

Emmett High School – Facility Condition Assessment

Observations & Assessments

721 W 12th Street, Emmett, ID 83617



Compiled Document of Observations & Assessments

July 10, 2026

EXECUTIVE SUMMARY

The Emmett High School Campus was observed by KPFF Consulting Engineers, Atlas Technical Consultants, Hummel Architects, Musgrove Engineering, Stantec Technical Consultants, and Beniton Construction to assess the current conditions of the Emmett High School and provide recommendations to the Emmett School District regarding current conditions and needs to improve the current facilities.

The Emmett High School is an approximately 103,575 square feet facility that was constructed in 1987 and consists of two (2) primary three-story domes (Dome A and B) with three smaller domes. Each dome was constructed of reinforced concrete with steel and masonry framing at the interior. The two (2) primary domes are joined via a single corridor. The scope for this assessment included the primary domes (Dome “A” and “B”) and the three (3) smaller domes. The assessment excluded the three (3) on-site mobile classrooms that are part of the high school campus. Each discipline created a list of recommendations following the assessment.

The following items are noted to be addressed **Immediately**:

- Replacement of Mechanical and Plumbing Systems
- Replacement of elements of the Electrical Systems
- Replacement of Roof System & exterior insulated finish system (EIFS)
- Replacement of the exterior and overhead doors
- Continuous observation of existing crack strain gauges
- Re-grading the area around domes for drainage away from foundation
- Patch dome at area of exposed concrete
- Repair concrete at exit of the Music Room in Dome B
- Replace and upgrade doors and door frames impacted by skewing
- Implement a true security vestibule at the main entrance
- Install new exterior focused vestibule at all major entries to improve thermal separation from the exterior
- Renovate restrooms to include fully accessible stalls.
- Review expanding or relocating the kitchen
- Install a smoke control system and a review installing a rated separation from the atrium on Level 2.
- Improve fire sprinkler coverage, especially in support spaces.

The following items are noted to be addressed **within the next 5 years**:

- Replacement of Chiller

- Correct door clearances issues where able. The remaining areas may be able to be fixed with door hardware changes.
- Replace or modify handrails to meet height and extension requirements.
- Mitigate low headroom areas where feasible or reconfigure spaces to avoid unusable zones.
- Increase the number of power outlets in classrooms.
- Expand data port availability and upgrade network infrastructure.
- Worn flooring, especially VCT in corridors and the atrium.
- Reconfigure classrooms to improve sightlines and increase usable floor area.
- Update the media center to support collaborative learning and digital resources.
- Aging ceiling systems with water staining and damaged tiles.
- Outdated casework, partitions, and interior finishes
- Modernize the science labs and CTE spaces where feasible

The conceptual cost estimate for the recommendations listed above is **\$24,024,949** (\$231.96 per square ft) without alternates and **\$27,659,925** (\$267.05 per square ft) with alternates. The values listed have an annual escalation factor of approximately 3% each year following the date of this report as well as a recommended 5% Owner contingency. The annual escalation factor and Owner contingency are not included in the total conceptual cost estimate shown above and would need to be accounted for during budget development. For perspective, current market pricing for new educational facilities ranges from approximately \$375 to \$425 per square foot.



TABLE OF CONTENTS

<u>Report Section</u>	<u>Discipline</u>
Section #1	Structural Observations & Assessment
Section #2	Geotechnical Observations & Assessment
Section #3	Architectural Observations & Assessment
Section #4	Mechanical & Plumbing Systems Observations & Assessments
Section #5	Electrical Systems Observations & Assessment
Section #6	Building Envelope Observations & Assessment
Section #7	Conceptual Cost Estimation of Recommendations



Engineering
Opportunities

412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985

SECTION #1

Structural Observations & Assessment

by

KPFF Consulting Engineers

Emmett High School Campus Assessment

Structural Observations & Assessment

721 W 12th Street, Emmett, ID 83617



KPFF Job No. 1021260001

June 26, 2026

EXECUTIVE SUMMARY

KPFF observed the Emmett High School Campus to assess the current conditions of the Emmett High School and provide recommendations to the Emmett School District regarding current conditions and needs to improve the current facilities from a structural perspective.

KPFF determined that the existing structure of the Emmett High School domes is not currently a life-safety concern via visual observations and material testing (Appendix 1). KPFF determined that there are recommendations for the school district to implement to mitigate future structural issues or to mitigate further issues with the noted observed items. We recommend following:

- 1) **Reinforced Concrete Dome Wall Cracks (Dome A & B):** Atlas to continue to monitor the cracks via previously installed crack gages to identify if cracks are continuously increasing in severity or if the structure is experiencing differential settlement.
- 2) **Cracking in Flooring at SOG within Atrium Perimeter (Dome A):** Monitor the existing floor cracking at the atrium perimeter to identify if increased settlement is occurring in the slab-on-grade.
- 3) **Door Frame Skewing (Dome A):** We recommend that one of the skewing doors be replaced with a new door frame, door, and jambs. We recommend during this replacement to observe the existing conditions of the door jamb framing. Following replacement of one of the doors and its framing, we recommend monitoring the door to identify if it still has skewing problems. It is recommended that all doors and their jambs be completely replaced if it is observed that door replacement resolves door skewing problems.
- 4) **Mechanical Space Exposed Reinforcement (Dome B):** Repair the locations with exposed reinforcement via concrete encasement. It is recommended that this item is prioritized to ensure that the reinforcement and dome structure is protected. This item will be required to be repaired prior to any building envelope repairs or resurfacing.
- 5) **Music Room Exterior Slab-on-Grade Cracking (Dome B):** Repair slab-on-grade at this location to prevent further moisture infiltration and remove existing trip hazard.

1 PURPOSE AND SCOPE OF WORK

The purpose of this report is to document and prioritize the findings from the observation as outlined in our agreement with Emmett School District dated March 20, 2026. This report contains the following:

- Identification of areas of visually observed damage
- Recommendations for observations, recommended action items, and action item priority

This visual observation is primarily to observe the current structural condition of the Emmett High School reinforced concrete domes and its interior structural framing. Additional structural concerns outside of what is listed within this report require additional visual observations.

2 SITE AND BUILDING DATA

2.1 DOCUMENT REVIEW

The following documents were provided to KPFF for review to assist in our investigation of the parking structure:

- Structural drawings for Emmett High School
 - Existing drawings did not include the Reinforced Concrete Dome and its foundations; only structural information shown was for the interior framing and interior foundations.
- Previous site observation performed by Atlas, Inc (geotechnical observation) labeled “Limited Forensic Investigation: Emmett High School Forensic Investigation” dated October 10, 2025.

2.2 GENERAL BUILDING DESCRIPTION

Emmett High School campus consists primarily of two (2) reinforced concrete dome structures connected with a single corridor. The first dome (“Dome A”) is three (3) stories in height hosting an atrium that spans from ground level to the roof center. The second dome (“Dome B”) is the same height as the first dome with its primary use being for the gymnasium, changing rooms, and music room. Each dome consists of wide flange beams and girders, open web steel joists and girders, wide flange columns, and concrete over metal deck floors. The connecting corridor consists of CMU walls with wide flange beams and concrete over metal deck at the roof. All ground floor areas consist of slab on grade.

The southern portion of the Emmett High School campus consists of three (3) smaller domes that act as classrooms. These three (3) smaller domes are listed as the Spirit Dome, Weight Room, and Wrestling.

The western portion of the Emmett High School campus has three (3) mobile support buildings hosting additional classroom and office space. These mobile support buildings were not included in the structural observations.

2.3 STRUCTURAL SYSTEMS

2.3.1 GRAVITY FRAMING SYSTEM

It is our understanding that the primary gravity system is a reinforced concrete dome at the building perimeter. It is our understanding that the floor systems consist of concrete over metal deck spanning to wide flange beams, wide flange girders, and columns.

2.3.2 LATERAL FORCE RESISTING SYSTEM

Lateral forces on the structure are resisted by the reinforced concrete dome.

3 DOCUMENTATION OF EXISTING CONDITIONS

3.1 SITE INVESTIGATION

As requested, we have performed a site observation on April 17, 2026, to observe the conditions of the existing reinforced concrete domes. We have documented our observations below, as well as in Appendix 1. Appendix 1 contains the building plan view that correlates with the photos provided in Section 3.2.

3.2 EXISTING SITE OBSERVATIONS

Below are the existing site observations that were observed during the site observation noted above. The photos and observations only show a representative example of the items that were observed and the possible sources of the observed item where applicable

1) Location: Dome A – Skylight Catwalk

Observation: The connections for the catwalk to the primary dome structure was observed and an item that was noted as a concern by Emmett Maintenance. The connections appeared to be installed as noted within the existing building drawings. No concerns were noted.

Scanning of the concrete dome was performed at the top of the dome and the concrete was found to be of sound nature.

Possible Source: Natural aging of installed structure.



FIGURE 1: CATWALK SUPPORT ATTACHMENT TO PRIMARY DOME STRUCTURE

- 2) Location: Dome A – Skylight Catwalk

Observation: The locations where a contractor had previously installed two (2) roof tie-off anchors that were abandoned as well as one (1) location where the roof tie-off anchor remains.

It was noted by Emmett Maintenance that the contractor who installed the roof tie-off anchors experienced wet and spalling concrete during the anchor installation. No wet or spalling concrete was observed during the site observation.

Possible Source: Damage to the concrete per the previous installment of roof tie-off anchors.



FIGURE 2: PREVIOUS ATTACHMENTS FOR ROOF TIE-OFF ANCHORS

3) Location: Dome A – Leve 3

Observation: It was noted by Emmett Maintenance that the door frames on level 3 were experiencing issues with doors becoming “skewed” and needing regular maintenance to re-align the door. KPFF observed the door frames and the surrounding finishes and above ceiling. It was observed that the wall finishes surrounding the doors and the floors below the door were not showing signs of cracking which would indicate settlement (Figures 3 & 5). It was noted by Emmett Maintenance than one door (Room 305) was fixed and two (2) weeks later required adjustments. This location did not show signs of finishing damages (Figure 4).

Possible Source: Potentially experiencing issues with the door frames themselves, as these door frames are per the original building (circa 1986).



FIGURE 3: LEVEL 3 MEN'S RESTROOM



FIGURE 4: LEVEL 3 ROOM #305



FIGURE 5: BOTTOM OF CLASSROOM DOORS AT LEVEL 3

4) Location: Dome A – Level 2

Observation: It was noted by Emmett Maintenance that Level 2 also experiences situations where the doors were skewing and required fixes to fit back into the frames properly, similar to the Observation #3 listed above. Figure 6 shows the mens restroom on Level 2 which is below the Level 3 Men's Room from Figure 3.

Possible Source: Potentially experiencing issues with the door frames themselves, as these door frames are per the original building (circa 1986).



FIGURE 6: MEN'S RESTROOM DOOR AT LEVEL 2

5) Location: Dome A – Atrium Ground Floor

Observation: It was observed that the perimeter of the atrium between the column lines was cracking. Many locations had areas of already cracking flooring or areas where the flooring appears to be progressing towards a crack (Figures 7-10). Figure 11 shows that the cracking observed on site appears to follow the location of the original tongue and groove slab-on-grade floor joint.

There were no signs of settlement of the primary foundations supporting the wide flange columns and the elevator CMU core.

Possible Source: The central slab-on-grade may be experiencing settlement which is causing differential settlement between the primary framing foundations and other portions of the slab-on-grade.



FIGURE 7: ATRIUM PERIMETER FLOORING CRACKING

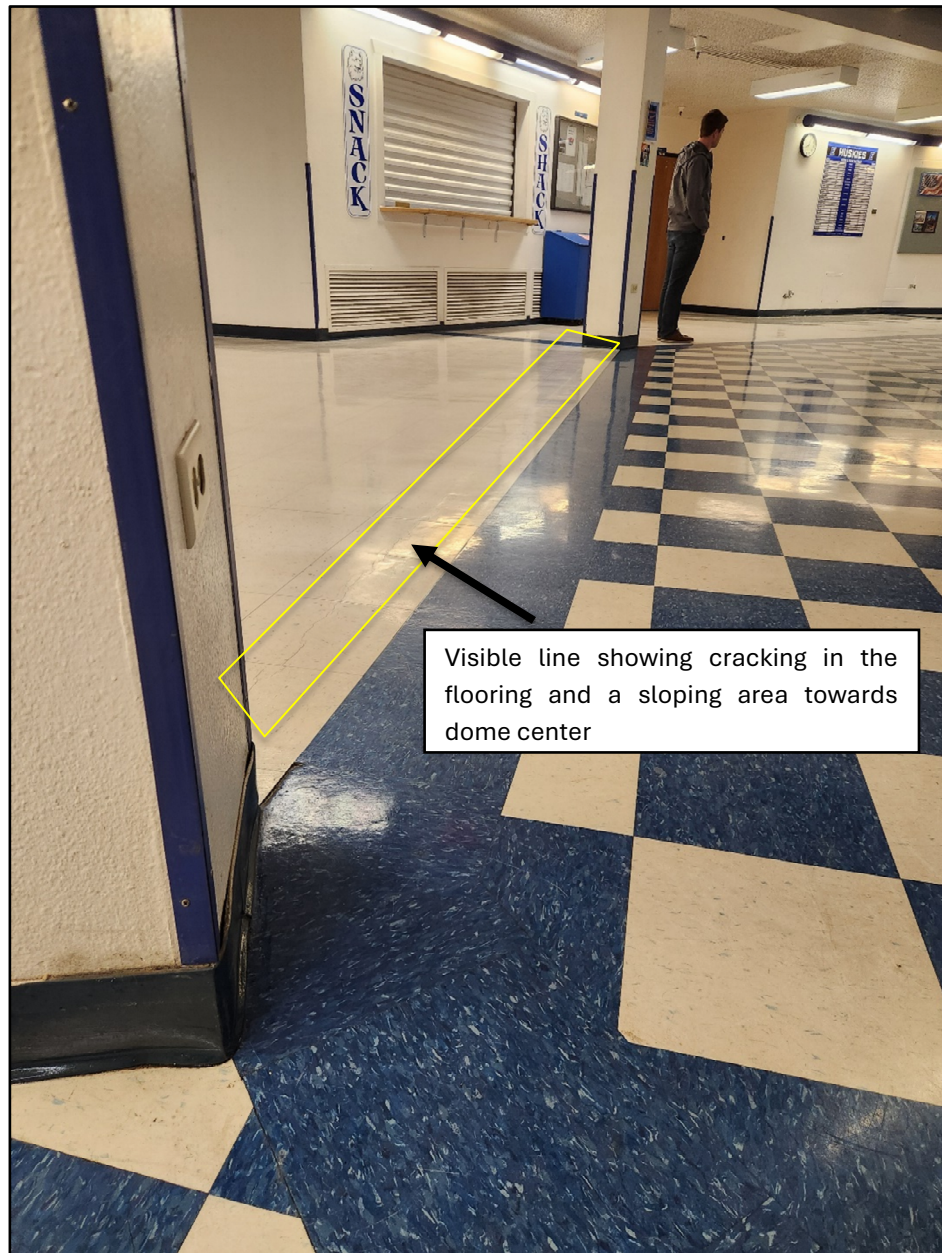


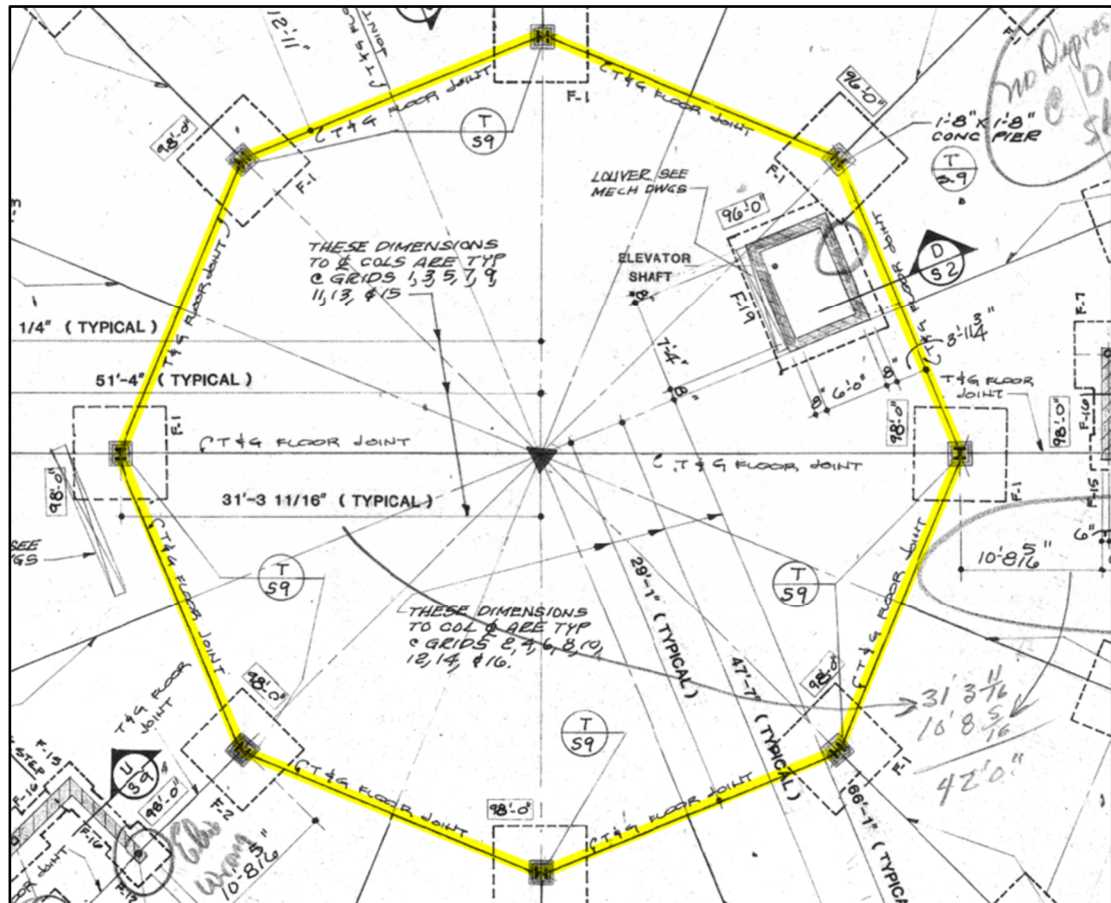
FIGURE 8: ATRIUM PERIMETER FLOORING CRACKING



FIGURE 9: ATRIUM PERIMETER FLOORING CRACKING



FIGURE 10: ATRIUM PERIMETER FLOORING CRACKING



**FIGURE 11: PARTIAL PLAN OF EXISTING DRAWINGS WITH APPROXIMATE CRACKING LOCATIONS
HIGHLIGHTED IN YELLOW**

6) Location: Dome A & Dome B – Level 1 Ground Level

Observation: Various cracks in the reinforced concrete dome wall were observed. These cracks were previously observed by KPFF and the findings reported in the report dated November 20, 2024. The cracking within the reinforced concrete dome wall appeared to match the conditions found in the above mentioned report. Following KPFF observation, strain gauges were installed by Atlas as noted in the Atlas report dated October 10, 2025. On site, the strain gauges were showing potentially minute displacement (Figures 12 & 13). The cracks in the Music Room storage (Figure 14) had also been painted over at some time before the original KPFF observation. The paint over the cracks in these areas appears to remain.

Possible Source: The possible source is still as noted in the previous KPFF observation with the possible source of cracking being related to temperature and shrinkage cracking.



FIGURE 12: DOME A CRACK WITH STRAIN GAUGE PER ATLAS (CLASSROOM)



FIGURE 13: DOME B CRACK WITH STRAIN GAUGE PER ATLAS (FAN ROOM)



FIGURE 14: DOME B CRACKS IN THE MUSIC ROOM STORAGE AREA WITH CRACK LOCATIONS HIGHLIGHTED IN YELLOW

- 7) Location: Dome B – Southeast Entrance Mechanical Space
Observation: Two (2) locations in the mechanical space had areas of exposed reinforcement with the exterior waterproofing membrane and insulation visible. The reinforcement at these locations

were noted as #4 @ 16" on-center horizontal and #4 @ 12" on-center vertical. This location was previously noted for repair in the original KPFF report dated November 20, 2024.

Figure 15 shows the first location observed that had an area of exposed reinforcement of approximately 3'-0" wide by 10'-0" in length. The length is an estimation due to mechanical conflicts obstructing the full line of side.

Figures 16 & 17 show the second location observed that had an area of exposed reinforcement of approximately 3'-6" wide by 10'-0" in length. The length is an estimation due to mechanical conflicts obstructing the full line of side.

Possible Source: N/A



FIGURE 15: DOME B MECH SPACE EXPOSED REINFORCEMENT – LOCATION 1



FIGURE 16: DOME B MECH SPACE EXPOSED REINFORCEMENT – LOCATION 2



FIGURE 17: DOME B MECH SPACE EXPOSED REINFORCEMENT – LOCATION 2

- 8) Location: Dome B – Music Room Exit to Exterior

Observation: It was observed that large cracking of the slab-on-grade has occurred at the exit of the music room to the building exterior (Figures 18 & 19).

Possible Source: Per the existing structural drawings, the door inset has different shallow foundations than the primary reinforced concrete dome. The possible source of the cracking is differential settlement between the primary reinforced concrete dome foundations and the door inset foundations.



FIGURE 18: SLAB-ON-GRADE CRACKING AT MUSIC ROOM EXTERIOR



FIGURE 19: SLAB-ON-GRADE CRACKING AT MUSIC ROOM EXTERIOR

9) Location: Dome A – Exterior Foundations

Observation: The existing foundations were exposed during the site observation by Atlas on the southwest side. The foundations appeared to be cast against earth. The foundations appeared to have a layer of waterproofing that extended below grade underneath a concrete curb. A single exposed rebar was observed at the location of excavation. The existing foundations measured approximately 17” wide from the stem to the edge of footing and approximately 12” thick. The depth from the top of the concrete curb/soil elevation to the bottom of the footing measured to 2’-7”.

Possible Source: N/A



FIGURE 20: DOME “A” FOUNDATIONS AT SOUTHWEST SIDE OF THE DOME



FIGURE 21: DOME “A” FOUNDATIONS AT SOUTHWEST SIDE OF THE DOME

10) Location: Dome B – Exterior Foundations

Observation: The existing foundations were exposed during the site observation by Atlas at Dome B on the east side. The foundations appeared to have a layer of waterproofing that extended below grade underneath a concrete curb. A single exposed rebar was observed at the location of excavation. The existing foundations measured approximately 6” wide from the stem to the edge of footing and approximately 12” thick.

