

CAPITOL COMPLEX MASTER PLAN
FINDINGS & RECOMMENDATIONS (F & R) NEEDS ASSESSMENT
700 KIPLING BUILDING, 700 KIPLING STREET (LAKEWOOD)

NOVEMBER 2014





EL
N
R



FINDINGS & RECOMMENDATIONS (F&R) NEEDS ASSESSMENT

700 KIPLING BUILDING
700 KIPLING STREET (LAKEWOOD)

November 2014

TABLE OF CONTENTS

EXECUTIVE SUMMARY	5-6
1.0 OVERVIEW	7-16
A. Architecture Overview	7
B. Structural Overview	8
C. Civil Overview	9
D. Mechanical, Electrical, and Plumbing Overview	10
E. Voice and Data Overview	12
F. Security Systems Overview	14
2.0 OVERALL BUILDING ASSESSMENT FINDINGS AND RECOMMENDATIONS	17-78
2.1 Architecture	
A. Exterior Building Envelope/Site	17
B. Code Issues	33
C. General Accessibility Issues	39
D. Elevators	41
E. Environmental	41
F. Planned and On-going Projects	41
2.2 Structural	
A. Exterior Building Envelope	42
B. Building Interior	43
C. Fall Protection	43
D. Planned and On-going Projects	44



This page left intentionally blank.





TABLE OF CONTENTS (CONTINUED)

2.3	Civil	
	A. Exterior Building Envelope/Site	45
	B. Code Issues	50
	C. Planned and On-going Projects	52
2.4	Mechanical, Electrical, and Plumbing	
	A. Overview of Existing Systems	53
	B. Code Issues	62
	C. Planned and On-going Projects	65
2.5	Voice and Data	
	A. Overview of Existing Systems	66
	B. Code Issues	69
	C. Planned and On-going Projects	70
2.6	Security Systems	
	A. Overview of Existing Systems	71
	B. Code Issues	77
	C. Planned and On-going Projects	78
3.0	FLOOR-BY-FLOOR ASSESSMENT FINDINGS AND RECOMMENDATIONS	79-88
	A. Code Issues	79
	B. General Accessibility Issues	79
	C. Architectural Finishes and Interior Components	79
	D. Structural	87
	E. Voice and Data	87
	F. Security Systems	87
4.0	LEVELS OF RENOVATION NEEDED	89-90
5.0	COST ESTIMATES	91-108



This page left intentionally blank.





EXECUTIVE SUMMARY

The purpose of this report is to provide a Findings & Recommendations (F&R) Needs Assessment of the 700 Kipling Building at 700 Kipling Street in Lakewood, 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), 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.

In general the building is in fair condition. A fair condition rating refers to the fact that the 700 Kipling Building is usable but in serious 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. Upgrade fire alarm. This recommendation encompasses life safety issues and is due to fire protection code issues and the age of the system.

High Level Cost Estimate: \$111,882

2. Modernize elevators. This recommendation encompasses life safety issues and is due to the age and condition of the elevator systems.

High Level Cost Estimate: \$87,035

3. Replace roof. This recommendation encompasses loss of use/reliability issues and is due to the age and condition of the roof.

High Level Cost Estimate: \$275,345



4. HVAC upgrade. This recommendation encompasses loss of use/reliability issues and overall energy efficiency issues and is due to the age and condition of the HVAC system, including VAV boxes, and the inability to maintain a consistent comfortable working temperature within the building.

High Level Cost Estimate: \$2,864,999

5. Repair exterior walls & window leaks. This recommendation encompasses loss of use/reliability and overall energy efficiency issues and is due to the overall deterioration of the mortar and sealant, which is creating access points by which water can penetrate the building envelope, and the age and condition of the windows.

High Level Cost Estimate: \$1,862,908

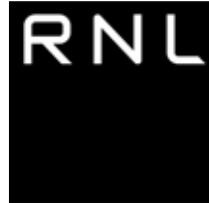
If all recommendations in this report are implemented as a single project, including the top 5 priorities, the high level cost estimate is:

\$9,113,674

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:

\$9,329,674





1.0 OVERVIEW

1.0-A ARCHITECTURE OVERVIEW

The 700 Kipling Building was constructed in 1985 and is located in Lakewood, Colorado on the northeast corner of 6th Avenue and Kipling Street. The building currently serves as government office space for the State of Colorado's Department of Public Safety and Department of Agriculture. The 700 Kipling Building, consisting of a concrete and metal frame clad in brick, is a four-story building and grosses 60,964 square feet of space.

The architectural assessment of the 700 Kipling Building at 700 Kipling 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 October 1, 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 fair condition. There are issues related to interior and exterior finish materials, building systems, code compliance, accessibility, and other items that require attention in the near term. One of the main concerns is related to the age and condition of the roof. Other concerns include the need to repair the exterior walls and window leaks. These concerns encompass loss of use/reliability and overall energy efficiency issues. These findings, along with recommendations for repairs, are detailed in the body of this report.



1.0-B STRUCTURAL OVERVIEW

Martin/Martin conducted a building condition assessment on October 1, 2013 of the office building located at 700 Kipling Street in Lakewood, Colorado. The purpose of our condition assessment was to identify structural defects, damage and deterioration.

The office building was constructed in 1985. The structural framing consists of slab on metal deck supported by steel joists, steel girders and steel columns. The foundation system is unknown and construction drawings were not available.

The structural framing that was readily observable is in good condition.

RF antennas were observed on the roof with no warning signs. Proper signage should be provided to avoid exposing people to harmful radiation.

Parapets along the roof edge were found to be of inadequate height. A fall protection system should be provided for access near exposed edges to meet current safety codes.





1.0-C CIVIL OVERVIEW

The 700 Kipling Building site is approximately 2.26 acres and is located at 700 Kipling Street in Lakewood, Colorado. The existing site consists of the building, site landscape, parking lot and street right-of-way including sidewalk and landscaping. The main building entrance is accessed from the parking lot on the west side. The condition of the site surrounding the building is consistent with an estimated age of 30+ years.

The site exterior is generally in fair condition. There are numerous locations around the building with broken and cracked concrete in need of repair or replacement. Broken surfaces in walking paths is a tripping hazard and a high safety concern. The main concern regarding the site is the drainage away from the building. The landscaped areas are flat and appear to slope back towards the building at some locations. Landscape should be modified to provide positive drainage away from the building and to the storm inlets to prevent saturating the foundation and causing loss of use. While the existing building functions in its current state, improvements can be made to improve drainage, comply with regulations and enhance aesthetics.





1.0-D MECHANICAL, ELECTRICAL, AND PLUMBING OVERVIEW

The 700 Kipling St. building was built around 1987. The electrical and mechanical assessment of the building included review of the existing building documentation, drawings, and audit reports provided by the Owner. A site survey for the facility was performed to see the existing electrical and mechanical equipment installation, code, and building energy efficiency issues. During the site survey, building maintenance personnel provided building history and information on the electrical and mechanical systems conditions, maintenance routines, and installation dates.

The main concerns with this building are related to the fire alarm system and the HVAC system. Both systems need to be upgraded or replaced.

The fire alarm system is a life safety system that protects life and property. It is critical to have a full detection system that is working properly.

The fire pump layout and clearances do not meet current code requirements. Provide a larger room and reconfigure the piping within the pump room. The sprinkler piping within the building is old and must be corroded from inside. The piping is susceptible to leaks and should be replaced to improve life safety 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.

The air distribution in the office spaces is via old Carrier VAV units. These units are not efficient and should be replaced with new VAVs with Direct Digital Controls (DDC). This will improve the space comfort conditions and also save energy. Relocating the control devices like thermostats will help in saving heating and cooling energy. Providing new DDC controls will enable to use energy saving features which will save heating and cooling energy costs.





The possibility of replacing the electric heat with hydronic hot water heat should be investigated. This will improve the comfort conditions and also save heating energy costs.





1.0-E VOICE AND DATA OVERVIEW

The Voice and Data IT/Telecommunications Infrastructure assessment and findings report provides recommendations for the design and construction of the IT/Telecommunications Infrastructure required to support Voice/Data and other technology systems within the 700 Kipling building. It has been found that much of the building's existing IT/Telecommunications infrastructure is not compliant with current industry standards and best practice installation methods. As well, the current infrastructure is such that it may not properly support many newer technology IP devices which are now considered to be standard in the industry such as VoIP phones and PoE type security cameras. Existing Cat5e cabling has bandwidth limitations as compared to that of more robust, industry standard Cat6/6A cable plant specifications. The complete IT systems infrastructure not only includes the cabling, but the cabling pathways and the spaces (or rooms) that support the network cabling. Technology spaces requiring to be properly outfitted in the building include the Main Distribution Facility (MDF) room, and distributed IDF rooms (minimum of one per floor). Backbone infrastructure shall include proper cabling pathways between MDF/IDF rooms, in order to support installation of both fiber and copper backbone cabling. Singlemode and laser optimized multimode fiber optic cables, along with Category 3 copper backbone cables should be installed from the MDF room to each IDF room to support the technology systems. Category 6 UTP cable shall be installed from the telecom outlets and IP field devices to termination hardware in the IDF rooms using the conduit and cable tray horizontal pathways. A proper grounding and bonding system must be provisioned for, and will provide a uniform ground within the telecommunications rooms, to ensure safe and reliable operation of the communications and low-voltage equipment and systems. These recommendations may be used for IT/Telecom Infrastructure program development, space planning, and budgeting of these systems at a conceptual design level. Industry standard and best practice design methods must be applied, including BICSI and TIA/EIA design and construction guidelines. For renovation projects, any 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 700 Kipling Building. The security systems should be planned and designed to allow the security personnel the operational flexibility to provide various levels of security based on the threat level at a given time. Security systems should be designed such that they may be monitored remotely from centralized security monitoring locations. Best practice security design methodology should be applied, including crime prevention through environmental design (CPTED), layered security, integrated design, and concentric circles of protection. Additionally it is recommended that the following document be used as a guideline for developing specific security design criteria for renovations: ASIS Facilities Physical Security Measures, IESNA G-1-03 Guideline for Security Lighting, Unified Facilities Criteria UFC 4-010-01.

For renovation projects, applicable State construction standards and design guidelines must be followed. Electronic security systems to be considered for implementation or upgrade include access control, intrusion detection, duress alarm, intercom, video surveillance, and emergency call system. The access control system (ACS) will be an expansion of the existing campus wide system currently installed throughout other State buildings. The ACS shall also serve as the primary security management system for monitoring intrusion alarms. The video surveillance system (VSS) should be comprised of IP digital cameras integrated with the existing VSS. The State's existing wireless duress alarm system infrastructure should be expanded where needed to support new locations of wireless duress buttons.

Existing security systems in State facilities are generally controlled and monitored centrally from Colorado State Patrol's Central Command Center (CCC), located in Denver CO.

Within the building, new head-end security control equipment is to be located in IDF or technology rooms, as coordinated with State IT technical staff. Equipment may include ACS control panels, power supplies, duress alarm panels, network video recorders, and UPS units.

All critical electronic security equipment should 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 the 700 Kipling Building renovation work, requirements for security device additions/upgrades and specific security system functionality are to be coordinated with State security personnel during design and construction phases.

The following list prioritizes security system upgrades required:

NOTE: Consideration should be given to the investigation of a site security plan.

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 & 2 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 (VoIP) based PoE intercom stations. Install IP camera to view intercom.

Consideration should be given in regards to the Installation and mounting details for any security related renovations. Due to the uniqueness of the buildings under consideration, design plans must be cognizant of maintaining the historical attributes of the buildings.



This page left intentionally blank.





2.0 OVERALL BUILDING ASSESSMENT FINDINGS AND RECOMENDATIONS

2.1 ARCHITECTURE

2.1-A EXTERIOR BUILDING ENVELOPE/SITE

General

The 700 Kipling Building is a four-story tall building, supported by a concrete and metal structural frame. The facade is clad in brick and has continuous ribbon windows along each story. The main building entrance is on the west side and is set back from the front edge of the building, creating a two-story covered entryway. The main entrance is paved in concrete, with brick framing the edges, and continues to a concrete sidewalk extending around the perimeter of the building and serving the surrounding parking lot. There is a second entrance for employees, that also serves as a loading dock, located at the rear of the building on the east side. The roof contains a one-story elevator penthouse set back from the elevations of the building. The low parapet is covered with a waterproof membrane on the inside face and capped with a metal coping.

It was reported that there is currently no weather barrier in the exterior walls and that the walls are not insulated.

The building envelope is in fair 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.



