

CAPITOL COMPLEX MASTER PLAN  
FINDINGS & RECOMMENDATIONS (F & R) NEEDS ASSESSMENT  
CAPITOL ANNEX BUILDING, 1375 SHERMAN STREET (DENVER)

NOVEMBER 2014



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FINDINGS & RECOMMENDATIONS (F&R) NEEDS ASSESSMENT

**CAPITOL ANNEX BUILDING  
1375 SHERMAN STREET (DENVER)**

November 2014

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## EXECUTIVE SUMMARY

The purpose of this report is to provide a Findings & Recommendations (F&R) Needs Assessment of the Capitol Annex Building at 1375 Sherman Street in Denver, Colorado. The report includes a description and evaluation of the existing conditions, recommendations, and cost estimates for the recommended work from the following focus areas: architecture (RNL), structural (Martin/Martin Consulting Engineers), civil (Martin/Martin Consulting Engineers), mechanical/electrical/plumbing (RMH Group), voice and data (Shen Milsom Wilke), security (Shen Milsom Wilke), historical (Anderson Hallas Architects), and cost estimating (CBRE, Inc). The project team, led by RNL, reviewed existing building documentation, drawings, and audit reports provided by the Owner, and conducted a site visit to identify and document the observable existing conditions of the building and its code and life safety issues.

The Capitol Annex Building was placed on the Historic Register, with the adjacent Boiler Plant Building, on June 24, 1991 and contributes to the architectural history of both the City of Denver and the State of Colorado. All work on the property should follow the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs. In general the building is in poor condition but could be an architectural jewel if restored. A poor condition rating refers to the fact that the Capitol Annex Building is in urgent need of repairs to address life safety and loss of use/reliability issues.

Although all recommendations presented in this report should be considered for implementation, the following are the top five priorities due to their impact on life safety (LS), loss of use/reliability (LOU), finishes (F), and overall energy efficiency:

1. Total gut and renovation of the building back to the core shell, with the exception of the historically-protected areas outlined within the body of this report, including, but not limited to, the replacement of all windows and converting steam heat to hot water. This would provide an effective approach for abating all asbestos, replacing all of the aged electrical systems, replacing all of the old plumbing piping, and providing a more efficient layout. These recommendations encompass life safety, loss of use/reliability, finishes, and overall energy efficiency issues.

High Level Cost Estimate: \$22,321,671



Note: If a total gut and renovation of the building is not selected, then the following should be considered:

2. Asbestos abatement. This recommendation encompasses life safety and loss of use/reliability issues.

High Level Cost Estimate: \$710,767

3. Replace all electrical. This recommendation encompasses life safety and loss of use/reliability issues and is due to electrical code issues including an inadequate service load capacity.

High Level Cost Estimate: \$3,202,081

4. Convert steam heat to hot water. This recommendation encompasses loss of use/reliability and overall energy efficiency issues and is due to the inability to maintain a consistent comfortable working temperature within the building.

High Level Cost Estimate: \$5,434,187

5. Replace all plumbing piping. This recommendation encompasses life safety and loss of use/reliability issues and is due to plumbing code issues as well as ongoing maintenance efforts.

High Level Cost Estimate: \$2,899,510

If all recommendations in this report are implemented as a single project, including the top 5 priorities, the high level cost estimate is:

\$22,321,671

If all recommendations in this report are implemented system by system as multiple projects, including the top 5 priorities (systems), the high level cost estimate is:

\$22,688,430





## 1.0 OVERVIEW

### 1.0-A ARCHITECTURE OVERVIEW

The Capitol Annex Building was constructed in 1937 as a New Deal/Federal Emergency Administration of Public Works building project and is located in Denver's Capitol Hill Neighborhood on the southwest corner of Sherman Street and 14th Avenue. The building was designed by E.J. Kirchof and G. Meredith Musick on behalf of a collaboration known as the Associated Architects for the State Capitol Annex. The design of this building is an example of Art Deco architecture typical of Denver in the late 1930's. It was officially placed on the Historic Register, with the adjacent Boiler Plant Building, on June 24, 1991. The building's current and historic functions are to serve as government office space for the State of Colorado. The Capitol Annex Building, a symmetrically designed concrete-frame construction clad in white marble veneer with a dark grey, pink flecked granite base, is a seven-story building and grosses 114,228 square feet of space.

The architectural assessment of the Capitol Annex Building at 1375 Sherman Street included reviews of the existing building documentation, drawings, and audit reports provided by the Owner, and a site visit to survey and document the existing conditions of the building and its code and life safety issues. During the site survey on August 27, 2013, building maintenance personnel provided building history and information on the layout, finishes, maintenance routines, systems, and the dates of repairs and upgrades.

In general, the building is in poor condition. There are issues related to interior and exterior finish materials, building systems, code compliance, accessibility, asbestos, and other items that require attention in the near term. The main concerns are related to the overall deterioration and condition of the interior and exterior building finishes and systems, including, but not limited to, the roof and windows. Another concern is the presence of asbestos in the building. These concerns encompass life safety, loss of use/reliability, finishes, and overall energy efficiency issues. These findings, along with recommendations for repairs, are detailed in the body of this report.

Note: As an historic property, the Capitol Annex Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.



## 1.0-B STRUCTURAL OVERVIEW

The Capitol Annex building was constructed in 1937. The structural framing consists of concrete slabs and beams supported by concrete columns. The foundation system consists of a continuous concrete footing along the exterior walls and isolated concrete interior footings, according to previous reports.

Martin/Martin conducted a building condition assessment on August 27, 2013 of the Capitol Annex building located at 1375 Sherman Street in Denver, Colorado. The purpose of our condition assessment was to identify structural defects, damage and deterioration.

The structural framing that was readily observable is in good condition. Several veneer tiles appeared to be inadequately secured to the framing which could represent additional structural movement and/or distress and presents a life safety hazard to pedestrians in the vicinity of the building. The displaced tiles and deteriorated mortar joints allow water to access the structural framing and cause additional distress.

Severe corrosion of the metal railing has occurred along the east retaining wall. The corrosion has caused the stone caps to crack and allow water to penetrate the surface and potentially cause additional deterioration.

Cracks were observed in the brick veneer at the parapets, which allow water to penetrate the cracks and cause additional problems to the structure. These cracks should be repaired to prevent additional deterioration.

The parapets along exposed edges of the roof are of inadequate height and present a potential fall hazard. The access hatch to the penthouse roof is too close to the edge, making access to the roof unsafe. A fall protection system should be developed and installed to comply with current safety codes.





### 1.0-C CIVIL OVERVIEW

The Annex building site is approximately 1.0 acre. The existing site consists of the Annex building and street right-of-way including sidewalk and landscaping. The main building entrance is accessed from Sherman Street. The condition of the site surrounding the building is consistent with a building approximately 70+ years old.

The site exterior is generally in fair condition, consistent with the age of the building. There are numerous locations around the building with broken and cracked concrete in need of repair or replacement. Broken concrete in walking paths can cause a tripping hazard, which is a high safety concern. The main concern regarding the Annex site is ADA accessibility. Although the ramp at the entrance appears to meet current regulations, site walks are steep in some locations. The maximum slope recommendation for accessible walks is 5%. Ramps may be installed at slopes as much as 8% for as long as 30 feet with handrails and landings. An additional concern regarding the Annex building is based on a report that the existing water main into the building has numerous problems. It is recommended that the existing water main be replaced. While the existing building functions in its current state, improvements can be made to comply with regulations, increase accessibility and improve aesthetics.





## **1.0-D MECHANICAL, ELECTRICAL, AND PLUMBING OVERVIEW**

A site survey for the facility was performed to observe the existing electrical and mechanical equipment installation and assess code and building energy efficiency issues. During the site survey, information was provided about the building history and on the electrical and mechanical systems conditions, maintenance routines, and installation dates. The Capitol Annex building is approximately 115,000 sq. ft, consisting of seven stories and two levels of basement. The building was built in the late 1930s.

The main concerns regarding the Annex Building are related to the electrical systems, the HVAC system, and the plumbing piping. The age of the electrical equipment in this building does not provide a reliable system. When equipment fails, the parts, if available, are difficult to find. If any of the feeders or distribution breakers to the 208V system fail, the down time for repair could take hours or even days. The 208/120V power distribution gear, transformer, conduit, and wire in this building are at the end of their useful life and need to be replaced. A new generator system to feed just the Annex or the Capitol is required to serve the load.

The HVAC system in the building is original and is at the end of its useful life. It needs major upgrade or total renovation. The controls system is pneumatic which need regular maintenance and recalibration. The new HVAC system, which includes major equipment, distribution system and controls, will improve the comfort conditions in the building. Proper distribution of airflow in the spaces will ensure there are no hot and cold spots in the building. The variable air volume distribution system will vary the airflow delivered in the space based on space requirements, thereby saving fan energy and heating and cooling energy. The new HVAC system will maintain the building at positive pressure and prevent any infiltration of outside air, thus saving heating and cooling energy costs. New steam to hot water heat exchangers will generate hot water from central steam. The possibility of providing dedicated high efficiency hot water boilers for the building should be investigated. This will eliminate the dependence of the heating system on central heat and will provide redundancy in the system. It was reported that there are known issues with the plumbing piping related to the age of the plumbing and code issues.

The plumbing piping is original to the building and is susceptible to frequent leaks and repairs. It is recommended to replace the plumbing piping in the building.





### **Energy Conservation**

To conserve energy in this building a lighting control system that provides automatic daylight dimming and occupancy sensor shutoff will provide energy savings. Also, following the most up-to-date energy codes regarding how much light is used (watts per square feet) will reduce the number of fixtures required for each space. Supplemental task lighting can be used on the desk or in the cubicles to ensure occupants are able to perform their work effectively.

Since the tenants in the building can be different, sub-metering on each panelboard will help keep track of power usage. This will help notify building users of excess use of power so adjustments can be made to their usage.

Providing automatic occupancy sensor shutoff power strips for desk equipment that does not need to be on constantly, when a person is away from their desk, will help reduce energy usage.

The new HVAC system will work more efficiently thereby saving heating and cooling energy costs. Adding DDC controls to the HVAC system will ensure that the required amount of outside air is introduced into the system and delivered to spaces. This will not only save energy in heating and cooling outside air but will also improve indoor environment which will improve employee productivity. Some of the energy savings control features such as static pressure reset, supply air temperature set back, and hot water reset could be implemented to save HVAC operational energy costs.





## 1.0-E VOICE AND DATA OVERVIEW

The Voice and Data IT/Telecommunications Infrastructure assessment and findings report provides requirements and recommendations for the implementation of the IT/Telecommunications Infrastructure required to support Voice/Data and other technology systems within the Capital Annex building. It is determined that much of the building's existing IT/Telecommunications infrastructure is not compliant with current industry standards and best practice installation methods. The current infrastructure will not fully support many newer technology IP devices, which are now considered standard in the industry such as VoIP phones and PoE type security cameras. The existing Cat5e cabling has bandwidth limitations as compared to that of the more robust, industry standard Cat6/6A cable. The IT systems infrastructure not only includes the cabling, but the cabling pathways and the associated data/communication spaces that support the network cabling system. Technology spaces required to be provisioned for, include the Main Distribution Facility (MDF) room and Intermediate Distribution Facility (IDF) rooms. The infrastructure will require proper cabling pathways between MDF/IDF rooms, to support installation of both fiber and copper backbone cabling. Singlemode fiber optic cables, laser optimized multimode fiber optic cables, and Category 3 copper backbone cables will be installed from the MDF room to each IDF room to support the technology systems. New Category 6 network cable will be required from network outlets and IP field devices to termination hardware in the IDF rooms using appropriate conduit and cable tray horizontal pathways. A proper grounding and bonding system must be provided in MDF/IDF rooms. A proper grounding system will provide a uniform ground to facilitate a safe and reliable operation of the communications equipment and systems. The findings and recommendations report is to be used for IT/Telecom Infrastructure program development, space planning, and implementation of design criteria. Industry standards and best practice design methods will be required to be followed. They include BICSI and TIA/EIA design and construction guidelines. Applicable State Office of Information Technology (OIT) design criteria documents should be followed.

The following list prioritizes voice/data infrastructure upgrades required:

1. Necessary: Retrofit facility with proper MDF/IDF room distribution, which meets industry standard for telecommunication structured cabling system.
2. Necessary: Replace horizontal copper station cabling with Cat 6 network cabling.





3. Necessary: Replace vertical and network backbone cabling with appropriate copper and fiber optic cabling.
4. Necessary: Provide voice/data infrastructure to support wireless access points (WAPs), for wireless network coverage throughout facility.





## 1.0-F SECURITY SYSTEMS OVERVIEW

The security systems design guidelines outline electronic security systems infrastructure which will enhance security operations and provide a safe and secure environment for persons and assets within the Capitol Annex building. Security systems must be implemented such that they can be easily and effectively monitored real-time from CSP centralized communication center(s). The following primary security systems are currently in place: Access control (ACS), video surveillance, wireless duress and central monitoring by CSP. Electronic security systems which must be replaced and/or addressed include: video surveillance, access control, intrusion alarm, duress alarm, and audio intercom. The access control system is campus wide and currently exists throughout other State Capital Complex buildings. The ACS serves as the primary security management system for monitoring intrusion alarms. The State's existing wireless duress alarm system infrastructure is in place. The existing security systems are controlled and monitored centrally from Colorado State Patrol's Central Command Center (CCC), Denver CO.

The single sub-system in most need of upgrade is the security cameras. The video surveillance system is an antiquated analog video based system. Video image quality is poor as compared to new digital technology the system cannot be easily integrated into other security management systems and the user interface is not capable of current industry standards for forensics use.

The following list prioritizes security system upgrades required:

1. Necessary: Replace/Repair existing Hirsch Access Control card readers.
2. Necessary: Replace analog security cameras with IP PoE minimum 1.2MP cameras.
3. Necessary: Replace existing coaxial CCTV cabling with CAT 6 network cabling, required to support item 1 above.
4. Necessary: Verify functionality of access control devices and perimeter door alarms, replace if defective. Provide door sensor alarm on all perimeter doors.
5. Necessary: Verify functionality of wireless duress alarms. Provide duress alarms for all public interface counters and cash handling areas.
6. Recommended: Install IP security camera within main entrance/lobby.





7. Recommended: Install intercom station at facility main entrance door exterior. Must be intercom-over-IP (IoIP) based PoE intercom stations. Install IP camera to view intercom.

As part of the renovation work, all security head-end equipment should be located in the IDF rooms, and coordinated with State IT technical staff. New security network video recorders (NVRs) to support IP cameras are to be located in IDF rooms. All head-end security control equipment should be backed-up with emergency power circuits or UPS units. Additionally all IDF closets housing active security/network components should be equipped with electronic access control.

Considerations: Installation and mounting details for any security related renovations must take into consideration the uniqueness of the buildings and be cognizant of maintaining the historical attributes of the buildings.



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## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



### 2.0 OVERALL BUILDING ASSESSMENT FINDINGS AND RECOMENDATIONS

#### 2.1 ARCHITECTURE

##### 2.1-A EXTERIOR BUILDING ENVELOPE/SITE

###### **General**

The Capitol Annex Building is seven-stories tall, consisting of a symmetrical masonry and concrete frame with a central tower of six stories flanked on both sides by five-story wings and set on a one-story base. The facade is clad in white marble veneer above a base of flecked dark grey and pink granite that extends to the window sill height of the one-story first floor. The corners of the central tower and side wings are clad in rounded corner marble panels. The Sherman Street entrance on the east side and the 14th Avenue entrance on the north side are clad in the same granite veneer as the base of the building. The Sherman Street entrance is paved in granite at the entrance landing and continues to a concrete sidewalk that extends to the street. The vertical bays of the central tower have window openings with lintels and sills of marble veneer. The window openings are either plain or have a slight setback at the jambs with fluted marble spandrel panels. The Sherman Street (east) elevation of the building has low granite walls surrounding the continuous light wells that run the length of the facade. The low granite walls surrounding the light wells have a pipe rail mounted along the top of the wall and are covered with a square-patterned metal grate. The roof contains a one-story elevator penthouse set back from the elevations of the building. The inside face of the parapet is brick. The outside face of the parapet is marble veneer and the parapet is capped with marble.

The building envelope is in poor condition overall. Various elements are showing the effects of deferred maintenance, others are simply damaged or worn out. Some damage has resulted from poor expansion and control joint detailing.

Note: As an historic property, the Capitol Annex Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.





Front & Side/East & South elevation of the Capitol Annex Building



Front/East Sherman Street Entrance



Side & Back/North & West elevation of the Capitol Annex Building



Side/North 14th Avenue Entrance



## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



View of the Back/West alley between the Capitol Annex Building and the parking garage to the west, looking north



View of the ballasted grade-level roof over the basement of the Power Plant Building and adjacent to the Capitol Annex Building, looking east from the west side of the roof

### **Cladding**

The marble veneer panels cladding the majority of the building are in fair to poor condition. Several panels are no longer flush and appear to be pulling away from the building, especially at the rounded corners and at the lintels over the windows (see Fig. 2.1.A.1 and Fig. 2.1.A.2). Several panels are cracked. At the penthouse level, the panels are in especially poor condition (see Fig. 2.1.A.3). The majority of the cracks appear to have been repaired poorly with sealant that has stained the marble (see Fig. 2.1.A.4). The panels are generally soiled, which is to be expected after seventy-plus years. Many of the panels are also stained due to the corrosion of the window frames. The staining is readily apparent from the ground (see Fig. 2.1.A.5). The sealant between the joints is deteriorated; creating access points by which water can penetrate the building envelope (see Fig. 2.1.A.6). The condition



of the building system behind the panels is unknown, however, damage is likely. It was reported that marble facade repairs are on the Capitol Complex list of controlled maintenance projects that need to be addressed.



Fig. 2.1.A.1 Marble panel cracking/  
moving out of flush.



Fig. 2.1.A.2 Marble panels moving out  
of flush.



## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 2.1.A.3 Panels cladding the Penthouse are in generally poor condition.



Fig. 2.1.A.4 Staining of marble panels cladding the Penthouse from previous repairs using an incorrect type of sealant.



Fig. 2.1.A.5 Marble panels with staining due to window frame corrosion, with joint deterioration, and moving out of flush.





Fig. 2.1.A.6 Soiled rounded marble corner panels with joint deterioration.

The granite base and panels around the entrances are in fair condition overall. The sealant is deteriorating in the joints between the panels (see Fig. 2.1.A.7). The granite blocks forming the low wall surrounding the window wells on the east facade are in poor condition. The blocks have been damaged by the deterioration and corrosion of the low pipe rail mounted to the top of the wall (see Fig. 2.1.A.8 and Fig. 2.1.A.9). The granite blocks are cracked and coming loose in numerous locations along the wall (see Fig. 2.1.A.10). The sealant between the blocks is deteriorating as well (see Fig. 2.1.A.11). It was reported that structural repairs of the exterior and retaining walls are on the Capitol Complex list of controlled maintenance projects that need to be addressed.



Fig. 2.1.A.7 Deteriorated sealant between granite panels.





## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 2.1.A.8 Damage and staining to low granite wall enclosing the window well from corroded low pipe railing.



Fig. 2.1.A.9 Damage to low granite wall enclosing the window well.



Fig. 2.1.A.10 Granite block coming loose at the corner of the low window well wall.