Possible Source: N/A



FIGURE 22: DOME “B” FOUNDATIONS AT EAST SIDE OF THE DOME



FIGURE 23: DOME “B” FOUNDATIONS AT EAST SIDE OF THE DOME WITH EXPOSED BAR CIRCLED IN BLUE

11) Location: Dome B – Exterior

Observation: The exterior of the building was observed at a location that was previously repaired on the southeast side of Dome B. This location recently had splitting of the waterproofing and insulation and was noted in the report by Atlas on October 10, 2025.

At the time of the initial observation, the location was repaired but the bottom of the repair had water leaking from a small hole in the building envelope.

Possible Source: Water infiltration behind the building envelope causing hydrostatic pressure behind the envelope.



**FIGURE 24: DOME B PREVIOUS EXTERIOR REPAIR WITH LOCATION OF WATER LEAK OBSERVED
HIGHLIGHTED IN YELLOW**

12) Location: Dome B Exterior

Observation: It was observed that there are areas of the building envelope that has been damaged with vegetation growth growing inside of the damaged portions (Figure 25).

Possible Source: Damage to the exterior finishes allowing for sediment to land and harbor vegetation.



FIGURE 25: AREA OF DAMAGED EXTERIOR WITH VEGETATION GROWTH

13) Location: Dome A & Dome B Exterior

Observation: An additional site observation was performed and the building envelope was removed to observe the building envelope layers and the extent of previous repairs (Figure 27 & 28). A 2" diameter concrete core sample was taken at these locations with an approximate depth of 4" to observe the concrete health (Figure 26 & 28). The concrete at these locations was dry and appeared to be in good condition. Each location for the coring was at locations of previous building envelope repair (Figure 30).

Possible Source: N/A



FIGURE 26: DOME A CONCRETE SAMPLE



FIGURE 27: DOME A EXPOSED ENVELOPE



FIGURE 28: DOME B CONCRETE SAMPLE



FIGURE 29: DOME B EXPOSED ENVELOPE



FIGURE 30: LOCATIONS OF CORE SAMPLES

4 CONCLUSIONS AND RECOMMENDATIONS

The following is a list of overall observations reported during the walk through. See Section 3 for the full list of observations with corresponding photographs. Each observation is noted below as Section 3.2 followed by the observation number (e.g. Section 3.2 Observation 1 = Observation 3.2.1).

- 1) **Reinforced Concrete Dome Wall Cracks (Dome A & B):** Atlas to continue to monitor the cracks via previously installed crack gages to identify if cracks are continuously increasing in severity or if the structure is experiencing differential settlement.
- 2) **Cracking in Flooring at SOG within Atrium Perimeter (Dome A):** Monitor the existing floor cracking at the atrium perimeter to identify if increased settlement is occurring in the slab-on-grade.
- 3) **Door Frame Skewing (Dome A):** We recommend that one of the skewing doors be replaced with a new door frame, door, and jambs. We recommend during this replacement to observe the existing conditions of the door jamb framing. Following replacement of one of the doors and its framing, we recommend monitoring the door to identify if it still experiences skewing problems. It is recommended that all doors and their jambs be completely replaced if it is observed that door replacement resolves door skewing problems.
- 4) **Mechanical Space Exposed Reinforcement (Dome B):** Repair the locations with exposed reinforcement via concrete encasement. It is recommended that this item is prioritized to ensure that the reinforcement and dome structure is protected. This item will be required to be repaired prior to any building envelope repairs or resurfacing.
- 5) **Music Room Exterior Slab-on-Grade Cracking (Dome B):** Repair slab-on-grade at this location to prevent further moisture infiltration and remove existing trip hazard.



APPENDIX 1 – VERITAS MATERIAL CONSULTING REPORT



VERITAS MATERIAL CONSULTING
11051 W Leilani Drive, Boise, ID 83709
www.veritasmaterial.com
rusty@veritasmaterial.com
Mobile: 208.870.9728

CHANEY WOOD, PE
KPFF
412 E. PARKCENTER BLVD., SUITE 200
BOISE, ID 83706

June 16, 2026

Subject: **Limited Condition Assessment using GPR and Field Testing**
Project: **Emmett High School Concrete Domes, Emmett, ID**

Dear Mr. Wood:

Veritas Material Consulting has completed our limited condition assessment of the concrete domes at Emmett High School. Our work included evaluating the concrete at the apex of Dome A where past activities have identified apparent damage. Two cores were collected, one from each dome, to visually inspect the health of the concrete in cross-section. In general, the concrete at each inspection location appeared sound and competent. No evidence of rebar corrosion, chemical attack, or advanced weathering were observed. Further details are provided in the report.

Condition Assessment:

The evaluation included visual inspection of the concrete dome structure using visual inspection methods per ACI 201.1R.¹ Eight locations in the apex of Dome A were tested by acoustic sounding in accordance with ASTM D4580.² This technique provides rapid and reliable indications of disconformities and damage to the concrete. Competent concrete produces a sharp ring when struck with the hammer. Dull tones, thuds, and hollow sounds indicate potential damage, voids, and other problems with the concrete. The method is very commonly used to evaluate bridge decks and framing elements. Two isolated spalls were found by sounding. These are shown in the Photo Appendix. The spalls were likely caused during roto-hammer drilling. The longitudinal oscillation of the drill bit commonly craters the bottom ¼ to ½-inch of concrete thickness.

In addition, each location was surveyed with GPR in accordance with industry standard practice and by CSDA-BP-007.³ Veritas Material used a GSSI StructureScan Mini XT with a 2.7 GHz direct-couple antenna in normal mode. GPR can locate and image embedments in concrete, such as rebar. GPR data are accurate to within one-fourth the radar wavelength, which equates to a sensitivity of roughly ¼-inch for a 2.7 GHz system. Default parameters for data acquisition were as follows: 250 scans/sec., 10 scans/inch, 512 samples/scan, 32 bits/sample. The dielectric was determined onsite to be 5.20 using the migration method.

¹ ACI 201.1R, Guide for Conducting a Visual Inspection of Concrete in Service, American Concrete Institute, Farmington Hills, MI 48331, 2008.

² ASTM D4580-12(2018), Standard Practice for Measuring Delaminations in Concrete Bridge Decks by Sounding, ASTM International, West Conshohocken, PA, 19428, 2018.

³ CSDA BP-007, Ground Penetrating Radar for Concrete Scanning, Concrete Sawing and Drilling Association, St. Petersburg, FL 33701, 2014.



VERITAS MATERIAL CONSULTING
11051 W Leilani Drive, Boise, ID 83709
www.veritasmaterial.com
rusty@veritasmaterial.com
Mobile: 208.870.9728

The qualitative reflected radar signal attenuation method was used to identify evidence of reinforcing corrosion. When embedded metallic reinforcing corrodes, the physical bond (a.k.a. anchorage) between the concrete and the metal is compromised by the presence of low-density oxide compounds. These compounds and the compromised anchorage results in the attenuation (loss) of radar signal returning to the antenna. The analysis compares adjacent radar signal reflections to see where the corrosion, indicated by attenuation, occurs. No evidence of rebar corrosion was observed in the GPR data. Detailed images are provided in the GPR Appendix.

One 2-inch diameter core was advanced in the concrete wall of each dome at ground level. The roofing membrane was temporarily removed, including the foam insulation prior to drilling. The cores were drilled to less than half of the wall thickness and extracted. Each core was examined for evidence of chemical attack, reactive aggregate, corrosion products, delamination and cracking. Both cores exhibited no such damage and each appeared sound and competent. Details are provided in the Photo Appendix.

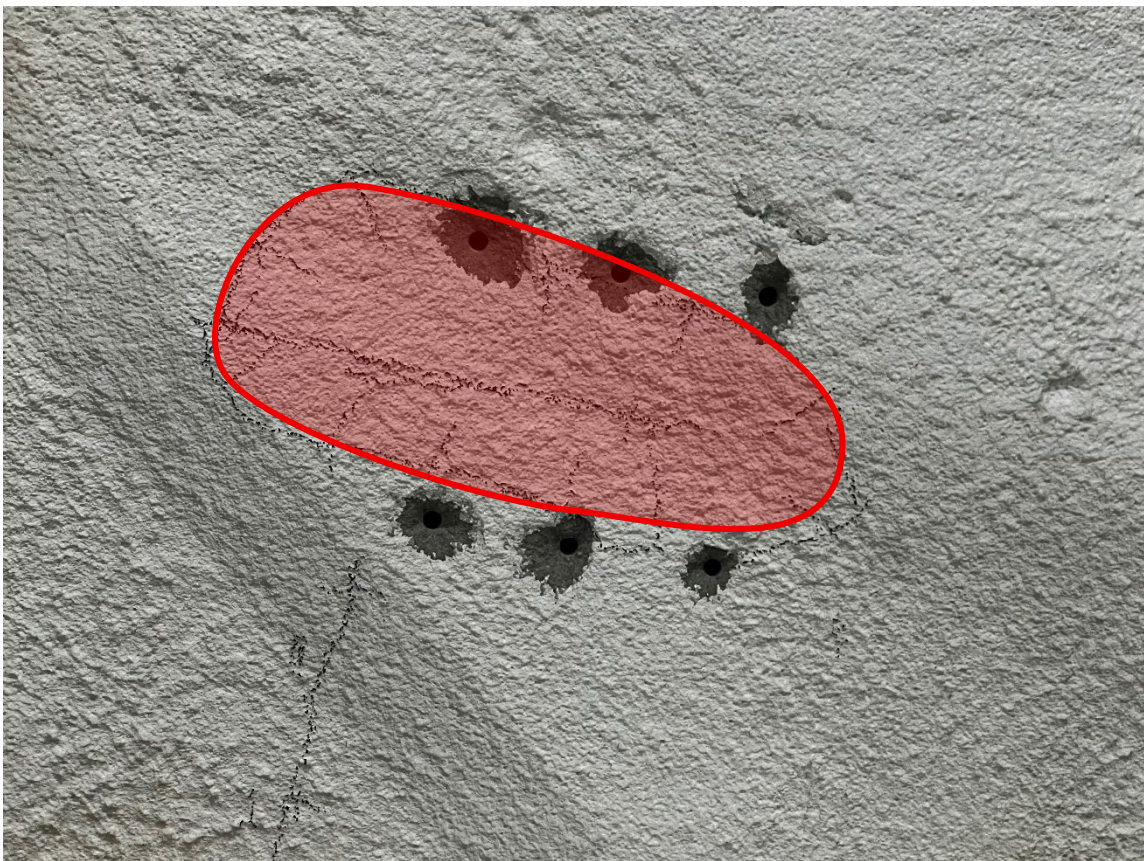
The core locations were patched with non-shrink grout and the membrane replaced using spray foam urethane adhesive. If future activities, such as roof removal and replacement, expose the concrete surface, a comprehensive visual and tactile inspection of the concrete should be performed at that time.

Sincerely,

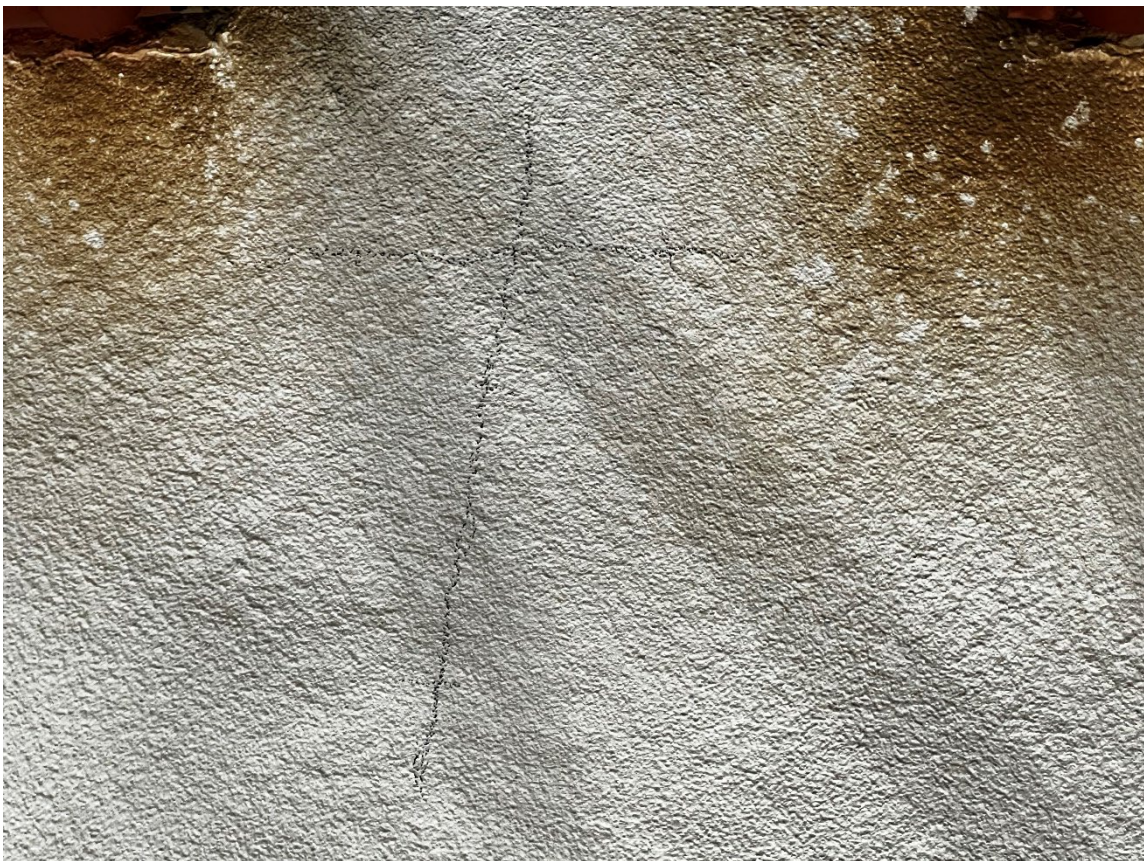
Rusty Boicourt, P.G.
Senior Scientist
Veritas Material Consulting

Attachment: *Photo Appendix*
GPR Appendix

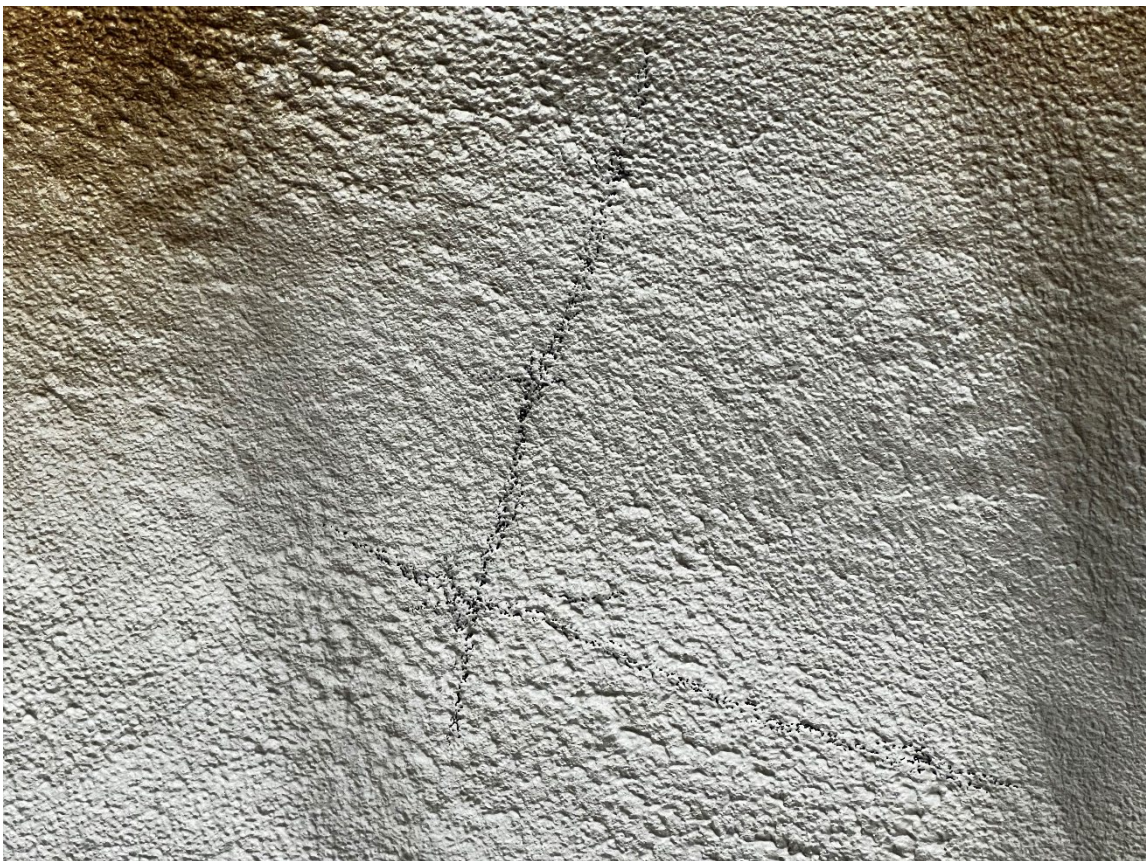




Location 1 at entry to dome apex. Six holes drilled to attach roof anchor. Delamination in middle caused by drilling. Remainder of concrete was sound.



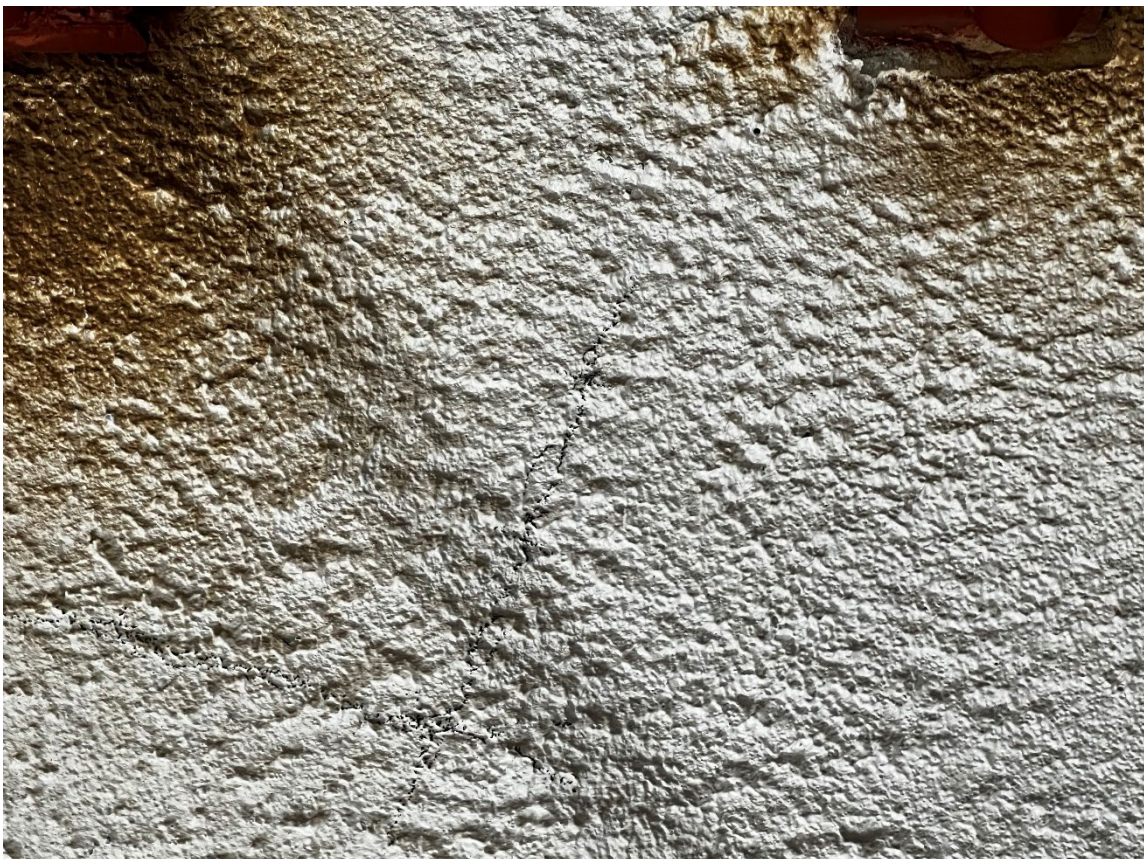
Location 2 clockwise from entry. All concrete sound. No damage.



Location 3 clockwise from entry. All concrete sound. No damage.



Location 4 clockwise from entry. All concrete sound. No damage. Plate installed for roof anchors.



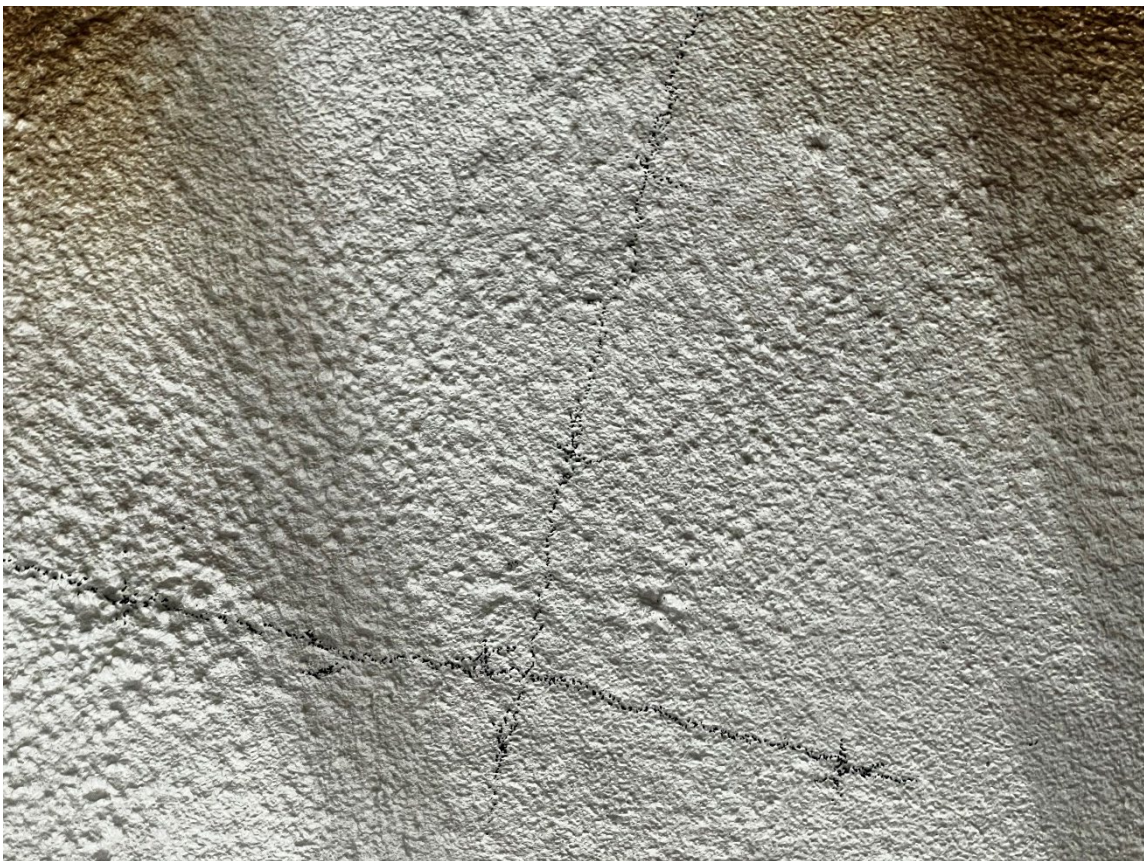
Location 5 clockwise from entry. All concrete sound. No damage.