Front/West Elevation and Side/South Elevation of the 700 Kipling Building





Side/North Elevation of the
700 Kipling Building



Back/East Elevation (north
end) of the 700 Kipling
Building



Back/East Elevation (south
end) of the 700 Kipling
Building



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Cladding

The brick cladding the building is in fair condition overall. Soiling was readily observable and consistent around the perimeter of the building (see Fig. 2.1.A.1). The mortar is deteriorating in spots and there was some damage noted to the brick, especially around the windows and at the corners of the building (see Fig. 2.1.A.2 and Fig. 2.1.A.3). The sealant along the control joints around the perimeter of the building is deteriorating and in generally poor condition (see Fig. 2.1.A.4). The deterioration is creating points where water can penetrate the building envelope and cause damage. There were also areas noted where the mortar is deteriorating along the foundation and creating points where water can penetrate the building envelope and cause damage (see Fig. 2.1.A.5). There was evidence of water damage noted along the brick retaining wall at the West Entrance (see Fig. 2.1.A.6). It was reported that repair of the exterior walls is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

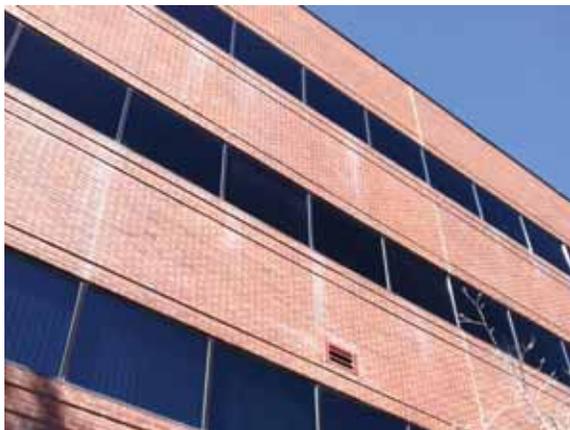


Fig. 2.1.A.1 Typical soiling of the brick observed around the perimeter of the building.



Fig. 2.1.A.2 Damaged brick and deteriorating mortar at the corner of the building.





Fig. 2.1.A.3 Deteriorating sealant along the top edge of the windows and deteriorating mortar along the pair of reveals below the windows.



Fig. 2.1.A.4 Typical deteriorating sealant along the building's control joints.



Fig. 2.1.A.5 Typical deterioration of the mortar along the building's foundation.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 2.1.A.6 Evidence of water damage along brick retaining wall at the West Entrance.

The stucco cladding the exterior of the Penthouse is generally soiled and discolored and appears to have been poorly repaired (see Fig. 2.1.A.7). Some of the worst spalling has been repaired with sealant but it appears that further deterioration is occurring (see Fig. 2.1.A.8).



Fig. 2.1.A.7 Soiled and poorly repaired stucco cladding the Penthouse.





Fig. 2.1.A.8 Poorly repaired areas of spalling at the Penthouse with further deterioration visible.

Recommendations:

- Clean soiled/stained brick veneer around the building exterior, including the retaining walls.
- Repair or replace cracked or spalling brick veneer around the building exterior.
- Tuck point areas with deteriorated mortar around the exterior of the building, including the brick cladding the walls and along the foundation, paying particular attention above the windows and along the brick reveals.
- Remove existing sealant in control joints around the building exterior and replace with new sealant. Sealant, backup materials, and preformed joint fillers should be nonstaining.
- Repair or replace the stucco walls cladding the exterior of the Penthouse.
- Verify the cause of water damage along the brick retaining wall at the West Entrance and repair as necessary.
- Insulate the exterior walls of the building as necessary to provide temperature control and energy savings.
- Further forensic investigation, such as a smoke test, is required prior to any recommendations regarding the potential installation of a weather barrier. Investigate and determine the cause of any water infiltration around the exterior walls and repair as necessary.





Glazing Systems and Doors

The windows appear to be double pane and original to the building. It was reported that there are issues with the seals breaking around the building (see Fig. 2.1.A.9). There were numerous areas observed where the windows are becoming soiled and streaked, which is likely due to the placement of the brick weep holes directly above the windows (see Fig. 2.1.A.10 and Fig. 2.1.A.11). Evidence of previous water damage at a window was apparent on the Fourth Floor (see Fig. 2.1.A.12). The metal frames appear to be corroding (see Fig. 2.1.A.13). The sealant around the windows is generally deteriorated, especially between the top of the window frames and the brick veneer (see Fig. 2.1.A.14). It was reported that repair of window leaks is on the Capitol Complex list of controlled maintenance projects that need to be addressed.



Fig. 2.1.A.9 Soiling of the exterior of the windows directly under the brick weep holes.

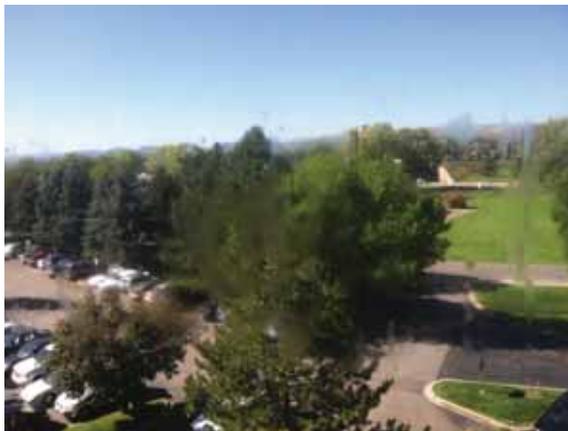


Fig. 2.1.A.10 Window with potential broken seal.





Fig. 2.1.A.11 View of soiled window from the interior of the building.



Fig. 2.1.A.12 Evidence of water damage along the base of a window on the Fourth Floor.



Fig. 2.1.A.13 Typical corrosion noted at the metal window frames.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 2.1.A.14 Deteriorating sealant between the top of the window frames and the brick veneer.

The single sets of glazed entrance doors at the West Entrance and the East Entrance are in fair condition and appear to be original to the building. Air gaps due to deteriorated or missing weatherstripping were noted, allowing air leakage from the building (see Fig. 2.1.A.15). The door and door frame to the Penthouse on the Roof are corroding and the sealant between the frame and the stucco wall is deteriorating (see Fig. 2.1.A.16).



Fig. 2.1.A.15 Missing weatherstripping noted at the West Entrance doors.





Fig. 2.1.A.16 Corroding door to the Penthouse.

Recommendations:

- Replace existing windows with new energy efficient windows and frames.
- Repair or replace the weatherstripping between all exterior doors and their frames to prevent air leakage.
- Repair or replace the corroding door and frame at the Penthouse.
- Remove existing sealant around the door frame at the Penthouse and replace with new sealant. Sealant, backup materials, and preformed joint fillers should be nonstaining.

Roof

It was reported that the roof of the 700 Kipling Building is fifteen years old. The roof is ballasted and is thin or missing in spots, exposing the roof membrane (see Fig. 2.1.A.17 and Fig. 2.1.A.18). It was further reported that the roof has issues with leaking and steps have been taken inside to protect equipment from water damage (see Fig. 2.1.A.19). Some of the roof drain covers are in good condition and some are showing evidence of corrosion (see Fig. 2.1.A.20). The sealant is deteriorating along the seams of the roofing membrane covering the inside face of the roof parapet (see Fig. 2.1.A.21). The coping of the parapet appears to be flat and there is evidence of pooling water (see Fig. 2.1.A.22) and poor sealant repair along the seams of the coping (see Fig. 2.1.A.23). Some of the concrete pavers have cracked into numerous pieces and are creating a tripping hazard (see Fig. 2.1.A.24). It was reported that replacement of the roof and CCF roof assessments are on the Capitol Complex list of controlled maintenance projects that need to be addressed.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 2.1.A.17 Typical areas of thin ballast exposing the roof membrane which is deteriorating.



Fig. 2.1.A.18 Typical areas of thin ballast exposing the roof membrane.



Fig. 2.1.A.19 Plastic used to protect equipment from water leaking from the roof.





Fig. 2.1.A.20 Roof drain cover in good condition and roof drain cover with evidence of corrosion.



Fig. 2.1.A.21 Deteriorating sealant along the seams of the roof membrane covering the inside face of the parapet.

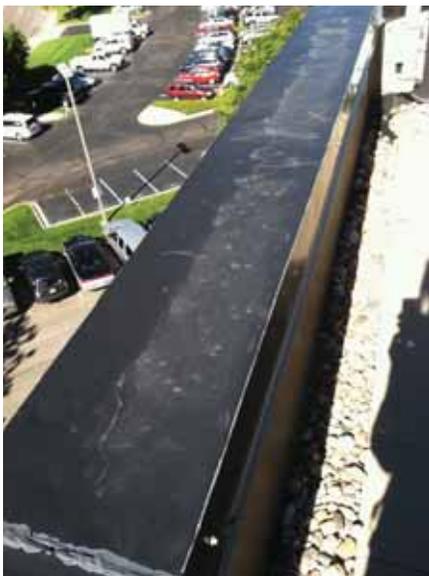


Fig. 2.1.A.22 Evidence of water pooling along the parapet's coping.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 2.1.A.23 Poor sealant repair along the seams of the parapet's coping.



Fig. 2.1.A.24 Cracked concrete pavers creating a tripping hazard on the roof.

Recommendations:

- Replace the existing roof and Penthouse roof with a new roofing system, including a new membrane, ballast, roof drains, and flashing around the perimeter of the Penthouse and the parapet. Ensure that the new coping along the top edge of the parapet slopes to allow drainage of any water.
- Replace damaged concrete pavers with new concrete pavers.



Entrance Canopies

The entrance canopies appear to show evidence of air leakage with soiling along the edge of the building and around the recessed lighting (see Fig. 2.1.A.25 and Fig. 2.1.A.26). There is also evidence of water damage with cracking and previous repairs noted (see Fig. 2.1.A.27).



Fig. 2.1.A.25 Soiling around areas of potential air leakage.



Fig. 2.1.A.26 Soiling around areas of potential air leakage.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 2.1.A.27 Evidence of water damage and previous repairs of the entrance canopies.

Recommendations:

- Verify cause of water damage and air leakage and repair or replace the required elements as necessary.
- Clean and repair areas soiled by air leakage or damaged by water.

Site Elements

There were a number of potential tripping hazards that were noted around the perimeter of the building. The concrete sidewalk pavers are spalling and cracked (see Fig. 2.1.A.28 and Fig. 2.1.A.29). There was a gap noted between two of the concrete pavers (see Fig. 2.1.A.30). There is a corroding metal cover flush with the concrete pavers that has holes and is creating a tripping hazard (Fig. 2.1.A.31).

It was reported that replacement of the fence and wall around the Kipling property is on the Capitol Complex list of controlled maintenance projects that need to be addressed.



Fig. 2.1.A.28 Cracked and spalling concrete pavers are creating a tripping hazard.





Fig. 2.1.A.29 Cracked concrete pavers are creating a tripping hazard.



Fig. 2.1.A.30 Gap between concrete pavers is creating a tripping hazard.



Fig. 2.1.A.31 Corroded metal cover flush with concrete pavers is creating a tripping hazard.

Recommendations:

- Repair or replace concrete pavers with spalling, cracks, and gaps between the pavers.
- Replace the corroded metal cover flush with the concrete pavers with a new metal cover.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



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)



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 4 stories tall and has a total floor area of 60,964 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.

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 700 Kipling 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.

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



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



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 approximate greatest distance of travel that exists from the most remote point on any of the 700 Kipling Building's floor plans to an exit stairway is 152 feet according to the plans provided by the Owner, which is well within the 300 feet allowed. 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 this is the case, then the approximate greatest distance of travel that exists from the most remote point on the Fourth Floor to an exit discharge to a public way (traveling down through the south stairwell to the First Floor and out through the West exit) is 341 feet. If the building undergoes extensive renovation, the fire rating of the exit stairways could result in the travel distance through the stairways being included in the exit access travel distance. 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 is well within the 300 feet allowed by code. The length of the greatest distance of travel and the occupancy loads of each floor should be verified as part of any future renovation plan.

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 700 Kipling Building has 4 stories and no 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 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.

There is a potential issue with a table that has been set up in an exit corridor



within the Colorado Department of Agriculture's office space on the Fourth Floor (see Fig. 2.1.B.1). The Fourth Floor has an occupancy of more than 50 and therefore, according to Table 1018.2 of the IBC (2012), has a required minimum corridor width of 44 inches. According to Section 1018.3 of the IBC (2012), the required width of corridors shall be unobstructed. It appears that the table is intruding into the minimum required width of the egress corridor and should be addressed immediately and regardless of any future renovation plans. The occupancy loads of each floor should be verified as part of any future renovation plans.



Fig. 2.1.B.1 Furniture possibly intruding into the required minimum width of the egress corridor on the Fourth Floor.

Recommendations:

- Verify the fire-resistance ratings of the existing interior exit stairways and doors and upgrade as necessary per future renovation plans.
- Remove any furniture intruding into the exit access corridor on the Fourth Floor within the Colorado Department of Agriculture's offices to provide the minimum required corridor width as necessary.

