



STATE OF WYOMING
JOINT LEGISLATIVE AND EXECUTIVE TASK FORCE
DEPARTMENT OF ADMINISTRATION & INFORMATION
CONSTRUCTION MANAGEMENT

**WYOMING STATE CAPITOL
REHABILITATION & RESTORATION**

**LEVEL I RECONNAISSANCE /
LEVEL II FEASIBILITY STUDY**

**EXECUTIVE SUMMARY
AND
FREQUENTLY ASKED QUESTIONS**

HDR

IN ASSOCIATION WITH

PDP
Preservation Design Partnership, LLC

AND

PLAN
ARCHITECTS

17 FEBRUARY 2014



IN ASSOCIATION WITH



STATE OF WYOMING
JOINT LEGISLATIVE AND EXECUTIVE TASK FORCE
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Executive Summary

A. Goals of the Project - Capitol

The Wyoming State Capitol has been the subject of various studies and proposed projects for years. In 2012 the State began the process of developing a comprehensive, Level I Reconnaissance / Level II Feasibility Study for the Rehabilitation and Restoration of the Capitol. The primary goals for the project are:

- To address space issues to improve the efficiency of government and, most importantly, to be a host to the citizens of Wyoming for their direct and meaningful participation in government.
- To address occupant life-safety, code compliance, and property protection issues in the Capitol.

B. Findings - Capitol

Detailed studies of building space utilization, government needs, and public participation led to some clear findings.

- 1) Existing Committee Rooms are extremely crowded and not conducive to public participation, let alone conducting business.
- 2) Meeting space in the Capitol is limited.
- 3) Office space is, in turn, fragmented, oversized, and undersized throughout the Capitol, resulting in significant inefficiencies in space utilization and difficulties in wayfinding.

Furthermore, with the necessary additions to infrastructure within the Capitol, the building will not have sufficient space to meet all of the projected needs of the current occupants. In some cases, there is a plan in place, e.g. in December or 2012, Management Council accepted the concept of providing correctly sized committee rooms outside the footprint of the Capitol. In other cases, difficult choices will need to be made to find a balance between available space, efficient government, and appropriate offices for the State's leadership. It is noted that the projected need includes increases in meeting and committee room space. Office space is not growing, and the oversized office spaces tend to cancel out the undersized office spaces, so there is minimal net change here; however, the offices should be right-sized through this project.

Although projects with well-intended results have occurred over the years to improve safety, such as adding the exterior egress stairs on the north side of the Capitol the net result has not addressed the core issues for the building. Fundamentally, the Capitol has no ability to detect smoke, remove smoke, or suppress a fire. There are no reliable fire partitions within the building to separate spaces, so a fire on one side of the building will quickly fill the entire building with untenable smoke.

The Capitol building systems are an ad hoc collection of mechanical and electrical equipment which are past their expected life, lack sufficient capacity, and in many cases are now hazardous.

- 25% of the Capitol has no heating and cooling capability
- There is no building automation system
- Piping and plumbing systems are corroded and have burst in the past.
- Wiring inside of conduit is so old and brittle; insulation on the wires is significantly deteriorated.
- Restroom facilities in the Capitol are significantly inadequate and are non-compliant with the current code.
- Barrier-free accessibility for the existing restrooms is also inadequate.



These code-required systems require space, and space in the Capitol is at a premium. Space outside the building will be needed to supplement these equipment and service needs.

The Capitol itself has indications of strain and deterioration which warrant prompt attention.

- The stone on the Capitol exterior walls is generally sound, however significant localized issues exist.
 - In July of 2013, a stone over the front steps was found to be loose. A net was specified to stabilize the area; however, during installation of the net, a portion of the stone simply landed in the contractor's hands. Many stones need attention.
- The roof and dome are badly damaged from hail.
- The skylights are leaking over the stained glass and chambers.
- The dome appears to be generating cracks at the rotunda area through either rotation or some other issue.
- Other cracks appear to be associated with how the Herschler corridor connects to the Capitol.



C. Goals - Herschler

As all the needs of the Capitol cannot be addressed within the walls of the Capitol, other sites have been considered over time. The State has completed a Level I/II study for an Executive Office Building on the St. Mary's site. The State also has completed a Level I/II Study for a New State Office Building on the Pioneer Site. The Herschler Building became a focus for a solution by the Joint Legislative and Executive Task Force, and with the approval of the State Building Commission, began the study in September of 2013. The goals of this study are to:

- Understand the condition of the Herschler Building and its systems. The building is 30 years old and it is an appropriate time review this building.
- Evaluate the Herschler building's ability to support the Capitol needs from a space and systems standpoint.
- Seek strategies to "heal" the Herschler building such that it is an efficient, welcoming and appropriate asset to the Capitol and the State.

D. Findings - Herschler

A high level program and space utilization study found significant inefficiencies with space within the building. By right-sizing offices and support space, and recommending storage be accommodated off-site, about 80,000 net assignable square feet (NASF) may be attainable by revisiting the layout of this building. This is significant in that the Herschler may be an efficient option for temporary offices of the Capitol occupants during the construction phase.

The basic shape, layout, and systems organization of the building is very good. The Herschler building offers the potential for efficient, flexible office space for State agencies. The finishes need replacement and the circulation systems need to be addressed.

An additional concern with the Herschler building, that is being investigated further, is to understand the condition of the exterior walls. These walls have indications of leaks and require review to determine if these leaks are creating problems within the wall. Whereas this seems likely, the issue is open at this time.



The Central Utility Plant (CUP) is well located but lacks sufficient, serviceable space for new proposed systems. This facility serves the Capitol, Herschler, Barrett, Supreme Court, and Hathaway Buildings.

The connector presents an opportunity to accommodate appropriately sized Legislative Committee Rooms and is a convenient location adjacent to the Capitol. This space can be re-envisioned to be a welcoming, day lit space.

The phase II addition planned for the building as a part of the original design is an opportunity to gain significant, economical office space through this project. This added space, along with projected efficiencies in the Herschler Building, represents an opportunity to relieve a portion of the state's lease burden in Cheyenne.

E. Recommendation

The Capitol has immediate needs and requires comprehensive work to address the goals and findings.

- Complete smoke detection system, smoke evacuation system, and fire suppression (sprinkler) system.
- Complete exterior wall and roof renovation, including dome, masonry, windows, and roofing.
- Code and accessibility compliance with added/replaced restrooms and elevators.
- Comprehensive heating, ventilating, and cooling systems with a modern building automation system.
- Full replacement of electrical systems with emergency power back-up.
- Full replacement of plumbing systems.
- Space planning as guided by the state to ensure efficient and accessible government.

The corridor connector between the Capitol and the Herschler and the adjacent underground CUP are recommended to be replaced and modified to support the Capitol and other campus buildings. This work shall not change foundation systems near the Capitol. This work will provide

- serviceable, coordinated central systems for the campus,
- convenient and appropriately sized committee rooms adjacent to the Capitol, and
- remove systems from the landscape to secure locations.

The Herschler Building is recommended to have selective improvements to

- provide appropriate space to accommodate displaced occupants from the Capitol,
- organize the building for efficient, flexible office assignments
- correct circulation and restroom systems, and
- replace worn-out original finishes.

The addition to the Herschler Building is recommended to take advantage of the existing foundation and supporting building systems. These existing assets enable the State to:

- gain economical office space, and
- Move State agencies located in leased space to State owned space

F. Project Cost

Probable Costs for the project are typically studied at a very high, preliminary level for a Level I Reconnaissance / Level II Feasibility Report. Estimating at this stage of the project can therefore be highly variable. The cost specifics are less reliable at this stage of the project in that many significant decisions not yet made will affect these costs.

Given the nature of rehabilitating and restoring this National Historic Landmark however, this study includes significant, detailed studies of work recommended to inform cost estimating to a much more reliable level. Estimating for this unique work defies normal cost estimating metrics – a detailed study of each recommended system is required to prepare realistic estimating.

For the scope and quality expressed, we consider these cost estimates appropriate for prudent planning purposes. Whereas additional costs may be determined, the HDR / PDP / Plan One team is driven to seek efficient, cost effective solutions to meet the needs of the State in terms of space, quality and serviceability. Cost savings will be consistently and rigorously sought throughout the project, with all savings reverted to the State.

Probable Construction Costs provided here anticipate utilizing the services of a single Construction Manager; and include forecasted industry escalation and estimating contingencies. Excluded at this time are site improvements to St. Mary's and Pioneer properties; and Herschler exterior wall corrections.

Project Cost Summary

Capitol Revovation	\$113,000,000	44%	\$978 /SF
Herschler & Connector	\$86,000,000	33%	
Connector & Central Utility Plant (CUP)	\$25,800,000		\$458 /SF
Herschler Renovation (incl. site & parking)	\$48,100,000		\$134 /SF
Herschler Addition	\$12,100,000		\$160 /SF
Estimated Construction Costs	\$199,000,000		\$329 /SF
Temporary Accommodations Allowance	\$2,000,000	1%	
Furniture, Fixtures & Equipment Allowance	\$8,500,000	3%	\$14 /SF
Estimated Project Costs	\$29,500,000	11%	\$49 /SF
State's Project Contingency	\$20,000,000	8%	\$33 /SF
Total Estimated Project Costs	\$259,000,000		\$428 /SF

The above figures have been developed based upon the quality and scope indicated by the State of Wyoming stakeholders, and industry expectations for construction costs. As a basis of comparison, we can look at Industry expectations and other Cheyenne projects and estimate their costs if bid at the same time as this project: Industry trends indicate that similar, new office buildings of this size, with tenant improvements included, range from \$220 - \$312/sf.

G. Project Schedule

The schedule proposed here is considered aggressive to accommodate the drivers noted below. It is agreed that prudent, progressive, steady progress is in the State's best interest for a successful project.

- The State has elected to vacate the Capitol for the duration of the construction process. This is a significant advantage for cost control, schedule control, and disruption to state government operations. The schedule is based on the legislature being out of the Capitol for two sessions.
- Work on the Capitol exterior will require scaffolding for the duration of the project and two summers for temperature sensitive activities.
- Prudent, if aggressive scheduling provides optimum value for the state's purchasing power.
- There is strong potential to complete the Capitol work in 2017 in time for the Centennial Celebration of the completion of the Capitol (1917).

The ordered and prudent organization of the project is best managed with one collective set of design documents to be provided to a Construction Manager (CM). The CM would phase and package the work. This process is important to allow the Architect/Engineer to coordinate the work of this complex project. Ideally, the CM would be engaged as soon as possible after the start of the Design Development Phase.

The necessity of temporary offices and move phasing will be separate from the above collective set of bid documents to prepare the state for the construction project.

Although preliminary work for Level III has begun (with the approval of the State Building Commission), the dates listed below are considered ‘recommended’ at this time and will be confirmed following the 2014 session. The dates assigned below may vary. The estimates prepared for this study are based upon the forecast midpoint of construction (mid-2016). Appropriate adjustments to cost escalation factors should be considered with adjustments of the schedule.

Begin Level I &II Study (Capitol)	March 2013
Begin Level I &II Study (Herschler)	September 2013
Preliminary Report (Capitol)	November 2013
Preliminary Report (Herschler)	December 2013
Authorization to Proceed with Preliminary Work (SBC – November 2013)	January 2014

Dates to be confirmed:

2014 Legislative Session

(Level III Design and Construction funding) February/March 2014

Notice to Proceed Level III Work

March 2014

Design and Documentation (12 months)

January 2014 – December 2014

Construction (30 months)

January 2015 – July 2017

Furniture & Set-Ups & Commissioning

July 2017 – August 2017

Occupy Capitol

August 2017

>>>END OF EXECUTIVE SUMMARY<<<

PREAMBLE

Over the course of the last ten months, a number of questions were raised by the members of the Task Force, stakeholders and other interested entities and individuals regarding the various aspects of this project. In the following pages, all the questions that were asked were captured in this document, with the corresponding answers.

The questions can be reviewed in two ways:

1. **They can be reviewed in sequence**, from the beginning to the end, starting with a brief history of the Capitol and concluding with long term post construction stewardship issues
or
2. **Thematically**, in the following categories:
 - a. **History and Significance**
Questions: 1, 2, 3, 4, 34, 35, 36, 42
 - b. **Project Background and History**
Questions 5, 6, 7, 8
 - c. **Significant Discoveries**
Questions: 9, 10, 11, 12, 21, 22, 30, 42, 43
 - d. **Risk and Risk Management**
Questions: 9, 10, 11, 12, 23, 30
 - e. **Code Compliance**
Questions: 12, 13, 14 24
 - f. **Space Needs and Space Planning**
Questions: 115, 16, 17, 18, 19
 - g. **Proposed Scope of Work**
Questions: 20, 24, 25, 26, 28, 42, 59
 - h. **Logistics, Delivery and Sequence of Implementation**
Questions: 29, 39, 40, 41, 44, 45, 46, 47, 48, 49, 56, 57, 58
 - i. **Project Costs and Budget**
Questions: 27, 31, 32, 33, 34, 35, 36, 37, 38, 49, 50
 - j. **Post Construction Issues**
Questions: 50, 59, 60
 - k. **Public Involvement**
Questions: 52, 53, 54, 55, 56
 - l. **Stewardship**
Questions: 60

FREQUENTLY ASKED QUESTIONS AND ANSWERS

1. What Is the History of the Capitol?

The building was commissioned by the **Ninth Territorial Assembly** of Wyoming in 1886 in anticipation of the impending statehood of Wyoming. It was planned, designed and constructed in three phases, namely in **1888, 1890** and **1917**. The first two phases were completed in time for Wyoming's admittance to the Union as the **44th State**, on July 10, 1890.



Figure 1.1: Construction Evolution.

The first two phases of construction were designed by **David W. Gibbs & Co** of Toledo, Ohio, and the third was by **William Dubois** of Cheyenne.

Two minor and one major building campaigns were undertaken in 1937, 1944 and 1980; however, **none of them was a comprehensive renovation** of the entire building.

The Wyoming State Capitol is one of several capitols constructed in the US during the “peak period”, i.e. **between the late 1850s and the late 1920s**, when approximately 40 of the 50 states erected their capitols.

The vast majority of them, including Wyoming, were influenced by Thomas Jefferson’s Virginia State Capitol [1785, 1904 – 10], the first major public building to be constructed in America using the classical vocabulary, as the appropriate architectural expression for America’s new democracy.

2. Why Is the Wyoming State Capitol Considered a Significant Historic Building?

The Wyoming State Capitol is a significant historic building for a variety of very important reasons:



Figure 2.1: South Elevation, 2013.



Figure 2.2: Rotunda, 2013.

- It is **the first major public building in Wyoming** constructed in anticipation of Statehood.
- No other building in the State, up to 1890 and to a certain extent to the present time, has the **monumental architecture and interior spaces** that the Capitol has.
- It was constructed with **the finest of materials and decorative finishes**, all carefully selected to last for decades and centuries.
- It is **one of the finest examples of this building type**, i.e. monumental government buildings, found anywhere in the US.
- Simply put, there is no other building in the state that has the architectural qualities and monumental scale of the Capitol.
- It **exemplifies the qualities of the State of Wyoming and its spirit**.
- Over the course of its 125 year history, the building has been a witness to some of the most significant events in the State's history, having been the home of the Legislature, the Governor's Office, the State Supreme Court, statewide elected officials and other agencies. As such, **it has the highest political, cultural and historic significance of any other site / building in the State**.