Location 6 clockwise from entry. Eight holes drilled for roof anchor. Small delamination at hole. Remainder of concrete was sound.



Location 7 clockwise from entry. All concrete sound. No damage.



Location 8 clockwise from entry. All concrete sound. No damage.



Leaking area of roofing membrane opened for coring at Dome B.



Core advanced through foam and then through concrete.



Recovered core was 3.5-inches long and appeared to be sound and competent. No damage to concrete observed.



Hole was patched with fast-setting packaged non-shrink grout.



Spray urethane foam was used to re-adhere the membrane.



Core location after patching.



Location of core sample at Dome A.



Roof membrane was cut with a hole saw and pried out.



Recovered core was 2.75-inches long and appeared to be sound and competent. No damage to concrete observed.



Hole was patched with fast-setting packaged non-shrink grout.



Membrane was re-adhered using spray urethane foam.

Figure 1. Cross-section image of GPR profile F1 of Location #1 at the entry to the dome apex. The profile shows the embedded rebar in both directions (left half and right half of profile). Each white arch is a rebar segment (red dot). The backwall reflection of the dome is shown (red line). The embedded rebar are clearly shown and appear healthy. No evidence of corrosion to the rebar is evident; no delamination or voids in the concrete are indicated.

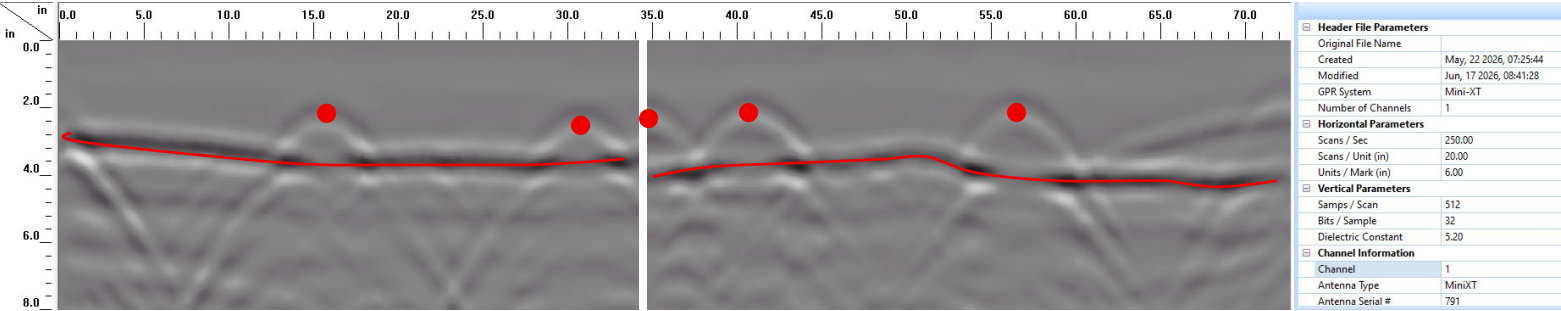


Figure 2. Cross-section image of GPR profile F2 of Location #2, the second clockwise from the entry. The embedded rebar are clearly shown and appear healthy. No evidence of corrosion to the rebar is evident; no delamination or voids in the concrete are indicated.

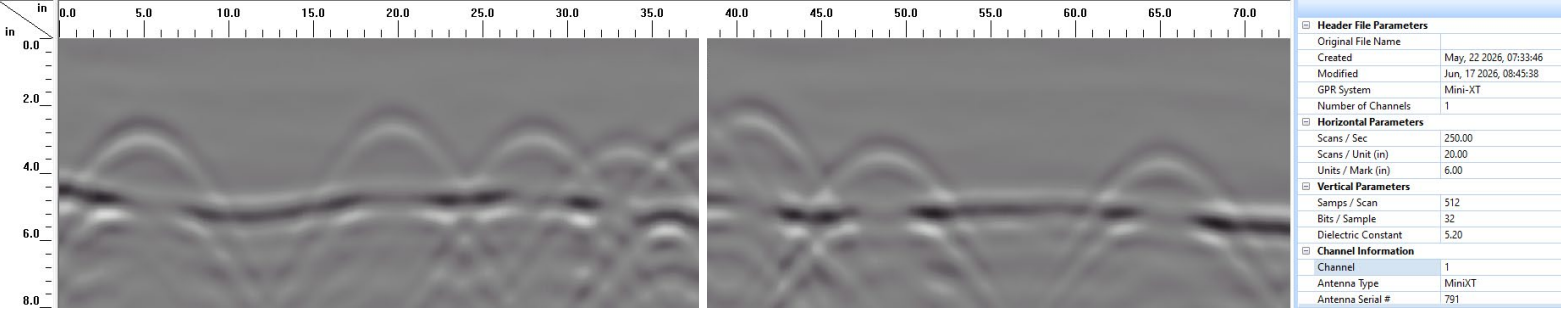


Figure 3. Cross-section image of GPR profile F3 of Location #3, the third clockwise from the entry. The embedded rebar are clearly shown and appear healthy. No evidence of corrosion to the rebar is evident; no delamination or voids in the concrete are indicated.

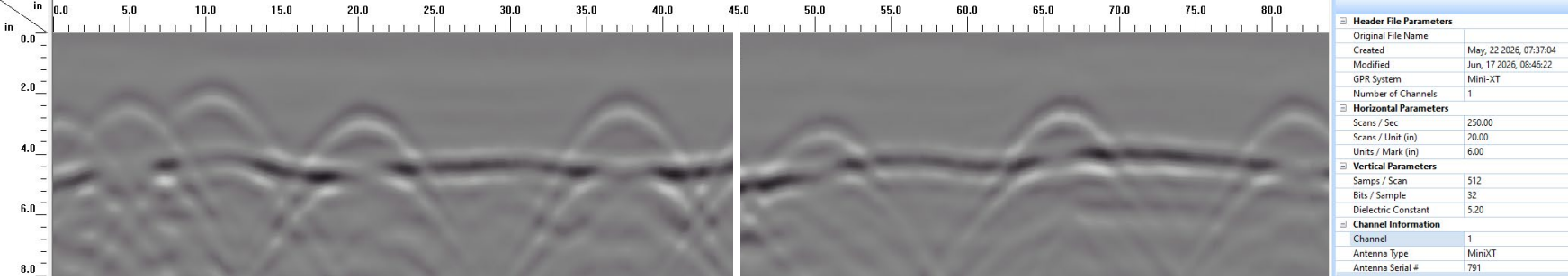


Figure 4. Cross-section image of GPR profile F4 of Location #4, the fourth clockwise from the entry. The embedded rebar are clearly shown and appear healthy. No evidence of corrosion to the rebar is evident; no delamination or voids in the concrete are indicated.

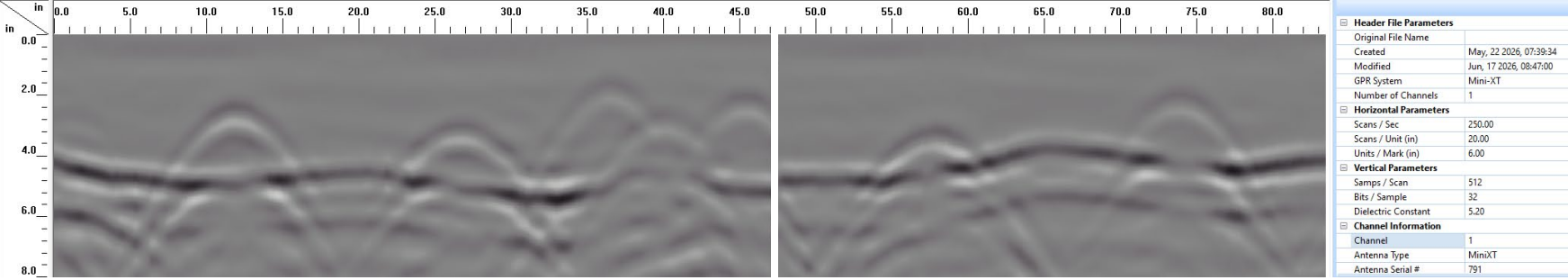


Figure 5. Cross-section image of GPR profile F5 of Location #5, the fifth clockwise from the entry. The embedded rebar are clearly shown and appear healthy. No evidence of corrosion to the rebar is evident; no delamination or voids in the concrete are indicated.

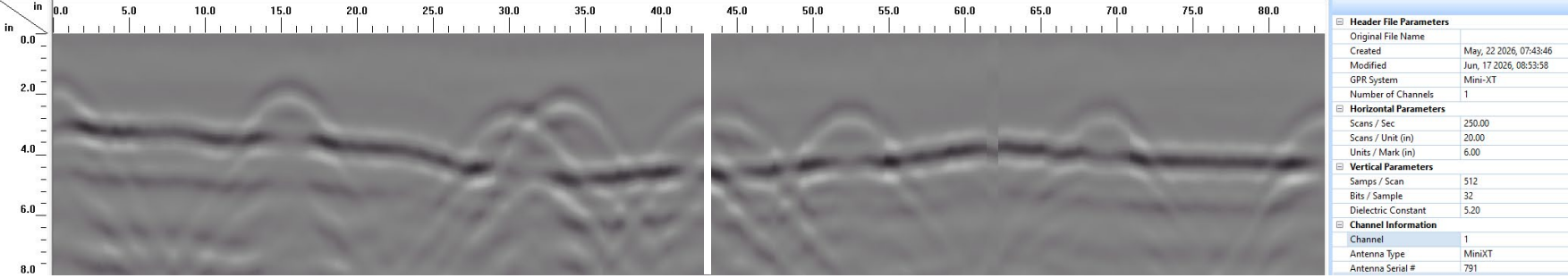


Figure 6. Cross-section image of GPR profile F6 of Location #6, the sixth clockwise from the entry. The embedded rebar are clearly shown and appear healthy. No evidence of corrosion to the rebar is evident; no delamination or voids in the concrete are indicated.

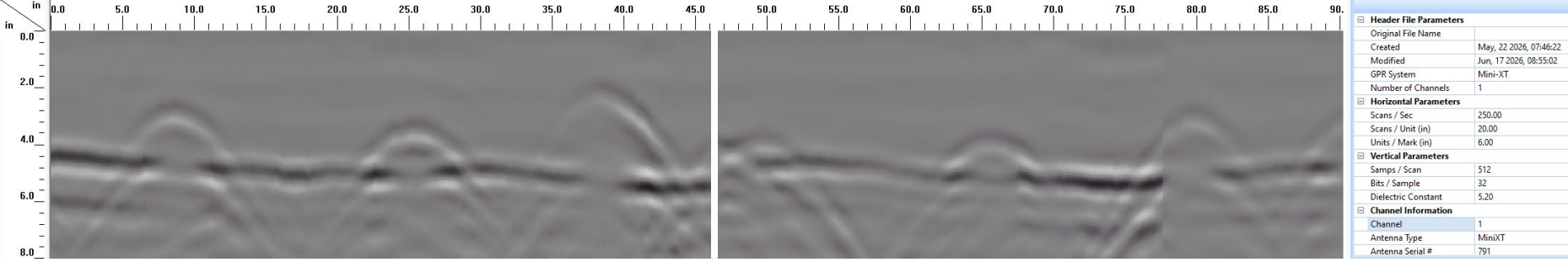


Figure 7. Cross-section image of GPR profile F7 of Location #7, the seventh clockwise from the entry. The embedded rebar are clearly shown and appear healthy. No evidence of corrosion to the rebar is evident; no delamination or voids in the concrete are indicated.

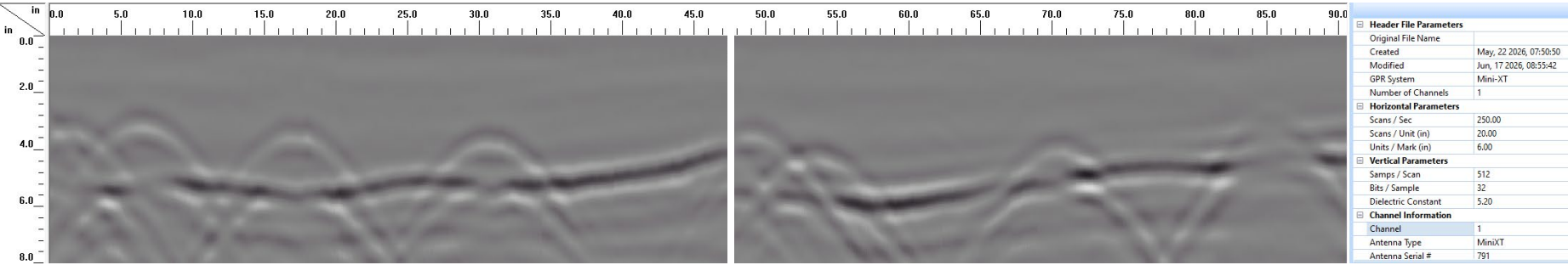
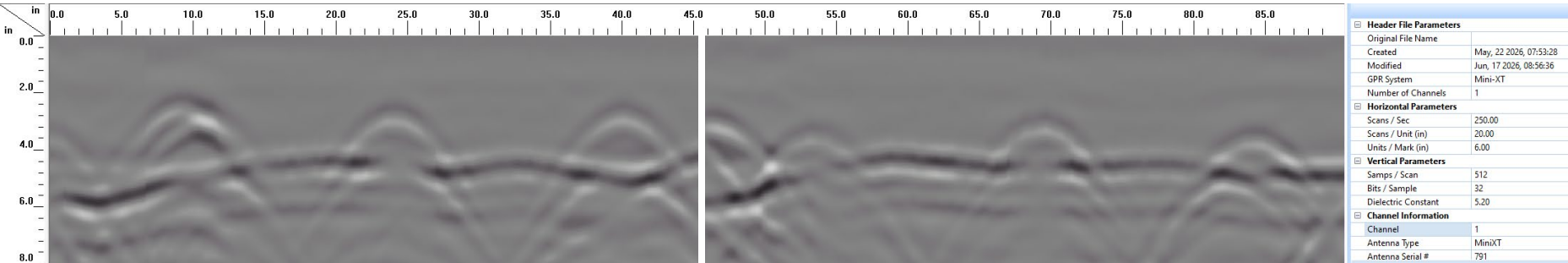


Figure 8. Cross-section image of GPR profile F8 of Location #8, the eighth clockwise from the entry. The embedded rebar are clearly shown and appear healthy. No evidence of corrosion to the rebar is evident; no delamination or voids in the concrete are indicated.





Engineering
Opportunities

412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985

SECTION #2

Geotechnical Observations & Assessment

by

Atlas Technical Consultants, LLC



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



Emmett High School – Facility Condition Assessment

Geotechnical Observations & Assessment

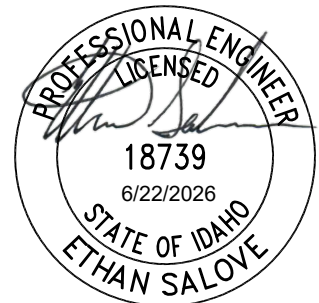
721 W 12th Street, Emmett, ID 83617



KPFF Job No. 1021260001

Atlas Job No. 23694

April 20, 2026



EXECUTIVE SUMMARY

Atlas Technical Consultants, LLC performed a limited geotechnical exploration and forensic evaluation of the Emmett High School dome structures to assess the cause of observed wall cracking and door misalignment. The investigation included test pit explorations, laboratory testing, and review of prior data, identifying subsurface conditions consisting primarily of fill soils underlain by poorly graded gravel, with shallow groundwater encountered near foundation levels. Foundations were observed to bear on gravel fill materials but exhibited variability in width and construction, which may have contributed to differential settlement of the structure. Based on the findings, it is probable that the structure has experienced some settlement. Potential contributing factors include inadequate site drainage allowing water infiltration near foundations, relatively high design bearing assumptions, and inconsistent foundation geometry.

Atlas recommends monitoring the structure using surveying methods and installed crack gauges, improving site drainage around the domes, and considering additional subsurface exploration to better evaluate existing soil conditions and long-term performance.

1 PURPOSE AND SCOPE OF WORK

1.1 PROJECT DESCRIPTION

Atlas has conducted a limited soils exploration and forensic investigation to assess the possible cause(s) of wall cracking noticed throughout the Emmett High School dome structures. The forensic investigation was completed in general accordance with our proposal dated March 31, 2026 and authorized on April 9, 2026 by KPFF.

Atlas' scope of services included the following:

- Subsurface exploration via test pits.
- Field and laboratory testing of materials encountered and collected.
- A review of previous observations.
- Preparation of this report, which includes project background, findings, conclusions, and our recommendations.

1.2 LABORATORY TESTING PROGRAM

Along with our field investigation, a supplemental laboratory testing program was conducted to determine additional pertinent engineering characteristics of subsurface materials. Laboratory tests were conducted in accordance with current specifications. The laboratory testing program for this report included:

- Atterberg Limits Testing – ASTM D4318
- Grain Size Analysis – ASTM C117/C13

2 SITE AND BUILDING DATA

2.1 LITERATURE REVIEW

Information from previously conducted subsurface geotechnical investigations on the site were used in this report:

- Atlas Technical Consultants, LLC, B251331g, Limited Forensic Investigation, Emmett High School Forensic Investigation, 721 West 12th Street, Emmett, Idaho, October 10, 2025

2.2 GENERAL BACKGROUND INFORMATION

Emmett High School was constructed in 1986 utilizing reinforced concrete dome structures. There are five dome structures in total, however, Atlas only investigated the two largest, primary domes. The northern primary dome consists of a central atrium surrounded by three-stories of classrooms. The southern primary dome consists of a central gymnasium with surrounding classrooms.

Atlas was informed by school district personnel that the site originally had been over-excavated, removing softer surficial soils and replaced with a gravelly pit run structural fill material. However, the total amount of over-excavation and fill material is unknown.

Atlas was informed that cracks have become visible on the inside of the exterior walls of the dome structures. Along with this, various doors throughout the structures have started catching on their frames, requiring the corners to be sanded to allow them to close properly.

Atlas was also provided with some of the original construction plans for the structure dated July 17, 1986 for review. These plans consisted of drawings for the interior structural elements and did not include foundation/structural plans for the dome structure itself. It was noted on Sheet S-1 of the plans that an allowable soil bearing capacity of 3,500 pounds per square foot (psf) was used in design, per a recommendation from Western Testing Labs. However, the original geotechnical report that provided these recommendations was unable to be reviewed.

2.3 HISTORICAL AERIAL IMAGERY

Atlas reviewed historical aerial imagery of the site. The area appears to have originally consisted of farmland. The site remained farmland until the late 1980's when the school was constructed. To the south of the school approximately 280 feet, a canal travels through the school property. This canal was piped and covered in the winter of 2013/14.

3 DOCUMENTATION OF EXISTING CONDITIONS

3.1 SOIL EXPLORATIONS

Atlas previously performed a forensic geotechnical investigation on September 12, 2025 (*Atlas B251331g*). Two test pits were advanced in the lawn adjacent to the base of the dome structures, one on the northern side and one on the southern side of the site. Atlas attempted to uncover the foundations within the test pits but decided to terminate the excavation to limit undermining the structure. In general, surficial clayey sand fill was underlain by poorly graded gravel with silt and sand fill, with groundwater at about 6 feet. A thin zone of clayey gravel fill was present in test pit 1, while lean clay was present on the southern side of test pit 2. These finer soils sloped downward toward the dome structure.

Atlas performed an additional investigation on April 17, 2026 within two test pits advanced adjacent to the primary dome structures. Subsurface materials have been described in detail on logs provided in the **Appendix**. Foundations were located and uncovered during this investigation. Foundations exhibited the following:

- Test Pit 1 (South Dome Structure):
 - Top of footing: 1.6 feet below ground surface (bgs).
 - Bottom of footing: 2.6 feet bgs.
 - Footing extends 6 inches laterally from stem wall.
 - Foundation concrete most likely placed using earth-form technique.
- Test Pit 2 (North Dome Structure):
 - Top of footing: 1.5 feet bgs.
 - Bottom of footing: 2.5 feet bgs.
 - Footing extends 17 inches laterally from stem wall.
 - Foundation concrete most likely placed using earth-form technique.

Soils encountered consisted of sandy lean clay fill and silty sand fill materials encountered at the ground surface followed by poorly graded gravel with sand fill materials. Foundations were noted to be bearing on the gravel materials. Within test pit 2, adjacent to the northern structure, groundwater was encountered at 2.7 feet bgs (approximately 2.5 inches below the bottom of foundation). Excavations were limited in depth as to not undermine the foundations.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

Atlas has reviewed the information provided to us and the results of the field and laboratory testing from both investigations. It is probable that settlement of the structure has occurred in the past. However, it is indeterminate if settlement of the dome structures is ongoing. Typical industry standard settlement for present day structures is 1 inch of total settlement and ½ inch of differential settlement.