Fire Suppression Systems

There is a fully automatic sprinkler system throughout the building.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Stairs and Ramps

In general, the exit stairs comply with the code requirements for stairs, with the exception of the stairway railing system. The spacing between the guardrails exceeds the code-maximum of four inches (see Fig. 2.1.B.2).



Fig. 2.1.B.2 The spacing between the railings exceeds the code-maximum of four inches.

Recommendations:

- Replace the existing stairway railing system with a new railing system that complies with the code requirements.

Doors

The interior doors throughout the building are equipped with a mix of lever-style and knob-style door handles (see Fig. 2.1.B.3). According to Section 309.4 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 further states that the force required to activate operable parts shall be 5.0 pounds (22.2 N) maximum.





Fig. 2.1.B.3 Typical knob-style door handle found throughout the building.

Recommendations:

- Replace all knob-style handles on the interior doors with lever-style handles.

Security

There is a reception area at the West Entrance where visitors are required to check in. The East Entrance requires key-code access to enter the building.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



2.1-C GENERAL ACCESSIBILITY ISSUES

The restrooms throughout the building appear to generally comply with accessibility standards. All of the restrooms are the same throughout the building with the exception of the First Floor restrooms which also include shower facilities. It was noted that the generally accessible restrooms throughout provide one ambulatory accessible toilet compartment per restroom. None of the restrooms in the building provide a wheelchair accessible toilet compartment.

A small number of non-accessible issues were noted during the site survey visit. The non-accessible lavatory with knob-style faucet controls in the Women's Restroom on the Second Floor has insulation wrapped around the lavatory pipes while the pipes of the accessible lavatory with code-compliant lever-style faucet controls are not insulated (see Fig. 2.1.C.1). According to Section 606.6 of ICC/ANSI A117.1-2003, water supply and drainpipes under accessible lavatories and sinks shall be insulated or otherwise configured to protect against contact.



Fig. 2.1.C.1 Insulation is wrapped around the pipes of the non-accessible lavatory with knob-style faucet controls in the Women's Restroom on the Second Floor.

The drinking fountains throughout the building appear to comply with general accessibility requirements.

The sinks in the Break Rooms on each floor were typically non-accessible (see Fig. 2.1.C.2).





Fig. 2.1.C.2 Typical non-accessible sink found in the Break Rooms throughout.

Recommendations:

- Reconfigure restrooms to provide a minimum of one wheelchair accessible toilet compartment per restroom.
- Install insulation around accessible lavatory pipes where not provided.
- Install accessible sinks in the Break Rooms throughout where possible.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



2.1-D ELEVATORS

It was reported that building occupants and visitors have been getting stuck in the elevators for some time. The age of the elevator cabs and equipment is unknown. It was reported that modernization of the elevators is on the Capitol Complex list of controlled maintenance projects that need to be addressed.

Recommendations:

- Verify the age and condition of the elevator cabs, electrical, and mechanical equipment to determine if any warranty is still in effect and to develop a timeline for upgrading the system.
- Determine the cause of the elevators becoming stuck and repair or replace as necessary.

2.1-E ENVIRONMENTAL

It is our understanding that there are currently no known environmental issues with the 700 Kipling Building.

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 in good condition. RF antennas were observed on the roof with no warning signs (Fig. 2.2.A.1). RF antennas can expose people to harmful radiation and cause serious damage. The owner of the antennas should provide signage and safe distance requirements prior to people stepping out on the roof.



Fig. 2.2.A.1

A deteriorated mortar joint was observed on the brick veneer along the east wall (Fig. 2.2.A.2). The deteriorated mortar joint allows water to penetrate behind the wall and cause additional deterioration.

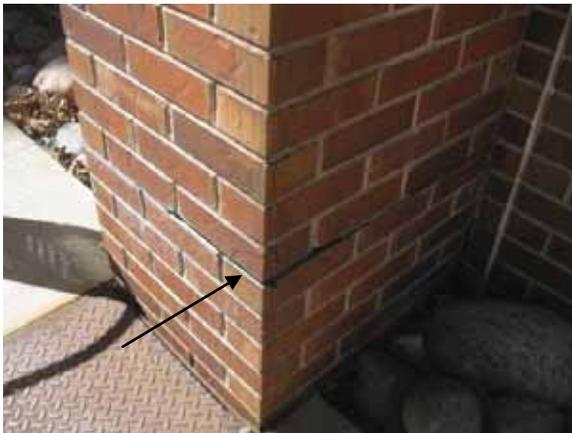


Fig. 2.2.A.2

2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Recommendations:

- Contact the owner of the RF antennas for safety requirements and post warning signs prior to accessing the roof.
- Re-point the cracked mortar joints in the brick veneer to prevent water infiltration.

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-B BUILDING INTERIOR

The overall condition of the structural framing that was readily observable was good.

2.2-C FALL PROTECTION

Inadequate parapet heights were observed at the upper and lower roof levels (Fig. 2.2.C.1). The parapet height along the entire roof edge was measured to be approximately 24 inches tall. 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

Recommendations:

- Design and install fall protection systems for safe access near exposed edges.

2.2-D PLANNED AND ON-GOING PROJECTS

N/A



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



2.3 CIVIL

2.3-A EXTERIOR BUILDING ENVELOPE/SITE

General

The 700 Kipling Building is located at the northeast corner of 6th Avenue and Kipling Street with an address of 700 Kipling Street in Lakewood, Colorado. The building is bordered by 690 Kipling to the south, the 6th Avenue frontage road to the west, Lakewood High School to the north and residential houses to the east. The 700 Kipling Building site is approximately 2.26 acres. The existing site consists of the building, site landscaping, parking lot and street right-of-way including sidewalk and landscaping. The main building entrance is accessed from the parking lot on the west side (Fig. 2.3.A.1). The site surrounding the building is consistent with a building approximately 30 years old.

NOTE: Descriptions of existing infrastructure contained herein are based on public utility information provided by the City of Lakewood. Unless noted otherwise, no detailed survey information was reviewed as part of this site analysis. Estimates of drainage patterns, site grades, and slopes are based upon visual observation or information provided by others, i.e. Google Earth.



Figure 2.3.A.1 – 700 Kipling Building West Entrance

Grading and Drainage

The site slopes generally from south to north. The high point of the site is directly south of the building. Runoff is collected by inlets north of the building and conveyed by storm sewer east.

The main entrance to the building is located on the west side and is accessed via a concrete walkway (Fig. 2.3.A.2). There is a second entrance



on the east side of the building that is raised a couple feet above the foundation of the building. This entrance is accessed via a wheelchair accessible ramp that connects to a concrete slab at the entranceway (Fig. 2.3.A.3 and 2.3.A.4). The perimeter of the building features landscaped areas including trees and grass, and rock skirts.

Some subgrade settling was observed around the exterior of the building but it appears to be contained to the landscaped areas around the building rather than the foundation (Fig. 2.3.A.5). The foundation of the building appears to be stable.



Figure 2.3.A.2 – 700
Kipling Building West
Entrance Walkway



Figure 2.3.A.3 – Wheel
chair accessible ramp to
east entrance



Figure 2.3.A.4 – Concrete
Slab at East Loading Dock



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Figure 2.3.A.5 – Low Subgrade and Foundation Exposure

Previous drainage studies are not available for this site at this time. It is assumed that drainage facilities and conveyances are designed for the 5-year and the 100-year rainfall events, per the City of Lakewood Drainage Criteria. The site appears to ultimately discharge to Lakewood Gulch.

The effective Flood Insurance Rate Map (FIRM Map Number 08059C0305E, effective date June, 17, 2003) 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. The building service line appears to connect to a 6 inch water main to the west of the building which is connected to a 12 inch main that runs through the parking lot and south to 6th Avenue. There are three fire hydrants located near the building. One is on the south edge of the site, another is west of the building and the third is located in the northwest corner of the site. There are no known water pressure problems at this time.

The building is served by an 8 inch sanitary sewer line connecting to a 10 inch sanitary sewer main north of the site. Sanitary sewer is routed easterly at an estimated slope between 1 and 3% towards Lakewood High School and Independence Street. There are no known sanitary sewer capacity problems at this time.

Existing storm sewer collects site runoff from two inlets located on site. Both inlets are located on the north edge of the site. One is in the northwest corner and the other is in the northeast corner. Inlets route runoff via a 12 inch storm sewer to a 48 inch main storm line located north of the site. The main line is routed easterly towards Independence Street.



Existing dry and regulated utilities (electric and telecommunications) are assumed to be located in Kipling Street.

Site Paving

Numerous locations of broken concrete, concrete settling and concrete cracking was observed. Large cracks through walking paths can create tripping hazards. Repair or replace broken or cracked concrete.



Figure 2.3.A.6 – Site Concrete Crack, Recommended for Replacement



Figure 2.3.A.7 – Broken Site Concrete, Recommended for Replacement



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



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



Figure 2.3.A.9 – Settlement in Concrete Along Major Walkway, Recommended for Replacement

Recommendations:

- Concrete cracks approximately 1/8 inch 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 of concrete 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. The site appears to comply with current standards for entrance accessibility. Concrete walk settling has occurred along the ADA path and should be replaced as it creates a tripping safety hazard.

Site slopes were analyzed by visual inspection and topography was evaluated using Google Earth. The landscaped areas surrounding the building are generally flat or slope back towards the building. 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 (Fig. 2.3.B.1). In addition, the perimeter of the building features a rock skirt with a landscape edger approximately 3-4 inches above the subgrade. Since there is no roof overhang at this location and there is no path for drainage away, water has the potential to be trapped along the buildings foundation. This is concern as it can cause building settlement, mold, and numerous other problems. The building perimeter may need to be re-graded and landscape replaced. Perforated landscape edgers and area drains for sump locations may need to be installed.

An irrigation line was observed close to the foundation of the building (Fig. 2.3.B.2 and 2.3.B.3). Typical geotechnical recommendations do not allow irrigation within 10 feet of a building perimeter. Irrigation this close may cause wetting of the building foundation, which again could lead to numerous problems including settlement. This irrigation line should be relocated and watering methods re-evaluated.



Figure 2.3.B.1 – Slopes along Building Perimeter



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Figure 2.3.B.2 – Irrigation Near Building Foundation



Figure 2.3.B.3 – Irrigation Near Building Foundation

Recommendations:

- Re-grade landscaped areas to current geotechnical recommendations for slopes away from the building.
- Install area drains in locations where proper slopes cannot be met.
- Lower landscape edgers to align with top of surrounding finished grade.
- In locations of rock landscaping along the building, raise subgrade below rocks to match or be higher than surrounding grades to create a drainage path.
- Clean and analyze black mold substance. Re-grade landscaped areas at this location and add area drains or perforated edgers as necessary.
- Relocate irrigation currently located within 10' of the building foundation.



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 electrical systems have been upgraded throughout the years to meet the needs of the departments that work in the building. The 13.2kV feeders come into the medium voltage transformer from Xcel energy (see Fig 2.4.A.1). The transformer rating appears to be a 750kVA but the label has worn off overtime. The transformer then feeds a 480/277V, 1600 amp switchgear that feeds the rest of the building including the 208/120V loads. Each floor has panelboards in various locations but most of them are located in the electrical room with the IT equipment (see Fig 2.4.A.2).



Fig 2.4.A.1 – Building transformer



Fig 2.4.A.2 – Electrical room panelboards



Recommendations:

- Since many of the panelboards and distribution panels are original to the building, this equipment should be tested and repaired as needed. Per the recommendations of the testing agent within the next five to ten years, some of the equipment may become more unreliable and will need to be replaced. A scheduled replacement is an option to prevent a failure at an inconvenient time.

Lighting

In the office, hallways, and other areas the lighting is provided by fluorescent T8 or compact fluorescent luminaires (see Fig 2.4.A.3 and Fig 2.4.A.4). Most of these luminaires are in good working order; there were a few that the lamps were burned out. The maintenance staff indicated that the replacement of lamps was not given a high priority. There were not many automatic occupancy controls observed.

The exit signs appear to be in good working condition. Emergency lighting is provided by a combination of twin-head wall packs and battery ballast in the luminaires (see Fig 2.4.A.5). Most of the twin-head wall packs appear original to the building.

Exterior and site lighting is provided by metal halide lamps (see Fig 2.4.A.6 and Fig 2.4.A.7).