3. What Is a National Register Listing and a National Historic Landmark Designation?

The **National Register of Historic Places** was created by the **National Historic Preservation Act of 1966**. It is part of a broader initiative to identify, evaluate and protect America's historic and archaeological resources. The National Register is managed by **the National Park Service**.



Figure 3.1: Aerial Photograph of the Capitol Site From the Northeast, ca. 1930.

Today, the Register contains approximately 90,000 listings with over 1.7 million resources. The Capitol is one of the 90,000 listings.

The following excerpt from the National Register describes the criteria for being listed:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- a. *That are associated with events that have made a significant contribution to the broad patterns of our history; or*
- b. *That are associated with the lives of significant persons in or past; or*
- c. *That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
- d. *That have yielded or may be likely to yield, information important in history or prehistory.*

The Wyoming State Capitol meets several of the criteria of architectural, historic, political and cultural significance for being listed on the National Register of Historic Places and in 1973 it was officially listed. Question 2 describes the significance of the building in the context of the National Register criteria.

It is important to note that the Wyoming State Capitol was listed very early in the creation of the National Register, an indication of the significance of the building.

In addition to the National Register, there is another list that is also maintained by the National Park Service that contains natural and cultural sites and buildings of **truly exceptional value**. It is **the National Historic Landmark [NHL]** program.

The NHL program contains only **2,300 listings** and the process of being nominated and listed as an NHL involves a very lengthy and systematic process with stringent standards. The State of Wyoming has less than thirty such sites, with the Capitol being one, including Yellowstone National Park.

In 1987, the Capitol was officially elevated to **National Historic Landmark [NHL]** status. As such, **the Wyoming State Capitol is in the top 1%** of the country's most significant architectural, cultural and natural resources.

4. How Does the Wyoming State Capitol Compare to Other Capitols?

The Wyoming Capitol is one of fewer than 20 Capitols that is recognized as a National Historic Landmark.

While some Capitols are much larger and very ornate, such as Texas, New York, Michigan and Pennsylvania to name a few, the Wyoming State Capitol is distinguished for its restrained character, beautiful Rotunda, high quality materials and elegance in the selection of the original decorative finishes, many of which maintain their architectural integrity today.

As all other Capitols and other monumental National Historic Landmarks, however, it is also in need of a major renovation and restoration to address a long list of critical deficiencies and areas of risk.



Figure 4.1: West Elevation, 2013.

5. Is the Renovation / Restoration of the Wyoming State Capitol a New Project?

The restoration and renovation of the Wyoming Capitol is **not a new project**. Let's consider the following:

- Since **1980**, the State of Wyoming has undertaken several projects to address specific needs of the building, albeit without a comprehensive plan.

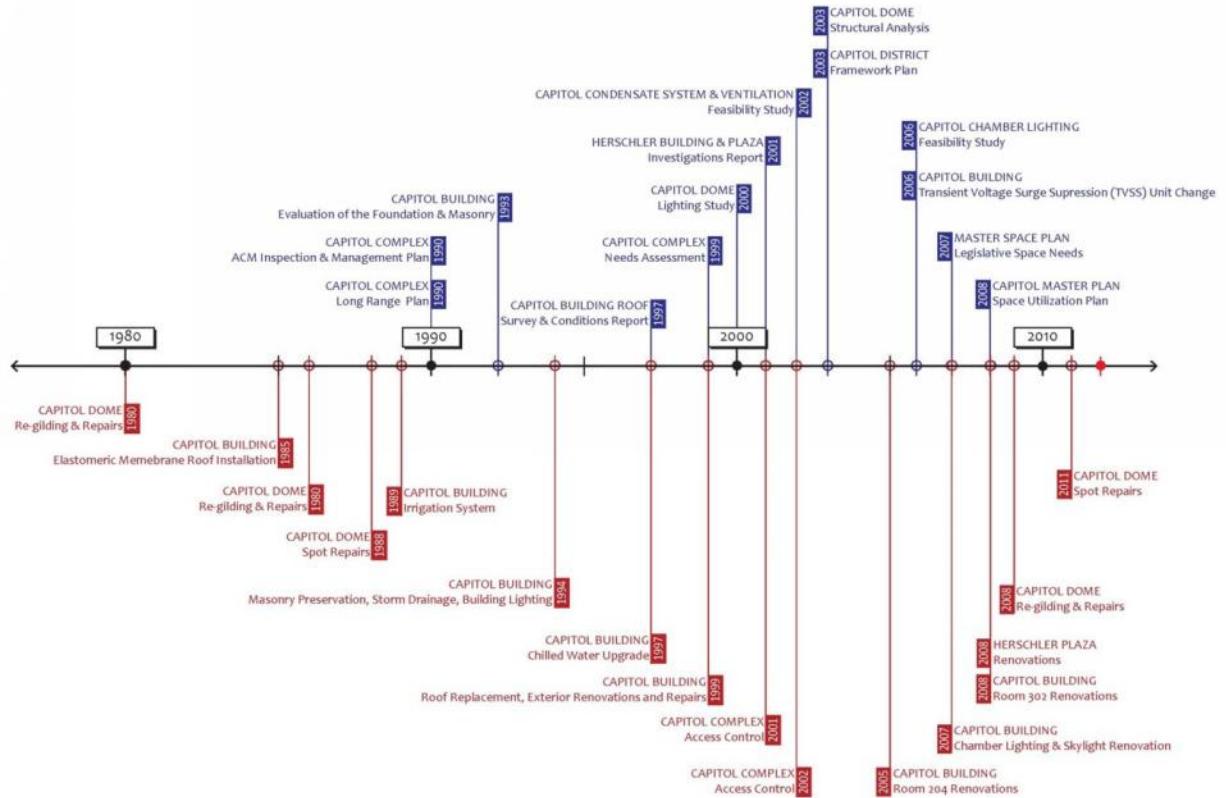


Figure 5.1: Timeline of studies and projects, 1980-2013.

- The **57th Legislature**, recognized the need to renovate and restore the building by creating a fund to begin to set aside the necessary funding for this important project [**Enrolled Act No. 79, Bill No. 0001**]
- The history of the project has been documented in several articles, news, etc., as early as **2003**.

6. What Is the History of the Project?

The following are the important dates / milestones of the project to date:

- a. On **August 21, 2012**, a Request for Qualifications [RFQ] was issued for a Level I Reconnaissance and Level II Feasibility Study by A&I Construction Management, as the first step in the process of setting the wheels in motion to renovate and restore the Capitol.
- b. Originally formed in **2004** as the Task Force on Capitol Facilities, the current **Task Force on Capitol Rehabilitation and Restoration** was reorganized in **2008** to:
 - Develop rehabilitation and restoration priorities for the State Capitol Building;
 - Contract for the performance of any function appropriate to carry out its duties, including the employment of consultants and other professionals;
 - Periodically report its findings and recommendations to the State Building Commission, the Legislative Management Council and the Joint Appropriations Interim Committee;
 - Recommend to the Management Council statutory changes that may be required to implement project recommendations.
- c. On **December 21, 2012**, the team of **HDR in association with PDP**, and **Plan 1**, was selected to lead a multidisciplinary planning and design initiative to undertake the Level I/II Study.
- d. On **November 18, 2013**, the HDR / PDP / Plan 1 team made its recommendations for the renovation and restoration of the Capitol. On **December 17, 2013**, the HDR / PDP / Plan 1 team made additional recommendations for the renovation and addition to the Herschler Building.

7. What Is a Level I and Level II Study?

The State has an ordered process to develop Capital projects for the State of Wyoming. This process is designed to provide elected officials with information and control. AICM facilitates the process at the direction of the State by administering a three level process.

a. Level I Reconnaissance / Level II Feasibility

Perceived needs to support the State or improve the State's operations are expressed in a variety of ways; however, there is not a "project" until the State directs **Administration & Information Construction Management [AICM]** to explore the proposed needs further. When the State considers that a project idea has merit, AICM undertakes an initial Study, the Level I Reconnaissance / Level II Feasibility Study. Whereas these may be separate studies at the discretion of the State, the two levels of study tend to overlap and AICM may realize efficiencies by combining the efforts. The Level I Reconnaissance / Level II Feasibility Study investigates the proposed project to a sufficient degree of detail to:

- Articulate the need of the project;
- Determine the scope of the project to meet the need; and,
- Research the reasonable, sufficient cost and schedule to realize the successful project.

This Level I/II Study provides reliable information for a limited investment, without committing to the full design and construction costs of a project. It represents the prudent investigation of the possibility of a given project. The overarching intent of the Level I Reconnaissance / Level II Feasibility Study is to sufficiently inform elected officials for their decision making.

b. Level III Design & Construction

The next level of work for a capital project is for design and construction. Whereas the Level I/II Study has overlap and efficiencies that warrant combination, the design and construction phases are distinct and linear in their delivery.

8. Was the HDR / PDP / Plan 1 Study a Typical Level I/Level II Study?

As in most cases in the world of design and construction, including the development of building standards, code requirements and design software, the vast majority of our planning, design and construction framework is designed to address the needs of new construction and not the renovation of historic buildings.

Historic buildings, and specifically National Historic Landmarks, have different needs and requirements than new construction, which need to be taken into consideration at every stage of the project, from programming and planning to construction and code compliance.

Since the mid-1960s, the field of Historic Preservation has emerged as an area of specialization in planning and design and it has created its own specialized expertise, knowledge and technology to deal with the complex issues associated with the long term protection of our architectural and cultural heritage.

In that context, the HDR / PDP / Plan 1 Level I / II Study was tailored to deal with the complex issues of renovating the Wyoming State Capitol. It was designed to be highly focused, systematic and scientific. As a result, it exceeds the requirements of a typical Level I / II Study.

It utilized the latest technology, state-of-the-art specialized knowledge, nationally recognized expertise and experience gained from several projects of similar complexity, including several other State Capitols.



Figure 8.1: Orthophotography image of the Capitol, 2013.

The reasons for undertaking such a detailed and extensive Level I / II Study are simple:

- It was imperative to understand the risks that exist today, as a result of decades of deferred maintenance, inappropriate interventions and the inherent limitations of the historic building.
- It was critical to the success of the project that a reliable clearly defined scope of work, a reliable project budget and a project schedule would be created that would be based on facts, evidence and scientific knowledge, as opposed to generic assumptions.

9. What Are the Most Significant Findings of the Level I / II Study?

The most significant findings are:

a. Life Safety:

The most significant and critical deficiency is that the building does not have any of the required systems to protect occupants, the building and its contents in the event of a fire, i.e.:

- ✓ Smoke Detection
- ✓ Fire Suppression [Sprinklers] and
- ✓ Smoke Evacuation

The first two systems are necessary to detect a fire and to extinguishing it.

The last system is required since **the building's is a single volume structure**. In simple terms, the building's **five** levels, i.e. **Basement, First, Second, Third and Attic** are interconnected to a form a

single volume, i.e. a single “box”. In the event of a fire, the smoke needs to be extracted at the top of the “box” to prevent smoke concentration, allowing the occupants to exit safely.

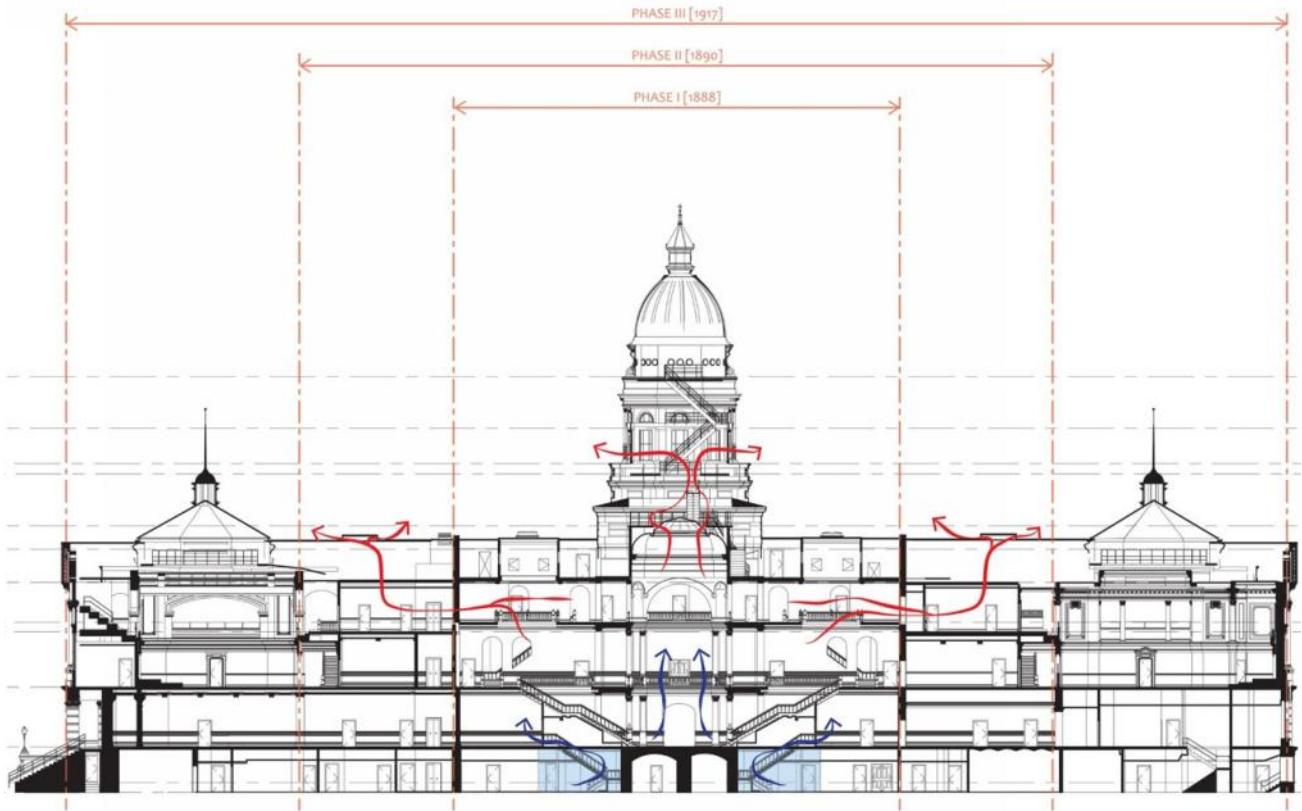


Figure 9.1: Longitudinal Building Section [East-West] Illustrating the Proposed Smoke Evacuation System. Smoke is indicated in Red and Make-up Air is indicated in Blue.

b. Additional Code Deficiencies:

The lack of smoke detection, fire suppression and smoke evacuation constitutes a significant risk for life safety for the occupants and the protection of the building and its contents, in the event of a fire.