As mentioned within the previous report, it appears that inadequate grading away from the base of the dome structures is present. IBC requirements are for 5% slope away for foundations for a distance of at least 10 feet. Inadequate grading would cause stormwater coming off the dome structures to infiltrate into the subsurface soils directly adjacent to the foundation. This, along with the relatively high soil bearing capacity of 3,500 psf provided in the plans (relative to the subsurface bearing soils), may have caused additional settlement of the structure (more than designed).

Additionally, soils encountered during the previous investigation suggest that fill gravels placed during construction may have blended with native soils. Reviewing the structural plans provided, Atlas was unable to determine any requirements of how the fill materials were placed. As mentioned above, a soil bearing capacity of 3,500 psf was used in design. Based off the current 2018 IBC presumptive bearing values (Table 1806.2), a native gravel sediment can use an assumed value of 3,000 psf. However, greater bearing capacity values can be used if recommended by the geotechnical engineer. At this time, Atlas is unaware of the extent of the gravel fill material.

During this investigation, foundations were noted to vary from each other in width and appeared to be earth formed based on their rough and rounded appearance along the bottom of the footing. A variable foundation width could contribute to unequal settlement of the structure.

4.2 RECOMMENDATIONS

Atlas recommends that the structure be monitored for additional movement. Atlas recommends that survey monitors be placed along the exterior of the building to verify if ongoing settlement of the structure is occurring. Additionally, Atlas recommends that the previously installed crack monitors be monitored to verify if movement of the structure is still occurring. It is recommended that the settlement monitors and crack monitors be monitored on a monthly basis and after abnormal weather events.

To fully understand the existing conditions and compaction levels of the in-situ soils, a deeper investigation may be performed. This investigation would consist of deeper borings. Deeper borings would provide a detailed understanding of the subsurface soils including depth and compaction of existing fill materials and condition of native soils below fill materials. At this stage the investigation is not necessary, but if future observations of crack gauges and/or survey observations show increased settlement it may be warranted. Additionally, if the dome roof surface is re-constructed increasing structural loads, further investigation may be warranted. This investigation would include trying to identify foundation true sizes throughout the site and determining true allowable bearing pressures.

Atlas would also recommend improvements to the drainage away from the base of the dome. Re-grading or constructing hardscaping surrounding the base of the domes to direct runoff away from foundation elements could aid in reducing settlement/movement of the structure.

APPENDIX 1 – WARRANTY AND LIMITING CONDITIONS

Atlas warrants that findings and conclusions contained herein have been formulated in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology only for the site and project described in this report. These engineering methods have been developed to provide the client with information regarding apparent or potential engineering conditions relating to the site within the scope cited above and are necessarily limited to conditions observed at the time of the site visit and research. Field observations and research reported herein are considered sufficient in detail and scope to form a reasonable basis for the purposes cited above.

Exclusive Use

This report was prepared for exclusive use of the property owner(s), at the time of the report, and their retained design consultants (“Client”). Conclusions and recommendations presented in this report are based on the agreed-upon scope of work outlined in this report together with the Contract for Professional Services between the Client and Atlas (“Consultant”). Use or misuse of this report, or reliance upon findings hereof, by parties other than the Client is at their own risk. Neither Client nor Consultant make representation of warranty to such other parties as to accuracy or completeness of this report or suitability of its use by such other parties for purposes whatsoever, known or unknown, to Client or Consultant. Neither Client nor Consultant shall have liability to indemnify or hold harmless third parties for losses incurred by actual or purported use or misuse of this report. No other warranties are implied or expressed.

Report Recommendations are Limited and Subject to Misinterpretation

There is a distinct possibility that conditions may exist that could not be identified within the scope of the investigation or that were not apparent during our site investigation. Findings of this report are limited to data collected from noted explorations advanced and do not account for unidentified fill zones, unsuitable soil types or conditions, and variability in soil moisture and groundwater conditions. To avoid possible misinterpretations of findings, conclusions, and implications of this report, Atlas should be retained to explain the report contents to other design professionals as well as construction professionals.

Since actual subsurface conditions on the site can only be verified by earthwork, note that construction recommendations are based on general assumptions from selective observations and selective field exploratory sampling. Upon commencement of construction, such conditions may be identified that require corrective actions, and these required corrective actions may impact the project budget. Therefore, construction recommendations in this report should be considered preliminary, and Atlas should be retained to observe actual subsurface conditions during earthwork construction activities to provide additional construction recommendations as needed.

Since geotechnical reports are subject to misinterpretation, **do not** separate the soil logs from the report. Rather, provide a copy of, or authorize for their use, the complete report to other design professionals or contractors. Locations of exploratory sites referenced within this report should be considered approximate locations only. For more accurate locations, services of a professional land surveyor are recommended.

This report is also limited to information available at the time it was prepared. In the event additional information is provided to Atlas following publication of our report, it will be forwarded to the client for evaluation in the form received.

Environmental Concerns

Comments in this report concerning either onsite conditions or observations, including soil appearances and odors, are provided as general information. These comments are not intended to describe, quantify, or evaluate environmental concerns or situations. Since personnel, skills, procedures, standards, and equipment differ, a geotechnical investigation report is not intended to substitute for a geoenvironmental investigation or a Phase II/III Environmental Site Assessment. If environmental services are needed, Atlas can provide, via a separate contract, those personnel who are trained to investigate and delineate soil and water contamination.



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



APPENDIX 2 – VICINITY MAP

Vicinity Map

Figure 1



MAP NOTES:

- Not to Scale

LEGEND

Approximate Site Location



Site Location

Emmett HS Forensic Investigation

721 West 12th Street
Emmett, ID

Drawn by: EJS
April 27, 2026
Drawing: 23694



2791 S. Victory View Way
Boise, ID 83709

Phone: (208) 376-4748
Fax: (208) 322-6515
Web: oneatlas.com



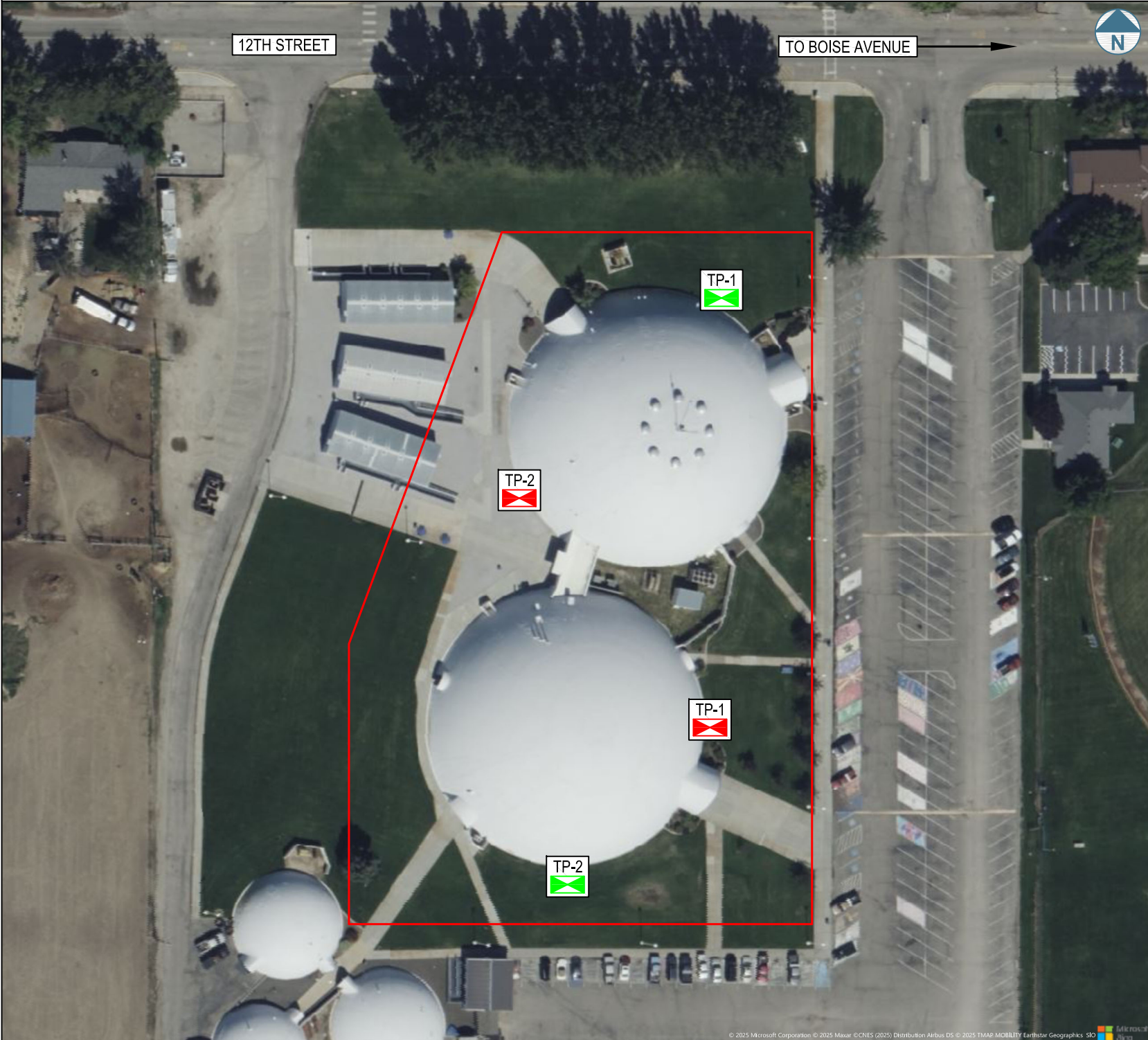
412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



APPENDIX 3 – SITE MAP

Site Map

Figure 2



NOTES:

- Not to Scale

LEGEND

- Approximate Site Boundary
- Approximate Atlas Test Pit Location (9/12/25)
- Approximate Atlas Test Pit Location (4/17/26)

Emmett HS Forensic Investigation

721 West 12th Street
Emmett, ID

Drawn by: EJS
April 27, 2026
Drawing: 23694



2791 S. Victory View Way Phone: (208) 376-4748
Boise, ID 83709 Fax: (208) 322-6515
Web: oneatlas.com



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com

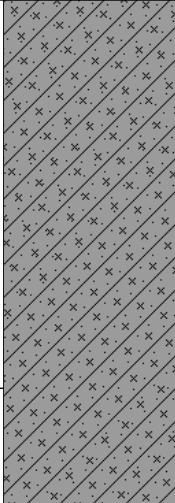
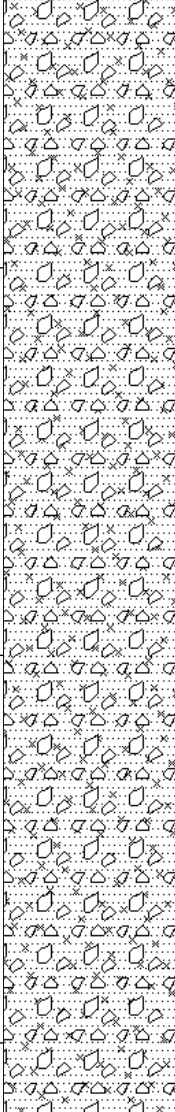


APPENDIX 4 – GEOTECHNICAL INVESTIGATION TEST PIT LOG

CLIENT: KPFF Consulting Engineers
PROJECT: Emmett High School Forensic Investigation
PROJECT NO: 23694
LOCATION: 721 W 12th St, Emmett, ID 83617, USA
OFFICE: 2791 S. Victory View Way Boise, ID 83709

LATITUDE: 43.86352
LONGITUDE: -116.50852
SURFACE ELEVATION: 2363.19(Ft)
HOLE DEPTH: 4.2Ft
GROUNDWATER LEVEL: Not Encountered Ft

SHEET: 1 OF 1
DRILLING COMPANY: Turn of the Century Homes
EQUIPMENT: Excavators
LOGGED: Ethan Salove, PE DATE: 04/17/2026
CHECKED: Clinton Wyllie, PG DATE: 05/20/2026

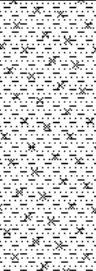
DEPTH (ft)	SOIL TYPE	DESCRIPTION	Pocket Penetrometer (tsf)
1.3		SANDY LEAN CLAY FILL (CL-FILL): Dark brown, slightly moist to moist, medium stiff, with fine to coarse-grained sand, --Irrigation line at 1.0 foot bgs.	
		POORLY GRADED GRAVEL WITH SAND FILL (GP-FILL): Brown to grayish brown, slightly moist to moist, dense, with fine to coarse-grained sand, rounded, fine to coarse gravel, and 6-inch minus cobbles --Top of footing at 1.6 feet bgs and bottom of footing at 2.6 feet bgs. --Footing extends 6 inches laterally from stem wall.	

TP-1 Terminated at 4.2 Ft

CLIENT: KPFF Consulting Engineers
PROJECT: Emmett High School Forensic Investigation
PROJECT NO: 23694
LOCATION: 721 W 12th St, Emmett, ID 83617, USA
OFFICE: 2791 S. Victory View Way Boise, ID 83709

LATITUDE: 43.86392
LONGITUDE: -116.50904
SURFACE ELEVATION: 2364.01(Ft)
HOLE DEPTH: 2.9Ft
GROUNDWATER LEVEL: 2.7 Ft

SHEET: 1 OF 1
DRILLING COMPANY: Turn of the Century Homes
EQUIPMENT: Excavators
LOGGED: Ethan Salove, PE
CHECKED: Clinton Wyllie, PG
DATE: 04/17/2026
DATE: 05/20/2026

DEPTH (ft)	Water	SOIL TYPE	DESCRIPTION	Pocket Pentrometer (tsf)	MOISTURE	Sieve Analysis		Atterberg Limits		Samples
						%<No. 4	%<No. 200	Liquid Lim	Plasticity Inc	
1			SILTY SAND FILL (SM-FILL): Light brown, slightly moist to moist, medium dense, with fine to medium-grained sand, --Minor fine gravel at ground surface. --Plastic debris encountered at 0.5 foot bgs.							
			POORLY GRADED GRAVEL WITH SAND FILL (GP-FILL): Brown, slightly moist to saturated, medium dense to dense, with fine to coarse-grained sand, rounded, fine to coarse gravel, and 4-inch minus cobbles --Top of footing at 1.5 feet bgs and bottom of footing at 2.5 feet bgs. --Footing extends 17 inches laterally from stem wall.		17.1	99	48.8	NP	NP	Grab Sample

TP-2 Terminated at 2.9 Ft

APPENDIX 5 – GEOTECHNICAL GENERAL NOTES

Unified Soil Classification System			
Major Divisions		Symbol	Soil Descriptions
Coarse-Grained Soils < 50% passes No.200 sieve	Gravel & Gravelly Soils < 50% coarse	GW	Well-graded gravels; gravel/sand mixtures with little or no fines
		GP	Poorly-graded gravels; gravel/sand mixtures with little or no fines
		GM	Silty gravels; poorly-graded gravel/sand/silt mixtures
		GC	Clayey gravels; poorly-graded gravel/sand/clay mixtures
	Sand & Sandy Soils > 50% coarse fraction	SW	Well-graded sands; gravelly sands with little or no fines
		SP	Poorly-graded sands; gravelly sands with little or no fines
		SM	Silty sands; poorly-graded sand/gravel/silt mixtures
		SC	Clayey sands; poorly-graded sand/gravel/clay mixtures
Fine-Grained Soils > 50% passes No.200 sieve	Silts & Clays LL < 50	ML	Inorganic silts; sandy, gravelly or clayey silts
		CL	Lean clays; inorganic, gravelly, sandy, or silty, low to medium-plasticity clays
		OL	Organic, low-plasticity clays and silts
	Silts & Clays LL > 50	MH	Inorganic, elastic silts; sandy, gravelly or clayey elastic silts
		CH	Fat clays; high-plasticity, inorganic clays
		OH	Organic, medium to high-plasticity clays and silts
		Highly Organic Soils	

Relative Density and Consistency Classification	
Coarse-Grained Soils	SPT Blow Counts (N)
Very Loose:	< 4
Loose:	4-10
Medium Dense:	10-30
Dense:	30-50
Very Dense:	> 50
Fine-Grained Soils	SPT Blow Counts (N)
Very Soft:	< 2
Soft:	2-4
Medium Stiff:	4-8
Stiff:	8-15
Very Stiff:	15-30
Hard:	> 30

Moisture Content and Cementation Classification	
Description	Field Test
Dry	Absence of moisture, dry to touch
Slightly Moist	Damp, but no visible moisture
Moist	Visible moisture
Wet	Visible free water
Saturated	Soil is usually below water table
Description	Field Test
Weak	Crumbles or breaks with handling or slight finger pressure
Moderate	Crumbles or breaks with considerable finger pressure
Strong	Will not crumble or break with finger pressure

Particle Size	
Boulders:	> 12 in.
Cobbles:	12 to 3 in.
Gravel:	3 in. to 5 mm
Coarse-Grained Sand:	5 to 0.6 mm
Medium-Grained Sand:	0.6 to 0.2 mm
Fine-Grained Sand:	0.2 to 0.075 mm
Silts:	0.075 to 0.005 mm
Clays:	< 0.005 mm

Acronym List	
GS	grab sample
LL	Liquid Limit
M	moisture content
NP	non-plastic
PI	Plasticity Index
Q _p	penetrometer value, unconfined compressive strength, tsf
V	vane value, ultimate shearing strength, tsf



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



APPENDIX 6 – IMPORTANT INFORMATION ABOUT THIS GEOTECHNICAL ENGINEERING REPORT

Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer

will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.*

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the “Findings” Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site’s subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual site-wide subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report’s Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals’ misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals’ plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note*

conspicuously that you’ve included the material for information purposes only. To avoid misunderstanding, you may also want to note that “informational purposes” means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled “limitations,” many of these provisions indicate where geotechnical engineers’ responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a “phase-one” or “phase-two” environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer’s services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer’s recommendations will not of itself be sufficient to prevent moisture infiltration.* Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. *Geotechnical engineers are not building-envelope or mold specialists.*



GEOPROFESSIONAL
BUSINESS
ASSOCIATION

Telephone: 301/565-2733

e-mail: info@geoprofessional.org www.geoprofessional.org



Engineering
Opportunities

412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985

SECTION #3

Architectural Observations & Assessment

by

Hummel Architects

Emmett High School – Facility Condition Assessment

Architectural Observations & Assessment

721 W 12th Street, Emmett, ID 83617



KPFF Job No. 1021260001

H U M M E L
ARCHITECTS

Hummel No. 26018

May 29, 2026

EXECUTIVE SUMMARY

Emmett School District commissioned the Project Team to evaluate the existing Emmett High School, a unique campus composed of two three-story concrete domes and three smaller domes constructed in 1987. The Architectural assessment focused on three primary areas: Educational Suitability, Life Safety & Security, and Accessibility. The review included analysis of the original construction documents, comparison to modern educational facility standards, and an on-site investigation conducted on April 16, 2026.

Educational Suitability

The school contains 31 classrooms across general education, specialty labs, and CTE programs. While classroom counts align with modern expectations, the dome-based design creates significant functional challenges. Pie-shaped rooms result in uneven sightlines, reduced usable floor area, and instructional limitations. Science labs, kitchen facilities, and the media center are undersized compared to contemporary standards. Technology infrastructure—power, data, and Wi-Fi—is limited and inconsistent. Natural light is minimal due to the dome structure, and interior finishes show age-related wear typical of a 40-year-old facility.

Life Safety & Security

The facility generally meets exiting distance and stair capacity requirements under the 2018 International Building Code. However, the central atrium lacks a required smoke control system and rated separation, which would be mandatory if major renovations occur. Fire sprinklers cover the main domes but not the smaller domes, which is permissible under current code. Vestibules throughout the building are not functioning as intended due to held-open doors, reducing thermal and smoke-control effectiveness. The school lacks a true security vestibule, allowing visitors to bypass administrative oversight and access upper floors.

Accessibility

Because the school predates the Americans with Disabilities Act (1991), numerous accessibility deficiencies exist. Many doors lack required clearances, and the curved dome walls create extensive areas with insufficient headroom. The restrooms do not contain fully compliant accessible stalls, and handrails throughout the building are often below required height or lack proper extensions. Any future renovations will require updated compliance with current ADA standards.

Overall Findings

Emmett High School remains well-maintained for its age, but its dome-based design presents significant limitations in educational functionality, accessibility, and modernization potential. Many building systems and finishes are at or near end-of-life. Addressing these issues, particularly life safety upgrades, ADA compliance, and modernization of learning environments, will require substantial investment and careful planning. Given the structural uniqueness and inherent limitations of the dome design, the district should evaluate whether continued investment in the existing facility is cost-effective. A long-term plan should compare the cost of major renovations—including life safety, ADA, and educational upgrades—against the cost of constructing a new, modern high school.

TABLE OF CONTENTS

1. PURPOSE AND SCOPE OF WORK
2. SITE AND BUILDING DATA
 - 2.1. DOCUMENT REVIEW
3. DOCUMENTATION OF EXISTING CONDITIONS
 - 3.1. SITE INVESTIGATION
 - 3.2. EXISTING SITE OBSERVATIONS
 - 3.2.1. EDUCATION SUITABILITY
 - 3.2.1.1. CLASSROOMS AND SIZING
 - 3.2.1.2. CLASSROOM LAYOUT
 - 3.2.1.3. POWER AND DATA
 - 3.2.1.4. WIFI
 - 3.2.1.5. TEACHING WALL
 - 3.2.1.6. NATURAL LIGHT
 - 3.2.1.7. AESTHETICS/FACILITY UPKEEP
 - 3.2.2. LIFE SAFETY & CODE
 - 3.2.2.1. ATRIUM
 - 3.2.2.2. STAIRS
 - 3.2.2.3. DOORS
 - 3.2.2.4. FIRE SPRINKLERS
 - 3.2.2.5. VESTIBULES
 - 3.2.2.6. SECURITY VESTIBULE
 - 3.2.2.7. SECURITY / BUILDING ACCESS
 - 3.2.3. ACCESSIBILITY
 - 3.2.3.1. DOOR CLEARANCES
 - 3.2.3.2. HEADROOM CLEARANCE
 - 3.2.3.3. TOILET STALLS
 - 3.2.3.4. SUPPORT & SINGLE USER RESTROOMS
 - 3.2.3.5. ENTRY VESTIBULES
 - 3.2.3.6. FINISH UPDATES
 - 3.2.3.7. HANDRAILS
 - 3.2.3.8. ELEVATOR
4. CONCLUSIONS AND RECOMMENDATIONS

1 PURPOSE AND SCOPE OF WORK

Emmett School District has requested an assessment of their existing high school. The existing high school is a series of unique concrete dome structures consisting of (2) three-story domes and (3) smaller domes. Hummel Architects evaluated the high school in three specific areas. We looked at the Education Suitability of the existing school, the Life Safety Egress System and the building's general Accessibility.