Fig 2.4.A.3 – Recessed office luminaires



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig 2.4.A.4 – Recessed can luminaires

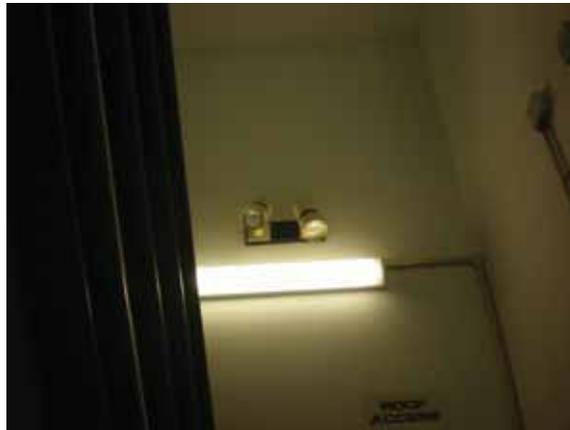


Fig 2.4.A.5 – Twin-head wall packs in stair well



Fig 2.4.A.6 – Exterior building mounted lighting





Fig 2.4.A.7 – Parking lot lighting

Recommendations:

- The lighting is working properly but could be modified or replaced with more efficient configurations. As major remodels are scheduled, automatic occupancy controls and day lighting controls should be installed. Also, LED fixtures could be used to replace the fluorescent fixtures. This will save on maintenance and utility costs.

Fire Alarm

Most of the fire alarm system appears to be original to the building (see Fig 2.4.A.8). The fire alarm system appears to be compliant with the codes in effect at the time of installation. The spaces are detected by duct smoke detectors in the duct work supplying the air to each space.



Fig 2.4.A.8 – Fire alarm control panel



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Recommendations:

- The fire alarm system may be due for an upgrade within the next five to ten years.

General Power

Receptacles appear to be in good working condition; however, they are reaching the end of their useful life and should be replaced within the next five to ten years.

Recommendations:

- Replace all receptacles in the break rooms and bathrooms with GFI receptacles. Replace all receptacles within three feet of a water source in the building with GFI receptacles.

Electrical for Mechanical System

The elevators appear to be in need of a cab and controls upgrade (see Fig 2.4.A.9).



Fig 2.4.A.9 – Elevator controls



Emergency Power

The emergency power appears to be provided by the generator in the 690 Kipling St. building. It appears to feed the fire alarm and other life safety systems.

MECHANICAL SYSTEMS

The 700 Kipling St. offices are served by one Mammoth roof top unit which has chilled water cooling and gas heating. The unit appears to be in good working condition. There are small DX split units serving spaces such as the computer room and IT room. The condensing unit of some DX split units is damaged (see Fig 2.4.A.10). The gas piping on the roof is rusted and need to be painted (see Fig 2.4.A.11). The building does not have a central cooling plant. The chilled water to the building is supplied from the 690 Kipling street building. The air distribution in the spaces is by Carrier Moduline VAV boxes and electric reheat. It was indicated that there are air distribution problems (hot and cold spots) in the building. Some supply air diffusers are covered with tape to block the air flow (see Fig 2.14.A.3). The building has Siemens Direct Digital Controls. The controls air compressor is located in the janitor closet (see Fig 2.4.A.14). In some rooms control devices like thermostats are located at places which do not measure the true room conditions thereby providing airflows which don't meet the space requirements (see Fig 2.4.A.15).

The building has a separate domestic water and fire entry. The building has standpipes, a fire pump and sprinklers on all floors. The fire pump room is located on the first floor and has entry through the elevator machine room. The domestic hot water in the building is provided by a 100 gallon electric water heater on the first floor in the janitor closet. There is an electric water heater, approximately 25 gallons; serving the bathrooms on the second to fourth floors (see Fig 2.4.A.12). It was indicated that there are problems with the hot water and often there is not enough hot water in the kitchens and/or bathrooms.

The server room is served by CRAC units. These units are provided with a dry cooler for free cooling during the winter. The dry cooler unit is located on the roof and appears to be in good working condition.

The wet sprinkler system is original to the building. It is recommended to replace the sprinkler piping since due to the age the pipe must have corroded from inside and is susceptible to leaks.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig 2.4.A.10 – Damaged fins



Fig 2.4.A.11– Gas piping on roof



Fig 2.4.A.12 – Electric water heater





Fig 2.14.A.13 – Diffuser blocked with tape



Fig 2.4.A.14 – Air compressor



Fig 2.4.A.15 – Room thermostat close to exterior glass



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Recommendations:

- The York condensing units on the roof have damaged fins. This affects the efficiency of the machine. Arrange for combing of the fins and a pressure washing to remove dirt in-between the fins. This will improve unit operating efficiency.
- The gas piping on the roof is rusted. Clean and paint the piping with approved color and place pipe identification tags.
- Consider replacing the Carrier Moduline VAV boxes with traditional VAV boxes. The Carrier Moduline boxes leak and do not operate efficiently. By providing new VAV boxes, occupant comfort conditions will improve and the building may save on utility costs.
- Consider replacing the electric reheat heat with hot water reheat. Provide hot water boilers and pumps and hot water heating coils for the VAV boxes. This will improve occupant comfort conditions and the building may save on utility costs.
- Replace the electric water heaters with gas fired hot water heaters and circulation pumps. Determine the building's hot water demand per current use and provide a gas fired water heater to meet the demand. This will address the staff complaint of not having enough hot water and will also result in some utility savings.
- Review the airflow distribution in the building. It appears some spaces have more airflow and some have less which creates hot and cold spots in the building. Some slot diffusers were blocked with tape to block the airflow.
- Replace sprinkler piping in the building.
- An air compressor is installed in the janitor closet. There is no proper cooling and exhaust in the room to meet the compressor's heat load requirements. Provide some type of cooling arrangement for the room to extract the heat generated by the compressor operation.
- The room thermostat in one of the corner offices on the third floor is located too close to an exterior glass wall. As a result, the thermostat does not indicate correct space conditions causing the space to become over-cooled or over-heated. Relocate the thermostat to an interior wall to improve occupant comfort conditions.



2.4-B CODE ISSUES

ELECTRICAL CODE ISSUES

On the roof, one of the satellite dishes is plugged into the air handling unit with an extension cord (see Fig 2.4.B.1 and Fig 2.4.B.2). It is required to have a permanent means of connection.

On several floors, ladders, boxes and other storage items were in the clearance of the panelboards (see Fig 2.4.B.3). The National Electrical Code requires dedicated clearance in front of this equipment.

As piping and wire has been installed throughout the years, the penetrations through the walls have not been properly sealed (see Fig 2.4.B.4). This violates the building code because in the instance of a fire, the penetrations will allow fire and smoke to travel through the building.

By all open water sources like sinks, the National Electrical Code requires GFI protection for all receptacles (see Fig 2.4.B.5). The receptacles in this building's bathrooms and break rooms do not appear to have this protection.

In the fourth floor electrical room, there appears to be water leaking from the roof (see Fig 2.4.B.6). This needs to be sealed to prevent damage to the electrical and IT equipment in this room.

In the electrical rooms on floors two through four, an IT rack is located within the dedicated clearance space of a panelboard (see Fig 2.4.B.7).



Fig 2.4.B.1 – Satellite plugged into HVAC unit



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig 2.4.B.2 – Extension cord providing power to satellite



Fig 2.4.B.3 – Ladder on panel



Fig 2.4.B.4 – Holes in fire rated walls





Fig 2.4.B.5 – No GFI protection in break room



Fig 2.4.B.6 – Plastic for water leak in electrical room

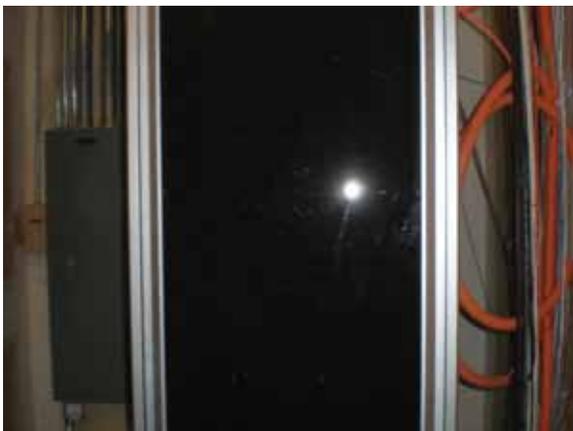


Fig 2.4.B.7 – IT rack in front of panelboard

2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Recommendations:

- Install a permanent means of connection of power for the satellite on the roof.
- Remove all storage items from the electrical panelboards dedicated clearance space.
- Ensure all interior fire rated walls have all penetrations sealed properly.
- Seal the roof to prevent water leaking into the electrical room.
- Remove or relocate IT racks located in the dedicated clearance space of the panelboards in the electrical rooms.

MECHANICAL CODE ISSUES

The fire pump room layout is not as per current code.

Ventilation requirement in the spaces may not be as per the code.

Openings around duct, pipes and conduits passing through rated construction are not sealed as required.

Recommendations:

- Review the fire pump room layout with AHJ and consider providing a new fire pump room.
- Review existing airflow in the building and re-balance the system to maintain required airflow in the spaces.
- Seal all openings in the rated walls as required.
- Verify that fire and smoke dampers as required are provided on all rated wall penetrations.

2.4-C PLANNED AND ON-GOING PROJECTS

No projects have been reported at this time.





2.5 VOICE AND DATA

2.5-A OVERVIEW OF EXISTING SYSTEMS

Findings

Note SMW was not scoped for this task, for this building or the remaining building assessments. SMW provided voice/data survey and assessment scope for the Capitol Annex Building (1375 Sherman Street) and the Centennial Building (1313 Sherman Street) only.

Recommendations:

The recommendations and guidelines within this section shall establish the Basis of Design for the IT Infrastructure portion of the renovation of the 700 Kipling building.

The building should 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.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



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. Buildings with larger floor plates may require a 2nd IDF room on each floor, vertically stacked as a 2nd riser within the building.
- 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

- The TIA Standards requires one IDF room per floor and it shall 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.



- Provide cable tray on each floor within the accessible ceiling spaces of the main corridors as the primary pathways from IDF rooms to telecommunications outlets and field devices.
- Cable tray shall be ladder type aluminum tray with a 9" rung spacing and a width of 18 inches in main corridors and 12 inches in secondary cable tray segments. Cable trays shall be 4 inches in depth.
- For facilities designated as historic buildings, alternate cable routing may require the use of surface mounted conduit and wireways, to comply with historic preservation codes. In these cases, the cable installation design must be coordinated with the State prior to construction.
- 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, for routing cabling to cable tray.
- If outlets need to be surface mounted then provide 1" surface mounted raceway from the back box to the main telecom distribution pathways.

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.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



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 20 – 45 foot spacing or approximately 25-foot centers average on each floor, mounted in accessible ceilings.

2.5-B CODE ISSUES

Findings

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

Recommendations:

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

- 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 700 Kipling building currently.



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



2.6 SECURITY SYSTEMS

2.6-A OVERVIEW OF EXISTING SYSTEMS

Findings

Note: SMW not scoped for this task, did not provide survey work for Security.

It was reported that consideration should be given to the investigation of a site security plan. It was also 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 700 Kipling building. The purpose of this recommendations report is to provide a description of electronic security system parameters which would provide a safe and secure environment for all those persons and assets within the facilities. It is intended to provide valuable information to both technical and non-technical readers for ongoing coordination with security program requirements.

The security systems should be planned and designed to allow the security personnel the operational flexibility to provide various levels of security based on the threat level at a given time. The systems must further provide capability to deliver the highest quality technology today and in the future for system expansion and change. Security system design shall employ various security technologies. Integrated security systems must be capable to function independently if required, as well as be monitored and controlled from CSP Central Command Center.

Recommended electronic security systems to be considered for implementation and/or upgrade include access control, intrusion detection, duress alarm, intercom, video surveillance, and emergency call system. These applications make it possible for security personnel to view activity both inside and outside the facilities from a central monitoring location or a network-connected security workstation at another location, so they



can provide an appropriate response. Care shall be taken to ensure that interior and exterior common circulation areas accessible to both staff and public will be properly monitored. Electronic security control and monitoring applications shall be implemented as appropriate to provide a safe and secure environment to the facility as a whole. This report is not designed as a specification, but rather as an outline to provide information on recommended security systems technology and design criteria.

The following security design methodologies, criteria and guidelines should be considered and used in development of the security program and physical/electronic security design for the building:

- Industry Standard / Best Practice Design
- Crime Prevention through Environmental Design (CPTED)
- Layered Security / Concentric Circles of Protection
- Integrated Design – Physical/Electronic/Operational
- ASIS Facilities Physical Security Measures
- IESNA G-1-03 Guideline for Security Lighting
- Unified Facilities Criteria UFC 4-010-01
- State of Colorado Design Standards, as applicable

The access control system (ACS) will be an expansion of the existing campus wide system currently installed throughout other State 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. It is recommended that for new controlled doors, magnetic locks and electronic strikes not be used. Electrified lever sets and panic hardware



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



should be equipped with request-to-exit switch in exit hardware. Specific door hardware requirements for each controlled door location are to be coordinated with the State. 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 implement IP digital HD type cameras integrated with the existing VSS. Where analog head-end equipment is located, IP camera digital signals are to be decoded to analog video signal. This will allow for future migration from any older analog equipment to an IP based network video solution. IP security video shall be managed by the existing server/recorders, and new network video recorders are to be installed where required to support the addition of new cameras. It is recommended for renovation work that older technology analog camera be replaced with IP digital security camera, connected to the VSS via 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 shall 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.