In addition to the above serious life safety issues, there are several additional code deficiencies which include:

- Non – compliant exterior egress stairs
- Low railings
- Multiple ADA deficiencies at several locations
- Inadequate restrooms and related amenities



Figure 9.2: Low Railings, 2013.

c. Gross Heating, Ventilation and Air Conditioning [HVAC] Deficiencies

It is important to note that we cannot speak of an “HVAC” system, simply because one does not exist. What is in place is a series of components that were installed over time on an ad-hoc basis to address specific needs.

In addition, the following key issues were identified and need to be addressed:

- **Over a quarter [25%] of the building does not have HVAC coverage**
- The last major renovation was completed in 1980. The **existing HVAC infrastructure has far exceeded its useful life** [over 34 years] with some areas being conditioned by obsolete technology that in some cases is well over 35 years old, possibly approaching 50 years.
- There have been several failures in areas of the HVAC infrastructure with **the risk of “shutting down” the building** due to lengthy repairs and lack of parts is very real.
- **Operating costs are very high** due to regular repairs – essentially “band aids” on obsolete equipment with no long term value – and high energy consumption.



Figure 9.3: Failed Wiring, 2013.



Figure 9.4: Corroded Conduit, 2013.



Figure 9.5: Rusted and Failed Pipe, 2013.

d. Other Significant Building Systems Deficiencies

Since 1980, i.e. 34 years ago when the last major renovation was completed, no other major retrofit project has taken place to address significant building systems deficiencies. In addition, less than **40%** of the building was renovated in this renovation. Simply put:

- The **entire electrical system is considered hazardous and in need of replacement**
- The same is true of the plumbing system

Finally, the capacities of both systems are below what current code standards require and contemporary performance requirements dictate for a 21st century facility of this type.

e. Dome and the Exterior Building Envelope

The following issues need to be addressed regarding the Dome and the Exterior Building Envelope:



Figure 9.6: Exterior Dome, Multiple Paint Failures and Hail Damage, 2013.

- The Dome metal skin has several tears and water infiltration occurs at several locations
- Supplemental steel maybe needed to strengthen the Dome

- The Skylights above the Chambers are leaking on a regular basis placing the interiors of the chambers at risk
- The masonry of the building has failed at several locations [including above the Main Entrance] and requires extensive masonry conservation
- The existing windows are in need of replacement. The new units would have to meet current building performance and energy requirements and would last fifty years.

Last but not least, the building has significant space use issues that are in the way of performing the business of government and ensuring proper public engagement and participation as it is required in a Capitol.

The issues include:

- Grossly inadequate committee and meeting rooms
- Proper working areas for the legislators
- Public accommodations and proper spaces for the citizens of Wyoming interested in being engaged in the political process
- General accommodations for all visitors suitable for a State Capitol

10. Are There Any Risks in the Current State of the Building?

There are several risks in the current state of the building. They include:

- **Occupant life safety and property protection** due to **lack of smoke detection, fire suppression and smoke evacuation** systems covering the building in a comprehensive way.
- **The building infrastructure has far exceeded its life expectancy.** Failures that already have occurred indicate that several areas are at risk and need to be addressed in a comprehensive manner.
- **The exterior building envelope is in need of a comprehensive treatment.** The field survey identified a series of areas that are in need of attention. More importantly, it identified an area that had risk to the point of separation that was caught on time and an emergency stabilization was performed, ensuring that there would be no life safety issues.
- **Water infiltration is an on-going issue,** with active leaks above the chambers, placing valuable historic building fabric, materials, finishes and murals at risk.

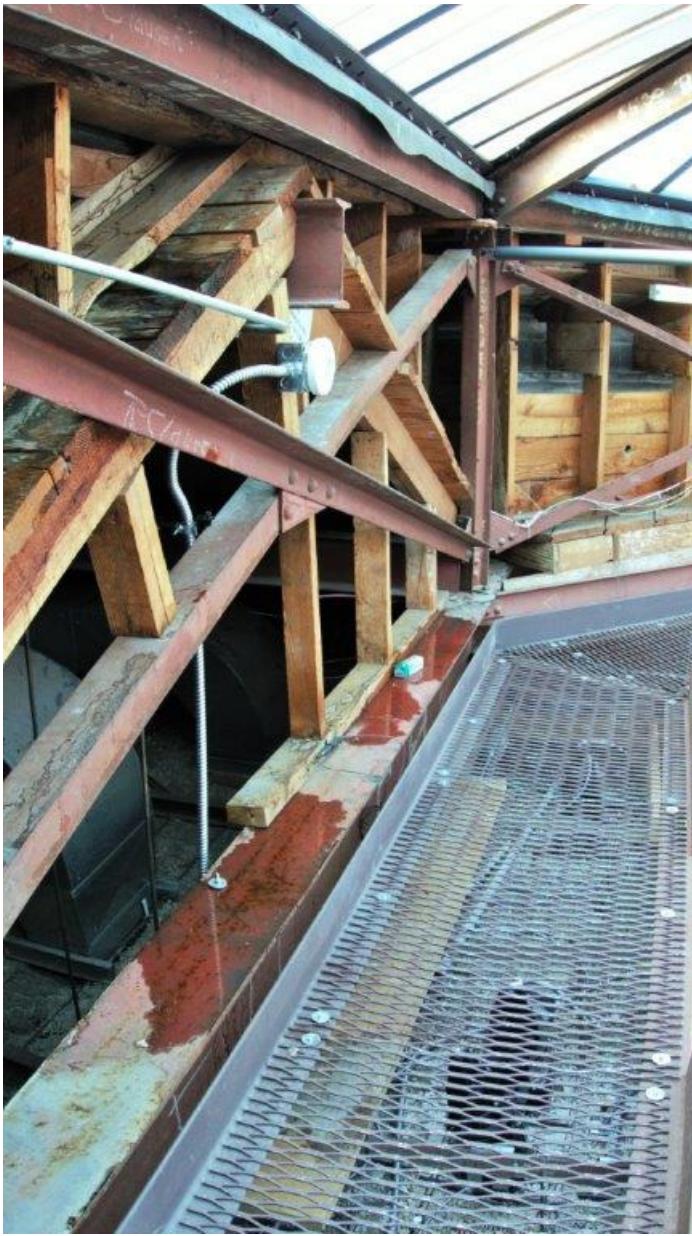


Figure 10.1: Water Infiltration in Attic Above Chambers, 2014.

11. What Is the Condition of the Exterior Building Envelope [In Other words, the Exterior “Skin” of the Building, i.e. Roof, Exterior Masonry, Windows and Doors, etc.]?

The exterior building envelope – in other words, the exterior “skin” of the building – can be organized into a series of distinct building components for purposes of analysis. Following a top-down sequence, the components are as follows:

1. Dome.
2. Roofing, including Skylights.

3. “Transition zones”, i.e. the area in which the roof meets the adjacent [masonry] wall system[s].
4. Masonry Envelope.
5. Windows and Doors.

For a 125 year old building, the exterior building envelope is in generally good condition however, there are several areas that are in need of repair and replacement; several in critical condition, as the discovery of the separated stone piece above the Main Entrance indicated.

I. DOME:

Following a close up visual assessment, the following observations were made:

1. Coating failures over large portions of the exterior, exposing the metal to the elements.
2. Dents, tears and punctures to virtually all metal surfaces across the dome envelope, including the gilded copper panels.
3. Poor condition of the lead ornament. The temporary repairs installed in 2010 and 2011 included clear silicone sealant and automotive metal patching compound need to be removed and the area properly repaired.
4. Spot corrosion at cast iron and galvanized sheet metal elements needs to be repaired.
5. All open areas need to be repaired to prevent further moisture infiltration.
6. Moisture damage in the interior of the dome, specifically at the wood roof decking, exposed wood structural members [e.g. outriggers], and wood flooring.



Figure 11.1: One of Several Tears and Hail Damage in Dome Cladding, 2013.



Figure 11.2: Interior Dome View, Several Areas Require Structural Repairs and Reinforcing, 2013.

Finally, there are several areas where the structural framing of the Dome needs to be carefully evaluated and additional reinforcing to be installed to ensure the long term stability of the Dome, especially in a location such as Cheyenne, where very strong winds are a common occurrence.

The Dome's structural behavior is an important issue. The cracks that exist in the Rotunda, appear to be related to the structural behavior of the Dome. This is an important issue that needs to be addressed carefully.

II. ROOFING:

The existing roofing dates to 1999, when the existing roofing was removed to the structural deck and a new 20 oz. standing seam copper roof was installed at all sloped sections of the roof. During this reroofing campaign, many of the original skylight openings were covered with the standing seam metal roof. The EPDM roofing was also installed in 1999.

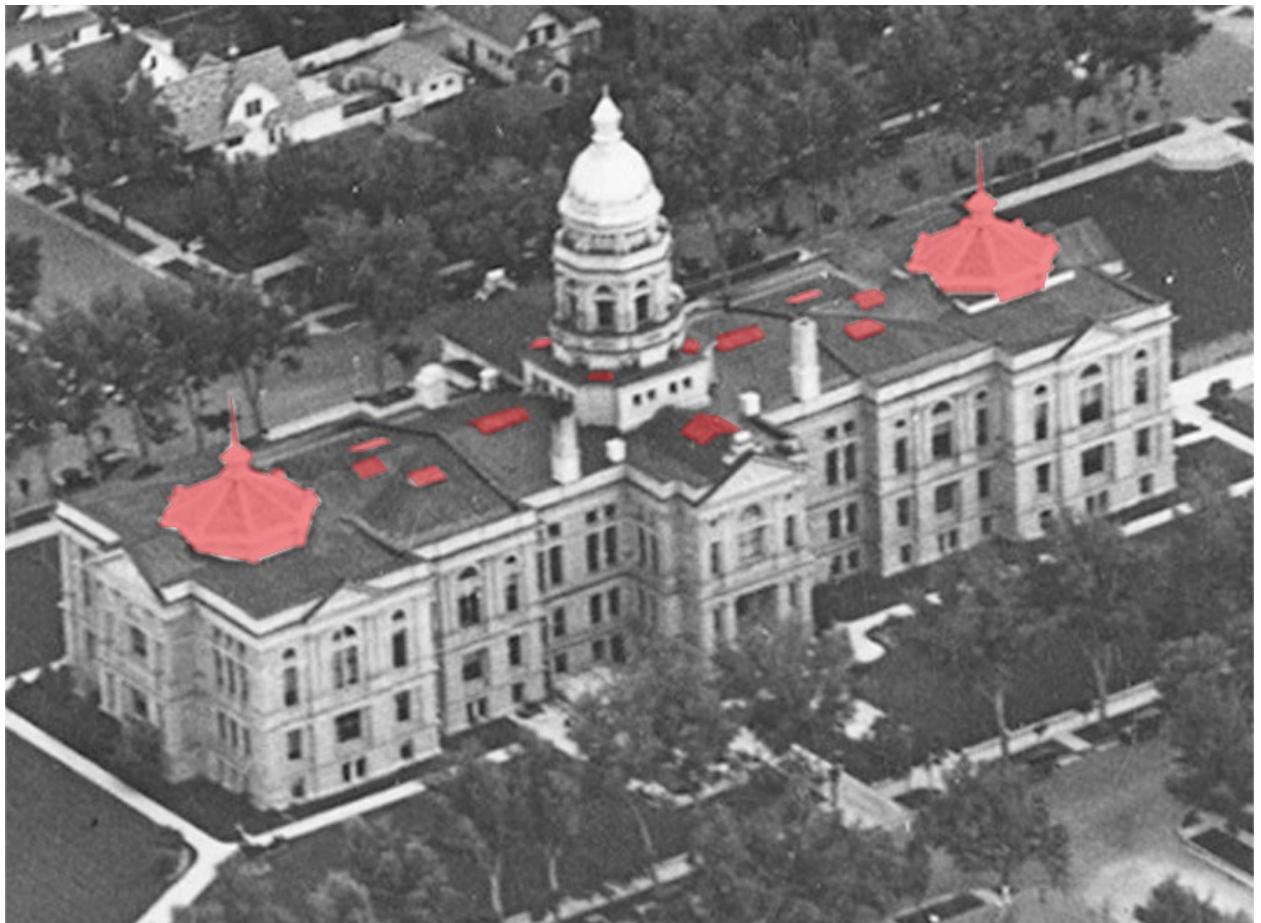


Figure 11.3: Aerial Photograph of the Capitol, ca. 1930. The Locations of the Skylights are Highlighted in Red.

The following conditions were observed at the roof as part of the visual assessment:

- a. The original House and Senate Chamber Skylights [ornamental pyramidal roofs in aerial photo above] were replaced with a new skylight system. There are several active leaks along the edges of these skylights due to corrosion of the metal cladding.
- b. The existing standing seam metal roofs have widespread hail damage.
- c. The existing EPDM roof has numerous patches, and the maintenance staff states that they patch the roof on an annual basis. The EPDM roof is nearing the end of its useful life and will require replacement in the near future.

IV. TRANSITION ZONES:

The upper entablature, cornice, pediments and parapet walls that make up the “transition” zone above the stone pilaster capitals consist of galvanized metal. This is a typical practice of the period. The galvanized metal was painted with paint containing sand to simulate stone appearance. In this manner, the aesthetic effect of a stone parapet was achieved without the cost of installing stone.

These areas are particularly susceptible to moisture infiltration if not properly detailed. **Moisture infiltration in those areas can have serious and adverse impacts on the framing of the roof and the framing of the attic floors.**

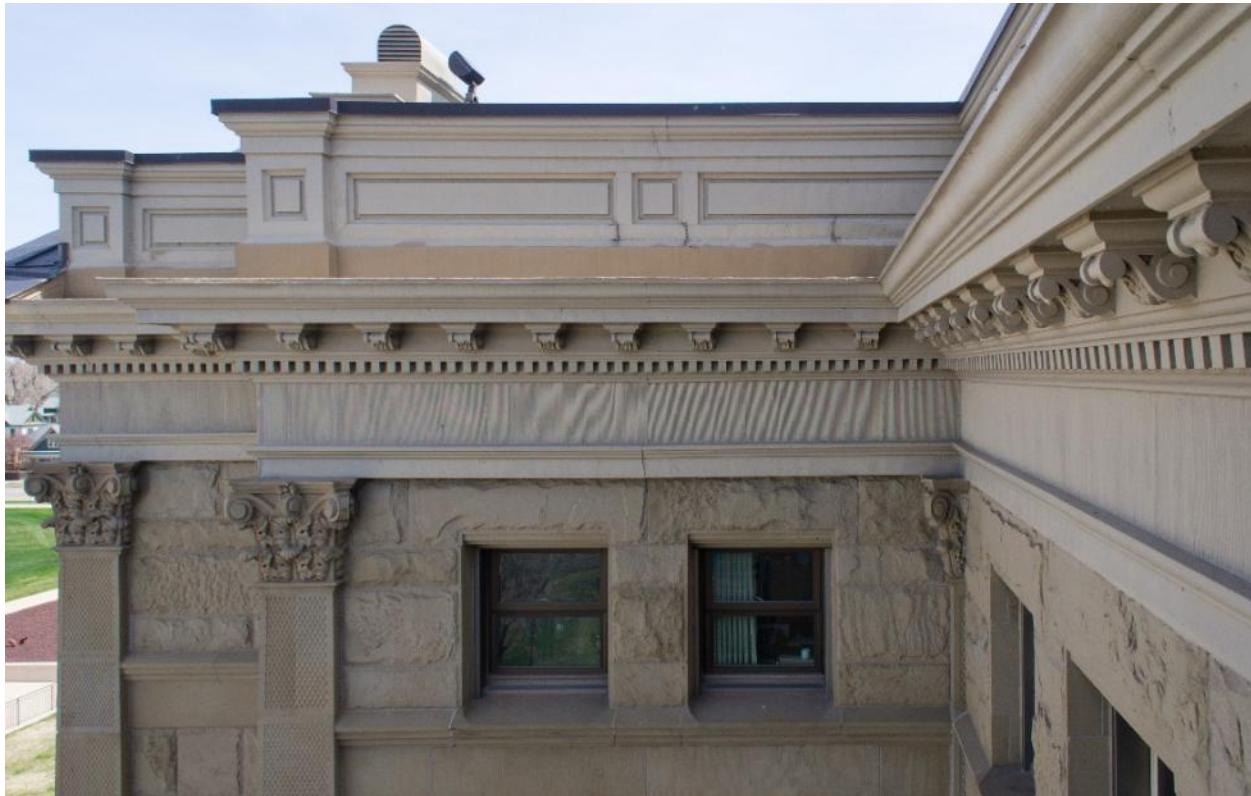


Figure 11.4: Galvanized Metal Entablature, Cornice, and Parapet Walls at the North Elevation, 2013.