2 SITE AND BUILDING DATA

2.1 DOCUMENT REVIEW

The existing high school was built as a replacement to a 1950's era school located adjacent to downtown (what is now Emmett Middle School). The new school was located towards the edge of town on an approximately 22-acre site. The design of the new school began in 1986 with construction starting the following year. The school opened in 1987 and had it's first graduating class in 1988. The school design consisted of five self-supporting concrete domes. The domes provided a large volume of space for classrooms, gathering space and was uniquely suited for large open spaces like the gym. The domes were intended to be low-maintenance and lower energy use buildings for the life span of the buildings.

The Project Team was provided with scans of the original 1986 construction drawings. The original building was designed by Sundberg & Associates Inc. The engineers were L.H. Ballif & Associates Inc. (Structural), Heath Engineering Co. (Mechanical) and Bradley Engineering Cht. (Electrical). The drawings contained the relevant information regarding floor plans, building sections, elevations and enlarged details. We utilized the drawings to gain an initial understanding of school. This helped us understand the overall building layouts, initial life safety and security review, and initial accessibility review.

3 DOCUMENTATION OF EXISTING CONDITIONS

3.1 SITE INVESTIGATION

In order to better understand the facility, the Project Team visited the existing school on April 16, 2026. The Project Team participated in a 4 hour walk around the (2) main school domes as well as the (3) smaller auxiliary domes. We were joined by District Administrators, School Leadership and Facility Personnel during the tour. We reviewed all of the major spaces within the domes as well as the typical classrooms types.

The overall goal of the walk was to gather a photographic record of existing conditions and to get familiar with the existing structures. Hummel's team reviewed the onsite conditions in

regard to the overall study and looked at Educational Suitability, Life Safety/Security, and general Accessibility conditions onsite.

3.2 EXISTING SITE OBSERVATIONS

3.2.1 EDUCATIONAL SUITABILITY

The existing high school was reviewed against modern standards for new high schools. This metric was used to set a benchmark for where Emmett High School compares against a newer built facility. These standards are not meant to paint Emmett High School in a negative light, but rather to show how far schools have evolved since the school was built in 1986. These benchmarks are based on Hummel's experience in school design and represent what has been completed regionally.

3.2.1.1 CLASSROOMS AND SIZING

The existing school has 37 classrooms, with a majority of the classrooms located in the Classroom Dome. There are also classrooms located in the Gym Dome as well as the smaller domes. The classrooms are split between general and specialty classrooms. The general classrooms are utilized for classes like Math, Social Studies, History, Language and Speech. The specialty classrooms would be for Lab specific areas (Biology, Chemistry), Family and Consumer Sciences, Music, Business/Computers. There are also several Career Technical Education (CTE) classrooms for Vo-Ag and Autos. A newer school with similar enrollment would have approximately 35-45 classrooms. This school would contain a similar breakdown of classroom types but provide additional classrooms that allow for growth or transition between subjects. It would also have additional specialty classrooms with additional labs, music or choir room, dedicated Physical Education Classrooms and expanded CTE classrooms.

Classrooms			
General Classrooms		Specialty Classrooms	
Type	# of Spaces	Type	# of Spaces
Business	2	Food & Consumer Science	1
General	14	Art	1
Vo-Ag	1	Physics/Chemistry	2
Auto	1	Biology Lab	1
		Theatre/Music	1
		Vo-Ag Lab	1
		Auto Shop	1
Subtotals	23		14
Total # of Classrooms	37		

Typical Classroom Sizing

In review of the classroom sizing at Emmett High School, it was found that the average classroom size was approximately 880 sqft. The classrooms ranged in size from 825 sqft up to 925 sqft. The usable sqft of the room is also reduced by the curvature of the dome, removing anywhere from 3' up to 6' off the perimeter wall. Classrooms in newer facilities are typically

anywhere between 875-950 sqft in size. They also would be a traditional rectangular shape for better utilization of the space and student site lines. The classrooms in the current facility are close to size with modern standards with the Level 2 classrooms being slightly below average in size.

General Classroom Sizes					
Level 01			Level 02		
Room #	Name	SQFT	Room #	Name	SQFT
C136	Business Classroom	809.75	C214	Classroom	906
C137	Business Classroom	819	C215	Classroom	923
C138	Classroom	1,027.75	C216	Classroom	927.5
C146	Classroom	1,101.75	C220	Classroom	917.5
C147	Classroom	840.5	C221	Classroom	923.75
C150	Classroom	856.5	C222	Classroom	923.25
C151	Classroom	985	C223	Classroom	921.25
			C224	Classroom	926

Level 03			Auxiliary Domes		
Room #	Name	SQFT	Room #	Name	SQFT
C313	Classroom	830	V104	Vo-Ag Classroom	722.5
C314	Classroom	820.75	M108	Auto Classroom	793.75
C319	Classroom	909.5			
C321	Classroom	831.75			
C322	Classroom	826.25			
C323	Classroom	831.25			
C324	Classroom	826.50			

Typical Specialty Science Laboratory Sizing

There are three specialty science labs in the building and average around 1,305 sqft in size. The average prep room size is 140 sqft and the rooms were located directly adjacent to the labs. The labs ranged in size between 1,100 to 1,560 sqft with the Chemistry Lab being the largest. In newer facilities, the Physics labs are typically 1,500 sqft with prep room included in the space. These rooms also contain both the lab area as well as a classroom portion. A Biology or Chemistry Lab are typically 2,050 with an attached prep room and integrated classroom space. The labs in the building are undersized in comparison to newer facilities. They contain dated lab stations that are showing the wear/tear of use.

Specialty Classroom Sizes		
Room #	Name	SQFT
C141	Food & Consumer Science	1,587.5
C145	Art Lab	1,267
C217	Lab	1,105
C315	Physics/Chemistry Lab	1,565
C317	Biology Lab	1,248.5
A138	Theatre/Music	2,660.5
V105	Vo-Ag Lab	1,693.5
M102	Auto Shop	2,566

Kitchen Sizing

The kitchen for the school is located on the first floor and is adjacent to the Atrium. It contains the main kitchen, washing area, fridge/freezer, staff office and dry storage. The school provides breakfast and lunch to students every day. The kitchen is approximately 1,337 sqft and includes the spaces listed above. New facilities typically range in size between 1,500 – 2,250 sqft. These kitchens are typically sized by the number of students they serve and are given a 2-3 sqft value. The existing kitchen is close to the lower end of the kitchen range. The space has been maximized to provide the most amount of meals in a smaller space.

Kitchen Size		
Room #	Name	SQFT
C124	Kitchen	600.25
C125	Office	63.5
C126	Restroom	22.775
C127	Janitor	37
C128	Wash	247.75
C129	Storage	213.5
-	Refrigerator	76
-	Freezer	76
TOTAL		1,336.75

- 1) Observation: The kitchen is smaller than typical spaces but well utilized



FIGURE 1: MAIN PREPARATION

- 2) Observation: Serving area appears to be undersized for the amount of students served daily



FIGURE 2: SERVING AREA

- 3) Observation: Dishwashing space lacks immediate drying area for clean dishes



FIGURE 3: DISHWASHING STATIONS

- 4) Observation: Dry storage space is undersized for amount of students served



FIGURE 4: DRY STORAGE

Media Center Sizing

The media center is located on Level 2 and is one of the few spaces to extend out to the edge of the Atrium. It contains book stacks, open seating/study areas, teacher work rooms, AV storage and a conference room. The library appears to be undergoing the same transition occurring to libraries in schools across the state. This is where the library is less about books and more about a place to socialize and study. There was a limited amount of book stacks in the facility during the tour. The Media Center was approximately 3,000 sqft in total size. A Media Center in a new facility would typically be about 3,500 sqft. This places the EHS Media Center slightly below the size of a newer facility. While it may be smaller, this may not be an issue moving into the future as the role of Media Centers is evolving.

Media Center Sizing		
Room #	Name	SQFT
C204	Media Center	2,048.5
C205	Hall	128
C206	Conference	303
C207	AV Storage	292.5
C208	Work Room	187.5
C209	Office	108
TOTAL		3,067.5

5) Observation: Observed Item**FIGURE 5: LIBRARY OVERVIEW**6) Observation: Observed Item**FIGURE 6: STUDY SPACE**7) Observation: Observed Item**FIGURE 7: LIBRARY WORKROOM**

3.2.1.2 CLASSROOM LAYOUT

The dome provides a unique layout for the classrooms at Emmett High School. The classrooms are placed on a circular layout and radiate out from the central atrium. This creates trapezoid or pie-shaped classrooms a narrow width along the atrium and expands out wider along the perimeter of the building. The teaching wall is located along one of the connecting walls and is partially angled in comparison to the other walls. This creates situations where the site lines of some students may be closer to the teaching wall than others. This can create an uneven learning experience for students. While rare, there is an issued with site lines in the Level 2 Lab that conflict with a column line. The current placement of the desks in Classroom/Lab C-217 places the column between the desks/lab area and the teaching wall. This impedes students' ability to view the board or for teachers to see the full classroom, creating potential safety and learning hazards.

- 8) Observation: Trapezoid or pie-shaped classrooms create awkward layout and site line issues in the classrooms

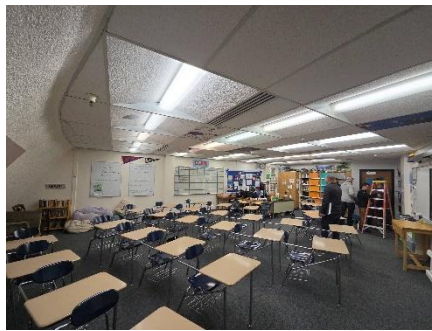


FIGURE 8: TYPICAL CLASSROOM LAYOUT

- 9) Observation: Teaching wall site lines are challenging depending on room layouts



FIGURE 9: TYPICAL TEACHING WALL LAYOUT

10) Observation: Classrooms that shift off the grid end up site line issues



FIGURE 10: LAB LAYOUT

11) Observation: Column obscuring student and teacher site lines



FIGURE 11: COLUMN IN SITE LINES

12) Observation: Classrooms have been laid out to best use the space available

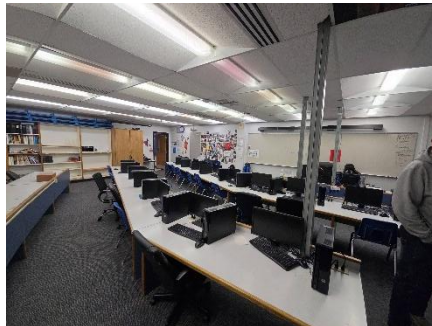


FIGURE 12: BUSINESS ROOM LAYOUT

13) Observation: Dome curvature creates layout issues in all perimeter classrooms



FIGURE 13: TITLE

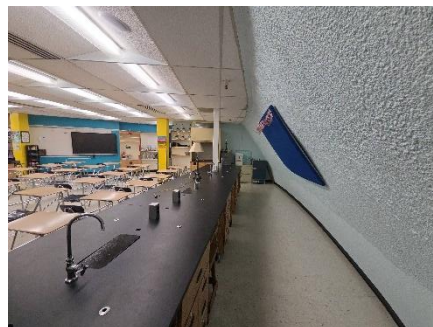


FIGURE 14: TITLE



FIGURE 15: TITLE

3.2.1.3 POWER & DATA

The building appears to be under powered in relation to the amount of outlets per classroom or space. In the classrooms, there are a limited amount of outlets on each walls for teachers to utilize. There are several rooms throughout the Domes where power was added a later date. The exterior walls in the Classroom Dome do not appear to have any outlets in them. This leaves a wall of each classroom without access to power. There appears to be a minimal amount of outlets located on the adjacent walls as well. The lack of access to outlets may provide a challenge for teachers in the modern teaching environment.

The buildings appear to have limited data ports for internet connections. This is likely due to the limited availability of data/internet systems at the time of the buildings construction. The data ports that are seen in select classrooms and spaces were likely added during later remodels or by the Technology team. The lack of access to data may provide a challenge for teachers in the modern teaching environment.

- 14) Observation: There is limited power and data located along the perimeter walls of each classroom



FIGURE 16: TYPICAL CLASSROOM WALL

- 15) Observation: Exterior walls do not contain any power or data due to the dome's construction



FIGURE 17: TYPICAL PERIMETER WALL

- 16) Observation: Several classrooms, primarily in the auxiliary domes, have had power added along the exterior wall and is surface mounted



FIGURE 18: AUXILIARY DOME CLASSROOM

3.2.1.4 WIFI

It is unknown on the full extent of WIFI throughout the school. There are wireless access points (WAP) located in several select spaces in the building, indicating the presence of WIFI. WIFI is becoming increasingly important in the education setting as laptops and tablets have become increasingly more present in high school education.

- 17) Observation: WAP's were limited to a few classroom locations

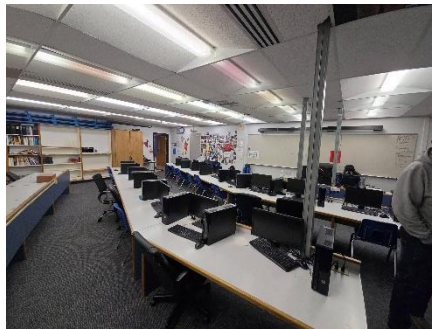


FIGURE 19: BUSINESS CLASS WAP

3.2.1.5 TEACHING WALL

Each classroom contains a teaching wall that is comprised of a TV system. Power is either provided through an adjacent wall outlet in the wall or an outlet installed on the wall surface at a later date. There are also remnants of past teaching systems with old projector screens, lights and the original white boards in each room.

- 18) Observation: Typical teaching stations consisted of an wall mounted monitor



FIGURE 20: TYPICAL TEACHING STATION

- 19) Observation: Teaching stations were paired with a teach workstation and desk



FIGURE 21: TEACHING STATION IN LAB

3.2.1.6 NATURAL LIGHT

The school has limited opportunities for natural light due to the construction of the dome system. There are limited windows at each entrance into the building with glazing located in the doors. The connecting corridor provides the most amount of light through the adjacent glazing. There are no other opportunities for windows due to the construction of the domes. The central atrium in the Classroom Dome contains a “false” skylight, centered in the building. The “skylight” is a series of frost glass panels that are lit from behind with artificial lighting. The “skylight” provides the illusion of lighting without the benefits of natural lighting.

20) Observation: All interior spaces lack access to natural light



FIGURE 22: TYPICAL CLASSROOM

21) Observation: Lack of windows is due to the curvature of the dome and it's construction

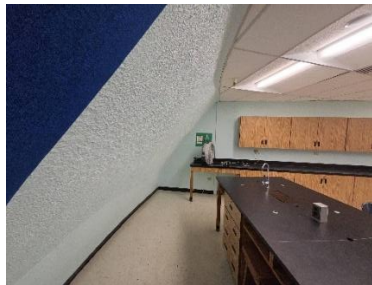


FIGURE 23: DOME CURVATURE

22) Observation: All interior spaces lack access to natural light

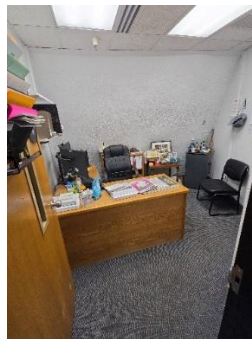


FIGURE 24: TYPICAL WINDOW

- 23) Observation: Staff have hung up drapes/coverings over window to approximate sunlight



FIGURE 25: COVERINGS OVER LIGHTS IN THE LIBRARY

- 24) Observation: Atrium skylight is backlit to provide “daylight” in the space

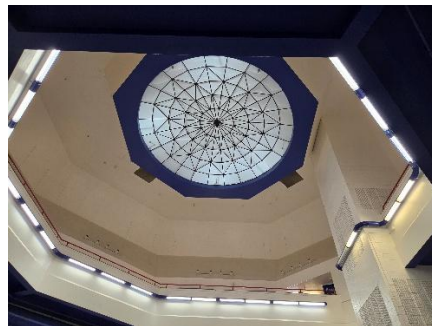


FIGURE 26: ATRIUM SKYLIGHT

- 25) Observation: The most amount of natural daylight occurs in the building lobby’s and connecting corridor

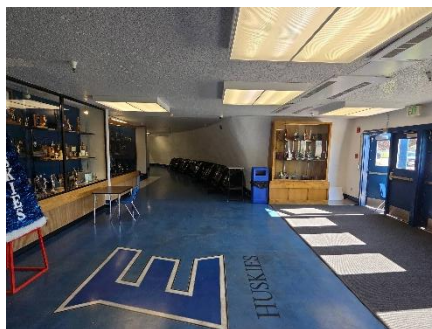


FIGURE 27: TITLE



FIGURE 28: TITLE

3.2.1.7 AESTHETICS/FACILITY UPKEEP

The general condition of the building is in overall decent shape for a school that is reaching half a century in age. The facilities team has done a great job at upkeeping the building. Despite the amount of attention the building as received, a majority of it's finishes have reached the end-of-useful life due to the timeline of being installed and the amount of use and abuse these finished endure in an occupied school facility.

3.2.1.7.1 FLOORING

The flooring throughout the facility is a mix of carpet, VCT, sheet vinyl and expose concrete. The carpet throughout the facility appears to be newer and only showing a minor about of wear. The carpet in the Media Center is the most worn out and appears close to end of use. There are several locations of patching throughout the space where the original carpet was removed and replaced. This occurs throughout the facility indicating that replacement has been ongoing over the years. The building contains VCT throughout most of the corridors, labs and CTE spaces. The VCT throughout the building is showing signs of aging, heavy wear and discoloration throughout the facility. In the main Atrium on level 1, the VCT tile is cracking along the perimeter column line of the Atrium. The cracking may indicate settling or movement in the slab underneath. The VCT in the Atrium appears to be original flooring that was installed during the building's construction. There are a number of areas with sealed or painted concrete throughout the facility. Those floors remain in good condition. The remaining floors throughout the facility consist of rubber flooring at the stairs, limited sheet flooring and resinous flooring in the Kitchen. They all appear to be in good condition.

26) Observation: Walk-off Matt in Vestibules appears in good condition



FIGURE 29: WALK MATT

27) Observation: Overall, the carpet appears in good condition but nearing end of life



FIGURE 30: CLASSROOM CARPET

28) Observation: Carpet in the Library appears to be the oldest and has been patched several times

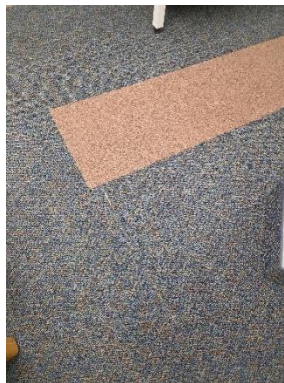


FIGURE 31: LIBRARY CARPET PATCH

29) Observation: There is a mixture of flooring in the corridors between tile and VCT



FIGURE 32: TILE AT DRINKING FOUNTAINS

30) Observation: VCT is cracking in the main atrium along the column line



FIGURE 33: CRACKED VCT AT THE ATRIUM

31) Observation: Sheet Vinyl in the restrooms appears to be in good condition



FIGURE 34: BATHROOM SHEET VINYL

32) Observation: VCT throughout the building is showing its age and is worn with use



FIGURE 35: HALLWAY VCT

33) Observation: Cracked or spreading VCT noted in the corridors



FIGURE 36: GAP IN VCT

34) Observation: VCT is showing age and is worn or faded in the building



FIGURE 37: FACED VCT

3.2.1.7.2 CEILINGS

The ceilings throughout the facility show signs of aging. There appears to be a mix of original and replacement tiles throughout the facility. This creates a visual patch work that can be distracting and take away from the learning environment. There are a number of locations with water staining and rough edges or broken ceilings tile in the classrooms and media center. There are a number of ceiling tiles in the Gym that have been popped/unseated and damaged in different locations. The Corridors ceilings are a drywall ceiling with a popcorn texture. This texture adds a dated appearance to the facility. The ceiling is dirty around HVAC vents as it catches dust and debris that are pushed out the ducts into the spaces.

35) Observation: Multiples tiles unseated or damaged due to gym activities

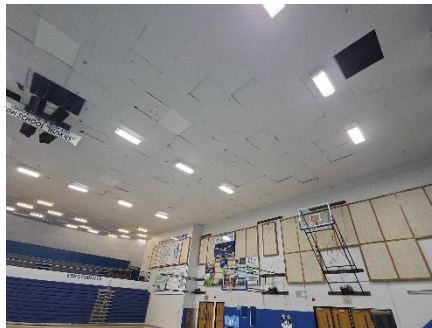


FIGURE 38: GYM CEILING

36) Observation: Individual ceiling tiles have been replaced as needed, creating a hodgepodge network of tiles

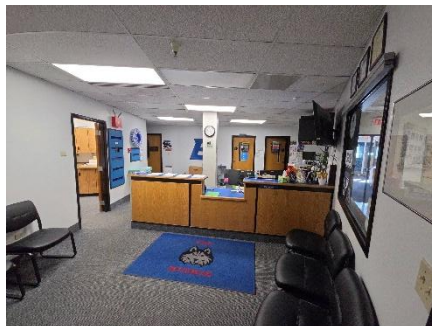


FIGURE 39: ADMIN CEILING

37) Observation: Stained ceilings noticed throughout the building



FIGURE 40: STAINED CEILING TILES IN LAB

38) Observation: Ceiling tiles are showing their age and are collecting dust around diffusers/grilles



FIGURE 41: AGED TILE IN CLASSROOM

39) Observation: Damaged and chipped tiles throughout the facility



FIGURE 42: EXAMPLE OF DAMAGED TILE

3.2.1.7.3 OTHER

The facility has maintained a lot of the original finishes that were installed during the building's construction. These finishes and systems are at, or near, the end of use and will need to be replaced in the near future. These range from damaged toilet partitions to missing or outdated mechanical systems to various holes in walls in the facility. The age of the facility also lends itself to feel dated on the interior. These range from pastel-colored partitions and countertops, VCT flooring, paint schemes as well as aged casework.