Fig. 2.1.A.11 Deteriorating sealant between granite panels.

The brick on the inside face of the roof parapet has grout that is deteriorating overall. There is a large, stepped crack in the brick running the full height of the parapet that was observed (see Fig. 2.1.A.12).

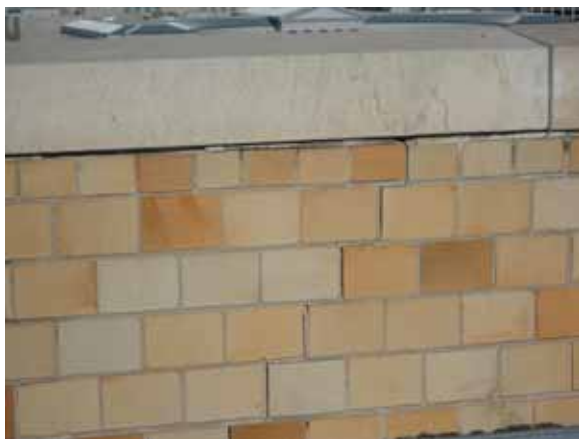


Fig. 2.1.A.12 Inside face of the roof parapet with a stepped crack.

**Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.





## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



- Clean soiled/stained marble panels. The staining is especially apparent at the Penthouse Level (due to a previous sealant repair that stained the panels).
- Repair or replace cracked or spalling marble panels around the building exterior and at the Penthouse level.
- Reset marble panels that are loosening and moving out of flush with the rest of the cladding.
- Examine marble panel attachment bolts to the building and examine the clips between the panels for evidence of damage or corrosion and repair or replace.
- Remove existing sealant around marble panels and in control joints and replace with new sealant. Sealant, backup materials, and preformed joint fillers should be nonstaining. Petroleum-based organic adhesives should be avoided as they may stain the stone.
- Repair or replace cracked granite panels around base and at the Sherman Street Entrance.
- Remove existing sealant around granite panels along the base of the building and at the Sherman Street Entrance and replace with new sealant. Sealant, backup materials, and preformed joint fillers should be nonstaining.
- Replace the cracked and stained granite blocks of the low wall surrounding the window well along the length of the east (Sherman Street) facade with a new granite wall, installed complete with a new pipe railing.
- Tuck point the inside brick face of the roof parapet.
- Repair the inside brick face of the roof parapet at the stepped crack.

### **Glazing Systems and Doors**

The windows are single pane and are original to the building. The frames are corroding and causing staining of the fluted marble spandrel panels under the window sills (see Fig. 2.1.A.13). The sealant around the windows is deteriorated and is missing entirely in numerous locations (see Fig. 2.1.A.14 and Fig. 2.1.A.15).





Fig. 2.1.A.13 Corroding metal window frame.



Fig. 2.1.A.14 Corroding metal window frame and deteriorating sealant.



Fig. 2.1.A.15 Deteriorating sealant surrounding window frames.



## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



The historic bronze entrance doors located at the Sherman Street Entrance and the 14th Avenue Entrance appear to be original to the building. Air gaps exist between the door slabs and around the perimeter of the door slabs and the door frame, allowing air leakage from the building. It was reported that replacement of the exterior doors is on the Capitol Complex list of controlled maintenance projects that need to be addressed. It was also reported that the vertical and horizontal stiles at the entry doors are failing and that this has resulted in there being no way to lock the doors down if the security access controls fail. Since the doors are considered part of the historic fabric of the building they should be rehabilitated if possible (see 3.0-A Historic Overview). The door and door frame to the Penthouse on the Roof is corroding (see Fig. 2.1.A.16).



Fig. 2.1.A.16 Corroding door at the Penthouse Level.

### Recommendations:

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Replace existing windows with new energy efficient windows and frames.
- Rehabilitate the exterior bronze doors per historic designation guidelines, including the vertical and horizontal stiles which have



failed. Add weatherproofing between all exterior doors and their frames (Sherman Street Entrance and 14th Avenue Entrance) to prevent air leakage.

- Repair or replace the corroding door and frame to the Penthouse on the Roof Level.

## **Roof**

The south roof at grade level over the mechanical space of the adjacent Boiler Plant Building is ballasted. The drain covers have been damaged due to corrosion (see Fig. 2.1.A.17).



Fig. 2.1.A.17 Corroded drain cover, south roof at grade level.

It was reported that the roof at the top of the Capitol Annex Building was replaced twelve years ago and is nearing the end of its fifteen-year warranty. The membrane is beginning to bubble and has been repaired in spots (see Fig. 2.1.A.18). It was reported that the roof does not leak but that the drains running down through the interior of the building leak. It was also reported that five of the pipe chases through the restrooms have asbestos present and require abatement. The roof is ballasted and the membrane appears to be in fair condition. It was reported that when the roof is replaced, a non-ballasted type of roof would be preferred. The roof drain covers are in fair condition overall. There is a roof hatch located only four feet from the edge of the parapet. The flashing along the base is pulling away from the wall of the Penthouse and needs to be repaired (see Fig. 2.1.A.19).



## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 2.1.A.18 Repairs to roof membrane and bubbling of roof membrane.



Fig. 2.1.A.19 Flashing pulling away from the Penthouse wall.

### Recommendations:

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Replace the existing main roof and Penthouse roof with a new roofing system, including roof drains, and flashing around the perimeter of the Penthouse and the parapet. Determine the appropriate type of roof to replace the existing roof per reports that a non-ballasted type of roof would be preferred.
- Determine where the drains leak within the inside walls of the building. Verify whether asbestos is present and needs to be abated prior to any repair or replacement of the drains as needed.



## 2.1-B CODE ISSUES

### **Applicable Codes**

The following approved building codes and standards adopted by State Buildings Programs (SBP) and other state agencies are identified as the minimum requirements to be applied to all state-owned buildings and physical facilities including capitol construction and controlled maintenance construction projects, as revised 7/2013.

The 2012 edition of the International Building Code (IBC)

(as adopted by the Colorado State Buildings Program as follows: Chapter 1 as amended, Chapters 2-35 and Appendices C and I)

The 2012 edition of the International Energy Conservation Code (IECC)

(as adopted by the Colorado State Buildings Program)

The National Fire Protection Association Standards (NFPA)

(as adopted by the Department of Public Safety/Division of Fire Safety as follows with editions shown in parentheses: NFPA-1 (2006), 11 (2005), 12 (2005), 12A (2004), 13 (2002), 13D (2002), 13R (2002), 14 (2003), 15 (2001), 16 (2003), 17 (2002), 17A (2002), 20 (2003), 22 (2003), 24 (2002), 25 (2002), 72 (2002), 409 (2004), 423 (2004), 750 (2003), and 2001 (2004))

The 2007 edition of ASME A17.1 Safety Code for Elevators and Escalators

(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)

The 2005 edition of ASME A17.3 Safety Code for Existing Elevators and Escalators

(as adopted by the Department of Labor and Employment/Conveyance Section and as amended by ASME International)





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The 2003 edition of ICC/ANSI A117.1, Accessible and Usable Buildings and Facilities

(as adopted by the Colorado General Assembly as follows: CRS 9-5-101, as amended, for accessible housing)

Note: It is anticipated that compliance with the federal Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG) and Colorado Revised Statutes Section 9-5-101 will be met by compliance with the 2012 International Building Code and ICC/ANSI A117.1. However, each project may have unique aspects that may require individual attention to these legislated mandates.

### **Building Construction Type**

The building is 7 stories tall and has a total floor area of 114,228 square feet. If this building was built today, it would be classified as Occupancy Group B (primary use as a Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts) according to IBC's Table 503 and the building would be classified as Construction Type IB, which allows for 11 stories and 160 feet in height, and unlimited floor area. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum height is increased by 20 feet and the maximum number of stories is increased by one.

It was reported that a code compliance analysis is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Note: As an historic property, the Capitol Annex Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.

### **Egress Issues**

Alterations, repairs, additions, and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the current provisions for alterations, repairs, additions and changes of occupancy or relocation. As an existing building, the Capitol Annex Building is exempt from current



code requirements for new construction as long as minimal renovation is done. If the building undergoes extensive renovation, the following issues may need to be addressed per current code requirements, unless historic designation guidelines take precedence.

According to Table 1014.3 of the IBC (2012), the common path of egress travel for a building with an approved sprinkler system in a B-type occupancy is 100 feet with an occupant load greater than 30. The plans provided by the Owner appear to indicate that the common paths of egress travel throughout the building, as it currently exists, comply with this code requirement. The length of the longest common path of egress travel and the occupancy loads of each floor should be verified as part of any future renovation plan.

According to Table 1016.2 of the IBC (2012), the exit access travel distance in a B-type occupancy with a sprinkler system is 300 feet. The plans provided by the Owner appear to indicate that the greatest distance of travel in the building, as it currently exists, comply with this code requirement. Depending on the fire-resistance ratings of the interior exit stairways, the distance of travel through the stairways to a public way may be included in the greatest distance of travel calculation if the building undergoes extensive renovation. Assuming the interior exit stairways meet required fire-resistance ratings, the greatest distance of travel would only be measured to the exit stairway door instead of to the public way which currently appears to comply with code requirements. The length of the greatest distance of travel and the occupancy loads of each floor should be verified as part of any future renovation plans.

The fire rating of the doors to the interior exit stairways is unknown.

According to Section 1022.2 of the IBC (2012), enclosures for interior exit stairways and ramps shall be constructed as fire barriers in accordance with Section 707. The interior exit stairway and ramp enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the interior exit stairways or ramps shall include any basements, but not any mezzanines. Interior exit stairways and ramps shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. The Capitol Annex Building has 7 stories and a basement and sub-basement and must therefore provide a fire-resistance rating of not less than 2 hours at the interior exit stairways. Further, according to Table 716.5 of the IBC (2012), where fire walls and





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fire barriers have a required fire-resistance rating of 2 hours, the minimum fire door and fire shutter assembly rating is 1-1/2 hours. We assume that the interior exit stairways meet the code requirements but were unable to confirm the fire-resistance ratings.

Occupants on the First Floor have only one means of egress through the east Sherman Street Entrance. There is a key-code access lock on the door to the north exit stairway preventing occupants on the First Floor from exiting down to the Basement Level and out through the north 14th Avenue Entrance (see Fig. 2.1.B.1). The key-code access lock is also blocking a signed area designated for evacuation assistance.

The Sub-basement Level has only one means of egress by means of the south stairway. The south stairway leads to two possible exits: 1) up one flight of stairs to the Basement Level and out through the north 14th Avenue exit or 2) up two flights of stairs to the First Floor and out through the Sherman Street exit.

There is one accessible means of egress from the building through the east Sherman Street Entrance. The north 14th Avenue Entrance at the Basement Level has four stairs that lead up to grade level (see Fig. 2.1.B.2). According to section 3411.9.3 Entrances, of the IBC code regarding historic buildings, at least one main entrance shall be accessible.



Fig. 2.1.B.1 Key-code lock blocking exit on the First Floor through the north exit stairway.





Fig. 2.1.B.2 The north 14th Avenue Entrance at the Basement Level has four steps up to grade and is therefore not an accessible entrance.

#### **Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Verify the fire-resistance ratings of the existing interior exit stairways and doors and upgrade as necessary per future renovation plans.
- Remove the key code access to the north exit stairway on the First Floor. Add key code access from the interior side of the stairway to Floors 2 through 7 as necessary for security.

#### **Fire Suppression Systems**

There is a fully automatic sprinkler system throughout the building.

#### **Stairs and Ramps**

The stair dimensions and details observed during the site visit generally comply with the code requirements for existing stairs.

#### **Doors**

The interior doors throughout the building include a mix of lever-style and



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knob-style door handles (see Fig. 2.1.B.3). According to Section 309.4 Operation of the 2003 edition of ICC/ANSI A117.1, the knob-style handles do not meet the requirement that: operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. Section 309.4 Operation further states that the force required to activate operable parts shall be 5.0 pounds (22.2 N) maximum. However, these knob-style handles may be exempt due to the building's historic status. It was reported that all of the original historic knob-style handles have been saved and can be reinstalled if required by historic designation guidelines.



Fig. 2.1.B.3 Knob-style door handles do not meet accessibility code requirements.

### **Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Replace all knob-style handles on the interior doors with lever-style handles if allowed per historic designation guidelines.

### **Security**

There is a reception desk located in the main lobby of the Sherman Street Entrance on the First Floor. Visitors are required to check in and escorts are required to tour the building. The 14th Avenue Entrance on the Basement Floor is equipped with a key code entry system for employee access.



## 2.1-C GENERAL ACCESSIBILITY ISSUES

The majority of the restrooms in the building appear to have been retrofitted in an attempt to comply with accessibility standards. Non-accessible restrooms exist throughout the building with notable examples on the Third and Seventh Floors. The non-accessible restrooms generally have knob-style door handles and do not include automatic door openers, accessible stalls and urinals, accessible lavatories, and adequate wheelchair maneuvering clearances (see Fig. 2.1.C.1, Fig. 2.1.C.2, Fig. 2.1.C.3, Fig. 2.1.C.4, Fig. 2.1.C.5). An accessible Unisex Restroom in the Basement was observed to have a broken automatic door opener in need of repair and the accessible entry and exit space in the hallway is currently infringed upon by the nearby Men's Restroom door which swings out into the space (see Fig. 2.1.C.6).

It was reported that a code compliance analysis is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Note: As an historic property, the Capitol Annex Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.



Fig. 2.1.C.1 Knob-style door handle on restroom door with no automatic door opener.



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Fig. 2.1.C.2 Typical non-accessible bathroom stalls.



Fig. 2.1.C.3 Typical non-accessible bathroom urinals.



Fig. 2.1.C.4 Typical non-accessible lavatories.





Fig. 2.1.C.5 Wall panels protruding into accessible entry space of the restroom.



Fig. 2.1.C.6 Unisex Restroom at the Basement Level with broken automatic door opener and with accessible entry space infringed upon by the nearby Men's Restroom door which swings out into the space.

The drinking fountains throughout the building do not comply with general accessibility requirements (see Fig. 2.1.C.7).





Fig. 2.1.C.7 Typical non-accessible drinking fountain.

### Recommendations:

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.

Note: A complete renovation of the building is recommended, including the restrooms, with the exception of the historically-protected areas outlined within the body of this report (see 3.0-A Historic Overview). However, if a complete renovation of the restrooms is not possible, the following recommendations should be implemented:

- Install automatic door openers to restrooms where not provided. Repair or replace the broken automatic door opener on the accessible Unisex Restroom in the Basement.
- Reconfigure non-accessible restrooms to include required wheelchair maneuvering clearances and a minimum of one accessible toilet stall per restroom where possible.
- Install a minimum of one accessible lavatory per restroom where not provided.
- Replace existing knob-style faucets on accessible lavatories with lever-style faucets.
- Repair or replace damaged or non-existent insulation around the accessible lavatory pipes.



- Provide accessible restroom fixtures and accessories throughout where possible.
- Replace all non-accessible drinking fountains with accessible drinking fountains throughout.
- Change the door swing direction on the Men's Restroom in the Basement to swing in to the Men's Restroom versus out into the hallway. The current direction of the door swing is affecting the entry/exit area of the accessible Unisex Restroom.

## **2.1-D ELEVATORS**

The elevators are fairly new according to reports and to records in the two elevator machine rooms in the Penthouse. The mechanical and electrical equipment for elevator 4 (freight elevator) was redone in 2006 while the mechanical and electrical equipment for elevators, 1, 2, and 3 were redone in 2009.

## **2.1-E ENVIRONMENTAL**

Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. It was reported that the return air duct has asbestos in the lining and thus return air is exhausted to the outside and cannot be reused for energy efficiency. It was also reported that there is asbestos in the mechanical doghouse on the roof. It was further reported that asbestos abatement is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Based on the construction date of the building, it is possible that surfaces are painted with paint containing lead.

### **Recommendations:**

- Abate all asbestos throughout the building.





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- Phasing of the construction in this building is not recommended. All personnel should be removed from the site during construction and all existing asbestos should be abated as part of any renovation.
- Sampling for lead paint must be completed if any painted surfaces will be sanded.

### 2.1-F PLANNED AND ON-GOING PROJECTS

There are no known planned and on-going architectural projects for the building currently.



## 2.2 STRUCTURAL

### 2.2-A EXTERIOR BUILDING ENVELOPE

The building's exterior is showing signs of distress. Several veneer tiles are inadequately secured to the building's framing and the mortar joints at many of the tiles have deteriorated (Fig. 2.2.A.1). Additional damage may be present behind the panels due to water intrusion and is not readily observable. The condition of the panels also represents a life safety hazard to pedestrians and should be corrected in the near future.



Fig. 2.2.A.1

Railing along the east retaining wall near the main entrance was severely corroded (Fig. 2.2.A.2). The vertical posts have become disconnected from the wall due to their corroded condition. The corrosion has caused additional cracking in the capstones along the retaining wall. One of the capstones at the southeast corner of the retaining wall has pulled up approximately 1 inch and a panel at the northeast corner of the wall has become loose (Fig. 2.2.A.3).



Fig. 2.2.A.2

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Fig. 2.2.A.3

A metal tube supporting conduit on the west side of the building connects the parking garage to an exterior panel (Fig. 2.2.A.4). The panel is loose and should be repaired.



Fig. 2.2.A.4

Cracking was observed in the brick veneer parapet (Fig. 2.2.A.5). The cracking is minor, but should be re-pointed to prevent additional deterioration due to water infiltration.





Fig. 2.2.A.5

**Recommendations:**

- Remove the veneer panels that are inadequately attached and allow a structural engineer to observe the condition of the structural framing.
- Remove and replace the corroded railing and cracked capstones along the east retaining wall. The connection between the railing and the capstones should be properly detailed to prevent the steel from corroding.
- Remove the steel tube supporting the conduit between the Annex and the parking garage at the loading dock. The conduit should be re-supported with framing that allows the two buildings to move independently of each other.
- Re-point the cracked mortar joints in the brick veneer at the parapets.

Items noted above do not pose any structural loading issues based on the current use. Repairs are to maintain performance and reduce further deterioration.



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### 2.2-B BUILDING INTERIOR

The overall condition of the structural framing that was readily observable was good. Minor cracking was observed at the lower levels where the structure was visible.

Interior walls were constructed tight to the structural framing. Deflection of the structural framing may cause cracking in the walls and cause additional loading of the floor below.

#### Recommendations:

- Install slip joints between the tops of the non-load bearing interior walls and structural framing to allow for differential movement between the two adjacent floors.

Items noted above do not pose any structural loading issues based on the current use. Repairs are to maintain performance and reduce further deterioration.

### 2.2-C FALL PROTECTION

Inadequate parapet heights were observed adjacent to the loading dock and the upper roof levels (Fig. 2.2.C.1). Parapets should be at least 42 inches tall or fall protection provided for access near the exposed edges to meet current safety codes.



Fig. 2.2.C.1



The roof access hatch is only 4 feet from an exposed edge with no fall protection provided when climbing on to the roof. A rail extension is also not provided for assistance when climbing through the access hatch.

**Recommendations:**

- Install a ladder extension at the roof hatch.
- Design and install fall protection systems for safe access near exposed edges.