While the galvanized metal appears to be in fair to good condition, there are several observations that indicate that this area needs to be repaired carefully to avoid future risk. More specifically:

1. Bent and deformed metal panels.
2. Cracked metal panels.
3. Poorly executed joints and joints that have been sealed with sealant.
4. Poorly executed repairs.
5. Peeling paint exposing the bare metal underneath.
6. It appears that a waterproofing membrane was applied to the cornice recently to protect from moisture infiltration.

The application of sealants and waterproofing membranes on metal surfaces in general has an adverse effect, i.e. opposite of the intended purpose to protect the building. Sealants on metal surfaces and waterproofing membranes tend to create separations of the paint layers below from the metal, thereby exposing the metal surfaces to the elements and making them susceptible to corrosion. This is a critical issue that needs to be addressed throughout all parapets of the Capitol.

V. MASONRY ENVELOPE:

The exterior masonry envelope of the Capitol is constructed of buff/pink Fort Collins sandstone at the two lowest courses and gray Rawlins sandstone above.

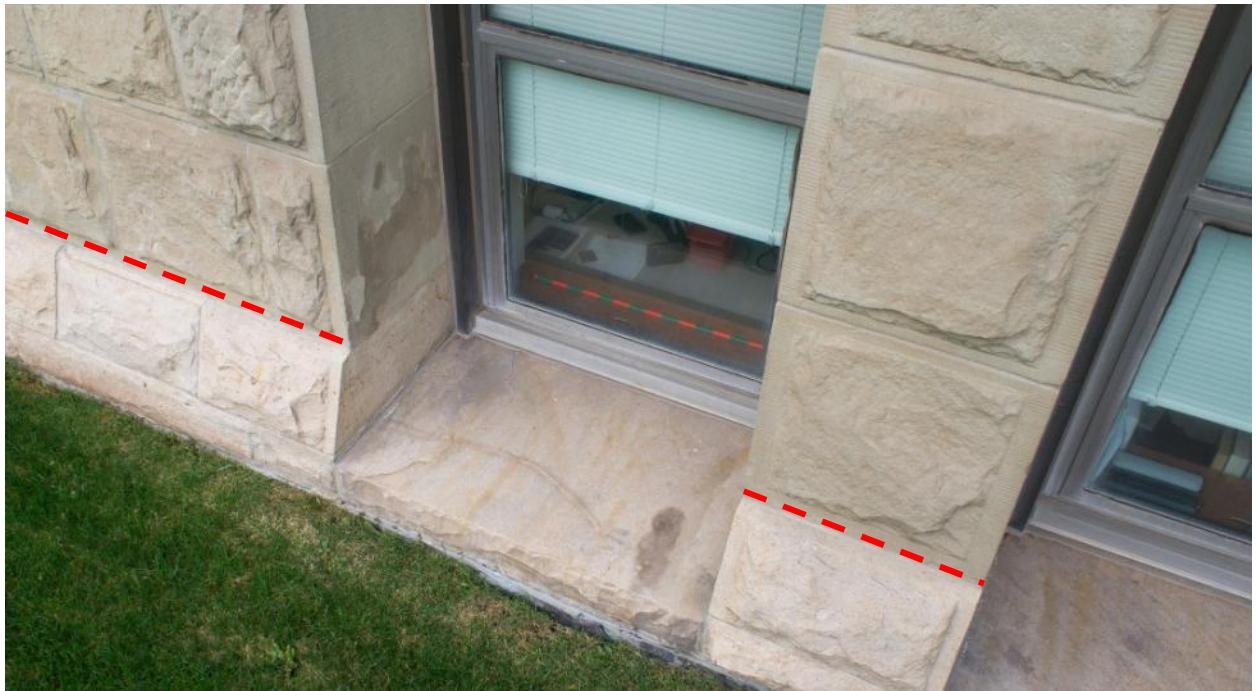


Figure 11.5: The Arrow Points to the First Two Courses of Sandstone, which is Buff/Pink Sandstone from Fort Collins, Colorado. The Remaining Sandstone is Quarried from Rawlins, Wyoming, 2013.

The assessment of the masonry revealed the following:

1. There are several areas where exfoliation is occurring. This “peeling off” of layers is the direct result of the placement of the stone with the bedding in a vertical fashion and penetration of moisture in-between layers. Moisture freezes and expands, delaminating the stone.
2. The above mechanism of moisture infiltration, freeze, expansion and delamination or cracking of stone can be a significant risk as it was demonstrated in the recent discovery over the Main Entrance of the building.
3. Poor detailing of stone and moisture management [such as scuppers in specific areas] can accentuate the weakness of sandstone that is porous and vulnerable to moisture penetration.
4. Extensive areas of the masonry joints are in need of comprehensive repairs. Mortar is either missing or it has been replaced with inappropriate mix and sealants. A comprehensive repointing campaign is needed to protect the building from further moisture penetration.
5. Reports, studies and evidence indicates that several areas of the masonry have been treated with a coating. Experience indicates that most coatings have an adverse effect, i.e. instead of protecting the masonry system they do cause long term damage.

A comprehensive repair program is needed to protect the masonry system and extend its useful life for another thirty to fifty years. In addition, a carefully organized cyclical / periodic maintenance program with the proper protocol will ensure that in the future inappropriate repairs will not be made.

VI. WINDOWS AND DOORS:

Research indicates that the original windows of the building were replaced with new metal sashes in the 1960's. The 1974 – 1980 renovation of the building replaced the remaining windows.



Figure 11.6: Detail of Original Wood Windows, ca. 1902.



Figure 11.7: Existing North Elevation Windows.

The replacement program, a typical practice of the period, did not follow any of the best practices and preservation standards. Instead, commercial units were installed, that were significantly different in appearance and design than the original windows.

The three most common reasons for replacing windows are:

- Probable deterioration
- Avoidance for regular maintenance
- Environmental comfort

Today, evidence indicates that historic wood windows can last for centuries with proper maintenance. Peeling paint, while a cosmetic issue, it is not indicate an advanced state of deterioration. Finally, environmental comfort can be achieved with other means and not necessarily the full replacement of the sash.

Commercial windows manufactured and installed in the 1960s and 1970s have the following issues:

- They have reached the end of their useful lives, mostly because gaskets of the period had a limited life expectancy
- Aluminum finishes once they deteriorate, they cannot be repaired by painting

The windows of the Capitol are typical of the above issues. A carefully organized and structured repair, retrofit and replacement program needs to be implemented to address the complex issues of window performance, life expectancy and long term maintenance, as well as environmental comfort.

Finally, the exterior wood doors at the South [Main], North and West Entrances, need to be refurbished and retrofitted to meet current code, ADA and security requirements, in addition to re-securing all of their components and hardware.

12. What Is the Current State of the Infrastructure and the Building Systems?

The existing building systems have significant deficiencies and levels of obsolescence. More specifically:

1. Heating Ventilation and Air Conditioning [HVAC]

The existing HVAC system cannot necessarily be labeled as such, i.e. a system. It is a collection of equipment that were installed over time without a clear plan that would address:

- a. The architecture of the building.
- b. Zones and areas of comparable use, i.e. assembly spaces, offices, etc.
- c. Occupancy areas.

In addition, approximately a little **over one quarter of the building** [27% to be exact] **does not have HVAC coverage and it relies on “spill over” air that migrates from other areas of the building.**

All of the existing HVAC components have far exceeded their useful lives, since the last major HVAC project was completed in 1980, i.e. approximately 34 years ago, surpassing industry standards of life expectancy by a significant margin.

This is a risk and undesirable condition at multiple levels, i.e. the equipment are at risk of failing, causing significant disruptions in operations and continuation of government, especially during the winter, when the Legislature meets.

Finally, the current HVAC arrangement lacks controls that would allow the occupants to achieve better environmental comfort and achieve lower operating costs.

2. Electrical Systems

During the recent years, the Capitol has experienced failures of several electrical components, including obsolete and dangerous wiring.



Figure 12.1: Failed Wiring, 2013.



Figure 12.2: Corroded Conduit, 2013.

During the Design Team's assessment of existing conditions, the following observations were made:

- a. Several areas of the building are at risk with the possibility of electrical components failing.
- b. The infrastructure is **over 35 years old** and, in certain areas, significantly older.
- c. Electrical wiring does not meet current codes and existing sections have already failed with more being at risk of failure in the future.

The current needs of the users with increased reliance on technology that requires electricity [computers, printers, etc.] necessitates that all spaces are wired properly to address the users' needs both today and in the future.

3. Plumbing Systems

The same is true for plumbing systems where several failures have occurred in several locations of the building.



Figure 12.3: Rusted and Failed Pipe, 2013.

13. Does the Building Currently Meet Code?

The Capitol is an occupied facility with a valid Certificate of Occupancy; however, when evaluated under current building codes, there are several areas where the building is seriously deficient.

There are several significant deficiencies in the building that have serious code compliance and life safety implications:

1. Smoke Detection

The “first line of defense” in any building is the detection of fire. A properly designed smoke detection system that covers all areas of the building, from the Dome and the attic to interstitial spaces below the basement slab and mechanical rooms, a full smoke detection coverage is required by code. This code requirement would provide “the first line of defense”, detecting smoke and activating a sequence of steps for the safe evacuation of the building and the protection of occupants, contents and the historic building itself.

Contemporary smoke detection technology allows us to use a wide range of components, such as conventional smoke detectors, beam detectors and air sampling systems, to **unobtrusively** insert these devices in the historic fabric of the building while covering all areas – both occupied and unoccupied – of this rare historic landmark.

The devices need to be **addressable**, i.e. they would provide locational signals as to where exactly the detection took place, allowing the response to be accurate, timely and swift.

This technology has been in place for several years now and has been fully tested and is extremely reliable.

2. The building is a single volume structure

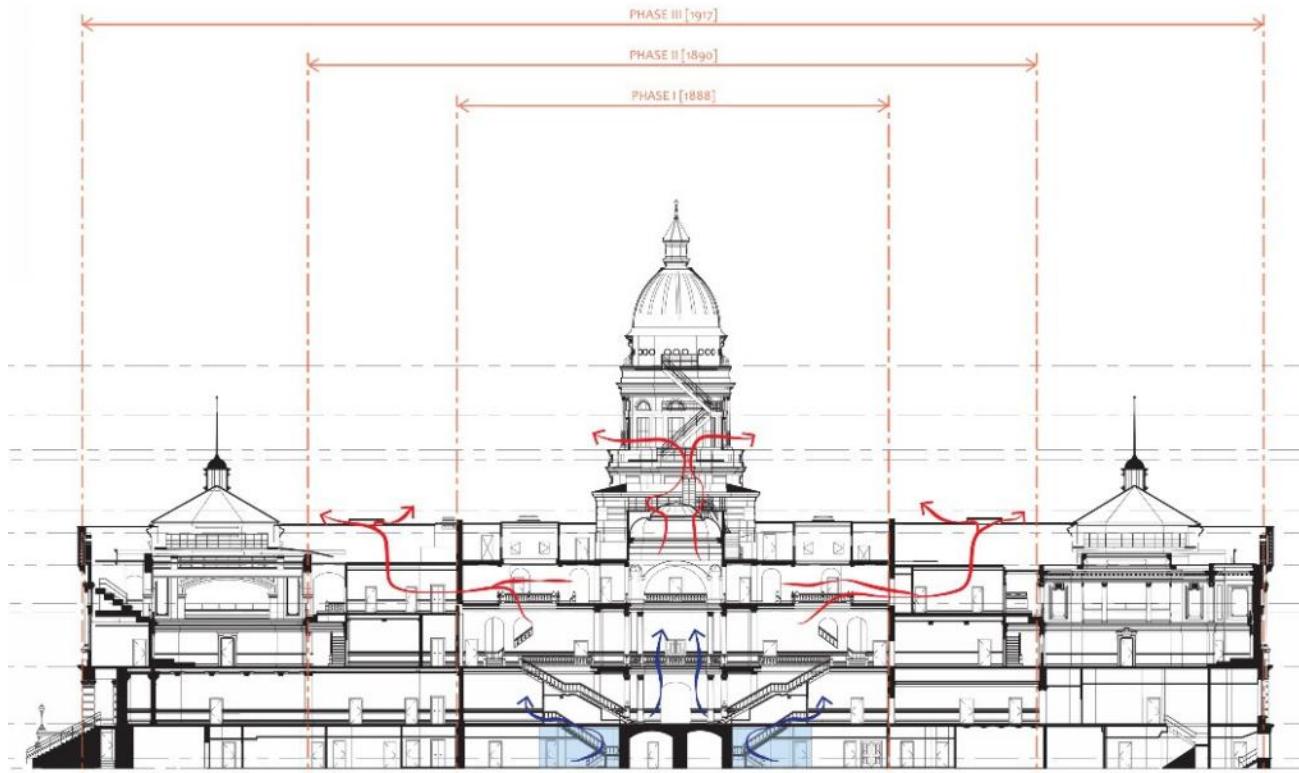


Figure 13.1: Longitudinal Building Section [East-West] Illustrating the Proposed Smoke Evacuation System. Smoke is indicated in Red and Make-up Air is indicated in Blue.

The Rotunda, the monumental stairs, the communicating stairs, the attic and the Dome, i.e. the most important architectural features of the building, are connecting all the levels of the building into a single “box”.

In the event of a fire, smoke can spread throughout the building making egress challenging. A carefully planned and designed **smoke evacuation system** is needed to address this condition, enhance safe egress, and manage risk.