40) Observation: Pastel colors used throughout the school, providing a dated look



FIGURE 43: PASTEL PINK TOILET PARTITIONS

41) Observation: Dated colors used in casework and casework showing age

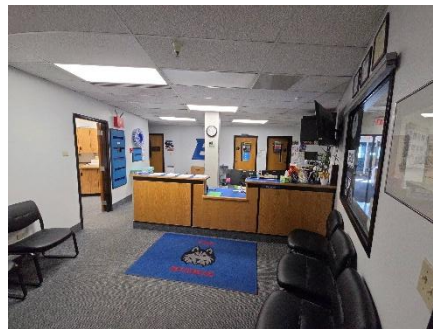


FIGURE 44: RECEPTION DESK

42) Observation: Missing or removed speakers throughout the school



FIGURE 45: REMOVED SPEAKERS

43) Observation: Dented/damaged lockers



FIGURE 46: MEN'S LOCKER ROOM

44) Observation: Missing wall and tile

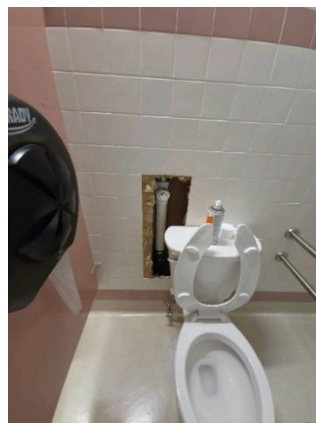


FIGURE 47: STAFF RESTROOM

45) Observation: Mixture of flooring types in the corridors



FIGURE 48: DRINKING FOUNTAIN FLOORING

46) Observation: Damaged and missing toilet partitions around the school



FIGURE 49: DAMAGED TOILET PARTITION

47) Observation: Missing or removed toilet partitions



FIGURE 50: MISSING TOILET PARTITION

48) Observation: Wall protection delaminated off the wall in the locker rooms



FIGURE 51: DAMMAGED WALL PROTECTION

49) Observation: Missing escutcheons at plumbing fixtures



FIGURE 52: MISSING ESCUTCHEONS

50) Observation: Incomplete toilet enclosures due to dome curvature



FIGURE 53: MISSING STAFF PARTITION

51) Observation: Damaged drinking fountains in several locations



FIGURE 54: DAMAGED DRINKING FOUNTAINS

52) Observation: Dated flooring throughout the facility



FIGURE 55: ATRIUM FLOORING

53) Observation: Damaged lockers around the corridors



FIGURE 56: DAMAGED LOCKER

54) Observation: Bathroom countertops showing wear and tear



FIGURE 57: WORN BATHROOM COUNTERTOPS

3.2.2 LIFE SAFETY / SECURITY:

The Life Safety Review of the High School utilizes/references the current adopted 2018 International Building Code (IBC) as required by the State of Idaho for education facilities. Partial renovations may be able to utilize the International Existing Building Code (IEBC). The building is of Type II Construction due to the exterior consisting of a concrete dome. The building is primarily an Education (E) occupancy with several Assembly (A) spaces in a supporting capacity. The building has an approximately 750 – 850 daily occupant load when accounting for students, faculty/staff and limited visitors. A high level plumbing count review indicates that the building is likely compliant in the amount of fixtures allowed in new construction and has capacity for additional occupant loads.

The building meets the current requirement of exiting distance. The IBC allows for 200'-0" exiting distance in non-sprinklered buildings and 250'-0" exiting distance in sprinklered buildings. The Classroom Dome contains plenty of exits that allow for an average exiting distance of 140'-160' and are below the maximum distance allowed by code. The upper floors are within the exiting requirements allowed by code. The Gym Dome allows for an average exiting distance of 110'-140' and are below the maximum distance allowed by code. The smaller domes allow for an average exiting distance of 60'-70' and are below the maximum distance allowed by code.

3.2.2.1 ATRIUM

The Atrium in the center of the building provides a connection to all three levels of the building. When constructed in 1987, the Atrium was permissible under the building code at the time. The atrium contains fire sprinklers at the ceiling above as well as on all the corresponding levels, providing a level of protection. The Atrium does not appear to have a smoke control system. This would be required under the modern building code. The Atrium connects three levels of the building and does not provide any rated separation from the rest of the building. If the school is remodeled in the future, any remodel completed that touches 50% or more of the school will require the Atrium to be updated to meet modern code standards. This would include the installation of a smoke control system, separating out the one level and providing rated separation in the building.

- 1) Observation: Atrium is located at the center of the building



FIGURE 58: ATRIUM OVERVIEW FROM LEVEL 1

- 2) Observation: The Atrium connects three different levels of the building without separation



FIGURE 59: ATRIUM AT LEVEL 02

- 3) Observation: The Atrium lacks a fire separation from the rest of the building



FIGURE 60: LEVEL 2 AT ATRIUM EDGE

- 4) Observation: Atrium appears to lack any smoke control systems



FIGURE 61: LEVEL 3 AT ATRIUM

3.2.2.2 STAIRS

The Classroom Dome contains three stairs providing access for the second and third floors. Each stair provides 77" in egress capacity width and can accommodate up to 233 people. This provides a total egress capacity of 231" from the upper levels and can egress up to 700 people. The Gym Dome contains two separate mezzanine areas about the locker rooms that are publicly accessible. The North Mezzanine access provides a total of 98" of egress capacity width and can accommodate up to 326 people. The South Mezzanine access provides a total of 128" of egress capacity width and can accommodate up to 426 people. The remaining mezzanines in the Domes are not publicly accessible spaces and are typically accessed by a vertical ladder. These spaces are not required to provide egressing from the space.

- 5) Observation: There is appears to be plenty of stair egress capacity

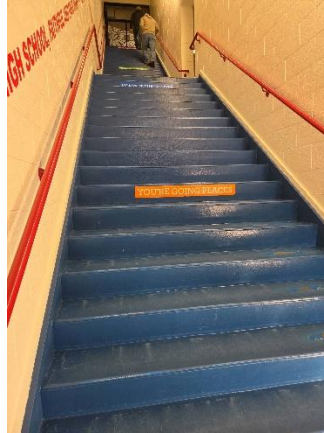


FIGURE 62: TYPICAL STAIRS

3.2.2.3 DOORS

The landing of each stair has a pair of double doors that are on a hold-open system. The doors carry a rating tag indicating they are apart of a fire rated system around the stair enclosure. They are connected to the fire alarm system and would automatically shut in the event the system is triggered. This also appears to occur at the doors located on the ground floor going into the vestibules and connecting corridor.

- 6) Observation: Each level contains a pair of fire rated doors

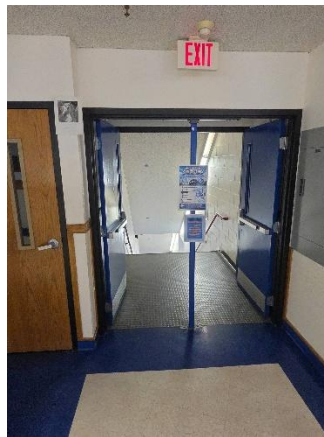


FIGURE 63: TITLE

- 7) Observation: Each set of fire rated doors have hold-opens installed



FIGURE 64: DOORS ON HOLD-OPENS

- 8) Observation: Fire rating tags on the stair doors have been painted over and rating can not be confirmed



FIGURE 65: FIRE DOOR RATING TAG

3.2.2.4 FIRE SPRINKLERS

The Classroom and Gym Domes contain a fire sprinkler system that extends through parts of the building. The sprinkler system appears to provide coverage to majority of the spaces within the large domes and provide coverage in the atrium. The fire sprinkler system appears to be missing from the smaller support spaces located throughout the building. The three smaller domes are not sprinklered and do not contain a fire sprinkler system. Based on the building's construction type and Occupancy, fire sprinkler systems are not required for the smaller domes.

- 9) Observation: Fire sprinklers were noted in majority of the spaces but not all



FIGURE 66: FIRE SPRINKLER FIXTURE

3.2.2.5 VESTIBULES

The Classroom Dome has three entrances to the exterior, two direct entry points and one to the connecting corridor with the Gym Dome that has exterior access. While the entrances have vestibules, they are not being utilized as intended and do not perform the function they're required to perform through code. The vestibules are intended to provide a thermal break from the exterior environment and reduce the amount of tempered (heated or cooled) air lost to the exterior. They also work in the opposite direction and reduce the amount of exterior air enters into the building. Vestibules are required when the spaces that open to exterior exceed 3,000 sqft in size. The current vestibules contain the ground level vestibule itself as well as the stair tower to the upper floors. The doors into both the Vestibules and Stairs (at all levels) have been placed on hold-opens to allow for the movement of students. By having the doors on hold-opens, they reduce the effectiveness of the vestibule and it's ability to control air movement between the exterior and interior of the building. This loss of effectiveness in the air mitigation also occurs in the connecting corridor to the gym. The doors on either side of the corridor are placed on hold-opens and there are multiple exterior doors allowing for the movement of air between the exterior and interior. The corridor also contains the stairs to the upper floors of the Classroom Dome.

The Gym Dome contains four exterior entries as well as the connecting corridor to the Classroom Dome with only one of the entries having a vestibule. The main gym entry opens into the Lobby of the gym. This space could act as a vestibule to the building as it's under 3,000, however, it contains an open stair to the larger gym. This removes the ability of the space to act as a vestibule. The south entry to the Gym Dome does not contain a vestibule and is open to the broader corridor. The Theater/Music room also contains an exterior entrance. A vestibule is not required on this room as it's approximately 2,700 sqft and under the 3,000 sqft requirement. The three smaller domes do not have vestibules and have large overhead doors. Based on the size of the smaller dome (approximately 2,500 sqft), vestibules are not required for these spaces.

- 10) Observation: The entries all have a vestibule system but the doors are installed with hold-opens and are set in the open position.

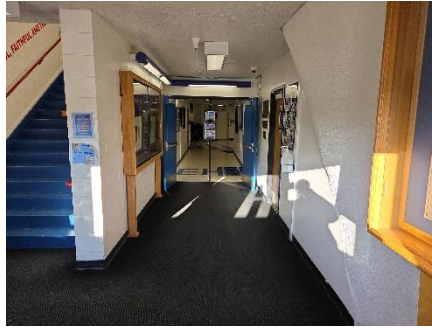


FIGURE 67: MAIN ENTRY VESTIBULE

- 11) Observation: Several entries do not have a set of vestibule doors, like the main public entry to the Gym



FIGURE 68: GYM PUBLIC LOBBY

3.2.2.6 SECURITY VESTIBULE

There currently isn't a true security vestibule for visitors into the main classroom dome. The main entrance does contain an interior set of doors at ground level that allows for controlled access to the ground level. However, the bottom landing of the east stair is also located in this vestibule and does not have a control point at the bottom of the stair. This allows anyone entering into the facility to bypass the Admin office and immediately travel to the upper floors. The upper floors do have doors at each landing but they have hold-open hardware that leaves the doors in an open position and do not contain access control hardware.

- 12) Observation: The building does not have a security vestibule at the main entry



FIGURE 69: MAIN ENTRANCE LOBBY

- 13) Observation: Several of the entries have stairs in the vestibules, allowing visitors to bypass the front reception



FIGURE 70: STAIRS LOCATED IN MAIN ENTRY VESTIBULE

3.2.2.7 SECURITY / BUILDING ACCESS

The campus operates as an Open campus and allows students to be on/off campus depending on their schedules. This creates an operational constraint regarding how faculty, students, and visitors access the building. There are card reader entrances into all (5) domes. Currently, access into the building is controlled by card readers located at each entry point. This allows access to the door when the proper credentials are presented to the door and are allowed in.

- 14) Observation: All exterior doors appear to have at least one card reader access for students and staff



FIGURE 71: MAIN ENTRY DOORS

3.2.3 ACCESSIBILITY:

With the school being constructed in 1987, it was not designed to meet American with Disabilities Act (ADA). The ADA Guidelines were not passed and accepted into law until 1991. This was five years after the design and construction of the school. Due to this, there are areas/items throughout the school that are not compliant given the age of the building. Any additions or alterations to the building will require the areas being altered to be updated to meet current ADA requirements. The Accessibility Review of the High School utilizes/references the current adopted 2010 ADA Standards for its review.

3.2.3.1 DOOR CLEARANCES

There are multiple doors throughout the facility do not have the proper door clearances required to meet ADA Guidelines. These occur throughout the facility with the primary concerns being the Classroom entrances, side hallways and support spaces. The typical issue is a lack of push (12") and pull (18") clearance at the door handle side of the door. This area tends to be interrupted by walls and casework throughout the facility.

- 1) Observation: ADA door clearances are partially met throughout the building.



FIGURE 72: ADA DOOR CLEARNACE ISSUE

- 2) Observation: Exterior entry into the classrooms meet ADA requirements



FIGURE 73: TYPICAL CLASSROOM HALL ENTRANCE

- 3) Observation: Interior side of the Classroom entries does not meet ADA requirements



FIGURE 74: TYPICAL CLASSROOM INSIDE ENTRANCE

- 4) Observation: Exterior entries into some of the restrooms are not compliant



FIGURE 75: ENTRY TO LEVEL 1 MEN'S RESTROOM

3.2.3.2 HEADROOM CLEARANCES

The dome creates headroom clearance issues along any perimeter space due to its curved nature. The head room clearance required by the ADA is 80" or 6'-8" clear. This affects every space located along the perimeter of the dome and creates an area of un-usable space per code. This zone extends approximately 3'-0" (Level 1) to 6'-0" (Level 3) out from the wall, depending on which level you're location. This represents approximately 13,500 sqft over the footprint of the building that cannot be utilized.

- 5) Observation: The domes curvature creates ADA clearance issues in all of the perimeter spaces



FIGURE 76: DOME CURVATURE IN A CLASSROOM

- 6) Observation: The domes curvature creates ADA clearance issues in all of the perimeter spaces

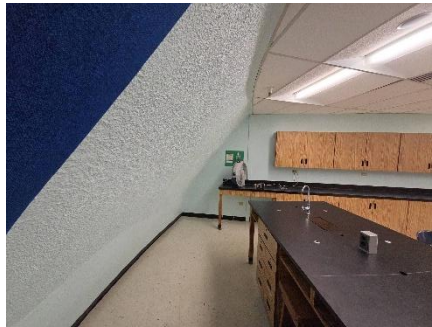


FIGURE 77: DOME CURVATURE IN A LAB

- 7) Observation: The dome curvature creates head clearances issues inside toilet stalls



FIGURE 78: HEADROOM CLEARANCE AT STAFF RESTROOM

- 8) Observation: There is approximately 58" of clearance adjacent to the toilet



FIGURE 79: HEADROOM CLEARANCE HEIGHT

- 1) Observation: here are head clearance issues in the publicly accessible stalls by the Gym.



FIGURE 80: DOME CURVATURE AT MEN'S PUBLIC RESTROOM

3.2.3.3 TOILET STALLS

The facility does not have any fully accessible toilet compartments that can accommodate a wheelchair user. A fully accessible toilet stall has a grab bars along one side of the toilet and behind the toilet, a vertical grab bar along the wall or partition as well as clear floor space directly adjacent and in front of the toilet. There are several stalls throughout the facility that attempt to accommodate accessible users. These locations have partial installation of the required grab bars or partial clear space adjacent to the toilet but do not meet all the requirements.

The facility does provide an ambulatory stall in each group restroom to provide accessible option for individuals that need assistance. An ambulatory stall is 5-7" wider than a traditional stall, 60" deep and provide grab bars along both sides of the stall. These were the most consistent form of accessible restroom stall available for those with disabilities in the facility.

- 2) Observation: Incomplete grab bars and a lack of true accessible side clearance



FIGURE 81: “ADA” STALL IN MENS PUBLIC GYM RESTROOM

- 3) Observation: A majority of the “ADA” stalls have a partial grab bar and some clearance but lack the complete system

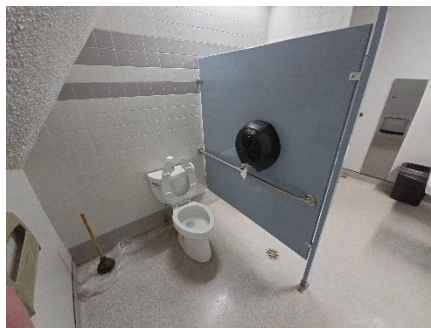


FIGURE 82: TYPICAL PROVISIONS PROVIDED

- 4) Observation: The building's restroom does provide ambulatory stalls in majority of the group restrooms



FIGURE 83: TYPICAL AMBULATORY STALL

3.2.3.4 SUPPORT & SINGLE USER RESTROOMS

There are multiple single and support restrooms throughout the school. These facilities do meet accessibility requirements for single-user restrooms and are missing one or more of the requirements listed above (clearance, grab bars). The support restrooms in the building tended to be multi fixture facilities and located along the perimeter wall of the building. Due to the dome, these facilities lacked the proper head clearance required by code and lacked sufficient privacy for the users.

- 5) Observation: A majority of the single user restrooms do not provide a fully compliant ADA restroom

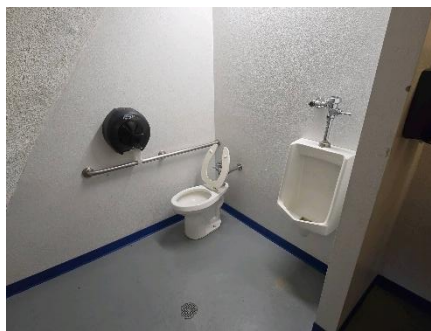


FIGURE 84: INCOMPLETE ADA COMPLIANCE

- 6) Observation: Many of the single user restrooms appear to be both a single and multi fixture restroom. They contain incomplete partitions for privacy for multi user layouts.



FIGURE 85: MEN'S STAFF RESTROOM

3.2.3.5 ENTRY VESTIBULES

The entry vestibules into each group restroom in the Classroom Dome do not meet the spacing requirements between doors. This can hinder or prevent users with disabilities from using the restroom. To meet the building code and ADA guidelines, there needs to be a minimum of 4'-0" from the swing of the door to the adjacent wall.

- 7) Observation: Bathroom vestibule doors are too close together and are not compliant



FIGURE 86: LOCATION OF BATHROOM VESTIBULE DOORS

- 8) Observation: Doors are approximately 40"-46" apart



FIGURE 87: LOCATION OF BATHROOM VESTIBULE DOORS

3.2.3.6 FINISH UPDATES

Several of the restrooms have received finish updates since the construction of the original building. At these locations, new countertops, partitions, and bathroom accessories were installed. These updated elements were installed at ADA height and are compliant with the guidelines. The existing countertops do appear to be ADA compliant in height as well.

- 9) Observation: Several of the restrooms have been renovated



FIGURE 88: RENOVATED RESTROOMS

- 10) Observation: The renovated bathroom counters are 33" tall and provide the required clearance



FIGURE 89: RENOVATED BATHROOM COUNTEROPS

- 11) Observation: The existing bathroom counters are 33" tall and provide the required clearance.



FIGURE 90: EXISTING BATHROOM COUNTERTOPS

3.2.3.7 HANDRAILS

The buildings guard and handrails are a mix of being in compliance or not with the building code and ADA guidelines. To be in compliances, the guardrails need to extend a minimum of 42" above the floor. The guardrails throughout the facility are typically compliant and meet or exceed the height requirements. Handrails need to be between 34" and 38" above the floor or stair and extend 12" past the top/bottom of stairs. The handrail height in the stairs was below the code minimum in height, at approximately 30" above the stair/landing floors. There are multiple locations throughout the facility where the handrails do not extend the 12" past the stair. Several of these locations are at areas where the conditions do not allow for extension due to conflicting walls, objects or open areas. There are also several stairs within the facility that lack handrails on both sides of the stairs.

- 12) Observation: The guardrails at the Atrium are built walls with a railing type. They're height exceeds ADA requirements.



FIGURE 91: TYPICAL ATRIUM GUARDRAIL

- 13) Observation: The guardrails at the Atrium area are 60" in height and are compliant



FIGURE 92: ATRIUM GUARDRAIL HEIGHT

- 14) Observation: The guardrails at the upper Gym area are 42" in height and are compliant



FIGURE 93: GYM GUARDRAIL HEIGHT

- 15) Observation: Handrail extensions consistently occur at the main stairs that serve all three levels



FIGURE 94: STAIR HANDRAIL EXTENSION

- 16) Observation: A number of bottom handrail extensions do not run parallel to the stair and do not extend a minimum of 12"



FIGURE 95: HANDRAIL EXTENSIONS NOT EXTENDING REQUIRED AMOUNT

- 17) Observation: The handrail heights are at 30" above floor and do not meet current ADA requirements



FIGURE 96: HANDRAIL HEIGHT AT MAIN STAIRS

- 18) Observation: Several stairs are missing handrails on both sides of the stair

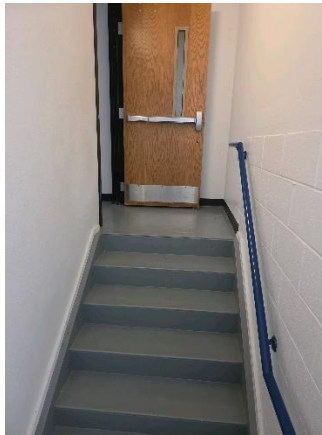


FIGURE 97: MISSING HANDRAIL

3.2.3.8 ELEVATOR

The Classroom Dome contains an elevator that's located in the central Atrium. It serves all three levels of the school and appears accessible to everyone that requires it. The age of the elevator is unknown. The size of the elevator indicates that the cab has a clear inside width of 5'-8" x 4'-3". This size would not fit a stretcher in an emergency, however, that capability is not required when the building is 3 stories or less.

19) Observation: The elevator is centrally located and accessible at all levels



FIGURE 98: ELEVATOR SHAFT LOCATION

20) Observation: The elevator entrances are signed for ADA access



FIGURE 99: ELEVATOR ENTRANCE AT LEVEL 3

4 CONCLUSIONS AND RECOMMENDATIONS

Overall Facility Condition

Emmett High School, constructed in 1987 using a series of concrete domes, remains generally well-maintained for its age. However, the dome-based design imposes significant limitations on educational functionality, modernization, accessibility, and long-term adaptability. Many of the building systems, finishes, and instructional spaces are at or near the end of their useful life. Given the structural uniqueness and inherent limitations of the dome design, the district should evaluate whether continued investment in the existing facility is cost-effective. A long-term plan should compare the cost of major renovations—including life safety, ADA, and educational upgrades—against the cost of constructing a new high school.

