commercial, cultural and vistor-oriented uses that contribute to the day and nighttime life.[2]

The top three public priorities for these areas are:

1. Great Streets
2. Off-street hike and bike trails.
3. Creek stabilization and flood control improvements.[3]

The Lady Bird Lake Master Plan does not speak specifically to the area of the three intake structures, however being aware of the future plans for the Lady Bird Lake Park would only help strengthen the connection between Lady Bird Lake and Downtown.

2 Downtown Austin Plan, November 2010
3 Downtown Austin Plan, November 2010

1.2 Adjacent Development

References: Fred Evins, Economic Growth and Redevelopment Services Offices
Greg Kiloh, Economic Growth and Redevelopment Services Offices

Significant development has been created or planned for the area immediately surrounding the Intake Structures which will impact the viability of any future use of the buildings. The best representation of this development can be found in the Seaholm District Plan below. Members of the City of Austin Economic Growth and Redevelopment Services Offices met with the investigative study team and provided an update on the status of the Seaholm District Redevelopment Plan.

The Gables along West Ave. (239 units) and The Gables Park Plaza Phase 1 along Lamar Blvd. (292 units) are two projects that have already been completed within the district plan. There are numerous other residential developments planned for the area, such as The Gables Park Plaza Phase 2 (185 units). Which is currently planned to start construction is the 1st quarter of 2012. Adjacent to this new building is a 117 space parking structure that will be city owned. This parking structure is a much needed element within the Seaholm District and could help alleviate the parking constraints that surround the Intake Structures that will be discussed further in the study.

The Seaholm Power Plant will have a street level entrance on the west side of the site. This building will be adaptive reuse with events, office and retail space. To the northwest of the Seaholm Power Plant there is low rise retail and residential building planned (40 units). The area northeast of the Seaholm Power Plant is planned to be developed as a high rise with hotel, office and retail spaces. Both buildings are to have under ground parking garages.

The area of land north of the substation is currently slated to receive a 425 unit mixed use building. The substa-

tion will receive an art wall around it to elevate it's appearance. The Green Water Treatment Redevelopment will be a dense mixed use building along Cesar Chavez with retail and residential along 2nd street (900 units).

Third Street will receive improvements in addition to 2nd Street being continued into the district. Which will carry the 2nd street district fabric into the Seaholm District. West Ave. will be continued south to meet Cesar Chavez. There will be a pedestrian walk at this intersection. This intersection will have the infrastructure for a traffic light, but there are no current plans to signal it. The Central Public Library is planned to have 200 parking spaces below it but is still currently in the planning stages. The vehicular entrance for the Library will be along West Ave. The pedestrian entrances will be provided along 2nd and Cesar Chavez Streets. The library is planned to have a cafe and book store along 2nd street. A strong connection to the south lawn, which is south of the Power Plant, but north of Cesar Chavez will be emphasized within the Library uses.

There are planned streetscape improvements along the north side of Cesar Chavez, but none to the south. The street improvements are set to happen first with the Seaholm site, then with the Green Water Site, and lastly with the Library site. The district plan shows median improvements but they are not currently planned to happen.

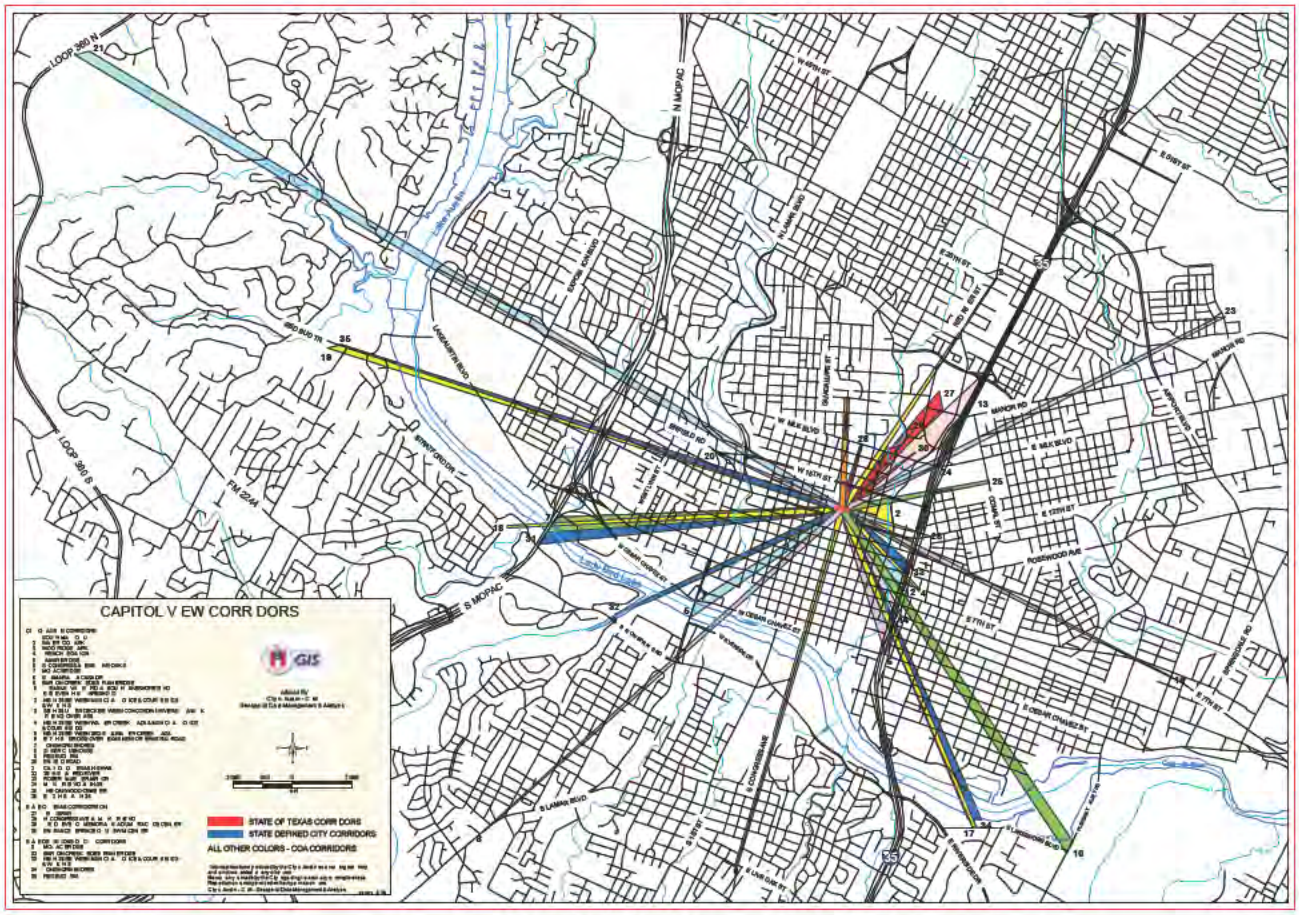
The Lance Armstrong Bikeway is also a note worthy element within this district. It travels from the west along Cesar Chavez and turns north along Shoal Creek. The Gables have also given an easement such that the Lance Armstrong Bikeway may continue through them.

The success of the Intake Buildings redevelopment will draw strongly on it's ability to fit within and support the Seaholm District Plan. Understanding the status and phasing of all the developmental elements within the district could also influence the redevelopment of the Intake Buildings. Therefore the timing of the Intake Buildings redevelopment should start to become part of the discussion of the District Plan and should no longer be thought of as a separate entity.

1.3 Capital View Corridor

References: Chris Johnson, Planning and Development Review Department

The property for the Intake Structures lies partially under view corridor 8 which is initiated at South Lamar Blvd. Through conversation with the Planning and Development Review Department is was determined that the estimated elevation of this corridor at this site is 175 feet, and consequently, would have little to no impact on the redevelopment of the buildings.



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1.4 Zoning

The buildings sit in dedicated parkland adjacent to Lady Bird Lake, impacting any redevelopment there in two ways. Height and area restrictions for development in parkland are established either by a conditional use overlay or, for some conditions, by assuming the restrictions on the adjacent private property. This would only have an impact on the redevelopment of the intake structures if an attempt to expand them - outward or upward - were planned.

More importantly to the intake structures, P zoning severely limits the establishment of commercial uses. From the Land Development Code, permitted uses in public districts are as follows:

§ 25-2-624 PUBLIC (P) DISTRICT USES.

(A) In a public (P) district, the following are permitted uses:

(1) governmental, civic, public service, and public institutional uses;

(2) residential uses associated with educational, military, medical, or similar public uses;

(3) commercial or industrial uses that are accessory to or in support of a principal public use on the same site;

(4) agricultural uses; and

(5) temporary uses.

(B) A telecommunication tower use is a permitted or conditional use, as determined in accordance with Section 25-2-839 (Telecommunication Towers).

Source: Section 13-2-227; Ord. 990225-70; Ord. 000302-36; Ord. 031211-11.

While it would appear that commercial uses would be permitted if they simply enhanced the public's experience in the park, there is a strong precedent for disallowing any commercial development in parkland, even public private partnerships. The type of development that might be permitted under 25-2-624 would only be small park-oriented kiosks.

Public zoning would not limit developing the buildings into uses that were strictly public in nature, like a museum or public meeting space or a one that was very clearly associated with the immediate park, like a public boat dock or recreational facility. But installing any use that would be controlled partially or entirely by a private entity would require a variance to the existing use restrictions, and rather than simply gain the approval of boards and commissions and council for a variance, allowing a commercial use within dedicated park land, by state law, requires public approval by referendum.

References: Austin City Charter, Article II; Texas Local Government Code, Chapter 253; Texas Parks and Wildlife Code, Section 26.001-26.005.

On the following page, Table 1.0 serves to outline the different conditions surrounding the redevelopment of a number of different uses for the intake structures.

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TABLE 1.0

	AMBULATORY HEALTH CARE FACILITIES	ANIMAL HOSPITALS, KENNELS, AND POUNDS	AGRICULTURAL	ART GALLERY (PRIVATE)	ART GALLERY (PUBLIC)	ART WORKSHOP	BANKS	BARBER AND BEAUTY SHOPS	BUSINESS/ OFFICES	CARWASH	CIVIC	CLINIC (OUT PATIENT)	COCKTAIL LOUNGE / NIGHT CLUB	COMMERCIAL (ACCESSORY USE TO SITE)	COMMUNITY EVENTS (COMMUNITY HALL, CONCERT HALL)	CONSUMER CONVENIENCE SERVICES	CULTURAL SERVICES (LIBRARY, MUSEUM)	DAYCARE SERVICES	DRY CLEANING AND LAUNDRY	EDUCATIONAL (FOR STUDENTS ABOVE 12TH GRADE)	ELECTRONIC DATA PROCESSING	FOOD SALES	GENERAL RETAIL SALES	GOVERNMENTAL	GYM	INDUSTRIAL (ACCESSORY USE TO SITE)	LABORATORIES, TESTING RESEARCH	PARK AND RECREATION SERVICES	PARKING GARAGE	POST OFFICES	PRINT SHOPS	PROFESSIONAL SERVICES (ARCHITECTURE, ATTORNEY, ETC.)	PUBLIC INSTITUTIONAL	PUBLIC SERVICE (EMS, FIRE STATION, POLICE)	RADIO AND TELEVISION STATIONS	RESIDENTIAL (PRIVATE: SINGLE FAMILY)	RESIDENTIAL (SOLD OR LEASE : APT, CONDOS, ETC.)	RESIDENTIAL (PUBLIC: EDUCATIONAL, MILITARY, MEDICAL, ETC.)	RESTAURANT	TELECOMMUNICATION TOWER	TELEPHONE EXCHANGES	TEMPORARY USES	TRAINING AND SKILL DEVELOPMENT (NON ACADEMIC)	WAREHOUSE
PERMITTED USE PER ZONING (P)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
PERMITTED USE PER WATER FRONT OVERLAY	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SUBCHAPTER E	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
WORK AREA IN CRITICAL WATER QUALITY ZONE	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
WIDENING OF ACCESS AISLE FOR FIRE LANE	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
ON-SITE HANDICAP PARKING	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
OFF-SITE PARKING	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
RIGHT OF WAY TRASH SERVICE USE	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
CHAPTER 26 (TEXAS PARKS AND WILDLIFE CODE)	○[1] ○[6]	○	○	○	○	○	○	○	○	○	○[1] ○[2]	○[1] ○[2]	○	○[3]	○[1] ○[2]	○	○	○	○	○[1] ○[2]	○	○	○	○[1] ○[2]	○	○[3]	○[1] ○[2]	○	○	○[1] ○[2]	○	○	○[1] ○[2]	○[1] ○[2]	○	○	○	○	○	○	○[1] ○[2]	○	○[1] ○[2]	○
VOTER REFERENDUM (CITY CHARTER)	○[1] ○[6]	○	○ ○[6]	○	○	○ ○[6]	○	○	○	○	○[4] ○[5]	○[4] ○[5]	○	○[3]	○[4] ○[5]	○	○[6]	○	○	○[4] ○[5]	○	○	○	○[4] ○[5]	○	○[3]	○[4] ○[5]	○[6]	○	○[4] ○[5]	○	○	○[4] ○[5]	○[4] ○[5]	○	○	○	○	○	○	○[4] ○[5]	○	○[4] ○[5]	○

**The Parks and Recreation Department has no predetermined adaptive re-use in mind for the buildings. The uses discussed herein were selected with the intention of extracting as much information as possible from the exercise rather than to promote any specific outcome.*

- ● ALLOWED
- ● NOT ALLOWED
- ◐ REQUIRES VARIANCE
- ◐ REQUIRED
- ● NOT REQUIRED
- ○ SUBJECT TO
- ○ NOT SUBJECT TO

1. PARK RELATED USE ONLY
2. NON-PARK USE
3. IF ACCESSORY TO PRINCIPAL PARK USE
4. GOVERNMENT UTILITY ONLY
5. ALL OTHERS
6. IF SOLD, LEASED

This table has been developed using a strict interpretation of the City of Austin Land Development Code, Chapter 25. Through further discussion with the Development Assistance Center, The Land Use Commission, and City Council; it could be determined that certain uses that are shown as not being allowed - could be permitted on a case by case basis.

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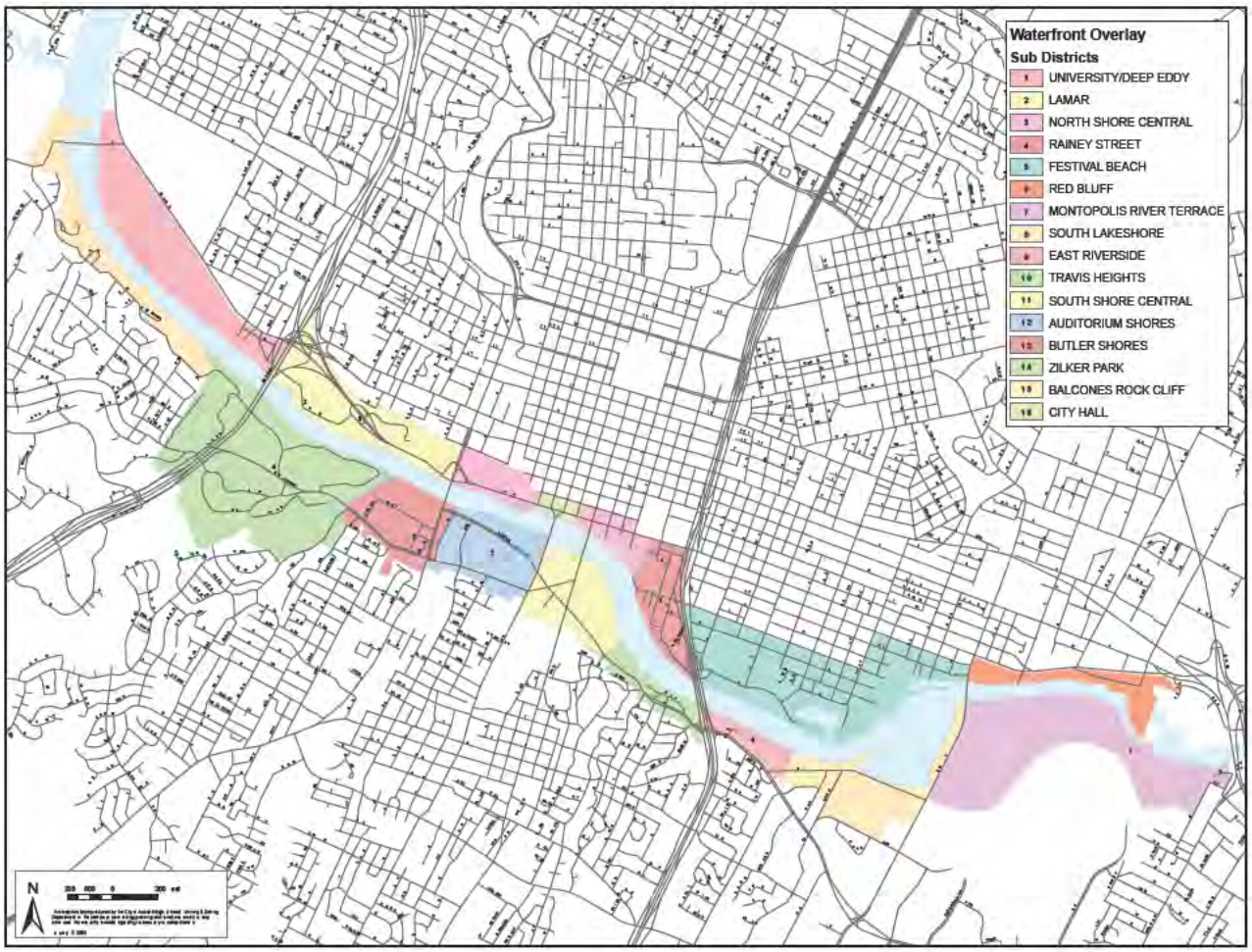
1.5 Waterfront Overlay

The site lies within Sub District 3 North Shore Central of the Waterfront Overlay. The majority of the regulations associated with the overlay concern the position of buildings in relation to the lake and the formal configuration of buildings – set backs, height and articulation. These formal concerns would not apply to an existing building.



Some regulations that might apply, depending on what development was proposed are:

25-2-721 Waterfront Overlay Combining District Regulations

(D) This subsection provides requirements for parking areas.
(1) Surface parking:
(a) must be placed along roadways, if practicable; and
(b) must be screened from views from Town Lake, the Colorado River, park land, and the creeks named in this part.

Source: Section 13-2-700; Ord. 990225-70; Ord. 990715-115; Ord. 010607-8; Ord. 031211-11; Ord. 20090611-074.25-2-723 special regulations for public rights-of-way

25-2-723 Special Regulations for Public Rights-of-Way

(C) For a street described in Subsection (D), streetscape improvements that are consistent with the Town Lake Park Plan are required. A streetscape improvement is an improvement to a public right-of-way, and in-

cludes sidewalks, trees, light fixtures, signs, and furniture.

(D) Subsection (C) applies to:

(1) Barton Springs Road, from Congress Avenue to MoPac Freeway;

(2) Cesar Chavez Street, from MoPac Freeway to IH-35;

(3) Congress Avenue, from Riverside Drive to First Street;

(4) Grove Boulevard, from Pleasant Valley Road to Montopolis Drive;

(5) Guadalupe Street, from Cesar Chavez Street to Fifth Street;

(6) Lakeshore Boulevard, from Riverside Drive to Montopolis Drive;

(7) Lamar Boulevard, from the Union Pacific railroad overpass to Barton Springs Road;

(8) Lavaca Street, from Cesar Chavez Street to Fifth Street;

(9) South First Street, from Town Lake to Barton Springs Road; and

(10) Trinity Street, from Cesar Chavez Street to Fifth Street.

Source: Section 13-2-700.2; Ord. 990225-70; Ord. 031211-11.

25-2-738 North Shore Central Subdistrict Regulations

(A) This subsection applies in the North Shore Central subdistrict of the WO combining district.

(B) The primary setback lines are located:

(1) 100 feet landward from the Town Lake shoreline;

(2) 60 feet from the Shoal Creek centerline; and

(3) 50 feet from the Waller Creek centerline.

(C) Surface parking is prohibited, except for a parking area for buses, van pooling, taxis, delivery services, commercial loading, public transportation, the handicapped, or public access to park land.

(D) The location of a garage access point or curb cut must minimize the disruption of pedestrian traffic on existing sidewalks.

(E) A structure must fit within an envelope delineated by a 70 degree angle starting at a line 45 feet above the property boundary line nearest Town Lake, Shoal Creek, or Waller Creek, with the base of the angle being a horizontal plane extending from the line parallel to and away from the surface of Town Lake, Shoal Creek, or Waller Creek.

(F) This subsection applies to a nonresidential use in a building adjacent to Town Lake.

(1) For a ground level wall that is visible from park land or a public right-of-way that adjoins park land, at least 60 percent of the wall area that is between 2 and 10 feet above grade must be constructed of clear or lightly tinted glass. The glass must allow pedestrians a view of the interior of the building.

(2) Entry ways or architectural detailing is required to break the continuity of nontransparent base-walls.

(3) Except for transparent glass required by this subsection, natural building materials are required for an exterior surface visible from park land adjacent to Town Lake.

(G) A building may not be constructed within 80 feet of the existing east curb line of Congress Avenue south of First Street.

Source: Section 13-2-702(c); Ord. 990225-70; Ord. 000309-39; Ord. 031211-11.

The aspects of the overlay that have the most potential to shape the development of the intake structures are those concerning allowable uses:

25-2-671 Town Lake Park Terms

(2) CULTURAL PARK means a portion of Town Lake Park that is intended for cultural facilities, including museums, botanical gardens, and performance areas. The following areas in Town Lake Park are cultural parks:

(a) tracts S-2D, S-3, S-4A, S-5, S-5A, S-5B, and S-5C on the park classification map;

(b) park land in the area bounded on the east by Dawson Road, on the west by Lamar Boulevard, on the south by Barton Springs Road, and on the north by Riverside Drive;

(c) park land in the area bounded on the north by Town Lake, on the south by Barton Springs Road, Barton Boulevard, and the westward extension of Linscomb Avenue, on the east by Lamar Boulevard, and on the west by Robert E. Lee Road and the hike and bike trail;

(d) park land north of the intersection of River Street and Bierce Street, known as the City of Austin Street and Bridge Yard; and

(e) the Seaholm Power Plant and the Green Water Treatment Plant, including the water intake struc-

tures, when the current uses cease and the plants are dedicated as park land.

Source: Section 13-2-228.1; Ord. 990225-70; Ord. 031211-11.

25-2-672 Town Lake Park Regulations

D) Development of a cultural park described in Section 25-2-671 (Town Lake Park Terms) is limited to:

(1) cultural facilities and special event and performance areas;

(2) parking structures and limited surface parking;

(3) concessions that are designed to attract people from throughout the city, that are mobile, temporary, or located in a building described in the Town Lake Park Plan, and that require a small amount of space, including pushcarts selling food or flowers, temporary vending stands for special events, and museum gift shops;

(4) walking, exercise, and bicycle paths;

(5) an internal park transportation system;

(6) maintenance and improvement of environmental quality, including stream bank stabilization, fencing, and wildlife and vegetation management; and

(7) general park support and maintenance.

Source: Section 13-2-228.1; Ord. 990225-70; Ord. 990902-57; Ord. 031211-11.

25-2-691 Waterfront Overlay District Uses

(C) A pedestrian-oriented use is a use that serves the public by providing goods or services and includes:

(1) art gallery;
(2) art workshop;
(3) cocktail lounge;
(4) consumer convenience services;
(5) cultural services;
(6) day care services (limited, general, or commercial);
(7) food sales;
(8) general retail sales (convenience or general);
(9) park and recreation services;
(10) residential uses;
(11) restaurant (limited or general) without drive-in service; and
(12) other uses as determined by the Land Use Commission.

Source: Section 13-2-228; Ord. 990225-70; Ord. 990715-115; Ord. 990902-57; Ord. 010607-8; Ord. 031211-11; Ord. 031211-41; Ord. 040617-Z-1.

25-2-692 Waterfront Overlay Subdistrict Uses

(B) In the North Shore Central subdistrict, not less than 50 percent of the net usable floor area of the ground level of a structure adjacent to Town Lake must be used for pedestrian-oriented uses. The Land Use Commission may allow an applicant up to five years from the date a certificate of occupancy is issued to comply with this requirement.

Chris Johnson from the Development Assistance Center stated that there should be no issue with assuming that the level directly off Cesar Chavez is the ‘ground level’ for the Seaholm Intake Structures.

Source: Section 13-2-229; Ord. 990225-70; Ord. 990715-115; Ord. 990902-57; Ord. 010607-8; Ord. 031211-11; Ord. 031211-41.

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1.6 Subchapter E: Design Standards and Mixed Use

The provisions of Subchapter E form a best practices standard intended to create a relationship between the type of new buildings developed and the roadway adjacent to them, in an effort to encourage compatible development that contributes to a livable city.

The first consideration when looking at developing or redeveloping a project would be determining the classification of the adjacent roadway. In the case of the Seaholm Intake structure, the adjacent roadway is Cesar Chavez, which is classified as an Urban Roadway. (per figure 2)

Because many of the requirements of Subchapter E concern the physical relationship between a proposed building and the adjacent roadway, parts of Subchapter E will apply and some will not apply to existing buildings like the Seaholm Intake structures. It is possible that the entire Subchapter will not apply, depending on the final definition of the "site" with regard to the size of area considered the project, and the position of the Director with regard to the definition of "major rehabilitation."

Per 1.2.2.B, redevelopment of sites less than one acre which generate an increase of 1,000 trips per day, and sites greater than one acre which generate an increase of 2,000 trips per day are both exempt. Additionally, the redevelopment of a site which does not increase the impervious cover by more than 25%, and redevelopment which is limited to an interior renovation are both exempt.

If the buildings and land were privately owned, and their redevelopment was not dependent upon any joint municipal agreement, then it would likely be exempt from any requirements of Subchapter E. Given the city's current investment in these design guidelines, it is likely that compliance with some subset of them will be a condition of any redevelopment public private partnership. What follows is a list of low-impact components of the Subchapter E Design Standards that could be applied to the project.

Section 2.2.3.B, under *Urban Roadways: Sidewalks and Building* Placement requires projects along urban roadways to install a 12' sidewalk along the entire length of the project.

Section 2.2.3.E prohibits any parking between the building and the roadway unless most of the building is placed directly adjacent to the street and parking in the areas where it is not adjacent is screened with landscape buffering per 25-2-1006 of the LDC, and unless there is a shaded pathway is created between the street and the building entrance. Because the buildings already exist and their placement can not be altered, it is likely that parking will be allowed between the buildings and the street, and that it will need to be screened. Several large trees currently shade the front yard and this should be considered more acceptable than constructing new pathway covers in a public park.

Section 2.2.6.B under *Building Entryways* requires entrances to face the principal street and connect directly to the sidewalk along the principal street. Because the existing entrance into the upper level of Building A and Building B both currently face Cesar Chavez, meeting the requirements of this section will create little difficulty.

Section 2.3.2 under *Connectivity* requires the installation of a direct pedestrian and bicycle access (a sidewalk) from the street to the building entrance.

Section 2.4 *Parking Reductions* allows a reduction in the required minimum off-street parking requirements in all non-residential zoning districts as calculated in Chapter 25-6, Article 7 of the Land Development Code. Section 2.4.2.B allows a 10% reduction in parking for preserving significant stands of trees; section 2.4.2.C allows an additional reduction of 20 spaces for every car-sharing vehicle provided. These are both options which could be considered in a PPP.

Section 2.5 *Exterior Lighting* describes requirements for exterior lighting, and it is likely that this section would apply in its entirety. This section requires fully shielded, full cut-off fixtures for all exterior lighting.

Section 2.6 *Screening of Equipment and Utilities* requires projects in all non-residential zoning districts to screen equipment and major utilities from view by a person standing at the property line on the opposite side of the street. Roof top mechanical equipment, ground mounted mechanical equipment, dumpsters, and loading docks would all need to be screened.

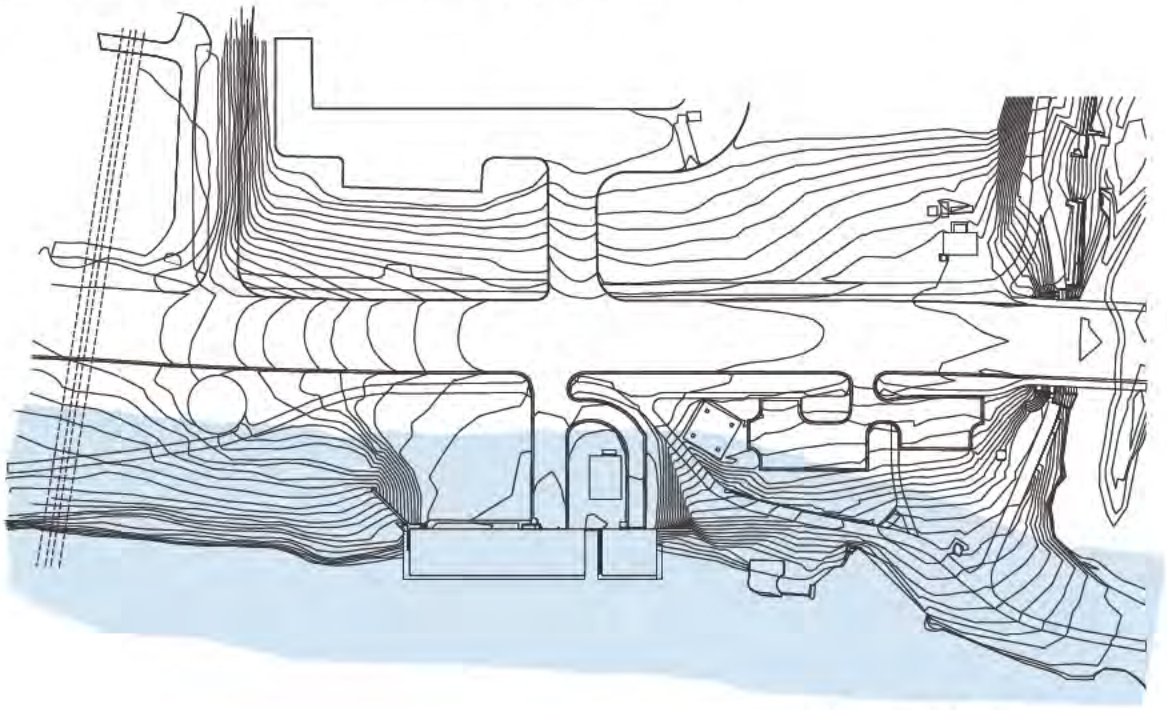
Section 3.3 *Options to Improve Building Design* requires certain commercial uses to earn points by conforming to certain items in a menu of design options. Because the buildings will likely be developed as a historical adaptive reuse, major changes to the facades or roof line are unlikely. The most applicable item would be redeveloping it in a way that earned a Green Building Rating from Austin Energy.

1.7 Critical Water Quality Zone

References: Chris Johnson, Planning and Development Review Department

The Town Lake Critical Water Quality Zone is an area of restricted development associated with Lady Bird Lake. This is an irregularly shaped boundary outlining an area within 100 feet of shoreline (established as 429') and at the Seaholm site it encompasses the buildings and half of the north yard (refer to illustration below). Retooling or adding pavement within the Critical Water Quality Zone would require a variance which would be reviewed by the Environmental Board and then by the Planning Commission before going to Council. The variance request letter and any other subsequent information needed to support the letter is filled with the Site Development Permit for the future project.

Through discussion with the Planning and Development Review Department it was determined that the development of park trails is specifically allowed in a critical water quality zone, so manipulating or adding to the Ann and Roy Butler Hike and Bike Trail would not be in conflict.



Critical Water Quality Zone

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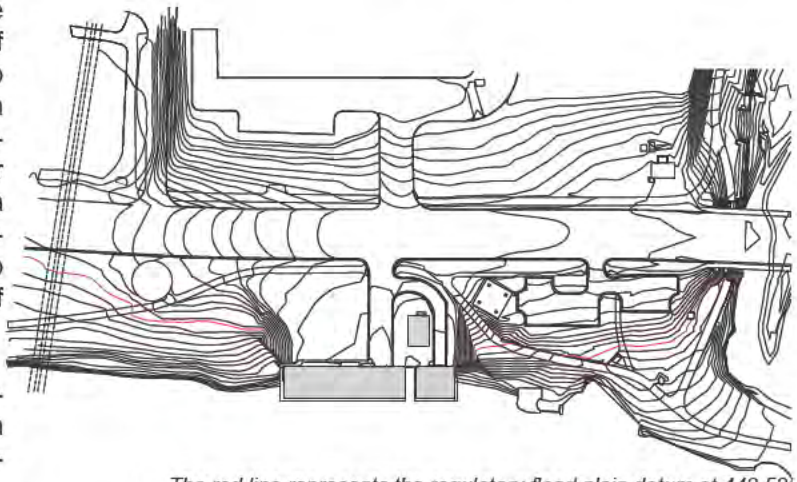
1.8 Impact of Flood Plain

References: Chris Johnson, Planning & Development Review Department
Kevin Autry, Planning & Development Review Department

The two buildings that make up the intake structures are located along the edge of Lady Bird Lake, formed after the Colorado River was dammed just east of downtown in an effort to control flooding that, previously, would climb the banks and cover lower downtown up to Second Street in a major event. The river still carries significant quantities of water and continues to flood, but within a much smaller band of elevations.

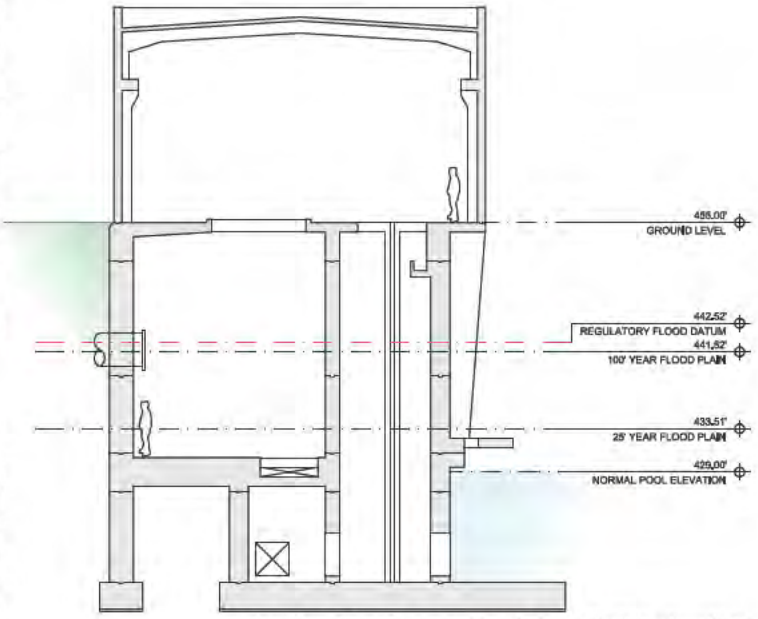


The red line represents the regulatory flood plain datum at 442.52'.

The building originally housed and supported a series of pumps that drew water from the lake and circulated it through the Seaholm Power Plant across Cesar Chavez, so the lowest portions of the building extend below the level of the lake and were consistently flooded. Just above the typical lake level (429.00') is a mechanical floor that held pumps that drew water from the flooded basement and pushed it into large steel pipes crossing under Cesar Chavez. This level is a few feet below the level of the exterior walk on the south side.