The smoke evacuation system is based on simple physics and a clear understanding of the building. The basic organization of the smoke evacuation system is as follows:

- a. Limits are carefully placed on the **volume** of the Rotunda and the monumental corridors. This is achieved by placing doors and vestibules at the lowest level of the Rotunda, which in this case is the Basement, and at the ends of monumental corridors, which already exist in most areas.
- b. When the building is placed in a fire alarm mode, the smoke evacuation system is activated. The system allows for outside air – containing no smoke – to be brought into the building, while the smoke is extracted at the top of the volume of the Rotunda and monumental corridors.
- c. Three locations are anticipated to be used for extracting the smoke: the laylight of the Dome and two laylights that were in the 1890 section of the building in the spaces that used to be the original chambers. This arrangement allows for the most effective and efficient extraction of the smoke.

3. Fire Suppression / Sprinklers

The building does not have a fire suppression [sprinkler] system. Code requires that a full coverage automatic sprinkler system be installed to provide both life safety and property protection in the event of a fire.

Sprinklers can be unobtrusively installed throughout the building, from the attic areas to the basement and from monumental spaces, such as the chambers, to small spaces used as closets and storage areas.

In the event of a fire, the sprinkler system is activated automatically releasing water and putting out the fire.

4. Egress

The existing egress organization, presents the following areas of concern. The exterior stairs, while well intentioned, they have several significant shortfalls. There are three important issues regarding these stairs:

- ✓ The egress path from the third floor balcony to the stairs has potential tripping hazards.
- ✓ The stairs are not protected from the weather and during adverse weather conditions, which normally occur at peak loads during sessions, can be slippery and dangerous to use.
- ✓ The details of the stairs do not meet code in several areas.



Figure 13.2: Third Floor Egress from Chamber's Balcony; Hazardous Condition / Tripping Hazard, 2013.



Figure 13.3: Exterior Egress Stair, 2013.

The HDR / PDP / Plan 1 team engaged an expert in code analysis, egress studies and smoke evacuation. Following extensive studies, simulations and modelling, their analysis indicated the following:

- The combined benefit of properly designed and installed smoke detection, sprinklers and smoke evacuation system would minimize several of the risks associated with the historic configuration of the building, and enable tenable egress conditions.

- The exterior stair may be more of a liability than an asset. An alternative new interior stair located within the footprint of the each chamber and connecting the Second Floor to the First Floor, would be more beneficial.
- The proposed improvements would create safe conditions based on current building and life safety codes.

14. Does the Building Currently Comply with the Americans with Disabilities Act?

There are several areas of the building that do not meet the requirements of the Americans with Disabilities Act. The Level I / II Study addresses all of these areas in a comprehensive way, allowing all visitors and users of the Capitol to have equal access. An important objective of the Project is to ensure that the Capitol is welcoming to the citizens of Wyoming and its visitors, providing a barrier-free environment.

15. What Is the Size of the Building?

The Capitol building totals 129,539 gross square feet [GSF]. This calculation includes cumulative building footprint of the Basement, 1st, 2nd, 3rd, Attic, and Dome levels of the building (excluding floor openings). Below is a floor by floor summary of the building:

Basement	28,830 GSF
1st	27,010 GSF
2nd	26,207 GSF
3rd	21,513 GSF
Attic	24,727 GSF
<u>Dome Levels</u>	<u>1,252 GSF</u>
	129,539 GSF

16. What Is the Usable Area of the Building?

The usable area of the Capitol today is calculated to total 60,200 net assignable square feet [NASF]. This calculation excludes areas such as corridors, restrooms, walls, and mechanical spaces. Below is a floor by floor summary of the building:

Basement	17,221 NASF
1st	15,886 NASF
2nd	16,048 NASF
3rd	11,045 NASF
Attic	0 NASF
<u>Dome Levels</u>	<u>0 NASF</u>
	60,200 NASF

17. What Would be the Usable Area of the Building after it is Renovated / Restored?

Current detailed calculations of remaining net assignable square feet [NASF] after necessary building systems and amenities (restrooms, etc.) are located are estimated to total 49,624 NASF. Below is a floor by floor summary of the building:

Basement	12,253 NASF
1st	13,540 NASF
2nd	14,565 NASF
3rd	9,266 NASF
Attic	NASF
Dome Levels	NASF
	<hr/>
	49,624 NASF

18. Why Is There a Loss of Usable Area in the Current Proposal?

There are several reasons why there will be a net loss of usable area following the renovation / restoration of the building:

- With the installation of a new building infrastructure that would cover 100% of the building, there will be a need to create new mechanical rooms, electrical closets, lighting closets, A/V rooms, etc. All are necessary and required spaces to meet code requirements, contemporary building performance expectations and the special needs of a 21st century working Capitol.
- The building is deficient and ADA non-compliant in restrooms and public accommodations. Code compliant spaces with the code mandated fixture count and ADA standards need to be included in the renovated / restored Capitol.

19. Does the Restoration of the Capitol Result in Growing the Government?

Through extensive programming meetings with Legislature and each of the five Elected's Offices, no significant staff growth has been requested or included in the space projections used for the project. Staff projections over the forecasted 20 years allow for about one added office space per agency/entity. These added rooms are identified as multipurpose rooms to support multiple uses and changing needs.

Space adjustments have been found necessary to address four key issues:

- 1) Provide adequate office and work space where conditions are inadequate
- 2) Correct oversized offices and work spaces to seek efficiencies
- 3) Nominal increases in meeting room spaces across all groups – each group struggles to have sufficient and appropriate meeting spaces to receive citizens and guests and conduct open government.
- 4) Significant corrections to the legislature's committee rooms and associated spaces supporting legislature.

20. How Are the Critical Shortfalls of the Building Going to Be Addressed?

The building needs to undergo a **comprehensive renovation** from “top to bottom” and “inside out”. All areas of the building will be addressed, from building infrastructure to ADA compliance and from the proper restoration of the Dome to comprehensive repairs of the exterior masonry.

The comprehensive renovation will:

- Provide a comprehensive repair program of the exterior building envelope with a life expectancy of at least thirty years
- Establish pathways for all required and necessary building systems in a way that would not impact the historic and architectural integrity of the building
- Minimize the loss of usable area and historic building fabric by selecting the least critical areas of the building to install the required mechanical, electrical and other utility rooms and spaces
- “Stack” all wet functions, such as restrooms, utility rooms, chases, etc. to maximize efficiency and minimize impacts
- Renovate and reuse spaces in creative ways by recapturing the original features of the building, such as in the Basement where ceilings were lowered by 2 feet and large were cut up in small inefficient pieces with low utilization.
- Ensure that all aspects of the building will meet contemporary code requirements and building performance expectations for a building of this type, complexity and significance.

More importantly, the Project needs to address critical space needs for the participation of the public in the political process through appropriate committee rooms and public amenities, as well as properly designated spaces to support the government functions.

21. When Was the Last Major Renovation of the Wyoming State Capitol?

The last major renovation of the Wyoming State Capitol was undertaken in 1974 and was completed in 1980. In addition to this major renovation, three building projects were also undertaken including:

1. Masonry Preservation, Storm Drainage Repairs, and Exterior Building Lighting [1994].
2. Comprehensive Roof Replacement, Exterior Renovations and Repairs [1999].
3. Dome Repair and Re-gilding [2009]; Spot Repairs [2011].

As indicated in other Questions, all of these initiatives, while well intended, had significant issues:

- a. The 1974 – 1980 renovation, while major, it was not comprehensive. Less than half of the building was part of this renovation.
- b. Critical infrastructure needs were omitted and not addressed.
- c. Several of the interventions, while well intended had adverse effects and were not undertaken in the context of a comprehensive plan that would address the needs of the entire building, but focus reactively in specific locations.

22. Were All of the Critical Issues of the Capitol Addressed During this Last Major Renovation?

While the last major renovation of the building was an extensive and multi-year initiative, it was not a comprehensive rehabilitation and renovation program. In addition, there are three factors that need to be taken into consideration:

- This last major renovation was completed in 1980, or **34 years ago**. **This work has reached and passed the end of its life expectancy**, by a significant margin. At this stage, emergency repairs are performed regular at a significant cost without a long term benefit, i.e. a “band aid” approach.
- Several areas of the building were not addressed. For example, over **27%** of the building does not have heating, ventilation and air conditioning coverage.
- Finally, as we indicated earlier, there have been a series of interventions over the past 20 years that unfortunately did not help the long term preservation of this important historic landmark.

All indications, evaluations, signs, and scientific analysis indicate that a comprehensive exterior and interior renovation / restoration is urgently needed to address a wide range of risks and critical issues throughout the entire building.

23. If the Project Does not Move Forward, What Are the Risks to the Building, its Occupants and the State?

If the project does not move forward, the risks are serious:

- There are serious life safety concerns that will continue to be present and be a serious risk to all occupants.
- There are significant property and content protection issues. The building, a National Historic Landmark and its valuable and irreplaceable contents will continue to be at risk.
- There are several areas of security deficiencies that need to be addressed.
- There are several critical building infrastructure systems and components that may fail causing serious disruption of the business of government.
- The State will continue to waste significant funds performing “band aid” fixes that do not create any long term value.
- The costs of operating the building with obsolete technology and high energy costs will remain high, at least 25 to 30% higher than similar buildings with contemporary infrastructure and efficient systems.
- **The cost of the renovation will continue to increase substantially as the building deteriorates further and construction costs escalate.**

24. Is There an Option to Select Portions of the Work to be Done, i.e., Develop a Partial Rehabilitation and Restoration?

The question of “all or nothing” was raised on several occasions. It is a significant question that needs to be understood and addressed carefully.

The Level I / II Study indicates very clearly that there are several serious critical code deficiencies and systems issues throughout the building. More specifically:

1. Life Safety

As it has been stated on multiple occasions and throughout this FAQ document, life safety is a critical issue. The **lack of a smoke detection, smoke evacuation and fire suppression systems** are serious issues that create significant risk to the occupants, the building and its contents.

2. Failing, Obsolete and Inadequate Infrastructure

Again, it has been stated on numerous occasions that the existing building infrastructure [HVAC, electrical and plumbing] has already failed in several areas and will continue to fail, since it has far exceeded its useful life by a significant margin. In addition, several areas of the building – over 25% - do not have any HVAC services.

Undertaking this work, i.e. replacing existing systems and installing new, would be a massive undertaking impacting all areas of the building, from the attic to the basement. This would constitute a comprehensive rehabilitation. **At this juncture, code requires that the ENTIRE building is brought up to code. Selective improvements would not be permissible.**

In addition, when pathways are created to distribute the building infrastructure, economies of scale need to be achieved to:

- Create common pathways minimizing impacts on the architectural and historic character of the building
- Share scaffold, work platforms, access, etc.
- Disturb and repair finishes once
- Impact the occupancy of the building only once.

As a result, the answer is simple:

- ✓ Code requires that all areas of the building are brought up to full code compliance
- ✓ Risk management indicates that it is the responsible thing to do
- ✓ Economies of scale dictate that it is a smart approach
- ✓ Respect for the architectural and historic integrity of the Capitol suggests that it is the most prudent thing to do.

25. After the Project is Completed What Would Be the Life Expectancy of the Building?

After the project is completed, the life expectancy of the building and its systems would be at least 30 years and in certain areas close to fifty years, **with one significant stipulation, i.e. that the building will have proper cyclical and regular maintenance and the work will be performed by properly trained maintenance staff.**

Additionally, the systems and associated distribution will be configured and detailed to optimize serviceability and future replacement[s]. This can further enhance the long-term value of this work.

26. Are There Any Frivolous Enhancements in the Proposed Renovation / Restoration?

There are no frivolous enhancements in the proposed renovation / restoration. The work will:

- Address all life safety and code compliance issues.
- Provide new building infrastructure throughout the entire building suitable for a 21st century working Capitol.
- Ensure that ADA deficiencies are addressed.
- Space utilization will be optimized.
- Historic finishes and materials will be restored and preserved.

Last, but not least, proper committee rooms, modern amenities and public accommodations will be provided for all citizens of Wyoming to participate in the political process, interface with their legislators and elected officials and enjoy this remarkable historic landmark.

27. Are there any Value Engineering Items That Should be Considered?

Value engineering should and will be considered when the design is advanced. It is important to note that value engineering as practiced in most cases tends to be a misnomer.

In determining value, the important criteria in all of the decisions regarding the Scope of Work and the expenditures should be:

- What is the long term life expectancy of the value engineered component, system and element?
- Will its future replacement cost the State of Wyoming a lot more than the short term savings in the form of disruption, scaffold and mobilization and additional impacts on the historic building fabric?

28. Should the Historic Building Finishes Be Recaptured and Restored, And Who Makes This Decision?

The building has some significant and rare historic finishes and materials, several of which were covered over without a justification, based purely on the personal taste of the architect and interior designer during the 1974 – 1980 renovation.



Figure 28.1: Original Paint Scheme.



Figure 28.2: 1974-1980 Paint Scheme, 2013.

The selection of finishes was not based on historic research and factual evidence, and was done in violation of the accepted best practices and standards of the field of historic preservation.

In the proposed renovation, there will be an opportunity to have access to every single surface of the building for the installation of systems and building repairs through the use of extensive scaffolding which will be needed to perform the base work.

Recapturing and restoring the historic finishes would not cost more.

On the other hand, it would be a unique opportunity to recapture the architectural integrity of the building, as the builders of the Capitol and citizens of Wyoming envisioned.

29. What Is the Recommended Process for Protecting and/or Removing and Storing Existing Artwork and Significant Furniture? Will Any / All of These Pieces be Restored During the Construction Process?

All contents of the building need to be:

- a. inventoried and photographed in their present condition and location following industry protocol
- b. The contents should be organized in the following categories, such as:
 - Art, such as Governor's portraits, etc.
 - Historic Artwork, such as commemorative portraits
 - Artifacts / objects
 - Historic Furniture
 - Significant Furniture
 - Utilitarian furniture
 - Equipment, etc.
- c. An assessment would be made to determine what is of value and what needs to be done before each item is returned to the renovated / restored Capitol.
- d. An FF& E program addressing the long term needs of the occupant would then determine which items would return to the Capitol and which would not, as well as whether they would be temporarily stored, refurbished or used during the renovation / restoration of the building in the temporary relocation areas.

At this juncture, it is anticipated that the only two significant built-in historic pieces of millwork, i.e. the two Dias's in the two Chambers will be refurbished in place with all required infrastructure.

30. Are There Any Hazardous Materials that Need to be Addressed as Part of Any Work Associated With the Capitol Building? What Are the Processes Associated with Addressing Existing Hazardous Materials?

Historic buildings of this period have hazardous materials in several locations, including:

- Lead based paint
- Asbestos in historic water proofing materials
- Asbestos insulation
- PCBs in electrical equipment
- Asbestos in floor tiles and adhesives, etc.

A preliminary survey has already been conducted by the State. As the Project moves forward, additional details will be documented and a plan for addressing the hazardous materials will be developed. These works is typically addressed prior to the commencement of the work by the Contractor[s] and as materials are exposed / disturbed during the course of the work.