**2.2-D PLANNED AND ON-GOING PROJECTS**

N/A



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### 2.3 CIVIL

#### 2.3-A EXTERIOR BUILDING ENVELOPE/SITE

##### General

The Annex building is located on the southwest corner of E. 14th Avenue and Sherman Street with an address of 1375 Sherman Street in Denver, Colorado. The building is bordered by a parking garage to the west, the State Capitol to the north, office buildings to the east and the Centennial building to the south. The Annex building site is approximately 1.0 acre. The existing site consists of the Annex building and street right-of-way including sidewalk and landscaping. The main building entrance is accessed from Sherman Street (Fig. 2.3.A.1). The site surrounding the building is consistent with a building approximately 70+ years old. NOTE: Description of existing infrastructure is based on public utility information provided by the City and County of Denver.



Figure 2.3.A.1 – Capitol Annex Sherman Street Entrance

##### Grading and Drainage

The site slopes generally from east to west at grades ranging from 1-8%. The high point of the site is at the southeast corner, midblock of Sherman Street. The site slopes north towards E. 14th Avenue at approximately 0.5-2% and west towards Lincoln Avenue at approximately 6-8%. Existing runoff is conveyed overland away from the building towards the streets. Runoff is collected by street inlets (Fig. 2.3.A.2) and conveyed by storm sewer west within E. 14th Avenue. Runoff within the north courtyard area is collected by area drains.

The Sherman Street entrance is accessed via steps or a steep ramp (Fig. 2.3.A.3). The building is set back from the public sidewalk and treelawn





(Fig. 2.3.A.4). Landscaped areas are flat containing grass, established trees and bushes.

The foundation of the building appears to be stable. Settlement was observed at one location, below the marble site walls at the Sherman Street entrance (Fig. 2.3.A.5).



Figure 2.3.A.2 – Street Inlet



Figure 2.3.A.3 – Sherman Street Entrance Ramp and Steps



Figure 2.3.A.4 – Public Sidewalk and Treelawn





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Figure 2.3.A.5 – Marble Site Wall Settling

The site is located in the Denver Storm Drainage Master Plan Basin 4600-01 (Central Business District). This basin consists of 2.67 square miles and conveys the 2, 5, and 100 year storm event via both storm sewer and roadway conveyance. Runoff from the major basin is conveyed westerly to Cherry Creek, ultimately discharging to the South Platte River. Within this basin, storm sewer facilities typically are designed to convey the 5-year rainfall event at a minimum and it is assumed the same for this area of the City.

The effective Flood Insurance Rate Map (FIRM Map Number 0800460201G, effective date November 17, 2005) shows the property lies within Zone X, areas designated as outside of the 500-year floodplain. To our knowledge, there are no known existing flood control problems or drainage issues.

### **Utility Services**

The building utility demands are unknown at this time. There are multiple utility lines located nearby within the public streets. There is an 8" water line located within 14th Avenue and a 10" water line located within Sherman Street. There are no known pressure problems at this time however it was reported that there are several problems with the main into the building and it should be replaced.

The Annex building is served by a sanitary sewer service line connecting to a 12" sanitary sewer main within 14th Avenue. Sanitary sewer is routed westerly at a 5.9% slope. City maps identify a parallel sanitary sewer line within 14th Avenue but this line is private and the size is unknown. There is also a sanitary sewer main located within Sherman Street. This sewer is 9" in size and is routed northerly at a 0.79% slope and connects to the 12" line



within E. 14th Avenue via a manhole. There are no known sanitary sewer capacity problems at this time.

The storm sewer within E. 14th Avenue is 18". There is no storm sewer within Sherman Street.

Existing dry and regulated utilities (electric and telecommunications) are located in 14th Avenue.



Figure 2.3.A.6 – Street Utilities

### **Recommendations:**

- The main water line into the building should be replaced.

### **Site Paving**

Numerous locations of broken concrete and concrete cracking was observed. Repair or replace broken or cracked concrete.



Figure 2.3.A.7 – Site Concrete Crack



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Figure 2.3.A.8 – Site Concrete Patch, Recommended for Replacement



Figure 2.3.A.9 – Broken Site Concrete, Recommended for Replacement

### Recommendations:

- Cracks approximately 1/8" wide or smaller showing no differential movement can be sealed using an approved joint sealant. Cracks should be routed and cleaned per an approved industry method prior to sealing.
- Concrete panels showing numerous excessive cracking and/or differential movement should be replaced.
- Replacement shall be completed in full stone segments, i.e. to the nearest joint location. Repair the subgrade materials and place new curb & gutter or sidewalk. Replace backfill materials and repair/replace any landscaping/paving disturbed during repair operations.



### 2.3-B CODE ISSUES

The site exterior was analyzed for general conformance with ADA; however a complete accessibility audit is not included in the scope of services. There is a ramp with handrails at the main entrance for access. The ramp appears to comply with current standards.

Site slopes were analyzed by visual inspection and topography provided by the City and County of Denver for drainage and ingress and egress. The landscaped areas surrounding the building are generally flat. Current geotechnical recommendations and standard practice for slopes away from the building are 10:1 for 10 feet and 2% in hardscape areas. The building does not appear to have these slopes but no adverse impacts to the building foundation were noted. If problems occur, landscaped areas should be re-graded to provide slope away from the building and area drains should be installed. The slope of the sidewalk along E. 14th Avenue appears to exceed 5%, which does not meet general ADA accessibility guidelines, but there is leniency since it is an existing building and public sidewalk. It is recommended to install handrails at locations of sidewalk slopes that exceed 5% if required for ADA. All improvements within the public right-of-way should comply with and be coordinated with the City and County of Denver.

#### **Recommendations:**

- Re-grade landscaped areas for current geotechnical recommendations for slopes away from the building.
- Install handrails in ADA paths where slopes exceed 5%.

### 2.3-C PLANNED AND ON-GOING PROJECTS

There are no known site planned and on-going projects at this time.





### 2.4 MECHANICAL, ELECTRICAL, AND PLUMBING

#### 2.4-A OVERVIEW OF EXISTING SYSTEMS

##### **ELECTRICAL SYSTEMS**

The Capitol Annex building appears to have a +30 year old 600kVA 208/120V service and a five year old or less 2000kVA 480/277V service. The 480V service was installed to serve the emergency loads in the buildings and the new parking structure. According to the meter on the switchgear, the 480/277V system was only using 100 amps out of 2500 amps available. Each floor has at least two electrical rooms; one room containing three panelboards and the other containing the new emergency panel.

##### **Recommendations:**

- Replace the 208/120V distribution system including incoming feeder. Since the 480/277V system is lightly loaded, the new 208/120V distribution gear could be fed from two new 300kVA transformers. These would serve two new 800amp switchboards. Each office floor would have two 42 circuit 208/120V panelboards for receptacle loads and one 480/277V for lighting and pumps. The generator panelboard on each floor is less than five years old and does not need replaced.
- Completely remodel the electrical closets and provide separate IT closets with cooling. All panelboards past their useful life should be replaced.
- Install an individual electrical meter on the building and provide additional meters at each floor to allow tracking of energy usage and to aid in the facilitation of conservation efforts.

##### **Lighting**

Some of the light fixtures are over 30 years old (see Fig. 2.4.A.1) and some are less than 10 years old (see Fig. 2.4.A.2). They have T8 lamps with limited controls. The lighting is fed with 120V power. The exit signs appear to be less than 10 years old and appear to be working properly. Emergency lighting appears to be a combination of parts that are either over 30 years old or less than five years old.





Fig. 2.4.A.1 - Old Light Fixtures



Fig. 2.4.A.2 - New Light Fixtures

**Recommendations:**

- Upgrade all lighting to new LED light fixtures with more local switching, occupancy sensors, and daylight dimming. All the emergency lighting needs to be replaced with new fixtures.

**Fire Alarm**

The fire alarm system appears to be less than five years old and has full detection in the building with elevator recall. The fire alarm system appears to be up to code.



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### **General Power**

Receptacles are in bad condition and past useful life therefore need to be replaced.

#### **Recommendations:**

- Replace all of the receptacles and wire from associated panelboards.

### **Electrical for Mechanical System**

#### **Recommendations:**

- Provide new electrical for all mechanical recommendations listed in the report. The new electrical system would have proper clearances and be rated for the right environment.

### **Emergency Power**

The emergency generator is located in the back of the building. It was relocated from another building. Its condition is unknown; however, it appears to be over 15 years old. It is serving an electrical room in the back of the building via an 800A Automatic Transfer Switch (ATS). The equipment in this electrical room appears to be less than five years old. The emergency generator provides power to the fire smoke dampers, fire alarm system, and other life safety equipment. It also serves loads in the adjacent Power Plant and adjacent Capitol Building.

### **MECHANICAL SYSTEMS**

The heating and cooling system are original to the Capitol Annex building. There have been no major renovations to these systems. The cooling in the building is via chilled water from the central chiller plant located in the adjacent building. The heating in the building is via steam supplied by Xcel energy. The chilled water is supplied at 44 deg. F and steam is supplied at 25 psi which is reduced to 5 psi in the building before being distributed to the heating equipment. The temperature controls in the building are pneumatic.





The HVAC system for the building consists of a central built up Air Handling Unit (AHU) located in the penthouse. The unit serves floors one to seven. The built up AHU consists of a fan section, cooling coil section, and outside air intake section. The chilled water cooling coil section is located immediately after the outside air filter/louvers assembly. Presently, there is no heating provided within the built up AHU. Original steam piping with insulation has been disconnected and abandoned in place within the built up AHU. Supply air to each floor is delivered via a supply air riser and network of under floor ductwork on each floor. The air is being delivered to the perimeter steam heating convectors. The return air from each floor is through the elevator shaft via two return air grilles in the corridor. Since the elevator shaft is used as a return air duct, return air is 100% exhausted. During cooling mode, the unit runs on 100% outside air. During heating mode, to prevent freezing of chilled water coils, the outside air louvers are blocked (covered) and no outside air is introduced in the building via central AHU. The AHU motor is on variable frequency drive; however, the fan is operated only at two speeds, i.e. 30 hz during heating mode and 60 hz during cooling mode.

HVAC on each floor consists of perimeter steam convectors. The air from central AHU is introduced into these convectors via under floor duct work. Each convector consists of a finned tube element, steam control valve and a wall mounted thermostat. Some ceiling mounted diffusers were seen on the seventh floor; however, it appears that they have been abandoned and not in service.

The server room in the basement is served by dedicated DX Liebert units. The maintenance of these units has been sub-contracted to the outside contractor. The remaining portion of the basement is being served by an air handling unit (AHU) located on the ground level in the dog house behind the building. Electrical room in the sub-basement is served by dedicated DX Data-Aire unit.

The elevator machine rooms are served by dedicated DX cooling units located in the machine room. The air distribution within the room is via supply air duct work.

The building has separate water and fire lines. The fire protection system was installed about seven years back. The system includes sprinklers on each floor and fire pumps. The server room is provided with a dry pipe sprinkler system. The steam pressure reducing valve (PRV) is located in the sub-basement mechanical room and it reduces Xcel energy supply steam pressure from 25 psi to 5 psi which is then distributed within the





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building. The domestic heating water is generated via steam to hot water heat exchanger also located in the sub-basement mechanical room. The distribution of domestic hot water is via hot water pumps.

Some of the old equipment which is no longer in used is abandoned in place. For example the old chilled water pump (see Fig. 2.4.A.3), old Trane chiller (see Fig. 2.4.A.4), and AHU in the dog house (see Fig. 2.4.A.5) are abandoned in place. The old steam piping is abandoned in the penthouse AHU (see Fig. 2.4.A.6 and Fig. 2.4.A.7).

The Outside air intake louvers are close to exhaust air louver thereby short circuiting the exhaust air back to supply air (see Fig. 2.4.A.8). These louvers are rusted and falling apart (see Fig. 2.4.A.10). The central AHU supply fan condition is poor and part are falling off (see Fig. 2.4.A.9).

Currently, exhaust from the toilets is being exhausted outside 24/7. By providing an energy recovery system between the toilet exhaust and central AHU outside air intake, savings in heating and cooling energy can be achieved (see Fig. 2.4.A.11).

The plumbing piping is original to the building and needs frequent repairs.

The building has pneumatic controls (see Fig. 2.4.A.12, Fig. 2.4.A.13). Pneumatic controls go out of calibration and require regular calibration. There is no regular calibration program in place. Providing new DDC controls will save heating and cooling costs and improve indoor comfort. Install energy saving control sequences such as variable supply air flow, supply fan static pressure reset, occupied/unoccupied space temperature reset, heating hot water temperature reset per outside air temperature, etc. Presently only supply air temperature reset strategy is done.



Fig. 2.4.A.3 - Building Chilled Water Pump





Fig. 2.4.A.4 - Abandoned Trane Chiller



Fig. 2.4.A.5 - Abandoned AHU



Fig. 2.4.A.6 - Abandoned Steam Pipe

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Fig. 2.4.A.7 – Standing water in AHU Cooling Coil Drain Pan



Fig. 2.4.A.8 - Exhaust Air Louver



Fig. 2.4.A.9 - Central AHU





Fig. 2.4.A.10 - OA Intake Louvers



Fig. 2.4.A.11 - Toilet Exhaust Fan



Fig. 2.4.A.12 - Pneumatic Thermostat

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Fig. 2.4.A.13 - Pneumatic Control Valve (Convector)

### Recommendations:

- The central built up AHU is at the end of its useful life and needs to be replaced. One of the three exhaust louvers is located close to outside air intake louvers. Provide a new built up variable speed AHU consisting of outside air, return air, filter, heating and cooling section. The existing steam pipes with insulation within the AHU should be demolished and removed. Provide new main return air duct and connect return air from each floor to it. The unit should be sized to meet the building loads. Presently, the building has single pane glass windows. These windows should be replaced with double pane windows. This will reduce heating and cooling loads considerably, which will reduce the size of the central AHU.
- Provide a direct/indirect evaporative cooling unit instead of chilled water AHU. This will reduce cooling energy costs.
- Replace existing pneumatic controls with new Direct Digital Controls.
- Provide new supply air duct work on each floor with VAV boxes, distribution duct work and ceiling diffusers. This will save energy and will improve indoor environment quality. Provide an energy recovery unit on building exhaust (toilet and general) fan.
- Provide a steam to hot water heat exchanger and convert steam heating equipment into hot water heating.



- Investigate supply air duct work on each floor to ensure air is being delivered to each convector. Provide return air grille/path for return air to move from rooms to the corridor.
- Existing plumbing piping is original to building and is susceptible to frequent leaks/repairs. Replace plumbing piping in the building.
- It is recommended to do a detailed energy saving study to include above mentioned energy conserving system types/features.
- Remove abandoned AHU in the dog house. This will provide additional space for maintenance of the unit serving the basement.
- Remove abandoned Trane chiller located behind the building near dog house.
- Remove abandoned building chilled water pump located in the penthouse.

## **2.4-B CODE ISSUES**

### **ELECTRICAL CODE ISSUES**

In the mechanical penthouse that houses the supply air for the building, condensation is being sprayed on all electrical equipment serving the mechanical gear. This electrical equipment is not rated for outdoor environment and will fail earlier than it should. This electrical equipment is creating an unsafe working condition. Also, not all the equipment has the proper working clearance.

Not all light fixtures are working and some are creating unsafe conditions for the tenants (see Fig. 2.4.B.1, Fig. 2.4.B.2).

The main electrical closets on floors one thru eight are sharing space with telecom equipment. Some of the panelboards are not accessible and others are blocking the door swing. These closets do not have the required working clearance (see Fig. 2.4.B.3, Fig. 2.4.B.4).





## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 2.4.B.1 - Broken bulb hanging



Fig. 2.4.B.2 - Wire cover hanging



Fig. 2.4.B.3 - IT equipment in front of panels







Fig. 2.4.B.4 - Panel not accessible

### **MECHANICAL CODE ISSUES**

No outside air is provided at the central AHU during heating mode.

Stair pressurization system not provided.

Return air is through elevator shaft. No fire/smoke dampers provided at the return air opening.

Exhaust air louver is close to outside air intake louver.

### **2.4-C PLANNED AND ON-GOING PROJECTS**

It was reported that all the electrical and the plumbing piping system require replacement. No date has been established for this work at present.



## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



### 2.5 VOICE AND DATA

#### 2.5-A OVERVIEW OF EXISTING SYSTEMS

##### **Findings**

SMW provided voice/data survey and assessment scope for this building on March 25, 2014.

Below is an assessment of the IT/Telecom Infrastructure within the Annex building:

- IT/Telecom equipment racks co-located in electrical closets, adjacent to electrical panels.
- Asbestos is an issue where these IT/Telecom equipment racks are located in electrical closets.
- There are many, older, abandoned telecom cables routed up the vertical building risers (core holes).
- Many of the existing telecom cables routed up the vertical building risers are unlabeled.
- Many of the conduit sleeves between vertical floors are missing fireproofing.
- The cabling to voice and data outlets is antiquated (Category 5) and will not support 1 Gigabit to the desktop or Power-Over-Ethernet (POE) devices, such as video surveillance cameras or VoIP phones.
- The existing voice cables will not support future Voice-over-IP phones.
- Surface raceways are being used down corridors to route cabling from IT racks to telecom outlets. Many of these surface raceways are full with cables spilling out of these raceways.
- Many cables are being routed freely in hallways, wire tied to conduits, etc.
- The Annex building does not have a properly designed and constructed IT Infrastructure, which would include a main equipment room (i.e. an MDF), and telecommunications rooms on each floor. The building pre-dates when these building IT/Telecom standards were adopted and used in the design and construction of such infrastructures.



- The data center is a large space and part of the space serves as an office space.
- This data center facility houses about 17 active servers.
- The typical servers that would be found in building would be those serving as file storage, printing, and domain servers.
- Reportedly, OIT has a goal to remove, reduce, or reassign servers so they can sit elsewhere so the freed up space can become office space.

### **Recommendations:**

The requirements and recommendations within this section establish the necessary Basis of Design for the IT Infrastructure portion of the renovation of the Annex building.

The building will need to be provisioned with the following pathways, spaces, and cable media.

### **Telecommunications Rooms (i.e. Spaces)**

#### 1. Main Equipment Room (MDF) / Entrance Facility Room (EF)

- One consolidated Main Equipment Room (MDF) / Entrance Facility Room (EF) shall be installed within the building.
- This main MDF room will include both the Building Entrance Facility for supporting outside plant cabling and raceways and will be the main equipment room for installation of the low voltage and communications systems' (also referred to as the Technology systems) head end equipment.
- The MDF room shall be a minimum of 12' x 16' in size, capable of supporting the installation of one row of racks, with approximately six (6) equipment racks / cabinets.
- The MDF room shall be installed on the first floor of the building. Avoid the basement due to potential flooding.

#### 2. Telecommunications Rooms (IDFs)

- A minimum of one (1) telecommunications room (i.e. IDF rooms) will need to be installed on each floor and should be vertically stacked, floor-to-floor.



## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



- The IDF rooms shall be a minimum of 10' x 12' in size, capable of supporting the installation of one row of four (4) equipment racks.