At this position on the lake, the 100 year floodplain is at 441.52', or about 12 ½ feet above the lake. This falls about midway up through the large concrete pump chambers, approximately inline with the circulating pipes. The upper level of the building, referred to here as the "ground level," is at an elevation of 455.00', approximately 12 ½ feet above the regulatory flood datum, and all the front yard between Cesar Chavez and the intake structure is above the regulatory flood datum.

The relationship between the building and the floodplain implies a group of considerations, some of which are covered in more detail in our test fit scenarios, which look at the implications of trying to inhabit the lower level, and some which are more generally related to simply having a building in the floodplain. To begin with, no building or parking is permitted within the 25 year floodplain (25-7-92) because a building would have a tendency to restrict the flow of storm water, causing the area upstream to flood more.



Building A Section representing flood plain elevations.

In general, development tends to create hardscape, impervious conditions that move rainwater more quickly to the river than it would in undeveloped areas, so as development occurs over time the floodplain requires recalculation, and some structures, over time are found within the floodplain. "Structures" are considered existing non-complying when changes occur in development regulations or conditions. "Uses," which are permitted un-

der zoning classifications, only become non-conforming when the zoning classification changes.

Any new construction inside the floodplain and outside the existing building footprints would trigger the requirement for a drainage study (25-7-31). This report does not anticipate new construction associated with the buildings, but relocating the Ann and Roy Butler Hike and Bike Trail to the water's edge would certainly initiate a requirement for a drainage study.

Some new construction may occur within the 25 year floodplain at the discretion of the Director if a group of qualifications is satisfied (25-7-92). These include the requirement that the finished floor elevation for the proposed building is at least two feet above the regulatory flood datum, and that, "normal access to a proposed building is by direct connection with an area above the regulatory floor datum," meaning that a bridge or berm would connect the building to an area outside the floodplain. Similar exceptions are available for new buildings or parking areas within the central business district (25-7-94).

So, in general terms, because the upper level of the buildings and the yard in front of them are above the regulatory flood datum, the upper levels may be occupied. However, because any new use installed in the buildings would differ from the original use – or the existing use (none) – any occupancy in the buildings would be considered a "change of use," triggering conformance with Chapter 16 in the 2009 IBC related to buildings in flood prone areas and which speaks to the structural requirements for building within a flood hazard area. This has been amended by the City of Austin "local amendments" that include five pages of revisions which encompass and expand the contents of 1612.

Initially, the section requires all new construction within "**flood hazard areas**" and "**substantial improvements**" to existing buildings to be designed and constructed to "**resist the effects of flood hazards and flood loads**." The code reproductions here are from the local amendments.

> ***SECTION 1612 FLOOD LOADS***
>
> ***1612.1 General**. Within flood hazard areas as established in Section 1612.3, (Establishment of flood hazard areas) all new construction of buildings, and alterations to buildings and structures, structures and portions of buildings and structures, **including substantial improvements** and restoration of substantial damage to buildings and structures, shall be designed and constructed to resist the effects of flood hazards and flood loads. All elevation requirements noted in this ordinance shall be documented using the Elevation Certificate, FEMA 81-31, and shall be certified by a registered professional engineer, surveyor, or architect, and shall be submitted to the Floodplain Administrator.*

A flood hazard area is defined in the local amendment as anywhere within the city's 25 or 100 year floodplain.

> ***FLOOD HAZARD AREA.** The greater of the following two areas:*
>
> *1. An area within a flood plain subject to a 1-percent or greater chance of flooding in any year (100-year flood); or*
>
> *2. An area with a flood plain subject to a 1-percent or greater chance of flooding in any year (100-year flood) based on projected full development in accordance with the City of Austin Drainage Criteria Manual.*

"Substantial improvement" is defined as an alteration that costs more than half the market value of the property. An exception was created for alterations of "historic structures" that would appear to mean that, if the intake structures were nominated for listing, or listed on the National Register of Historic Places, then improvements to it would not trigger the requirement in 1612.1 that the buildings be made to "resist the effects of flood hazards and flood loads."

> ***SUBSTANTIAL IMPROVEMENT.** For the purpose of determining compliance with the flood hazard management provisions of this code, substantial improvement means any repair, alteration, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the current market value of the structure before the improvement or repair is started or, if the structure has been damaged and is being restored, before the damage occurred. The cost used in the substantial improvement determination shall be cumulative cost of all previous additions or improvements for a specific building or structure occurring during the immediate 10-year period.*

If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions;

2. Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure; or

3. Aesthetic improvement if the value of the improvement does not exceed 10 percent of the current market value of the building or structure.

Section 1612.4 seems to be the explanation for how buildings are to "resist the effects of flood hazards and flood loads," through compliance with the design requirements of ASCE 24, Flood Resistant Design and Construction. It does not, however, use the same language as the earlier sections and simply refers to "alterations to buildings and structures located in flood hazard areas," rather than using the term "substantial improvement" which was so carefully defined earlier. A strict read of this section would imply that the intake structures would need to comply with ASCE24 if they were altered in any way.

1612.4 Design and construction. The design and construction of buildings and structures, and additions and ***alterations to buildings and structures located in flood hazard areas, shall be in accordance with ASCE 24, Flood Resistant Design and Construction.***

This is something that the city will need to interpret, but ultimately, conformance with ASCE 24 will likely have minor impact on any redevelopment given the robust nature of the original structures and their proven resistance to past flood events. There are passages in ASCE 24 that appear to control some aspects of the design of new utilities within the floodplain which would need to be reviewed – if compliance is required.

Probably more significant will be the amendments which speak to exiting and safe refuge. The provision for safe refuge is triggered when an existing building in a flood hazard area is altered, or where a change of use or occupancy is made. Whatever direction the development of the intake structures takes, it will likely be considered a change of use, so this provision will be something that will need to be addressed by whomever takes the project on.

Because the upper level is sufficiently out of the floodplain, the exiting and safe refuge provisions would apply only if some part or parts of a lower level were occupied.

1612.4.2 requires all buildings "constructed in the flood hazard area" to provide an enclosed area of refuge for occupants who might be trapped there in case of a storm. The area of refuge must be at least one foot above the design flood elevation and large enough to provide 12 square feet per occupant. Just for reference, Building A has a gross area of 5,660 sf. If the ground level were developed into an art gallery with half the space used for offices, the legal occupancy would be approximately (5660/2=2830sf. 2830 / 7 sf/occupant = 404 occupants in assembly area // 2830sf / 100 sf/occupant in office area = 29 occupants // 404+29 = 433 occupants total) 433 occupants. An area of refuge that could hold them would need to be (433x12sf = 5,196 sf, or almost the same size as Building A.

As was mentioned, the upper level and the front yard are well above the regulatory flood datum so exit and refuge for that level would be easy to provide and would be satisfied simply by having exits at the upper level and a path to the right-of-way.

1612.4.2 Provisions of safe refuge.

1. Buildings or structures constructed in the flood hazard area where the ground surface is below the design flood elevation, or where flood water velocities at the building may exceed five feet per second, shall be provided with an enclosed refuge space one (1) foot or more above the design flood elevation of sufficient area to provide for the occupancy load with a minimum of 12 square feet per person. The refuge space shall be provided to an exterior platform and stairway not less than three feet wide.

2. Existing buildings and structures in flood hazard areas which are enlarged, extended, or altered, ***or where a change of use or occupancy is made,*** *shall conform to the requirements of Subsection 1.*

3. No floor level or portion of a building or structure that is lower than one (1) foot above the design flood elevation, regardless of the structure or space classification, shall be used residentially, or for storage of any property, materials, or equipment that might constitute a safety hazard when contacted by flood waters.

1612.4.3 Means of egress. *Normal access to the building shall be by direct connection with an area that is a minimum of one (1) foot above the design flood elevation, unless otherwise approved by the building official.*

Additional information in the appendix.

APPENDIX G FLOOD-RESISTANT CONSTRUCTION

The provisions contained in this appendix are mandatory.

G103.5 Floodway encroachment. *Prior to issuing a permit for any floodway encroachment, including fill, new construction, substantial improvements and other development or land-disturbing activity, the building official shall require submission of a certification by a Professional Engineer licensed by the State of Texas, along with supporting technical data in accordance with the City of Austin Drainage Criteria Manual, that demonstrates that such development will not cause any increase of the level of the design flood.*

G401.1 Development in floodways. *Development or land disturbing activity shall not be authorized in the floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed and sealed by a Professional Engineer licensed by the State of Texas in accordance with the City of Austin Drainage Criteria Manual that the proposed encroachment will not result in any increase in the level of the design flood.*

Use of the Lower Levels Within The Flood Plain

References: Chris Johnson Planning & Development Review Department
Kevin Autry Planning & Development Review Department

The lower levels of Buildings A and B, to be occupied in any normal sense, would trigger the exiting and safe refuge provisions mentioned earlier. Clarifying exactly what that would mean would be difficult without presupposing the way that all the parts of the building would be used, but some helpful generalizations can be discussed. If significant areas of the lower level were occupied, it is probable that the population on the lower floor would need to be able to exit up to the upper level of the building and find refuge there, where they can also continue to the right of way (Cesar Chavez) above and outside the flood area. If some smaller portion of the lower level were opened to the river and did not connect to the upper levels, it is conceivable that the exit and refuge requirements could be satisfied by the Ann and Roy Butler Hike and Bike Trail.

Opening up the lower level to the river will require some specialized construction because the building was built with robust cast in place reinforced concrete, and even though the equipment that it once contained is no longer supported, the building, as altered will now need to meet the new structural requirements of the International Building Code.

The lower levels are divided into two kinds of spaces. The area closest to the lake is a group of wells that are square in plan that extend from the ground level at 455’ to the lowest foundation approximately 12 feet below the water level (417’). There are ten wells along the lake side. On the inboard side of Building A are the two pump rooms that start several feet below the water line and are open to the ground level at the top.

In discussions with plan reviewers at the city, it was suggested that it would be possible to occupy the two pump rooms as if they were also located above the floodplain, provided all required egress components were in place

and provided the existing well openings in the floor were sealed. In that case, the spaces could be considered disconnected from the lake and not subject to the flood related exiting and safe refuge requirements.

The possibility of opening up the lower level to the lake has been explored here from a structural perspective and also with regard to code implications. The structural feasibility study (attached in the appendix), in response to the question, “how many walls could be removed from the lower levels,” looked at the potential to cut away concrete to provide more contiguous space while still conforming to the requirements of Section 1612 of the IBC. The illustration on the next page shows how most of the concrete forming the east-west walls of the ten wells could be removed and still meet the requirements for flood resistance within Building A (refer to the structural feasibility study for further information on Building B). These could be removed almost entirely, but a portion of each wall below the upper level and also just above the level of the south deck would need to remain in place to provide bracing.

Leaving the lower portions of these walls in place, where they are higher than the existing south deck, could create a difficulty with regard to accessibility. Because there is no floor in the south wells, one will need to be added. If this is placed at the same level as the south deck and reinforced adequately, the new floor could stiffen the structure enough to open up more of the south facade, all the way down to the south deck as is shown in the section.

All of the north-south walls of the wells would need to remain in place, and the resulting lower level plan would be far from a contiguous space. Rather, it would be a series of tall spaces approximately 12 foot by 12 foot opening, on the lake side, onto the south deck, and on the north side onto the long pump rooms. Besides the spatial awkwardness of the resulting floor plan, removing this amount of concrete would be quite expensive, and more importantly, may not be an acceptable approach for a developer seeking registry on the list of National Historic Places.

Additionally, occupying the lower level with this level of intensity would require a significant accommodation with regard to the floodplain, and while it would be necessary to verify a specific interpretation of the requirements based on a specific alteration to the building and proposed use of the lower level, it is likely that an intense use of that space would require either providing a means of egress to the upper level - and consideration that the upper level was a safe refuge - or providing a way to isolate the flood from the building by means of flood proof doors or flood gates.

So it might be possible to cut away the concrete as described in the structural analysis attached here, occupy the lower level and provide a means of egress (stairs and elevator) from the lower level to the upper level and eventually to the right of way.

Alternatively, it might be possible to cut away the concrete as described in the structural analysis, or some portion of the concrete there, occupy the space and install a way of blocking off the south side with flood proof doors or flood gates. After some research into this possibility, it appears that closing off openings on the south side with flood gates would be both cost prohibitive and disruptive of the functional program for the outside areas. Gates and doors would each need to be installed on the flooded side, so the pressure from any water against it would increase the waterproof qualities.

Initial research into flood proof doors and flood gates found a very limited group of manufacturers for each, and only a small group of products that might work in completely submerged conditions resisting the force of the river. Smaller flood proof doors similar to those on ships are more available but they would not open up any significant area of the facade.

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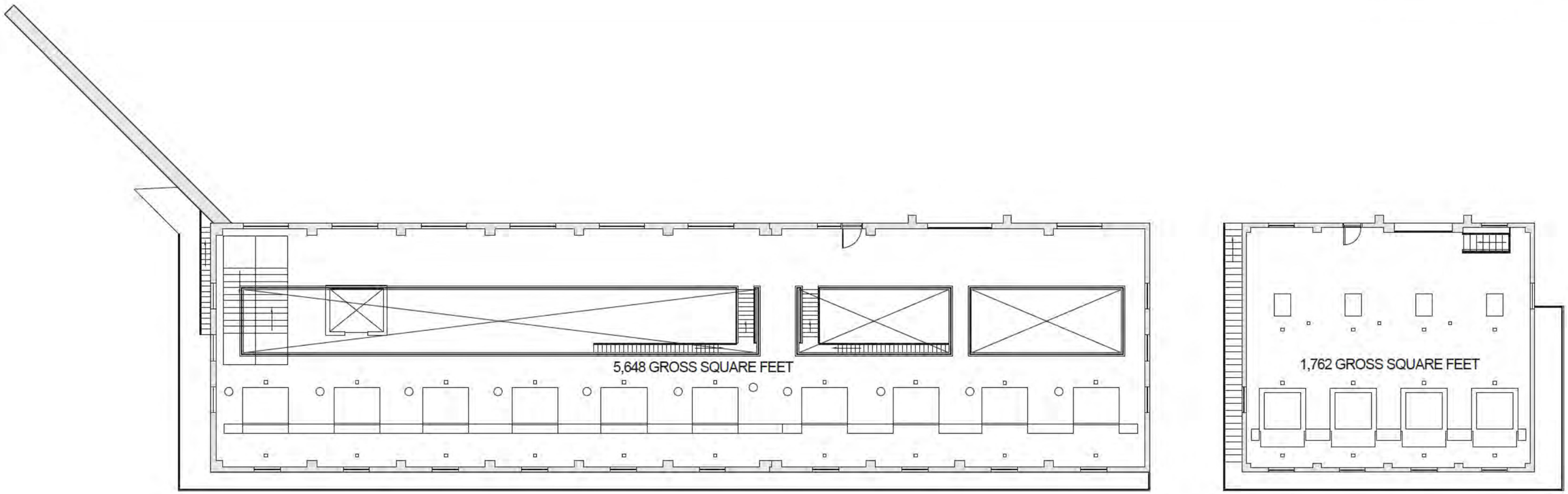
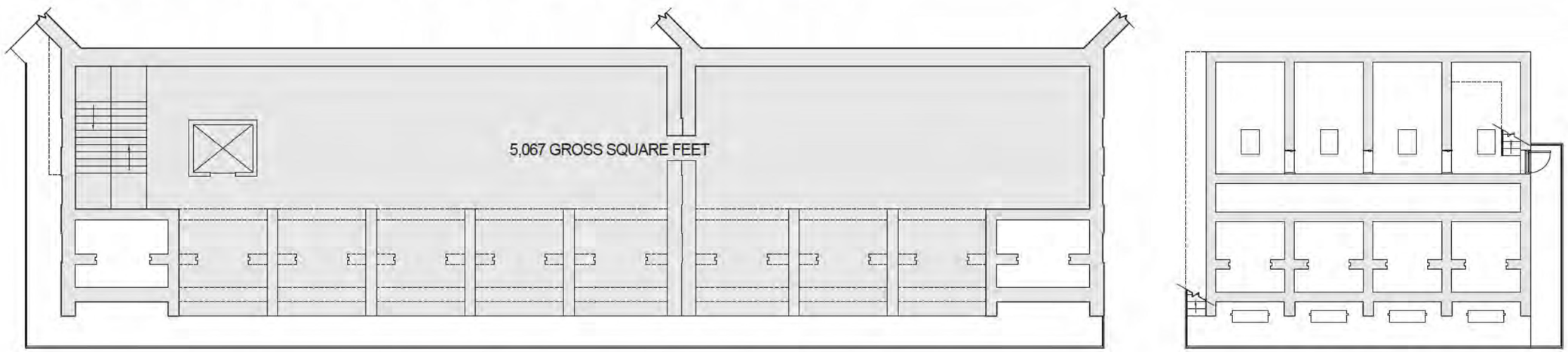


02 GROUND LEVEL PLAN: USE OF LOWER LEVEL WITHIN FLOOD PLAIN



01 BASEMENT PLAN: USE OF LOWER LEVEL WITHIN FLOOD PLAIN

POTENTIALLY DEMOLISHED STRUCTURE

0 10 20 30

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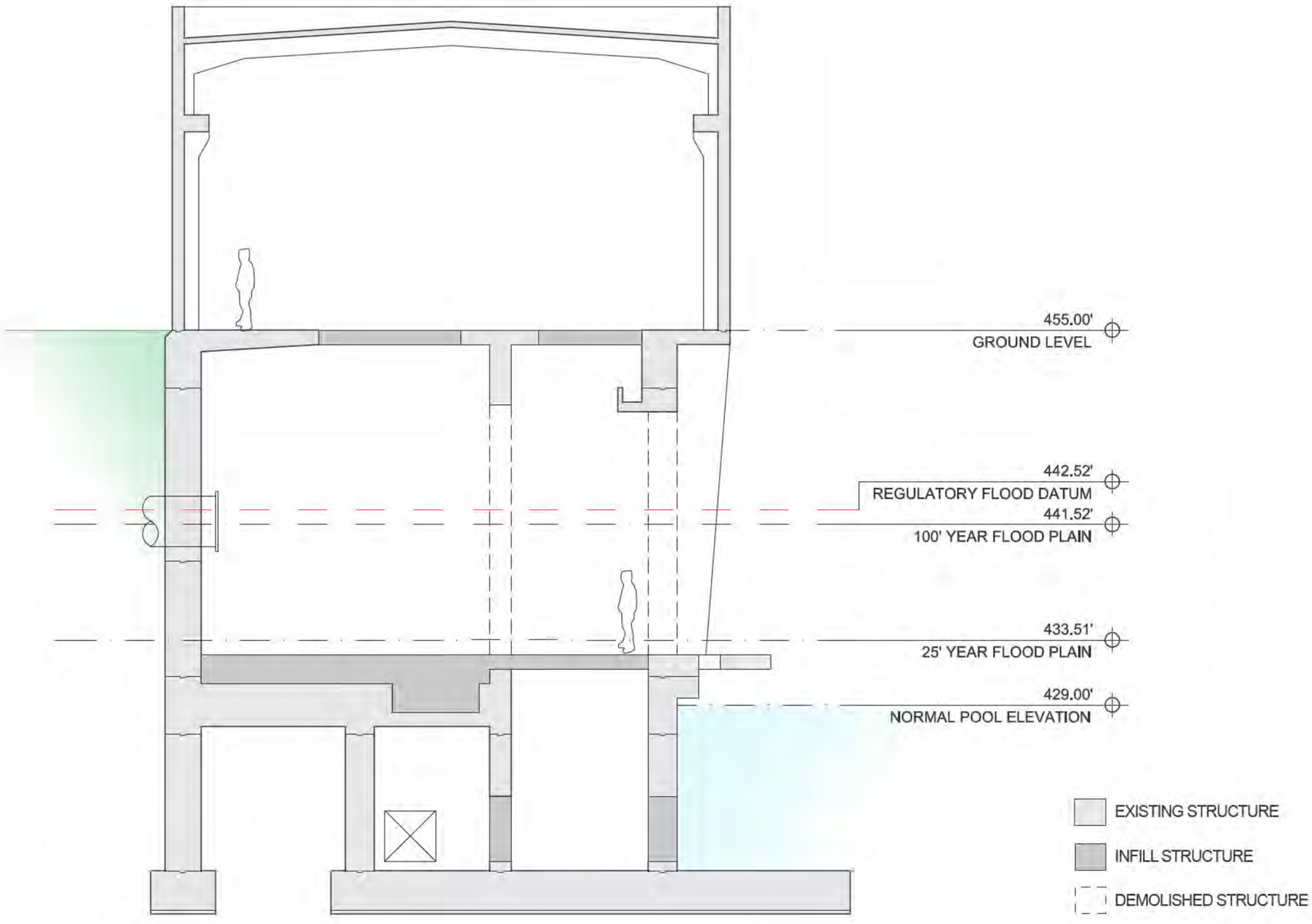

01 BUILDING 'A' SECTION - USE OF LOWER LEVEL WITHIN FLOOD PLAIN

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1.9 Vehicular/Fire/Parking/Trash Access

The existing drive connecting the intake buildings to Cesar Chavez is approximately 30 feet wide and intersects at a 90 degree angle. Traffic on Cesar Chavez is moving fairly quickly at the intersection and entering cars coming from either direction will need to slow down before turning and so will tend to block traffic behind them.

The Seaholm Master Plan image (refer to Seaholm District Update 2010 illustration in 1.2 Adjacent Development) includes extending West Avenue through to Cesar Chavez and installing a new traffic light at the intersection there. The light should have the effect of slowing traffic along Cesar Chavez. Ideally, the extension of West Ave and the entrance to Seaholm Intake would align across Cesar Chavez. That alignment and the light would provide the safest entrance into the facility. Unfortunately that alignment will not be happening.

The Seaholm Master Plan also shows a median in the center of Cesar Chavez which, absent the light and ideal alignment of West Avenue, would provide a much safer entrance into the facility because only east-bound traffic could enter and exiting traffic could only turn right onto Cesar Chavez. This would, however, eliminate the ability for west-bound traffic to enter the facility. This will create a right-in, right-out access to the site (see illustration to the right). This alignment does raise concern for the traffic along Cesar Chavez, but does seem to be safest given all the factors that seem to already be in place.

Right-in, right-out site access.

Through discussion with Ralph Castillo of the City of Austin Fire Department it was determined that the current entrance off Cesar Chavez would need to be enlarged to the current standards of 40 feet, as the current drive is only approximately 30 feet wide. The drive would need to widen toward the east. There is a heritage tree to the west of the drive that should be preserved. This will be discussed in more detail in 1.10 Existing Site Parameters.

A 25 foot wide fire lane would need to be installed at the north side, permitting fire trucks to drive in to the south. This area of the entrance drive would need to be outlined in red paint and could be used as part of the vehicular access but could not be used for parking.

The Fire Department needs to have access to all sides of the building and need to be able to do so within 150 feet of a truck. If the building is equipped with an automatic fire suppression system, that distance increases to 200 feet. From the position where the truck has to stop – at the end of the fire lane near the front door – two 150 foot hoses pulled around the building would stop approximately 50 feet short of encircling Building A. This would suggest that the building would be required to be sprinkled, shifting to the 200 foot length fire access.

Any commercial use would trigger parking requirements per Section 25-6 Appendix A of the Land Development Code. Per Chris Johnson of the Planning and Development Review Department any variance from full compliance would require approval of the Board of Adjustment. This variance is filled with the Site Development Permit for the future project.

Off-site parking could be provided through an off-site shared parking agreement developed within the site development permit. This would need to be within 1000 feet of the facility.

25-6-501 OFF-SITE PARKING ALLOWED.

(C) An off-site parking facility and the use that it serves may not be not more than 1,000 feet apart,

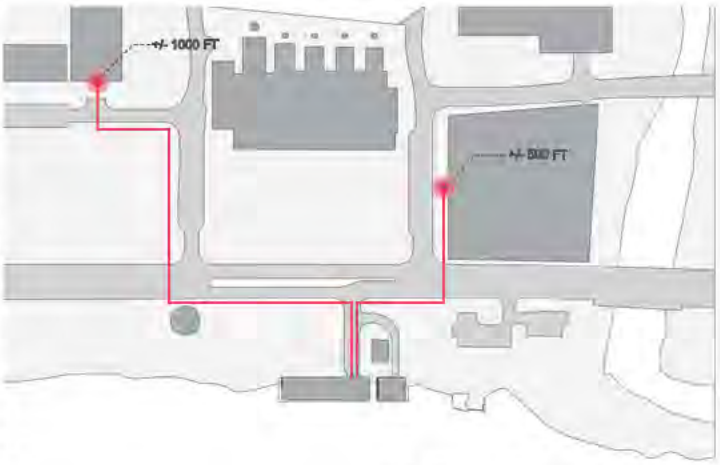
measured from the nearest off-site parking space to the nearest public entrance of the use that the parking facility serves. The distance measured:

(1) assumes that between adjacent intersections with traffic control signals, pedestrians cross at a marked crosswalk; and

(2) does not cross private property unless access is authorized by the affected property owner.

E) A required parking space for persons with disabilities may not be located in an off-site parking facility unless the director determines that existing conditions preclude on-site parking.

Source: Sections 13-5-99 (a), (b), and (e) and 13-5-106(a); Ord. 990225-70; Ord. 990520-38; Ord. 010607-8; Ord. 031211-11.



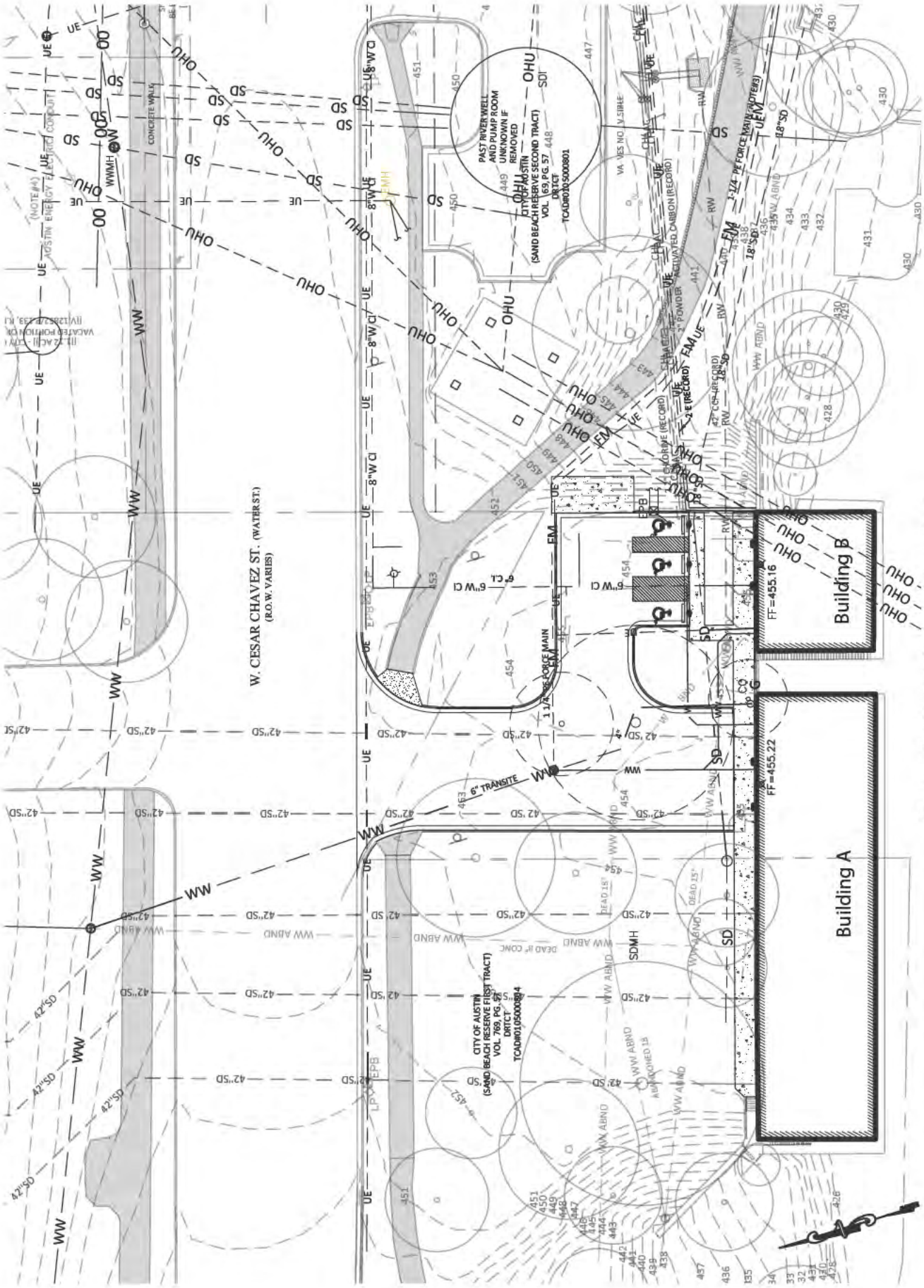
Off-site parking within 1,000 feet.

There are only two opportunities for shared parking that fall within the 1,000 foot requirements at the moment. The parking garage under the New Central Public library is within +/- 500 feet of the entrance to Building A, as it is currently designed. The number of parking spaces within the garage does seem limited though. The 117 space city owned parking garage planned to be built adjacent to Gables Park Plaza 2 could be within the distance required by the City of Austin Land Development Code based on it's final layout and parking configuration. Per Chris Johnson of the Planning and Development Review Department the handicap parking would need to be installed directly adjacent to the building.

The last hardscape issue to consider is the trash receptacle location and access. Per section *9.3.0 Loading* #2 of the Transportation Criteria Manual (TCM), "Freight loading and trash collection facilities should be designed and located to minimize intermixing of truck traffic with other vehicular and pedestrian traffic on site. Such facilities shall be located off the main access and parking aisles and away from all pedestrian corridors. Trash dumpsters shall be located to provide adequate access and maneuverability for service vehicles." Item #3 states, "Maneuvering areas for loading facilities shall not conflict with parking spaces or with maneuvering areas for parking spaces. Public right-of-way shall not be used for maneuvering." Since this requirement is only listed in the TCM, a waiver can be granted administratively, rather than through the Land Use Commission. A variance would be filled with the Site Development Permit if it was determined that maneuverability could not be contained on-site in order to receive the administrative waiver. The visibility of the off-street loading facility and trash location should be reduced to the greatest extent possible.

The illustration on the next page represents one configuration that all the hardscape elements could take in order to accommodate all the contributing factors listed within this section. The illustration also shows Building C being removed, as discussed in the Executive Summary. This arrangement widens the drive to east to accommodate the 40 feet width required. It provides a location for the trash dumpsters that allows a trash truck to turn around within the site and not back out into the right-of-way. The amount of space required to provide what could possibly be the minimum number of handicapped spaces required is also represented. Chan & Partners Engineering, LLC compiled a rough magnitude of cost for this work and it is as followed:

Item No.	Description	Unit	Quantity	Unit Price	Total Cost
1	Clearing and Grubbing	AC	0.5	$5,000.00	$2,500.00
2	Asphalt Pavement for Parking Lot (2" HMAC)	S.Y	760	$25.00	$19,000.00
3	Flexible Bae for Parking lot (9")	C.Y.	200	$40.00	$8,000.00
4	Curb and Gutter, concrete	L.F.	325	$26.00	$8,450.00
5	Driveway, concrete	S.F	325	$6.00	$1,950.00
6	Sidewa k	S.F	1,575	$4.00	$6,300.00
7	Parking Lot Wheel Stops	E.A.	3	$350.00	$1,050.00
8	Ann and Roy Butler H ke and Bike Trail Ramp	E.A.	1	$300.00	$300.00
9	Pavement Markings	L.S.	1	$2,000.00	$2,000.00
10	Temporary Erosion/Sediment Controls	AC	1	$5,000.00	$5,000.00
11	Re-Vegetation (Topsoil and Hydromulch)	S.Y	200	$2.00	$400.00
12	Demolishion of Building C and other site Improvements	L.S.	1	$50,000.00	$50,000.00
13	Landscaping and Irrigation	L.S.	1	$20,000.00	$20,000.00
		Subtotal			$124,950.00
		25% Contingency			$31,237.50
		Total			**$156,187.50**


Potential Hardscape Layout
Building A
Building B
FF=455.22
FF=455.16
W. CESAR CHAVEZ ST. (WATER ST.)
(R.O.W. VARIES)
CITY OF AUSTIN
(SAND BEACH RESERVE SECOND TRACT)
VOL. 69, PG. 57
DRTCT
TCAD#0105000801
CITY OF AUSTIN
(SAND BEACH RESERVE FIRST TRACT)
VOL. 769, PG. 67
DRTCT
TCAD#0105000804
PAST RIVER WELL AND PUMP ROOM UNKNOWN IF REMOVED
1 1/4" PE FORCE MAIN (OTHERS)
6" TRANSITE
SDMH
WWMH
CONCRETE WALK
AUSTIN ENERGY ELECTRIC CONDUIT
(NOTE #4)

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1.10 Existing Site Landscape Parameters

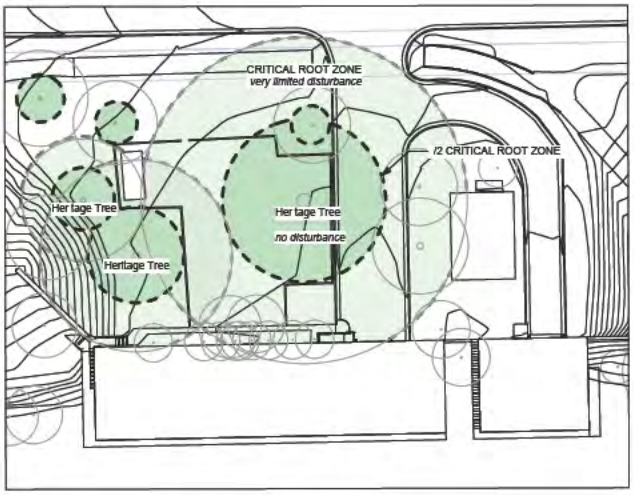
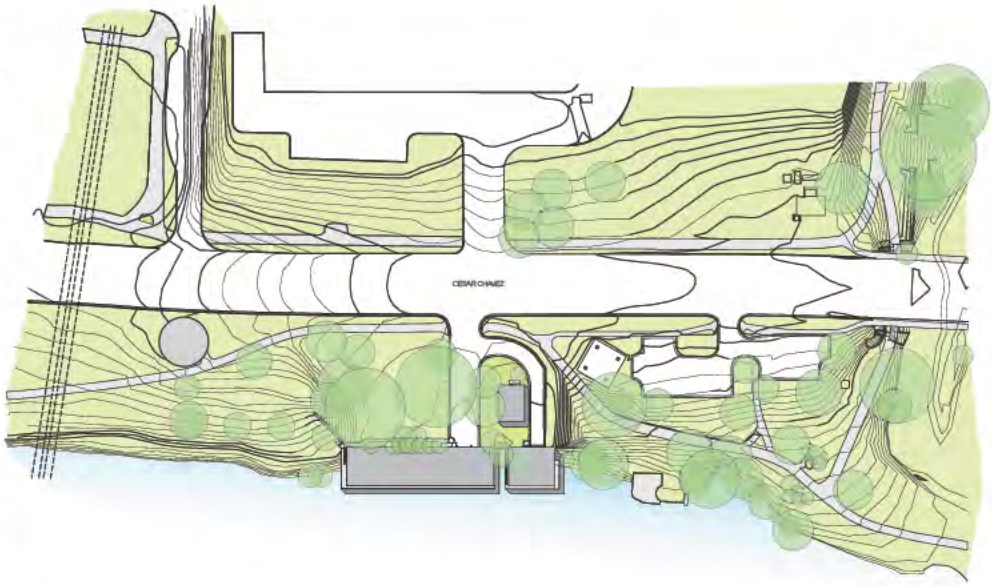


Figure A: Existing Heritage Tree Locations

The existing site contains several notable features that should be preserved or enhanced. Several Heritage trees are growing on site and will need to be preserved and protected at their critical root zones (Figure A). The shoreline is well vegetated and holds a few small and medium bald cypress trees along with other riparian vegetation. This area will also need to be preserved during construction and potentially enhanced by removal of invasive species and re-population with shoreline native plantings. The pavilion on the west edge of the site is historic but degraded, and has limited user access. *The Trail at Lady Bird Lake Vision Plan* released in September of 2008 states that it does want to enhance this structure so that it could be thought of as an asset to the Seaholm District.