Fixed point duress buttons may be located at designated points within the building, for staff use in emergency situations. Duress alarm buttons should be provided where appropriate, typically at public interface counters and other locations as designated. Duress alarm buttons may be interfaced to the security alarm management system, or intrusion alarm system, and report to a central monitoring station if required.

An Intercom Communication System (ICS) should be implemented to enhance security operations in the facility, for security personnel, staff and visitors. It is strongly recommended that an Intercom over IP (IoIP) Communications solution be used for this application. And IoIP system would 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.

Within the building, new head-end security control equipment is to be located in IDF or technology rooms, as coordinated with State IT technical staff. Equipment may include ACS control panels, power supplies, duress alarm panels, network video recorders, and UPS units. All critical electronic security 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 building renovation work, requirements for security device additions/upgrades and specific security system functionality are to be coordinated with State security personnel during design and construction phases.

The security systems described above are generally controlled and monitored centrally, primarily from Colorado State Patrol's Central Command Center (CCC), located in Denver CO. This should be confirmed for this facility prior to programming security criteria. The above listed security applications must be evaluated during renovation project schematic design phases to confirm applicability to the most current State electronic security systems standards. For any renovation work, security contractors should be pre-qualified prior to bidding, and will be required to work very closely with State security personnel during installation, commissioning and testing phases. All security installation work, construction standards, and operation requirements are to be closely coordinated with the State by the electronic security integrator.

Electronic security systems provided for the 700 Kipling building shall be an extension of existing State facility security system infrastructure, as described earlier in the report. It is generally recommended that the building be provided with electronic security applications and equipment as listed below:

Access controlled doors:

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



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



Intrusion alarms:

- Access controlled doors
- Emergency egress only doors
- Perimeter doors

Intercom stations:

- Main entry, recommended
- Receiving dock door, recommended

Duress alarms:

- Public interface counters
- Cash handling locations
- Loading docks

Video surveillance cameras:

- Perimeter entry/exit doors
- Entry lobby/reception
- Elevator lobbies
- Emergency exit doors
- Loading docks
- Building exteriors

Security system cabling should generally share cable routes with that of the building structured network cabling system. The network cabling paths and riser locations generally provides the most direct route through a facility, and typically contain sufficient space for security cabling requirements. For facilities designated as historic buildings, alternate cable routing may require the use of surface mounted conduit and wireways, to comply with historic preservation codes. In these cases, the cable installation design must be coordinated with the State prior to construction. Data cabling



required for IP security cameras should be provided and installed by the Telecommunications Contractor. This is the recommended design and construction method for provisioning of the IP camera network cabling to support the VSS cabling infrastructure. State IT construction standards for network and security cabling types and jacket color must be adhered to. Security cabling should never be exposed and should 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.

The security conduit pathway system should be coordinated with the electrical distribution system in order to maintain separation from motors or transformers, separation between parallel runs of telecommunications and electrical cabling, and separation from fluorescent lights.

Basic Security Conduit requirements:

- All security cabling located in in-accessible spaces shall be installed in conduit.
- All exposed security system cabling and shall be installed in conduit.
- All security system conduits shall be minimum ¾" unless otherwise required.
- All penetrations of rated walls shall be fire-stopped in an approved manner to prevent the passage of flame, smoke, and gas.

Head-end security control equipment shall generally be located in Intermediate Distribution Frame (IDF) rooms, or other technology rooms. Security equipment locations within IDF rooms must be coordinated with State IT technical staff during design phase. This equipment may include access control panels, duress alarm equipment, power supplies, network video recorders, and UPS units. Specific requirements and locations within the rooms will be determined during the design phase. Security cabling within IDF rooms shall be piped to wire gutters and or security equipment panels. Within IDF rooms, it is anticipated a 4'x8' section of wall space shall be reserved for security equipment, and supplied with fire treated plywood backboard. All security equipment in the room should be located away from potential sources of electro-mechanical interference (EMI) and water infiltration. Rack mounted security equipment may share space in telecommunication equipment racks, where appropriate, and as coordinated State IT personnel. One dedicated 120VAC 20A power circuit



2.0 OVERALL BUILDING ASSESSMENT FINDINGS & RECOMMENDATIONS



shall generally be required at each security wall board location and at each security equipment rack. In the event of loss of building power, all mission critical electronic security equipment requiring continuous 120VAC power shall be provided with back-up UPS units. All UPS units shall be stand-alone units dedicated for security, and shall be 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.

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)
- 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 700 Kipling building currently.



3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS AND RECOMENDATIONS

3.0-A CODE ISSUES

See 2.1-B Code Issues

3.0-B GENERAL ACCESSIBILITY ISSUES

See 2.1-C General Accessibility Issues

3.0-C ARCHITECTURAL FINISHES AND INTERIOR COMPONENTS

Ceiling Finishes

The gypsum board ceilings in the elevator lobbies and the entrance lobbies on the First Floor are in generally fair condition throughout the building. The corridors and the offices that were included in the site survey visit had 2x2 acoustic ceiling tiles in generally fair to poor condition with signs of deterioration and soiling noted throughout the building (see Fig. 3.0.C.1, Fig. 3.0.C.2 and Fig. 3.0.C.3). The gypsum board ceilings in the restrooms are in generally fair condition throughout the building.



Fig. 3.0.C.1 Typical instance of deteriorated 2x2 acoustic ceiling tiles in generally fair to poor condition throughout.





Fig. 3.0.C.2 Typical instance of stained and soiled 2x2 acoustic ceiling tiles noted throughout.



Fig. 3.0.C.3 Typical instance of soiled 2x2 acoustic ceiling tiles at the air diffusers noted throughout.

Wall Finishes

The elevator lobbies have gypsum board walls in generally fair condition and fabric panels cladding the walls in generally fair condition on the First Floor and poor condition on the Second through Fourth Floors with damage and deterioration noted (see Fig. 3.0.C.4 and Fig. 3.0.C.5).

The wallcoverings along the walls of the restrooms, corridors and offices that were included in the site survey visit throughout the building were in generally fair to poor condition with areas of deterioration, peeling, and damage noted (see Fig. 3.0.C.6, Fig. 3.0.C.7, and Fig. 3.0.C.8).

The two-inch square wall tile in the restrooms is in generally fair condition throughout the building.



3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



Fig. 3.0.C.4 Typical instance of loose fabric wall panels deteriorating in the elevator lobbies throughout the Second through Fourth Floors.



Fig. 3.0.C.5 Typical instance of deteriorating and damaged fabric wall panels in the elevator lobbies throughout the Second through Fourth Floors.



Fig. 3.0.C.6 Typical instance of damaged wallcovering noted throughout.





Fig. 3.0.C.7 Typical instance of damaged wallcovering noted throughout.



Fig. 3.0.C.8 Typical instance of damaged wallcovering noted throughout the restrooms.

Floor Finishes

The carpet flooring in the First Floor elevator and main lobbies, with a brick tile inlay around the perimeter of the area, is in generally fair condition overall. The carpet flooring in the Second through Fourth Floor elevator lobbies is in generally fair to poor condition (see Fig. 3.0.C.9).

It was reported that the carpet flooring in the office spaces on the north side of the First Floor was replaced within the past year or so. With the exception of the office spaces on the north side of the First Floor, the carpet flooring throughout the building's corridors and office spaces that were included in the site survey visit, including the restroom entry vestibules, was in generally



3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



fair to poor condition with areas of deterioration due to age and soiling, in addition to carpet pulling loose along the seams and creating a potential tripping hazard, where noted throughout (see Fig. 3.0.C.10, Fig. 3.0.C.11, and Fig. 3.0.C.12).

The two-inch square tile flooring in the restrooms is in generally fair condition throughout the building.



Fig. 3.0.C.9 Typical instance of worn and soiled carpet in the elevator lobbies.



Fig. 3.0.C.10 Typical instance of worn and soiled carpet throughout.





Fig. 3.0.C.11 Typical instance of worn and soiled carpet in the restroom vestibules.



Fig. 3.0.C.12 Typical instance of carpet flooring pulling loose along the seams and creating a potential tripping hazard.

Other

The doors were observed to have areas of minor damage and general wear-and-tear throughout the building. (see Fig. 3.0.C.13). There was a door noted on the Second Floor with an unfinished door jamb, exposing the space between the door frame and the wall (see Fig. 3.0.C.14). It was reported that renovation/refinishing/replacements of the doors is on the Capitol Complex list of controlled maintenance projects that need to be addressed.



3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



Damage was noted to the toilet stall partitions in the Second Floor Women's Restroom (see Fig. 3.0.C.15).

The painted concrete flooring in the stairway was noted to have paint that was worn off at the base of the stairs (see Fig. 3.0.C.16).



Fig. 3.0.C.13 General wear-and-tear noted at the doors.

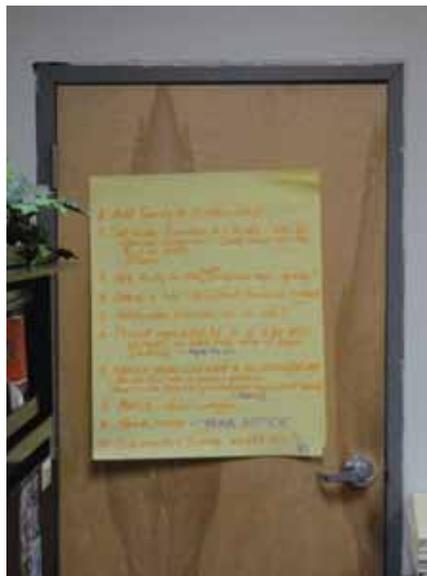


Fig. 3.0.C.14 Unfinished door jamb noted on the Second Floor.





Fig. 3.0.C.15 Damage noted to the toilet stall partitions and to the wallcovering in the Second Floor Women's Restroom.



Fig. 3.0.C.16 Worn painted concrete flooring at the base of the stairs.

Recommendations:

- Clean, repair, or replace the acoustic ceiling tiles where soiled or damaged throughout the building.
- Remove wallcovering throughout the building, including within the restrooms, repair any damaged areas of the gypsum board walls, and either paint or replace with new wallcovering.
- Repair or replace the deteriorating or otherwise damaged fabric wall panels throughout the Second through Fourth Floor elevator lobbies.



3.0 FLOOR-BY-FLOOR ASSESSMENT FINDINGS & RECOMMENDATIONS



- Replace carpet throughout the building, including in the restroom entry vestibules, with the exception of the new carpet in the office areas on the north side of the First Floor.
- Remove the paint from the concrete flooring in the stairways and repaint.
- Refurbish all interior doors and door frames and replace all knob-style door handles with lever-style door handles. Replace doors as necessary.
- Install finish trim around the unfinished door jamb to the Second Floor office space as noted above.



3.0-D STRUCTURAL

No structural concerns were noted on the First Floor through the Fourth Floor. 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.



This page left intentionally blank.





4.0 LEVELS OF RENOVATION NEEDED

Building: 700 Kipling Building, 700 Kipling Street (Lakewood)					
Priority	Main System	Sub System	Level of Renovation Needed		
			Minimal	Moderate	Extensive
1	Exterior Enclosure	Windows			√
1	Exterior Enclosure	Roof			√
1	Exterior Enclosure	Fall Protection (roof)			√
1	Exterior Enclosure	Penthouse			√
1	Exterior Enclosure	Sealant			√
1	Infrastructure	Elevator(s)			√
1	Infrastructure	Tele/Com			√
1	Interior	Finishes - Flooring			√
1	Interior	ADA-Sinks (Break Rooms)			√
1	Interior	Finishes - Wall			√
1	Site	Drainage			√
1	Infrastructure	HVAC		√	
1	Infrastructure	Fire Alarm		√	
1	Exterior Enclosure	Walls	√		
1	Exterior Enclosure	Grout	√		
2	Code	Exit Stairways		√	
2	Infrastructure	Lighting		√	
2	Infrastructure	Security Access/IDS		√	
2	Infrastructure	Security Video		√	
2	Interior	ADA-Restrooms		√	
2	Interior	ADA-Door Levers		√	
2	Interior	Finishes Ceiling		√	
2	Interior	Doors		√	
2	Site	Pavement		√	
2	Site	Lighting		√	
3	Exterior Enclosure	Doors	√		
3	Infrastructure	Power	√		
3	Infrastructure	Fire Sprinkler	√		
3	Infrastructure	Structural Framing	√		
	Code	Exits			
	Code	Dead End Corridors			
	Exterior Enclosure	Signage			
	Interior	ADA-Drinking Fountains			
	Site	Utilities			



This page left intentionally blank.