### 3. Telecommunications Room Locations

- TIA Standards require that one IDF room per floor be installed, and be located as close as possible to the center of the area being served, preferably in the core area.
- Additional IDF rooms are required per floor when the floor area served exceeds 10,000 square feet or the horizontal distribution distance to the field device or telecom outlet exceeds 295 feet (or 90 meters).
- Telecommunications rooms should not share a common wall with an electrical room due to potential electromagnetic interference (EMI) issues. If it is imperative due to constraints to place both of these rooms adjacent, then a double wall with a 1-foot internal separation should be considered or the layout of the electrical room should preclude mounting of equipment on the common wall.

### **Telecommunications Pathways (i.e. Conduit/Raceways)**

#### 1. Backbone Pathways

- Telecommunications pathways will need to be installed from the MDF room to each IDF room within the building.
- Provide a minimum of three (3) 4-inch conduits from the MDF room to each IDF riser within the building.
- Provide a minimum of three (3) 4-inch conduit sleeves vertically between stacked IDF rooms.
- Provide a telecommunications pathway up to the roof of the building to support future satellite antennas.

#### 2. Horizontal Pathways

- Telecommunications pathways will need to be installed from telecom outlets and IP field devices to the IDF room serving the floor.
- Horizontal pathways are to be primarily installed through office spaces and not down the main corridors within the Annex building, which are historical sections of the building. Soffits may need to be created through the office areas to provide these pathways, with access panels for accessing the cabling during installation and subsequent moves, additions and changes in the future.



- At the telecom outlet locations, provide 4" square back boxes that are 2-1/8" deep with a 1" conduit installed within the wall to the nearest accessible ceiling space. If outlets need to be surface mounted then provide 1" surface mounted raceway from the back box to the main distribution pathways in the soffits.

### **Telecommunications Cabling**

#### 1. Telecommunications Backbone Cables

- Furnish and install a 24-strand singlemode fiber cable and a 24-strand multimode fiber cable from the MDF room to each IDF room in the building. The multimode fiber cable will be OM4 50 micron laser optimized optical fiber.
- Install fiber optic cable in a 1-1/4" innerduct end to end.
- Furnish and install a 50-pair or 100-pair copper backbone cable from the MDF room to each IDF room in the building.

#### 2. Telecommunications Horizontal Cabling

- Furnish and install a Category 6 unshielded, twisted pair (UTP) horizontal cable from telecom outlets and IP field devices to termination hardware in the IDF rooms.

#### 3. Cabling within Single Occupancy Offices

- Provide a minimum of two telecommunications outlets, located on opposite walls, each with two data jacks. Install two Category 6 horizontal cables to each outlet from the IDF room serving the area.

#### 4. Wireless Access Points (WAPs)

- For ceiling mounted WAPs, install two Category 6 horizontal cables to each WAP from the IDF room serving the area.
- Provide WAPs at a 20 to 45 foot range or at approximately 25-foot centers on each floor, mounted in accessible ceilings.



## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



### 2.5-B CODE ISSUES

#### **Findings**

It is our understanding there are currently no major code issues in the building related to the existing voice/data IT/Telecommunications Infrastructure.

#### **Recommendations:**

For new renovation work, codes that would be applicable would include, but may not be limited to are as follows:

- International Code Council (ICC)
- National Electrical Code (NEC)
- Telecommunications Industry Association (TIA)
- Electronic Industries Alliance (EIA)
- Institute of Electrical and Electronics Engineers (IEEE)
- American National Standards Institute (ANSI)
- Underwriters Laboratories (UL)
- State/Local Governing Authorities Having Jurisdiction

### 2.5-C PLANNED AND ON-GOING PROJECTS

It is our understanding there are no known planned and/or on-going IT/Telecommunications Infrastructure projects for the Annex building currently.





## 2.6 SECURITY SYSTEMS

### 2.6-A OVERVIEW OF EXISTING SYSTEMS

#### **Findings**

Note SMW was not scoped for this task for Security, no surveys.

Reportedly, some of the exterior doors are held shut only by the access control system devices and there is a concern when the building power is lost these doors result in a non-powered unsecured state. These doors are being recommended to be repaired or replaced at which time these concerns should be addressed.

It was reported that Hirsch access control card readers need to be upgraded.

For general security findings, see 2.1-B Code Issues: Security.

#### **Recommendations:**

The security systems design guidelines outline electronic security systems infrastructure which would enhance security operations and provide a safe and secure environment for persons and assets within the Capitol Annex building. Security systems must be implemented such that they can be easily and effectively be monitored real-time from CSP centralized communication center(s). The following primary security systems are currently in place: Access control (ACS), video surveillance, wireless duress, and central monitoring by CSP. Electronic security systems which must be replaced and/or addressed include: video surveillance, access control, intrusion alarm, duress alarm, and audio intercom. The access control system is campus wide and currently exists throughout other State Capital Complex buildings. The ACS serves as the primary security management system for monitoring intrusion alarms. The State's existing wireless duress alarm system infrastructure is in place. The existing security systems are controlled and monitored centrally from Colorado State Patrol's Central Command Center (CCC), Denver CO. The single sub-system in most need of upgrade is the security cameras. The video surveillance system is an antiquated analog video based system. Video image quality is poor as compared to new digital technology, system cannot be easily integrated into other security management systems, and user interface is not capable of





## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



current industry standards for forensics use.

This report is not designed as a specification, but rather as an outline to provide information on required security system upgrades and security criteria recommended for implementation. The security systems must be planned and designed to allow CSP and security personnel the operational flexibility to provide proper security response in the event of an incident. Best practice security design methodology should be applied, including layered security, security in depth, and integrated systems design. Applicable State of Colorado construction standards and design guidelines must be followed.

The access control system (ACS) will be an expansion of the existing campus wide system currently installed throughout other State Capital Complex buildings, and utilize similar ACS door controllers and peripheral equipment. New proximity type card readers shall operate with the existing proximity card credentials. Door devices are to wire through a consolidation junction box above door, and be routed to nearest IDF room where door controllers and power supplies are located. ACS door controllers installed in telecommunications IDF rooms will connect to the buildings LAN for communication with the ACS server. New security equipment to be located within IDF rooms must be coordinated with State IT technical staff. Each access controlled door should be equipped with card reader, electrified lock, door position switch, and request-to-exit-motion device (or hardware integral request-to-exit switch). All doors described as a card reader controlled access door will be outfitted with the standard equipment listed, unless specifically defined elsewhere to vary from this configuration. For new controlled doors, the use of magnetic locks and electronic strikes is not recommended. Electrified lever sets and panic hardware are to be equipped with request-to-exit switch in exit hardware. At controlled door locations, the specific electrified hardware requirements must be compatible and coordinated with the ACS control interface circuit. The ACS shall also serve as the primary security management system for monitoring intrusion alarms. Intrusion alarms such as door status and motion detection alarms are to be integrated with and monitored through the access control security management system. Alarm device additions and modifications shall be coordinated with State during the design phase. Security personnel shall be able to monitor security system alarm notification devices through network connected client workstations, where authorized.

The video surveillance system (VSS) will need to be upgraded from analog to digital, and implement IP cameras integrated to new network video recorders (NVRs). New IP camera shall communicate with the VSS over



building LAN. Security cameras may be made up of both fixed field of view and pan-tilt-zoom (PTZ) type, and should be IP, minimum HD quality, and be Power-over-Ethernet (PoE) devices. Camera network cabling is to pull to nearest IDF room, providing connectivity to the building LAN. IP camera network cabling shall terminate to building PoE network switches. Security personnel shall be able to monitor the security video surveillance system through network connected client workstations, where authorized.

The State's existing wireless duress alarm system infrastructure should be expanded where needed to support new locations of wireless duress buttons. Duress alarms are to be installed at all public interface and cash handling locations. CSP Central Command Center monitors a wide network of wireless duress buttons at multiple State Capital Complex facilities in Denver. This is accomplished using wireless mesh coverage by use of repeaters located on the State facilities. The duress system will utilize wireless duress buttons, which transmit RF signals to an infrastructure of wireless RF receivers and repeaters. System repeaters are to be provided if necessary to boost wireless signal strength. Duress alarms in the building will be monitored by the existing CSP head-end system.

An Intercom Communication System (ICS) is required to enhance security operations in the facility, for security personnel, staff and visitors. The ICS is strongly recommended to be an Intercom over IP (IoIP) Communications solution. IoIP systems provide superior audio quality utilizing the latest digital technology, and provide much greater flexibility for locating both master and sub-stations anywhere on the local area network via IP communications. Security personnel in CSP CCC would be provided with two-way audio communications to any remote building IP intercom sub-station.

As part of renovation work, all security head-end equipment must be located in the IDF rooms, and coordinated with State IT technical staff. New security network video recorders (NVRs) to support IP cameras are to be located in IDF rooms. All head-end security control equipment must be backed-up with emergency power circuits or UPS units. State security personnel and other authorized staff may remotely monitor access control events, system alarms, and security video through network connected client workstations. For Annex building renovation work, requirements for security device additions/upgrades and specific security system functionality are to be coordinated with CSP and State security personnel during design and construction phases.

All security installation work, construction standards, and operational



## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



requirements are to be closely coordinated with the State by the electronic security integrator.

Electronic security additions provided for the Annex building shall be an extension of existing State facility security system infrastructure, as described earlier in the report. The digital VSS shall be new, as an upgrade to existing. The facility should be provided with electronic security applications and equipment as listed below:

Access controlled doors:

- Main entry
- Suite entries on each floor
- IDF rooms, recommended

Intrusion alarms:

- Access controlled doors
- Perimeter doors

Wireless duress alarms:

- Public interface counters
- Cash handling locations

IP Intercom stations:

- Main entry, recommended

Video surveillance IP cameras:

- New digital VSS
- Replace existing with IP cameras
- Main entrance/lobby
- View of intercom stations



Security system cabling must share cable routes with that of the building structured network cabling system. The network cabling paths and riser locations generally provide the most direct route through a facility, and typically contain sufficient space for security cabling requirements. Data cabling required for IP security cameras is to be provided and installed by the Telecommunications Contractor. This will be the required construction method for provisioning of the IP camera network cabling to support the new VSS system. State IT construction standards for network and security cabling types and jacket color must be adhered to. Security cabling must never be exposed, and must be contained in protective conduit wherever cable is accessible to vandalism, accidental damage, or where it traverses any unsecured space. Security cabling shall be plenum rated where required by codes.

All head-end security control equipment is to be located to Intermediate Distribution Frame (IDF) rooms. Security equipment locations within IDF rooms must be coordinated with State IT technical staff during design phase. Security cabling within IDF rooms shall be piped to wire gutters and or security equipment panels. Within IDF rooms, a 4'x8' section of wall space must be reserved for security equipment, and supplied with fire treated plywood backboard. Rack mounted security equipment may share space in telecommunication equipment racks, where appropriate, and as coordinated State IT personnel. One dedicated 120VAC 20A emergency power circuit is required at each security wall board location to support head-end equipment. All mission critical electronic security equipment shall be provided with back-up UPS. All UPS units shall be stand-alone, dedicated for security, and sized accordingly based on required run time.

## **2.6-B CODE ISSUES**

### **Findings**

It is our understanding there are currently no code issues in the building related to existing electronic security systems.



## 2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



### **Recommendations:**

For new renovation work, codes which would be applicable would include but may not be limited to:

- International Code Council (ICC)
- Americans with Disabilities Act (ADA)
- National Fire Alarm and Signaling Code (NFPA 72)
- National Fire Protection Association Life Safety Code (NFPA 101)
- National Electrical Code (NEC)
- Telecommunications Industry Association (TIA)
- Electronic Industries Alliance (EIA)
- American National Standards Institute (ANSI)
- Underwriters Laboratories (UL)
- City of Denver Access Control Code
- State/Local Governing Authorities Having Jurisdiction

### **2.6-C PLANNED AND ON-GOING PROJECTS**

It is our understanding there are no known planned and/or on-going Security System projects for the Annex building currently.



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### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



## 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS AND RECOMMENDATIONS

### 3.0-A HISTORIC OVERVIEW

#### **Introduction**

The State Capitol Complex Annex Building, located at 1341 Sherman Street, is listed on the National Historic Register of Places (#5DV3844, NR-6/24/91) along with the Boiler Plant directly to the south. The building is also listed as a contributing resource in the Civic Center National Historic Landmark District (#5DV161, NHL 10/17/2012). Due to the historic value and importance of this resource, the following narrative provides a process for maintaining the historic character of the building, while allowing for an upgrade to the building as a whole and a framework for how to utilize valuable space within the building.

This narrative is broken into two basic sections:

- Character defining elements – those aspects of the building that make up the overall historic “impression” of the building.
- Treatment Zones – areas of the building that should be rehabilitated to their historic appearances.

The purpose of the narrative is to provide a guide for how to approach the redevelopment of the building at a master planning level.

#### **Character Defining Elements**

The character defining elements on the exterior of the Capitol Annex building are height, size, materials, fenestration pattern and massing. These elements all contribute to the overall impression of the building. Materials play an important role in defining the character of the building and the important material on the exterior is the white marble which is used to create the stepped massing of the building with the subtle detailing of the Art Deco façade. The bronze and glass doors at the entrances are also character defining elements of the building. The original windows contribute significantly to the overall composition of the elevations. The granite at the base of the building and around the entries also contributes to the character of the building.

Interior spaces that are important to the character of the building are the entry lobbies and vestibules, the original corridors on the first through





seventh floors and the historic hearing room on the seventh floor. Original materials that remain and are important to the character of the interior of the building include the terrazzo flooring, marble base, travertine wall panels at the lobbies, marble wall panels at the vestibules, plaster ceilings with subtle stepped detailing and the original light fixture in the basement lobby. The wood paneling and painted mural in the hearing room are materials that contribute to the historic character of the building. The original window frames, sills and trim also contribute to the historic character of the building.

### **Treatment Zone 1 – Exterior Facade**

Description:

The seven-story Annex building faces east onto Sherman Street with a north basement entrance opening onto 14th Street, which slopes downhill to the west. At Sherman Street, the structure is set back from the public sidewalk which is separated from the street by a grassed parking strip. The area between the sidewalk and the building is also grassed with shrubbery planted adjacent to the low walls of the continuous light wells extending along the front of the structure. The north elevation of the Annex is set back from a low, stepped granite retaining wall that runs adjacent to the public sidewalk and follows the contour downhill enclosing a plaza that extends the width of the building and provides access to the north, basement entrance. The red sandstone flagged plaza paving is four steps down, between low podia, from the public sidewalk and extends to the narrow alleyway at the west elevation. The alleyway, contained within a granite wall, provides access to a one-story service entrance wing extending perpendicular from the main structure. The service wing, the width of the loading dock, extends south and connects to the boiler building beyond, forming a high brick retaining wall to the west.

The symmetrically designed, concrete frame, State Capitol Annex is characterized by a central tower of six stories with flanking wings of five stories set on a one-story base. A one-story elevator penthouse, set back from the elevations, extends above the roof of the tower. The entire façade is clad in white marble veneer above the first floor base which is also clad in marble veneer above a dark gray, pink flecked granite foundation course that extends to window sill height. The granite foundation is set on a beveled watertable course, also of granite. Granite veneer clads the exposed basement level at the north and west elevations including the face of the



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



service entrance wing. The central tower, which forms a projecting pavilion-like structure, is characterized by having ten vertically defined bays at the façade and at the rear, west elevation. The flanking wings, stepped back from the east and west elevations, have one vertical bay consisting at each floor of a band of three window openings with metal mullions. The north and south end elevations of the wings have four bays in a shallow projecting pavilion above the first floor.

The vertical bays of the central tower, at the uppermost floor, have plain window openings with the marble veneer forming lintels and sills. Below, the remaining five floors have similar sized window openings connected vertically with a slight setback at the jambs and spaced with vertically grooved spandrel panels. The spandrel panel grooves, or inverted flutes, define a narrow, narrow, wide, narrow, wide, narrow, narrow pattern. The fenestration pattern, with fluted spandrels, is repeated at the north and south wing pavilions above the first floor.

The marble-clad, one-story first floor base projects beyond the central tower, is flush with the north and south wings, and is set on a granite foundation and watertable. The central granite-clad entrance feature projects towards Sherman Street and is flanked by the first-floor marble facade. At the north and south elevations, the window openings within the base structure correspond to the above four bays of the wing pavilions. These four central bays are flanked with two bays, all equally spaced. At the granite-clad basement level of the north elevation the central, slightly projecting entrance feature is flanked with three window openings reflecting above spacing. Typically, the openings in the granite veneer, which is coursed, have a lintel block over each opening and sills set on a projecting watertable course. All of the window openings have one-over-one double hung metal sash with reflective solar film on the glazing.

The Sherman Street entrance feature is characterized by a wide polished granite aedicule surround which contrasts to the dull granite finish of the foundation. The entrance is one-story corresponding to the height of the parapet of the building's first story base. With square outside corners, the granite veneer curves into the doorway reveal to form stylized pilasters. A flat head of one large veneer block extends across the recess and is set with a panel which is carved in relief: STATE CAPITOL ANNEX. The curved reveals extend to granite jambs which enclose three bronze doors set with a three-light transom that extends to the granite soffit of the recess. Extending from the pilasters of the surround are polished granite podia which enclose the entrance landing. Low granite walls extend from the surround at the outside corners to the height of the watertable course which enclose



continuous light wells running the length of the façade. A low pipe rail is mounted on the wall and continued down the stepped north wall enclosing the north plaza.

At the north entrance facing 14th Street, the polished granite aedicule has similar square outside corners and curved reveals which extend to the door jambs. The flat head is carved with STATE CAPITOL ANNEX in relief directly across the lintel block and overlaps adjacent veneer joints. Two doors without a transom are set in the opening which is one step up. Typically, the bronze doors are single-light set within mullions. At Sherman Street, the three bronze single-light doors and three-light transom are contained within shallow fluted, bronze pilasters set with narrow head blocks and square base blocks. At 14th Street, the bronze single-light doors are set within a tri-parted bronze frame. A west service doorway has a bronze twelve-light door and a three-light transom set within a bronze frame. The transom bar is fluted.

The aedicule surrounds are completed with a narrow top parapet course of vertical fluting with an indented groove. The parapet fluting is carried on a wider course carved in relief on three planes in a continuous swag motif. The frieze swag motif is repeated in marble on the building's one-story base structure. The motif extends around the square corners of the base structure and terminates at the junctures with the side wing pavilions. A swag motif is also incorporated into the detailing of the bronze transom bar of the Sherman Street doorway. Bronze framed light fixtures, mounted flush with the granite and with fluted frosted glass shades, flank the 14th Street doorway. Square light fixtures set in three pairs are set flush in the soffit of the Sherman Street entrance.

Above the one-story base structure with its square corners, the main central tower structure has short-radius rounded corners which extend to a simple roof parapet of two stepped back courses. The lower course is ornamented with shallow folded plate fluting. A slightly projecting lip is set below the parapet. The below walling is characterized by two courses of stacked bond veneer carried on the running bond course which incorporates the window lintel veneer. Typically, the veneer is laid in running bond with three courses corresponding to window height. The side wings have long-radius curved corners which wrap around to be received by the shallow four-bay pavilions of the north and south elevations. The pavilion parapets extend above the curved parapets, all of which consist of a single stepped course set on a lip. Below, the walling has three projecting narrow courses extending across the heads of the window bands. Between the window bands are two projecting courses which extend to the north and south pavilions around the corners,



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



where the veneer joint pattern suggests corner quoins.