Steep slopes on both the east and west sides of the buildings will need to be re-graded to allow accessible trails to connect the existing Ann and Roy Butler Hike and Bike Trail to the building and site features. Grading will also be necessary to allay erosion along the existing trail on the east side of the buildings. Deteriorating railroad tie retaining walls on the east side of the site should be removed and re-graded or rebuilt.



Current Site Conditions

Shoreline looking southeast.

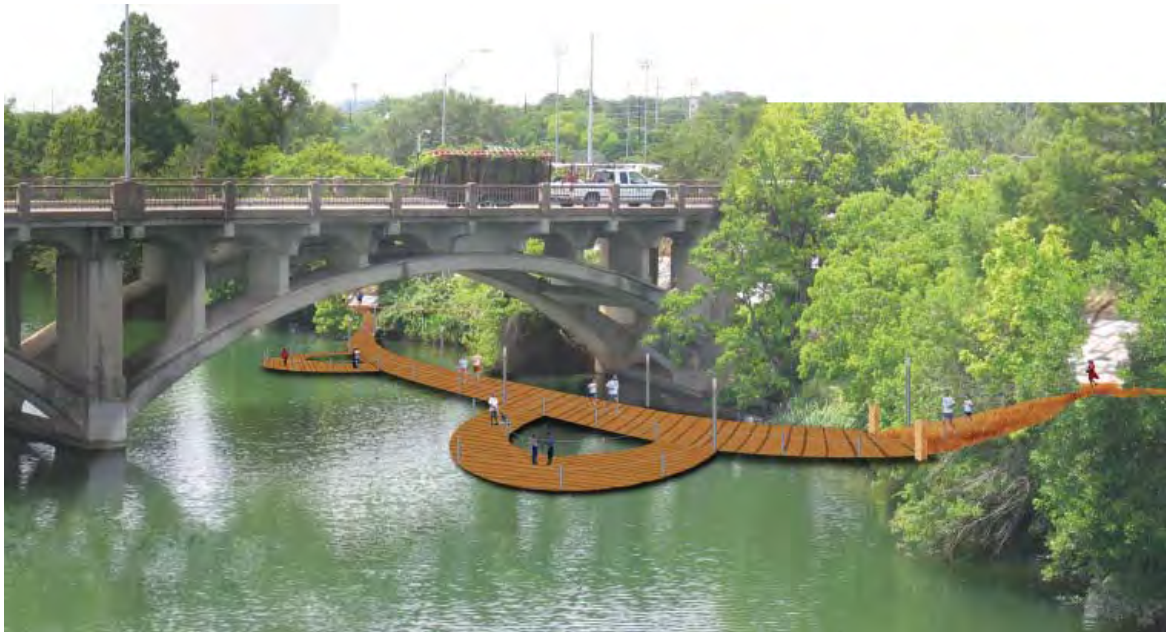
Shoreline looking west.

Deteriorating railroad tie retaining wall.

There are converging routes on the east side of the Intake Structures for the Ann and Roy Butler Hike and Bike Trail. One route travels west from Shoal Creek and the other heads west along the lake shore. The route along the lake shore climbs up an approximately 12% grade on concrete sidewalk to a worn path along the curb of Cesar Chavez. West of the project site, it heads back downhill past the historic pavilion and under the railroad bridge. The trail directly in front of the Intake Structure runs parallel to Cesar Chavez. This alignment is hazardous for all trail users and for any traffic that would turn into the site from Cesar Chavez. The trail users are exposed to heavy traffic along Cesar Chavez and the trail at this point loses the character that draws Austinities to The Lady Bird Lake Trail. The trail here is also very barren with no shade coverage at all.

Hike and Bike trail along Cesar Chavez creates a hazardous condition.

A similar condition happens along the Ann and Roy Butler Hike and Bike Trail beneath the South Lamar Bridge. *The Trail at Lady Bird Lake Vision Plan* released in September of 2008 proposes a mini-boardwalk to alleviate the issues with this area of the trail. This mini-boardwalk creates a better visual and physical connection to the water and improves safety for pedestrian and motor vehicle travel.



Proposed mini-boardwalk beneath S. Lamar Bridge. The Trail at Lady Bird Lake Vision Plan, September 2008, p.42

1.11 Existing Site Utilities

There are numerous existing utility lines in the area of the intake buildings. Most of those are related to the previous function of the buildings. Both the wet and dry utilities will be discussed within this section.

Wet Utilities

The wet utilities consist of those utilities that move liquids, such as potable water, sewer and storm water pipes. All of the buildings have functioning basic water and wastewater services to them.

Research shows that there are multiple wastewater lines north of the buildings (see the wastewater maps on pages 47, 48, and 49). The current City of Austin Utility Maps provided by Austin Water Utility (AWU) show that most of the wastewater lines close to the buildings have been abandoned in favor of a new larger line constructed on the north side of Caesar Chavez Street. There is a single 8-inch wastewater line terminating at a manhole located in the service drive that have services for buildings A-C and for the stand-alone restroom on the Ann and Roy Butler Hike and Bike Trail. This restroom is being served by a grinder pump and an inch and a half force main. This manhole can be reused for the redevelopment. There is an active 8-inch water line on the south side of Cesar Chavez St. running parallel to the street with a fire hydrant, near the intake service drive. This water line also provides water services to the buildings (see the existing conditions on page 46).

The fire protection requirements for the buildings can be provided by either an external fire hydrant with an automated sprinkler or by two external fire hydrants. Based on the fire flow tests provided by the Austin Fire Department, the hydrant in front of the project and waterline has the capacity to provide the 1250 gpm maximum fire flow a hydrant is designed to deliver (see the calculations below). An 8” water line has a capacity of providing 1566 gpm at the maximum 10 feet per second. The fire flow requirements for the 2 intake structure buildings, assuming 2 floors with type IIB construction would be 2500 gpm per the International Fire Code (IFC). The required flow requirement can be reduced by 50% if the buildings uses an automated sprinkler system for a total required fire flow of 1250gpm. The fire flow requirements can be provided by the single hydrant onsite with the automatic sprinkler system or by two hydrants, one onsite and one located across Cesar Chavez on the Seaholm Power Plant site. Even though the hydrant on the Power Plant site is a public hydrant, it is located within the secured area of the plant. It is unknown if the fence will be removed as part of the plant site redevelopment. All portions of the buildings are accessible within 400 ft. lay of hose for the primary hydrant and if a second hydrant option is chosen all portions of the buildings are accessible with the 500ft lay of hose for the second hydrant, per the requirements of the Fire Criteria Manual (FCM). It is unclear if there is a water meter as it was not located by the surveyor.

Fire Hydrant Flow Calculator: Flow Location: 700 block Cesar Chavez:

Static:	118	psi before flowing
Residual:	117	psi while flowing
Pitot:	75	pitot gage reading
Diameter:	2.5	size of opening tested
Cd:	0.75	Discharge Coefficient Note 3
This hydrant is flowing:	1,210	GPM from the test outlet

Projected available hydrant flow: 14,386 GPM Note 1

Notes:

1. Projected available flows calculated at 20 psi residual, or 1/2 the static pressure for low pressure hydrants having static pressures of less than 40 psi.
2. This calculator is based on established Hazen-Williams formulas and is provided for convenience and estimation purposes only.
3. 0.9 for straight discharge
   0.75 for 45 deg discharge

From the records and the survey information, it appears that there is an 18 or 24-inch storm drain line that runs along the north side of Structures A and B. We have not found complete records of the exact storm drain alignment but it appears that proposed improvements would be able to use the line for storm drain runoff.

The main purpose of the intake structures was to bring raw water from Lady Bird Lake for either cooling or to be treated for potable water. Those lines are still in place. There are, 5 – 42-inch lines for cooling water supply from Building A, and there are 4 – 30-inch pipes from Building B which manifold into a single 42-inch line which conveys raw water to the now demolished water treatment plant. There are also 2 -2-inch chlorine lines and one 2-inch powder activated carbon line paralleling the 42-inch raw water line that were used for pretreatment of the raw water.

Dry Utilities

It is likely that the electric lines servicing the buildings are still in place; however there are no complete records of exactly where the lines are located. There is evidence of underground electrical pull boxes on site near the buildings and the above ground electrical service meters on the building are present and unknown if functional. Austin Energy (AE) provided records of the public lines in the area and the only underground power line shown is along Cesar Chavez to service the street lights. We found records, through the AULCC coordination process, of an underground electric line that runs parallel to the chlorine and activated carbon lines. It was determined from discussions with AWU that these lines were low voltage control lines from the treatment facility to the intake building. There are overhead lines in the area, including a transmission tower northeast of the buildings. The overhead lines run across Lady Bird Lake, over building B, to an electrical substation on the Seaholm main site north of Caesar Chavez. See the AE map on page 50.

An existing survey picked up what they are calling a gas line but the records from Texas Gas Service show that the closest active gas line to be on W. 2nd on the other side of the rail road tracks. So the line that the surveyor found may not be a gas line. See the gas map on page 51.

There was no evidence of phone service for the buildings, and AT&T provided no records for service to the buildings, through the AULCC coordination process. See the AT&T map on page 52. Likewise Time Warner Cable (TWC) has no service to the buildings; their closest cable run is located on San Antonio St. See the TWC map on page 53.

Abandonment of Utilities

Because the intake buildings and the corresponding utility facilities are no longer in use the pipes from the building can be abandoned. The future design could choose to highlight and restore the lines as part of the architectural design. If this is done further discussion should be had with AWU and AE in order to do so. While the future design could suggest removing the pipes altogether, it is not economically feasible to do so. AWU suggests physically disconnecting the pipes from the building by removing a short section of the pipe to make the disconnect. To further abandon the lines, the pipe ends should be plugged at a minimum. Ultimately the pipes can be filled with concrete grout so that they are not in danger of collapsing in the future. The ultimate option of filling the pipes with grout is costly and the feasibility and risks of concrete grouting the pipes should be discussed with AWU and AE.

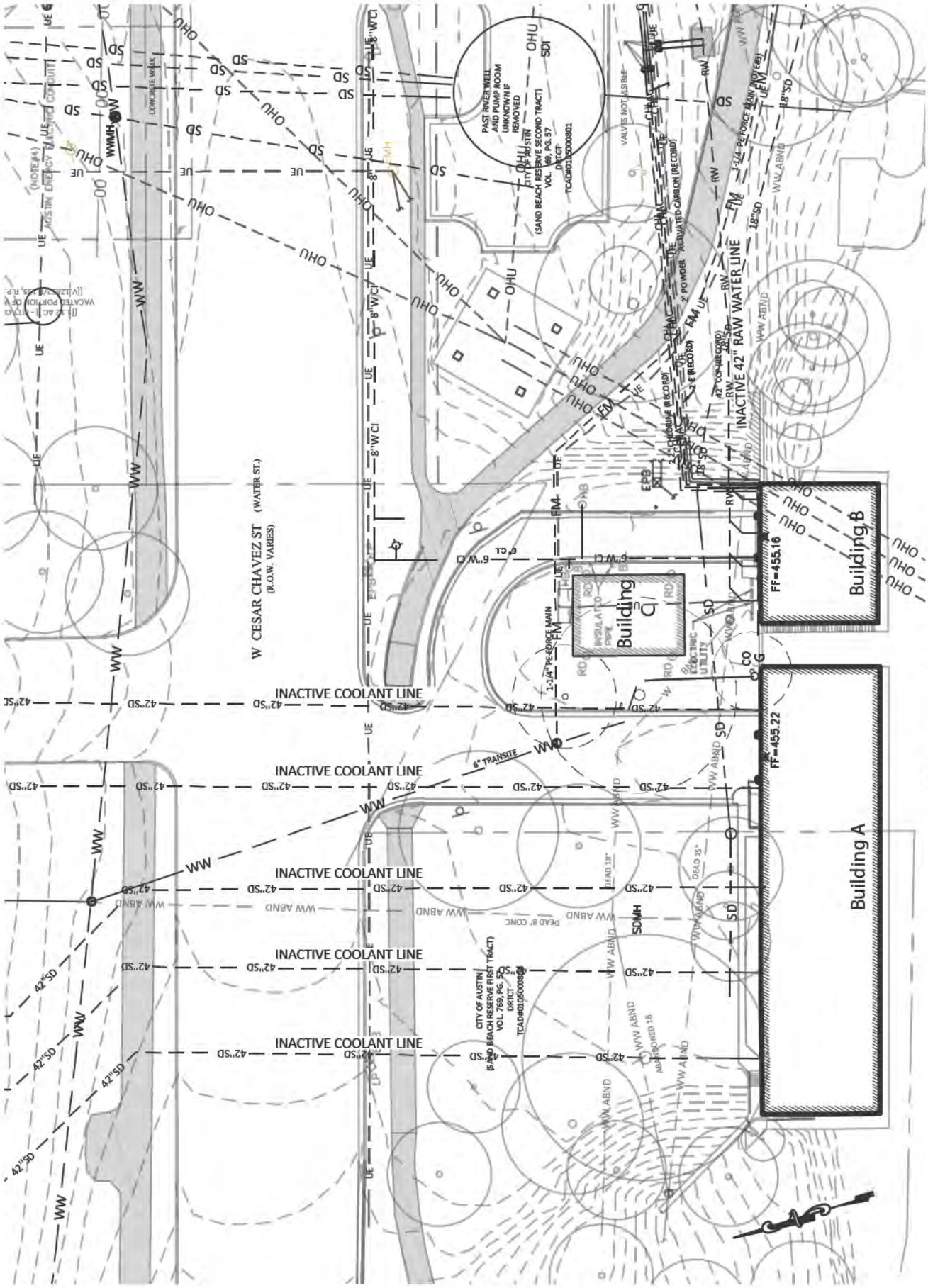
For the raw water line at Building B the header should be removed and the line plugged. For the cooling lines from Building A, a 20-30' section of each pipe should be removed and each line should be plugged at a minimum. Chan & Partners Engineering, LLC roughly estimates the abandonment of these lines to cost $125,000.00, which includes a 25% contingency within the estimate.

Proposed Utilities

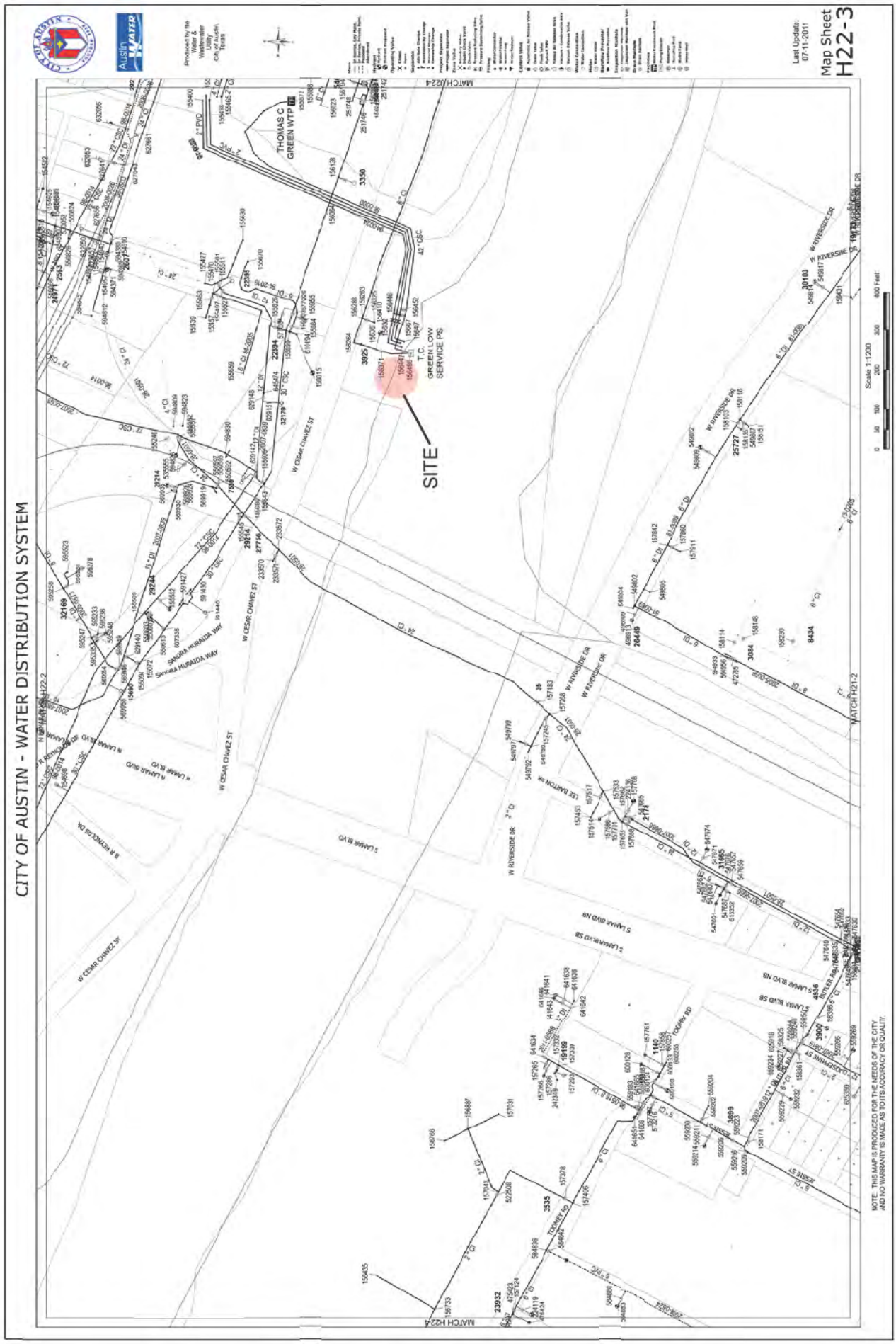
The existing utilities currently on site can be improved and reused to service the structures for future use. Potable water and electric services will have to be routed to the new locations for the buildings new uses. A new master water meter will have to be installed along with possibly sub-meters. A new fire line will have to be extended to the buildings to provide sprinkler service if it is deemed necessary. The wastewater manhole north of Building A and B is only low enough to serve facilities on the ground level and up. If a restroom, kitchen or other sewage need is located on the floors below the ground level then a wet well with a grinder pump will be

needed to lift the sewage up to the gravity line. Gas, telephone, and cable services (if needed) will have to be extended to the site. Costs of extending the dry utilities are not included in the costs due to possible extension costs by the individual utility that are not able to be determined. The cost of the service extension may depend on the level of service requested and must be determined by the utility. Chan & Partners Engineering, LLC roughly estimates the wet utility extensions needed as the following:

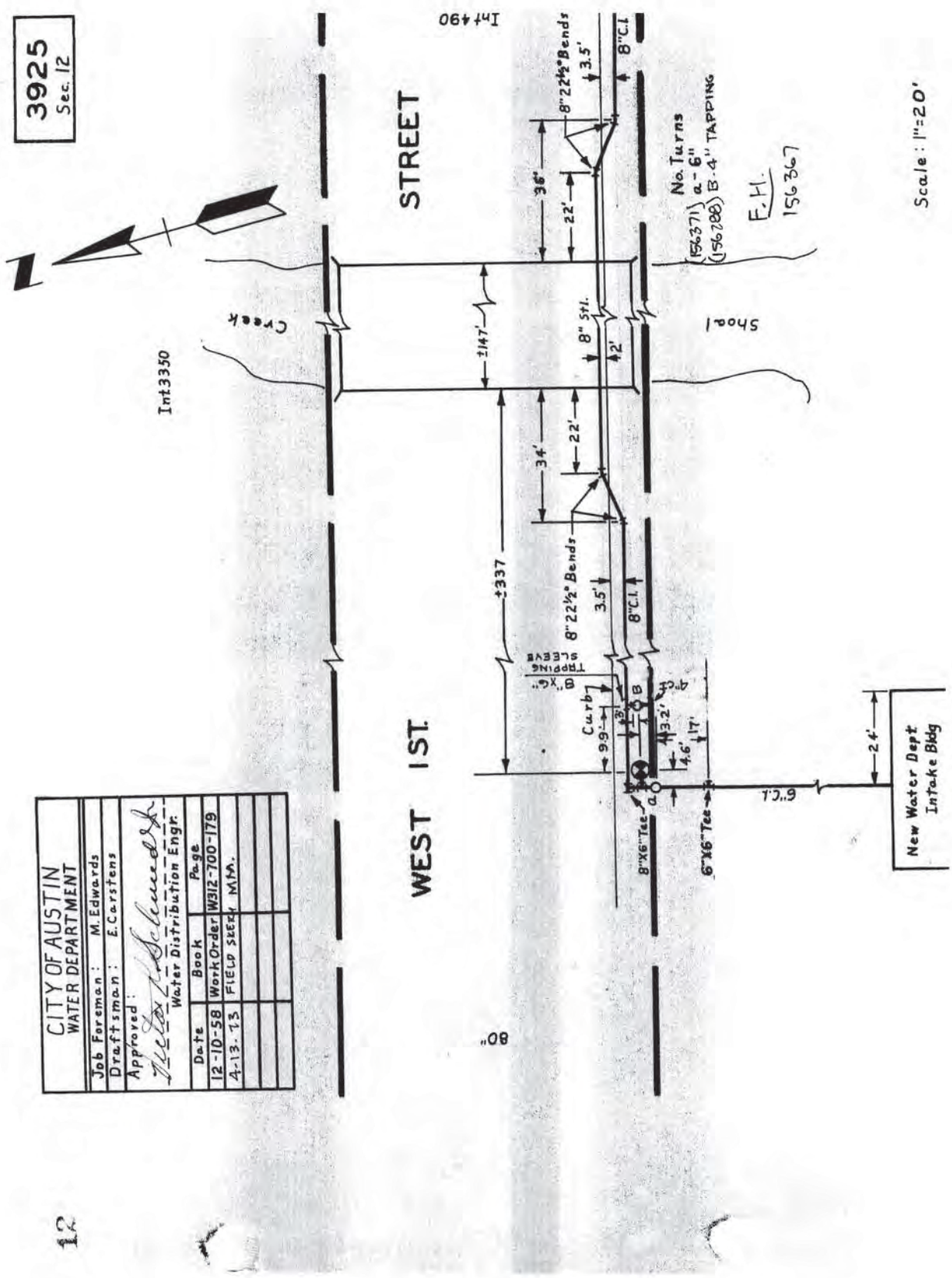
Item No.	Description	Unit	Quantity	Unit Price	Total Cost
1	New Waste Wastewater Service	E.A.	2	$5,000.00	$10,000.00
2	New Water Service	E.A.	2	$5,000.00	$10,000.00
3	New 6' Fire Line Service to Building A	L.F.	50	$32.00	$1,600.00
		Subtotal			$21,600.00
		25% Contingency			$5,400.00
		Total			**$27,000.00**


Existing Utility Locations
W CESAR CHAVEZ ST (WATER ST.)
(R.O.W. VARIES)
INACTIVE 42" RAW WATER LINE
INACTIVE COOLANT LINE
INACTIVE COOLANT LINE
INACTIVE COOLANT LINE
INACTIVE COOLANT LINE
INACTIVE COOLANT LINE
Building A
Building B
Building C
FF=455.22
FF=455.16
6" TRANSITE
1-1/4" PE FORCE MAIN
CITY OF AUSTIN (SAND BEACH RESERVE FIRST TRACT) VOL. 769, PG. 52 DRTCT TCAD#01050008
CITY OF AUSTIN (SAND BEACH RESERVE SECOND TRACT) VOL. 769, PG. 57 DRTCT TCAD#01050008
PAST RIVER WELL AND PUMP ROOM UNKNOWN IF REMOVED
VALVES NOT AS-BUILT
ACTIVATED CARBON (RECORD)
POWDER
CHLORINE (RECORD)
42" CONCRETE (RECORD)
INSULATED PIPE
RADIO TOWER UTILITY
CONCRETE WALK
WW ABND
DEAD 13"
DEAD 35"
DEAD 8" CONC
ABANDONED 18"
6"W CI
8"W CI
18"SD
42"SD
OHU
UE
WW
SD
RW
FM
CO
G
SDMH
WWMH

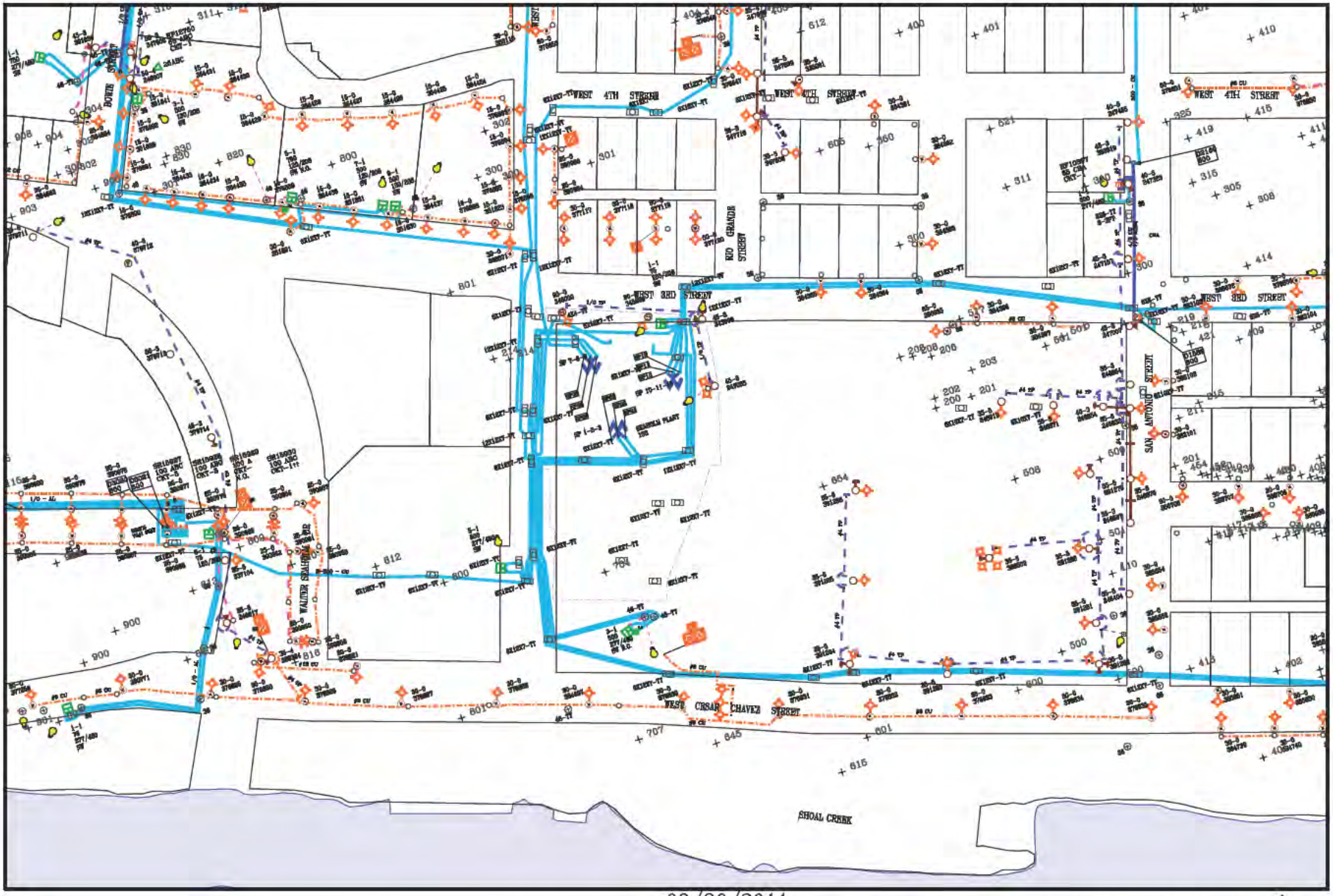
City of Austin Wastewater Collection System



City of Austin Water Distribution System



City of Austin Water Distribution System



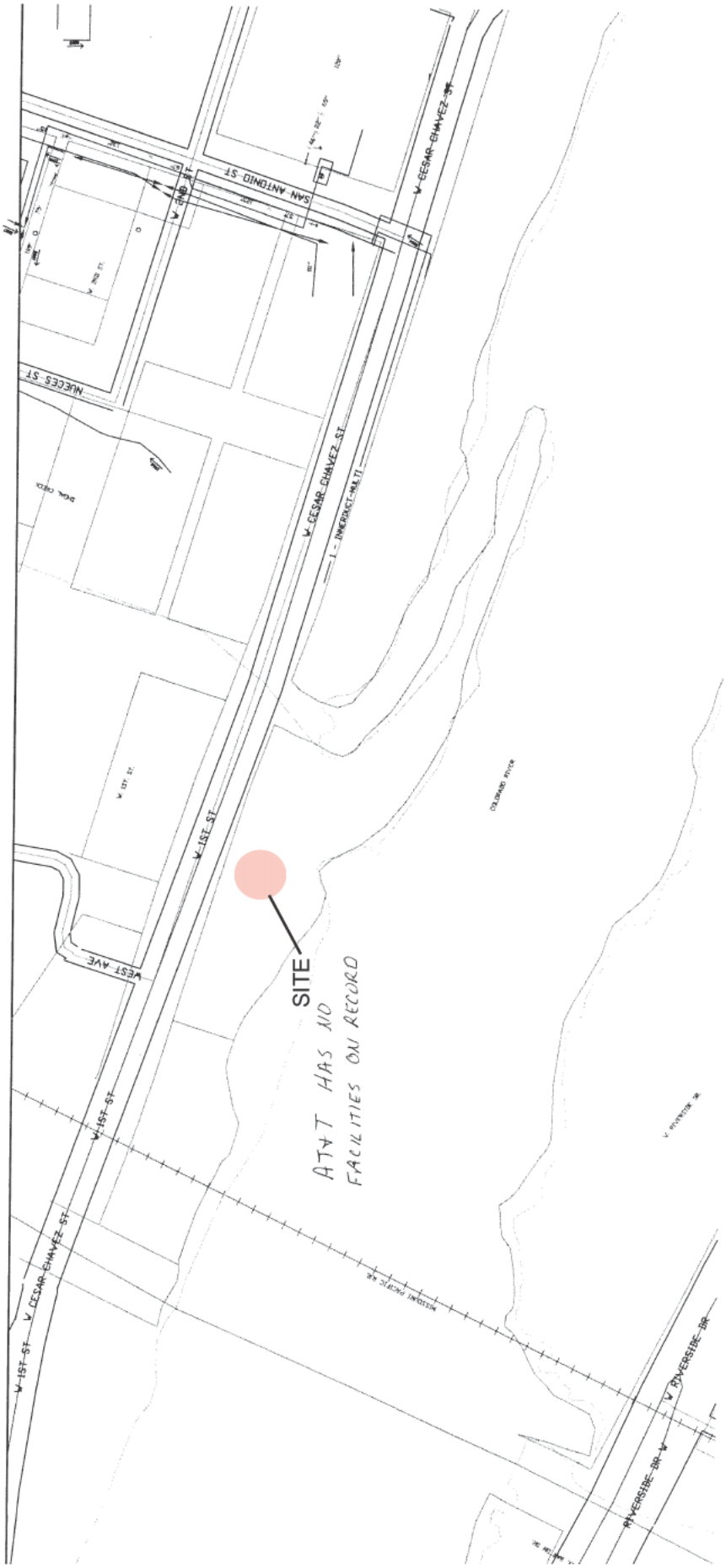
Town Lake Metro Park- Seaholm
Intake Facility Feasibillity Study

08/26/2011
Tony Ferdinando

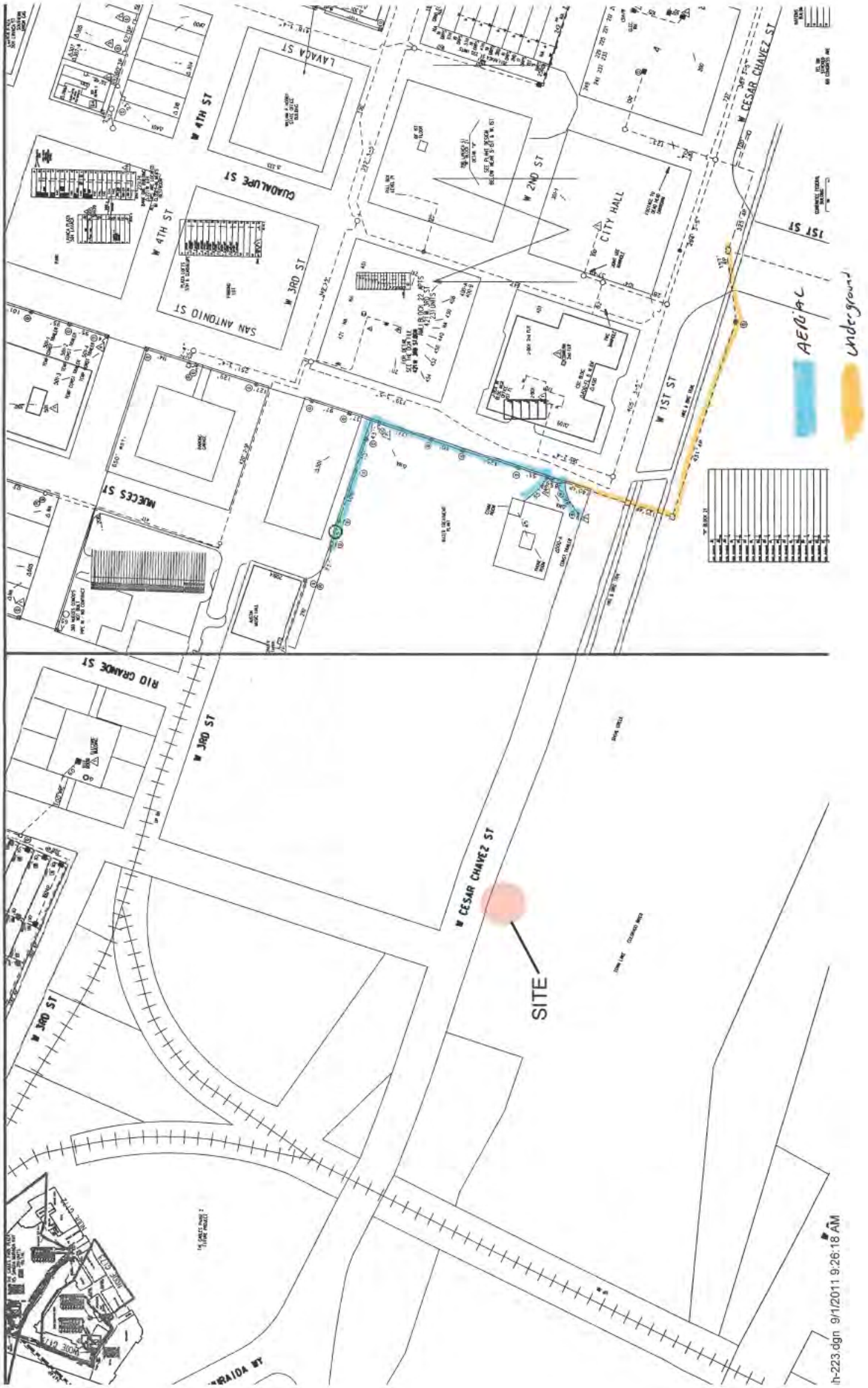
This map has been produced by Austin Energy for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.