31. Are There Any Fixed Costs that Would be Incurred Regardless of What the Choices Are?

Virtually all of the construction costs are “fixed”, regardless of what the choices are:

- The entire site will have to be fenced and turned over to the selected construction entity
- Laydown, parking and trailer area will be needed during construction
- The Dome will have to be scaffolded to perform the required repairs
- The exterior building envelope repair program of the building will also require scaffold and work platforms to perform the required work
- The murals and the laylights in the chambers would have to be protected during construction and monitored throughout the project
- Interior protection will have to be provided to protect finishes and materials, such as marble floors, decorative wood, etc.
- Pathways for infrastructure will have to be created to install the required new systems
- Repairs to all plaster and finishes will be done throughout the building
- The building will be painted after 35 years in its entirety.

32. Is the Average Cost per Square Foot a Good Indicator to Understand the Cost of the Project?



Figure 32.1: Rotunda Interior, 2013.

The average cost per square foot is not a good indicator for understanding the cost of the project. The reasons are several:

- Each category of construction / project has different costs, i.e. residential, commercial, institutional, etc. One cannot compare average costs per square foot of a suburban office building with a 9 foot ceiling and commercial systems selected on the basis of first costs only as opposed to an institutional structure that is designed with criteria based on life cycle analysis.
- Buildings, such as the Wyoming State Capitol, have spaces that soar to 60 or more feet. Performing the work in those areas requires the placement of full scaffold and multiple work platforms. In addition, the vertical surfaces of “square foot” need to be taken into the equation. As a result, the two costs are not comparable in any way, shape or form.
- Finally, monumental historic buildings, such as the Capitol, were designed to last for decades and centuries and were constructed with materials that can last that long, with proper maintenance and care. Most contemporary construction is designed to last less than 30 years or based on private development expectations of depreciation and commercial lending.

33. Is Renovation / Restoration More Expensive than Regular New Construction?

First, it is important to clarify what “regular new construction” means. There are different types of construction, such as residential, commercial, institutional, etc. Each has its own set of building performance expectations and life expectancies. Capitols are at the pinnacle of institutional / government construction, constructed with the finest of materials, systems and finishes.

While this is one of the most significant qualities of these buildings, it is also one of the most critical vulnerabilities. Buildings such as the Capitol are subject to deferred maintenance that is extreme in many cases and very often borders neglect. If similar deferred maintenance would be exercised in “new construction” the building would be at serious risk of failure.

When comparing restoration to new construction, the following parameters should be taken into consideration:

- a. A comparison needs to be on an “apples – to – apples” basis, i.e. they need to be compared to high end institutional construction and not commercial construction.
- b. The cost of building systems for new construction for a new building similar to a Capitol and the renovation of a historic Capitol are essentially the same, i.e. no difference.
- c. Basic components of the building are already in place, such as the masonry walls, slabs, etc. which are designed to remain in place for decades and centuries. New construction does not necessarily have the same performance characteristics and the life expectancy of monumental landmark building that is properly restored and maintained. In other words, a historic landmark is a better value than new construction in this category.

- d. Comparable new buildings with interior monumental spaces and ceiling heights similar to those found in the Capitol will require the same means and methods of construction, such as scaffold, multiple work platforms, etc., without necessarily the same materials to be in place. The finish materials used in historic building construction, such as high quality decorative woods, plaster, decorative finishes, etc., already in place in the Capitol, would require a significant investment to be duplicated in new construction, which in many cases would be prohibitively expensive. As a result, a restored historic landmark such as the Capitol is a better value.
- e. Finally, if the building system pathways are carefully planned, designed and detailed, then any future replacement and retrofit programs can be performed efficiently and without impacts on the historic and architectural significance of the building.

Concluding this statement, it is important to note that research indicates that all things being equal and when a long term view is taken, the restoration of a building, such as the Wyoming Capitol, is a better long term value and in many cases less expensive than comparable new construction.

34. Are There Any Penalties or Restrictions That are Incurred Because the Building is Historic / National Historic Landmark?

There are no restrictions or penalties incurred because the building is a National Historic Landmark. There are no requirements that would be imposed on the State to perform higher quality work or install materials that are different than what is already in place.

35. Are There Any Special Requirements for the Work because it is a National Historic Landmark?

The work must meet the Secretary of the Interior's Standards, a broadly framed document that provides guidance for the proper rehabilitation of these important buildings. There are no penalties, restrictions or additional requirements to raise the quality of construction and materials than what is in place already.

36. Do These Requirements Add More Cost to the Project?

As indicated in questions 33 and 34, there are no requirements, limitations and restrictions that would add cost to the project

37. What Should be the Overall Cost of the Project?

The overall cost of the project includes all known components of the project and is established to provide a reasonable and reliable budget for the project. It is understood that it is not desirable to underfund a project and it is also undesirable to over fund a project – the intent here is to set a reasonable budget. Prudent planning, design, and construction reviews will seek savings to be returned to the state during the design and construction phases of the project. The recommended budget is summarized as follows:

Project Cost Summary

Capitol Revovation	\$113,000,000	44%	\$978 /SF
Herschler & Connector	\$86,000,000	33%	
Connector & Central Utility Plant (CUP)	\$25,800,000		\$458 /SF
Herschler Renovation (incl. site & parking)	\$48,100,000		\$134 /SF
Herschler Addition	\$12,100,000		\$160 /SF
Estimated Construction Costs	\$199,000,000		\$329 /SF
Temporary Accommodations Allowance	\$2,000,000	1%	
Furniture, Fixtures & Equipment Allowance	\$8,500,000	3%	\$14 /SF
Estimated Project Costs	\$29,500,000	11%	\$49 /SF
State's Project Contingency	\$20,000,000	8%	\$33 /SF
Total Estimated Project Costs	\$259,000,000		\$428 /SF

38. How Does this Cost Compare to Other State Capitol Renovations or Projects of Similar Nature?

Each state is unique with respect to the size, scope, operation, and needs for renovating their Capitol. Nonetheless, for each effort to restore their historic structure, costs are higher than commercial cost metrics. Below is a graphic illustrating the budget for five peer states (illustrating costs without owner contingency allowances reported):



39. Is There a Specific Sequence of Events / Steps to Be Followed?

The answer is yes.

- The **Level III Design Services** need to be completed first, leading to bid documents for the implementation of the project. This is projected to be a twelve month process.
- On a parallel track, the selection of the **Construction Manager at Risk** needs to take place. This needs to be completed no later than the end of the fourth month of Level III Design.
- The next step is **the bidding process** that needs to take place over a three-month period. Ideally, this should occur on a parallel track with the 2015 Session. During this period, the Construction Manager at Risk will finalize all contracts for construction and all details of the construction logistics.
- The Capitol will be vacated in between legislative sessions and the site will be turned over to the Construction Manager for construction.
- **Construction is expected to be completed in approximately 30 months.** The proposed schedule will address two important aspects of the Project:
 - ✓ The Joint Legislative and Executive Task Force has expressed the desire to capture the opportunity to celebrate the Centennial of the Completion of the Capitol (1917-2017); and,
 - ✓ There will be sufficient time – at least four months – prior to the 2018 Session to ensure that every aspect of the renovated building and site would work flawlessly.

This sequence would ensure that construction would be performed within specific “windows of opportunity”.

40. What Would Be the Overall Schedule?

The recommended overall schedule for the project targets completion in the late summer of 2017. Some suggested milestones include:

2014 Legislative Session (Level III Design and Construction funding)	February/March 2014
Notice to Proceed Level III Work	March 2014
Design and Documentation (12 months)	January 2014 – December 2014
Construction (30 months)	January 2015 – July 2017
Furniture & Set-Ups & Commissioning	July 2017 – August 2017
Occupy Capitol	August 2017

41. Why Does Construction Have to be Performed Within Specific “Windows of Opportunity”?

There are several aspects of the project that need to be performed within specific ranges of temperature and relative humidity, including:

- ✓ Dome repairs and painting / gilding.
- ✓ Installation of a new roof.
- ✓ Replacement of windows.
- ✓ Restoration of exterior masonry.
- ✓ Site repairs and restoration.
- ✓ Exterior painting, etc.

The environmental requirements for the above work is that the temperature remains consistently above 35 to 40 degrees Fahrenheit and does not dip below that threshold for at least thirty days for the work in place to cure properly.

As a result, the proposed schedule calls for “two windows of opportunity” in 2015 and 2016 to ensure that work will be performed properly and will have long lasting life expectancy.

42. Can We Add to the Capitol or Expand the Building in Its Present Form?

Adding to the Capitol is a very challenging design exercise with significant operational, programmatic and cost impacts. More specifically:

- a. The building is perfectly symmetrical and balanced with equal parts on both sides of the Rotunda for the House and the Senate. Any future addition or alteration would have to follow this symmetrical arrangement.
- b. Any additions to the building would have to comply with **the Secretary of the Interior's Standards** since the building is a National Historic Landmark. The “rules” are simple and can be summarized in a few principles:
 - Any addition should be respectful of the original design and should not obscure, overwhelm or impact in an adverse manner the original design and character of the building
 - The architectural expression should be “of its time”, i.e. it should be distinguishable from the original / historic construction, using compatible materials.
- c. Adding on top of the building would not be possible for two reasons:
 - ✓ The Dome, its architecture and visibility – an icon in the skyline of Cheyenne for over a century would be seriously compromised
 - ✓ Accommodating significant structural loads in a structure that was not designed to handle them would not only be prohibitively expensive but also highly destructive to the important spaces and features of the building.
- d. Adding in front of the building would not be permissible either, since it would violate the main or primary façade of the building irreversibly.
- e. Any additions next to the building [both above and below grade] and / or below it, would require significant – and extremely costly – foundation work to protect and stabilize the foundation walls of the historic structure. Underpinning – i.e. re-supporting the foundation walls and footings from below – while technically feasible, it is extremely costly and it involves risk of movement of the building and cracking.
- f. Extending the building to the east and the west, as was done in 1890 and 1917, would have its own significant challenges in addition to stabilizing and underpinning the foundations. More specifically:



Figure 42.1: 1890-1917 Chambers. (Removed to Add 1917 Chambers.)



Figure 42.2: 1890-1917 Chambers. (Removed to Add 1917 Chambers.)

- ✓ As it was done in 1917, the 1890 chambers were abandoned and the two story volume that was in place was filled in to create new space. The new Chambers, as we know them today, were constructed in 1917.
 - ✓ The Chambers are possibly the second most expensive spaces, after the Rotunda. Creating new Chambers of the scale and character similar to what exists today, would be extremely expensive. This would be the most expensive part of the building to replicate and modify.
- g. Finally adding to the north, would also be a very challenging proposition. In addition to the underpinning issues of the historic structure, adding new footings / foundations next to the Connector would be equally challenging. During the construction of the Herschel Building and the Connector between the Capitol and the Herschler building, several issues surfaced:
- ✓ The site has an unusually high water table and an “underground stream”. Both require expensive de-watering measures during construction and after the building is completed.
 - ✓ The soils appear to be problematic and during construction, there was movement in the Capitol and cracks.

These are significant issues that have both significant risk and cost.

On the other hand, protecting both the exterior building envelope, i.e. no addition above grade and the north connections to the Connector / Herschler can lead to interesting options of reusing and reconfiguring the Connector and / or areas of the Herschler building, without creating risk for the historic Capitol or resorting to very expensive and risky structural and de-watering measures.

43. Are There Any Other State Capitol Projects that Can Provide Useful Information and “Lessons Learned”?

During the last 15 years, several state capitols have undergone comprehensive renovations, restorations and expansions. The following is a representative list. The design team brings to this project experience gained from seven state Capitols.

STATE	CONSTRUCTION		NRHP	NHL	LAST RENOVATION
	START	COMPLETION			
ALABAMA	1850	1912	1966	1960	1992
ALASKA	1929	1931			
ARIZONA	1899	1900	1974		1990's
ARKANSAS	1899	1915	1974		
CALIFORNIA	1860	1874	1973		1982
COLORADO	1886	1907	1991		2009
CONNECTICUT	1872	1879	1970	1970	1989
DELAWARE	1933	1994			1997
FLORIDA	1845	1977	1973		1982
GEORGIA	1883	1889	1971	1973	1997
HAWAII	1960	1969	1978		
IDAHO	1905	2010	1976		2010
ILLINOIS	1884	1887	1985		2011
INDIANA	1877	1888	1975		1995
IOWA	1871	1886	1976		2001
KANSAS	1866	1906	1971		2014
KENTUCKY	1905	1910	1973		
LOUISIANA	1930	1932	1978	1982	2013
MAINE	1828	1911	1973		
MARYLAND	1772	1779	1966		2014
MASSACHUSETTS	1795	1798	1966	1960	2014
MICHIGAN	1871	1878	1971	1992	1992
MINNESOTA	1893	1905	1972		Ongoing
MISSISSIPPI	1901	1903	1969		1983
MISSOURI	1911	1917	1969		
MONTANA	1896	1912	1981		2001
NEBRASKA	1919	1932	1970	1976	2011
NEVADA	1869	1871	1975		1979
NEW HAMPSHIRE	1815	1818			
NEW JERSEY	1792	1913			1987
NEW MEXICO	1964	1966			1992
NEW YORK	1867	1899	1971	1979	2012
NORTH CAROLINA	1840	1840	1970	1973	2011
NORTH DAKOTA	1920	1934			
OHIO	1837	1861	1972		1993
OKLAHOMA	1914	2002	1976		
OREGON	1935	1977	1988		2008
PENNSYLVANIA	1904	1906	1977	2006	1999
RHODE ISLAND	1895	1904	1970		1998
SOUTH CAROLINA	1854	1865	1970	1976	1998
SOUTH DAKOTA	1905	1911	1976		2001
TENNESSEE	1845	1854	1970	1971	2012
TEXAS	1881	1993	1970	1986	1995
UTAH	1912	1916	1978		2008
VERMONT	1834	1836	1970	1970	1990's
VIRGINIA	1785	1906	1966	1960	2007
WASHINGTON	1919	1928	1979		Ongoing (since 2001)
WEST VIRGINIA	1924	1932	1974		2006
WISCONSIN	1906	1917	1970	2001	2002
WYOMING	1888	1917	1973	1987	

44. Should the Project Be Delivered Through the Construction Manager at Risk [CMAR] Method?

The project is a very complex undertaking and involves several items, from the relocation of the occupants to renovation of the building, restoration of the site, installation of new FF&E, commissioning of the renovated facilities and bringing back the occupants into the building to name a few.

The logistics will be very complex. As a result, an experienced Construction Manager would be needed, one that would meet the following criteria:

- Proven track record in restoring Capitols and monumental National Historic Landmarks.
- Ability to bond for over \$200 million for a single project.
- Outstanding record of performing complex projects with multiple stakeholders, complicated logistics and wide range of tasks from pure construction and restoration tasks to FF&E.
- Creative ideas for partnering and engaging Wyoming based entities.

The most significant benefits of using the CM at Risk method are:

- The selected entity would provide pre-construction services engaged in the project as the bid documents are produced, thereby having input and ownership on constructability issues, cost estimates and suggestions to enhance the value of the project.
- A **Guaranteed Maximum Price [GMP]** will be developed as the documents are being finalized. As a result, there will be no surprises.
- The collaboration between the Design Team and the CM at Risk during the pre-construction period would allow for all the specific trades – and especially the highly specialized restoration trades – to be identified early, ensuring that the competitive bidding process will include the best and the brightest.