Windows throughout the building consist of one-over-one double-hung painted steel sash in a painted steel frame. The frames are mounted to the inside face of the wall behind the stone veneer at all jambs. The glazing appears to be the original single pane glass with no storm windows. The bronze doors at both entries are full lite doors with much of the original hardware intact and operational.

The building retains the original form, massing and detailing of the 1939 design with very little change to the exterior façade. The stone veneer although dirty, is in excellent condition with very little damage to the stone itself.

#### **Recommendations:**

- The exterior façade remains in its original historic condition, has been relatively well-maintained over the years and is the most publicly viewed and recognizable portion of the building. The façade consists of historic fabric and the exterior character of the building has been maintained. Therefore, the exterior should be restored.
- In general the exterior facade is in good condition though dirt has accumulated on all of the elevations. The building should be cleaned with a cleaner that is appropriate for marble and granite. Some of the mortar is failing or has been improperly pointed in places and should be repointed with an appropriate mortar that matches the composition of the original. Marble and granite that is eroded or spalling should be repaired or patched.
- The windows show some evidence of peeling or deteriorating paint and rusting at areas near sills. Caulking and sealant is missing, brittle or pulling away from surfaces in many areas. Original weather stripping has reached the end of its useful life at most locations.
- If the windows are replaced, we suggest using a product like “Custom Windows—Series 9250” (<http://www.customwindow.com/9250.html>).
- The doors are in good condition but need to be refinished. The existing weather stripping is worn or missing and should be replaced in kind. The doors should then be tuned to ensure proper closing rates and full closure for a weather tight seal.
- All work should be done in compliance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties and NPS Preservation Briefs.





Zone 1 Exterior Facade:  
North and east elevations



Zone 1 Exterior Facade:  
Central tower on the east  
elevation



Zone 1 Exterior Facade:  
Granite clad east entry



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



Zone 1 Exterior Facade: North entry with curved reveal at the door



Zone 1 Exterior Facade: Typical window with some rusting and peeling paint

#### **Treatment Zone 2 – Interior Lobbies and Circulation**

Description:

Opening from the Sherman Street entrance of the Annex is the rotunda vestibule. The walls are clad in narrow panels of dark green marble set on a flush green marble base. The jambs of the outside entrance doors and





the interior three bronze doors, which do not have a transom, are curved. Marble panels extend over the interior doorway. Centered on the south wall is a bronze tablet in an integrated green marble frame that identifies that the building was a Federal Emergency Administration of Public Works project completed in June 1939 and lists the city officials at that time. The terrazzo flooring has radial joints and a star pattern laid out in two shades of green. The plaster ceiling of the rotunda is circular and floats over the faceted wall panels. The plasterwork consists of concentric circles with three bands of fluting flanked by plain steps. Two inner steps frame a central round bronze reflective light fixture. Bronze grilles are incorporated into the marble base as heat registers.

The rotunda opens into the central lobby of the building which contains three elevators along the north wall. The lobby is clad in tan travertine marble set on a green marble base. The walling is laid in alternating narrow and wide courses and terminates at a swag ornamented top course matching the swag on the exterior facades. Behind the frieze is a light trough that reflects light toward the plaster ceiling which has three perimeter steps. The travertine marble is curved at the elevator doorways and at the outside corners of the lateral halls at the east and west ends of the lobby the bronze elevator doors have centered vertical fluting and bronze frames. The west doorway has a pair of bronze doors with a single-light obscure glazing and bronze frame. The marble jambs of the opening are curved and carry a flat head and soft. An original applied numeral clock is mounted above the doorway on the lintel. The floor is paved with two-toned green terrazzo in a grid pattern with superimposed diamonds in the center field in two shades of green. The terrazzo extends down the three lateral corridors which are travertine clad. The ceilings have shallow plaster coffers. The office entrances have metal-framed, single-light glazed doors and the entrance to service areas have one-panel metal doors with the narrow metal tri-parted trim. New painted flush metal doors have been installed in some locations and openings enlarged for ADA accessibility. Opposite the elevators is a bronze directory door with a glazed center panel. Fluting extends above and below the glazed panel. Balancing the directory is a false elevator door which is backed by a freight elevator and small service lobby typical to each floor.

Floors two through seven are typical with an H-shaped circulation plan consisting of the central elevator lobby with four north-south lateral corridors extending from the east and west ends of the lobby. The lobbies are clad in





### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



travertine marble with green terrazzo flooring and shallow plaster coffered ceilings. The lateral hallways have five-foot high bookmatched marble wainscoting. Office doors are glazed and service doors are paneled. New doors are flush. Original door knobs are bronze and have square bronze back plates. Modern style lever hardware with a bronze finish has been installed at some doors. The elevator doors, set within canted marble jambs, are painted metal with vertical fluting imitating the first floor doors. On the upper floors opposite the elevator doors are two alcoves with a registration/information station in one which has an opening at countertop height. The other alcove fronts the freight elevator service lobby and is set with a modern drinking fountain. The seventh floor has a foreshortened circulation plan. One exception to the standard door configuration is the pair of double doors at the hearing room on the 7th floor that consists of wood veneered doors in a wood surround and transom. Each floor has a men's and women's restroom at the south end of the central core. Typically, the restrooms have white terrazzo flooring, white walls, and white marble partitions. The original plumbing fixtures, with pedestal sinks, are white porcelain. Restrooms have been modified to be more accessible with the removal of some fixtures and partitions and the installation of some new ADA fixtures.

In the basement, the public corridors and lobbies are clad in travertine marble. The general circulation plan mirrors the H configuration except that the northwest corridor from the elevator lobby extends to an exedra lobby which then opens north into a corridor, an enclosed vestibule, and the north 14th Street entrance. The half round exedra lobby has radial pattern terrazzo paving and pilasters between double doors opening into adjacent offices. Bronze doors open into the vestibule which contains a short run of terrazzo steps up to the street entrance landing. The exedra ceiling is coffered and has a horseshoe shaped bronze light fixture suspended from the ceiling. The inverted stepped fixture has a fluted top bank and reflects light upward. Below the basement is a service sub-basement which provides access to the tunnels connecting the State Capitol Complex.

The main entry lobby from Sherman Street, the lower lobby from 14th Street, and the elevator lobbies and circulation hallways at each floor have all retained high degrees of the original finishes and layouts. Several modifications have been made over the years to upgrade mechanical, electrical, life safety and communication systems. ADA issues have also been addressed at elevators and restrooms.



Throughout the hallways there are exposed communication cabling, electrical conduit and exposed sprinkler piping. There are also many signs and posters applied to the walls throughout the hallways.

**Recommendations:**

- Some of the modifications to this zone have been done in a manner that compromises the historic integrity of the space. Other impacts on this zone are related to the on-going maintenance and a need to restore damaged fabric. Paint sampling should be initiated in order to establish what original colors were used in these areas. From this sampling, an appropriate color scheme can be developed and should be implemented throughout.
- The travertine wall panels are damaged in several areas and should be patched and repaired with an appropriate material to match the appearance and finish of the adjacent stone. Much of the damage occurs at exposed corners. Once the stone is patched and repaired, the installation of stainless steel corner guards could be considered to better protect those edges. There is precedence elsewhere in the building for this approach.
- The wax buildup on the terrazzo flooring should be removed down to the original terrazzo. The cracks in the terrazzo should be filled and repaired with matching terrazzo infill and the terrazzo could then be reground to provide the original luster. Wax should not be used in the future – just a wet mop and buffing.
- If possible, flush hollow metal doors and frames should be replaced with metal panel doors and trim that matches the original. More appropriate door hardware can be found to more closely match the original hardware.
- If possible, relocate all sprinkler lines, conduit and data cabling outside the corridor in a soffit on the office side of the walls. Sprinkler heads can be side wall mounted to make the systems less intrusive in these spaces. The installation of a more appropriate indirect lighting system that is more in keeping with the historic characteristic of the space is recommended.
- All work should be done in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and NPS Preservation Briefs.



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



Zone 2 Interior Lobbies and Circulation: First floor central lobby with terrazzo flooring, marble wall panels and a shallow plaster coffer ceiling



Zone 2 Interior Lobbies and Circulation: Typical elevator lobby configuration and finishes



Zone 2 Interior Lobbies and Circulation: Typical corridor with terrazzo flooring and marble wainscot





Zone 2 Interior Lobbies and Circulation: Basement corridor with typical finishes connecting to the north entrance



Zone 2 Interior Lobbies and Circulation: Exedra lobby off the north building entrance

### **Treatment Zone 3 – Hearing Room**

Description:

In the northwest corner of the seventh floor there is an historic Hearing Room that has been converted to open office space. The room extends across half of the north end of the building with exterior windows on the



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



north and west walls. The north, east and south walls are characterized by an applied wood veneer from floor to ceiling. The veneer is book-matched and appears to be a cloth-backed, thin veneer adhered directly to the plaster walls. A very flexible product, the veneer is bent around very tight radiuses and bullnose forms at all openings.

Window recesses extend floor to ceiling. Windows consist of a metal jamb, sash and sill. There are radiator panels under the windows with a metal grill that matches the windows and is built into the sills. The walls have a 2-part wood base that follows the contours of the walls with solid carved shapes. There is an original mural painted in a recess along the south wall with veneered, quarter-round surround on both sides. The base of the mural matches the window sill level but is hidden behind by systems furniture. Double doors at the entry on the south wall and the single door on the east wall are wood veneered doors with small vision panels. The floor is carpeted throughout – the original flooring may be intact under carpet.

The ceiling in the space is defined by a shallow plaster beam with a reverse fluted bottom toward the west end of the room. Air supply grilles are placed on the side of the beam. There is a shallow stepped frieze band around the perimeter of the room that matches the bottom of the beam. The plaster ceiling in the room is flat with a shallow step at the perimeter. 12"x12" acoustic tiles have been applied to the ceiling to a point approximately 24" from the walls and beam. A series of painted wood frame boxes flush with the ceiling indicate where recessed lighting may have been installed earlier. Existing lighting consists of surface mounted, wrap-around fluorescent fixtures throughout.

There is exposed, surface mounted electrical conduit, outlets and switchboxes on several walls. Communication and data cabling is tacked to the ceiling and the frieze throughout the room. Fire sprinklers are suspended from the ceiling with exposed heads and a painted trunk line along the south wall.

#### **Recommendations:**

- The entire room should be restored to its original condition if at all possible. A substantial amount of historic fabric is intact although some of the fabric has been damaged.
- The wood veneer should be restored to its original condition. Wood



base and edge trim should be restored and refinished. Plaster is damaged in some locations and should be repaired. The historic mural on the south wall should be cleaned and restored. Research the origin of the painting and the artist and install an interpretive plaque at the mural. The carpet should be removed and the original flooring (if intact) should be restored and refinished.

- Exposed conduit, outlets, and switches, as well as data cabling should be concealed – either in the walls or the ceiling. If possible, relocate the fire sprinkler trunk lines outside the room and conceal piping wherever possible.
- The acoustic tiles should be removed from the ceiling and the original plaster should be restored. The light fixtures should be replaced with light fixtures that are more appropriate to the space and the historic character of the room.
- The wood veneer doors should be restored and refinished.
- All work should be done in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and NPS Preservation Briefs.



Zone 3 Hearing Room: Original mural painting





### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



Zone 3 Hearing Room: Wood veneer wraps around the bullnose at the window opening



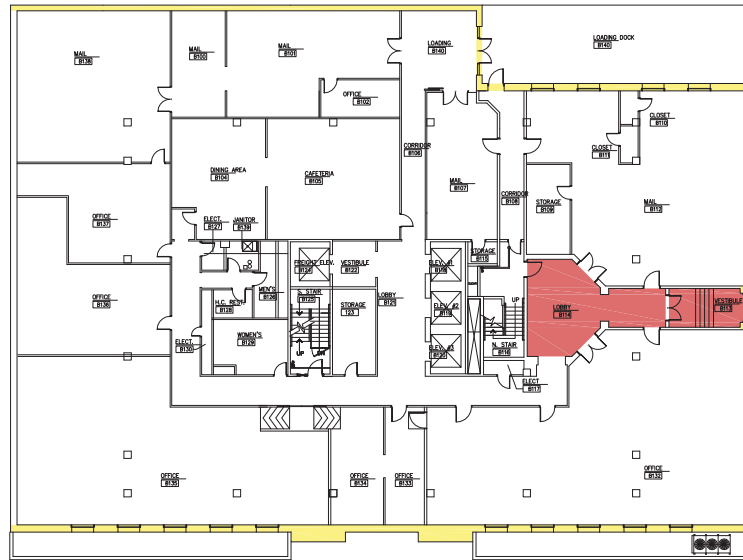
Zone 3 Hearing Room: Double doors at the entry on the south wall



Zone 3 Hearing Room: Acoustic tiles applied to the ceiling







1 BASEMENT ZONING PLAN  
1/32" = 1'-0"

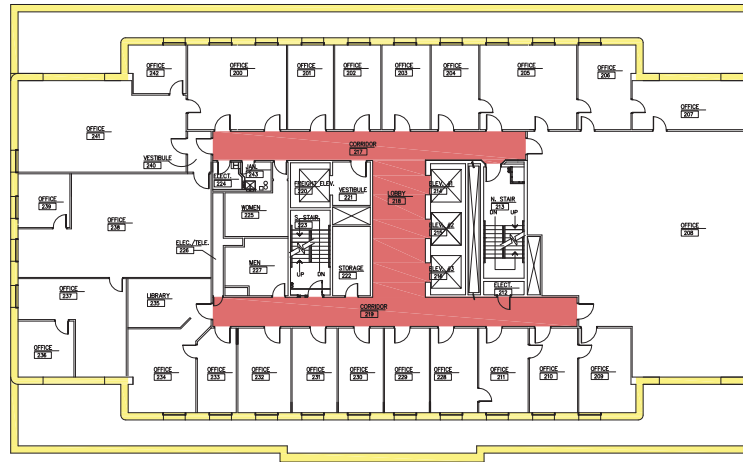
**LEGEND**

- Exterior Facade
- Lobbies/Circulation

Project No. 2013490 Issue ZONING PLAN Date 09.27.2013 Drawn by DCA Checked by DCA Scale 1/32" = 1'-0"	<h2 style="margin: 0;">Capitol Complex Master Plan Annex Building</h2> <p style="margin: 0;">1341 Sherman Street, Denver, CO 80203</p>	Anderson Hallas Architects, PC <hr/> Sheet No. <h1 style="margin: 0;">A1.0</h1>
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1 2nd FLOOR ZONING PLAN  
1/32" = 1'-0"

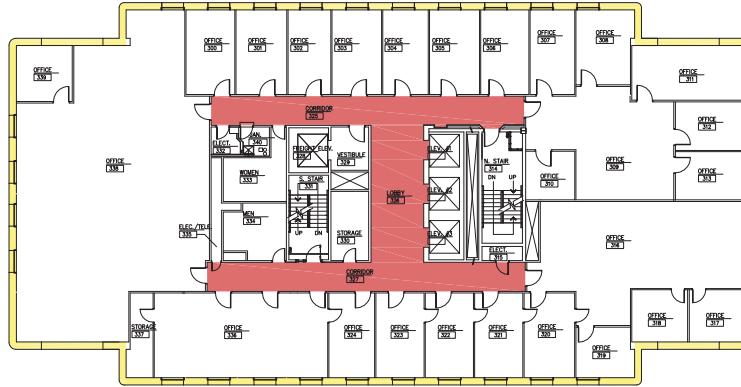
**LEGEND**

- Exterior Facade
- Lobbies/Circulation

Project No. 2013490 Issue ZONING PLAN Date 09.27.2013 Drawn by DCA Checked by DCA Scale 1/32" = 1'-0"	<h2 style="margin: 0;">Capitol Complex Master Plan Annex Building</h2> <p style="margin: 0;">1341 Sherman Street, Denver, CO 80203</p>	Anderson Hallas Architects, PC <hr/> Sheet No. <h1 style="margin: 0;">A1.2</h1>
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### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



1 3rd FLOOR ZONING PLAN  
1/32" = 1'-0"

**LEGEND**

- Exterior Facade
- Lobbies/Circulation

Project No.	2013490
Issue	ZONING PLAN
Date	09.27.2013
Drawn by	DCA
Checked by	DCA
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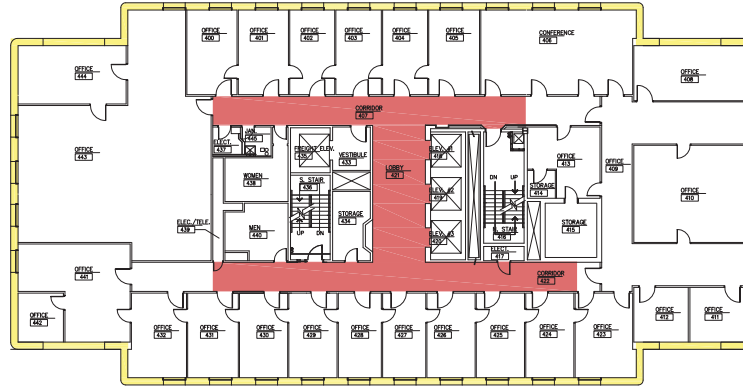
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Annex Building**  
1341 Sherman Street, Denver, CO 80203

Anderson Hallas  
Architects, PC

Sheet No.