Austin Energy Map

Texas Gas Service Map



AT&T Service Map



Time Warner Cable Service Map

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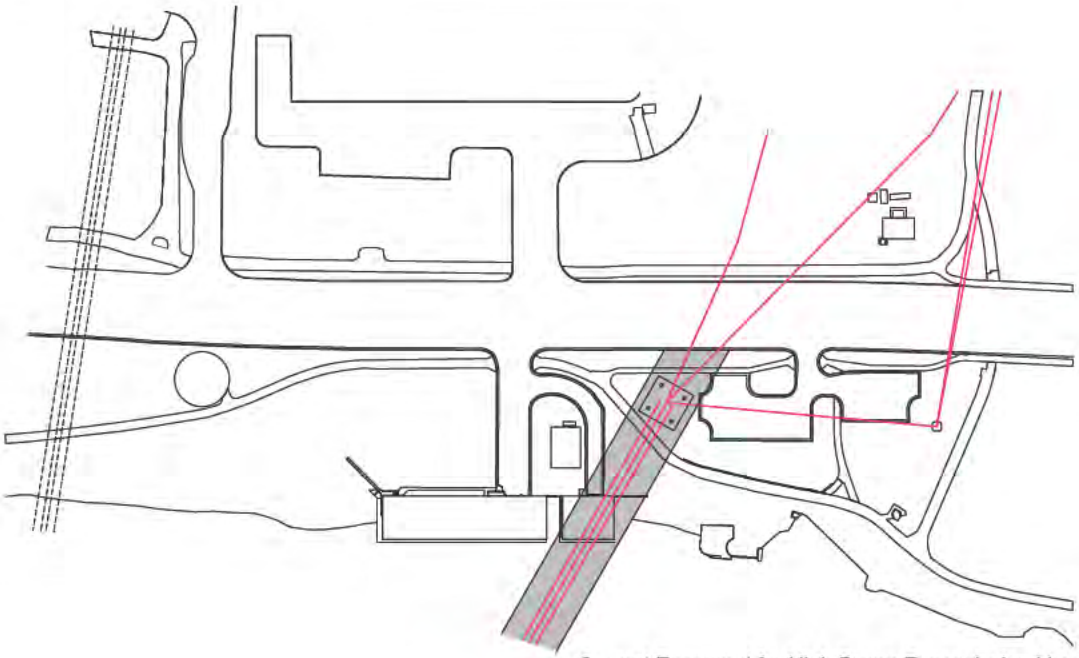
1.12 High Power Transmission Lines

There are currently several high power electrical transmission lines which cross Lady Bird Lake from a support tower northeast of Building B that cross directly over Building B. The lines originate at the large electrical substation north of Cesar Chavez, cross Cesar Chavez to a tower west of Shoal Creek, travel west along Cesar Chavez to the Seaholm tower and then cross the lake.

Previously no easement existed for the transmission lines but one has recently been drafted. The easement is 50 feet wide only and follows the alignment of the power lines from Cesar Chavez to the shore. The new easement covers most of Building B but none of Building A.

Consequently, uses of Building A would not be impacted by the transmission lines and uses of Building B would. There is currently no standard regulating uses in an existing building around which a utility easement has been created, but some reference to the use of Building B will be determined in the final language of the new utility easement.

It is likely that, if uses are permitted within the easement, they will trigger a requirement for a license agreement with the City.



Current Easement for High Power Transmission Lines

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1.13 Historic Preservation

Reference: Greg Smith, Texas Historical Commission (THC)

The intake structures are sufficiently old and architecturally significant to be listed on the National Register of Historic Places. Listing them would place limits on the type of alterations that could be made to them during their rehabilitation and in the future; listing them would also allow the owner to defray 20% of the redevelopment costs through tax incentives.

There is considerable local interest in maintaining the character of the existing buildings, rather than altering them significantly, and so redeveloping them and having them listed do not appear to be conflicting goals.

To be eligible for listing on the National Register either as it currently exists, or as it would be developed in the future, the property would need to conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties. There are several categories of listings on the registry which correspond to the condition of the property and to what type of work might be done to it during redevelopment. In discussions with the Texas Historical Commission, which would oversee the application for listing, installing a new use in intake structures would be considered "rehabilitation." From the literature published by the National Parks Service...

> ***Rehabilitation*** *is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.*
>
> ***Alterations/Additions for the New Use***
>
> *Some exterior and interior alterations to a historic building are generally needed to assure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes. Alterations may include providing additional parking space on an existing historic building site; cutting new entrances or windows on secondary elevations; inserting an additional floor; installing an entirely new mechanical system; or creating an atrium or light well. Alteration may also include the selective removal of buildings or other features of the environment or building site that are intrusive and therefore detract from the overall historic character. The construction of an exterior addition to a historic building may seem to be essential for the new use, but it is emphasized in the Rehabilitation guidelines that such new additions should be avoided, if possible, and considered only after it is determined that those needs cannot be met by altering secondary, i.e., non character-defining interior spaces. If, after a thorough evaluation of interior solutions, an exterior addition is still judged to be the only viable alterative, it should be designed and constructed to be clearly differentiated from the historic building and so that the character-defining features are not radically changed, obscured, damaged, or destroyed.*

The guidelines for rehabilitation will have some impact on future work done to the intake structures, but not in a way that seems inconsistent with public sentiment. The roofline could probably not be changed or added to significantly. This could include the addition of any significant mechanical equipment that might "damage or obscure the character defining features; or is conspicuous from the right-of-way". This could impact the use of the roof deck by the public, if that were considered desirable.

Building A: Ground Level Interior Space

Public access would require an elevator (with penthouse), multiple stairs and guardrail. It is possible that these elements could be installed in a way that was acceptable to the THC with regard to the roofline guidelines, but their consideration would need to be taken

into account as the planning progressed. Replacement of the existing aluminum single glazed windows would likely be discouraged; and the developer would be encouraged to maintain the original entrances to the buildings. Necessarily, new exits will be required to comply with current life safety standards so some new openings will have to be made in the existing concrete perimeter walls. Openings for the mechanical system will also be needed.

Building B: Ground Level Interior Space

Subdividing character defining spaces is not recommended by the standards. It is possible that the upper level interior space, with visible exposed concrete structure, may be considered "important in defining the overall historic character of the building" and so may need to remain visible and intact. This would certainly have an impact on the design of any new use that required installing new spaces within the space of the upper level of Building A.

While uses that take advantage of the existing space would be easier to accommodate than those that don't. Uses that need to enclose a significant portion of the interior would need to consider doing that in a way which allowed views of the original space, if not in its entirety. Because the space is quite tall, it may be possible to insert smaller spaces within the larger in a way that encourages the understanding of the greater space and the building in general. One obvious way to do this would be to install a new floor over the existing openings to the pump rooms and construct the new spaces there. These new spaces, particularly if they did not rise all the way to the ceiling, could allow a visitor to walk in the areas where one originally could, and to see both sides of the original space. If it were listed and became office space, for example, it would be more appropriate to use the large ground floor space as an open office rather to install new individual offices throughout.

Building A: Pump Room interior space showing stair access.

Allowing use of one or both of the pump rooms and accessing them from the upper level would also be a good way to maintain and take advantage of the character of the existing space. These spaces always had a connection to the upper level and access is currently from a stair on the upper level.

The guidelines for listing a project on the National Register also require some consideration of the site and the overall context of the buildings which could impact the way the landscaping and other features are redeveloped, for instance, an applicant for listing will likely be encouraged to keep all the existing surrounding trees, and also to remove the small building recently placed in the front yard.

Building C: Exterior view.

This building, Building C, was added in 1995 and was intended to match the earlier building A and B in appearance. Listing the site on the National Registry may require removal of building C because of the way it alters the view of the older buildings from the primary approach, creating an inaccurate site.

The building was not constructed in the same manner as the intake structures and so would take less energy to remove. It is also currently empty, having housed a group of electrical panels through the decommissioning of the Greenwater Treatment Plant. (Refer to the decommissioning report in the appendix for further information).

Listing the property will have some impact on the developer's ability to expand or add-on even though, as we have explained, there are limitations to expanding the buildings that are not related to historic preservation. It would be difficult to compare very generally between what additions might be allowed as a listed property and a not-listed property, because the type of use inserted into it will have an equally large impact on these possibilities. But given the information that has been made available for this study it is probably the case that some small addition to the building footprint and some additional construction atop building A might be possible if the building were not listed. And, a developer would have greater freedom in altering the exterior and interior appearance and character to suit the specific need of the new use. Windows could be replaced, new openings cut wherever desired, and the site could be altered - meaning also that Building C, which alters the site, could remain provided the new use does not need a large number of accessible parking.

If it were listed, some small additions to the buildings would still be permitted if executed in a way appropriate to the structure. The roof might still be developed into a deck but additional floors would not be permitted. If listed, more pressure will be applied to remove Building C.

Still, the prospect of enlarging the buildings encounters two significant and immediate hurdles; the difficulty in adding impervious cover, and the difficulty in creating a significant building alteration that might still permit the owner to list it on the National Register of Historic Places.

In the first case, the Critical Water Quality Zone's strict limitations on the amount of land which may be changed from soft (soils and pervious pavements) to hard (impervious hardscapes and anything compacted by or for traffic). All commercial and public (anything other than a privately owned and occupied) uses of the buildings will require widening the entry drive and the addition of several accessible parking spaces. In most cases even installing these two additions will require removing the small recently constructed Building C in order to reuse the footprint for new pavements. Within that sort of limitation it will be (not impossible, but) very difficult to increase the size of the existing floors.

Additionally, should the developer wish to take advantage of the significant tax incentives for listing the buildings on the National Register of Historic Places, changes to the buildings will need to be minimal and will need to fit within the guidelines associated with the listing.

If tax incentives were not needed for the development and listing was not pursued, expanding the buildings into the yard around them would still be limited by the amount of allowable impervious cover, but adding occupied space above the buildings might prove feasible. The power lines hovering above building B will likely prevent any additional height there, but adding space over Building A could be considered. So far, no structural explorations have looked specifically at the potential to add height but the building has a robust concrete structure that might be used to support some additional area, or new independent structure could be employed to support the new floor(s). There are limitations to any additional weight that can be added to the roof of the structures themselves. That information can be found in the structural reports in the Appendix.

Section 25-2-265 of the Land Development Code does not present a height restriction for a site zoned (P). However, the site does need to follow the restrictions set forth by the Capital View Corridor.

Historic designation and structural solutions aside, adding vertically to Building A would very likely encounter certain opposition from the local community due to the strong positive associations many people have with the buildings and to their iconic architectural expression. Altering them would risk removing the aesthetic connection between the intake structures and the power plant across the street, which would likely be considered a mistake by most informed or concerned people in the community.

Austin Historic Landmark Status

The Intake Structures are eligible for the City of Austin Historic Landmark Status. The City Council, at the time of this investigation, grants a tax exemption to Austin Historic Landmarks. The amount of exemption available depends on whether or not the property is income-producing or not. Owners must apply for the tax exemption each year and submit to an inspection to ensure the property is being maintained properly. Income-producing landmarked properties may also be eligible for Federal Rehabilitation Tax Credits. Owners are expected to maintain the landmark and are required to apply for a Certificate of Appropriateness for exterior or site changes. Applications are reviewed based on the Secretary of the Interior's Standards for the Treatment of Historic Properties.

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1.14 Substainability Assessment

Methodology

HOLOS was asked to work with the project team to ascertain design opportunities as they contribute to a sustainable project and community. In addition, HOLOS conducted its own research to gain an understanding of the specific climatic and environmental conditions as well as the current community fabric. This information created the background to explore what other sustainable strategies and synergies should be explored and incorporated into the design and discussed with the project team and City of Austin as a critical stakeholder.

Kathy Zarsky, of HOLOS led this exploration effort. After attending a preliminary, high-level project overview, Kathy had a follow-up meeting with Cotera + Reed on-site to take a better look at specific research interests. Through these dialogues with the project team, HOLOS has compiled a list of observations and recommendations. The data suggests that there are several **core strengths upon which to build:**

- The City of Austin is committed to sustainable design practices.
- A holistic view of “community” must be the driving force behind program.
- The adaptive-use opportunity has created a powerful design thread for many aspects of the project.

As points of consideration, the project will benefit from **addressing a number of key areas:**

- Prioritize water quality and ecosystem services as steward to both Lady Bird Lake and the community.
- Integrate strategies to the highest degree possible and make best use of existing infrastructure and building structure/components.
- Contextualize the project to optimize it as asset to the community.
- Seek opportunities for the project to educate the community on sustainable design, construction and lifestyles.

Based on the information gathered, the existing building(s) is assigned a ranking of red, yellow, or green light in each of the seven (7) key impact categories. Issues will be given the “green light” if they are highly recommended “Yellow light” designations will indicate areas of potential that need additional expertise. An issue will receive a “red light” if it is improbable due to cost, performance benefit, or other limiting factors.

Obstacles Likely

Has Potential

Highly Recommend!

Assessment & Recommendations

7 Impact Categories

This section is organized around seven (7) impact categories for sustainability. Each section of the assessment provides a brief summary of what was observed and learned during the assessment and a set of recommendations for each area.

For each of the 7 impact categories, a summary of key observations is provided along with a red, yellow, or green light summary ranking on the area. This is followed by additional recommendations for consideration.

Land, Water, Air

Land, Air, Water Ecology, Water Balance, Water Conservation, Food, Biodiversity, Wildlife Corridors

Observations:

Building infrastructure at lower level and intake/discharge pipes connecting to Seaholm Power Plant have great potential to serve as storage for rainwater capture, either for the project site directly or in combination with adjacent development.

Both intake structure roofs can be modified for rainwater catchment.

The site's vegetation has matured and added unique character to the buildings, especially with some of the vines clinging to the walls.

The structure of the roofs could easily accommodate green roofs or PV or both.

Methodology to maintain water quality needs further exploration.

Recommendations:

- Rainwater harvesting for vegetation and toilet flushing should be incorporated.
- Water conserving fixtures should be written into development and tenant agreements
- Native and adapted plants should be used in all landscaped areas. Efforts to re-establish native species (flora and fauna) should be part of the revegetation plan. A biodiverse vegetation plan is also recommended.
- Try to determine what the potential nightlife scenarios might be for the development. Where might you encourage people to be and where might wildlife find some respite?
- Consider green roofs as part of a green infrastructure system as well as for urban heat island mitigation, increased urban biodiversity, potential agriculture, and for pleasure. If considered, the system can still be integrated with PV and rainwater harvesting (encouraged).
- Create a water budget to establish water needs (quality and quantity by use) and possible sources (quality and quantity for each). Hard to do without a commitment to a proposed program.
- Optimize the design of biologically based stormwater management features such as swales, sediment control ponds, wetlands along drainage courses (if site grading is altered to enhance building program) and infiltration basins to retain and treat stormwater on site as first design course of action. Permeable pavement systems should also be considered where possible as part of integrated green infrastructure systems.

- Enhance local ecology so as to improve upon existing environment, benefits – leave site better than when we arrived. Hard to enforce.
- Improve the site and surrounds; create strong connection to the hike and bike system as well as the ecosystem.

CO2 , Energy, Waste
Energy, Solid Waste, Greenhouse Gas Reduction & Sequestration

Observations:

Site circulation improvements needed to support a sustainability program.

The City of Austin is very supportive of a sustainability development and may be able to help leverage renewable energy sources. This project has an opportunity to be a demonstration to the community.

Orientation of buildings minimizes east-west exposures and undesirable solar gains.

Roof areas unobstructed by shade from vegetation and well-suited for PV.

The City of Austin's enthusiasm for the project has not resulted in an understanding of their role and ability to provide support/incentives to the Development Team.

Historical Tax Credits may restrict fenestration improvement that could enhance energy performance.

Tall interior volumes will require thoughtful mechanical and lighting systems design.

Recommendations

- Explore opportunities for scalable renewable energy installations that work for the program and as demonstration to the community. (Rough estimated cost of roof mounted PV is $50/SF). If PV is pursued, it is recommended that the array be as multi-functional as possible through the integration of additional strategies into the system (rainwater harvesting, shade for green roof or for occupied roof deck, etc.)
- Limit the amount of on-site parking and maintain project as walkable destination to greatest extent possible.
- Perform an Energy Budget to determine energy needs and possible energy sources and associated costs. Hard to do without a commitment to a proposed program.
- Explore displacement ventilation as option for conditioning tall spaces.
- Explore solar hot water for domestic water needs. May be able to split the roof programming between the two intake buildings.

Community
Transportation, Density, Walkability, Neighborhood Integrity, Diversity

Observations:

Great potential for bike and pedestrian systems integration as well as lake access for water craft.

Visual connection to Seaholm is strong, but physical connection requires design resolve.

Passive design strategies that help create micro-climates for outdoor comfort will attract visitors and enhance experience of place.

Limiting the design for additional parking will promote better trail integration & interaction.

Recommendations:

- Continue to find the linkages to the greater community and the mechanisms that allow things to “touch” (i.e. trails, lake).
- Encourage City to facilitate best connection to surrounding developments as this is critical to the project’s success. Multiple stakeholders, so outside of project team’s ability to control outcome.

Human Health
Toxicity, Daylight, Views, Fresh Air, Lifestyle, Human Scale & Detail, Convenience

Observations:

The project will help promote active lifestyles and a greater connection to the outdoors as it has the potential to attract a new audience to the trail and lake systems.

Depending upon program, the building roof(s) could be used for food production.

The project has potential to educate the community about human health and sustainability issues, but the methodology contingent upon program.

Gardens have potential to transcend our expectations of visually pleasing and comfortable places. They can also be edible and possibly audible, which further stimulates our senses.

The heat and sometimes humidity and mosquitoes are potential concerns as inhibiting factors to pedestrian activity.

How the project will deal with negative impacts and nuisances not fully vetted (noise from street, dust and automobile pollution, overhead transmission lines, etc.).

Recommendations

- Create microclimates that mitigate heat, humidity and mosquitoes to the greatest extent possible.
- Avoid toxic materials in all areas to the greatest extent possible, including furnishings (indoors and outdoors).
- Plan for outdoor amenity integrated with the trail and lake systems. Design for active space as well as for tranquil space if possible.

Endurance
Durability, Flexibility, Adaptability, Maintenance, Solar Orientation, Natural Heating/Cooling/Ventilation

Observations:

The open interior volume is very accommodating for a variety of program types.

The intake structures are extremely durable and inflexible, so adaptability needs to be considered when designing the interior spaces.

Building orientation is optimal.

Lower level south wall is a cavity wall, which offers passive cooling opportunities.

Intake and discharge pipes capped at lower level offer passive cooling opportunities as earth tubes if not used for other purposes.

End-user involvement lacking to understand operation and maintenance abilities and budgets.

Recommendations:

- Explore the opportunity for adaptive change/flexibility on the interior of the buildings
- Take full advantage of integrating structure's inherent passive cooling capabilities when designing mechanical systems.

Function
Unique Goals, Program, Code Requirements, Communication, Productivity, Effectiveness, Constructability

Observations:

Permitting issues/challenges unknown for this project.

Maintenance budget and program still not developed.

Community education and outreach on sustainable development strategies as well as lifestyles is an opportunity for this project to communicate meaning beyond economic development.

Recommendations:

- Brainstorm with COA about regional education collaborations that can be supported, at least in part, at this site.
- Explore greywater system integration for interior uses to the extent code will allow at the time of construction.
- Evaluate renewable energy technologies for efficiency, cost, technology coupling (solar hot water), integrated thin film or PV, etc.

Process
Management, Stakeholders, Accountability, Charrettes, Design Methodology, Sequence

Observations:

COA and community enthused about possibilities for project, but their role/involvement is not clearly understood.

The phasing and sequencing of this project has been outlined- but is it the most efficient and effective and economical?

Some desired community impacts have been identified, but clearly measurable outcomes to mark success not established.

The creation of a tax financing district, TIF or other financing mechanism(s) (metered parking as subsidy) not considered to our knowledge.

End-user group not currently involved in the redevelopment planning to provide more accurate programming and operations & maintenance input.

Adjacent development stakeholders not clearly integrated into ideation phase. Scale jumping and infrastructure sharing are recommended strategy explorations.

Recommendations:

- Alternative sources of energy should be grid-tied.
- In order to understand if the budget is adequate to support additional design and/or capitol costs needed to achieve green goals, the team must determine what additional expertise is needed to develop strategies and cost estimating.
- Create a Community Impact Statement that helps in the creation of a storyline about this development endeavor.

Recommendations for Implementation

Incorporate Sustainability Strategies

To improve the overall long-term assets and property value and create highly marketable parcels of land, emphasize the following strategies.

Integrated Water Systems

The City of Austin needs to protect water – our most valuable resource – at every phase of the water cycle. Integrated Water Systems is a phrase that refers to an approach to the built environment that flows from a community commitment to watershed preservation and protection.

Municipal water systems are organized around three major water uses: drinking water, wastewater, and storm water systems. All three systems share a common infrastructure based on watershed geography.

Apply best practices to water systems, including watershed management as a foundation of utility infrastructure planning, and low-impact development (LID) strategies as requirements for site development and redevelopment of the built environment. Green building practices specific to watershed management include treatment of water polluted by the built environment; minimizing potable water consumption for non-potable uses; and, best practices for rainwater harvesting, water reclamation, and decentralized water management strategies to decrease energy intensity of water infrastructure.

Energy Infrastructure

Energy conservation is the easiest way to save money and the environment. Further, clean, renewable sources of energy will make the Seaholm Intake Structure Project healthy and self-reliant, and boost the local economy.

Address both the source of the energy supply, and reduce the overall demand on energy requirements. Reduce carbon footprint and building energy independence. Four factors in addressing energy systems: Potential sources, including decentralized and renewable strategies; environmental impacts of energy sources; affordability; and, reliability of centralized versus decentralized sources.

Green Infrastructure

Green infrastructure refers to a set of integrated strategies such as parks and landscaping features can serve as amenities that enhance property values, provide recreation areas, and responsibly manage stormwater.

Green infrastructure has emerged as a best practice for stormwater management, significantly reducing capital and maintenance costs associated with construction of stormwater pipes and treatment facilities and protecting habitat and restoring native ecology.

Benefits of green infrastructure systems include increased property tax revenue, reduced burden on public infrastructure, local economic development resulting from in-migration of residents and businesses, increased access to funding sources, and improved public health.

Transportation & Livability

The location of the Seaholm Intake Structure Project offers limited, if any, vehicular transportation modes. Instead, the location encourages physical activity and precludes individual car trips. Green strategies include enhancing the integrated networks of pedestrian walkways and trails, lake access, and bicycle and non-motorized vehicles.

Materials & Solid Waste Management

The Seaholm Intake Structure Project should explore all ways to reduce environmental impacts of materials procurement, use, and disposal. Reducing waste directed to landfills and finding innovative uses for recycled and salvaged resources saves money and reduces environmental impacts.

The Seaholm Intake Structure Project should promote and enable responsible procurement practices, recycling and salvage-materials use, and lead by example through programs and operations.

Green building is a significant opportunity to reduce materials use and waste – utilize jobsite waste guidelines, a waste management plan template, sample waste recycling specifications, and utilize local construction waste recyclers.

Agriculture & Food Systems

Sustainable production and transport of food is a foundation of a sustainable community. Local food networks and urban agriculture are opportunities to create local jobs, optimize land use, achieve multiple sustainability objectives through green infrastructure strategies, and improve public health.

Consider utilizing roof tops for agriculture if conducive to building program.

Human Health

Sustainable Cities are healthy cities. Improving public health is an essential priority of sustainable communities. Health is an inherent aspect of all parts of our built environments, from the construction and use of buildings, to the design of neighborhoods, to the places we provide for recreation, to the emphasis we place on the health of citizens.

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2.0 Design Scenarios

In addition to the information provided within the redevelopment considerations, we have analyzed the site and the buildings to understand better how these elements would take to certain design scenarios. That analysis and a discussion of said analysis for each design scenario considered can be found on the following pages.

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2.1 Park and Site Alternatives (Ann and Roy Butler Hike and Bike Trail Realignment)

Hike and Bike Trail Realignment

Section 1.10 outlines a number of issues surrounding the current alignment of the Ann and Roy Butler Hike and Bike Trail. It would be advantageous of the future redevelopment of this site to include a boardwalk that realigns the Ann and Roy Butler Hike and Bike Trail adjacent to the lake, south of the Intake Structures. Besides the pleasure and beauty of being closer to the lake, this has the advantage of providing an alternate route to the steep and inaccessible portion of the trail east of the project site. It would also provide some separation between trail users and the busy traffic on Cesar Chavez. One possible realignment can be seen in the plan and section on the following pages. The City of Austin has already had pretty extensive studies completed for other boardwalk locations. The *Riverside Boardwalk Investment Study: Completing the Town Lake Trail* was released in September of 2007. A follow up study titled *Completing the Vision: An Overview of the Proposed Boardwalk Trail at Lady Bird Lake* was released in April of 2009. Both of these studies should be reference for more technical information for a overwater boardwalk. The boardwalk outlined within these studies is currently in the final stages of construction documents and any boardwalk designed on the lake side of the Intake Structures should match the style, construction and materials of the other boardwalks on Lady Bird Lake.

In addition to the realignment of the Ann and Roy Butler Hike and Bike Trail the full redevelopment of the Intake Structure site should take the opportunity to create new landmarks along the trail through the interjection of art. These landmarks could present new gathering areas or in the case for the urban sculpture by Rok Grdisa, provide shade for the trail in a new and creative way. With the careful play of art, the location of the trail and the revitalization of the historic pavilion, the Intake Structure Site would only strengthen the planning that has already happened on the north side of Cesar Chavez within the Seaholm District. The City of Austin's Art in Public Places (AIPP) initiatives would work well in helping provide these types of amenities along the trail.

Urban Sculpture by Rok Grdisa, Ljubljana, Slovenia

Streetscape

It is recommended that the streetscape improvements already completed along parts of Cesar Chavez east of the project site be extended into the project site. Wide sidewalks shaded by a row of large street trees would match the style and materials of the existing streetscape, extending the public sidewalk network and providing walkable space out from the urban core for pedestrians not using the hike and bike trail. This development will also complement the development of the Seaholm Power Plant area across Cesar Chavez.

The streetscape improvement would commence at Shoal Creek and terminate at the pavilion at the west end of the site. In order to fit between existing parking lots south of Cesar Chavez and west of Shoal Creek, the streetscape may need to narrow in some areas and additional buffering may be needed. The plan (refer to the following page) envisions reuse of the historic pavilion, which is currently in decay and blocked from user access. More study is needed to understand how the sidewalk may connect the existing stairs and what ADA modifications would be necessary to make connection and future use possible. Restrictions to modification of the pavilion due to historic preservation requirements also need to be looked at in more detail. The current Seaholm District plan (refer to section 1.2) shows a proposed crosswalk at the intersection of Seaholm Drive and Cesar Chavez. This crosswalk is shown on the west side of Seaholm Drive, therefore placing it on the west side of the historic pavilion. Due to the proximity of the pavilion to Cesar Chavez it is recommended to reconsider the crosswalk to the east side of both Seaholm Drive and the pavilion. A further study would be needed in order to determine if this would work with ADA guidelines in mind. This alignment of the crosswalk also plays a crucial role in providing an ADA path from the Intake Structures to what could be their off-site parking location (discussed in section 1.9)

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01 LANDSCAPE / ANN AND ROY BUTLER HIKE AND BIKE TRAIL REALIGNMENT PLAN

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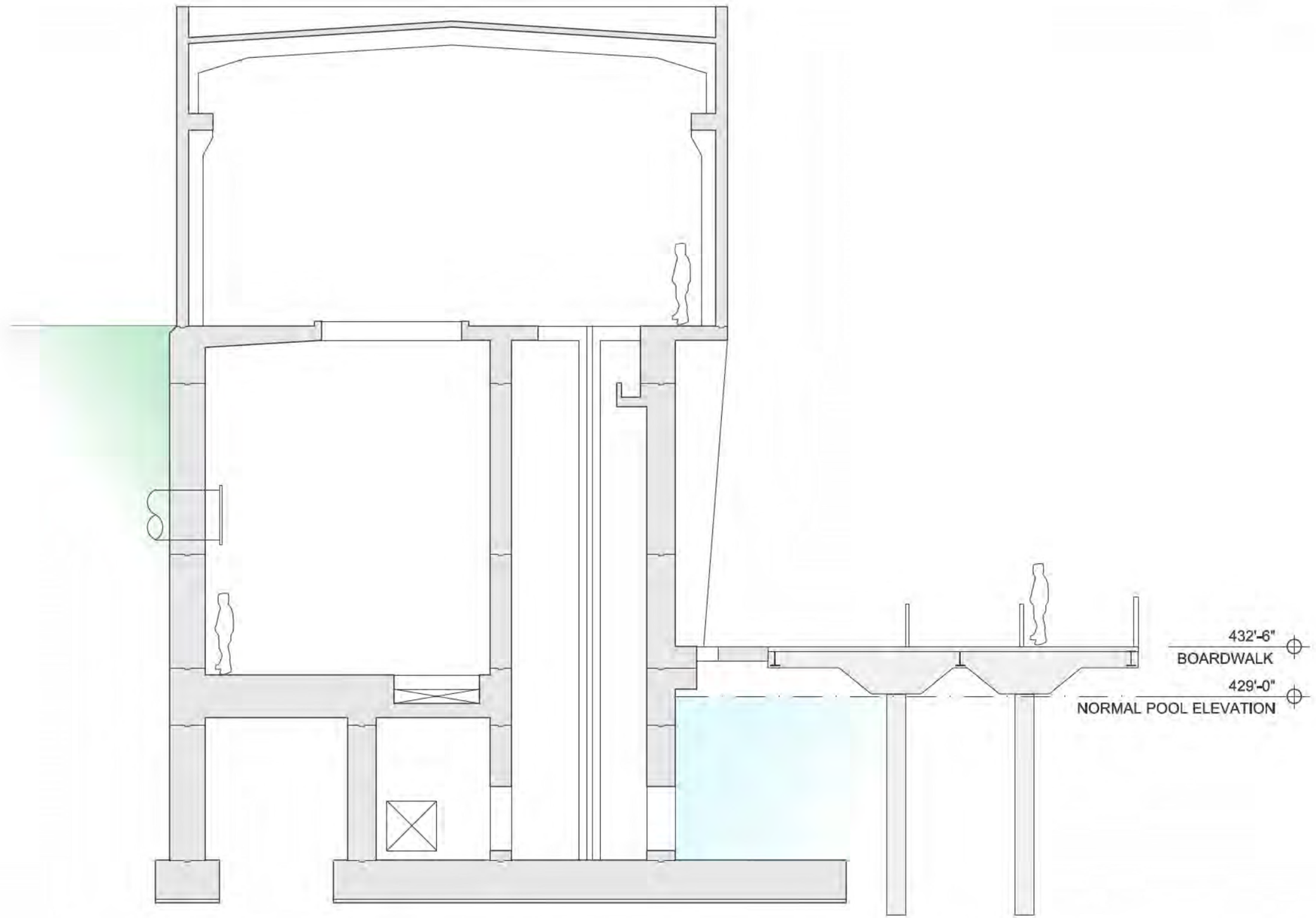

01 BUILDING 'A' SECTION - ANN AND ROY BUTLER HIKE AND BIKE TRAIL REALIGNMENT

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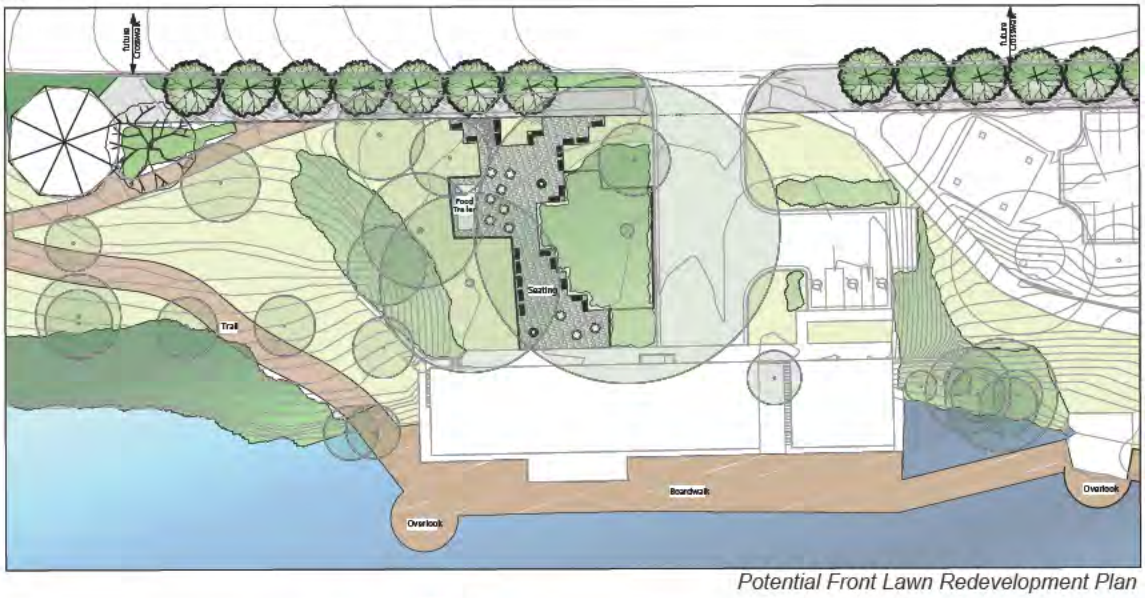
Landscape Redevelopment

With a different use, more attention will be focused on this gem of a building and site, hidden in plain sight. The proposed interior uses can be expected to spill out into the landscape. And, as the space becomes more lively, people passing by on the trail and sidewalk can be expected to stop and enjoy the landscape, with its breezes, views, and magnificent oaks.

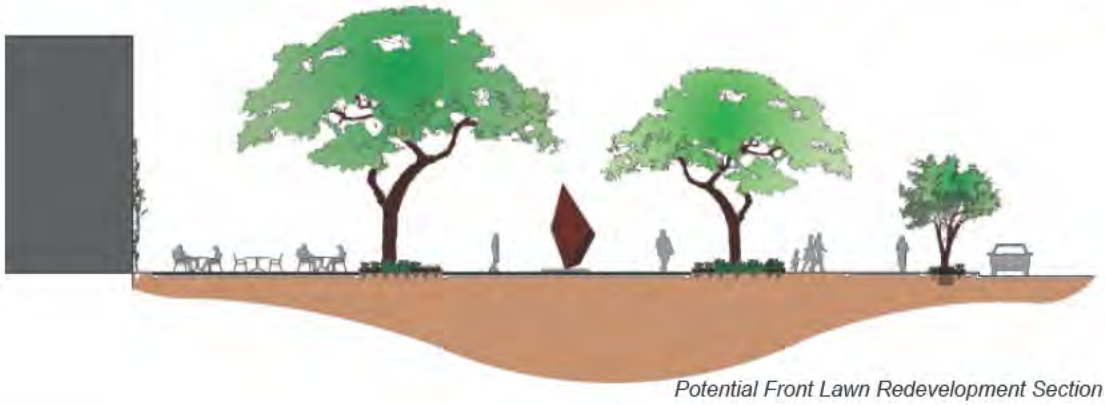
With more intensive use and development, a carefully designed combination of hard pavement, gravels, mulch and planting is appropriate for the front lawn. The areas within the 1/2 Critical Root Zone of the heritage oaks should be designed for protection of the grand trees, with bark and gravel mulches. In the remainder of the Critical Root Zone, it is appropriate to use some limited permeable pavement that can built on grade without cutting into the soil more than 4". All construction in the vicinity of these grand trees should be overseen by a Certified Arborist.