5.0 COST ESTIMATES

SUMMARY OF SUMMARIES

Item No.	Description	SF	Total	\$/SF
1	Construction Cost	60,964	8,233,997	135.06
2	Contingency on Above		w/ Above	
Base Price Subtotal:		60,964	8,233,997	135
3	IT \ Teledata (Relocate Exstg Only)	60,964	204,590	3.36
4	Contingency on Above		Excluded	
Equipment Subtotal:			204,590	3
Base Price \ Equipment Subtotal:			8,438,587	138
5	Escalation - 6.75% per year		Excluded	
6	Contingency on Above		Excluded	
Escalation Subtotal:			Excluded	
Base Price \ EscalationSubtotal:			8,438,587	138
7	Design Fees at 8% per State of CO Direction		675,087	11.07
8	Contingency on Above		Excluded	
Design Fee Subtotal:			675,087	11.07
Base Price \ Equipment \ Design Fee Subtotal:			9,113,674	149

PROJECTED COST OF CONSTRUCTION IN 2014 DOLLARS	9,113,674	149
---	------------------	------------

ADD-ALTERNATE				
9	FF&E	50,407	1,260,175	25.00
10	Move Management		Excluded	
11	Escalation - 6.75% per year (to March 2017)		Excluded	
12	Contingency on Above		Excluded	
Subtotals:			1,260,175	25.00
ADD-ALTERNATE SUBTOTAL:			1,260,175	25



SYSTEM BY SYSTEM SUMMARY

Item No.	Description	SF	Total	\$/SF
1A	Replace Fire Alarm at Entire Building	60,964	111,882	1.84
1B	Escalation		Excluded	
System 1 Replace Fire Alarm Subtotal:			111,882	2
2A	Elevator Modernization	60,964	87,035	1.43
2B	Escalation		Excluded	
System 2 Elevator Improvements Subtotal:			87,035	1
3A	Replace Roof	60,964	275,345	4.52
3B	Escalation		Excluded	
System 3 Roof Replacement Subtotal:			275,345	5
4A	HVAC Upgrade	60,964	2,864,999	46.99
4B	Escalation		Excluded	
System 4 HVAC Upgrade Subtotal:			2,864,999	47
5A	Repair Exterior Wall & Window Leaks	60,964	1,862,908	30.56
5B	Escalation		Excluded	
System 5 Exterior Improvements Subtotal:			1,862,908	31
6A	Balance of Project Scope	60,964	3,231,827	53.01
6B	Escalation		Excluded	
Balance of Scope Subtotal:			3,231,827	53
System by System Subtotal:			8,433,997	138
7	IT \ Teledata (Relocate Exstg Only)		204,590	3.36
8	Flex Space		Excluded	
9	Public Art		Excluded	
10	Contingency on Above		Excluded	
Equipment Subtotal:			204,590	3
Systems \ Equipment Subtotal:			8,638,587	142
11	Design Fees at 8% per State of CO Direction		691,087	11.34
12	Contingency on Above		Excluded	
Design Fee Subtotal:			691,087	11
Base Price \ Equipment \ Design Fee Subtotal:			9,329,674	153
PROJECTED COST OF CONSTRUCTION IN 2014 DOLLARS			9,329,674	153



5.0 COST ESTIMATES

ADD-ALTERNATE				
14	FF&E	50,407	1,260,175	25.00
15	Move Management		Excluded	
16	Escalation - 6.75% per year (to March 2017)		Excluded	
17	Contingency on Above		Excluded	
Subtotals:			1,260,175	25.00
ADD-ALTERNATE SUBTOTAL:			1,260,175	25



FF&E DETAILED ESTIMATE - BASE

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
01 50 00	<u>Temporary Facilities and Controls</u>					Excluded	
	Flex Space for Multiple Moves and/or Tenant Holdover				Excluded Per Owner		
	<u>General Conditions & General Requirements Subtotal</u>					Excluded	
11 90 00	<u>Owner Furnished Equipment</u>					Excluded	
11 99 00	<u>AV & IT Equipment</u>					127,177	
	AV / IT @ Large Conference Rooms	5	EA	5,230.00	26,150		
	VOIP Telephone System	289	EA	280.00	80,880		
	New PC Computer Workstations	25	EA	810.00	20,147		
	State of CO Servers, Routers, Wireless Access and IT Equipment not w/Above				Excluded		
	<u>Equipment Subtotal</u>					127,177	
12 99 00	<u>Furnishings</u>					1,260,175	
	New Employee Workstations	50,407	SF	25.00	1,260,175		
	Minor Repair to Existing Employee Workstations		EA	160.00	Excluded		
	Furnishings @ Large Conference Rooms		EA	4,150.00	Excluded		
	Furnishings @ Medium Conference Rooms		EA	2,905.00	Excluded		
	Furnishings @ Small Conference Rooms		EA	1,260.00	Excluded		
12 99 99	<u>Art</u>					82,340	
	Art in Public Places @ 1.0% of Construction Cost	1	LS	82,339.97	82,340		
	<u>Furnishings Subtotal</u>					1,342,515	
13 49 00	<u>Radiation Protection</u>					Excluded	
	<u>Special Construction Subtotal</u>					Excluded	
27 10 00	<u>Structured Cabling</u>					77,413	
	Teledata Cabling System Conduit & Wire Upgrades				w/Const Cost		
	Teledata Cabling Terminations, Testing & Tone-Out	289	EA	268.00	77,413		
27 41 00	<u>Audio-Visual Systems</u>					Excluded	
27 53 00	<u>Distributed Systems</u>					Excluded	
	<u>Communications Subtotal</u>					77,413	
34 99 99	<u>Move Management</u>					Excluded	
	Moving Labor, Material, Equipment & Supervision				Excluded		
	Relocate Existing PC Computer Workstations				Excluded		
	<u>Transportation Subtotal</u>					Excluded	
	<u>Total FF&E, IT, & Move Management</u>					3,094,211	



DETAILED ESTIMATE - SUMMARY

CSI Division	Description	Project GSF 60,964		
		\$/GSF	Section Totals	Total w/Burdens
02	Existing Conditions	0.61	37,442	52,561
03	Concrete	0.27	16,335	22,931
04	Masonry	2.57	156,509	219,705
05	Metals	2.30	140,014	196,549
06	Woods & Plastics	4.46	272,054	381,905
07	Thermal & Moisture	2.93	178,336	250,345
08	Doors & Glazing	11.78	718,119	1,008,084
09	Finishes	23.14	1,410,427	1,979,935
10	Specialties	3.73	227,432	319,265
11	Equipment	0.83	50,761	71,257
12	Furnishings	1.22	74,432	104,486
13	Special Construction		Excluded	
14	Conveying Systems	1.02	62,000	87,035
21	Fire Supression	0.42	25,452	35,730
22	Plumbing	1.04	63,171	88,678
23	HVAC	24.67	1,504,234	2,111,621
26	Electrical	10.89	664,170	932,351
27	Communications	2.30	140,461	197,177
28	Security		w/26000	
31	Earthwork		Excluded	
32	Exterior Improvements	2.04	124,222	174,381
33	Utilities		Excluded	
34	Transportation		Excluded	
SUBTOTAL: CONSTRUCTION COST DETAIL		96.21	5,865,571	8,233,997
	General Conditions (GC's Onsite Overhead)	9.80%	574,826	
	Materials Testing	0.10%	6,440	
	Design & Preconstruction Contingency	10.00%	644,684	
	Owner's Construction Contingency (after NTP)	5.00%	354,576	
	Permits	1.90%	141,476	
SUBTOTAL: DIRECT CONSTRUCTION COSTS		124.46	7,587,574	
	General\Professional Liability Insurance	0.90%	68,288	
	Builder's Risk Insurance	1.50%	114,838	
	Performance & Payment Bond	1.10%	85,478	
	Bid Bond	0.20%	15,712	
	Tap Fees & Other Owner Soft Costs		Excluded	
	GC's Offsite Overhead & Profit (Fee)	4.60%	362,107	
	Escalation\Year (to Mid-Point of Construction)	6.75%	ject Summary	
SUBTOTAL: DIRECT & INDIRECT CONSTRUCTION COSTS		135.06	8,233,997	



DETAILED ESTIMATE

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
01 45 00	<u>Quality Control</u>						By Owner
01 50 00	<u>Temporary Facilities and Controls</u>						w/General Conditions
01 50 20	<u>Temporary Parking and Staging Yard</u>						w/General Conditions
01 50 30	<u>Weather Protection and Conditions</u>						w/General Conditions
01 60 00	<u>Mock-Ups (Physical & Digital)</u>						w/General Conditions
01 62 00	<u>Crane Service</u>						w/Trades
01 74 00	<u>Cleaning</u>						w/General Conditions
General Conditions & General Requirements Subtotal							w/Summary
02 10 00	<u>Hazardous Material Removal</u>						Excluded
02 25 00	<u>Building Shoring</u>						w/051200
	Shoring @ Existing Building during Demolition (if any)				w/Below		
02 41 13	<u>Selective Site Demolition</u>						37,442
	Selective Demolition @ Existing Site (Allowance)	16,641	SF	2.25	37,442		
02 41 19	<u>Structure Demolition</u>						w/051200
Existing Conditions Subtotal							37,442
03 07 00	<u>Drilled Piers (Caissons)</u>						Excluded
03 07 10	<u>Helical Pier / Screw Pile</u>						Excluded
03 20 00	<u>Concrete Reinforcing Steel</u>						Excluded
	Reinforcing at CIP Concrete				w/03300		
	Reinforcing at CMU Walls				w/04200		
03 30 00	<u>Cast-in-Place Concrete</u>						12,175
	Concrete Patching @ Existing Building -Medium Repairs (Allowance)	914	SF	13.31	12,175		
03 35 00	<u>Concrete Finishes</u>						Excluded
03 60 00	<u>Precast Concrete</u>						4,160
	Cleaning & Caulking @ Precast at Exterior Skin					Excluded	
	Repair @ Existing Precast @ Exterior Skin	456	SF	9.12	4,160		



5.0 COST ESTIMATES

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Replace Existing Precast @ Exterior Skin				Excluded		
	Concrete Subtotal					16,335	
04 20 00	Masonry					48,955	
	Cleaning & Caulking @ Brick Veneer at Exterior Skin				Excluded		
	Repair @ Existing Brick Veneer @ Exterior Skin	7,168	SF	6.83	48,955		
	Replace Existing Brick Veneer @ Exterior Skin				Excluded		
04 40 00	Stone					Excluded	
	Cleaning & Caulking @ Stone Veneer at Exterior Skin				Excluded		
	Repair @ Existing Stone Veneer @ Exterior Skin				Excluded		
	Replace Existing Stone Veneer @ Exterior Skin				Excluded		
	Masonry Subtotal					156,509	
05 12 00	Structural Steel					121,751	
	Structural Upgrades @ Existing Building - Minor Repairs (Allowance)				Excluded		
	Structural Upgrades @ Existing Building -Medium Repairs (Allowance)	9,145	SF	13.31	121,751		
	Structural Upgrades @ Existing Building -Major Repairs (Allowance)				Excluded		
	Steel Joists					w/051200	
	Steel Joists (if any)				w/Above		
05 30 00	Metal Deck					w/051200	
	Metal Deck (if any)				w/Above		
05 34 00	Acoustical Metal Decking					Excluded	
05 40 00	Cold-Formed Metal Framing					Excluded	
05 44 00	Cold-Formed Metal Trusses					Excluded	
05 45 23	Metal Supports - Unistrut					Excluded	
05 50 00	Miscellaneous Metal Fabrications				-	Excluded	
05 52 00	Metal Railings					18,263	
	Repair Existing Metal Railings	1,372	SF	13.31	18,263		
05 58 50	Equipment Screens				-	Excluded	
05 59 00	Entrance Canopy				-	Excluded	
05 80 00	Expansion Control				-	Excluded	
	Metals Subtotal					140,014	
06 10 00	Rough Carpentry					31,092	



CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Blocking & Backing at Interior Reno (Allowance)	60,964	SF	0.51	31,092		
06 15 00	Wood Decking						Excluded
06 22 00	Millwork / Finish Carpentry						225,015
	New Reception Desk (Allowance)	1	LS	10,000.00	10,000		
	Millwork at New Large Conf Rooms (Allowance)	60	LF	375.00	22,500		
	Millwork at New Medium Conf Rooms (Allowance)	100	LF	375.00	37,500		
	Millwork at New Small Conf Rooms (Allowance)				Excluded		
	Millwork at New Large Break Rooms (Allowance)	125	LF	250.00	31,250		
	Millwork at New Small Break Rooms (Allowance)	120	LF	250.00	30,000		
	Solid Surface Countertops @ New Restrooms	250	SF	55.00	13,750		
	Additional Millwork not w/Above @ Full Reno + 25% of Med Reno (Allowance)	53,344	SF	1.50	80,015		
06 60 00	FRP Panels						15,947
	FRP Panels @ New Janitor's Closets	2,992	SF	5.33	15,947		
	Woods & Plastics Subtotal						272,054
07 11 00	Dampproofing						Excluded
07 13 00	Waterproofing						Excluded
07 18 00	Traffic Coatings						Excluded
07 21 00	Building Insulation						Excluded
	2" Rigid Insulation @ Exterior Walls @ New Skin Materials				-		
07 24 00	EIFS						534
	Cleaning & Caulking @ 3 Coat Stucco System at Exterior Skin	1,303	SF	0.41	534		
	Repair @ Existing 3 Coat Stucco System to Match @ Exterior Skin				Excluded		
	Replace Existing 3 Coat Stucco System to Match @ Exterior Skin				Excluded		
07 32 00	Tile Roof						Excluded
07 41 00	Metal Wall Panels						Excluded
07 41 50	Metal Roof Panels						Excluded
07 50 00	Membrane Roofing						150,733
	Caulking & Minor Roof Repair @ Existing Roof Membrane				Excluded		
	Patching @ Existing Roof Membrane				Excluded		
	New Roofing Membrane @ Existing Roof to be Replaced	15,241	SF	9.89	150,733		
07 60 00	Flashing and Sheetmetal						Excluded
	Flashing @ Roofing System				w/074150		
07 72 00	Roof Accessories						Excluded
	Roof Access Hatch/Ladder				Excluded		
	Roof Access Ladders				Excluded		



5.0 COST ESTIMATES

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Roof Curbs @ RTUs				Excluded		
07 76 00	Roof Pavers					Excluded	
	2'-0"x 2'-0" Roof Access Pavers				Excluded		
	Conc Paver/Pedestal System				Excluded		
07 81 00	Spray on Fireproofing					Excluded	
07 81 10	Intumescent Fireproofing					Excluded	
07 84 00	Firestopping					3,292	
	Firestopping	60,964	SF	0.05	3,292		
07 90 00	Joint Sealants					23,776	
	Joint Sealants	60,964	SF	0.39	23,776		
	Thermal & Moisture Subtotal					178,336	
08 10 00	Steel Doors and Frames					27,415	
	HM Doors						
	3'-0"x 7'-0" HM Exterior Door				Excluded		
	3'-0"x 7'-0" HM Interior Door				Excluded		
	PR 3'-0"x 7'-0" HM Interior Doors				Excluded		
	HM Frames						
	3'-0"x 7'-0" HM Door Frame	122	EA	211.33	25,767		
	6'-0"x 7'-0" HM Door Frame	6	EA	274.73	1,648		
	Add for HM Frames @ Masonry Openings				Excluded		
	Add for Sidelites & Transoms				Excluded		
	HM Glazing Frames				Excluded		
08 20 00	Wood Doors					45,518	
	3'-0"x 7'-0" SC WO Wood Door	122	EA	339.87	41,440		
	PR 3'-0"x 7'-0" SC WO Wood Doors	6	EA	679.74	4,078		
	Add for Vision Lites & Transoms				Excluded		
08 31 00	Access Doors					Excluded	
	Access Doors @ Ceilings & Walls				w/091120		
08 33 00	Coiling Doors and Grilles					Excluded	
	Fire Shutter @ South Lobby (Allowance)				Excluded		
08 36 00	Overhead Doors					Excluded	
	8'-0"x 10'-0" OH Door				Excluded		
	Electric Operator @ Above				Excluded		
08 43 00	Entrances & Storefronts					497,833	
	Cleaning & Caulking @ Storefront & Punch Window Glazing at Exterior Skin				Excluded		
	Repair @ Existing Storefront & Punch Window Glazing to Match @ Exterior Skin				Excluded		
	Replace Existing Storefront & Punch Window Glazing to Match @ Exterior Skin	8,601	SF	57.88	497,833		
08 44 00	Curtain Wall Assemblies					Excluded	
	Cleaning & Caulking @ Storefront & Punch Window Glazing at Exterior Skin				Excluded		
	Repair @ Existing Storefront & Punch Window Glazing to Match @ Exterior Skin				Excluded		
	Replace Existing Storefront & Punch Window Glazing to Match @ Exterior Skin				Excluded		



CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
08 45 00	<u>Translucent Wall and Roof Assemblies</u>						Excluded
08 46 00	<u>Automatic Entrances</u>						Excluded
08 62 00	<u>Unit Skylights</u>						Excluded
					Excluded		
08 62 50	<u>Tubular Daylighting Devices</u>						Excluded
08 70 00	<u>Door Hardware</u>						109,423
	Hardware @ Single Leaf Exterior Door					Excluded	
	Hardware @ PR of Exterior Doors					Excluded	
	Hardware @ Single Leaf Interior Door	122	EA	462.71		56,417	
	Hardware @ PR of Interior Doors	6	EA	925.42		5,553	
	Hardware @ Storefront Doors					Excluded	
	Add for Card Key Access Hardware	8	EA	647.88		5,183	
	Add for ADA Door Operator @ Single Leaf	6	EA	1,341.22		8,047	
	Add for ADA Door Operator @ PR of Doors	1	EA	1,711.56		1,712	
	Add for Panic Hardware @ Single Leaf	15	EA	896.33		13,445	
	Add for Panic Hardware @ Pair of Doors	2		1,792.66		3,585	
	Add for Kickplates, etc. @ Restroom Doors	10	EA	322.47		3,225	
	Add for Closers, etc. @ Single Leaves	18	EA	621.77		11,192	
	Add for Closers, Astral, etc. @ PR of Doors	1	EA	1,064.23		1,064	
08 81 00	<u>Interior Glass Walls, Partitions & Glazing</u>						37,930
	<u>Interior Storefront Glazing</u>						
	Interior Storefront Glazing @ Renovation	800	SF	43.48		34,791	
	PR 3'-0"x 7'-0" Storefront Doors @ Interior		EA	2,411.24		Excluded	
	3'-0"x 7'-0" Storefront Door @ Interior		EA	1,126.11		Excluded	
	<u>Interior Glass</u>						
	0'-6"x 2'-0" Std Vision Lites @ Interior Doors	30	EA	23.56		718	
	0'-6"x 2'-0" Wire Glass Lites @ Fire-rated Doors	18	EA	63.28		1,139	
	2'-0"x 2'-0" Std Vision Lites @ Interior Doors	12	EA	52.72		643	
	2'-0"x 2'-0" Wire Glass Lites @ Fire-rated Doors	6	EA	104.88		639	
	FireLite Glazing					Excluded	
08 90 00	<u>Louvers and Vents</u>						w/233000
	Louvers & Vents @ HVAC					w/Below	
	Doors & Glazing Subtotal						718,119
09 21 00	<u>Plaster</u>						w/072400
	3 Coat Cementitious Stucco System @ Exterior					w/Above	
09 25 00	<u>Gypsum Board</u>						727,120
	25 GA Mtl Stds w/Gyp BD (2) Sides @ Interior	52,010	SF	6.14		319,341	
	25 GA Mtl Stds w/Gyp BD (2) Sides + STC 60 Batt @ Interior	28,005	SF	7.17		200,798	
	25 GA Furring w/Gyp BD (1) Side + STC 60 Batt	4,001	SF	5.94		23,765	
	Add for Impact Resistant Gyp Bd	1,600	SF	0.67		1,072	
	Add for Water Resistant Gyp Bd @ Restroom Walls	3,699	SF	0.61		2,257	
	Add for Water Resistant Gyp Bd @ Restroom Ceilings	600	SF	0.61		366	
	CH Stud System @ HVAC Duct Chases (Allowance)	2,448	SF	7.61		18,629	



CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Gyp Bd (1) Side @ Int of 18 GA Exterior Wall Framing	26,064	SF	1.26	32,841		
	Suspended Gyp Bd Ceilings (Allowance)	3,496	SF	7.21	25,205		
	Gyp Bd Closure Wall Systems @ Soffits & Ceiling Ht Changes (Allowance)	1,000	LF	23.16	23,164		
	Gyp Bd Column Wraps @ Interior Columns (4 Sides)	1,717	LF	14.33	24,604		
	Gyp Bd Column Wraps @ Exterior Columns (3 Sides)	760	LF	11.33	8,613		
	Gyp Bd Perimeter Beam Wraps & Window/Skylight Reveals	1,901	LF	6.23	11,840		
	Gyp Bd Detailing not w/Above	1	LS	34,624.75	34,625		
09 31 00	Ceramic Tile					42,061	
	2"x 2" Ceramic Floor Tile @ Restrooms	600	SF	12.44	7,464		
	24"x 24" Porcelain Floor Tile @ Lobby	1,000	SF	13.44	13,440		
	24"x24" Porcelain Floor Tile @ Stair Treads					Excluded	
	18"x 18" Porcelain Floor Tile @ Rest Rooms					Excluded	
	18"x 18" Porcelain Floor Tile @ Toilet Rms					Excluded	
	18"x 18" Porcelain Wall Tile @ Rest Rooms to 5'-0"H	1,541	SF	10.63	16,385		
	Add for Porcelain Wall Tile Above 5'-0"H @ Wet Walls @ Restrooms	270	SF	10.63	2,867		
	Shower Pans & Curbs					Excluded	
	Tile Cove Base @ Rest Rooms	308	LF	6.18	1,905		
09 50 00	Acoustical Ceilings					154,882	
	New 2'x4' Armstrong Dune Second Look ACT (or Equal)	51,524	SF	2.89	148,905		
	New 2' x 2' Premium ACT (Allowance)	1,737	SF	3.44	5,977		
09 64 00	Wood Flooring					Excluded	
	Wood Flooring					Excluded	
09 65 00	Resilient Flooring					22,758	
	Sheet Vinyl w/Heat Welded Seams					Excluded	
	3MM Linoleum w/Heat Welded Seams @ Breakrooms					Excluded	
	Standard Rubber Base	15,508	LF	1.21	18,765		
	VCT - Simple Random Pattern	2,250	SF	1.66	3,735		
	24"x 24" Std Rubber Tile Flooring					Excluded	
	Rubber Tile Flooring @ Integral Tread & Riser					Excluded	
	Resilient Transition Strips	75	LF	3.44	258		
09 65 66	Rubber Sports Flooring					Excluded	
09 67 00	Fluid Applied Flooring					8,402	
	Epoxy Sealer @ Conc Flr @ Janitor's Closet & Mech/Elec/IT Rooms	1,414	SF	5.94	8,402		
09 68 00	Carpet					218,576	
	28 oz Direct Glue Carpet	53,651	SF	3.88	208,167		
	Add for Waste at Above (Assume 5%)	2,683	SF	3.88	10,408		
	Carpet Tile					Excluded	
	Add for Waste at Above (Assume 5%)					Excluded	
09 84 00	Acoustical Wall Panels					4,349	
	Acoustic Panels @ Large Conf Rooms (Allowance)	360	SF	12.08	4,349		
09 90 00	Paint & Wallcovering					168,811	
	Paint Existing Stairs, Landings and Railings					Excluded	
	Paint Existing Steel Ladders					Excluded	
	Paint 3'-0"x 7'-0" HM Frame	122	EA	48.33	5,893		
	Paint 6'-0"x 7'-0" HM Frame	6	EA	51.29	308		



CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Stain & Seal 3'-0" x 7'-0" SD Wood Door (SC Doors Prefinished)				Excluded		
	Paint Interior CMU Partitions				Excluded		
	Paint Gyp Bd @ Partitions & Exterior Wall	192,543	SF	0.53	102,048		
	Dryerase Paint @ One Wall/Conf Room	2,400	SF	8.61	20,664		
	Paint Exposed Structure @ Janitor's Closet & Mech/Elect/IT Rooms	1,414	SF	1.21	1,711		
	Paint Suspended Gyp Bd Ceiling @ Restrooms w/Epoxy	600	SF	2.86	1,716		
	Paint Suspended Gyp Bd Ceiling @ w/Latex	2,896	SF	0.83	2,404		
	Paint Gyp Bd Closure Wall System	1,000	LF	3.44	3,441		
	Gyp Bd Column Wraps @ Interior Columns (4 Sides)	1,717	LF	4.72	8,104		
	Gyp Bd Column Wraps @ Exterior Columns (3 Sides)	760	LF	3.54	2,691		
	Gyp Bd Perimeter Beam Wraps & Window/Skylight Reveals	1,901	LF	2.36	4,485		
	Paint Breaks @ Accent Walls				w/Above		
	Painting @ Gyp Bd not w/Above (Allowance)	1	LS	15,346	15,346		
09 95 00	<u>Finishes Protection / Punchlist / Cleanup</u>						13,470
	Existing Finishes Protection, Punchlist, Tenant MACs & Final Clean (Allowance)	1	LS	13,470	13,470		
09 90 00	<u>Architectural Theming & Enhancements</u>						50,000
	Interior Finishes Upgrades not w/Above (Allowance)	1.0	LS	50,000.00	50,000		
	<u>Finishes Subtotal</u>						1,410,427
10 11 00	<u>Visual Display Surfaces</u>						Excluded
	Whiteboards				Excluded		
	Cork/Bulletin Boards				Excluded		
	Magnetic Surfaces				Excluded		
10 12 00	<u>Display Cases</u>						Excluded
	Sports Trophy & Award & Other Display Cases				Excluded		
10 14 00	<u>Signage</u>						9,013
	Code Required ID Signage	160	EA	56.36	9,013		
	Wayfinding Signage (Allowance)				Excluded		
	Brushed Aluminum Building ID Letters w/Pin Mounts @ Ext & Int (Allowance)				Excluded		
	Logo @ Building ID - Interior & Exterior (Allowance)				Excluded		
10 21 13	<u>Toilet Compartments</u>						28,374
	Ceiling Mtd Std Phenolic Std Toilet Partition	18	EA	1,266.33	22,794		
	Ceiling Mtd ADA Phenolic Toilet Partition	2	EA	1,524.89	3,050		
	Phenolic Urinal Partition	7	EA	361.48	2,530		
10 22 13	<u>Wire Mesh Partitions</u>						Excluded
	Wire Mesh Partitions @ Storage & Other Locations				Excluded		
10 22 39	<u>Operable Partitions</u>						Excluded
	Operable Partitions				Excluded		
10 26 00	<u>Wall & Corner Guards</u>						6,573
	2"x 2"x 4'-0" Vinyl Corner Guard w/Aluminum Retainer	90	EA	61.22	5,510		
	2"x 2"x 4'-0" Stainless Steel Corner Guards	9	EA	118.16	1,063		
10 28 00	<u>Toilet Accessories</u>				-		21,495
	SS Soap Dispenser	15	EA	77.63	1,164		
	SS Recessed Paper Towel Dispenser/Waste Receptacle	13	EA	192.09	2,497		
	SS Recessed Seat Cover Dispenser	13	EA	86.33	1,122		
	SS Toilet Paper Dispenser - Multiroll	10	EA	85.62	856		



5.0 COST ESTIMATES

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	SS Toilet Paper Dispenser - Single Roll		EA	35.18	Excluded		
	SS Sanitary Napkin Dispenser	5	EA	234.23	1,171		
	SS Sanitary Napkin Disposer	12	EA	64.18	770		
	36" Grab Bar - Cncld Mntng w/ Snap Flange @ ADA Units	2	EA	71.90	144		
	42" Grab Bar - Cncld Mntng w/ Snap Flange @ ADA Units	2	EA	98.63	197		
	2'-0"x 4'-0" SS Frame & Mirror @ Toilet Rooms	15	EA	101.77	1,527		
	Electric Hand Dryers	10	EA	664.71	6,647		
	Baby Changing Station	13	EA	415.31	5,399		
10 43 00	<u>Emergency Aid Specialties</u>						3,295
	Defibrillator & Cabinet	4	EA	823.64	3,295		
10 44 00	<u>Fire Extinguishers</u>						2,519
	Fully Recessed Fire Extinguisher & Cabinet	7	EA	364.53	2,519		
10 51 13	<u>Metal Lockers</u>						Excluded
	New Metal Lockers				Excluded		
10 51 26	<u>Phenolic Lockers</u>						Excluded
	New Phenolic Lockers				Excluded		
10 51 53	<u>Locker Room Benches</u>						Excluded
	New Phenolic Locker Room Benches				Excluded		
10 56 00	<u>Storage Assemblies</u>						6,163
	12"D Prefinished Melamine Shelving @ Janitor's Closets (5 EA/1F)	82	LF	27.43	2,238		
	12"D Prefinished Melamine Storage Closet				Excluded		
	Mop Holder & Shelf @ Janitor's Closets	14	EA	288.61	3,925		
10 71 13	<u>Exterior Sun Control Devices</u>						150,000
	Prefinished Aluminum Sun Shades @ Exterior Glazing	600	LF	250.00	150,000		
10 73 43	<u>Transportation Stop Shelters</u>						Excluded
					Excluded		
	<u>Specialties Subtotal</u>						227,432
11 14 00	<u>Pedestrian Control Equipment</u>						Excluded
11 17 00	<u>Automatic Banking Systems</u>						Excluded
11 21 23	<u>Vending Equipment</u>						Excluded
11 23 26	<u>Commercial Washers & Dryers</u>						Excluded
11 40 00	<u>Food Service Equipment</u>						Excluded
11 45 00	<u>Residential Appliances</u>						50,761
	Residential Refrigerator/Freezer	15	EA	1,143.24	17,149		
	Residential Microwave w/Direct Vent Hood	5	EA	626.31	3,132		
	Residential Microwave w/o Vent Hood	10	EA	423.57	4,236		
	Residential Range/Oven	5	EA	893.44	4,467		



CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
	Residential Undercounter Oven/Warming Drawer	5	EA	1,619.14	8,096		
	Residential Dishwasher	20	EA	684.11	13,682		
11 52 13	<u>Projection Screens</u>						Excluded
11 52 23	<u>Audio-Visual Equipment Supports</u>						w/066000
11 53 00	<u>Laboratory Equipment</u>						Excluded
11 66 13	<u>Exercise Equipment</u>						Excluded
11 66 23	<u>Gymnasium Equipment</u>						Excluded
11 66 43	<u>Scoreboards</u>						Excluded
11 70 00	<u>Healthcare Equipment</u>						Excluded
11 82 00	<u>Solid Waste Handling Equipment</u>						Excluded
11 90 00	<u>Owner Furnished Equipment</u>						Excluded
11 99 00	<u>A/V & IT Equipment</u>						w/Summary
	<u>Equipment Subtotal</u>						50,761
12 21 00	<u>Window Coverings</u>						74,432
	Mechoshades @ Exterior Glazing (Electrically Operated)	7,526	SF	9.89	74,432		
12 48 00	<u>Floor Mats</u>						Excluded
	Recessed Aluminum Entrance Grid					Excluded	
12 60 00	<u>Multiple Seating</u>						Excluded
12 99 00	<u>Furnishings</u>						w/Summary
	<u>Furnishings Subtotal</u>						74,432
13 49 00	<u>Radiation Protection</u>						Excluded
	<u>Special Construction Subtotal</u>						Excluded
14 20 00	<u>Elevators</u>						62,000
	Cab & Controls Upgrade	4	STP	15,500.00	62,000		
	<u>Conveying Systems Subtotal</u>						62,000



5.0 COST ESTIMATES

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
21 13 00	<u>Fire Protection</u>					25,452	
	Fire Sprinkler System (Minimal Upgrade)				Excluded		
	Fire Sprinkler System (Medium Upgrade)	15,241	SF	1.67		25,452	
	Fire Sprinkler System (Replacement)				Excluded		
	<u>Fire Suppression Subtotal</u>					25,452	
22 40 00	<u>Plumbing</u>					63,171	
	Plumbing (Minimal Upgrade)				Excluded		
	Plumbing (Medium Upgrade)	20,118	SF	3.14		63,171	
	Plumbing (Replacement)				Excluded		
	<u>Plumbing Subtotal</u>					63,171	
23 30 00	<u>HVAC</u>					1,504,234	
	HVAC System (Minimal Upgrade)				Excluded		
	HVAC System (Medium Upgrade)				Excluded		
	HVAC System (Replacement)	48,771	SF	29.33		1,430,459	
	Connections/Demolition at Existing HVAC System	57,916	SF	0.89		51,545	
	Systems Commissioning	1	LS	22,230.07		22,230	
	<u>HVAC Subtotal</u>					1,504,234	
26 00 00	<u>Electrical</u>					664,170	
	Lighting System (Minimal Upgrade)				Excluded		
	Lighting System (Medium Upgrade)				Excluded		
	Lighting System (Replacement)	30,482	SF	6.22		189,598	
	One-line/Distribution & Branch Power System (Minimal Upgrade)				Excluded		
	One-line/Distribution & Branch Power System (Medium Upgrade)				Excluded		
	One-line/Distribution & Branch Power System (Replacement)	42,675	SF	6.71		286,348	
	Special Systems (Paging, Security, etc.) System (Minimal Upgrade)				Excluded		
	Special Systems (Paging, Security, etc.) System (Medium Upgrade)				Excluded		
	Special Systems (Paging, Security, etc.) System (Replacement)	42,675	SF	1.67		71,267	
	Fire Alarm System (Minimal Upgrade)				Excluded		
	Fire Alarm System (Medium Upgrade)				Excluded		
	Fire Alarm System (Replacement)	60,964	SF	1.12		68,280	
	Connections/Demolition at Existing Electrical Systems	57,916	SF	0.47		27,220	
	Mech Equipment Connections	1	LS	21,456.89		21,457	
26 31 00	<u>Photovoltaic Collectors</u>					Excluded	
26 41 00	<u>Lightning Protection</u>					Excluded	
	<u>Electrical Subtotal</u>					664,170	
27 10 00	<u>Structured Cabling</u>					140,461	
	Teledata Cabling System (Minimal Upgrade)				Excluded		
	Teledata Cabling System (Medium Upgrade)				Excluded		
	Teledata Cabling System (Replacement)	48,771	SF	2.88		140,461	
	Teledata Cabling Terminations, Testing & Tone-Out @ Above				w/FF&E		
	New Cable Tray/Raceways at Above Cabling				Excluded		
27 41 00	<u>Audio-Visual Systems</u>					Excluded	



CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
27 52 00	<u>Healthcare Communications and Monitoring Systems</u>					Excluded	
27 53 00	<u>Distributed Systems</u>					Excluded	
	<u>Communications Subtotal</u>					140,461	
28 70 00	<u>Security Systems</u>					w/26000	
	<u>Security Subtotal</u>					w/26000	
30 04 70	<u>Construction Surveying</u>					w/General Conditions	
31 23 19	<u>Dewatering</u>					Excluded	
31 30 00	<u>Earthwork</u>					Excluded	
	Site Earthwork - Blended Crew/Equipment Rate (Allowance)					Excluded	
	Excavate for Continuous Footings & Stemwalls					Excluded	
	Backfill @ Footings					Excluded	
	Export Spoils (Assume 1 Hour Truck RT)					Excluded	
	Import & Place 4" Structural Fill Under SOG					Excluded	
	Rock Excavation					Excluded	
31 31 20	<u>Temporary Erosion Control</u>					Excluded	
	Temporary Erosion Control Measures					Excluded	
31 40 00	<u>Shoring System</u>					Excluded	
	Shoring @ Site					Excluded	
31 48 00	<u>Underpinning</u>					Excluded	
	Underpinning @ Existing Building					Excluded	
	<u>Earthwork Subtotal</u>					Excluded	
32 12 16	<u>Asphaltic Concrete Paving</u>					Excluded	
32 13 00	<u>Rigid Paving</u>					Excluded	
32 14 00	<u>Unit Pavers</u>					Excluded	
32 16 00	<u>Curb & Gutter</u>					Excluded	
32 16 23	<u>Sidewalks</u>					Excluded	
	Hardscape at Existing Site (Allowance)					Excluded	
32 17 00	<u>Lightpole Bases</u>					Excluded	
32 17 23	<u>Pavement Markings</u>					Excluded	



5.0 COST ESTIMATES

CSI Section	Description	Quantity	Unit	Unit Cost	Total Project		Comments
					Amount	CSI Sec. Total	
32 31 00	<u>Fences and Gates</u>						Excluded
32 31 17	<u>Site Enclosures</u>						Excluded
32 32 13	<u>CIP Retaining Walls</u>						Excluded
32 32 23	<u>Modular Retaining Walls</u>						Excluded
32 32 50	<u>Stone Retaining Walls</u>						Excluded
32 39 00	<u>Site Furnishings</u>						25,000
	New Site Furnishings Allowance	1	LS	25,000.00	25,000		
32 39 13	<u>Site Signage</u>						Excluded
32 90 00	<u>Landscaping</u>						99,222
	Native Seed (Allowance)					Excluded	
	Softscape & Irrigation (Allowance)	20,801	SF	4.77	99,222		
<u>Exterior Improvements Subtotal</u>							124,222
33 10 00	<u>Site Utilities</u>						Excluded
	New Wet/Dry Utilities (Allowance)					Excluded	
33 30 00	<u>Sanitary Sewerage Utilities</u>						Excluded
33 40 00	<u>Storm Drainage Utilities</u>						Excluded
33 46 00	<u>Foundation Drain System</u>						Excluded
33 47 00	<u>Detention Ponds</u>						Excluded
<u>Utilities Subtotal</u>							Excluded
34 41 00	<u>Traffic Signals</u>						Excluded
<u>Transportation Subtotal</u>							Excluded
SUBTOTAL: DIRECT CONSTRUCTION COST ONLY							5,865,571
General Conditions							w/Summary
GC's Offsite Overhead & Profit							w/Summary
Other GC & Owner Soft Costs							w/Summary
CONSTRUCTION TOTAL COST							w/Summary



This page left intentionally blank.