A1.3





1 4th FLOOR ZONING PLAN  
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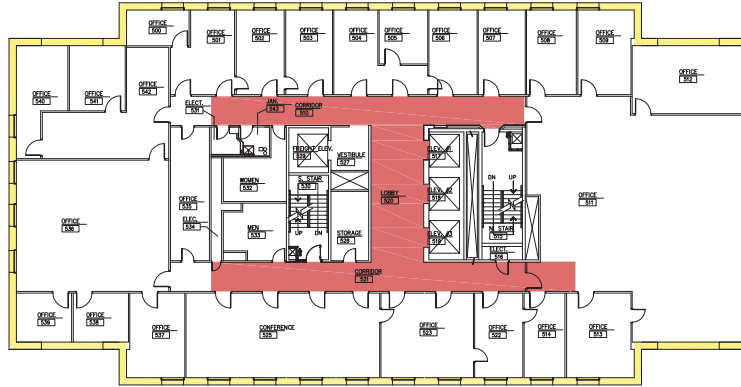
**LEGEND**

- Exterior Facade
- Lobbies/Circulation

Project No. 2013490 Issue ZONING PLAN Date 09.27.2013 Drawn by DCA Checked by DCA Scale 1/32" = 1'-0"	<h2 style="margin: 0;">Capitol Complex Master Plan Annex Building</h2> <p style="margin: 0;">1341 Sherman Street, Denver, CO 80203</p>	Anderson Hallas Architects, PC <hr/> Sheet No. <h1 style="margin: 0;">A1.4</h1>
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### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



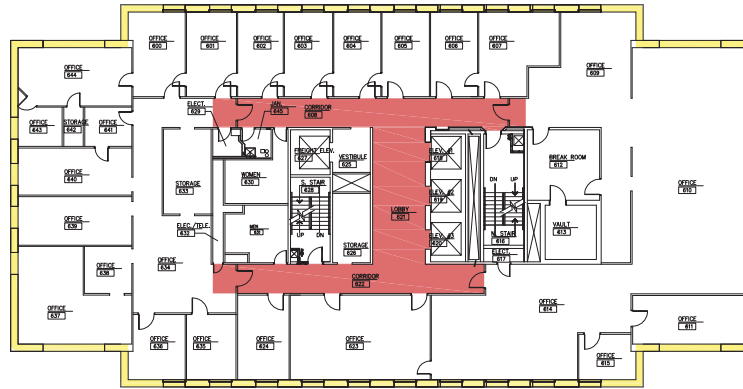
1 5th FLOOR ZONING PLAN  
1/32" = 1'-0"

**LEGEND**

- Exterior Facade
- Lobbies/Circulation

<p>Project No. 2013490 Issue ZONING PLAN Date 09.27.2013 Drawn by DCA Checked by DCA Scale 1/32" = 1'-0"</p>	<p><b>Capitol Complex Master Plan Annex Building</b> 1341 Sherman Street, Denver, CO 80203</p>	<p>Anderson Hallas Architects, PC Sheet No. <b>A1.5</b></p>
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1 6th FLOOR ZONING PLAN  
1/32" = 1'-0"

**LEGEND**

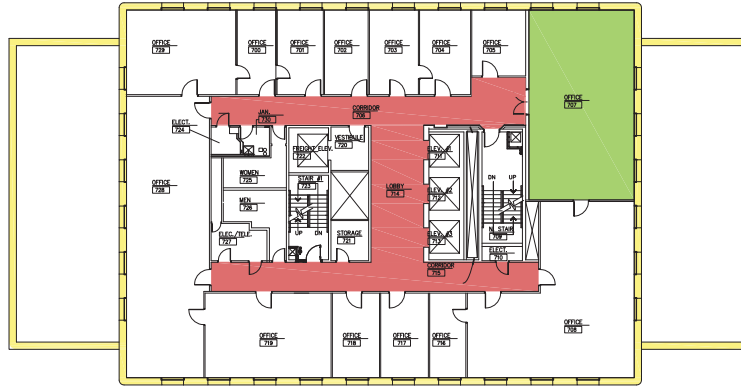
- Exterior Facade
- Lobbies/Circulation

Project No. 2013490 Issue ZONING PLAN Date 09.27.2013 Drawn by DCA Checked by DCA Scale 1/32" = 1'-0"	<h2 style="margin: 0;">Capitol Complex Master Plan Annex Building</h2> <p style="margin: 0;">1341 Sherman Street, Denver, CO 80203</p>	Anderson Hallas Architects, PC <hr/> Sheet No. <h1 style="margin: 0;">A1.6</h1>
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### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



1 7th FLOOR ZONING PLAN  
1/32" = 1'-0"

**LEGEND**

- Exterior Facade
- Lobbies/Circulation
- Hearing Room

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Project No.</td><td>2013490</td></tr> <tr><td>Issue</td><td>ZONING PLAN</td></tr> <tr><td>Date</td><td>09.27.2013</td></tr> <tr><td>Drawn by</td><td>DCA</td></tr> <tr><td>Checked by</td><td>DCA</td></tr> <tr><td>Scale</td><td>1/32" = 1'-0"</td></tr> </table>	Project No.	2013490	Issue	ZONING PLAN	Date	09.27.2013	Drawn by	DCA	Checked by	DCA	Scale	1/32" = 1'-0"	<h2 style="margin: 0;">Capitol Complex Master Plan Annex Building</h2> <p style="margin: 0;">1341 Sherman Street, Denver, CO 80203</p>	<p style="text-align: right; margin: 0;">Anderson Hallas Architects, PC</p> <hr/> <p style="text-align: right; margin: 0;">Sheet No.</p> <h1 style="text-align: right; margin: 0;">A1.7</h1>
Project No.	2013490													
Issue	ZONING PLAN													
Date	09.27.2013													
Drawn by	DCA													
Checked by	DCA													
Scale	1/32" = 1'-0"													





### 3.1 FIRST FLOOR

#### **General Architecture Findings**

With the exception of the First Floor and the Basement Level, each floor in the Capitol Annex Building has an H-shaped circulation plan. This layout is comprised of a central elevator lobby with two north-south lateral corridors extending from the east and the west ends of the lobby. The elevator lobbies and main corridors have green terrazzo flooring and shallow plaster ceilings. The flooring in the restrooms is a light-colored terrazzo tile. The elevator lobbies, Sherman Street and 14th Avenue entrance vestibule and lobbies, and main corridor on the First Floor are clad in golden travertine marble set upon a green marble base. The main corridors and restrooms have plaster walls with five foot high book-matched white marble wainscoting. The Sub-basement Level is the only exception with plaster walls and ceilings and concrete flooring throughout. The areas of the H-shaped circulation plan with green terrazzo flooring, golden travertine marble cladding, and white marble wainscoting, as well as the historic Hearing Room designated as Office 707, are protected by the building's historic designation and may not be removed or changed.

The terrazzo tile flooring in the restrooms is in generally poor condition with cracking and staining noted throughout the building. The office spaces which were included in the site survey around the perimeter of each floor generally seemed to have carpet flooring in fair to poor condition. The wall finishes range from plaster in generally fair condition to one-foot square perforated tiles glued to the walls in generally poor condition. The ceiling finishes range from plaster in generally fair condition, one-foot square perforated tiles glued to the ceiling in generally poor condition, and 2x4 acoustic ceiling tiles in generally poor condition.

It was reported that all of the interior doors throughout need new overhead concealed door closers which will also require new fastener systems to hold the door closers.

Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. Phasing of the construction in this building is therefore not recommended. All personnel should be removed from the site during construction and all existing asbestos should be abated as part of any renovation project. It was reported that asbestos abatement is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Note: As an historic property, the Capitol Annex Building and surrounding



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



grounds and accessory structures should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the National Park Service (NPS) Preservation Briefs.

#### 3.1-A CODE ISSUES

See 2.1-B Code Issues

#### 3.1-B GENERAL ACCESSIBILITY ISSUES

See 2.1-C General Accessibility Issues

#### 3.1-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS

##### Ceiling Finishes

The plaster ceiling in the elevator lobby and central corridors is in generally fair condition. The offices that were included in the site survey visit had a mix of 2x4 acoustic ceiling tiles in generally fair condition with minimal sagging and one-foot square perforated ceiling tiles glued to the plaster ceiling in generally poor condition (see Fig. 3.1.C.1 and Fig. 3.1.C.2).

##### Wall Finishes

The plaster walls clad in golden travertine marble set upon a green marble base in the elevator lobby and central First Floor corridors are in generally fair condition. Some joints between the marble panels are missing grout (see Fig. 3.1.C.3) and minor cracks and spalling were noted. The plaster walls with five-foot high book-matched white marble wainscoting in the restrooms are in generally fair condition throughout the building. The offices that were included in the site survey visit were found to have a mix of areas with plaster walls in generally fair condition and with one-foot square perforated tiles, glued to the plaster walls and around the columns, in generally fair condition.



## **Floor Finishes**

The green terrazzo flooring in the elevator lobby and central corridors is in generally fair condition. The terrazzo flooring in the restrooms is in generally poor condition throughout the building with cracking and water damage typically observed (see Fig. 3.1.C.4, Fig. 3.1.C.5, and Fig. 3.1.C.6). The office spaces that were included in the site survey visit were found to have carpet in generally fair condition. It was noted that the carpet is beginning to pull up from the thresholds in some office entry areas, creating a potential tripping hazard.



Fig. 3.1.C.1 One-foot square perforated ceiling tiles glued to the plaster ceiling in poor condition.



Fig. 3.1.C.2 One-foot square perforated ceiling tiles glued to the plaster ceiling in poor condition.



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 3.1.C.3 Grout missing in joints between golden travertine marble panels noted throughout.



Fig. 3.1.C.4 Typical condition of terrazzo flooring in restrooms noted throughout.



Fig. 3.1.C.5 Typical condition of terrazzo flooring in restrooms noted throughout.





Fig. 3.1.C.6 Typical condition of terrazzo flooring in restrooms noted throughout.

#### **Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. Phasing of the construction in this building is therefore not recommended. All personnel should be removed from the site during construction and all existing asbestos should be abated as part of the renovation.
- Demo the office spaces between the walls of the historically-protected H-shaped circulation corridors and the exterior building walls to the core shell. Complete renovation of these spaces.
- Clean and refinish the historic green terrazzo flooring in the elevator lobbies and main corridors per historic designation guidelines.
- Clean and repair or replace the historic golden travertine marble wall cladding in the Sherman Street Reception/Elevator Lobby and cladding the walls of the central First Floor corridors per historic designation guidelines. Minor spalling and cracking noted throughout.
- Tuck point joints between historic golden travertine panels throughout.
- Clean and repair or replace the historic white marble wainscoting in the main circulation corridors per historic designation guidelines.



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



- If possible, preserve the white marble wainscoting throughout the restrooms. Clean and repair or replace the white marble wainscoting. Demo the remainder of the restrooms and reconfigure per accessibility guidelines (see 2.1-C General Accessibility Issues) as necessary.
- Refurbish all interior doors and door frames and replace all knob-style door handles with lever-style handles if allowed per historic designation guidelines. Also replace the overhead concealed door closers and integrated fastener systems holding the closers.



#### 3.1-D STRUCTURAL

See section 2.2 for structural observations and recommendations for all floors.



#### 3.1-E VOICE AND DATA

Refer to Section 2.5-A for IT/Telecom Infrastructure general recommendations, as applicable to each floor.



#### 3.1-F SECURITY SYSTEMS

Refer to Section 2.6-A for Security System general recommendations, as applicable to each floor.





## 3.2 SECOND FLOOR



### 3.2-A CODE ISSUES

See 2.1-B Code Issues

### 3.2-B GENERAL ACCESSIBILITY ISSUES

See 2.1-C General Accessibility Issues

### 3.2-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS

#### **Ceiling Finishes**

The plaster ceiling in the elevator lobby and central corridors is in generally fair condition. The offices that were included in the site survey visit had one-foot square perforated ceiling tiles glued to the plaster ceiling that are in generally fair condition.

#### **Wall Finishes**

The plaster walls clad in golden travertine marble set upon a green marble base in the elevator lobby are in generally fair condition. Some joints between the marble panels are missing grout and minor cracks and spalling were noted throughout the building. The plaster walls with five-foot high book-matched white marble wainscoting in the central corridors and restrooms are in generally fair condition. The offices that were included in the site survey visit were found to have one-foot square perforated tiles, glued to the plaster walls and around the columns, in generally fair condition.



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



#### **Floor Finishes**

The green terrazzo flooring in the elevator lobby and central corridors is in generally fair condition. The terrazzo flooring in the restrooms is in generally poor condition throughout the building with cracking and water damage typically observed. The office spaces that were included in the site survey visit were found to have carpet in generally fair condition.

#### **Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. Phasing of the construction in this building is therefore not recommended. All personnel should be removed from the site during construction and all existing asbestos should be abated as part of the renovation.
- Demo the office spaces between the walls of the historically-protected H-shaped circulation corridors and the exterior building walls to the core shell. Complete renovation of these spaces.
- Clean and refinish the historic green terrazzo flooring in the elevator lobbies and main corridors per historic designation guidelines.
- Clean and repair or replace the historic golden travertine marble wall cladding in the Sherman Street Reception/Elevator Lobby and cladding the walls of the central First Floor corridors per historic designation guidelines. Minor spalling and cracking noted throughout.
- Tuck point joints between historic golden travertine panels throughout.
- Clean and repair or replace the historic white marble wainscoting in the main circulation corridors per historic designation guidelines.
- If possible, preserve the white marble wainscoting throughout the restrooms. Clean and repair or replace the white marble wainscoting. Demo the remainder of the restrooms and reconfigure per accessibility recommendations (see 2.1-C General Accessibility Issues) as necessary.
- Refurbish all interior doors and door frames and replace all knob-style door handles with lever-style handles if allowed per historic designation guidelines. Also replace the overhead concealed door closers and integrated fastener systems holding the closers.





### 3.2-D STRUCTURAL

See section 2.2 for structural observations and recommendations for all floors.



### 3.2-E VOICE AND DATA

Refer to Section 2.5-A for IT/Telecom Infrastructure general recommendations, as applicable to each floor.



### 3.2-F SECURITY SYSTEMS

Refer to Section 2.6-A for Security System general recommendations, as applicable to each floor.

## 3.3 THIRD FLOOR



### 3.3-A CODE ISSUES

See 2.1-B Code Issues



## 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



### 3.3-B GENERAL ACCESSIBILITY ISSUES

See 2.1-C General Accessibility Issues

### 3.3-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS

#### **Ceiling Finishes**

The plaster ceiling in the elevator lobby and central corridors is in generally fair condition. Damage was observed to the plaster ceiling in the east corridor on the north side. The offices that were included in the site survey visit had 2x4 acoustic ceiling tiles in generally fair condition with minor sagging noted (see Fig. 3.3.C.1).

#### **Wall Finishes**

The plaster walls clad in golden travertine marble set upon a green marble base in the elevator lobby are in generally fair condition. Some joints between the marble panels are missing grout and minor cracks and spalling were noted throughout the building. The plaster walls with five-foot high book-matched white marble wainscoting in the central corridors and restrooms are in generally fair condition. The offices that were included in the site survey visit were found to have a mix of areas with plaster walls in generally fair condition and with one-foot square perforated tiles glued to the plaster walls in generally fair condition.

#### **Floor Finishes**

The green terrazzo flooring in the elevator lobby and central corridors is in generally fair condition. The terrazzo flooring in the restrooms is in generally poor condition throughout the building with cracking and water damage typically observed. The office spaces that were included in the site survey visit were found to have carpet in generally fair condition.





Fig. 3.3.C.1 Minor sagging of 2x4 acoustic ceiling tiles in an office.

#### **Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. Phasing of the construction in this building is therefore not recommended. All personnel should be removed from the site during construction and all existing asbestos should be abated as part of the renovation.
- Demo the office spaces between the walls of the historically-protected H-shaped circulation corridors and the exterior building walls to the core shell. Complete renovation of these spaces.
- Clean and refinish the historic green terrazzo flooring in the elevator lobbies and main corridors per historic designation guidelines.
- Clean and repair or replace the historic golden travertine marble wall cladding in the Sherman Street Reception/Elevator Lobby and cladding the walls of the central First Floor corridors per historic designation guidelines. Minor spalling and cracking noted throughout.
- Tuck point joints between historic golden travertine panels throughout.
- Clean and repair or replace the historic white marble wainscoting in the main circulation corridors per historic designation guidelines.



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



- If possible, preserve the white marble wainscoting throughout the restrooms. Clean and repair or replace the white marble wainscoting. Demo the remainder of the restrooms and reconfigure per accessibility recommendations (see 2.1-C General Accessibility Issues) as necessary.
- Refurbish all interior doors and door frames and replace all knob-style door handles with lever-style handles if allowed per historic designation guidelines. Also replace the overhead concealed door closers and integrated fastener systems holding the closers.



#### 3.3-D STRUCTURAL

See section 2.2 for structural observations and recommendations for all floors.



#### 3.3-E VOICE AND DATA

Refer to Section 2.5-A for IT/Telecom Infrastructure general recommendations, as applicable to each floor.



#### 3.3-F SECURITY SYSTEMS

Refer to Section 2.6-A for Security System general recommendations, as applicable to each floor.



## 3.4 FOURTH FLOOR



### 3.4-A CODE ISSUES

See 2.1-B Code Issues

### 3.4-B GENERAL ACCESSIBILITY ISSUES

See 2.1-C General Accessibility Issues

### 3.4-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS

#### **Ceiling Finishes**

The plaster ceiling in the elevator lobby and central corridors is in generally fair condition. The offices that were included in the site survey visit had 2x4 acoustic ceiling tiles in generally fair condition with minor sagging noted.

#### **Wall Finishes**

The plaster walls clad in golden travertine marble set upon a green marble base in the elevator lobby are in generally fair condition. Some joints between the marble panels are missing grout and minor cracks and spalling were noted throughout the building. The plaster walls with five-foot high book-matched white marble wainscoting in the central corridors and restrooms are in generally fair condition. The offices that were included in the site survey visit were found to have a mix of areas with plaster walls in generally fair condition and with one-foot square perforated tiles glued to the plaster walls in generally fair condition.





### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



#### **Floor Finishes**

The green terrazzo flooring in the elevator lobby and central corridors is in generally fair condition. The terrazzo flooring in the restrooms is in generally poor condition throughout the building with cracking and water damage typically observed. The office spaces that were included in the site survey visit were found to have carpet in generally fair condition.

#### **Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. Phasing of the construction in this building is therefore not recommended. All personnel should be removed from the site during construction and all existing asbestos should be abated as part of the renovation.
- Demo the office spaces between the walls of the historically-protected H-shaped circulation corridors and the exterior building walls to the core shell. Complete renovation of these spaces.
- Clean and refinish the historic green terrazzo flooring in the elevator lobbies and main corridors per historic designation guidelines.
- Clean and repair or replace the historic golden travertine marble wall cladding in the Sherman Street Reception/Elevator Lobby and cladding the walls of the central First Floor corridors per historic designation guidelines. Minor spalling and cracking noted throughout.
- Tuck point joints between historic golden travertine panels throughout.
- Clean and repair or replace the historic white marble wainscoting in the main circulation corridors per historic designation guidelines.
- If possible, preserve the white marble wainscoting throughout the restrooms. Clean and repair or replace the white marble wainscoting. Demo the remainder of the restrooms and reconfigure per accessibility recommendations (see 2.1-C General Accessibility Issues) as necessary.
- Refurbish all interior doors and door frames and replace all knob-style door handles with lever-style handles if allowed per historic designation guidelines. Also replace the overhead concealed door closers and integrated fastener systems holding the closers.





### 3.4-D STRUCTURAL

See section 2.2 for structural observations and recommendations for all floors.



### 3.4-E VOICE AND DATA

Refer to Section 2.5-A for IT/Telecom Infrastructure general recommendations, as applicable to each floor.



### 3.4-F SECURITY SYSTEMS

Refer to Section 2.6-A for Security System general recommendations, as applicable to each floor.

## 3.5 FIFTH FLOOR



### 3.5-A CODE ISSUES

See 2.1-B Code Issues



## 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



### 3.5-B GENERAL ACCESSIBILITY ISSUES

See 2.1-C General Accessibility Issues

### 3.5-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS

#### **Ceiling Finishes**

The plaster ceiling in the elevator lobby and central corridors is in generally fair condition. The offices that were included in the site survey visit had 2x4 acoustic ceiling tiles in generally fair condition with minor sagging noted.

#### **Wall Finishes**

The plaster walls clad in golden travertine marble set upon a green marble base in the elevator lobby are in generally fair condition. Some joints between the marble panels are missing grout and minor cracks and spalling were noted throughout the building. The plaster walls with five-foot high book-matched white marble wainscoting in the central corridors and restrooms are in generally fair condition. The offices that were included in the site survey visit were found to have a mix of areas with plaster walls in generally fair condition and with one-foot square perforated tiles glued to the plaster walls in generally fair condition.

#### **Floor Finishes**

The green terrazzo flooring in the elevator lobby and central corridors is in generally fair condition. The terrazzo flooring in the restrooms is in generally poor condition throughout the building with cracking and water damage typically observed. The office spaces that were included in the site survey visit were found to have carpet in generally fair condition.