Outside the Critical Root Zone of the trees, some areas of hard pavement are appropriate, to provide a solid surface for tables, benches, and displays. All hard pavement should slope to direct runoff back into the landscape.

Additional planting, including shrubs, ornamental grasses and perennials, should be considered in a few areas. Those would include planting to buffer existing and proposed parking from street and site views; planting under the street trees to continue the planting style east of the site on Cesar Chavez; and permanent slope planting to eliminate the steeply sloping lawn on the west side of the project site. All planting should be native or naturalizing, able to survive without irrigation after establishment. Temporary irrigation should be provided to establish, with access to water available within 100' of all plantings. Permanent irrigation should be provided to the streetscape plantings and groundcover. Project landscape materials and construction details should follow the Town Lake Design Manual, especially those that apply to site fences, paving, permanent furniture and new trails.



Potential Front Lawn Redevelopment Plan



Potential Front Lawn Redevelopment Section

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2.2 Building Alternatives

Scenario A1: Restaurant, Ground Level Only

There are a lot of elements to take into consideration when trying to redevelop the Intake Structures, two of the more dominating forces from the redevelopment considerations seem to be the impact of the flood plain on the lower level of the buildings and the potential listing of the buildings on the National Register of Historic Places. These forces bring up two Scenarios, A1 and A2, where we analyze the redevelopment of Buildings A and B on the ground level only. Pursuant to the discussion around the Historic Listing of the Buildings and the hardscape constraints and requirements listed in 1.9, Building C has been removed from this scenario.

The Parks and Open Space Master Plan, within the City of Austin Downtown Austin Plan recommends that the Intake Structures be redeveloped as a restaurant. Therefore Scenario A1 looks at the space to see how it would function if it were redeveloped as a restaurant. If one were looking at Buildings A's ground floor solely, the square footage of 5,648 is your ideal square footage for a typical restaurant.

Since the Austin Energy easement for the power lines over Building B is still being developed, here Building B was looked at as a possible appendage to A, but it is not imperative that Building B be included in the redevelopment scenario. Building B, as 1,762 square feet would work rather nicely as a banquet room, associated with the restaurant. Once the space is divided to house a wait station/serving space and a restroom, one would be left with approximately 1,088 square feet at 15 net square feet per person, this space could seat roughly 73 people. A diagram of this space allotment can be seen on the following pages. Finding a secondary exit from Building B at grade level could prove to be particularly troublesome. Assuming that the ground levels of both A and B were redeveloped as restaurant that would total 7,410 square feet of gross building. The land development code states that 1 parking space should be provided for every 75 square feet of building space. The urban core of Austin does get a 20% reduction on the total parking spaces required - therefore making this scenario need 78 off-site spaces. There would need to be 4 accessible spaces provided adjacent to the building.

The kitchen and support functions for a typical restaurant take up about 1/3 of the square footage of the overall space that will house the restaurant. Drawing on the original phasing of Building A and the placement of the roll-up door and the drive isle it seems fitting that the east end of Building A would be used for the kitchen functions. The rest of the building is left for circulation and seating, with a small portion being utilized by the restrooms, which falls into the general kitchen and support square footage allotment. The ground floor of Building A is 5,648 gross square feet, and if the seating area takes on roughly 2/3 of the space, with 15 net square feet per person, one could seat 235 people. Again, a diagrammatic representation of this spacial arrangement can be seen on the following pages. It is important to note, that since there is only one floor to accommodate with this scenario the circulation can become far more efficient and there would be more flexibility in the interior layout.

As viewed from the interior photos in section 1.14, both buildings have wonderful interior spaces. Their tall interior volumes will need to be a special consideration in the redevelopment of any programmatic use, but there should be a specific emphasis put into the conservation of the original interior volume within a restaurant design. The mechanical systems and acoustics within restaurants can be very cumbersome and the original character of the interior space could be lost quickly if the articulation of the space does not get the attention that it deserves. The Texas Historical Commission will mostly likely want to weight in heavily here as discussed in section 1.14.

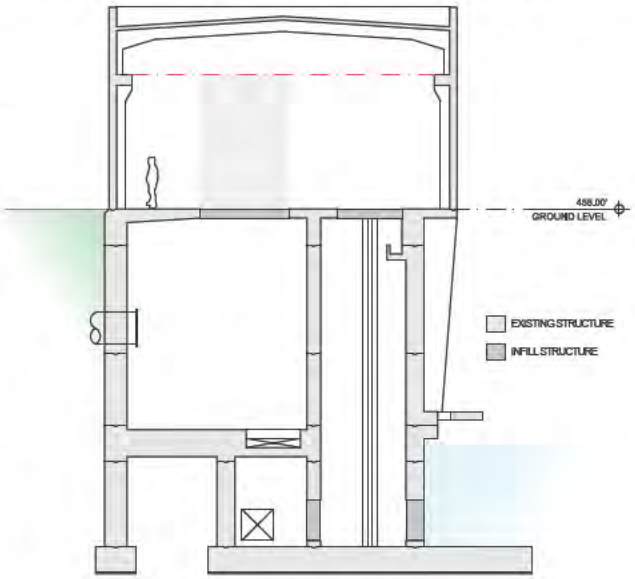
Building A: Upper level voids.

The restrooms and portions of the seating (in this case that space is considered to be a bar) are placed in what looks to be close to the center of the space. The original ground level, or operation level has three voids within it that allowed the pumps to be lifted out of the basement level by the crane that rested on the beams that stick out from the interior of the north and south walls. The

redevelopment of these buildings should use elements of design that drawn upon and emphasize the history of these buildings. Therefore highlighting these voids with the elements of the design that require volume is one possible way to tell the story of the buildings through the spacial arrangements made with the new design. These voids would have to be filled with a new floor level in order to make the space operational. More specific information about the addition of this floor level can be found in the Structural Feasibility Study in the Appendix.

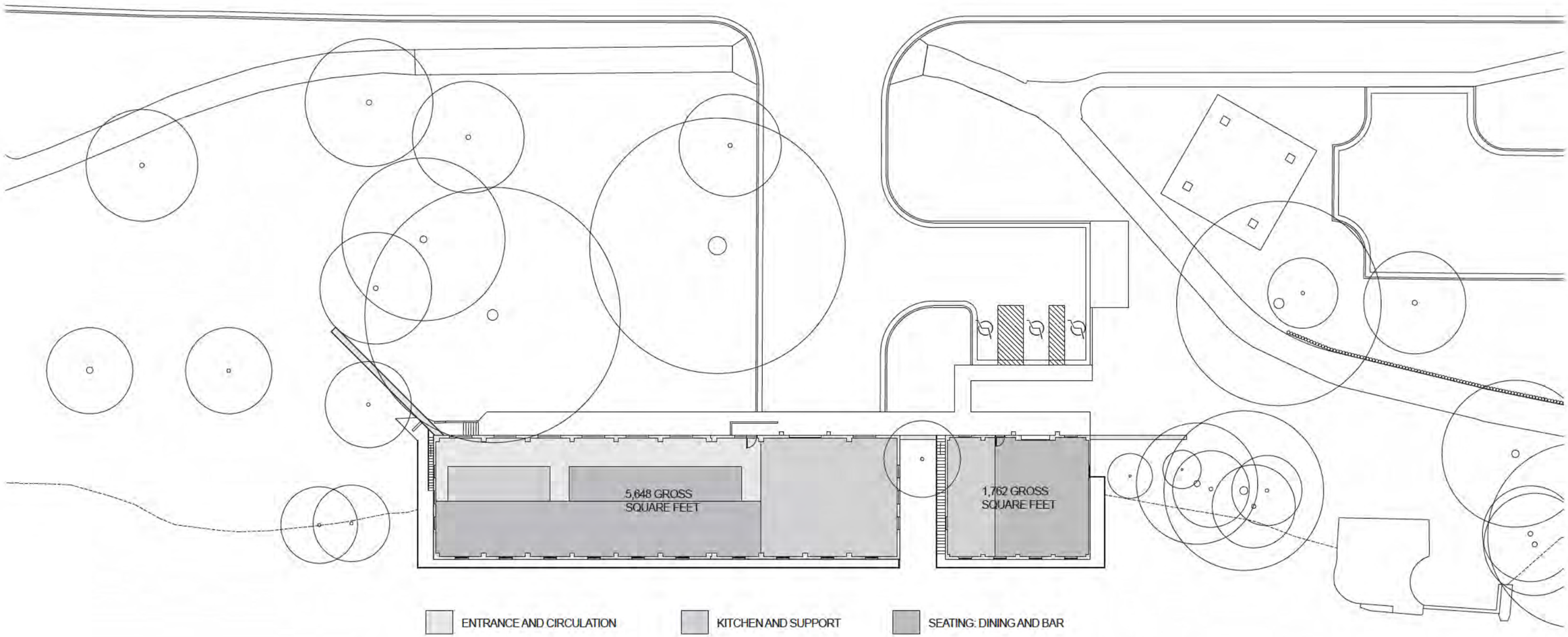
The way the light is able to travel through the space is also very important and keeping any of the necessary interior volumes as low as possible is important in order to let the character of the spacial qualities of the buildings to carry through into the new design. One such datum line that could be established is the height set by the interior beams used to support the crane.

A good reference for an adaptive-reuse such as this that does a great job of keeping the interior spacial qualities of the old building is The Cannon Design Regional Offices in St. Louis Missouri. This building was a Power House, constructed in 1928 and it is listed on the National Historic Register. This building provided coal-fire steam heat to a dozen downtown buildings. It was decommissioned in 1980 and has sense been redeveloped into office space.



Building A Section: Possible interior volume datum line.

Cannon Design Regional Offices, St. Louis Missouri



01 SCENARIO A1 GROUND LEVEL PLAN

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Scenario A2: Flexible Space, Ground Level Only

This scenario looks at using the ground floor of Buildings A and B as flexible space. Space that could potentially be used as either a museum or as rentable event space. Building B would be used as support to the larger Building A. Building B could house any of the offices or meeting rooms that would be needed to accompany the flex space of Building A. Building A does show some portion of the flexible space being used by restrooms in the illustration on the next page. The placement of these restrooms again, does draw on referencing the voids with the layout of the operation floor, as discussed in Scenario A1. In the event that these buildings are redeveloped as a museum it does seem likely that these buildings would operate similar to that of the Austin Museum of Art, in that any storage of art would need to happen off site. As the square footage of the ground floor of Building A seems that it would only support what is needed for an exhibit. As a point of reference, Arthouse at the Jones Center has their gallery space on the second floor level and that level alone is 6,665 square feet. Building A and B combined is 7,410 square feet. While the programs for museums can vary tremendously, this does make for a smaller than normal museum space. It would most likely be more successful as event space that would be able to be rented by the public.

The land development code states that for an art gallery 1 parking space should be provided for every 500 square feet. The ground floor level of buildings A and B combined is 7,410 square feet. With the 20% reduction allowed for the urban core only 12 off-site parking spaces would be needed for the art gallery and 1 accessible space would be needed directly adjacent to the building. In the case of rentable event space the Land Development Codes Appendix A states, " The director shall determine the minimum off-street motor vehicle parking requirement, minimum off-street bicycle parking requirement, and minimum off-street loading requirement for use that is subject to this schedule. In making a determination, the director shall consider the requirements applicable to similar uses, the location and characteristics of the use, and appropriate traffic engineering and planning data."

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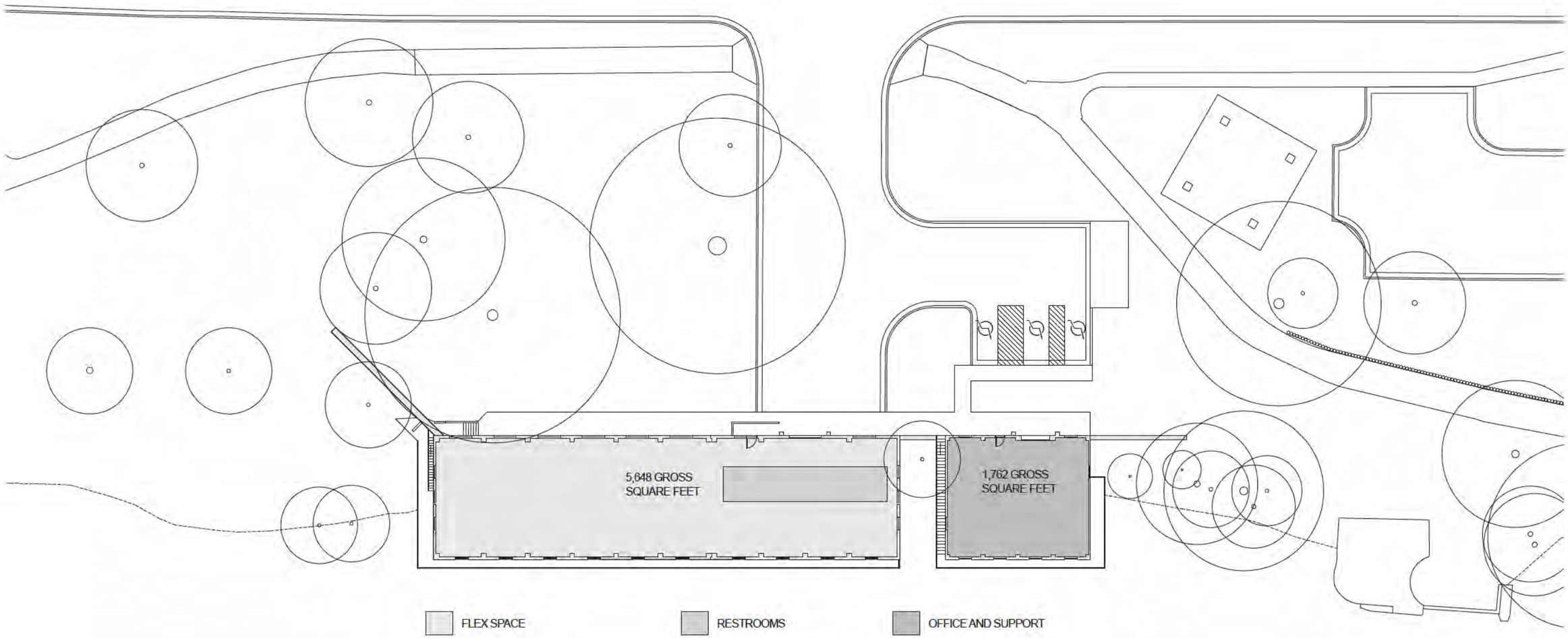

01 SCENARIO A2 GROUND LEVEL PLAN

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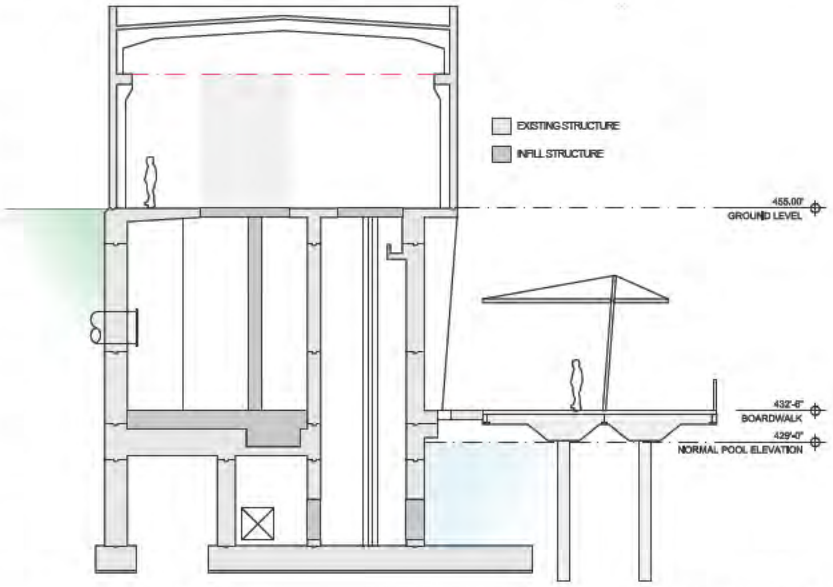
Scenario B: Restaurant, Both Levels



Building A Section: Scenario B

The feasibility study team did meet with a couple of local restaurant owners at the buildings and the one thing that every single one of them mentioned was that there has to be a way to open up the lake side of the building such that diners can sit at the lake level while dinning. In section 1.8 the potential draw backs to fully opening up the lake level from a flood plain stand point were discussed. However, from an operational level of a restaurant, if one were to fully open up the lake level and utilize the ground level of Building A, the square footage would double. That is far too much space for a restaurant and the close intimate space that one typically strives to achieve is restaurant design would be lost. With Scenario B we looked at using only a small portion of the basement level in an effort to allow the diners the chance to enjoy the lake level experience. The existing catwalk is enlarged such that it would provide a seating area over the lake. (Refer to plan illustration on the next page) This seating area could be joined to the realigned Ann and Roy Butler Hike and Bike Trail. There would have to be elements in place to help circulate the different types of traffic happening in the area. Incorporating some sort of shading would be beneficial to the diners on the water and to the trail users. The aesthetic of the shading device should blend into the back ground and not over power or distract from the Intake Structures. The Piano Pavilion coffee shop, associated with the Sibelius Concert Hall in Lahti, Finland provides a great example of the type of space one should strive for when developing an outdoor seating area along the lake level of the buildings.

Piano Pavilion Coffee Shop; Lahti, Finland

In the diagrams on the next page, only a portion of the lake level concrete structure is cut away here, this is in an effort to minimize the complications with the flood plain and keep costs associated with additional structural work in mind. A floor would still need to be added where the lake level walls were removed. It would need to be verified with the Planning Review Department but in this scheme it is assumed that one accessible exit from the lake level is from the Ann and Roy Butler Hike and Bike Trail. The Ann and Roy Butler Hike and Bike Trail realignment can be made to be fully accessible along the west side of the building. The topography to the east is far too steep to be considered a true accessible path. The second exit from the lake level is through the addition of a code compliant stair on the west side of the building.

One elevator is provided for an accessible path directly from the ground level to the lake level, but a second service elevator would be needed to effectively get food from the kitchen to the lake level. The alteration of the lake level of Building B was looked at in this scenario, but it was determined that the building is too small in size to effectively get the required number of exists and accessible travel paths within it, while still trying to have any usable space.

The ground level for both of the buildings in this scenario take on the same spacial arrangements as A1 and can be seen in illustration on the next page. Building B is again kept separate as a possible banquet seating area as it has still not been determined, through the language of the Austin Energy easement what functions will be allowed to happen within the building. This scenario would require 102 off-site parking spaces and 5 accessible spaces directly adjacent to the buildings.

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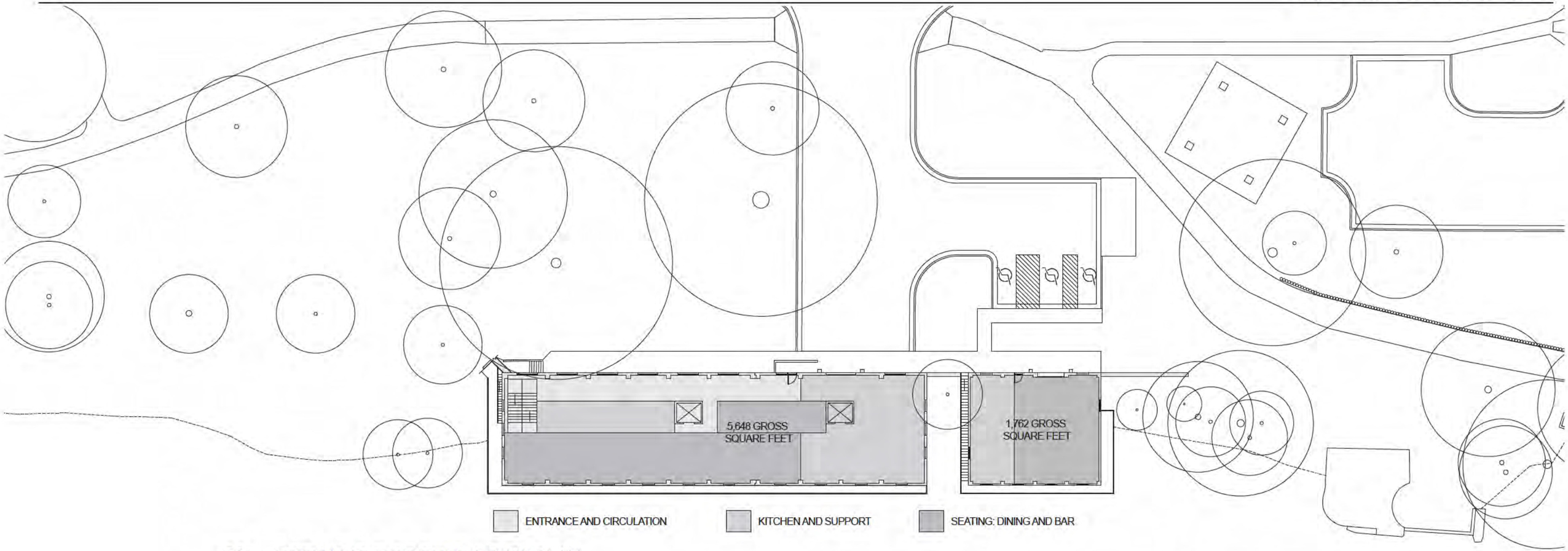
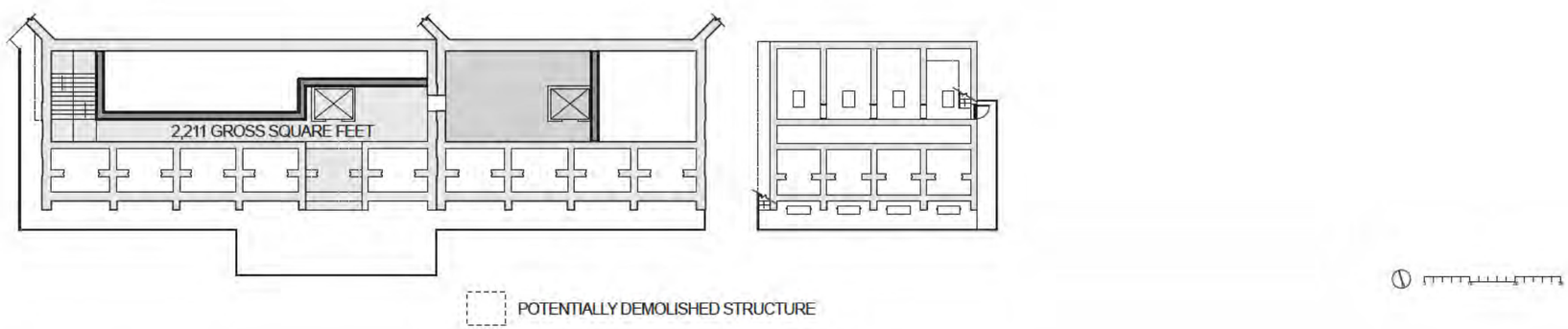


02 SCENARIO B GROUND LEVEL PLAN



01 SCENARIO B BASEMENT PLAN

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Scenario C: Office, Ground Level Only

Scenario C looks at office space for the use within Buildings A and B. Similar to Scenarios A1 and A2, this scenario only looks at the ground level of each building. Pursuant to the discussion around the Historic Listing of the buildings and the hardscape constraints and requirements listed in 1.9, Building C has been removed from this scenario.

There are a number of different layouts that could be achieved based upon the program set forth for the future client. The layout in the diagram on the next page emphasizes the spaces one would get if they drew on the buildings design features to layout the space. The restrooms and offices in the center of building A are placed such that they mimic the three voids within the ground level floor slab that were used to lift the pumps out of the basement level. By placing the restrooms and offices in this configuration, along with providing a path within the building that would prevent a dead-end corridor one could fit 7, 120 square feet of office space. This also allows one to place the necessary second exit as close to grade as possible and in the least restrictive spot, which is the north-west corner of the building. There are columns along the perimeter walls that are used to position the walls for the offices on the south end of the building. This allows the windows to fit evenly within each office. Due to the fact that building A was built in two different phases, the columns within each phase have different spacing dimensions. This creates 10 offices along the south wall that vary between 170-196 square feet. The photo graph within Scenario A1 shows the columns within the space.

The same concept was used to arrange the offices in Building B. However - this building does not have any voids within the floor slab that would conduct the flow of spaces within the building. Therefore, the restrooms and offices are arranged to flow with the spacing of the columns along the perimeter walls. This provides 2 offices on the west wall, one at 105 square feet and the other at 112. The south wall has 4 offices along it at 138 square feet a piece.

The first floors of Building A and B provide 7,410 gross square feet of office space. Appendix A of the City of Austin Land Development codes requires that 1 parking space be provided for each 275 square feet of building. This requirement, along with the 20 percent reduction allowed within the Urban Core requires that 22 parking spaces be provided for the facility. Only one (1) accessible space would need to be provided. Should the final draft of the Austin Energy easement for the power lines over Building B conclude that an office space could not be provided in Building B, these parking numbers would obviously be smaller.

Please also refer back to Scenario A1 for the discussion around the interior spaces within these buildings. As the same concepts apply to a office space retrofit.

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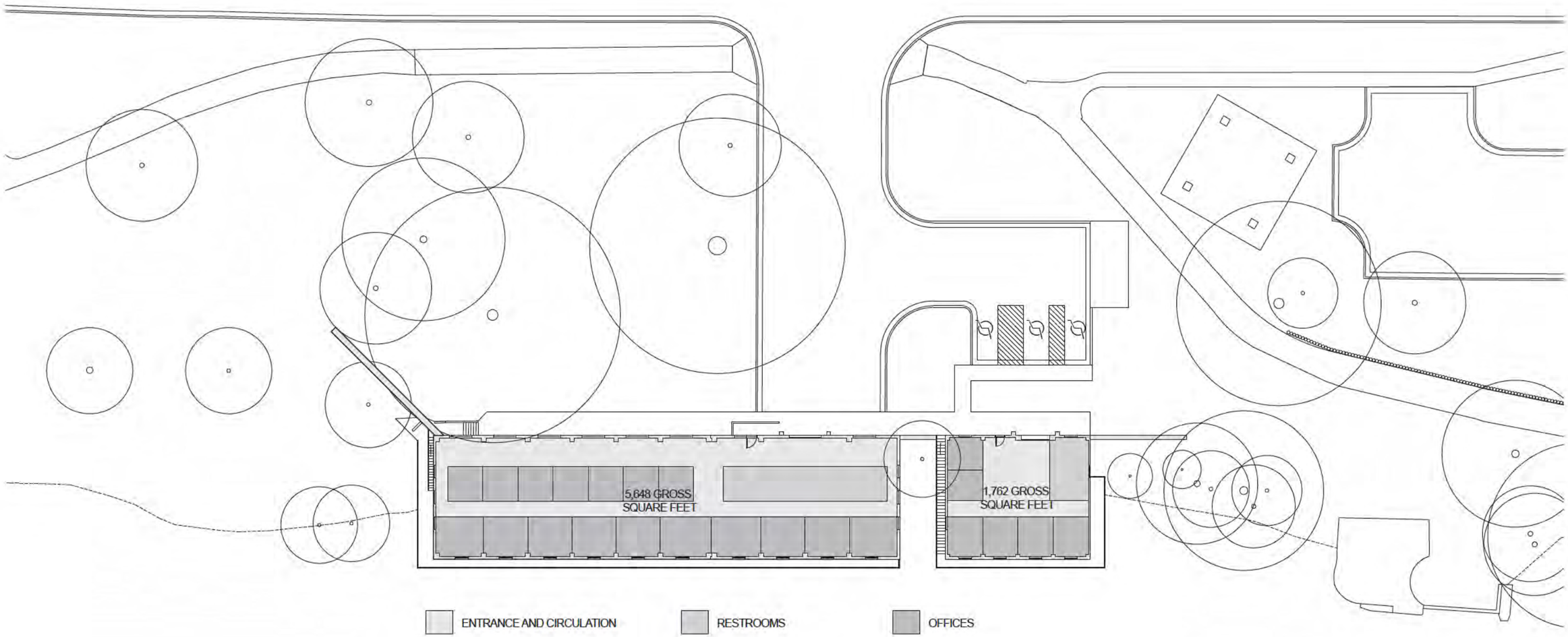

01 SCENARIO C GROUND LEVEL PLAN

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Scenario D: Residential, Ground Level Only

Scenario D looks at residential living space for the use within Building A. Building B was not included due to the Austin Energy easement for the power lines that lie over it. Even if the easement is drafted to allow certain uses within, it is very doubtful that residences will be allowed in that building. Similar to Scenarios A1, A2, and C this scenario only looks at the ground level of each building. Pursuant to the discussion around the Historic Listing of the buildings and the hardscape constraints and requirements listed in 1.9, Building C has been removed from this scenario.

As with any project, there are a number of different layouts that can be achieved based on the program provided by the client. This scenario, as illustrated on the following page, shows one possible solution for residential spaces that could be provided within Building A. There is a corridor that is provided along the north wall, that allows one to use the existing entrance into the building and also provide the necessary secondary exit along the same corridor route. There are columns along the perimeter walls that are used to position the dividing walls for the apartments (or condos). This allows an even distribution of the windows within the residential spaces in addition to using the natural elements of the existing building to influence the design. As pointed out in Scenario C, Building A was built in two different phases, which results in the different spacial layouts of the columns within the two different phases. This creates the three different sized residential spaces shown in the illustration on the next page. These spaces are 1,274 square feet, 1,354 square feet, and 1,686 square feet. All three are in keeping with typical square footages of 2 bedroom / 2 bath apartments/condos.

The City of Austin Land Development Code states that for every dwelling unit larger than 1 bedroom: 1.5 spaces must be provided and for every additional bedroom 0.5 spaces should be added to the initial 1.5 spaces. This means that for each dwelling unit in this scenario, 2 parking spaces must be provided. The City of Austin does give a 20% reduction for being located within the Urban Core. Therefore, for the ground floor configuration of Building A Scenario D, 5 parking spaces should be provided. Only one accessible parking space is to be provided.

Please also refer back to Scenario A1 for the discussion around the interior spaces with these buildings. As the same concepts apply to retrofitting the intake structures with residential spaces.

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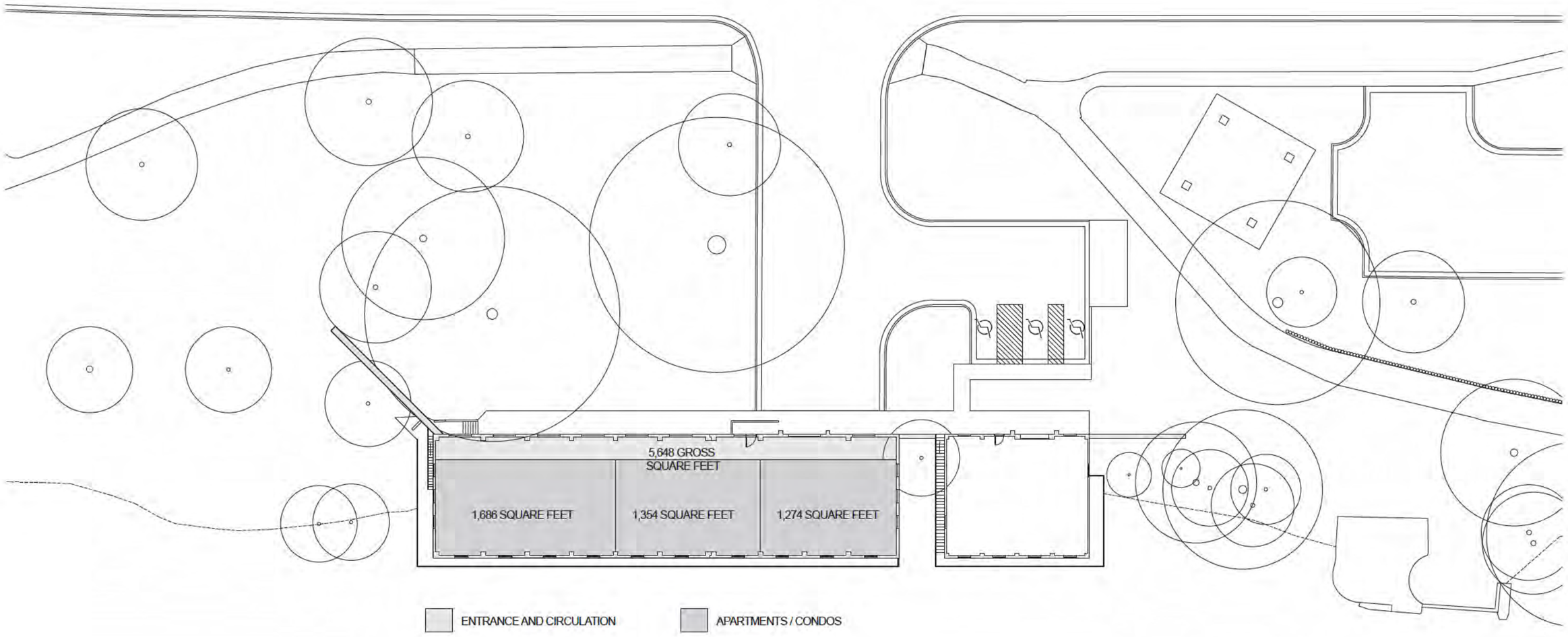

01 SCENARIO D GROUND LEVEL PLAN

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Source List

- 2009 International Building Code
- Austin City Charter, Article II
- Austin Energy
- Austin History Center
- Austin Town Lake Park Master Plan, July 1999
- Austin Water Utility
- City of Austin Department of Public Works Plan Review
- City of Austin Economic Growth & Redevelopment Offices
- City of Austin Fire Department
- City of Austin Land Development Code
- City of Austin Local Amendments to the 2009 International Building Code
- City of Austin Local Amendments to the 2009 International Plumbing Code
- City of Austin Planning & Development Review Department
- City of Austin Subchapter E Commercial Design Standards
- Completing the Vision: An Overview of the Proposed Boardwalk Trail at Lady Bird Lake, April 2009
- Downtown Austin Plan, November 2010 Draft
- Downtown Austin Plan, Core/Waterfront District Plan, May 21, 2010 Draft
- Downtown Austin Plan, Downtown Parks and Open Space Master Plan, January 19, 2010 Draft
- Riverside Boardwalk Investment Study, Town Lake Trail Foundation, September 2007
- Texas Historical Commission
- Texas Local Government Code, Chapter 253
- Texas Parks and Wildlife Code, Section 26.001 - 26.005
- The Trail Enhancement Plan, December 2008
- The Trail at Lake Bird Lake Vision Plan, September 2008
- www.ci.austin.tx.us/downtown/
- www.ci.austin.tx.us/parks/longrangeplan.htm
- www.ci.austin.tx.us/parks/projects
- www.townlaketrail.org

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Appendix

The Appendix contains the following reports and documentation.

A. Green Water Treatment Plant Decommissioning and Deconstruction Report

A. Datum Grojer Engineers, L.L.C., Structural Survey Report

A. Datum Grojer Engineers, L.L.C., Structural Feasibility Study

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G. Steel and Miscellaneous Metal

Remove steel and metals such as access doors and frames, steel gratings, metal ladders, wire mesh partitions, metal railings, metal windows. and similar items for CONTRACTOR's recycling or salvage.

H. Air Conditioning Equipment

Remove air conditioning, refrigeration, and other equipment containing refrigerants without releasing chlorofluorocarbon refrigerants to the atmosphere.