Educational Suitability

The school provides an adequate number of classrooms, but the dome geometry creates substantial challenges. Pie-shaped rooms reduce usable space, create uneven sightlines, and limit instructional flexibility. Specialty spaces including science labs, CTE areas, the kitchen, and the media center, are undersized compared to modern standards. Technology infrastructure is insufficient, with limited power, data ports, and inconsistent Wi-Fi. Natural light is minimal, and interior finishes show age-related wear.

Life Safety & Security

While exiting distances and stair capacities meet current code, the central atrium does not meet modern requirements for smoke control or rated separation. Fire sprinkler coverage is incomplete, and vestibules throughout the building are not functioning as intended due to held-open doors. The lack of a true security vestibule allows uncontrolled access to upper floors, creating operational and safety concerns.

These existing conditions are generally grandfathered in and may remain as-is until a specific area of the building undergoes renovation or alteration. The extents of that the life safety systems are upgraded will be based on the requirements of the local Authorities having Jurisdiction and be at their discretion. It is recommended that as portions of the building are renovated, that these areas be brought up to current safety standards. It is recommended that the Security Vestibule system be constructed within the next five years.

Accessibility

Because the school predates ADA requirements, numerous accessibility deficiencies exist. Door clearances, restroom layouts, handrail heights, and extensive low-headroom areas created by the dome structure do not meet current standards. Approximately 13,500 square feet of floor area is unusable due to insufficient headroom.

ADA deficiencies within the facility are expected due to the building's age and due to it being constructed prior to the adoption of the Americans with Disabilities Act. These existing conditions are generally grandfathered in and may remain as-is until a specific area of the building undergoes

renovation or alteration. Once work is initiated, the ADA “20% rule,” also known as the disproportionality rule, applies and requires that up to 20% of the project cost must be allocated toward improving accessibility in the affected area. As a result, the building can continue to operate in its current condition, but any future renovations will trigger mandatory accessibility upgrades to bring altered spaces into compliance. If the specific projects hit the 20% cap, they must allocate their funds towards these specific items:

1. An accessible entrance.
2. An accessible route leading from the entrance to the newly remodeled primary function area.
3. At least one accessible restroom (or a unisex one).
4. Accessible telephones (if applicable).
5. Accessible drinking fountains.
6. Other elements like parking and storage

Recommendations

1. Prioritize Life Safety and Code Compliance Upgrades

If the facility remains in use, the following should be addressed as part of any significant renovation:

- a. Install a smoke control system and a review installing a rated separation from the atrium on Level 2.
- b. Improve fire sprinkler coverage, especially in support spaces.
- c. Install new exterior focused vestibule at all major entries to improve thermal separation from the exterior
- d. Implement a true security vestibule at the main entrance with five years

2. Address Accessibility Deficiencies

To meet ADA requirements:

- a. Correct door clearances issues where able. The remaining areas may be able to be fixed with door hardware changes.
- b. Renovate restrooms to include fully accessible stalls.
- c. Replace or modify handrails to meet height and extension requirements.
- d. Mitigate low-headroom areas where feasible or reconfigure spaces to avoid unusable zones.

3. Modernize Educational Spaces

To support contemporary teaching and learning:

- a. Reconfigure classrooms to improve sightlines and increase usable floor area.
- b. Modernize the science labs and CTE spaces where feasible

- c. Review expanding or relocating the kitchen
 - d. Update the media center to support collaborative learning and digital resources.
- 4. Upgrade Technology Infrastructure
 - To meet current instructional needs:
 - a. Increase the number of power outlets in classrooms.
 - b. Expand data port availability and upgrade network infrastructure.
- 5. Replace Aging Finishes and Building Systems
 - A phased replacement plan should address:
 - a. Worn flooring, especially VCT in corridors and the atrium.
 - b. Aging ceiling systems with water staining and damaged tiles.
 - c. Outdated casework, partitions, and interior finishes.

Summary

Emmett High School's dome structures, while innovative at the time of construction, now present significant challenges in meeting modern educational, safety, and accessibility standards. The facility requires substantial investment to remain viable long-term. The district should consider a comprehensive facilities plan that weighs the cost of major renovation against the potential benefits of constructing a new high school designed for contemporary learning environments.



Engineering
Opportunities

412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985

SECTION #4

Mechanical & Plumbing Systems Observations & Assessment

by

Musgrove Engineering, P.A.



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



MUSGROVE
ENGINEERING, P.A.
234 S. Whisperwood Way
Boise, Idaho 83709
208.384.0585
www.musgrovepa.com
OVER 40 YEARS OF EXCELLENCE

Emmett High School – Facility Condition Assessment

Mechanical Observations & Assessment

721 W 12th Street, Emmett, ID 83617



Musgrove Job No. 26-068

May 30, 2026

EXECUTIVE SUMMARY

Simply given the age of the mechanical and plumbing systems installed throughout the school (approximately 35 years old), it is fair to state that most of these systems are well beyond the end of their useful life expectancy, and should be replaced, or planned to be replaced quickly as the systems become more difficult and expensive to maintain.

Summary of recommended replacements are as follows:

- The air handlers
- Heating water system
 - Boiler
 - Pumps
 - Heating hot water piping
- Relief fans
- Smoke exhaust system
- Water softener
- Building original water heater
- Domestic water backflow preventer
- Sanitary piping
- Domestic water piping

The following equipment has some expected useful life remaining

- Chilled water system
 - Chiller (5 years of useful life remaining)
 - Chilled water piping (in good condition to remain)

1 PURPOSE AND SCOPE OF WORK

The goal of this report is to provide the owner with a complete assessment of the conditions of the mechanical and plumbing systems at Emmett High School. This assessment includes identifying all system components and evaluating each component as to its existing condition as well as identify the remaining life expectancy of each system.

Most of the mechanical and plumbing systems throughout the campus are “building original” from 1988 with the exception of a Chilled Water Plant that was added in 2010. This chilled water plant added cooling to the buildings.

Per interviews of facility staff, it is understood that no major renovations, additions or upgrades have been completed at the high school. Typical repairs of failed system have been happening as needed, but otherwise, the mechanical and plumbing system are basically per originally installed.

2 SITE AND BUILDING DATA

2.1 DOCUMENT REVIEW

Emmet high school began construction in 1986 and completed construction in 1988. The Emmet High School campus is made up of five (5) separate dome buildings. The two (2) larger domes contain the main gym and all the classrooms. The three (3) smaller domes were used for technical programs, but have now been retrofitted for weight lifting, wrestling, and cheerleading. Most of the mechanical and plumbing systems are original to the building, except for a the few unitary equipment upgrades in the three (3) smaller domes and the chiller system that was added in 2010.

The two main domes share a hydronic system comprised of a hot water boiler system and a chilled water chiller system. The hydronic systems feed various air handlers throughout the domes. The air handlers condition air and distribute to air to variable air volume (VAV) boxes in each respective space that provide conditioning and specific temperature control to each zone.

The three smaller domes now contain “standalone systems” including gas fired furnaces, gas fired unit heaters, and ductless split systems. These three (3) smaller domes once contained other programs and when the use changed, different equipment was installed, but not all of the original system or system components were removed. There are existing capped and abandoned exhaust systems in each of the smaller domes from the previous programs.

3 DESCRIPTION OF EXISTING MECHANICAL SYSTEMS

3.1 CLASSROOMS DOME

The heating and cooling requirements of the classrooms are satisfied by three (3) large air handlers. There is one (1) air handler on each floor. Each air handler has a hot water heating coil and a chilled water cooling coil. The air handlers are original to the building with the exception of the cooling coils which were added in 2010.

- 1) Observation: Typical Air Handler in Classroom Dome and Fresh air ducting
Source: First floor Air Handler



FIGURE 1: CLASSROOM LEVEL 1 AIR HANDLER

The air handlers supply air to individual VAV boxes with electric re-heat coils that serve the various spaces throughout the building. There is typically one (1) VAV box per classroom. There are approximately 60 total VAV boxes. The VAV boxes supply air to each zone and there is a return plenum at each floor which routes return air back to each respective air handler.

- 1) Observation: Typical VAV Box
Source: Third floor classroom

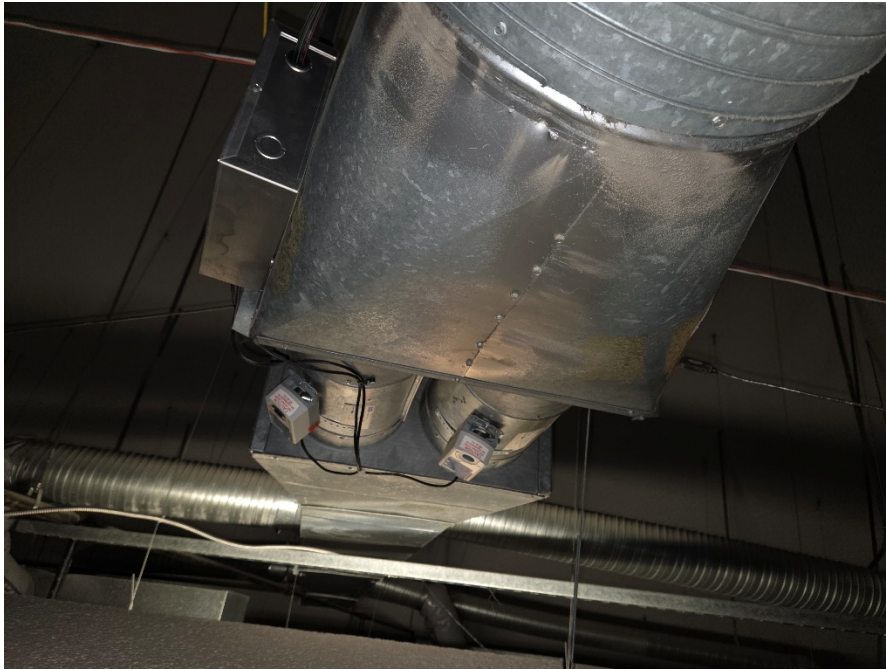


FIGURE 2: TYPICAL VAV BOX

There are four (4) DX cooling split systems that connect to terminal fan coil units that serve administrative office areas. These systems are also building original.

The occupancy ventilation requirement is handled by a large fresh air intake louver that is ducted to each respective air handler. Relief fans located in each respective air handler room pulls air from the return plenum and discharges the air through rooftop relief vents. The fresh air ventilation system is sized for full economizer functionality. It was noted during the site investigation that the building experienced pressure control issues. The relief fans and ventilators are all building original.

There is a smoke exhaust system that serves the atrium. This system consists of four (4) rooftop exhaust fans and louvered inlets at ground level ducted to make up grilles at the first floor atrium space. It was noted during the site investigation that there are pressure control issues when system was running. This system is building original.

The kitchen is a “full” cooking kitchen with Type 2 hoods and walk-in freezer and cooler. All systems appeared to be building original.

- 1) Observation: Kitchen Hood with Cooking equipment below
Source: Kitchen



FIGURE 3: KITCHEN COOK LINE

3.2 GYMNASIUM DOME

The heating and cooling demands of the gymnasium dome are handled by three (3) large air handlers. The largest main air handler for the gym has a hot water heating coil and chilled water cooling coil. The two (2) smaller air handlers serve the locker rooms and only contain hot water heating coils. The air handlers are original to the building with the exception of the cooling coil which was added in 2010.

The band room is served by a multi port heat pump system with three (3) ducted indoor fan coils and 1 outdoor heat pump that provides heating and cooling. The system has a 12-ton capacity. This system was added in 2010.

The ventilation for the gym is handled by a large energy recovery air handler consisting of a supply fan, exhaust fan, an air-to-air heat exchanger, and a hot water heating coil. This air handler pulls exhaust air from both locker rooms and through the energy recovery heat exchanger, it provides tempered fresh make up air to the plenum room of the gym air handler. The main gym air handler also has a ducted fresh air louver. The fresh air ventilation system is sized for full economizer. These gymnasium dome systems are all building original.

3.3 HYDRONIC SYSTEMS

The heating hot water system provides all the heating needs throughout the two main building domes. The heating hot water system consists of one (1) boiler and two (2) pumps. The boiler room is located in the gymnasium dome. The heating hot water system and all heating hot water piping systems are original to the building.

- 1) Observation: Boiler and heating water pumps with domestic hot water heaters in background

Source: Boiler Room



FIGURE 4: BOILER ROOM EQUIPMENT

The chilled water plant provides chilled water to all the cooling coils located throughout the two main building domes. The chilled water system consists of one (1) air-cooled chiller, two (2) primary pumps, and two (2) secondary pumps. The chiller is located outside between the domes and the chilled water accessories are located on a skid within and insulated enclosure near the chiller between the two domes. The chiller system was added in 2010.

- 1) Observation: Outdoor Chilled water system
Source: Outdoor Mechanical yard



FIGURE 5: CHILLER

3.4 TECHNICAL PROGRAM DOMES

The heating and cooling needs of the three (3) smaller domes are provided by a combination of gas fired unit heaters, hot water unit heaters, gas fired furnaces, and ductless split heating and cooling units. The gas unit heaters, hot water unit heaters, and gas furnaces are all building original. The ductless splits appear to be added at a later date, and appear to be in acceptable working condition.

Each dome has abandoned exhaust equipment and capped ductwork from the previous uses of the dome. The original programs in the domes appeared to be wood shop, auto shop, and

VO/AG shop. The exhaust equipment appears to be abandoned and the new programs are weight lifting, wrestling, and cheerleading.

3.5 CONTROLS

The two (2) main domes appear to have direct digital control (DDC) systems throughout the buildings. The building's HVAC control system utilizes Siemens controls. The Siemens control platforms appear to be a mix of Insight and Desigo hardware. The building's original controls were pneumatic devices, and a portion of the controls were upgraded to electronic control devices in 2010 as part of the chiller upgrade project. It should be noted that Siemens no longer supports the Insight platform.

4 DESCRIPTION OF EXISTING PLUMBING SYSTEMS

4.1 DOMESTIC WATER

The building's domestic water service does not have a "typical" backflow prevention valve, but does have a pressure reducing valve in conjunction with a check valve. The domestic water piping system is mainly comprised of galvanized piping that is building original. There are a few areas that have been replaced and upgraded with copper pipe.

- 1) Observation: Domestic water Riser
Source: Boiler Room

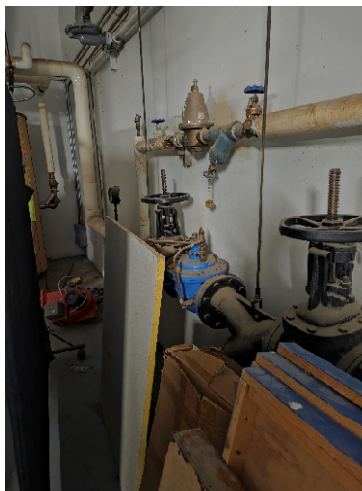


FIGURE 6: MAIN DOMESTIC WATER RISER

The building has a water softener that serves the entirety of the facility's domestic water needs including make up water to the boiler system. This system is also building original.

1) Observation: Water Softener
Source: Boiler Room



FIGURE 7: WATER SOFTENER

The domestic hot water system consists of two (2) gas fired water heaters and one (1) storage tank. One water heater is building original, one water heater was replaced in 2024, and the storage tank was replaced in 2012.

1) Observation: Domestic water heaters
Source: Boiler Room



FIGURE 8: DOMESTIC WATER HEATER EQUIPMENT

4.2 SANITARY WASTE

The sanitary waste system is cast iron piping that is building original. The waste for the science classrooms is acid waste/vent approved plastic pipe with fusion pipe fittings.

4.3 GAS

The gas supply system utilizes black steel piping that is building original. There is one gas meter that serves all five (5) domes.

4.4 KITCHEN

The kitchen includes a commercial dishwasher, some commercial food grinders, and is served by a 1500 gallon grease interceptor.

4.5 FIRE PROTECTION

The building is equipped throughout with a fire protection system. The entire system is a wet type system with no dry pipe zones.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 HVAC

Most of the systems throughout the campus at Emmett High School are building original, aged between 1986 and 1988. The HVAC system is beyond its expected life and will likely need to be replaced / upgraded in the near future. The chilled water system has approximately 5 years left on its expected useful life, so it may not need to be replaced in the very near future, but plans to replace it should be made for the distant future. The recommended HVAC system upgrades are as follows:

- The air handlers be replaced in a like for like manner
- Heating water system replaced in a like for like manner
 - Single existing boiler replaced with two (2) boilers for redundancy / backup
 - Pumps replaced in a like for like manner
 - Heating hot water piping planned to be replaced for future as the piping begins to leak or increasingly difficult to maintain. No leaks reported with existing system
- Relief fans replaced in a like for like manner
 - At a minimum, refurbish and commission/tune existing system
- Smoke exhaust system be replaced in a like for like manner
 - At a minimum, refurbish and commission/tune existing system

5.2 PLUMBING



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



MUSGROVE
ENGINEERING, P.A.
234 S. Whisperwood Way
Boise, Idaho 83709
208.384.0585
www.musgrovepa.com
OVER 40 YEARS OF EXCELLENCE

Most of the plumbing systems are building original. No major leaks or issues were reported concerning the plumbing piping systems. Recommend to continue regular maintenance program and repair as necessary. The recommended plumbing system upgrades are as follows:

- Replace water softener in a like for like manner
- Replace building original water heater in a like for like manner
- Retrofit and add proper backflow preventor to existing domestic water service
- Replace all sanitary piping throughout the buildings
- Replace the galvanized domestic water piping with copper throughout the building

APPENDIX 1 – ASHRAE EQUIPMENT LIFE EXPECTANCY

ASHRAE Equipment Life Expectancy chart

ASHRAE is the industry organization that sets the standards and guidelines for most all HVAC-R equipment.
For additional info about ASHRAE the website is www.ashrae.org.

Equipment Item	Median Years	Equipment Item	Median Years	Equipment Item	Median Years
Air conditioners		Air terminals		Air-cooled condensers	20
Window unit	10	Diffusers, grilles, and registers	27	Evaporative condensers	20
Residential single or Split		Induction and fan coil units	20	Insulation	
Package	15	VAV and double-duct boxes	20	Molded Blanket	20
Commercial through-the wall	15	Air washers	17		24
Water-cooled package	15	Ductwork	30	Pumps	
Heat Pumps		Dampers	20	Base-mounted	20
Residential air-to-air	15	Fans		Pipe-mounted	10
Commercial air-to-air	15	Centrifugal	25	Sump and well	10
Commercial water-to-air	19	Axial	20	Condensate 15	
Roof-top air conditioners		Propeller	15	Reciprocating engines	20
Single-zone	15	Ventilating roof-mounted	20	Steam turbines	30
Multi-zone	15	Coils		Electric motors	18
Boilers, hot water (steam)		DX, water, or steam	20	Motor starters	17
Steel water-tube	24 (30)	Electric	15	Electric transformers	30
Steel fire-tube	25 (25)	Heat Exchangers		Controls	
Cast iron	35 (30)	Shell-and-tube	24	Pneumatic	20
Electric	15	Reciprocating compressors	20	Electric	16
Burners	21	Packaged chillers		Electronic	15
Furnaces		Reciprocating	20	Valve actuators	
Gas- or oil-fired	18	Centrifugal	23	Hydraulic	15
Unit heaters		Absorption	23	Pneumatic	20
Gas or electric	13	Cooling towers		Self-contained	10
Hot water or steam	20	Galvanized metal	20		
Radiant Heaters		Wood	20		
Electric	10	Ceramic	34		
Hot water or steam	25				



Engineering
Opportunities

412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985

SECTION #5

Electrical Observations & Assessment

by

Musgrove Engineering, P.A.



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



MUSGROVE
ENGINEERING, P.A.
234 S. Whisperwood Way
Boise, Idaho 83709
208.384.0585
www.musgrovepa.com
OVER 40 YEARS OF EXCELLENCE

Emmett High School – Facility Condition Assessment

Electrical Observations & Assessment

721 W 12th Street, Emmett, ID 83617



Musgrove Job No. 26-068

May 29, 2026

EXECUTIVE SUMMARY

Given the age of the existing electrical systems installed throughout the school (approximately 35 years old), it is fair to state that most of these systems are well beyond the end of their useful life expectancy, and should be replaced as follows:

- Main switch board M
 - Recommend replacing in the future.
 - The switchboard is still functional however; there is no available bussing for new loads.
- Main switch board M2
 - Recommend replacing in the future.
 - The switchboard is still functional however; there is no available bussing for new loads.
- Motor Control Centers and Branch Panels
 - Recommend replacing in the future.
 - The MCCs and branch panels are still functional however; there is little available bussing for new loads.
 - New GFI breaker code requirements can be hard to meet with discontinued electrical panels.
- Lighting
 - Recommend replacing or planned to be replaced in the near future.
 - Current fluorescent lighting loads and corresponding lighting controls do not meet current energy requirements.
- Fire Alarm
 - Recommend replacing or planned to be replaced in the near future.
 - The current horn/strobe fire alarm system does not meet current 'E' occupancy code requirements of voice evacuation.
- Low Voltage Systems
 - Recommend replacing cabling infrastructure in the future.
 - The existing cabling infrastructure appears to be limited with additional data racks mounted in non-dedicated spaces.
 - Recommend replacing the intercom in the future.
 - A dedicated intercom system with full notification is recommended.
 - The existing security camera coverage appears to be adequate. Keep and maintain.
 - The existing access control coverage appears to be minimal. Keep and maintain.

1 PURPOSE AND SCOPE OF WORK

The goal of this report is to provide the owner with a complete assessment of the conditions of the electrical systems at Emmett High School. This assessment includes identifying all system components and evaluating each component as to its existing condition.

Most of the existing electrical systems throughout the campus are “building original” from 1988 with the exception of added electrical equipment for a chiller addition in 2010.

Per interviews of facility staff, it is understood that no major renovations, additions or upgrades have been completed at the high school. Typical repairs of failed system have been happening as needed, but otherwise, the electrical system are basically per originally installed.

2 SITE AND BUILDING DATA

2.1 DOCUMENT REVIEW

Emmet high school began construction in 1986 and completed construction in 1988. The Emmet High School campus is made up of five (5) separate dome buildings. The two (2) larger domes contain the main gym and all the classrooms. The three (3) smaller domes were used for technical programs, but have now been retrofit for weightlifting, wrestling, and cheerleading.