#### **Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.



- Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. Phasing of the construction in this building is therefore not recommended. All personnel should be removed from the site during construction and all existing asbestos should be abated as part of the renovation.
- Demo the office spaces between the walls of the historically-protected H-shaped circulation corridors and the exterior building walls to the core shell. Complete renovation of these spaces.
- Clean and refinish the historic green terrazzo flooring in the elevator lobbies and main corridors per historic designation guidelines.
- Clean and repair or replace the historic golden travertine marble wall cladding in the Sherman Street Reception/Elevator Lobby and cladding the walls of the central First Floor corridors per historic designation guidelines. Minor spalling and cracking noted throughout.
- Tuck point joints between historic golden travertine panels throughout.
- Clean and repair or replace the historic white marble wainscoting in the main circulation corridors per historic designation guidelines.
- If possible, preserve the white marble wainscoting throughout the restrooms. Clean and repair or replace the white marble wainscoting. Demo the remainder of the restrooms and reconfigure per accessibility recommendations (see 2.1-C General Accessibility Issues) as necessary.
- Refurbish all interior doors and door frames and replace all knob-style door handles with lever-style handles if allowed per historic designation guidelines. Also replace the overhead concealed door closers and integrated fastener systems holding the closers.



### 3.5-D STRUCTURAL

See section 2.2 for structural observations and recommendations for all floors.



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



#### 3.5-E VOICE AND DATA

Refer to Section 2.5-A for IT/Telecom Infrastructure general recommendations, as applicable to each floor.



#### 3.5-F SECURITY SYSTEMS

Refer to Section 2.6-A for Security System general recommendations, as applicable to each floor.

### 3.6 SIXTH FLOOR



#### 3.6-A CODE ISSUES

See 2.1-B Code Issues

#### 3.6-B GENERAL ACCESSIBILITY ISSUES

See 2.1-C General Accessibility Issues



### **3.6-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS**

#### **Ceiling Finishes**

The plaster ceiling in the elevator lobby and central corridors is in generally fair condition. The offices that were included in the site survey visit had 2x4 acoustic ceiling tiles in generally fair condition with minor sagging noted.

#### **Wall Finishes**

The plaster walls clad in golden travertine marble set upon a green marble base in the elevator lobby are in generally fair condition. Some joints between the marble panels are missing grout and minor cracks and spalling were noted throughout the building. The plaster walls with five-foot high book-matched white marble wainscoting in the central corridors and restrooms are in generally fair condition. The offices that were included in the site survey visit were found to have a mix of areas with plaster walls in generally fair condition and with one-foot square perforated tiles glued to the plaster walls in generally fair condition.

#### **Floor Finishes**

The green terrazzo flooring in the elevator lobby and central corridors is in generally fair condition. The terrazzo flooring in the restrooms is in generally poor condition throughout the building with cracking and water damage typically observed. The office spaces that were included in the site survey visit were found to have carpet in generally fair condition.

#### **Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. Phasing of the construction in this building is therefore not recommended. All personnel should be



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



removed from the site during construction and all existing asbestos should be abated as part of the renovation.

- Demo the office spaces between the walls of the historically-protected H-shaped circulation corridors and the exterior building walls to the core shell. Complete renovation of these spaces.
- Clean and refinish the historic green terrazzo flooring in the elevator lobbies and main corridors per historic designation guidelines.
- Clean and repair or replace the historic golden travertine marble wall cladding in the Sherman Street Reception/Elevator Lobby and cladding the walls of the central First Floor corridors per historic designation guidelines. Minor spalling and cracking noted throughout.
- Tuck point joints between historic golden travertine panels throughout.
- Clean and repair or replace the historic white marble wainscoting in the main circulation corridors per historic designation guidelines.
- If possible, preserve the white marble wainscoting throughout the restrooms. Clean and repair or replace the white marble wainscoting. Demo the remainder of the restrooms and reconfigure per accessibility recommendations (see 2.1-C General Accessibility Issues) as necessary.
- Refurbish all interior doors and door frames and replace all knob-style door handles with lever-style handles if allowed per historic designation guidelines. Also replace the overhead concealed door closers and integrated fastener systems holding the closers.



#### 3.6-D STRUCTURAL

See section 2.2 for structural observations and recommendations for all floors.





### **3.6-E VOICE AND DATA**

Refer to Section 2.5-A for IT/Telecom Infrastructure general recommendations, as applicable to each floor.



### **3.6-F SECURITY SYSTEMS**

Refer to Section 2.6-A for Security System general recommendations, as applicable to each floor.

## **3.7 SEVENTH FLOOR**



### **3.7-A CODE ISSUES**

See 2.1-B Code Issues

### **3.7-B GENERAL ACCESSIBILITY ISSUES**

See 2.1-C General Accessibility Issues





### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



#### 3.7-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS

##### **Ceiling Finishes**

The plaster ceiling in the elevator lobby and central corridors is in generally fair condition. The offices that were included in the site survey visit had a mix of 2x4 acoustic ceiling tiles in generally fair condition with minor sagging noted and one-foot square perforated ceiling tiles glued to the plaster ceiling that are in generally poor condition (see Fig. 3.7.C.1). Further, there was a light fixture readily observed to be pulling out of the ceiling and needing proper support (see Fig. 3.7.C.2).

##### **Wall Finishes**

The plaster walls clad in golden travertine marble set upon a green marble base in the elevator lobby are in generally fair condition. Some joints between the marble panels are missing grout and minor cracks and spalling were noted throughout the building. The plaster walls with five-foot high book-matched white marble wainscoting in the central corridors and restrooms are in generally fair condition. The offices that were included in the site survey visit were found to have a mix of areas with plaster walls in generally fair condition and with one-foot square perforated tiles glued to the plaster walls in generally fair condition. The wood paneling on the walls in Office 707 had damage that was readily observed (see Fig. 3.7.C.3). The wood paneling cladding the walls in Office 707 and the incorporated artwork must be preserved per the historic designation of the building (see Fig. 3.7.C.4).

##### **Floor Finishes**

The green terrazzo flooring in the elevator lobby and central corridors is in generally fair condition. The terrazzo flooring in the restrooms is in generally poor condition throughout the building with cracking and water damage typically observed. The office spaces that were included in the site survey visit were found to have carpet in generally poor condition. The carpet was readily observed to be worn out and had loose seams that were taped down, creating a tripping hazard (see Fig. 3.7.C.5 and Fig. 3.7.C.6).





Fig. 3.7.C.1 One-foot square perforated ceiling tiles glued to the plaster ceiling in poor condition.



Fig. 3.7.C.2 Light fixture pulling loose from the ceiling.



Fig. 3.7.C.3 Damaged wood wall paneling in Office 707 is part of an historic Hearing Room.



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 3.7.C.4 Wall paneling and artwork in Office 707 to be protected per the historic designation of the building.



Fig. 3.7.C.5 Taped carpet seam creating a tripping hazard.



Fig. 3.7.C.6 Carpet seam pulling loose and creating a tripping hazard.



## **Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. Phasing of the construction in this building is therefore not recommended. All personnel should be removed from the site during construction and all existing asbestos should be abated as part of the renovation.
- Demo the office spaces between the walls of the historically-protected H-shaped circulation corridors and the exterior building walls to the core shell, except for the historically protected space within Office 707 (see Fig. 3.7.C.4). Complete renovation of these spaces.
- Clean and refinish the historic green terrazzo flooring in the elevator lobbies and main corridors per historic designation guidelines.
- Clean and repair or replace the historic golden travertine marble wall cladding in the Sherman Street Reception/Elevator Lobby and cladding the walls of the central First Floor corridors per historic designation guidelines. Minor spalling and cracking noted throughout.
- Tuck point joints between historic golden travertine panels throughout.
- Clean and repair or replace the historic white marble wainscoting in the main circulation corridors per historic designation guidelines.
- If possible, preserve the white marble wainscoting throughout the restrooms. Clean and repair or replace the white marble wainscoting. Demo the remainder of the restrooms and reconfigure per accessibility recommendations (see 2.1-C General Accessibility Issues) as necessary.
- Clean and repair or replace the wood paneling in Office 707.
- Refurbish all interior doors and door frames and replace all knob-style door handles with lever-style handles if allowed per historic designation guidelines. Also replace the overhead concealed door closers and integrated fastener systems holding the closers.



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



#### 3.7-D STRUCTURAL

See section 2.2 for structural observations and recommendations for all floors.



#### 3.7-E VOICE AND DATA

Refer to Section 2.5-A for IT/Telecom Infrastructure general recommendations, as applicable to each floor.



#### 3.7-F SECURITY SYSTEMS

Refer to Section 2.6-A for Security System general recommendations, as applicable to each floor.

### 3.8 BASEMENT



#### 3.8-A CODE ISSUES

See 2.1-B Code Issues



### **3.8-B GENERAL ACCESSIBILITY ISSUES**

See 2.1-C General Accessibility Issues

### **3.8-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS**

#### **Ceiling Finishes**

The plaster ceiling in the elevator lobby, north 14th Avenue Vestibule and Lobby, central corridors, and Cafeteria/Dining areas is in generally fair condition. The offices that were included in the site survey visit had a mix of 2x4 acoustic ceiling tiles in generally fair condition with minimal sagging and one-foot square perforated ceiling tiles glued to the plaster ceiling and the soffits in generally fair condition.

#### **Wall Finishes**

The plaster walls clad in golden travertine marble set upon a green marble base in the north 14th Avenue Vestibule and Lobby, and main public corridors are in generally fair condition. Some joints between the marble panels are missing grout and minor cracks and spalling were noted throughout the floor. Damage to the golden travertine marble was noted in the elevator lobby, especially at the corners of walls (see Fig. 3.8.C.1 and Fig. 3.8.C.2). Areas that were included in the site survey visit were found to have a mix of plaster walls in generally fair condition, walls with one-foot square perforated tiles, glued to the plaster walls and around the columns, in generally fair condition, and gypsum board walls in generally fair condition.

#### **Floor Finishes**

The green terrazzo flooring in the elevator lobby, north 14th Avenue Vestibule and Lobby, and main public corridors is in generally fair condition. The terrazzo flooring in the restrooms and in the corridors leading to the restrooms is in generally poor condition. The areas that were included in the site survey visit were found to have carpet in generally poor condition, painted concrete floors with signs of general wear and tear, and one-foot square linoleum tiles in generally fair condition.



### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 3.8.C.1 Damage to golden travertine marble in the Basement elevator lobby.



Fig. 3.8.C.2 Damage to golden travertine marble in the Basement elevator lobby.

#### Recommendations:

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. Phasing of the construction in this building is therefore not recommended. All personnel should be removed from the site during construction and all existing asbestos should be abated as part of the renovation.





- Demo the office spaces between the walls of the historically-protected main public corridors and the exterior building walls to the core shell. Complete renovation of these spaces.
- Clean and refinish the historic green terrazzo flooring in the elevator lobby, north 14th Avenue Vestibule and Lobby, and main public corridors per historic designation guidelines.
- Clean and repair or replace the historic golden travertine marble wall cladding in the elevator lobby, north 14th Avenue Vestibule and Lobby, and main public corridors per historic designation guideline.
- Tuck point joints between the historic golden travertine panels throughout.
- If possible, preserve the white marble wainscoting throughout the restrooms. Clean and repair or replace the white marble wainscoting. Demo the remainder of the restrooms and reconfigure per accessibility recommendations (see 2.1-C General Accessibility Issues) as necessary.
- Refurbish all interior doors and door frames and replace all knob-style door handles with lever-style handles if allowed per historic designation guidelines. Also replace the overhead concealed door closers and integrated fastener systems holding the closers.



### 3.8-D STRUCTURAL

See section 2.2 for structural observations and recommendations for all floors.



### 3.8-E VOICE AND DATA

Refer to Section 2.5-A for IT/Telecom Infrastructure general recommendations, as applicable to each floor.





### 3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



#### 3.8-F SECURITY SYSTEMS

Refer to Section 2.6-A for Security System general recommendations, as applicable to each floor.

### 3.9 SUB-BASEMENT



#### 3.9-A CODE ISSUES

See 2.1-B Code Issues

#### 3.9-B GENERAL ACCESSIBILITY ISSUES

See 2.1-C General Accessibility Issues

#### 3.9-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS

##### Ceiling Finishes

The plaster ceilings throughout appear to be in generally good condition.

##### Wall Finishes

The plaster walls throughout appear to be in generally fair condition.



The walls in the main service corridors have minor damage as would be expected (see Fig. 3.9.C.1).

### **Floor Finishes**

The flooring throughout consists of concrete in generally fair condition with signs of minor damage in the main service corridors.



Fig. 3.9.C.1 Minor damage to the main service corridor walls and concrete floors.

### **Recommendations:**

- All restoration work should be in keeping with the historic status of the Capitol Annex Building. See 3.0-A Historic Overview.
- Per the Hazard Material Reports supplied by the Owner, asbestos is present throughout the building. Phasing of the construction in this building is therefore not recommended. All personnel should be removed from the site during construction and all existing asbestos should be abated as part of the renovation.
- Repair or replace damage to plaster walls.
- Refurbish all interior doors and door frames and replace all knob-style door handles with lever-style handles if allowed per historic designation guidelines. Also replace the overhead concealed door closers and integrated fastener systems holding the closers.





### 3.9-D STRUCTURAL

Minor cracking was observed in the exposed concrete framing. The cracking is not a structural concern at this time. See section 2.2 for structural observations and recommendations for all floors.



### 3.9-E VOICE AND DATA

Refer to Section 2.5-A for IT/Telecom Infrastructure general recommendations, as applicable to each floor.



### 3.9-F SECURITY SYSTEMS

Refer to Section 2.6-A for Security System general recommendations, as applicable to each floor.



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## 4.0 LEVELS OF RENOVATION NEEDED

Building: Capitol Annex Building, 1375 Sherman Street (Denver)					
Priority	Main System	Sub System	Level of Renovation Needed		
			Minimal	Moderate	Extensive
1	Environmental	Asbestos			√
1	Exterior Enclosure	Windows			√
1	Exterior Enclosure	Roof			√
1	Exterior Enclosure	Fall Protection (roof)			√
1	Exterior Enclosure	Penthouse			√
1	Exterior Enclosure	Walls			√
1	Exterior Enclosure	Sealant/Grout			√
1	Exterior Enclosure	Doors			√
1	Infrastructure	HVAC			√
1	Infrastructure	Security Video			√
1	Infrastructure	Power			√
1	Infrastructure	Lighting			√
1	Infrastructure	Plumbing			√
1	Infrastructure	Tele/Com			√
1	Infrastructure	Fire Sprinkler			√
1	Interior	Finishes - Flooring			√
1	Interior	Finishes Ceiling			√
1	Interior	Finishes - Wall			√
1	Interior	ADA-Restrooms			√
1	Interior	ADA-Drinking Fountains			√
2	Infrastructure	Security Access/IDS		√	
2	Interior	ADA-Door Levers		√	
2	Interior	Doors		√	
2	Site	Pavement		√	
3	Code	Exit Stairways	√		
3	Infrastructure	Structural Framing	√		
3	Site	Drainage	√		
	Code	Exits			
	Code	Dead End Corridors			
	Exterior Enclosure	Signage			
	Infrastructure	Elevator(s)			
	Infrastructure	Fire Alarm			
	Interior	ADA-Sinks (Break Rooms)			
	Site	Utilities			
	Site	Lighting			



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**5.0 COST ESTIMATES**

**SUMMARY OF SUMMARIES**

Item No.	Description	SF	Total	\$/SF
1	1375 Sherman St. Renovation	114,228	19,615,805	171.73
2	Contingency on Above		w/ Above	
<b>Base Price Subtotal:</b>		<b>114,228</b>	<b>19,615,805</b>	<b>172</b>
3a	IT \ Teledata	75,757	825,441	10.90
3b	Public Art	114,228	226,969	1.99
4	Contingency on Above		Excluded	
<b>Equipment \ Art Subtotal:</b>			<b>1,052,409</b>	<b>9.21</b>
<b>Base Price \ Equipment \ Art Subtotal:</b>			<b>20,668,214</b>	<b>181</b>
5	Escalation - 6.75% per year		Excluded	
6	Contingency on Above		Excluded	
<b>Escalation Subtotal:</b>			<b>Excluded</b>	
<b>Base Price \ Equipment \ Art Subtotal:</b>			<b>20,668,214</b>	<b>181</b>
7	Design Fees at 8% per State of CO Direction		1,653,457	14.48
8	Contingency on Above		Excluded	
<b>Design Fee Subtotal:</b>			<b>1,653,457</b>	<b>14.48</b>
<b>Base Price \ Equipment \ Art \ Design Fee Subtotal:</b>			<b>22,321,671</b>	<b>195</b>

<b>PROJECTED COST AT TIME OF CONSTRUCTION (100% RENOVATED AT ONE TIME)</b>	<b>22,321,671</b>	<b>195</b>
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<b>ADD-ALTERNATES</b>				
1	Move Management	114,228	325,779	2.85
2	Flex Space	114,228	3,638,162	31.85
3	FF&E (FF&E SF & \$25/SF Allowance per Architect)	75,757	1,893,925	25.00
4	Contingency on Above		Excluded	
<b>Subtotals:</b>			<b>5,857,866</b>	
<b>ADD-ALTERNATES SUBTOTAL:</b>			<b>5,857,866</b>	<b>51</b>



### SYSTEM BY SYSTEM SUMMARY

Item No.	Description	SF	Total	\$/SF
1A	Total Gut & Renovation to Core Shell*	145,370	6,414,955	44.13
	<i>*Includes fire suppression; MEP excluded (see below)</i>			
1B	Escalation		Excluded	
<b>System 1 Total Renovation to Core &amp; Shell Subtotal:</b>			<b>6,414,955</b>	<b>44</b>
2A	Asbestos Abatement	145,370	710,767	4.89
2B	Escalation		Excluded	
<b>System 2 Asbestos Abatement Subtotal:</b>			<b>710,767</b>	<b>5</b>
3A	Convert Steam Heat to Hot Water	145,370	5,434,187	37.38
3B	Escalation		Excluded	
<b>System 3 Heating System Upgrade Subtotal:</b>			<b>5,434,187</b>	<b>37</b>
4A	Replace All Electrical	145,370	3,202,081	22.03
4B	Escalation		Excluded	
<b>System 4 Replace Electrical Subtotal:</b>			<b>3,202,081</b>	<b>22</b>
5A	Replace All Plumbing Piping	145,370	2,899,510	19.95
5B	Escalation		Excluded	
<b>System 5 Replace Plumbing Piping Subtotal:</b>			<b>2,899,510</b>	<b>20</b>
6A	Balance of Scope	145,370	1,293,897	8.90
6B	Escalation		Excluded	
<b>System 6 w/o Escalation Subtotal:</b>			<b>1,293,897</b>	<b>9</b>
<b>System by System Total Project 2014 Dollars Subtotal:</b>			<b>19,955,396</b>	<b>137</b>
7	IT \ Teledata (Relocate Exstg Only)		825,441	5.68
8	Public Art		226,969	1.56
9	Contingency on Above		Excluded	
<b>Equipment \ Art Subtotal:</b>			<b>1,052,409</b>	<b>7</b>
<b>Systems \ Equipment \ Art Subtotal:</b>			<b>21,007,805</b>	<b>145</b>
10	Design Fees at 8% per State of CO Direction		1,680,624	11.56
11	Contingency on Above		Excluded	
<b>Design Fee Subtotal:</b>			<b>1,680,624</b>	<b>12</b>
<b>Base Price \ Equipment \ Art \ Design Fee Subtotal:</b>			<b>22,688,430</b>	<b>156</b>
<b>PROJECTED COST OF CONSTRUCTION IN 2014 DOLLARS</b>			<b>22,688,430</b>	<b>156</b>