45. Are There Any Other Delivery Options?

Yes, however, they would not be beneficial to the State nor appropriate to the project. More specifically:

- The traditional delivery method of design / bid / built requires that all aspects of the project, from moving the occupants to restoring the Capitol and sequencing complex infrastructure work to work in two buildings, i.e. the Capitol and the Connector / Herschler are done planned, designed and orchestrated in great detail. Anything less would result in costly change orders for the State. On the other hand, an experienced CM at Risk with experience in Capitol renovations and logistics would be able to handle this work in a more efficient and less risky way for the State, by providing a Guaranteed Maximum Price and assuming the responsibility for all logistics.

- The Design / Build delivery method is appropriate for simpler projects that do not have complex buildings, systems, finishes and equipment nor complicated logistics. This is not a simple project.

46. Is it Realistic to Expect that the Work Will Be Performed by Wyoming Based Construction Entities and Contractors?

The project is rather large, and well in excess of \$150 million of construction. Over the last ten years, there have been no projects in the State of Wyoming, performed for the State of Wyoming that were in this price range.

In addition, one of the requirements for the selection of the construction entity would be prior experience with a monumental National Historic Landmark and specifically a Capitol of the similar size and complexity.

The likelihood of a Wyoming based entity to have the experience, credentials and bonding capacity to lead the construction / implementation effort is slim.

The selected CM would be encouraged and guided to provide opportunities to Wyoming based construction entities and workers, to participate in the project where their work is appropriate and competitive.

47. How Can We Optimize Opportunities for Participation of Wyoming Based Businesses?

An experienced Construction Manager at Risk would create opportunities to engage multiple Wyoming based businesses to handle various aspects of the work, from specific tasks in the restoration of the Capitol to new construction in other areas of the project and from preparation of temporary space to restoration of the decorative / stain glass in the Chambers.

48. Does the Current Procurement Structure Present Any Issues? Do We Need to Make Significant Changes in the Current Procurement Structure?

No. Wyoming procurement laws provide sufficient options and mechanisms to effectively and efficiently procure work and product for the project.

49. When Should the Funding Be Available?

Preliminary funding has been authorized by the State Building Commission to promote the aggressive schedule. The current Senate Bill recommends full funding for design and construction this 2014 Session. This request is in support of the current schedule, which includes the project being bid prior to the 2015 Session.

50. What Should Be the Cash Flow of the Project?

Although a significant amount of the project is bidding in early 2015, it is normal and acceptable practice to engage into construction contracts based on expected funding, i.e. it is not required to have the full budget request in the bank at the time of bidding. Instead, a cash flow schedule will be established with the Construction Manager. Preliminary estimates, however, suggest, about \$23M in 2014; \$52M in 2015; \$88M in 2016 & 2017; and close-out and retainage expenditures of about \$8M in 2018.

51. Who Should Participate in the Planning, Design, Delivery and Acceptance of the Project?

The State has a structured delivery process managed by A&I Department of Construction Administration. The Senate Bill includes further organizational and decision making structure to ensure the project meets the needs of the State. These organizational elements are fully supported by the entire project team, and are fundamentally focused ensuring an open and inclusive process. This project belongs to the citizens of Wyoming and meaningful, open participation is critical to success.

52. What Public Involvement Should Be Planned and Organized?

A website has been established to provide simple and direct access to the progress of the project (<http://www.wyomingcapitolsquare.com>). The Project Team will work throughout to process to schedule public meetings. It will be important to schedule these meeting to allow meaningful input, as opposed to simply report what has been done. Meaningful participation requires the team to provide an earnest opportunity for input.

53. What Has Been Done Thus Far to Communicate the Project to Date?

Public meetings were held early in the Feasibility Study. AS the project progresses, there is more to share and a plan is being developed. Included in this plan is the project website: <http://www.wyomingcapitolsquare.com> which will be maintained and updated through the course of the Project.

54. Where Could the Citizens of Wyoming Find Information About the Project?

Citizens should watch for public announcements of public presentations. To be more inclusive for the entire state, a website has been developed: <http://www.wyomingcapitolsquare.com> which will be maintained and updated through the course of the Project.

55. Once the Project is Approved and Moves Forward, Will There Be Regular Updates?

A clear and purposeful program will be developed upon approval of the Project. The primary mechanism for updates is envisioned to be through the project website: <http://www.wyomingcapitolsquare.com>;

however, other opportunities exist and the team welcomes suggestions. Again, this project belongs to the citizens of Wyoming and meaningful, open participation is critical to success.

56. Will the Building Be Open to the Public During Construction?

The public will not be allowed within the construction zones during the project. This is very important for the safety of the public, the workers, and the building itself. The project website will be a better way to convey the progress of the work through imagery and video.

57. Where Would the Occupants of the Capitol Be During Construction?

Temporary office locations are being planned to accommodate the Capitol occupants and operations – including legislature sessions. Current initiatives suggest that the Herschler Building is a convenient, proximate asset to address these temporary needs.

Other options have been studied. One instructive option of note was to utilize rented modular office buildings (similar to schools and construction sites) for temporary offices (for about 30 months). This option looked at locating these units at the Pioneer Site (the vacant property two blocks west of the Herschler Building). This option has not been found desirable for a host of reasons, one of which is the \$7-8 million **rental** estimate. Clearly the state desires to get better use of their resources.

58. Would All of Them Return to the Building After the Project Is Completed?

Given the needs of the Capitol described herein, it is likely that all occupants will not reasonably fit back in the Capitol when it is completed. See Questions 16 & 17 above.

This, admittedly, will be a very difficult issue for the state to reconcile. A decision making structure and space assignment priorities for the Capitol are proposed in the draft Senate Bill for this project. These important studies and decisions are best solved in the design phase when the appropriate decision making structure is in place.

59. After the Project Is Completed How Different Would the Capitol Complex Be?

The single most palpable difference citizens will notice when the work is complete, will be the significantly improved access to their government, including elected officials and the citizen-led legislative process.

The single most important difference will be the safety of occupants and guests, as well as the proper protection of this National Historic Landmark.

Another important difference will be the improved efficiency and utilization of this important property.

60. After the Project Is Completed How Can the State of Wyoming Protect Its Investment?

Experience indicates that there are a few simple steps that the State of Wyoming can take to protect its investment:

- Create a team that would be qualified to undertake the long term preservation and stewardship of the Capitol complex. This would include building engineers, carpenters, painters, etc., all skilled to perform the required cyclical and regular maintenance on the building.
- Ensure that this team is in place during the Construction Documentation Phase of the project and throughout the Construction Phase.
- Integrate this team with the Design Team and the Construction Manager at Risk to understand the details of the project as the work is under development.
- Stage and conduct training of this team at all stages of commissioning of the Project.
- Plan for the team to be in place for a minimum of ten years and future replacements to be trained and transitioned into the team in a manner that allows “transfer of knowledge and experience”
- Commission a detailed Operations and Maintenance Manual for all aspects of the project, from roof repairs to HVAC maintenance and from custodial tasks to replacement of building components.
- Ensure operations and maintenance budgets are in place, and adequately funded as appropriate for the Capitol.

FREQUENTLY ASKED QUESTIONS AND ANSWERS

HERSCHLER BUILDING

A wide range of questions have been raised by a wide range of constituents, stakeholders, the public and the press. The following represents a list of these questions we have compiled.

Please review and let us know if we add any other questions to this list. Our goal is to have a list of questions that would address all the key issues of the project. The answers to these questions would reflect the work of the Task Force and the Design Team over the last year and would be used by all as we move forward with the implementation of the project.

I. History:

1. When was the Herschler building built?

Appropriations for the Herschler building were made by the 45th Legislature. The architect of record was Kemper and Pappas PC Architects, and the design architect was RNL. The Herschler building was constructed by M.A. Mortenson Company. Construction of the Herschler building began in 1981 and was completed in 1983.

The building is named after former Governor Ed Herschler. The building includes office space for state agencies; underground parking for the Herschler and the Capitol; an underground corridor connecting the Herschler to the Capitol; and central utilities serving the Herschler, the Capitol, the Barrett, the Supreme Court, and the Hathaway buildings.



2. Have there been any renovations to the Herschler building?

No major renovations to the Herschler building have occurred since its original construction was completed in 1983. Renovations have occurred to spaces outside of the building. They include a renovation of the plaza that took place in 2010 to correct leaks in the plaza roof membrane. Additionally, a snow melt system was installed at that time to remove the threat of snow build-up on the plaza. No other significant renovations or updates have been provided to date. While the building has been well maintained, most of the finishes, including carpet, as well as building systems including mechanical, electrical, and plumbing, are original.

3. Why is the Herschler building designed so differently than other state buildings?

As with all buildings, the style Herschler building is a product of the time in which it was built. The unique design and floor plan configuration of the building allows for magnificent views past the Herschler building to the historic Capitol building. The Herschler building was created as a “background” building being deferential to the Capitol in creating both a backdrop as well as allowing view corridors to the Capitol.



View along the Herschler building to the Capitol

II. Findings / Existing Building Conditions / Code Compliance:

1. What is the current size - gross square footage (GSF) - of the building?

The total building square footage is 397,000 SF, which includes the underground parking, underground connector space to the Capitol, and central utility facilities. The four story office building as seen from the street is approximately 249,900 SF of the total square footage.

2. What are the most significant findings of the Level I / II Study?

Among the significant findings stated in the Level I & II studies, the most significant is the need for building upgrades and revisions to the current systems. Overall, the Herschler has sound structural bones, and an opportunity exists to potentially solve the state's space needs associated with the Capitol renovation.

The review of the Herschler building has found that several internal deficiencies exist in places that require attention. The first is the difficulty of wayfinding within the building. A clear visual and physical connection to elevators and stairs are not present. Additionally, it requires a person entering the building go come into the building and then travel in the opposite direction in order to get to a point where a stair or elevator is accessible.

The base existing mechanical, electrical, and plumbing systems have been well maintained, but based on industry standards, are at the age limit typical of these systems before major replacement becomes a factor. Maintenance will become increasingly more involved as the building continues to age.

Additionally, there are multiple areas at the existing exterior building envelope that require immediate attention. The joints at the limestone and precast concrete are extremely deteriorated and are allowing water to penetrate the exterior skin of the building into the interior. Several areas have limestone where the face of the stone is spalling off.

The existing exterior window system contains glass setting blocks that are in a current state of deterioration and in many cases are allowing the glazing to slide down in the window frames creating physical openings in the system allowing for outside elements such as wind, rain, and snow to penetrate the building.



View of Existing Damage, Herschler Façade



View of Existing Damage at Exterior Envelope, Herschler Façade



View of Existing Damage at Exterior Envelope, Herschler Façade



View of Damage at Existing Structural Slab Above Garage Level

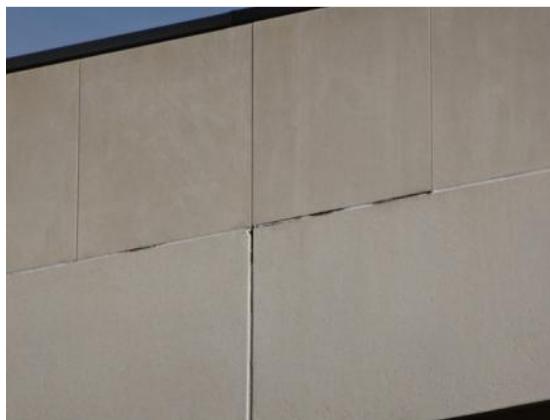
3. Are there any risks in the current state of the building?

The current building structure is believed to be structurally sound, however the building systems and building envelope require immediate attention. Many of these conditions are addressed as part of question #2 above.

4. What is the condition of the exterior building envelope/façade?

The building envelope constitutes any element of the building that is exposed to the exterior elements. An example of these elements are the roof, exterior glazing, limestone and precast exterior cladding, and even the connector. In general, the Herschler exterior is adequate but may have been exposed to water infiltration.

Several areas on the exterior of the building indicate a dis-coloration of the limestone and precast cladding indicating a presence of moisture. An in depth investigation is required to confirm this issue by utilizing a series of non-destructive probes to penetrate the exterior wall system for visual confirmation of the design team's concerns.



View of Existing North Herschler Façade



View of Potential Water Damage at Existing South Herschler Façade

Since the Herschler was built in the 1980's, emphasis on the quality of insulation at the time was not as extensive nor required. Therefore, the exterior envelope is lacking a thermal barrier equal to the industry standards currently in place today. The insulation in particular at the building's exterior is not consistent and is lacking the ability to keep out natural elements. A visual inspection indicated a presence of moisture on the interior of the building at several locations.

The exterior wall system joints also require immediate attention. Many of the joints lack proper sealant which allows the migration of moisture into the building at each location. Due to the ability of moisture to enter the building in these locations, there is a concern regarding the structural state of the steel connections at the exterior limestone and precast cladding of the building. The potential for rust and mold within the walls are a risk that is intended to be studied promptly.

5. What is the state of the infrastructure and the building systems?

The base existing mechanical, electrical, and plumbing systems have been well maintained but, based on industry standards, are at the age limit typical of these systems before replacement becomes a factor. Maintenance will become increasingly more involved as the building continues to age.

The distribution and most plant equipment are well maintained, in very good condition, and within their life expectancy (Mechanical and Electrical). The new Central Utility Plant (CUP) involves accommodating the expanded needs of the Capitol and Herschler. The best placement of the new CUP is being finalized. The security of systems is an additional component being explored and considered.



View of Existing MEP Systems at Underground CUP



CUP – Cooling Towers (Exterior)

6. Does the building currently meet building code requirements?

The Herschler building met the requirements of the codes at the time of completion in 1983. Because there is no change in occupancy classification or use, those code requirements remain in effect until such time that a major renovation is begun.

7. Does the building currently comply with the Americans with Disabilities Act?

The Herschler building pre-dates the Americans with Disabilities Act (ADA). Existing facilities that are not proposed to change are not required to be modified. However, any facilities to be renovated or any new facilities added to the project must comply with the requirements of the ADA. Also of particular note for the Herschler building is the inadequate restroom accessibility. Current travel distances to restrooms in the Herschler are extensive, thereby creating an inefficient circulation layout especially for persons with disabilities. This accessibility issue and other related issues will be addressed in the proposed renovation and addition design scope for the Herschler.

8. How are the critical shortfalls of the building going to be addressed?

A thorough assessment of code compliance, American with Disabilities Act (ADA) – handicap accessibility, and building construction conditions are in the process for the existing Herschler building. Any discovered shortfalls and corresponding design issues will be addressed in the renovation and overall design for the building.

Such shortfalls thus far include inadequate restroom accessibility as mentioned in question #7 above, in addition to inefficiencies in locations for vertical circulation (ie. elevators, stair shafts).

III. Site Planning Design / Circulation / Surrounding Context:

1. How would the proposed new north drive affect the adjacent neighborhood and traffic?



View of Potential Location for Proposed New North Drive

Special care will be given toward the proposed north drive layout with properly scaled landscaping components and potentially modified traffic and wayfinding patterns. The proposed north drive design is intended to replace one or both of the current underground parking access drives, while incorporating a sensitive solution to the north of the complex that relates to the residential neighborhoods. This may be achieved via the use of landscaping elements that serve both as a visual connection and physical boundary that defines an appropriate street layout. The design anticipates the development of a boulevard concept to allow a separation between the vehicular access and pedestrian paths.