I. All Other Material, Equipment, and Facilities

All remaining material, equipment, piping, facilities, and previous improvements within the limits of construction shall be removed

3.7 EXISTING FACILITIES TO REMAIN AND SUBJECT TO SELECTIVE DECONSTRUCTION

A. The primary items to remain in place, subject to items indicated in the Drawings, consist of the following:

- Intake Structure Building;
- Electrical Support Building adjacent to Intake Structure;
- Portions of the 3-MG Clearwell wall along Cesar Chavez Street;
- Overflow drain from the 3-MG Clearwell; and
- Portions of the large sediment basin wall along San Antonio Street.

B. Intake Structure

1. Per the Drawings, most of the mechanical equipment/piping and electrical equipment/conduit is to be removed, leaving the Structure in place and undamaged. See Section 13600 for safety retrofits. Items to remain include, but are not limited to:

    - Roof penetrations;
    - Roof drains, vents, and piping;
    - Wash water drain piping, cleanouts, and tie-in to existing sanitary system;
    - Ceiling/roof vents, fans, and associated electrical;
    - Sluice gates and all stems, stands, and appurtenances;
    - Lighting and associated electrical; and
    - Basement level exhaust fan, duct work, and associated electrical.

2. Disconnect mechanical hardware at the nearest connection to an existing building to remain, unless otherwise noted. Provide blind flange closures to existing raw water lines to be left in place.

3. Remove fixtures, motors, and machines associated with all mechanical system installations.

C. Electrical Building

1. Per the Drawings, most of the electrical equipment/conduit is to be removed, leaving the structure in place and undamaged. Items to remain include, but are not limited to the following:

   - Roof penetrations;
   - Rooftop HVAC system, and associated ductwork, and electrical;
   - Lighting and associated electrical; and
   - Electrical receptacles.

2. Disconnect mechanical hardware at the nearest connection to an existing building to remain, unless otherwise noted.

D. Concrete Walls for 3-MG Clearwell and Large Sediment Basin

1. Deconstruct in accordance with the Drawings, including sequence of operations.

2. Deconstruct in sections. Cut concrete full depth at junctures with concrete to remain at regular intervals. Score concrete at remaining junctures so as to provide a neat line for walls to remain.

E. Preparation for Selective Deconstruction

1. Conduct operations to prevent injury to people and damage to buildings and facilities designated to remain. Provide safe passage around the areas to be deconstructed.

2. Provide temporary weather protection during interval between deconstruction and removal of any existing construction on exterior surfaces and installation of new construction to ensure no water leakage or damage occurs to structure or interior areas of existing building.

3. Protect walls, ceilings, floors, and existing finish work that are to remain in place and are exposed during selective deconstruction operations.

4. Provide and maintain interior and exterior shoring, bracing or structural support to preserve stability and prevent movement, settlement, or collapse of structures and adjacent facilities that are not part of deconstruction. Strengthen or add new supports when required during progress of selective deconstruction.

5. Provide acceptable temporary security barriers where physical security of buildings or fences is compromised due to deconstruction work.

6. Provide temporary protection of existing building and construction, in progress or completed, from weather, until repairs are completed. Remove protections at completion of work.

F. Selective Deconstruction – General

1. Proceed with selective deconstruction in a safe and systematic manner, from higher to lower level. Complete selective deconstruction operations above each floor or tier before disturbing supporting members on the next lower level.

2. Locate, identify, de-energize, and disconnect and seal or cap off utility services to be selectively deconstructed.

3. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.

4. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

5. Cut or remove anchor bolts and similar cast items flush with wall, floor, or ceiling, and patch remaining hole as required.

6. Remove required floor, wall, and ceiling penetrations as indicated, and patch remaining hole as required. Cap, valve, or plug pipe or conduit.

7. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.

8. Maintain adequate ventilation when using cutting torches.

9. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.

10. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.

11. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

12. Dispose of deconstructed items and materials promptly.

13. Return elements of construction and surfaces that are to remain to condition existing before selective deconstruction operations began.

G. Patching and Repairs

1. For safety retrofits of floor openings caused by equipment removal, conduct work in accordance with Section 13600, "Intake Structure Safety Retrofits."

2. Repair deconstruction performed in excess of that required.

3. Repair damage to adjacent construction caused by selective deconstruction operations.

4. Where removals leave holes and damaged surfaces exposed in the exterior finished work in facilities to remain, patch and repair these holes and damaged surfaces to match adjacent finished surfaces.

5. Completely fill holes and depressions in existing floors, walls, and ceilings that are to remain with an approved patching material applied according to

manufacturer's recommendations. Finished surfaces of patched areas shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible as to texture and finish.

6. Return structures and surfaces not part of deconstruction, to conditions existing prior to commencement of deconstruction work.

7. The OWNER will review areas requiring repairs and patching. If holes or damage are extensive, OWNER may require patching to be performed in accordance with Section 13600 at no additional cost to the OWNER.

3.8 CONCRETE CRUSHING

A. CONTRACTOR shall utilize an on-site mobile crusher to crush concrete, masonry, and rock removed from the site and site structures and other improvements associated with the deconstruction as shown in the Drawings and as specified. CONTRACTOR shall not bring materials from off site or from other projects for crushing.

B. The material shall be crushed to a maximum sieve size of 3 inches and shall be used to mix with on-site soils and used as backfill in accordance with Special Provision SP-132S.

C. Unless otherwise approved by OWNER, crushing operations shall be restricted to 7 a.m. to 6 p.m. during weekdays, or in accordance with the air permit, whichever is more restrictive. Weekend operations shall require OWNER approval, and no operations shall be conducted during holidays.

D. CONTRACTOR shall submit a Crushing Plan, as part of his Deconstruction Work Plan, identifying the equipment to be used, equipment and stockpile locations, current permits, and emissions controls to be used during construction.

E. CONTRACTOR shall obtain and submit proof that the crusher and the crushing operation have an approved air quality permit from the Texas Commission on Environmental Quality (TCEQ). CONTRACTOR shall submit a copy of the permit requirements, emissions limits, and required monitoring with the Deconstruction Work Plan. CONTRACTOR shall comply with the terms of all permits during construction. CONTRACTOR shall submit the results of all required monitoring to the OWNER with his monthly invoicing.

F. CONTRACTOR shall remove all reinforcing steel, wire mesh, or other metals from the concrete prior to and/or during the crushing operation. Such metals shall be segregated and kept from inclusion in the crushed material, and then removed from the site.

G. CONTRACTOR shall stockpile the crushed material at an approved on-site location.

H. At the completion of crushing activities, CONTRACTOR shall clean up and remove from the site all debris, steel, and remnants of the crushing operation, prior to final site restoration and site vegetation activities.

I. CONTRACTOR shall dispose of all unused and waste material at an appropriate off-site location.

J. CONTRACTOR's crushing operation shall be compliant with all temporary control measures described in the specifications, including dust and noise measures. Crushing equipment shall have hoods, spray nozzles, and/or other operational requirements to prevent dust and noise nuisances.

OWNER:
CITY OF AUSTIN
AUSTIN, TEXAS

SPONSORING DEPARTMENT
AUSTIN WATER UTILITY
GREG MESZAROS, DIRECTOR

SPONSORING DEPARTMENT CONTACT:
WILLIAM STAUBER
PHONE (512) 972-0290
EMAIL:
William.Stauber@ci.austin.tx.us

MANAGING DEPARTMENT:
PUBLIC WORKS DEPARTMENT
JOE RAMOS, ACTING
DIRECTOR

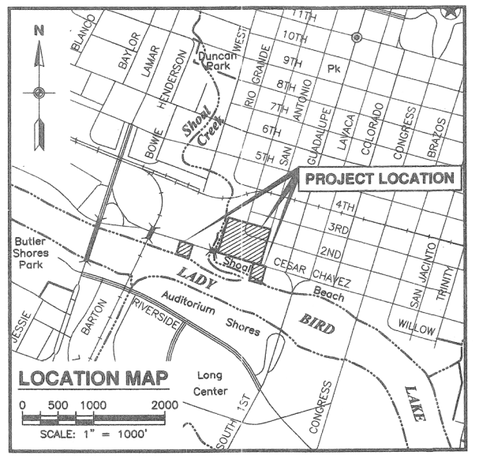
MANAGING DEPARTMENT CONTACT:
CYNTHIA JORDAN, PROJECT MANAGER
PHONE (512) 974-7183
FAX (512) 974-7239
EMAIL:
Cynthia.Jordan@ci.austin.tx.us

SITE DEVELOPMENT PLAN
FOR
Thomas C. Green Water Treatment Plant
Decommissioning and Deconstruction
CIP ID No. 2009.010
AWU ID No. S/W-2008-0026
AUSTIN, TEXAS
PREPARED FOR
CITY OF AUSTIN

SITE PLAN APPROVAL SHEET 1 OF 90
FILE NUMBER SP-2008-0258D APPLICATION DATE 5-23-08
APPROVED BY COMMISSION ON N/A UNDER SECTION 25-5-112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81, LDC) 9-18-11 CASE MANAGER K Shunk
PROJECT EXPIRATION DATE (ORD.#970905-A) 5-23-12 DWPZ DDZ
Director, Watershed Protection and Development Review
RELEASED FOR GENERAL COMPLIANCE 9-18-08 ZONING P
Rev. 1 Correction 1 Dec 3, 2009
Rev. 2 Correction 2
Rev. 3 Correction 3
Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

THIS PROJECT PROVIDES INSURANCE TO QUALIFIED CONTRACTORS. CONTRACTORS AND SUBCONTRACTORS OF ANY TIER SHALL WITHHOLD INSURANCE COSTS FROM THE BID, THUS REDUCING THE BID AMOUNT. PLEASE REFER TO THE SUPPLEMENTAL GENERAL CONDITIONS, SECTION 00810, AND THE PROJECT SAFETY MANUAL FOR SPECIFIC INFORMATION REGARDING THIS ROCIP.

APPROVED AND RELEASED
SEP 18 2008
CITY OF AUSTIN



SMS 10-7-09
APPROVED
OCT 08 2009
CITY OF AUSTIN WPDR DEVELOPMENT SERVICES

AUSTIN WATER UTILITY EXPIRATION DATE
AUG 28 2009

APPROVED
MAR 11 2009
CITY OF AUSTIN WPDR DEVELOPMENT SERVICES

GM 1-14-09
APPROVED
JUL 13 2009
CITY OF AUSTIN WPDR DEVELOPMENT SERVICES

GENERAL NOTES

1. A PORTION OF THIS TRACT LIES WITHIN THE 100-YEAR FLOODPLAIN AS IDENTIFIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FIRM MAP NO. 48453C0445G, REVISED PRELIMINARY DATED JULY 11, 2007.
2. THIS PROJECT IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE AS IDENTIFIED BY AND REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).
3. THIS PROJECT IS NOT EXEMPT FROM WATERSHED PROTECTION REGULATIONS (CHAPTERS 25-2 AND 25-8 OF THE LDC).
4. THIS PROJECT IS LOCATED PARTIALLY WITHIN THE SHOAL CREEK CREEK WATERSHED AND PARTIALLY WITHIN THE TOWN LAKE WATERSHED WHICH ARE CLASSIFIED AS URBAN WATERSHEDS.

   THIS PLAN WAS REVIEWED UNDER THE WATERSHED RULES AND REGULATIONS IN EFFECT ON MAY 23, 2008.
5. LEGAL DESCRIPTION: ALL OF BLOCK 001 AND 185; LOTS 1-4 IN BOTH BLOCKS 23 AND 188, ORIGINAL CITY OF AUSTIN; PART OF WEST 2ND STREET, NUECES STREET, AND WEST 2ND ALLEY.
7. PRIOR TO FINAL CITY OF AUSTIN SITE PLAN ACCEPTANCE OF CONSTRUCTION, CITY OF AUSTIN WILL OBTAIN AN APPROVED AFFIDAVIT OF EASEMENT. ABOVE AFFIDAVIT OF EASEMENT HAS BEEN APPROVED AND RECORDED IN TRAVIS COUNTY DOCUMENT NO. _____
8. PRIOR TO FINAL CITY OF AUSTIN SITE PLAN ACCEPTANCE OF CONSTRUCTION, CITY OF AUSTIN WILL PROVIDE TO THE CITY EVIDENCE OF FINAL ACCEPTANCE BY FEMA OF THE LETTER OF MAP REVISION SUBMITTAL FROM 3RD STREET PEDESTRIAN BRIDGE TO THE WEST CESAR CHAVEZ STREET BRIDGE, DATED 3/12/08.

GENERAL CONSTRUCTION NOTES

1. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS AS PRESENTED IN THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL.
2. CONTRACTOR SHALL VERIFY THE LOCATION OF UNDERGROUND UTILITIES AT LEAST 100 FEET IN ADVANCE OF ALL PROPOSED UTILITY CROSSINGS, AND ALSO LOCATIONS WHERE THE PROPOSED FACILITIES ARE DEPICTED TO RUN PARALLEL TO AND WITHIN FIVE FEET OF EXISTING FACILITIES.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS OF RELOCATION OF, OR DAMAGE TO, UTILITIES.
4. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATION NO. 509 AND THE APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
5. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE A SITE PLAN AMENDMENT AND APPROVAL FROM THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT.
6. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
7. CONTRACT SHALL CALL THE ONE CALL CENTER (472-2822) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W.
8. CONTRACTOR SHALL NOTIFY THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT - CONSTRUCTION INSPECTION AT 974-7161 AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET R.O.W. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S R.O.W. MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.
9. FOR SLOPES OR TRENCHES MORE THAN FIVE (5) FEET IN DEPTH, ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS ITEM NO. 509 AND APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIVE (OSHA). COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 E. 6TH. STREET, AUSTIN, TEXAS.
10. DEVELOPER INFORMATION:

OWNER: CITY OF AUSTIN
ADDRESS PUBLIC WORKS DEPARTMENT PHONE 512.974.7183

NAME CYNTHIA JORDAN PHONE 512.974.7183
OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS.

NAME CONTRACTOR PHONE _____
PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL MAINTENANCE

NAME CONTRACTOR PHONE _____
PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN DOES NOT REMOVE THESE RESPONSIBILITIES.

NO.	DESCRIPTION	REVISE (R) ADD (A) VOID (V) SHEET NO.s	TOTAL NO. SHEETS IN PLAN SET	NET CHANGE IMPERVIOUS COVER (SQ. FT.)	TOTAL SITE IMPERVIOUS COVER (SQ. FT.)/%	CITY OF AUSTIN APPROVAL DATE	DATE IMAGED
1C	CORRECT TREE SIZE; CORRECT SPEC REFERENCES; CHANGE NOTE WORDING	(R)5,8,20,31	90	0	-		
2C	ADDITION OF 42-INCH WATER ISOLATION	(R)16,34	92	0	-		
		(A)91,92					
3C	CHANGED TRAFFIC CONTROL FOR CHANGED ROADWAY CONFIGURATION	(R)84, 1	92	0	-		

PRIME PROJECT ENGINEER

URS CORPORATION
9400 AMBERGLEN BLVD.
AUSTIN, TEXAS 78729
PH: (512) 454-4797
FAX: (512) 454-8807
www.urscorp.com

SUBCONSULTANTS

BAER ENGINEERING AND ENVIRONMENTAL CONSULTING, INC.
7756 NORTHCROSS DRIVE, SUITE 211
AUSTIN, TX 78757
PH: (512) 453-3733
FAX: (512) 453-3316
www.baereng.com

CAS CONSULTING & SERVICES, INC.
6633 HWY 290 EAST, SUITE 104
AUSTIN, TX 78723
PH: 512-836-2388
FAX: (512)
www.casengineers.com

HVJ ASSOCIATES
4201 FREIDRICH LANE, SUITE 110
AUSTIN, TX 78744-1045
PH: 512-447-9081
FAX: (512) 453-3316
www.hvj.com

JOSE I. GUERRA, INC.
2401 SOUTH IH-35, SUITE 210
AUSTIN, TX 78741
PH: 512-445-2090
FAX: (512) 453-3316
www.guerra.com

LOCKWOOD, ANDREWS, & NEWNAM, INC.
10801 NORTH MOPAC EXPWY, BLDG 1, SUITE 120,
AUSTIN, TX 78759
PH: 512-338-4942
FAX: (512) 453-3316
www.lan-inc.com

MACIAS & ASSOCIATES, INC.
5410 SOUTH 1ST ST
AUSTIN, TX 78745
PH: 512-442-7875 FAX: (512) 453-3316
www.maciasworld.com

MWM DESIGN GROUP
CHASE PARK ONE, 7700 CHEVY CHASE DR., SUITE 100
AUSTIN, TX 78752
PH: 512-453-0767
FAX: (512) 453-3316
www.mwmdesigngroup.com

WINTEROWD ASSOCIATES, INC.
2111 DICKSON DR, SUITE 30
AUSTIN, TX 78704
PH: 512-442-0100
FAX: (512) 453-3316
www.winterowdinc@land-arch.com

SUBMITTED BY:

DARRELL L. JONES, P.E. — MAY 23, 2008 — SITE PLAN APPLICATION SUBMITTAL DATE
URS CORPORATION
9400 AMBERGLEN BLVD.
AUSTIN, TEXAS 78729

REVIEWED BY:

AUSTIN WATER UTILITY — 70/30m 8/28/2008 — DATE
WATERSHED PROTECTION DEVELOPMENT REVIEW DEPARTMENT — 9/18/08 — DATE
AUSTIN WATER UTILITY - INDUSTRIAL WASTEWATER — 8/28/08 — DATE

SP-2008-02580
SITE PLAN/DEVELOPMENT PERMIT NUMBER

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

DRAWING INDEX

2C GM 1-14-09 TRAFFIC CONTROL PLAN FOR STORM WATER & WASTEWATER ISOLATION - PHASE 2

CASE NUMBER SP-2008-0258D

NO.	DR	CK	DATE	DESCRIPTION

REVISIONS

DESIGNED BY: M. LENHERR
DRAWN BY: M. LENHERR
REVIEWED BY: T. ROHLACK
APPROVED BY: D. JONES

SUBCONSULTANT:

STATE OF TEXAS — Darrell L. Jones — 60832 — REGISTERED PROFESSIONAL ENGINEER — 07/20/08

ENGINEER:
URS
URS Corporation
9400 Amberglen Blvd • Austin, Texas 78729
Phn: (512) 454-4797 • Fax: (512) 454-8807
www.urscorp.com

PROJECT:
CITY OF AUSTIN
GREEN WATER TREATMENT PLANT
DECOMMISSIONING AND DECONSTRUCTION

Austin WATER

DRAWING TITLE:
TITLE SHEET, DRAWI
AND PROJECT L

PROJECT NO.: DATE:
DWG. CODE:

File: Q:\Green WTP\Drawings\100% Design Submittal\Plan Sheets\Green WTP-01 - Title Sheet.dwg Layout: Green 01 Plotted: 8/20/2008 1:13:52 PM

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LEGEND:

(29) BUILDING/STRUCTURE NUMBER

LIMITS OF CONSTRUCTION

GENERAL NOTES:

1. SEE SHEET 38 FOR DESCRIPTION OF MAJOR STRUCTURES AND GENERAL EXTENT OF DEMOLITION OF THE STRUCTURES AND FOR AS-BUILT DRAWING REFERENCE TABLE.
2. THE CONTRACTOR SHALL ISOLATE, OR VERIFY ISOLATION OF ALL UTILITIES PRIOR TO DEMOLITION ACTIVITIES. UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHOULD BE VERIFIED PRIOR TO WORK COMMENCING.
3. WITH THE EXCEPTION OF ITEMS SPECIFIED TO REMAIN THE PROPERTY OF THE OWNER, ALL MECHANICAL EQUIPMENT, PIPING, VALVES, ELECTRICAL MOTORS AND EQUIPMENT, CONTROL PANELS, SWITCH GEAR, CONDUIT, WIRING, STRUCTURAL STEEL, METALS, AND MISCELLANEOUS MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS.

INTAKE STRUCTURE DEMOLITION NOTES:

1. THE INTAKE STRUCTURE IS BEING DECOMMISSIONED AND THE INTAKE BUILDING WILL REMAIN INTACT. ONLY THE CONTENTS OF THE BUILDING SHALL BE REMOVED INCLUDING ALL PUMPS, MOTORS, SCREENS, PIPING, ELECTRIC CONTROLS AND ASSOCIATED WIRING AND CONDUIT, WITH THE FOLLOWING EXCEPTIONS:

   INTAKE STRUCTURE ITEMS TO REMAIN:

   - ROOF PENETRATIONS
   - ROOF DRAINS, VENTS, AND PIPING
   - ALL STAIRS, HANDRAILS AND EXTERIOR WALKWAYS
   - WASH WATER DRAIN PIPING, CLEANOUTS, AND TIE TO EXISTING SANITARY SYSTEM
   - CEILING/ROOF VENTS, FANS, AND ASSOCIATED ELECTRICAL
   - BAR SCREENS
   - ALL SLUICE GATES, AND PEDESTALS, AND PEDESTAL MOUNTED GEAR BOXES
   - LIGHTING AND ASSOCIATED ELECTRICAL
   - BASEMENT LEVEL EXHAUST FAN, DUCT WORK, AND ASSOCIATED ELECTRICAL
3. INTERIOR AND EXTERIOR LIGHTING WILL REMAIN, BUT POWER SUPPLYING THE LIGHTS WILL BE MODIFIED PER SHEET 81. REFER TO ELECTRICAL DRAWING 81 FOR ADDITIONAL INFORMATION ON DEMOLITION REQUIREMENTS FOR ELECTRICAL COMPONENTS WITHIN THE BUILDING.
4. AFTER REMOVAL OF EQUIPMENT, PIPING, ETC., THE INTAKE BUILDING WILL BE SAFETY RETROFITTED BY COVERING FLOOR OPENINGS THAT REMAIN. FLOOR OPENINGS IN THE UPPER LEVEL OF THE INTAKE STRUCTURE WILL BE COVERED WITH STEEL PLATE PER SPECIFICATION 13600. FLOOR OPENINGS IN THE LOWER LEVEL OF THE INTAKE STRUCTURE WILL BE COVERED WITH STEEL BAR GRATING PER SPECIFICATION 13600.
5. SEE SHEET 53 AND 54 FOR ADDITIONAL INFORMATION ON ITEMS TO REMAIN.

ELECTRIC CONTROL BUILDING DEMOLITION NOTES:

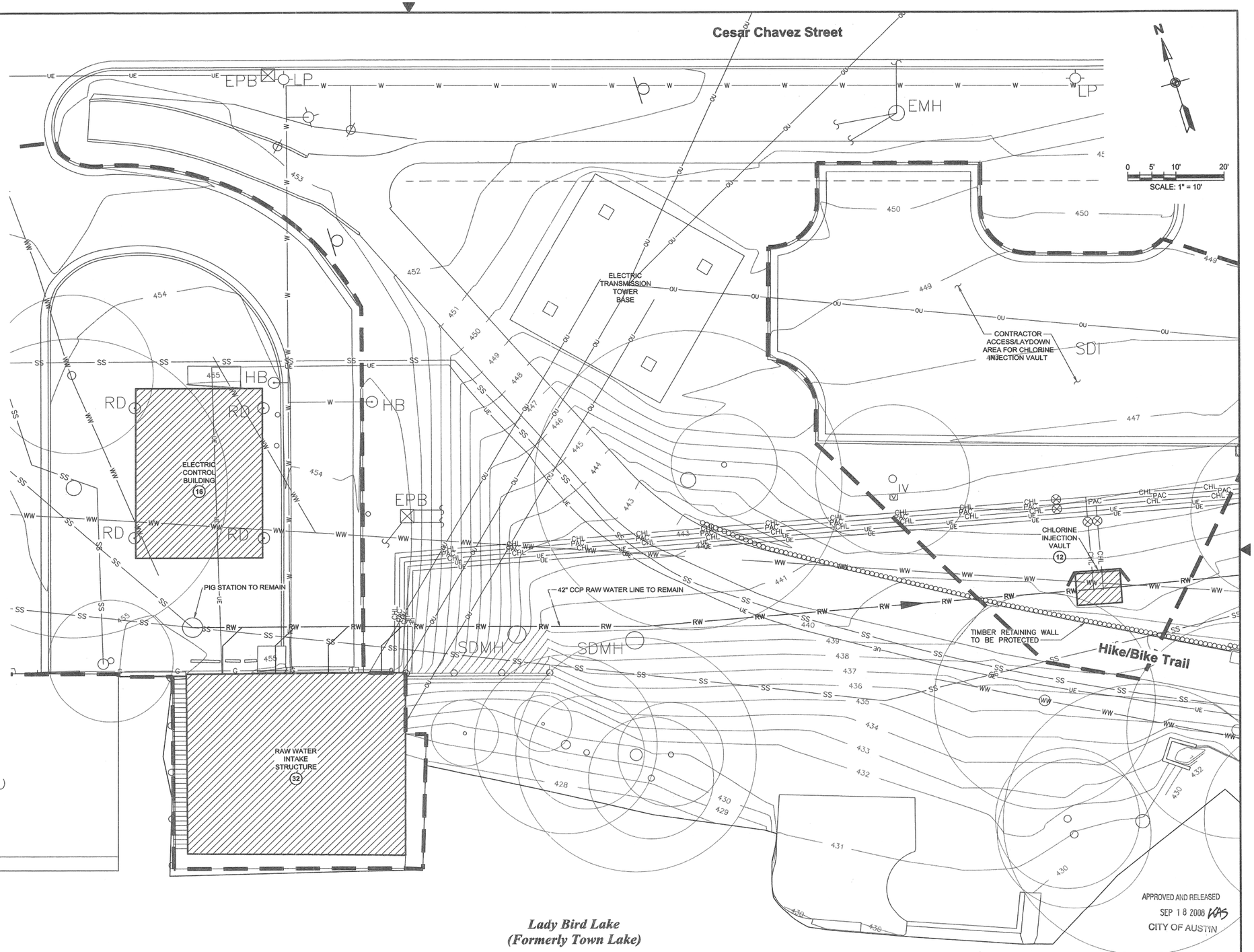
1. THE ELECTRIC CONTROL BUILDING IS BEING DECOMMISSIONED AND THE BUILDING WILL REMAIN INTACT. ONLY THE CONTENTS OF THE BUILDING SHALL BE REMOVED INCLUDING ALL ELECTRIC CONTROLS AND ASSOCIATED WIRING AND CONDUIT, WITH THE FOLLOWING EXCEPTIONS:

   ELECTRICAL CONTROL BUILDING ITEMS TO REMAIN:

   - ROOF PENETRATIONS
   - ROOFTOP HVAC SYSTEM, AND ASSOCIATED DUCTWORK, AND ELECTRICAL
   - LIGHTING AND ASSOCIATED ELECTRICAL
   - ELECTRICAL RECEPTACLES
2. REFER TO ELECTRICAL DRAWING 81 FOR ADDITIONAL INFORMATION ON DEMOLITION REQUIREMENTS FOR ELECTRICAL COMPONENTS WITHIN THE BUILDING.
5. SEE SHEET 53 AND 54 FOR ADDITIONAL INFORMATION ON ITEMS TO REMAIN.

CHLORINE INJECTION VAULT DEMOLITION NOTES:

1. DRAIN 42" CCP RAW WATER LINE PRIOR TO DEMOLITION OF CHLORINE INJECTION VAULT.
2. REMOVE ALL CHLORINE INJECTION AND METERING EQUIPMENT AND WIRING INSIDE THE CHLORINE INJECTION VAULT. CAP AND PLUG CHLORINE LINE TO REMAIN.
3. PLUG OR CAP ALL HOLES OR CONNECTIONS LEFT IN THE 42" CCP RAW WATER LINE AFTER REMOVING CHLORINE INJECTION EQUIPMENT.
4. DEMOLISH AND REMOVE THE ENTIRE CHLORINE INJECTION VAULT INCLUDING BOTTOM.
5. CONTRACTOR SHALL NOT DAMAGE 42" CCP RAW WATER LINE.
6. BACKFILL HOLE PER SPECIFICATION SECTION 401S AND RESTORE SITE PER LANDSCAPE PLANS AND SPECIFICATIONS. SEE DRAWINGS 71.
7. SEE DRAWING 82 FOR HIKE/BIKE TRAIL DETOUR TRAFFIC CONTROL PLAN.



EXISTING UTILITY LEGEND:

W	WATER	CHL	CHLORINE
WW	SANITARY SEWER	CEN	CENTRATE
SS	SANITARY SEWER (PER COA GIS)	SUP	SUPERNATANT
SD	STORM SEWER	PAC	POWDERED ACTIVATED CARBON (PAC)
E	ELECTRIC	RPS	REACTION PRODUCTS SLURRY (RPS)
G	NATURAL GAS	SLU	SLUDGE
	DRAIN LINE	OCA	OVERHEAD CABLE
RW	RAW WATER	UCA	UNDERGROUND CABLE
AIR	AIR	UGE	UNDERGROUND ELECTRIC
BW	BACKWASH	CHW	CHILLED WATER

APPROVED AND RELEASED
SEP 18 2008 KAS
CITY OF AUSTIN

CASE NUMBER SP-2008-0258D

NO.	DR	CK	DATE	DESCRIPTION
				REVISIONS

DESIGNED BY: M. LENHERR
DRAWN BY: J. WILLIG
REVIEWED BY: T. ROHLACK
APPROVED BY: D. JONES

SUBCONSULTANT:

STATE OF TEXAS — MICHAEL J. LENHERR — 100021 — LICENSED PROFESSIONAL ENGINEER — 8/26/08

ENGINEER:
URS
URS Corporation
9400 Amberglen Blvd • Austin, Texas 78729
Phn: (512) 454-4797 • Fax: (512) 454-8807
www.urscorp.com

PROJECT:
CITY OF AUSTIN
GREEN WATER TREATMENT PLANT
DECOMMISSIONING AND DECONSTRUCTION

DRAWING TITLE:
INTAKE STRUCTURE, ELECTRIC CONTROL BUILDING AND CHLORINE INJECTION VAULT DECONSTRUCTION PLAN

PROJECT NO.:	DATE:	REVISION:
	8/22/08	
DWG. CODE:	SCALE:	DWG NO.
	1" = 10'	52 OF 90

File: G:\Green WTP\Drawings\100% Design Submittal\Plan Sheets\Green WTP-52 - Deconstruction Plan Intake Structure.dwg Layout: Green_52 Plotted: 8/25/2008 3:49:06 PM

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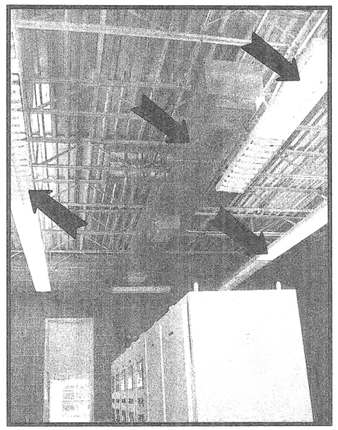
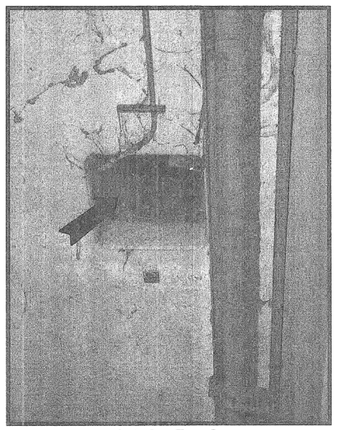
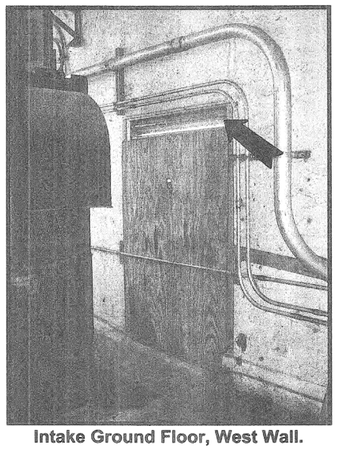


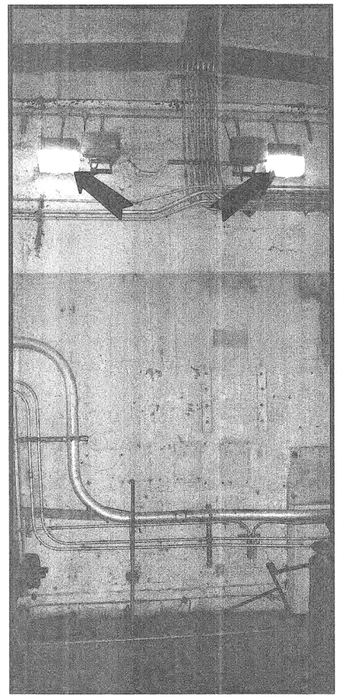
Electric Control Building.
Lighting, HVAC, Duct Work and
Associated Conduit to Remain
(Ref. Sheet 81)



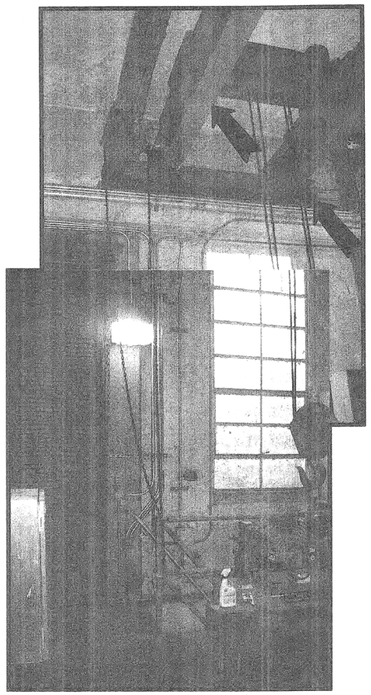
Intake Roof.
Roof Vent, Conduit to Remain



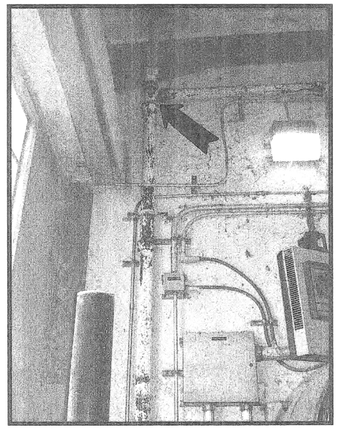
Intake Ground Floor, West Wall.
Louver to Remain, Typical of 2



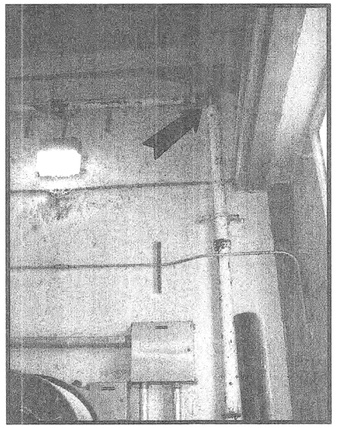
Intake Ground Floor, West Wall.
Typical Lighting and Associated
Conduit to Remain (Ref. Sheet 81)



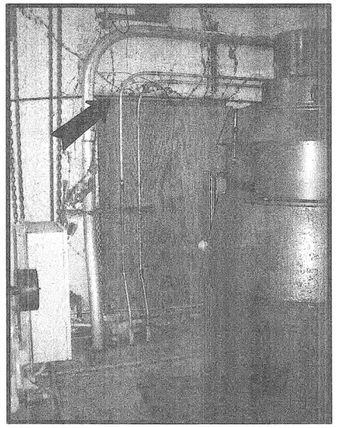
Intake Ground Floor, North Wall.
Bridge Crane to be Removed



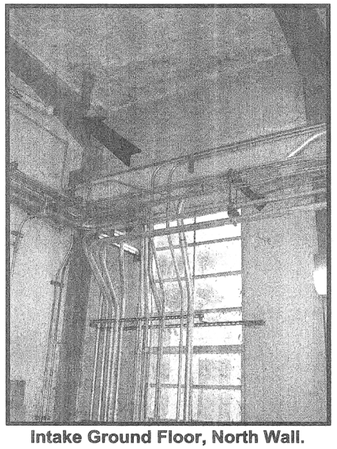
Intake Ground Floor, West Wall.
Roof Drains to Remain. Lighting to
Remain Throughout



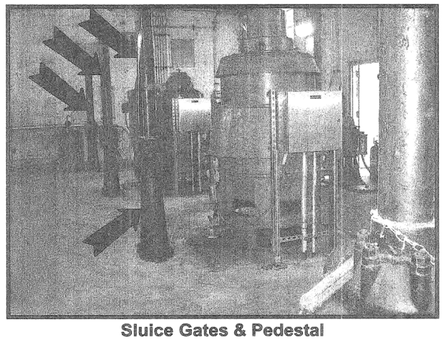
Intake Ground Floor, East Wall.
Roof Drain and Lighting to Remain



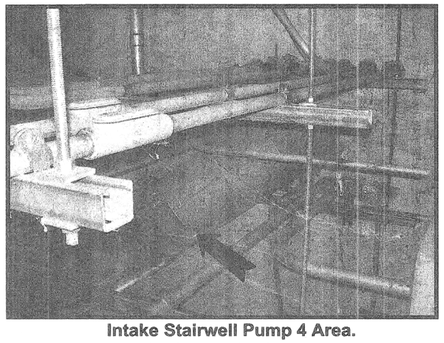
Intake Ground Floor, East Wall.
Louver to Remain



Intake Ground Floor, North Wall.
Roof Drains to Remain



Sluice Gates & Pedestal
Mounted Gear Box, Ground Level, Typical of 12
To Remain Throughout



Intake Stairwell Pump 4 Area.
Duct Work to Remain

NOTES:

1. REFER SHEET 52 FOR ADDITIONAL DETAIL.
2. PHOTOS ARE PROVIDED FOR SUPPLEMENTAL INFORMATION, AND ARE NOT INTENDED TO INDICATE THE TOTAL WORK REQUIRED.
3. SEE SPECIFICATION 02220 – DECONSTRUCTION, FOR ADDITIONAL DETAIL ON ITEMS TO REMAIN.