5.0 COST ESTIMATES

ADD ALTERNATE				
12	Move Management	145,370	325,779	2.24
13	Flex Space	145,370	3,638,162	25.03
14	FF&E (FF&E SF & \$25\SF Allowance per Architect)	75,757	1,893,925	25.00
15	Escalation		Excluded	
16	Contingency on Above		Excluded	
<b>Move Management Subtotal:</b>			<b>5,857,866</b>	
<b>Add Alternate Subtotal:</b>			<b>5,857,866</b>	<b>40</b>



## FF&E DETAILED ESTIMATE - BASE

Estimate By: Kyle Hoiland  
 Date: 28-May-14  
 Reviewed By: Chris Squadra  
 Date: 28-May-14

Total Cost: **\$6,910,275**

	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>FF&amp;E</b>					
	Employee Workstations (1 employee: 250 sf) Minor Repair to Existing Only*	75,757	SF	25.00	1,893,925
	Small Conference Rooms (1 small room: 2,500 sf)				w/ Above
	Large Conference Rooms				w/ Above
	<i>*Budget revised per direction from RNL on 21 MAY 2014</i>				
<b>SUBTOTAL FF&amp;E</b>					<b>1,893,925</b>

	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>IT/Teledata</b>					
	AV / IT @ Large Conference Rooms	8	EA	6,053.57	48,429
	VOIP Telephone System	536	EA	324.09	173,756
	PC Workstations	466	EA	937.55	436,946
	CAT 6E Data Cabling	536	EA	310.20	166,310
	State of CO Servers, Routers, Wireless Access and IT Equipment not listed above				Excluded
<b>SUBTOTAL IT/TELEDATA</b>					<b>825,441</b>

	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>Move Management</b>					
	Moving Labor, Material, Equipment & Supervision (2 Moves)	914	EA	281.27	257,027
	Relocate PC Workstations (2 moves)	914	EA	75.24	68,752
	Flex Space for Multiple Moves and/or Tenant Holdover - 14 mo	103,947	RSF	35.00	3,638,162
<b>SUBTOTAL MOVE MANAGEMENT</b>					<b>3,963,941</b>

	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>Public Art</b>					
	Art in Public Spaces Allowance at 1.0% of Construction Cost	1	LS	226,968.60	226,969
<b>SUBTOTAL PUBLIC ART</b>					<b>226,969</b>

<b>TOTAL COST -</b>				<b>6,910,275</b>
				<b>60</b>



## DETAILED ESTIMATE - SUMMARY

Item No.	Description	\$/SF	Total	114,228 Total w/Burdens
DIV 2	EXISTING CONDITIONS	5.96	680,678	1,077,620
DIV 3	CONCRETE	0.50	56,550	89,527
DIV 4	STONE & MASONRY	3.62	413,742	655,018
DIV 5	METALS	0.13	15,391	24,366
DIV 6	WOODS & PLASTICS	1.99	227,219	359,723
DIV 7	THERMAL PROTECTION	4.36	498,222	788,764
DIV 8	OPENINGS, DOORS, WINDOWS	3.63	414,103	655,590
DIV 9	FINISHES	22.39	2,557,935	4,049,611
DIV 10	SPECIALITIES	0.24	27,684	43,828
DIV 11	EQUIPMENT		EXCLUDED	
DIV 12	FURNISHINGS	0.19	21,422	33,915
DIV 13	SPECIAL CONSTRUCTION		EXCLUDED	
DIV 14	CONVEYING SYSTEMS		EXCLUDED	
DIV 21	FIRE SUPPRESSION	10.62	1,213,101	1,920,529
DIV 22	PLUMBING	11.90	1,359,727	2,152,659
DIV 23	HVAC	28.38	3,241,607	5,131,969
DIV 26	ELECTRICAL	13.71	1,566,066	2,479,327
DIV 27	COMMUNICATIONS	0.72	82,473	130,567
DIV 31	EARTHWORK		EXCLUDED	
DIV 32	EXTERIOR IMPROVEMENTS	0.13	14,396	22,791
DIV 33	UTILITIES		EXCLUDED	
DIV 34	TRANSPORTATION		EXCLUDED	
	<b>Subtotal Direct Construction Costs</b>	<b>108.47</b>	<b>12,390,317</b>	<b>19,615,805</b>
	Allowance for Historical / Memorial Markers		25,000	
	<b>Direct Cost Subtotal with GFP</b>	<b>108.69</b>	<b>12,415,317</b>	
	<b>Material Testing (w/ GC's Onsite Overhead)</b>	0.35%	43,454	
	<b>Owner's Design &amp; Preconstruction Contingency</b>	10.00%	1,241,532	
	<b>Owner's Construction Contingency (after NTP)</b>	5.00%	620,766	
	<b>Permits</b>	1.90%	235,891	
	<b>Total Direct Construction Costs</b>	<b>127.44</b>	<b>14,556,959</b>	
	Standard General Conditions (GC's Onsite Overhead)		1,490,658	
	<b>Subtotal NET Construction Cost</b>	<b>140.49</b>	<b>16,047,618</b>	
	<b>GC's Off-Site Overhead</b>	3.40%	544,769	
	<b>GC's General Liability Insurance</b>	0.90%	144,429	
	<b>Construction Cost w/o Bonds &amp; Escalation</b>	<b>146.52</b>	<b>16,736,815</b>	
	<b>Builder's Risk Insurance</b>	1.50%	250,677	
	<b>Performance &amp; Payment Bond</b>	1.20%	200,542	
	<b>Bid Bond</b>	0.25%	41,780	
	<b>Tap Fees</b>		Excluded	
	<b>Bidding Reserves</b>		2,385,991	
	<b>Total Estimated Cost of Construction</b>	<b>171.73</b>	<b>19,615,805</b>	



## DETAILED ESTIMATE

Estimate By: Kyle Hoiland  
 Date: 22-Nov-13  
 Reviewed By: Chris Squadra  
 Date: 25-Nov-13

Building GSF: **114,228**      Total Cost: **\$12,390,317**

DIV 02	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>EXISTING CONDITIONS / BUILDING DEMOLITION</b>					
	Employee Workstations (1 employee: 250 sf) Minor Repair	100	LF	5.00	500
	Small Conference Rooms (1 small room: 2,500 sf)	100	LF	8.20	820
	Remove Sections of Sidewalk	320	SF	3.46	1,106
	Asbestos Abatement (Allowance)	8	FLRS	30,000.00	240,000
	Demo 70% Building Interior	79,960	SF	2.53	202,298
	Demolition Disposal & Dumping Fees	24,876	CY	3.40	84,579
	High Pressure Wash @ Exterior Building	43,848	SF	1.40	61,387
	Remove Existing Caulking at Exterior Building Joints	14,364	LF	2.50	35,910
	Remove Existing Roof @ Top of Building	16,318	SF	1.50	24,477
	Remove Existing Roof @ Low Roof Sections				w/ Above
	Remove Windows	204	EA	125.00	25,500
	Remove & Salvage All Doors				Excluded
	Manlift & Material Hoisting				w/ General Conditions
	Remove Metal Railing @ East Mechanical Well	164	LF	25.00	4,100
<b>SUBTOTAL EXISTING CONDITIONS/DEMOLITION</b>					<b>680,678</b>

DIV 03	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>CONCRETE / FOUNDATIONS</b>					
	Repair Concrete Cracking & Spalling @ Columns	1,000	SF	11.55	11,550
	Repair Concrete Cracking & Spalling @ Floors	2,500	SF	4.80	12,000
	Crane / Hoisting	120	HRS	275.00	33,000
<b>SUBTOTAL FOUNDATIONS</b>					<b>56,550</b>

DIV 04	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>MASONRY</b>					
	Repair Marble Panels (5% of Exterior Skin)	2,192	SF	75.00	164,430
	Repair / Replace Exterior Granite Panels @ Ground Level	626	SF	75.00	46,980
	Brick Repair @ Roof Parapet	470	LF	24.00	11,275
	Tuck Point the inside Brick Face @ Roof Parapete	470	LF	16.00	7,517
	Clean & Repair of Interior Travertine Panels	1,680	SF	75.00	126,000
	Tuck Point Interior Travertine Panels	840	LF	16.00	13,440
	Clean White Marble Wall Panels @ Interior	8,400	SF	1.50	12,600
	Repair / Replace Interior White Marble Panels (5% of actual area)	420	SF	75.00	31,500
<b>SUBTOTAL MASONRY</b>					<b>413,742</b>



## 5.0 COST ESTIMATES

DIV 05	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>METALS</b>					
	New Exterior Guardrails @ Mechanical Well	164	LF	87.75	14,391
	Fall Protection @ Roof Hatch (Allowance)	1	LS	1,000.00	1,000
	Interior Grab Railings				Excluded
<b>SUBTOTAL METALS</b>					<b>15,391</b>

DIV 06	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>WOODS</b>					
	Rough Carpentry Wood Materials	114,228	SF	0.75	85,671
	Rough Carpentry Labor	2,500	HRS	48.00	120,000
	<i>*Time &amp; materials for miscellaneous building shoring, safety railings/barricades, blocking, substrate repairs, minor framing adjustments, change door swing @ Men's Restroom</i>				
	5" Wood Chair Rail @ Floor Lobbies & Corridors	5,011	LF	4.30	21,548
<b>SUBTOTAL WOODS</b>					<b>227,219</b>

DIV 07	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>THERMAL &amp; MOISTURE PROTECTION</b>					
	TPO Membrane Roof @ Top Level	18,766	SF	9.20	172,647
	Metal Fascia, Flashings, & Trims				w/ Above
	Scuppers, Gutters & Downspouts	969	LF	16.20	15,696
	Wall Insulation - 2" spray foam, interior cavity, where needed	21,924	SF	1.90	41,656
	1" Backer Rod @ Granite/Marble Panels	14,364	LF	0.93	13,359
	Concrete Caulking @ Granite/Marble Panels	14,364	LF	6.46	92,791
	Miscellaneous Caulking & Sealants @ Interior	114,228	SF	1.20	137,074
	Miscellaneous Fireproofing Repair (Allowance)	10,000	SF	2.50	25,000
<b>SUBTOTAL THERMAL</b>					<b>498,222</b>

DIV 08	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>OPENINGS</b>					
	Key Code Access @ Stairway on N. Side	1	LS	1,995.00	1,995
	Door Replacement - TBD				Excluded
	Door Hardware Replacement - TBD				Excluded
	3'-0"x 7'-0" Int HM Steel Door, Frame & Hardware - Roof Penthouse	1	EA	1,987.17	1,987
	ADA Openers @ Restrooms	14	EA	2,250.00	31,500
	Mechanical Access Doors	114	EA	250.00	28,557



	Install New Custom Windows - match existing (single bay)	184	EA	1,716.00	315,744
	Install New Custom Windows - match existing (triple bay)	20	EA	1,716.00	34,320
<b>SUBTOTAL OPENINGS</b>					<b>414,103</b>

DIV 09	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>INTERIOR FINISHES</b>					
	Metal Stud Wall Framing w/ (2) layers of Gyp Board	91,382	SF	2.90	265,009
	5/8" Gyp Bd Exterior Walls	43,848	SF	1.10	48,233
	5/8" Gyp Bd Ceilings & Soffits	87,956	SF	3.10	272,662
	Install Slip Joints between non-load bearing walls & structural framing (Allowance)	1	LS	10,000.00	10,000
	ACT Ceilings @ Office Areas	79,960	SF	3.21	256,670
	Gyp Bd Detailing @ Int Soffits, Cols, etc.	1	LS	10,000.00	10,000
	Carpet @ Offices & Corridors	63,968	SF	3.28	209,814
	Clean Existing Terrazo Flooring @ Floor Lobbies & Corridors	58,800	SF	20.00	1,176,000
	VCT	816	SF	1.80	1,469
	Vinyl Base	24,012	LF	2.20	52,826
	Microbial Athletic Flooring @ Workout Room	2,000	SF	12.00	24,000
	Wall Coverings (Entry Lobby)	1,265	SF	3.90	4,933
	Wall Coverings (Corridors)	6,264	SF	3.90	24,430
	Ceramic Floor Tile @ Restrooms	1,680	SF	10.20	17,136
	4 x 4 Ceramic Wall Tile (6'-0" a.f.f.)				Excluded
	Roppe Raised Dot Rubber Flooring @ Vestibules	250	SF	7.30	1,825
	Paint Gyp Bd Walls & Ceilings w/2 Coats Latex	223,186	SF	0.60	133,912
	Miscellaneous Accent Painting Allowance	1	LS	5,000.00	5,000
	Stain 5" Chair Rail @ Corridors	5,011	LF	1.20	6,013
	Stain & Seal 3'-0"x 7'-0" SC Wood Door & Frame	-	EA	83.20	0
	Stain & Seal 3'-0"x 7'-0" SC w/ Half-Lite, Wood Door & Frame	0	EA	83.20	0
	Paint 3'-0"x 7'-0" HM Door & Frame	1	EA	68.30	68
	Paint New Interior Guard Rail	164	LF	5.70	935
	Miscellaneous Paint Repair @ Exposed Structural Metal	10,000	SF	3.70	37,000
<b>SUBTOTAL INTERIOR FINISHES</b>					<b>2,557,935</b>

DIV 10	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>SPECIALITIES</b>					
	Movable Office Partitions System				Excluded
	New Bath Hardware				Excluded
	Fire Extinguishers (2 per floor)	20	EA	175.00	3,500
	Corner Guards				Excluded
	Code Required Signage	120	EA	55.20	6,624
	Wayfinding Signage	60	EA	276.00	16,560
	Access Ladders @ Penthouse	2	EA	500.00	1,000
<b>SUBTOTAL SPECIALITIES</b>					<b>27,684</b>

DIV 11	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>EQUIPMENT</b>					



## 5.0 COST ESTIMATES

	Refrigerator				Excluded
	Gas Range				Excluded
	Dishwasher				Excluded
	Microwave				Excluded
	Food Disposal				Excluded
	Appliance Installation				Excluded
	Accordion Wall Partitions				Excluded
	Kitchen & Food Service Equipment				Excluded
	Other Office Equipment Not Listed				Excluded
<b>SUBTOTAL EQUIPMENT</b>					<b>EXCLUDED</b>

DIV 12	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>FURNISHINGS</b>					
	East Entry Receptionist Desk	12	LF	150.00	1,800
	Plastic Laminate Countertops	101	SF	28.00	2,822
	Solid Surface Countertops				Excluded
	Copy / Print / Mail Center Casework				Excluded
	Kitchen / Break Room Casework	112	LF	150.00	16,800
	Window Roller Blinds - no valances, installed				Excluded
	Display Cases				Excluded
	Marker Boards				Excluded
	Tackboards				Excluded
	Office Furnishings & Other Building FF & E				Excluded
<b>SUBTOTAL FURNISHINGS</b>					<b>21,422</b>

DIV 13	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>SPECIAL CONSTRUCTION</b>					
	Alternative Energy Systems				Excluded
	Alternative Fuel Vehicle Fueling Stations				Excluded
<b>SUBTOTAL SPECIAL CONSTRUCTION</b>					<b>EXCLUDED</b>

DIV 14	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>CONVEYING SYSTEMS</b>					
	Elevator Service Call - Verify Current Condition & Maintenance Plan				Excluded
<b>SUBTOTAL CONVEYING SYSTEMS</b>					<b>EXCLUDED</b>

DIV 21	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>FIRE SUPPRESSION</b>					
	Fire Sprinklers - Full Replacement	114,228	SF	10.62	1,213,101
	Backflow Prevention				Excluded



	FDC				Excluded
	Booster Pump (Allowance)				Excluded
<b>SUBTOTAL FIRE SUPPRESSION</b>					<b>1,213,101</b>

DIV 22	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>PLUMBING</b>					
	Demo Existing Plumbing	114,228	SF	3.00	342,684
	Plumbing Systems - Full Piping Replacement	114,228	SF	8.63	985,788
	ADA Lavatories	28	EA	625.00	17,500
	ADA Faucets	28	EA	195.00	5,460
	ADA Drinking Fountains	7	EA	495.00	3,465
	Kitchen Sink w/ Garbage Disposal	7	EA	690.00	4,830
<b>SUBTOTAL PLUMBING</b>					<b>1,359,727</b>

DIV 23	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>HVAC</b>					
	HVAC - Full Replacement	114,228	SF	26.50	3,027,042
	HVAC - Workout Room	2,000	SF	15.90	31,800
	Upgrade HVAC Controls	114,228	SF	1.60	182,765
<b>SUBTOTAL HVAC</b>					<b>3,241,607</b>

DIV 26	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>ELECTRICAL</b>					
	Demo Existing Electrical	114,228	SF	2.00	228,456
	New Electrical Wiring & Conduit	114,228	SF	6.21	709,356
	Localized Light Controls	114,228	SF	2.00	228,456
	Remove Light Fixtures throughout Building	114,228	SF	1.00	114,228
	Replace Light Fixtures w/ LED	114,228	SF	2.50	285,570
	Emergency GenSet (50 kVA)				Excluded
	UPS System				Excluded
	Solar Photovoltaic System				Excluded
	Wind Turbine System				Excluded
	Lightning Protection System				Excluded
<b>SUBTOTAL ELECTRICAL</b>					<b>1,566,066</b>

DIV 27	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>DATA / COMMUNICATIONS</b>					
	Fire Alarm System Relocation	114,228	SF	0.09	10,509
	Data & Communications Conduit	114,228	SF	0.63	71,964
	Data & Communications Equipment				Excluded
	A/V Equipment				Excluded





5.0 COST ESTIMATES

				82,473
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DIV 032	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>SITE IMPROVEMENTS</b>					
	<b>Paving</b>				
	4" Asphalt Patchback	960	SF	3.61	3,468
	Concrete Sidewalks - Seal Cracks	500	LF	6.00	3,000
	New 6" x 18" F.R. Concrete Curb & Gutter	100	LF	36.23	3,623
	New 4" Sidewalk	320	SF	6.33	2,026
	<b>Landscape</b>				
	Fine Grade Topsoil	500	SF	2.00	1,000
	Sod Repair	500	SF	0.56	280
	Irrigation Repair	1	AL	1,000.00	1,000
<b>SUBTOTAL SITE IMPROVEMENTS</b>					<b>14,396</b>

DIV 33	Description	Quantity	Unit	TOTALS	
				Cost/Unit	Total Cost
<b>SITE CIVIL/MECHANICAL UTILITIES</b>					
	<b>Secondary Utilities to Building</b>				
	2" Copper Water Line (Incl. Valves, Connections, Trenching w/ Bedding)				Excluded
	6" Sewer Service				Excluded
	Gas Line Trenching				Excluded
	Electrical Service				Excluded
	Phone & Data Service Trenching				Excluded
<b>SUBTOTAL SITE CIVIL/MECHANICAL UTILITIES</b>					<b>EXCLUDED</b>

<b>TOTAL COST -</b>				<b>12,390,317</b>
				<b>108</b>



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