Additionally, a 100-year flood plain and other storm water issues exist that will be addressed in the overall Capitol complex design. In particular, the proposed new north drive sits within the 100-year floodplain, and therefore the proposed north drive design will take this into consideration and address the issues.

2. Are there any proposed streetscape improvements that would help tie the Capitol complex to the neighborhood?

Several proposed concepts are envisioned for the capitol complex master plan. New pedestrian and vehicular connections are anticipated to create a cohesive network that defines the Capitol complex and establishes a sense of arrival. A series of street nodes and pedestrian paths are strategically integrated within the fabric of the Capitol complex.

3. Would there be any improvements to the Capitol complex site and landscaping?

With the proposed removal of one or both of the existing underground parking access drives, an opportunity exists to provide landscape and pedestrian access improvements. Such improvements will promote a sense of place and connection to the Capitol, Herschler, and surrounding neighborhoods. The complex design is intended to incorporate a cohesive, holistic and multi-use environment that provides a series of aesthetic and functional spaces. In addition, the complex landscape will be designed to create a park-like setting with the introduction of trees and other vegetation.

4. Would any portions of the site / landscaping be restored as part of the historic restoration of the Capitol?

The Capitol grounds will be developed as a singular site/ landscape design approach. The entire complex site is intended to be reviewed as part of the design with the historic north Capitol lawn being reinstated to establish a sense of reverence and reinforce Wyoming civic pride.

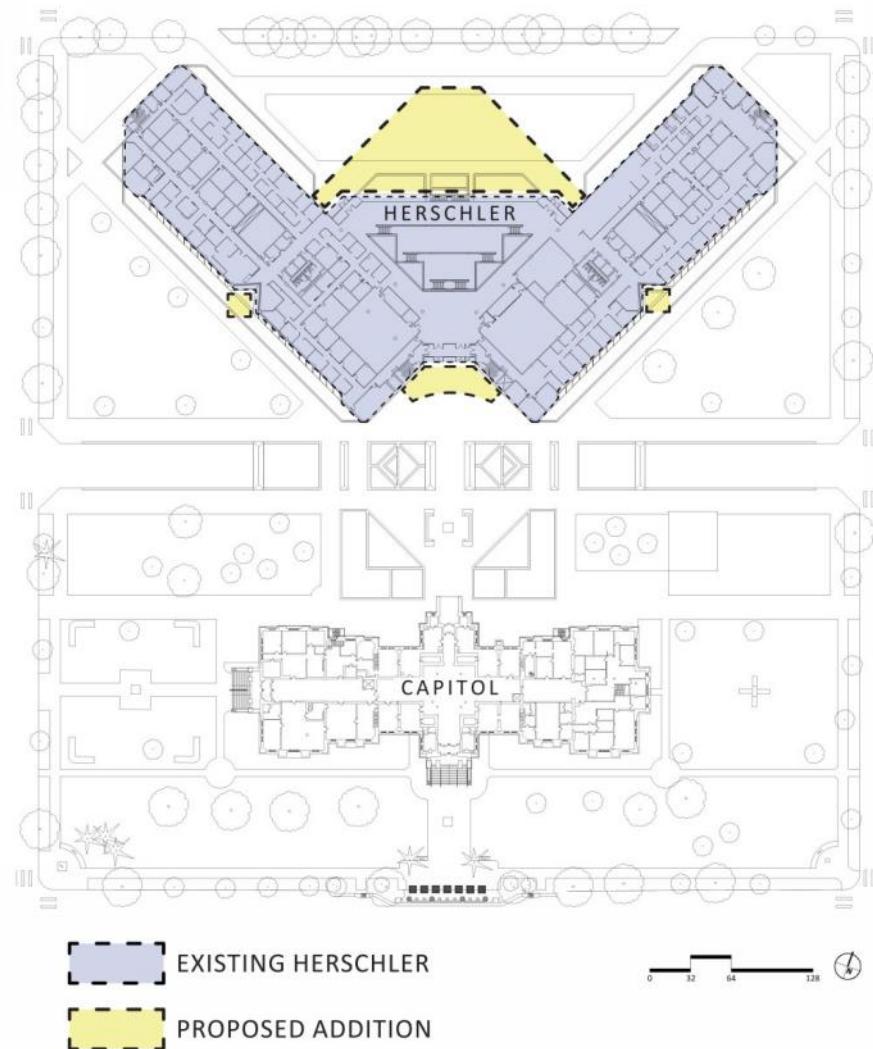
5. Will the number of parking spaces at the Herschler building be reduced during construction? If so, where will the additional spaces be found?

In order to maintain safety during the construction phase of the building, precautions will most likely be enforced to allow for the health, safety and welfare of the public. As such, the current number of parking spaces is anticipated to be reduced as necessary.

6. Will adequate parking for the Herschler building be provided once construction is completed?

The final design may call for additional parking spaces than the existing building currently provides. As such, additional parking provisions will be implemented once the design is finalized and requirements are confirmed. Additional parking opportunities exist on the current pioneer site.

IV. Program / Conceptual Building Design:



1. Why is the Herschler building being renovated and planned for a proposed addition? Why not construct a new building altogether?
 1. Accommodate the Capitol's utilities.
 2. Accommodate the Capitol's programmatic space needs for the committee rooms and offices. These are needs that produce efficient assets to the State.
The addition is recommended as a part of this project to accommodate the spatial requirements for new cooling towers and emergency generators to provide an opportunity for increased significant and **economical** office space.
 3. Provide secured building systems for the Capitol and Herschler through the development of a new Central Utility Plant (CUP).
 4. Update critically aging building systems currently in place.

As with the answer to the question above, the Herschler building is being renovated and added onto in an effort to accommodate the relocation needs of state agencies displaced by the renovation work at the Capitol building, and to consolidate select existing state government entities currently spread across the City of Cheyenne.

The renovation and addition to the existing Herschler building constitutes cost savings through the utilization of many current building systems already in place, whereas an entirely new building would instead require completely new building systems, structure, site, and parking.

2. What does net assignable area mean, and what is the current net assignable area of the building?

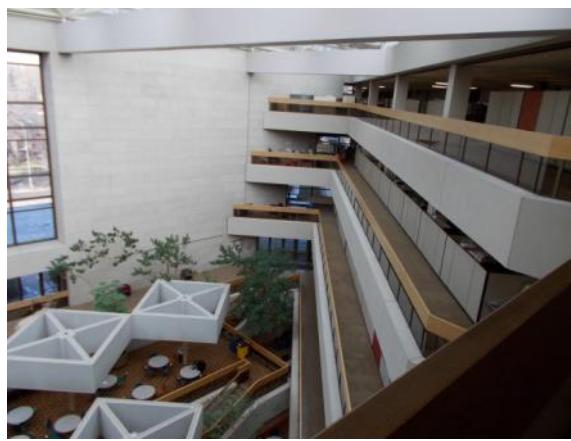
Net assignable area is the useable square footage of a building for tenant occupancy, including internal circulation components. The current net assignable area is approximately 183,640 SF, including the underground connector but excluding the underground parking area.

3. What would be the net assignable area of the building after it is renovated?

Once the completion of the renovation to the Herschler building is complete, the net assignable square footage increases dramatically. The net assignable area after the renovation is projected to be approximately 248,000 SF (which includes the proposed addition), with an overall increased square footage improvement of 64,360. This growth is attributed to new toilets, committee rooms, offices, connector link, and the addition to the north.

4. Is the renovation of the Herschler building a new project?

Yes. Studies have been conducted at the St. Mary's and Pioneer sites, but the Herschler has not yet been studied as a potential solution to the Capitol's needs until now.



Interior View of Existing Central Herschler Atrium



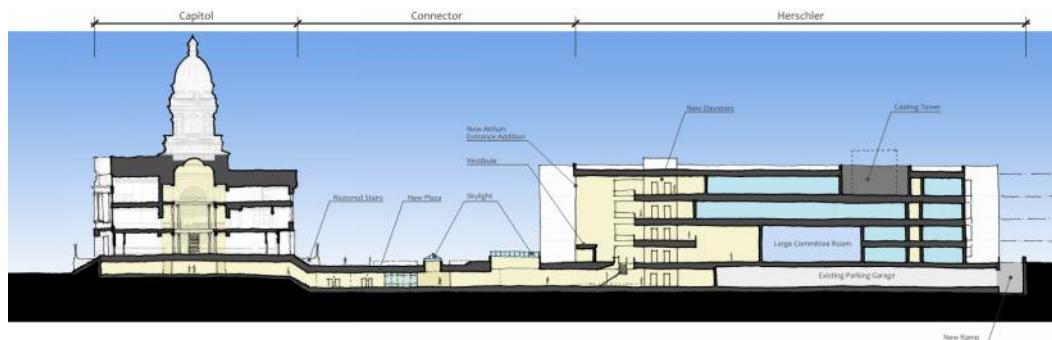
Existing Interior Character of Herschler

5. Can we add onto or expand the Herschler building in its present form?

The original design of the Herschler building allowed for the expansion of the building by providing a more rigorous structural located at the existing north underground parking garage of the building, sufficient to carry the load for additional office spaces up to seven stories tall. The current design intent is to provide a new space that is less than the previously anticipated addition.

6. How will the Connector / Gallery improve over the recently renovated space?

The proposed connector is intended to incorporate a cohesive design that ties both the Capitol and Herschler building together through the use of programmed spaces increasing natural light both from above and with large expanses of glass, establish efficient circulation within the connector as well as providing a strong visual and physical connection between the two buildings. The intent is to provide a more diverse programmatic space which may potentially include new committee rooms, offices, and support spaces. Additionally, recessed exterior landscape plazas are intended to be part of the design solution in order to further provide natural light and a connection to the outside.



Section (Looking Southwest) - Proposed Connector/Gallery and Herschler Building Section



Perspective A – View of Existing Interior Connector



Perspective A – Proposed Interior Connector Character Study

7. How will finishes in the renovated Herschler building relate to those in the Capitol?

The Herschler building is intended to incorporate similar timeless interior finishes and colors of the Capitol. Whereas the Herschler building materials and finishes will not have significant historical relevance as in the Capitol, it will aesthetically relate without creating an exact replication of the Capitol building.

8. How would the expansion of the Herschler building relate to the adjacent neighborhood?

This adjacency is an important issue to be studied during the future Level III design phase and such studies will be applied to the Herschler addition, including a high respect to form, appropriate scale, and correct materiality in relation to the surrounding neighborhood context.

9. Are there any frivolous enhancements in the proposed renovation / expansion?

Understanding the need to be careful stewards of the State's resources for this renovation/addition design, the team is working within parameters that provide a design that meets a "needs" not "wants" mentality, in addition to developing a design solution that is befitting to the state Capitol

office building. Additionally, the renovation and design scope will strive to encapsulate a sense of Wyoming pride and establish a sense of place.

10. In addition to the renovation / expansion of the building, what other items should be considered as part of this project?

Parking should be considered and enhanced to potentially allow for additional parking spaces in and around the overall Capitol complex site. In particular, we believe that the Pioneer site can be incorporated as a design solution to address any potential parking count deficiency. Care should also be given to the existing St. Mary's site to heal the site's character and current state of condition.

Hardscape and landscaping relationships will also be considered between the existing city grid and Capitol complex. These site enhancements are intended to provide a higher level of circulation efficiency and aesthetic quality for the overall complex.

At this time, no other land uses are intended to be a part of this project, however, an allowance for additional space planning of building structures housing state agencies in and around the Capitol complex has been included in the overall project budget.

V. Cost / Budget:

1. Are there any value engineering items that should be considered? (ie. Are there ways in which to reduce cost while maintaining or improving quality?)

During all phases of the project, cost saving principles will be at the forefront of the design team's decisions regarding all aspects of the building renovation and addition scope of work. As an intended result, such design decisions will enhance the building's overall life expectancy and increase value and efficiency.

Among multiple value engineering options, the Herschler building design scope will explore environmentally conscious design options, such as the use of sustainable materials and efficient heating and cooling systems, in order to increase the building's lifespan and reduce costs. Other principles under exploration include maximizing natural light and maintaining solar gain/loss. Utilizing these types of concepts will potentially improve the building's return on investment and increase the building's lifespan.

2. As part of the design process, are there any alternative construction systems that should be considered in order to lower the construction cost?

Careful consideration is being made at the beginning stages of design in respect to the cost and budget of the project. The design team will continue to assess alternative construction systems that would in turn reduce building operating costs while increasing building value and life expectancy.

The design team intends to be good stewards to utilize the State's funding and propose a cost-effective and efficient overall design, which applies to multiple building and construction systems as mentioned in question #1 above.

3. Is the average cost per square foot a good indicator to understand the cost of the project?

Square footage costs are industry standards that are used to define construction quality. Costs vary for each specific construction type, quality and scope. While square footage costs begin to provide a better understanding of the construction aspect of the project, other factors such as soft costs and unforeseen conditions (pertaining to renovations in particular) are factors that may impact the overall project budget.

4. Is renovation more expensive than regular new construction?

Renovation costs differ from standard new construction in that renovations involve a more rigorous review of existing conditions that need to be evaluated and understood prior to and during the construction process. Renovations in general may involve unforeseen conditions that could affect pricing significantly based on discovery. Unforeseen conditions are typically unanticipated circumstances that occur during construction which can affect the overall project budget and/or date of completion.

In addition, an opportunity exists for the Herschler to utilize existing building systems that could potentially reduce overall costs due to current material in place. For instance, the proposed north addition design of the Herschler building allows for the reuse of existing building systems such as the underground structural components, parking area, and two of the four exterior wall enclosures. Therefore, renovation and new construction costs cannot be directly compared as a pricing exercise.

5. How does this cost compare to other state office building renovations or projects of similar nature?

Other state office building project proposals in Cheyenne include the St. Mary's and Pioneer sites, envisioning new building construction. These new construction projects were projected to be higher on a price-per-square-foot cost in comparison to the proposed Herschler building renovation and addition project. Those prices were listed as \$345/SF for St. Mary's and \$259/SF for the Pioneer site, respectively, in comparison to the proposed Herschler renovation and addition which is projected to be \$243/SF.



Conceptual Design Study Option – Wyoming State Office Building Proposal, Pioneer Site

VI. Project Schedule / Process:

1. Where would the occupants of the Herschler building be located during the renovation and addition?

The plan for relocating the occupants of the Herschler building will be developed as the project proceeds into and through Level III .

2. Would all of the original Herschler occupants return to the building after the project is completed?

The design team is currently exploring a variety of occupancy location opportunities and will continue to review tenant space assignments within the City of Cheyenne as the design moves forward.

3. Have additional design options been reviewed prior to the current concept?

Design options will be developed as part of the Level III portion of the work and based on the information gathered through continued meetings with the Joint Task Force. Prior to this portion of work, a Level I – Reconnaissance and Level II – Feasibility Study has been completed addressing the findings to date.