APPROVED AND RELEASED
SEP 18 2008 KAS
CITY OF AUSTIN

CASE NUMBER SP-2008-0258D

NO.	DR	CK	DATE	DESCRIPTION
				REVISIONS

DESIGNED BY: A. ASHBURN
DRAWN BY: J. WILLIG
REVIEWED BY: T. ROHLACK
APPROVED BY: D. JONES

SUBCONSULTANT:

STATE OF TEXAS — Darrell L. Jones — 60832 — REGISTERED PROFESSIONAL ENGINEER — 7/14/08

ENGINEER:
URS
URS Corporation
9400 Amberglen Blvd • Austin, Texas 78729
Phn: (512) 454-4797 • Fax: (512) 454-8807
www.urscorp.com

PROJECT:
CITY OF AUSTIN
GREEN WATER TREATMENT PLANT
DECOMMISSIONING AND DECONSTRUCTION

DRAWING TITLE:
INTAKE STRUCTURE AND
ELECTRIC CONTROL BUILDING
ITEMS TO REMAIN - SHEET 1 OF 2

PROJECT NO.:	DATE: 7/14/08	REVISION:
DWG. CODE:	SCALE: 1" = 10'	DWG NO. 53 OF 90

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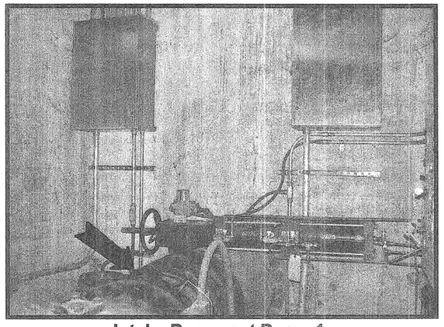
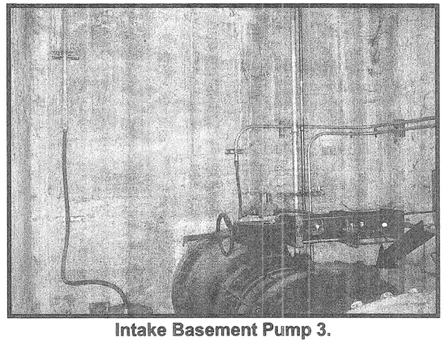
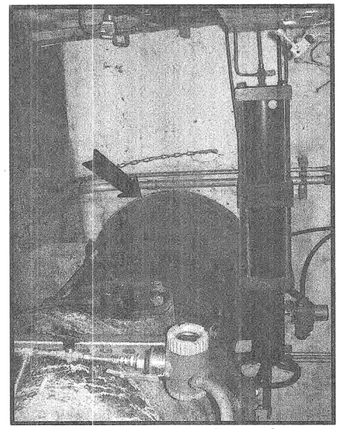


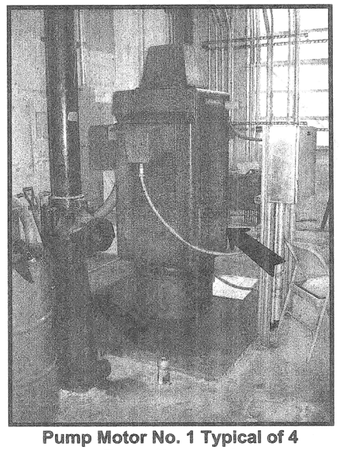
Intake Basement Pump 1.
Remove Pump and Reducer
Install Blind Flange



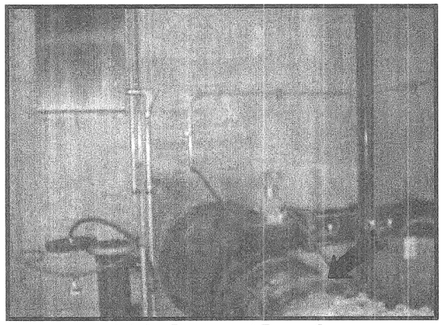
Intake Basement Pump 3.
Remove Pump and Reducer
Install Blind Flange



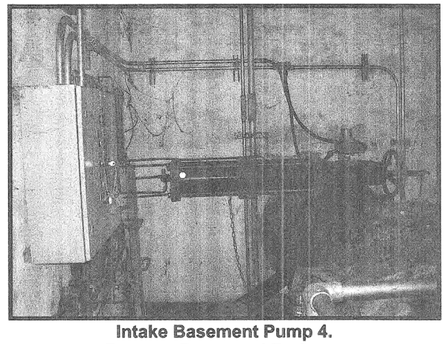
Intake Basement Pump 4.
Discharge Blind Flange at Wall,
Typical of 4



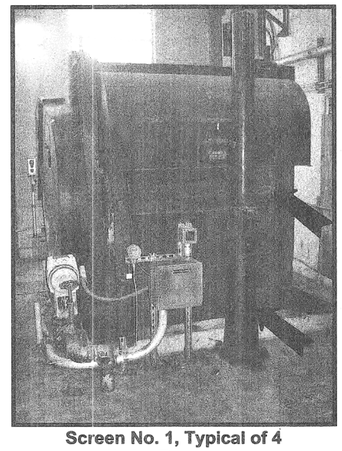
Pump Motor No. 1 Typical of 4
To be Removed.
Sluice Gate Pedestal
Typical to Remain



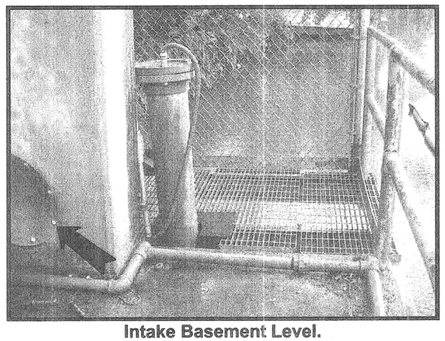
Intake Basement Pump 2.
Remove Pump and Reducer
Install Blind Flange



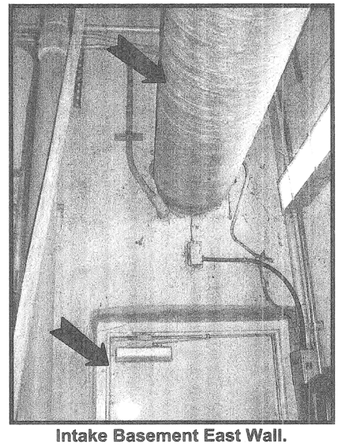
Intake Basement Pump 4.
Remove Pump and Reducer
Install Blind Flange



Screen No. 1, Typical of 4
To be Removed.
Sluice Gate Pedestal
Typical to Remain



Intake Basement Level.
Wash Water Cleanout Shown
Wash Water Drain System to Remain Throughout



Intake Basement East Wall.
Door and Exhaust Fan and Duct Work
to Remain

NOTES:

1. REFER SHEET 52 FOR ADDITIONAL DETAIL.
2. PHOTOS ARE PROVIDED FOR SUPPLEMENTAL INFORMATION, AND ARE NOT INTENDED TO INDICATE THE TOTAL WORK REQUIRED.
3. SEE SPECIFICATION 02220 – DECONSTRUCTION, FOR ADDITIONAL DETAIL ON ITEMS TO REMAIN.

APPROVED AND RELEASED
SEP 18 2008
CITY OF AUSTIN
CASE NUMBER SP-2008-0258D

NO.	DR	CK	DATE	DESCRIPTION
				REVISIONS

DESIGNED BY: A. ASHBURN
DRAWN BY: J. WILLIG
REVIEWED BY: T. ROHLACK
APPROVED BY: D. JONES

SUBCONSULTANT:

STATE OF TEXAS
Darrell L. Jones
60832
REGISTERED
PROFESSIONAL ENGINEER
7/14/08

ENGINEER:
URS
URS Corporation
9400 Amberglen Blvd • Austin, Texas 78729
Phn: (512) 454-4797 • Fax: (512) 454-8807
www.urscorp.com

PROJECT:
CITY OF AUSTIN
GREEN WATER TREATMENT PLANT
DECOMMISSIONING AND DECONSTRUCTION

DRAWING TITLE:
INTAKE STRUCTURE AND
ELECTRIC CONTROL BUILDING
ITEMS TO REMAIN - SHEET 2 OF 2

PROJECT NO.:	DATE: 7/14/08	REVISION:
DWG. CODE:	SCALE: NOT TO SCALE	DWG NO. 54 OF 90

File: Q:\Green WTP\Drawings\100% Design Submittal\Plan Sheets\Green WTP-54 – Intake Structure & Elect Control Bldg Items Remain.dwg Layout: Green_54 Plotted: 7/14/08 8:46:30 AM

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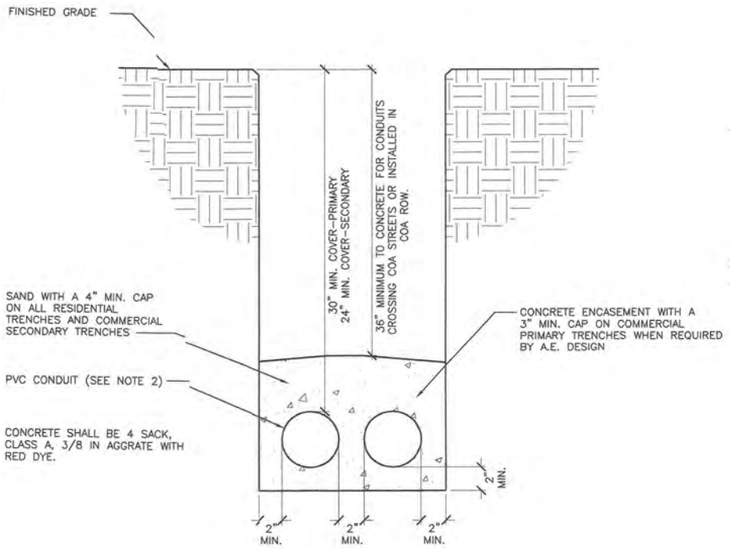
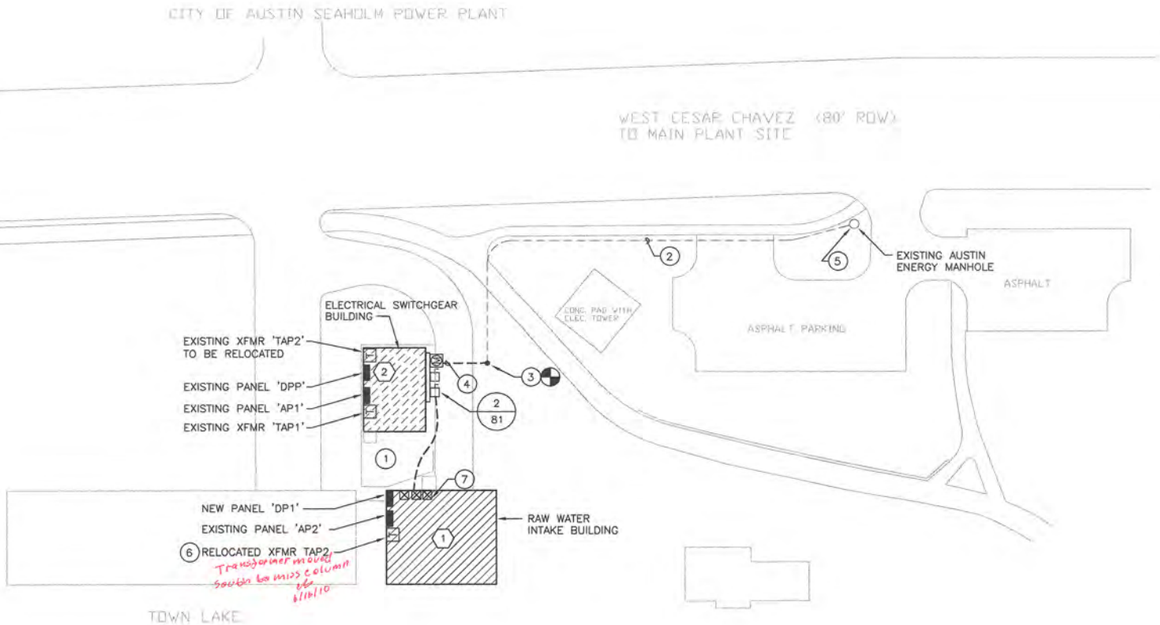


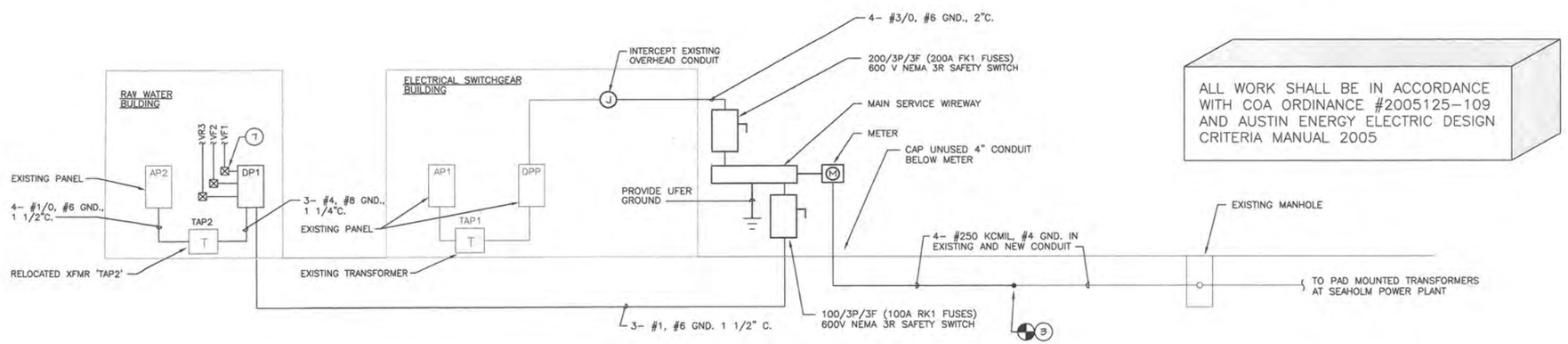
NOTES:

1. CHEDULE 40 PVC CONDUIT ON STREET CROSSINGS.
2. YPE, SIZE AND NUMBER OF CONDUITS, AND INSTALLATION SPECIFICATIONS SHALL BE DETERMINED BY AUSTIN ENERGY DESIGN.
3. CONDUIT IN WHICH AUSTIN ENERGY INSTALLS THE WIRE SHALL BE INSPECTED B' AUSTIN ENERGY, CIVIL INSPECTION SECTION, OR AUSTIN ENERGY WORK MANAGEMENT.
4. CONDUIT IN WHICH THE CUSTOMER/ELECTRICIAN INSTALLS THE WIRE SHALL BE INSPECTED BY THE DEVELOPMENT REVIEW AND INSPECTION DEPARTMENT, ELECTRIC INSPECTION SECTION. (PVC CONDUIT SHALL BE SCHEDULE 40.)

3/81 GENERAL TRENCH DETAIL
SCALE: NONE



1/81 ELECTRICAL SITE PLAN AT INTAKE STRUCTURE
SCALE: 1" = 30'-0"



2/81 ELECTRICAL SERVICE RACK/ RISER DIAGRAM
SCALE: NONE

ALL WORK SHALL BE IN ACCORDANCE WITH COA ORDINANCE #2005125-109 AND AUSTIN ENERGY ELECTRIC DESIGN CRITERIA MANUAL 2005

DEMOLITION NOTES:

(1) INTAKE STRUCTURE

* WITH EXCEPTION OF EXHAUST FANS, VF1, VF2 AND VF3, REMOVE ALL ELECTRICAL CONNECTION TO MOTORS AND PUMPS WITHIN INTAKE STRUCTURE. CONDUIT AND CONDUCTORS SHALL BE REMOVED BACK TO SOURCE PANEL.
* REMOVE ALL ELECTRICAL CONNECTION TO MISC. EQUIPMENT RELATED TO WATER INTAKE PROCESS. CONDUIT AND CONDUCTORS SHALL BE REMOVED COMPLETELY.
* REMOVE ALL PANELS AND TRANSFORMERS EXCEPT PANEL 'AP2'.
* EXISTING GENERAL LIGHTING AND POWER SHALL REMAIN.

(2) ELECTRICAL BUILDING

* REMOVE ALL ELECTRICAL SWITCHGEAR AND SUBSTATION EQUIPMENT.
* REMOVE ALL ELECTRICAL CONNECTIONS TO MISC. EQUIPMENT WITHIN THE BUILDING. CONNECTION TO HVAC UNITS ON ROOF TO REMAIN.
* REMOVE ALL PANELS AND TRANSFORMERS EXCEPT PANEL 'DPP', 'AP1' AND TRANSFORMER 'TAP1' FEEDING API.
* EXISTING GENERAL LIGHTING AND POWER SHALL REMAIN.
* EXISTING TRANSFORMER TAP2 SHALL BE REMOVED FOR RELOCATION TO INTAKE BUILDING.

GENERAL NOTES

1. REFER TO CIVIL DRAWING 52 OF 90 TO COORDINATE UNDERGROUND ELECTRICAL CONDUIT INSTALLATION WITH EXISTING AND NEW SITE SERVICES.
2. ALL ELECTRICAL SERVICE WORK SHALL BE COORDINATED WITH AUSTIN ENERGY (CONTACT- TOMME FRAZIER).
3. EXACT ROUTING OF NEW UNDERGROUND SECONDARY CONDUIT WILL BE DETERMINED BY AUSTIN ENERGY.
4. COORDINATE CUTTING OF EXISTING DRIVE TO INSTALL FEEDER TO ELECTRICAL BUILDING WITH GENERAL CONTRACTOR.

KEYED NOTES:

(1) REUSE EXISTING CONDUIT PENETRATION AT INTAKE BUILDING TO PANEL 'DP1'.
(2) EXISTING UNDERGROUND CONDUIT. FIELD VERIFY EXACT LOCATION.
(3) INTERCEPT EXISTING UNDERGROUND CONDUIT AND EXTEND 2- 4" TO NEW SERVICE EQUIPMENT RACK.
(4) NEW CONDUIT TO SERVICE EQUIPMENT RACK. REFER TO 3/81.
(5) SECONDARY SERVICE CONDUCTOR TERMINATION POINT.
(6) PROVIDE 3" HOUSEKEEPING PAD FOR RELOCATED TRANSFORMER 'TAP2'.
(7) PROVIDE SIZE 0 STARTER FOR EXISTING EXHAUST FANS, ROUTE FEEDER TO INTERCEPT EXISTING FEEDERS TO EXHAUST FAN. FEEDER SIZES SHALL MATCH EXISTING FEEDER SIZES.

Green WTP Load Summary

Intake Structure	**3600 sf**	
Lighting	7.2 kVA	
General Power	3.6 kVA	
Exhaust Fans	17 kVA	
Misc.	1.8 kVA	
25% of lgst mtr load	3 kVA	
Sub Total	**30.1 kVA**	**36 Amps**
Service Size	**100 Amps**	
480/277V 3 phase, 4wire		
Electrical Building	**1750 sf**	
Lighting	3.5 kVA	
General Power	1.75 kVA	
Rooftop HVAC Units	66 kVA	
Misc.	1 kVA	
25% of lgst mtr load	8 kVA	
Sub Total	**80.9 kVA**	**97 Amps**
Service Size	**125 Amps**	
480/277V 3 phase, 4wire		
Total Service Load	**111.0 kVA**	
480/277V 3 phase, 4wire	133 Amps	
Service Size	**200 Amps**	
480/277V 3 phase, 4wire		

APPROVED AND RELEASED
SEP 18 2008
CITY OF AUSTIN

CASE NUMBER SP-2008-0258D

NO.	DR	CK	DATE	DESCRIPTION
REVISIONS				

DESIGNED BY: M. VAUGHAN
DRAWN BY: K. SHIRAZI
REVIEWED BY: J. McFATTER
APPROVED BY: J. McFATTER

SUBCONSULTANT:
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Consulting Engineers
Structural • Civil • Mechanical • Electrical

J. McFATTER 40957 REGISTERED PROFESSIONAL ENGINEER
7/10/08

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PROJECT:
CITY OF AUSTIN
GREEN WATER TREATMENT PLANT
DECOMMISSIONING AND DECONSTRUCTION

DRAWING TITLE:
ELECTRICAL SITE PLAN AT GREEN WTP INTAKE STRUCTURE AND ELECTRICAL DETAILS

PROJECT NO.:	DATE:	REVISION:
	7/10/08	
DWG. CODE:	SCALE: AS NOTED	DWG NO. 81 of 90

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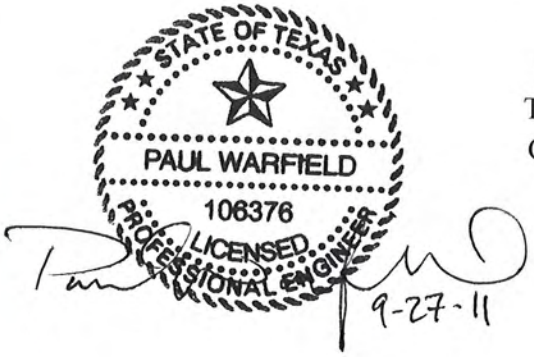
DATUM GOJER ENGINEERS, L.L.C.

Seaholm/Greenwater Intake Facilities

West Cesar Chavez
Austin, Texas 78701

Structural Survey Report

Prepared By:



Datum Gojer Engineers, L.L.C.
Texas Board of Professional Engineers
Certificate of Registration No. F-3195
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Austin, Texas 78731
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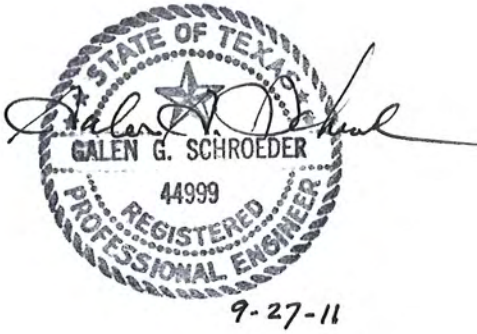

September 27, 2011

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Table of Contents

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Executive Summary

Datum Gojer Engineers performed a "walk-through" visual survey of the three facilities at this site on June 24, July 28 and August 19, 2011. During these visits the existing conditions of the buildings were observed for structural deficiencies without removing any architectural finishes, performing in-situ testing or taking spatial survey measurements. Additionally, the as-built structural drawings were reviewed for evaluation of the as-built structural capacity. This report details the findings of the site visits and document review.

The Seaholm Intake Facility, Buildings A.1 and A.2, were built between 1950 and 1955. While in commission, the buildings housed pumps and screens to provide cooling water to the Seaholm Power Plant. The buildings are adjoining cast-in-place concrete structures approximately 61' in height from the foundation slab to the roof parapet. The buildings each have 3 floors; a sub-basement level at the foundation slab where the water flows in from the lake, a basement level where the pumps were located, and the ground level where the operating equipment was housed. A "walk-through" structural observation did not reveal any signs of major distress. However, some minor maintenance issues, such as concrete spalling, basement wall leaks, and corrosion of miscellaneous steel were noted.

The Greenwater Water Treatment Intake Facility, Building B, was built sometime between 1959 and 1970 of similar construction to the Seaholm Intake Facility. Building B also housed pumps and screens, in a similar building configuration to Buildings A.1 and A.2, to draw drinking water for the City of Austin. A "walk-through" structural observation did not reveal any signs of major distress. However, some minor maintenance issues, such as concrete spalling, and corrosion of miscellaneous steel were noted.

Building C was built in the 1990s and housed electrical equipment for the Greenwater Intake Facility. The building construction is load-bearing 8" CMU supporting a roof framed with steel open-web bar joists and steel deck. A "walk-through" structural observation did not reveal any signs of major distress. However, some minor, non-structural maintenance issues, such as water staining from an apparent roof leak and EIFS deterioration, were noted. No structural drawings have been located for Building C at the time of this writing.

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Site Observations

The following discussion lists observations noted during our site visits. The Figures referenced here are in the Appendix and are keyed to plans at the front of the Appendix. General lakeside photographs are in Figures 23 through 26.

Building A.1 and A.2

Building A.1 and A.2 were observed on June 24, July 28 and August 19, 2011.

Sub-basement Level

The lowest level, sub-basement, of Buildings A.1 and A.2 was not observed because there is no access to it and it is underwater. Cavities exist between the pump vault, at the basement level, and the southern wall which could not be observed due to lack of access. See Figure 22.

Basement Level

Item #	Description	Figures
1.	Grating and embedded edge angles where the pumps used to operate are severely corroded.	
2.	Water seepage through the north basement wall was noted approximately 3" off the floor.	1
3.	Some form ties, anchor bolts and embedded conduits are corroded.	2

Ground Level

Item #	Description	Photos
4.	The expansion joint in the north wall doesn't match that in the floor. Some spalling observed.	3
5.	Metal covers over slab openings noted as 200 pounds maximum weight and they have visibly sagged. Some repair work was done in the past at the cover support edge angles. The edge angles are protruding above the floor.	4
6.	Interior equipment support columns along southern slab openings have been removed. Their connections to the floor slab have also been removed to varying degrees. Some anchor bolts protrude through the floor and in some places a baseplate still exists. Corrosion was noted at some of these embeds.	5
7.	Vertical and diagonal cracks were noted at the windows, mostly at the corners	6, 7
8.	Horizontal construction joint noted around the building perimeter. No visible signs of distress.	8

9.	Spall and exposed reinforcement in the north wall at a window.	9
10.	Horizontal pipe railing damaged in some locations.	10

Roof Level

Item #	Description	Photos
11.	Roof access ladder is wobbly and poorly connected.	11
12.	2 roof drains on the south wall are clogged and not draining at all.	12

Exterior and Catwalk Level

Item #	Description	Photos
13.	Sidewalk at main entrance has settled under the entry wall 1" to 1 ¼".	13
14.	Small cracks in catwalk slab at the openings and columns. It is possible these are shrinkage cracks.	
15.	Two of the handrail posts at the catwalk were severely corroded. Condition of the other posts is unknown.	
16.	The bottom and mid-height anchorages for the exterior steel stair down to the catwalk are showing signs of distress.	
17.	A diagonal crack was noted in the west retaining wall.	14
18.	Exposed reinforcement was noted in the east wall between Buildings A.1 and B and in the south wall of Building A	15
19.	Corrosion was noted at the water intake gates and embeds at the water level.	16,17
20.	Spalling and exposed reinforcement in window sill.	18

Building B

Building B was observed on July 28, 2011 and August 19, 2011.

Sub-basement Level

The lowest level, sub-basement of Buildings A.1 and A.2 was not observed because there is no access to it and it is underwater. Cavities exist between the pump vault, at the basement level, and the southern wall which could not be observed due to lack of access.

Basement Level

Item #	Description	Photos
21.	Grates and embeds showing some corrosion.	
22.	Condition of the slabs and walls looks good.	
23.	Some spalling noted in the housekeeping pads on which the pumps used to sit. No exposed reinforcement was noted.	

Ground Level

Item #	Description	Photos
24.	Equipment posts for screens and rigging still in place.	
25.	Isolated slab openings down to lower levels.	

Roof Level

The roof level of Building B was not observed due to lack of access. Small mechanical openings, approximately 2 feet square, were noted from the ground floor.

Exterior and Catwalk Level

Item #	Description	Photos
26.	Exterior concrete stairs appear in good condition.	19
27.	One catwalk handrail post has corroded severely and spalled the surrounding concrete.	20
28.	East wall catwalk access appears to be newer construction. Appears to be in good condition.	21

Building C

Building C was observed on July 28, 2011.

Ground Level

Item #	Description	Photos
29.	Possible roof leak at northwest corner near downspout.	
30.	All equipment has been removed, but some embedded conduit still protrudes the slab.	
31.	Some exterior finish deterioration was noted.	

Roof Level

The roof level of Building C was not observed due to lack of access.

Interpretation of Building Drawings

Buildings A.1, A.2 and B are similar in construction. They are both cast-in-place concrete structures, with similar floor layouts, level elevations and member sizes. Building C is a load-bearing CMU building with a steel framed roof. A more detailed review of the existing building drawings follows.

Buildings A.1, A.2 and B

Below the Ground Floor

The buildings are supported by steel pile foundations, driven to refusal and spaced approximately 5'-0" on center, each way below the entire building footprint. The bottom level of the buildings is a 2'-9" thick transfer slab under the intake wells. The basement level is a 3'-0" thick transfer slab where the pumps were previously housed. Steel grates and housekeeping pads remain from pump operations. The drawings indicate the Building A.1 and A.2 wells are 12'-4"x9'-6" and extend full height from the foundation to the operating floor, along the southern exterior wall. The Building B intake wells are 9'-8"x9'11" and there is another well between these intake wells and the pump vault that runs the full length of the building. The wells are separated from each other and the pump vault by 1'-4" to 1'-6" thick concrete walls. The below-grade, basement walls on the buildings' north sides are 2'-0" to 2'-6" thick.

Buildings A and B have walkways cantilevering over the lake on the south walls. These walkways are 12" thick cast-in-place concrete with steel handrails. At Building A, there is an exterior steel stair to access the walkway. The walkway at Building B is accessed from the interior on the east end, via an external steel catwalk that is newer construction, and on the west end via an exterior concrete stair supported by the building wall.

Ground Floor

The ground floor or "operating floor" is a 12" thick two-way slab, typically, with large openings down into the lower levels. Buildings A.1 and A.2 have a cantilevered concrete slab at the ground floor on the north side of the openings to the lower levels.

Above the Ground Floor

The roof is a 4" to 5" thick 1-way concrete slab roof spanning between concrete moment frame beams and columns, spaced at approximately 14' on center. The roof structure is approximately 20' above the ground floor. Above grade are 6" to 10" thick concrete walls, spanning between the moment frames and extending up past the roof to create a parapet. Crane rail beams run continuously along the length of the buildings on the north and south walls.

Building C

Building C drawings have not been provided at the time of this writing. Our walk-through observation leads us to believe the roof is 1 ½" deep, Type B metal roof deck over 12" deep

open-web steel bar joists spaced approximately 4'-0" on center. The joists bear directly on 8" CMU blocks. The grouting of the blocks could not be verified, but holes drilled in the block face during equipment installation indicated the vertical cells are not solidly grouted. The building's foundation could not be determined in our observation.

Site

On the east and west ends of the buildings are cast-in-place concrete cantilevered retaining walls, founded on driven steel piles, similar to the buildings' foundations. The walls vary in thickness from 1'-0" to 2'-0".

Remediation

We recommend the following remediation regime for the deficiencies noted above. Design for future use of the building may require revisions to this remediation plan.

	Deficiency	Remediation
1.	Concrete spalls with exposed reinforcement	Clean reinforcement to bare steel. Prime and patch the concrete spalls with epoxy mortar.
2.	Steel embeds and miscellaneous steel corroded.	Remove the steel gates at water intake and the steel grating. Replace as required by architectural design. Clean corroded steel embeds and coat with zinc galvanizing compound.
3.	Misc. form ties, anchor bolts and embedded conduits corroded.	Chip into concrete and remove surficial portion of the embed. Patch the chipped pocket with non-shrink grout.
4.	Misc. embeds protruding from the concrete surface.	Cut or chip down the protrusion and patch the surface as noted above in 1.
5.	Equipment for pumps still in-place at Building B.	Remove equipment per architectural design. See item 1 above for concrete surface repairs.
6.	Water seepage through basement wall in Building A.2.	Fill holes with epoxy injection.
7.	Handrail post corrosion at catwalk.	Evaluate all handrail posts for corrosion. Remove and replace the posts as required.
8.	Handrail horizontal damaged in Building A.2	Remove and replace handrail as required.
9.	Steel exterior stair anchorages are weakening at Building A.2.	Reinforce stair with small angle frame and expansion bolts at mid-height.
10.	Metal covers over slab openings in Building A are sagging.	Replace the covers or fill the openings in with concrete per architectural design.
11.	Roof access ladder for Building A is wobbly and poorly anchored.	Reattach the access ladder with expansion bolts. Reinforcement of the ladder may be required.
12.	Roof drains are clogged and sediment and debris have collected on the roof.	Clear the debris from the roof surface and clear the roof drains for proper functionality. This is not a structural item, but it is necessary to prevent design overload.

13.	Sidewalk at the main entrance to Building A has settled under the entry wall 1" to 1 ¼".	Remove the sidewalk. Compact subgrade and add fill as required to bring the flatwork up to original grade. Drill and grout dowels to entry wall and pour new flatwork per architectural design.
14.	Misc. concrete cracks	Fill cracks less than 1/32" with epoxy injection. Larger cracks shall be further evaluated.
15.	Possible roof leak at Building C.	Evaluate roofing and drainage. Repair as required per architectural design.
16.	Exterior building finish deterioration at Building C.	Repair finishes as required by architectural design.

Limitations and Further Investigation

This report is a summary of results from three "walk-through" visual surveys and review of the as-built construction drawings for the purpose of identifying structural deficiencies and understanding the structural design, respectively. Review of the drawings for code compliance check, removal of architectural finishes, material testing and roofing examination are outside the scope of this document. This report is not a construction document. Further analysis and design are required for recommended repairs noted herein and for structural modifications as necessitated by design for the buildings' future use.

Further investigation may be required to adequately design these buildings for future use. We recommend a survey be performed to verify the building's present condition with respect to foundation settlement and movement.

Additionally, the drawings we have give no indication of design strength for the concrete or the reinforcement. In order to determine load capacity for the intended use by the owner, it may be necessary to have the testing laboratory obtain concrete cores and reinforcement coupons for load testing, as well as spot check the existing reinforcement layout for compliance with the as-built drawings.

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APPENDIX

Figure 1. Leak in Basement Wall

Figure 2. Embedded conduits in Basement wall

Figure 3. Building A.1/A.2 expansion joint

Figure 4. Metal cover over slab opening in Building A

Figure 5. Remnants of equipment support at Building A

Figure 7. Diagonal crack at window in Building A

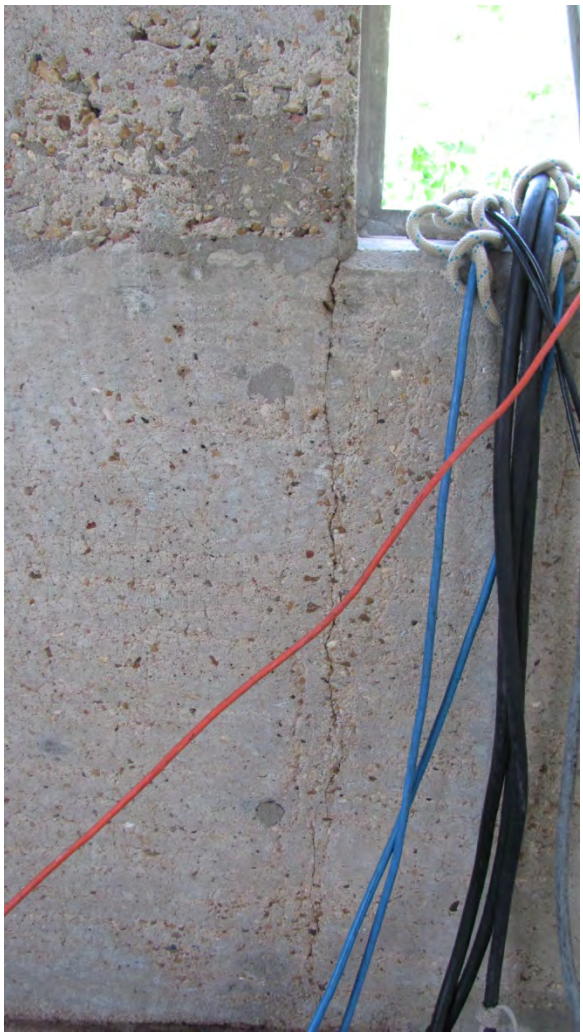


Figure 6. Vertical crack at window in Building A

Figure 8. Horizontal construction joint at Building A

Figure 9. Spall with exposed reinforcement at Building A

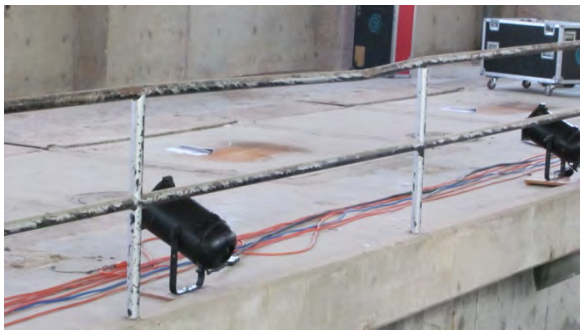


Figure 10. Damage to handrail at Building A

Figure 11. Roof access ladder at Building A

Figure 12. Clogged roof drain at Building A

Figure 13. Sidewalk settling at the entrance to Building A

Figure 14. Diagonal crack in the retaining wall west of Building A

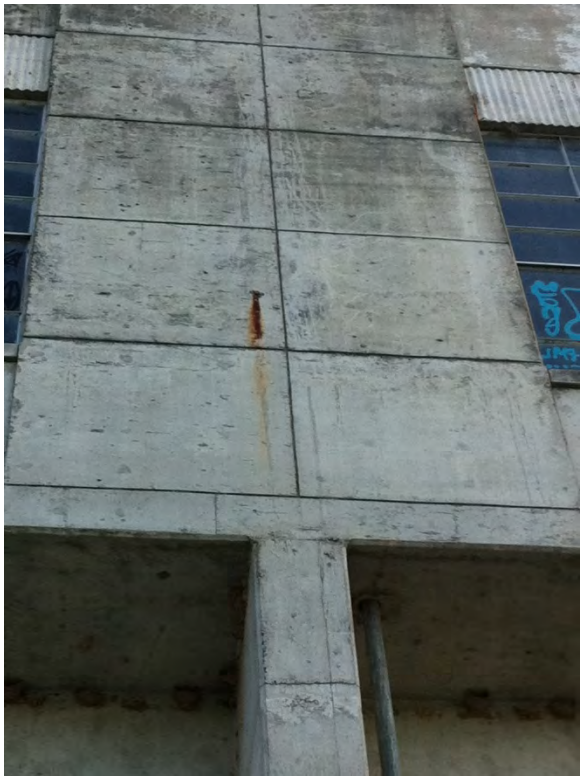


Figure 15. Exposed reinforcement in South wall of Building A

Figure 16. Corrosion of steel inlet gates at Building A

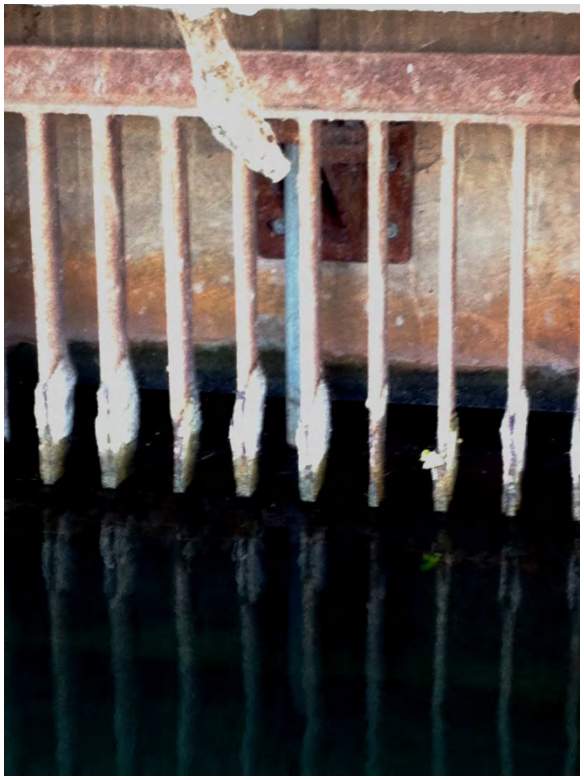


Figure 17. Corrsion of steel inlet gates at Building B

Figure 18. Spall at window sill at Building A

Figure 19. Exterior stair at Building B

Figure 20. Catwalk handrail corrosion and concrete spall at Building B

Figure 21. East wall and catwalk of Building B

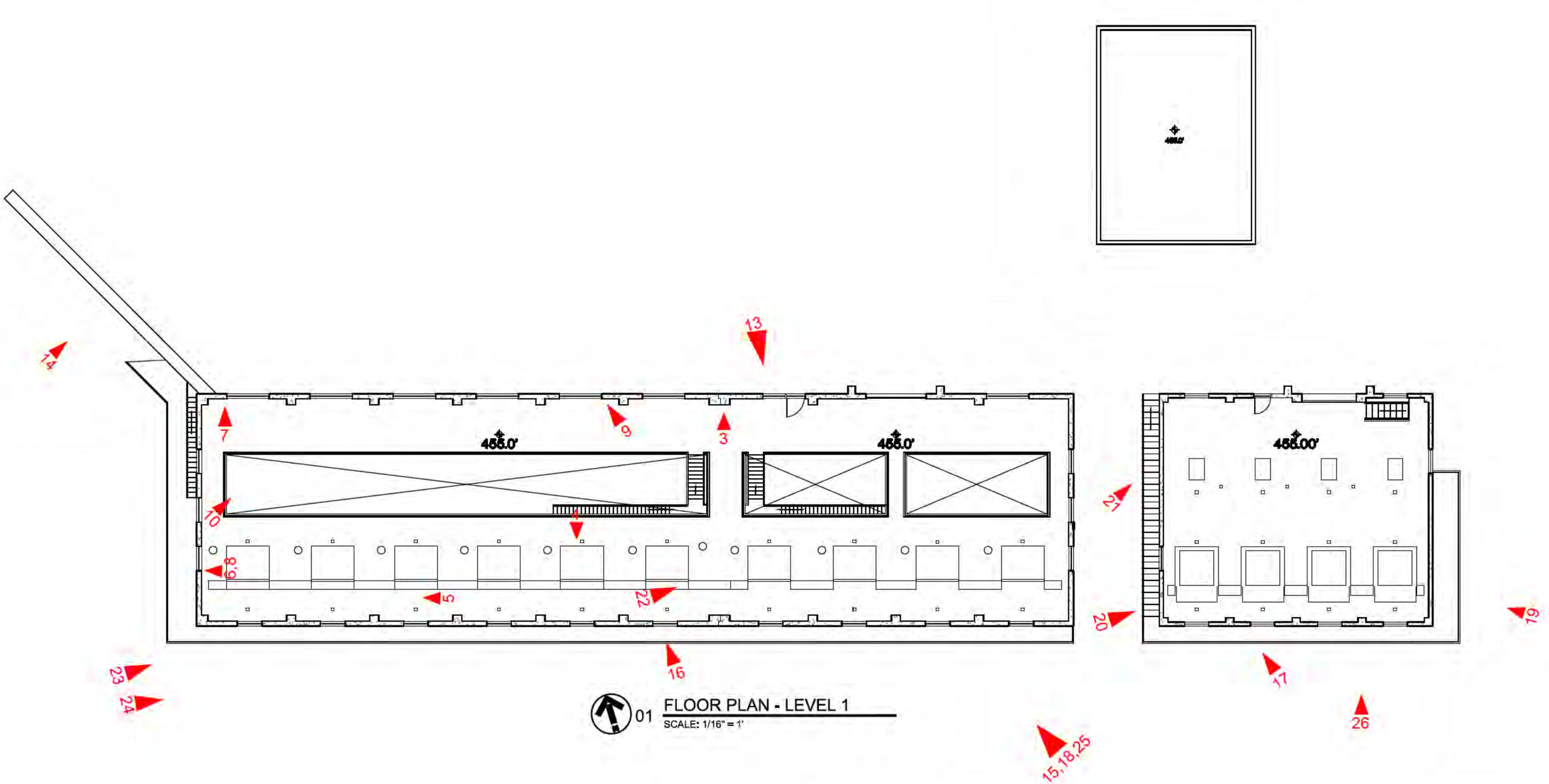
Figure 22. Intake well cavity at Building A

Figure 23. Southwest corner of Building A

Figure 24. South walls of Buildings A and B

Figure 25. South wall of Building A

Figure 26. South wall of Building B



01 FLOOR PLAN - LEVEL 1

SCALE: 1/16" = 1'

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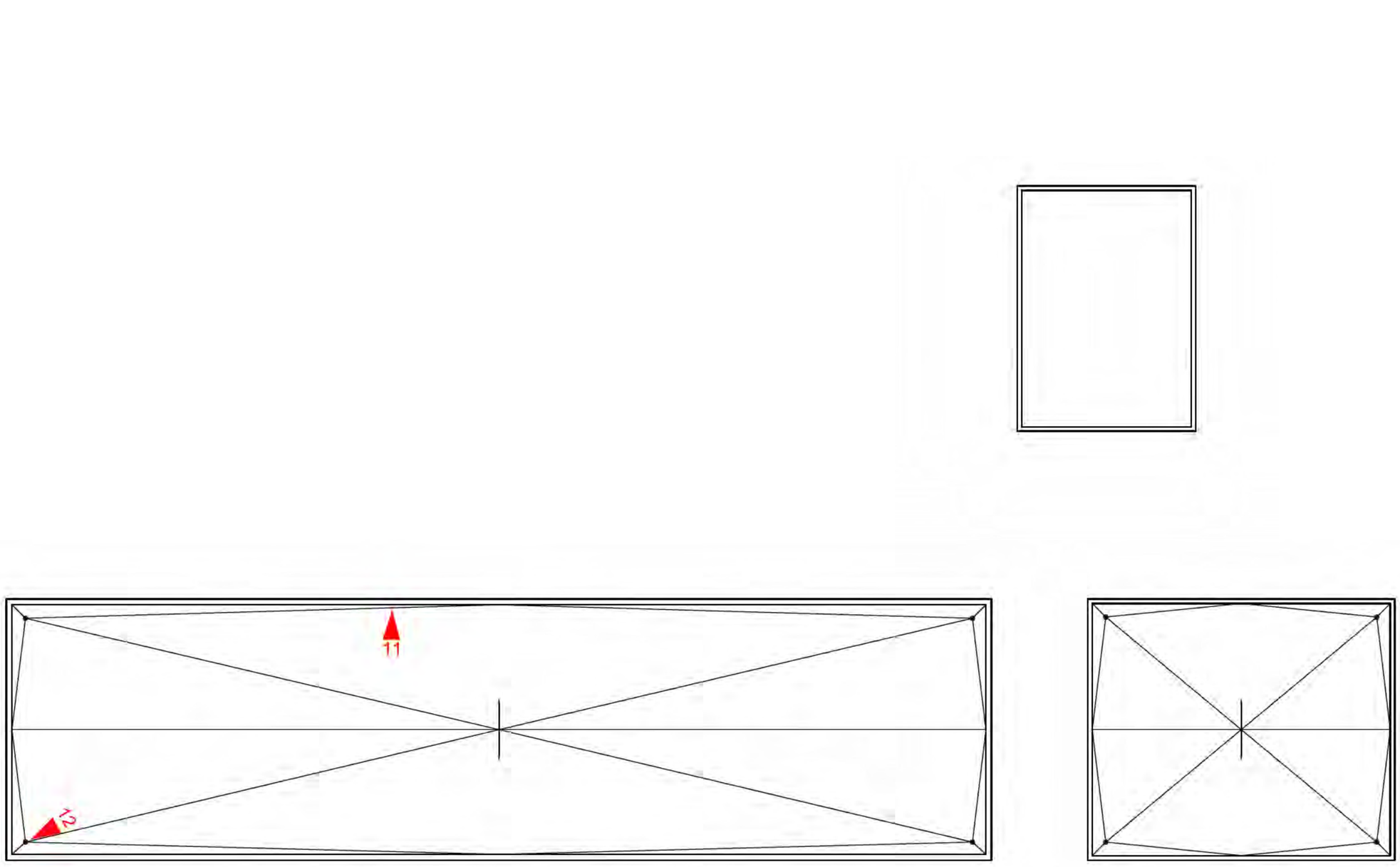

01 FLOOR PLAN - ROOF

SCALE: 1/16" = 1'

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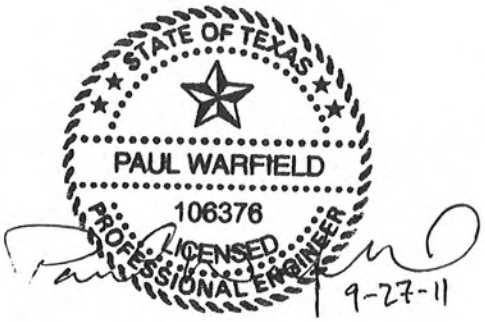
Seaholm/Greenwater Intake Facilities

West Cesar Chavez
Austin, Texas 78701

Structural Feasibility Study

Prepared By:



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September 27, 2011

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Table of Contents

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Executive Summary

Datum Gojer Engineers performed a "walk-through" visual survey of the three facilities at this site on June 24, July 28 and August 19, 2011. During these visits the existing conditions of the buildings were observed for structural deficiencies without removing any architectural finishes, performing in-situ testing or taking spatial survey measurements. Additionally, the as-built structural drawings were reviewed for evaluation of the as-built structural capacity. Refer to the "Structural Survey Report," dated 8/30/11 for discussion of the findings of the visual survey and document review. The following report discusses the feasibility of structural modifications to these existing structures.

The architect provided schematic plans and sections for Buildings A and B, showing the desired structural modifications to these buildings. The modifications include cutting holes in and removal of various walls, adding interior floor space and making the roof a "green roof." We understand the architect intends to recommend demolition of Building C.

The discussion and figures below illustrate the feasibility of Buildings A and B to accommodate the desired structural modifications. The remediation regime outlined in the "Structural Survey Report" should be followed in tandem with the recommendations herein.

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Limitations and Assumptions

This feasibility study is based on meeting the structural requirements of IBC 2009. The recommendations found in this report should be performed in parallel with the remediation regime discussed in the "Structural Survey Report," dated 8/30/11. This report is not a construction document. Further design and detailing are required for recommended modifications noted herein.

Further investigation may be required to adequately design these buildings for future use. We recommend a survey be performed to verify the building's present condition with respect to foundation settlement and movement. In order to determine capacity for loading or modifications for the intended use by the owner, it may be necessary to have the testing laboratory obtain concrete cores and reinforcement coupons for load testing, as well as spot check the existing reinforcement layout for compliance with the as-built drawings. Additionally, we recommend these modifications be reviewed by a geotechnical engineer to address rebound and settlement concerns of the deep foundations due to reduced, increased, or unbalanced loading.

The modifications recommended herein are based on the following assumptions.

1. Design strength of the concrete and the reinforcing steel are 3000 pounds per square inch (psi) and 40000 psi, respectively. The material design strengths are not shown in the as-built structural drawings we reviewed.
2. Design live load for future use at Level 1 and Basement are 100 pounds per square foot (psf).
3. Design Flood Elevation (DFE) = 441.52'
4. Maximum water flow rate during a flood event = 10 feet/second. This assumption needs to be verified prior to design.

The structural feasibility of openings below the DFE is based on hydrostatic and hydrodynamic loading subject to the assumptions above. The closures of these openings are subject to the same pressures and should be chosen accordingly. The design pressures parallel and perpendicular to the current below the DFE are tabulated below.

Table 1. Design Water Pressures by Depth

Depth	Water Pressures [psf]	
[ft]	Parallel	Perpendicular
1.0	62.4	187.2
2.0	124.8	249.6
3.0	187.2	312
4.0	249.6	374.4
5.0	312	436.8
6.0	374.4	499.2
7.0	436.8	561.6
8.0	499.2	624
9.0	561.6	686.4

Structural Modifications and Allowable Loads

This section discusses the limits of the existing buildings to accommodate structural modifications. The actual modifications for future use shall be provided by the architect. We understand the architect intends to recommend demolishing Building C, so modifications to that structure are not found below. Refer to the "Structural Survey Report" for a detailed structural description of the buildings.

Building A Modifications

Building A is actually two separate buildings separated by an expansion joint. We understand the architect wants to connect the interior space with the lake by removing interior walls, cutting openings in the lakeside wall and adding an interior floor at the level of the existing catwalk. Figures 1 and 2 in the Appendix illustrate the allowable structural modifications to Building A.

Lakeside Wall

Maintain the south, or lakeside, wall of Building A intact between Level 1 and the Basement, between the first two beam-column frames at the east and west ends. These portions of wall will resist lateral loads on the building in the longitudinal direction. Similarly, maintain the lakeside wall of Building A 4 feet minimum below Level 1 to support the elevated slab at that level. The existing lakeside wall can accommodate openings down to elevation 437.52' without supplemental reinforcement. Any openings that extend below that elevation, to serve the catwalk and interior spaces, will require supplemental reinforcement. Such reinforcement could be integral with a new interior floor system at the catwalk level.

Interior Walls Below Level 1

Maintain the walls dividing each well intact. Isolated doors and windows may be cut in these walls, but the walls must continue to support the slab at Level 1. The "wing walls" that supported the clean-out screens during intake operations may be removed. The majority of the wall separating the pump floor from the wells may be removed. Maintain at least 40" at each end to act as a pilaster, supporting the exterior walls, and at least 50" below Level 1 (down to elevation 449.83') to act as a beam element, supporting the slab at that level.

Exterior End Walls

Maintain openings into the well space above elevation 438.52'. Maintain large openings (doors, windows, etc.) into the pump room space above DFE 441.52'. Any openings into the pump room space below the Design Flood Elevation shall be 2'x2' or smaller or they must be reinforced. Maintain 4 feet below Level 1 intact to support the elevated slab at that level.

Basement Floor

Interior floors may be added at the Basement Floor between the south, or lakeside, wall and the pump room as required architecturally. The allowable live load at the Basement level for future use is 100 psf.

Level 1 Floor

All openings in the floor at Level 1 may be filled as required architecturally without supplemental reinforcement of the structure. The allowable live load at Level 1 for future use is 100 psf.

Roof

Concentrated loads and openings in the roof must be analyzed on a case-by-case basis. Allowable surface live load at the Roof for future use is 20 psf.

Building B Modifications

Building B is adjacent to Building A and of similar construction. The architectural intent is similar to that for Building A. Figures 3 and 4 in the appendix illustrate the allowable structural modifications to Building B.

Lakeside Wall

Maintain the south, or lakeside, wall of Building B intact between Level 1 and the Basement, between the first two beam-column frames at the east and west ends. These portions of wall will resist lateral loads on the building in the longitudinal direction. Similarly, maintain the lakeside wall of Building B 4 feet minimum below Level 1 to support the elevated slab at that level. The existing lakeside wall can accommodate openings down to elevation 436.52' without supplemental reinforcement. Any openings that extend below that elevation, to serve the catwalk and interior spaces, will require supplemental reinforcement. Such reinforcement could be integral with a new interior floor system at the catwalk level.

Interior Walls Below Level 1

Maintain the walls dividing each well and each portion of the pump room intact. Isolated doors and windows may be cut in these walls, but the walls must continue to support the slab at Level 1. The "wing walls" that supported the clean-out screens during intake operations may be removed. The majority of the wall separating the pump floor from the wells may be removed, leaving at least 40" at each end to act as a pilaster, supporting the exterior walls. The wall separating the screen wells from the long, full-length, well can be removed up to elevation 452.5', leaving a beam element to continue to support the slab at that level.

Exterior End Walls

Maintain openings into the well space above elevation 439.52'. Maintain large openings (doors, windows, etc.) into the pump room space above Design Flood Elevation 438.52'. Any openings into the pump room space below the Design Flood Elevation shall be 2'x2' or smaller or they must be reinforced. Maintain 4 feet below Level 1 intact to support the elevated slab at that level.

Basement Floor

Interior floors may be added at the Basement Floor between the south, or lakeside, wall and the pump room as required architecturally. The allowable live load at the Basement level for future use is 100 psf.

Level 1 Floor

All openings in the floor at Level 1 may be filled as required architecturally without supplemental reinforcement of the structure. The allowable live load at Level 1 for future use is 100 psf.

Roof

Concentrated loads and openings in the roof must be analyzed on a case-by-case basis. Allowable surface live load at the Roof for future use is 20 psf.

APPENDIX

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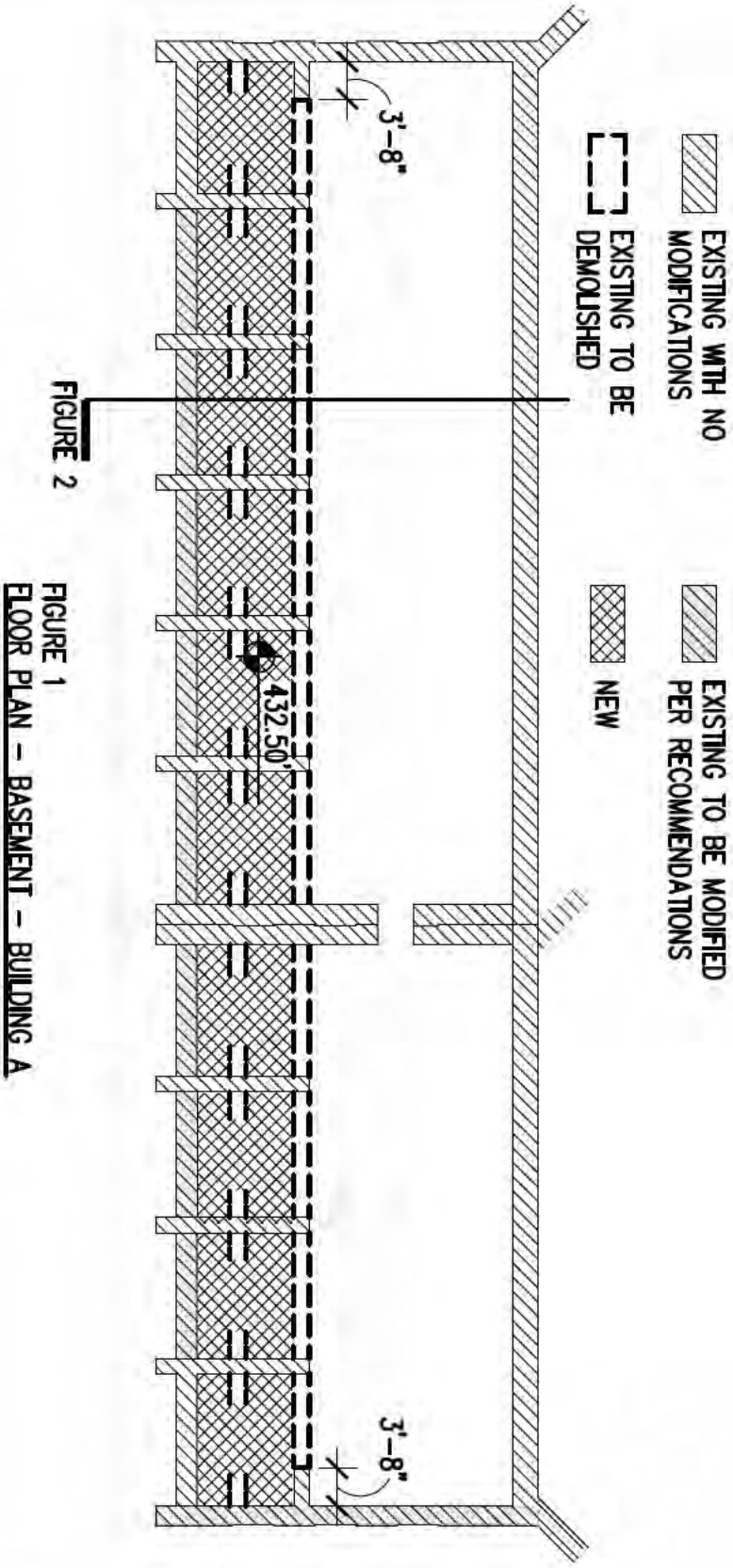

FIGURE 1
FLOOR PLAN – BASEMENT – BUILDING A

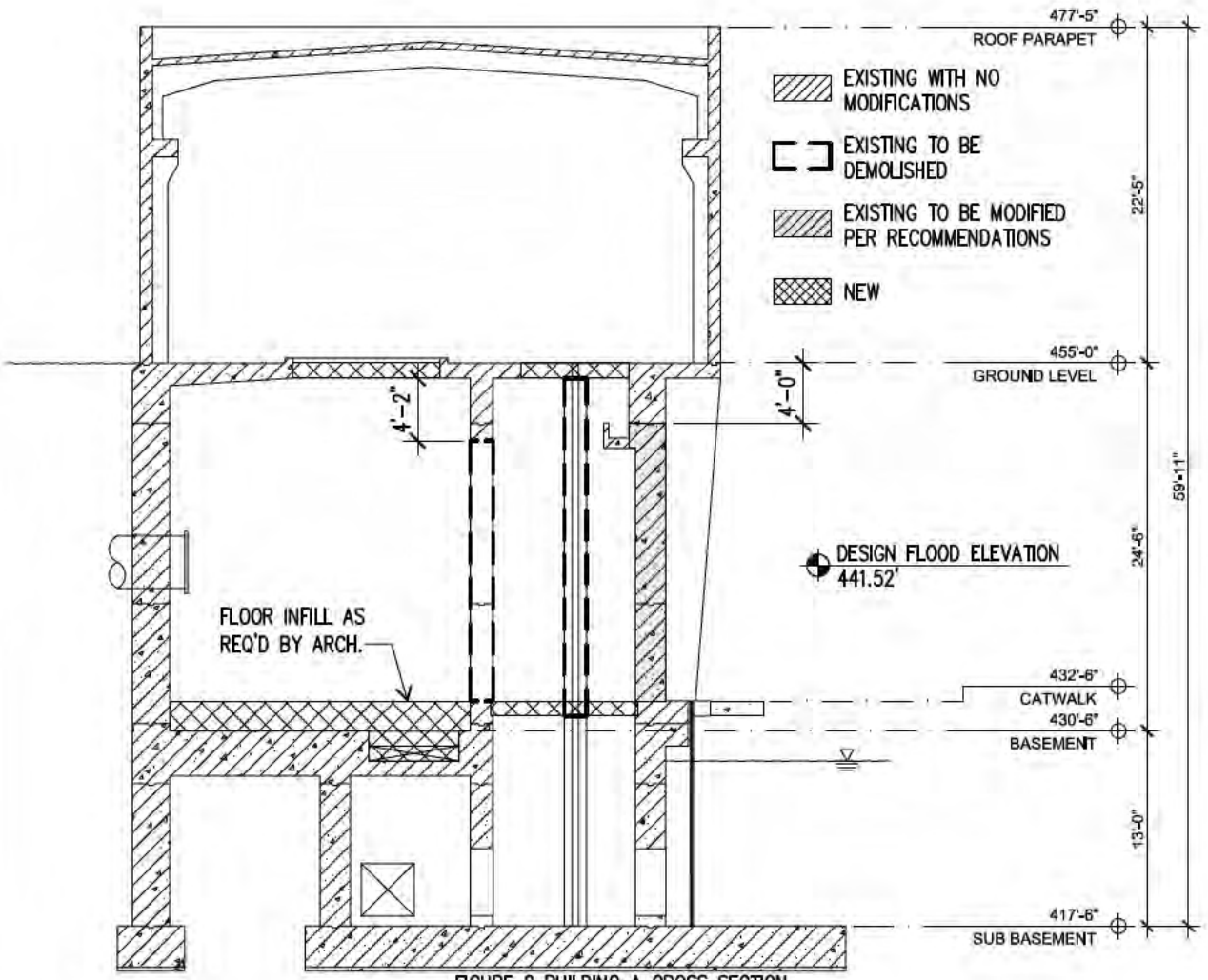

FIGURE 2 BUILDING A CROSS SECTION

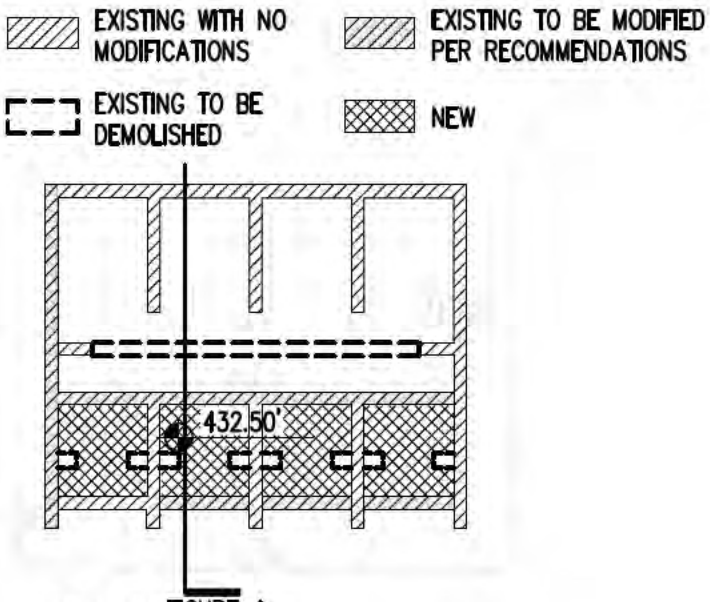

FIGURE 3
FLOOR PLAN – BASEMENT – BUILDING B

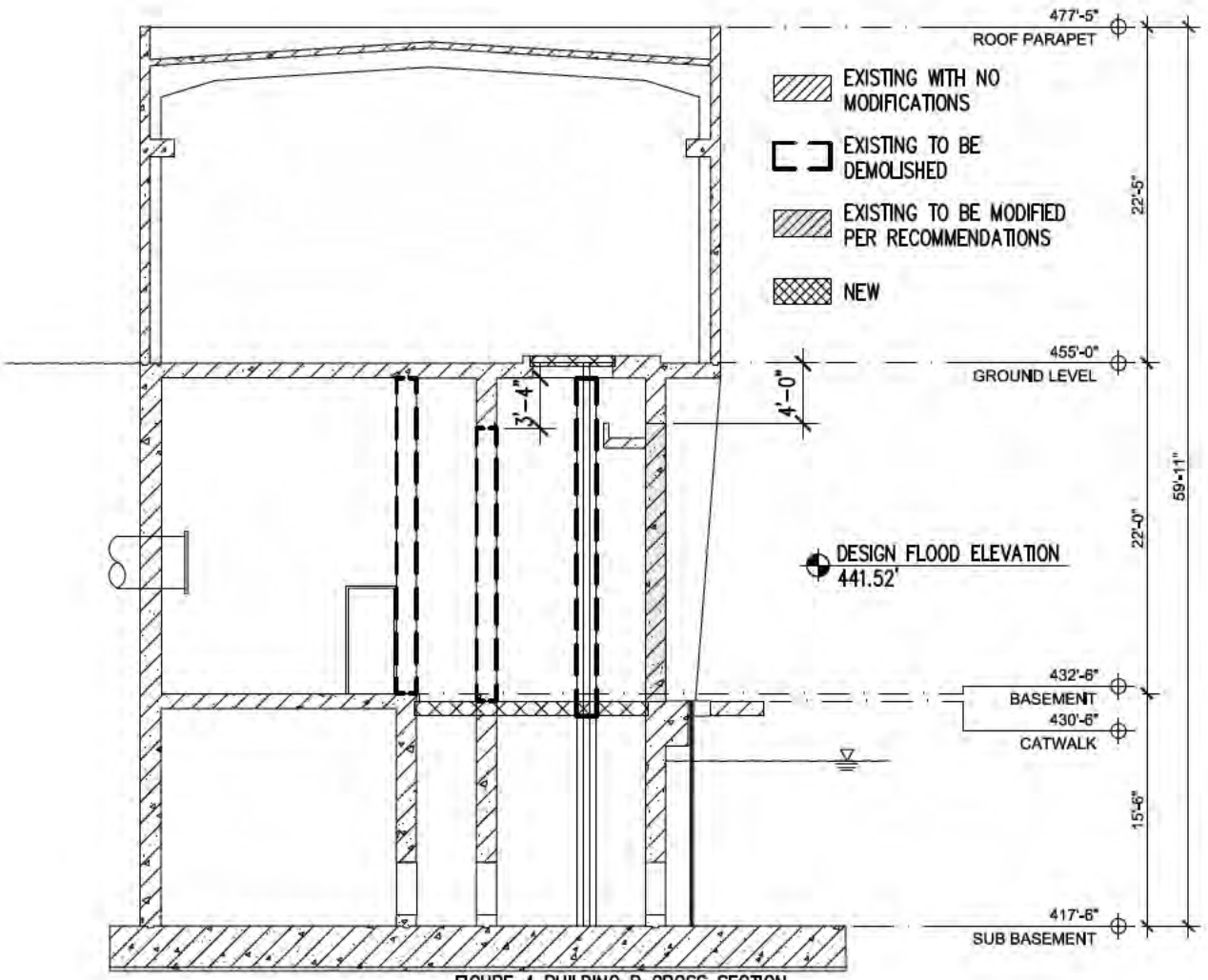

FIGURE 4 BUILDING B CROSS SECTION

prepared for The City of Austin's Parks and Recreation Department
by COTERA+REED ARCHITECTS