3 DESCRIPTION OF EXISTING ELECTRICAL SYSTEMS

3.1 ELECTRICAL DISTRIBUTION SYSTEM

The existing electrical service for the two large domes consists of a 208Y/120V, 3Phase, 2500A system that feeds the main switchboard, ‘M’, located in the north dome main electrical room. The MSB consists of: 208Y/120V, 3Phase, 2500A, 50K AIC, Fused, 4-Section distribution board, with a 2500A main fuse. The main switchboard is a Westinghouse board with a manufacture date of 12/86. The main switchboard distributes power to (3) motor control centers, (18) branch panels, (1) elevator, (1) automatic transfer switch for the backup power. The existing switchboard doesn’t appear to have any available spares for future work.

The motor control centers (MCCs) and branch panels range from 100A-400A with the same Westinghouse vintage tags, that appear original to the building. The existing MCCs and branch panels appear to have roughly 15% remaining spares.

A 75KW generator, automatic transfer switch, and 'E' labeled branch panels provide emergency backup for life safety lighting and fire alarm loads. All emergency equipment appears to be original to the building.

The three smaller domes share a separate existing electrical service. The main panel, 'M2', is located in the north most dome of the three domes and consists of: 208Y/120V, 3Phase, 600A, distribution board, with a 600A main and original to the building. Panel M2 distributes power to approximately (6) branch panels located throughout the (3) domes. The existing branch panels appear to have roughly 10% remaining spares.

Figure 1: Existing switchboard M



3.2 LIGHTING

The existing lighting appears to be original fluorescent type fixtures. A mixture of single and multi-bulb configurations with surface mounted, wall mounted, and recessed fixtures. Classrooms have unique light fixtures that contain ceiling tiles integrated into the fixtures.

Lighting controls are original to the building with single level switching throughout the campus. Automatic controls are used in common areas however no occupancy sensor control is included in the building. The existing lighting and corresponding controls would need to be replaced to meet current energy code requirements.

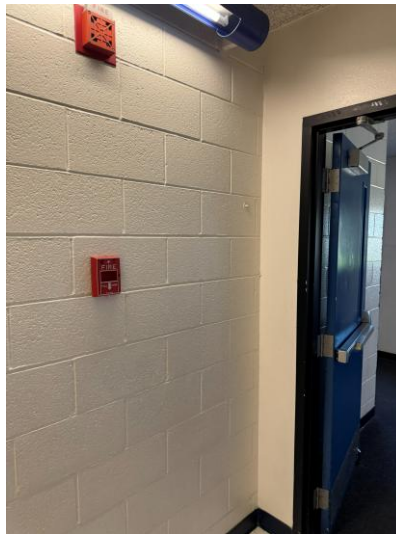
Figure 2: Classroom lighting with integral ceiling tiles



3.3 FIRE ALARM

The existing fire alarm system is a horn/strobe based system with a cellular dialer in the administrative office and manual pull stations through the campus. The fire alarm control panel appears to have been upgraded from the original installation but does not meet current E occupancy requirements of voice evacuation. It also appears a majority of pull stations have been mounted above ADA requirements.

Figure 3: Existing pull stations



3.4 LOW VOLTAGE SYSTEMS

The existing low voltage cabling infrastructure reached maximum capacity along the way as intermediate, wall mounted data racks have been added in non-dedicated spaces. Full intercom coverage seems minimal throughout the campus as it doesn't appear to have a dedicated system. The campus does appear to have adequate security camera coverage. The majority of exterior doors are already equipped with card readers with minimal access control coverage inside the buildings.

Figure 4: Wall Mtd. IT Rack in Administration Office



4 CONCLUSIONS AND RECOMMENDATIONS

4.1 ELECTRICAL

The existing electrical systems throughout the campus are original to the 1986 building. A majority of the electrical systems are beyond the expected life and will likely need to be replaced in the near future. The recommended electrical system upgrades are as follows:

- Main switch board M
 - Recommend replacing in the future.
 - The switchboard is still functional however; there is no available bussing for new loads.
- Main switch board M2
 - Recommend replacing in the future.
 - The switchboard is still functional however; there is no available bussing for new loads.
- Motor Control Centers and Branch Panels
 - Recommend replacing in the future.

- The MCCs and branch panels are still functional however; there is little available bussing for new loads.
 - New GFI breaker code requirements can be hard to meet with discontinued electrical panels.
- Lighting
 - Recommend replacing or planned to be replaced in the near future.
 - Current fluorescent lighting loads and corresponding lighting controls do not meet current energy requirements.
- Fire Alarm
 - Recommend replacing or planned to be replaced in the near future.
 - The current horn/strobe fire alarm system does not meet current 'E' occupancy code requirements of voice evacuation.
- Low Voltage Systems
 - Recommend replacing cabling infrastructure in the future.
 - The existing cabling infrastructure appears to be limited with additional data racks mounted in non-dedicated spaces.
 - Recommend replacing the intercom in the future.
 - A dedicated intercom system with full notification is recommended.
 - The existing security camera coverage appears to be adequate. Keep and maintain.
 - The existing access control coverage appears to be minimal. Keep and maintain.



Engineering
Opportunities

412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985

SECTION #6

Building Envelope Observations & Assessment

by

Stantec Consulting Services, Inc.



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



Emmett High School – Facility Condition Assessment

Building Envelope Observations & Assessment

721 W 12th Street, Emmett, ID 83617



KPFF Job No. 1021260001

Stantec Project No. 280401582

June 12, 2026

EXECUTIVE SUMMARY

As a monolithic dome, the assembly separating interior from exterior spaces is the same for most the building and forms the roof and walls. The original construction consisted of using a ‘Monolithic Dome’ technique where an ‘Airform’ is fabricated out of roofing material, which is then inflated to become a temporary pneumatic structure and form for polyurethane spray foam, reinforcing steel and Shotcrete application.

The roof system is exhibiting signs of previous and current water ingress. Although there was no evidence of moisture ingress into the interior of the building, leaks into the roof system will exacerbate degradation of the system and reduce the effectiveness of the thermal insulation, requiring higher energy costs to heat and cool the buildings. Extensive repairs were conducted in 2012, indicating previous issues in the roof system that required removal of the original roof membrane and replacement with additional spray foam and waterproof coating. These repairs are now exhibiting signs of water ingress, breaches, delaminations, and general failure of the system. The amount of thermal insulation provided by the spray foam also does not provide the R-value required by current codes, which will also contribute to higher energy costs from heating and cooling of the domes. Stantec recommends replacement of the roof system.

There are vertical, steel-stud framed walls at the entrances and connecting corridors between the domes, clad with exterior insulated finish system (EIFS) and contain hollow metal doors to provide access to the domes. The insulation in the EIFS cladding appeared to be the only insulation included in the wall assemblies and is likely not providing an appropriate amount of R-value. There is also likely not a dedicated air barrier within the walls to limit air leakage through the assemblies. Stantec recommends removing the existing exterior EIFS cladding, installing a weather resistant barrier to the exterior sheathing, installing additional insulation to provide R-value in line with current codes, and replacing the cladding with new EIFS or other cladding per the owner’s choice. The swing doors and overhead doors provided in the vertical walls are non-thermally broken and have deficient gaskets. These doors have also likely reached the end of their effective lifespans and Stantec recommends they be replaced with thermally broken units with continuous gaskets to limit air leakage.

1 PURPOSE AND SCOPE OF WORK

Stantec was retained by KPFF on behalf of the Emmett School District to conduct a preliminary building envelope condition assessment of their complex, Emmett High School located in Emmett, ID. Authorization for the study was provided via e-mail, by Chaney Wood, PE of KPFF.

The scope of our services is described in our signed contract, dated May 13, 2026. The objective of this assessment was to provide a general indication of the current condition of the building envelope components related to the methods of construction and the condition of the

materials, and to provide our recommendations with respect to possible further assessment work, recommended repairs or replacement. We are providing this letter report to outline the results of our assessment work.

1.1 LIMITATIONS

This assessment is based on a review of available documents, visual observations, and infrared camera images taken at a sample of building envelope elements. This report documents the current condition of the building envelope elements and identifies factors or mechanisms that are believed to have led to the current condition. The report is not intended to provide an opinion regarding responsibility of any specific party in causing or contributing to the found conditions.

The review was limited to building envelope performance issues, focused primarily on water penetration. Where feasible and applicable, and as may be outlined in this report, the envelope systems were also reviewed for assemblies used to control air leakage, vapor diffusion and thermal performance. Our review for this assessment does not include structural connections, mechanical systems, fire rated assemblies, interior finishes, or other components not related to the building envelope.

1.2 DISCLAIMER

The conclusions in this Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from others in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

2 SITE AND BUILDING DATA

2.1 BACKGROUND INFORMATION

Emmett High School consists of five monolithic concrete domes of varying sizes constructed in 1987. The two large domes have a diameter of 180' at the base connected by an enclosed walkway, and three smaller free-standing domes have diameters between 60' and 75' at the bases. The domes are constructed using a 'Monolithic Dome' technique where an 'Airform' is fabricated out of roofing material, which is then inflated to become a temporary pneumatic structure and form for polyurethane spray foam, reinforcing steel and Shotcrete application. Interior walls, floors, and finishes are then added afterwards. It is reported to be the first school constructed with this technique.

For the purposes of this report, we will be referring to the domes via the numbers indicated below:

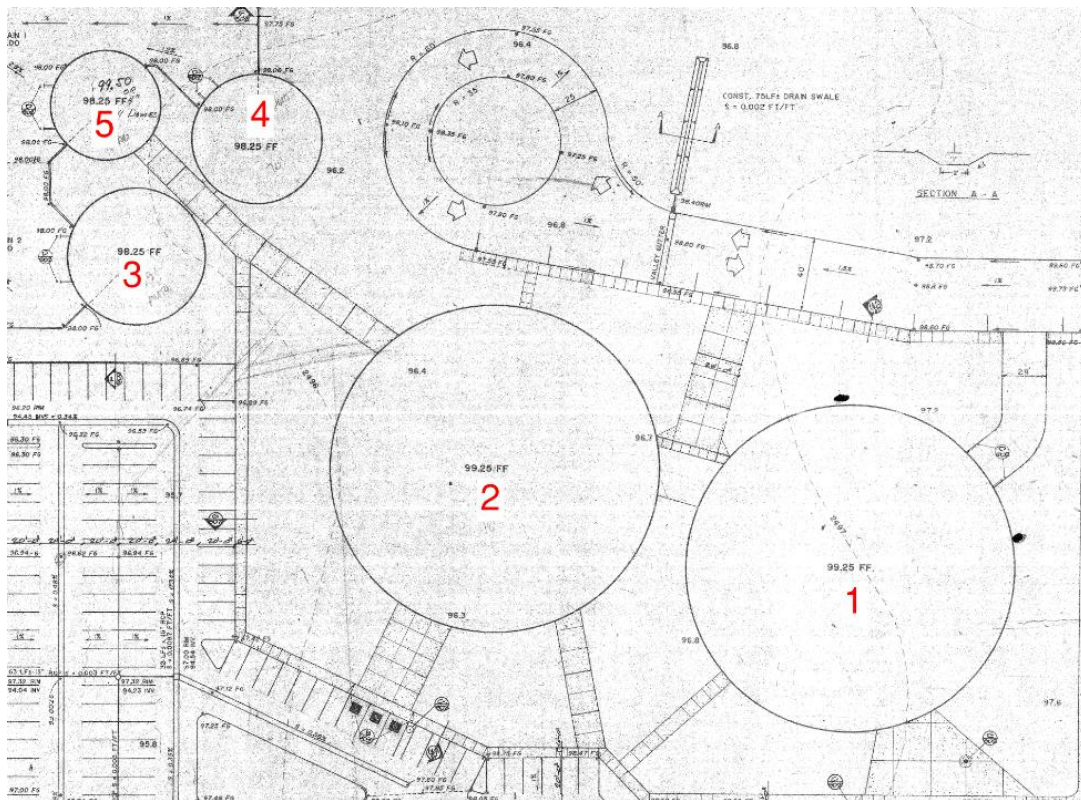


FIGURE 1: DOME NUMBERING.

3 DOCUMENTATION OF EXISTING CONDITIONS

The following sections provide the results of the assessment work, outlining the observed building envelope assemblies, details and conditions.

3.1 EXTERIOR ROOFS/WALLS

3.1.1 ASSEMBLIES

As a monolithic dome, the assembly separating interior from exterior spaces is the same for most the building and forms the roof and walls. The exterior wall assembly as outlined in the Architectural Drawings and confirmed at the exploratory opening, consist of the following:

- Single-ply roof assembly (assumed to be PVC)
- Spray foam insulation –2”
- Reinforced concrete dome

There are areas of the exterior roof/wall assembly that have been previously repaired, and the assembly replaced as follows:

- Removed single-ply roof membrane
- Added spray-foam roof assembly with elastomeric top coating
- Original spray foam insulation
- Reinforced concrete dome

There are vertical walls at entrance foyers attached to the dome portions that consist of the following:

- Exterior insulation finish system (EIFS) – 2” insulation
- Hollow metal framed doors
- 5/8” exterior gypsum sheathing
- Metal stud framing
- 5/8” interior gypsum sheathing



FIGURE 2: REPAIRED ROOF SYSTEM AT BASE OF DOME #2.



FIGURE 3: ROOF REPAIRS AT PENETRATIONS AND THE UPPER PORTION OF DOME #1.

3.2 ROOF/WALL ASSEMBLY

3.2.1 ASSEMBLIES

The original roof membrane is a white, single-ply system, assumed to be a PVC membrane, but the type of roof membrane was not confirmed. There are numerous areas of the roof that have been repaired by removing the roof membrane and

applying additional spray foam with a waterproof coating applied over the surface. The repairs are primarily focused at the base of the domes and at penetrations through the roof system, although there are repairs in other areas. Per school staff interviews, the repairs occurred sometime in 2012. The roof system extends down to grade and onto a horizontal concrete footing.

There are arched roofs over the foyers that have the same roof assembly as the primary domes. There are vertical walls at the ends of the foyers and other building entrances that have exterior insulated finish system (EIFS) cladding and hollow metal doors. There is also a hallway that connects domes #1 and #2 that has a similar roof system to the domes, although it is low sloped, and EIFS cladding on the vertical walls.

3.2.2 OBSERVATIONS AND DISCUSSION

IR images were taken of the roof/wall assembly from the exterior in the morning when the sun had a chance to warm the surface of the roof membrane. Typically, if water is present in the roof assembly, it will register at a different temperature than the dry areas (usually colder), creating a temperature anomaly which the IR camera will photograph.

The IR photos taken revealed several areas of temperature anomalies. These anomalies were typically located at the repaired roof areas and at the interfaces between the roof repair and the original roof system (See Figures 4 through 11). The temperature anomalies possibly indicate moisture has infiltrated roof area repair locations, either into the repaired portion of the roof system or into roof system portion that abuts to repairs. There is the possibility that the temperature anomalies observed are the result of wrinkles or air pockets in the spray foam repaired areas. Regardless of the cause of the temperature anomalies, the repair appears to be inefficient and not able to provide adequate thermal and watertight performance.

Temperature anomalies were also observed at areas of the original roof system, possibly indicating breaches in the roof membrane, allowing moisture to enter the roof system. See Figures 12 and 13. Note that the darker purple areas indicate colder temperatures.

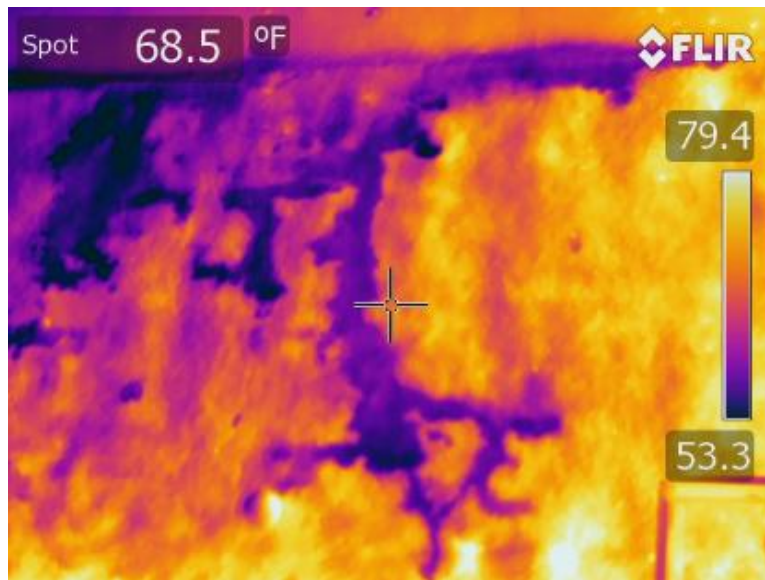


FIGURE 4: IR IMAGE OF REPAIRED ROOF AREA AT DOME #4.



FIGURE 5: IMAGE OF SAME AREA AS FIGURE 4.



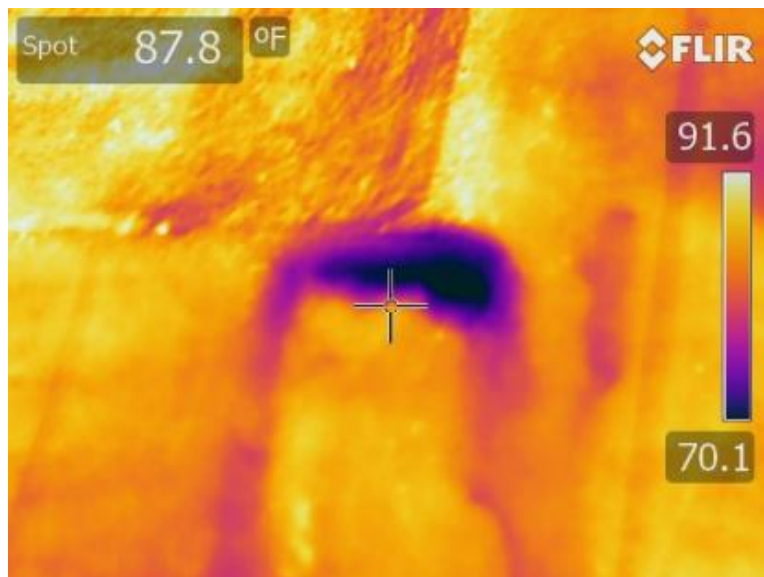
FIGURE 6: REPAIRED ROOF AREA ON DOME #1.



FIGURE 7: IR IMAGE OF SAME AREA AS FIGURE 6 SHOWING TEMPERATURE ANOMALIES AT LOWER CORNERS OF PATCHED AREA.



**FIGURE 8: CLOSE UP OF BOTTOM LEFT CORNER OF PATCHED ROOF AREA ON DOME #1
SHOWING TEMPERATURE ANOMALY.**



**FIGURE 9: CLOSE UP OF BOTTOM RIGHT CORNER OF PATCHED ROOF AREA ON DOME #1
SHOWING TEMPERATURE ANOMALY.**



FIGURE 10: AREA OF DOME #1 WITH PATCHED AREA OF ORIGINAL ROOF MEMBRANE.



FIGURE 11: IR IMAGE OF SAME AREA AS FIGURE 10 SHOWING TEMPERATURE ANOMALIES RUNNING DOWN FROM BOTTOM CORNER OF PATCHED AREA.



FIGURE 12: AREA OF DOME #5 WITH ORIGINAL ROOF MEMBRANE.

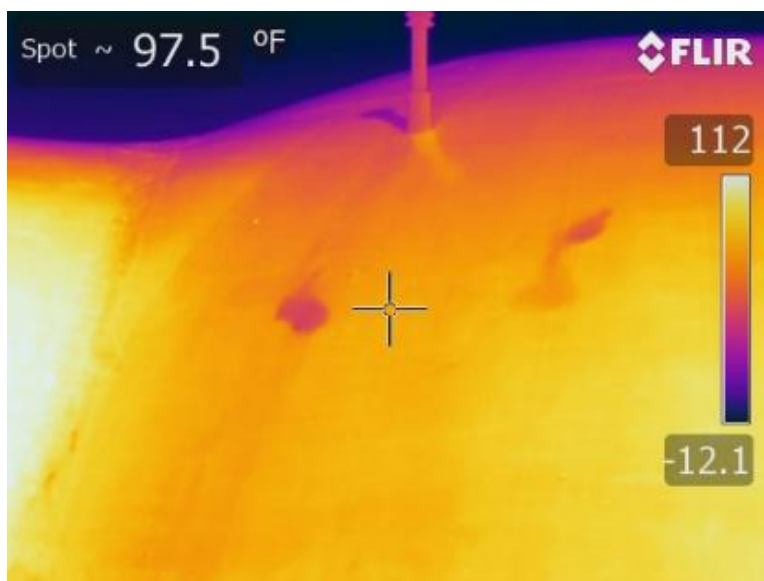


FIGURE 13: IR IMAGE OF SAME AREA AS FIGURE 11 SHOWING AREAS WITH TEMPERATURE ANOMALIES.

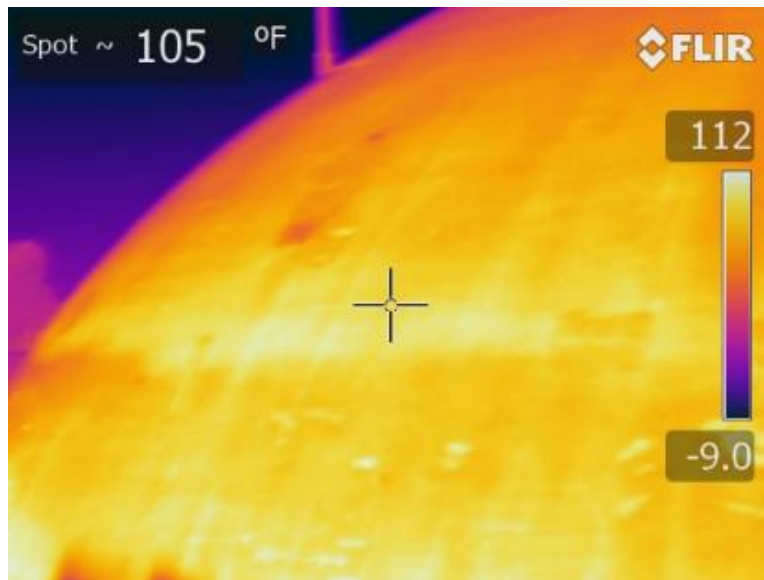


FIGURE 12: AREA OF DOME #1 SHOWING TEMPERATURE ANOMALY.

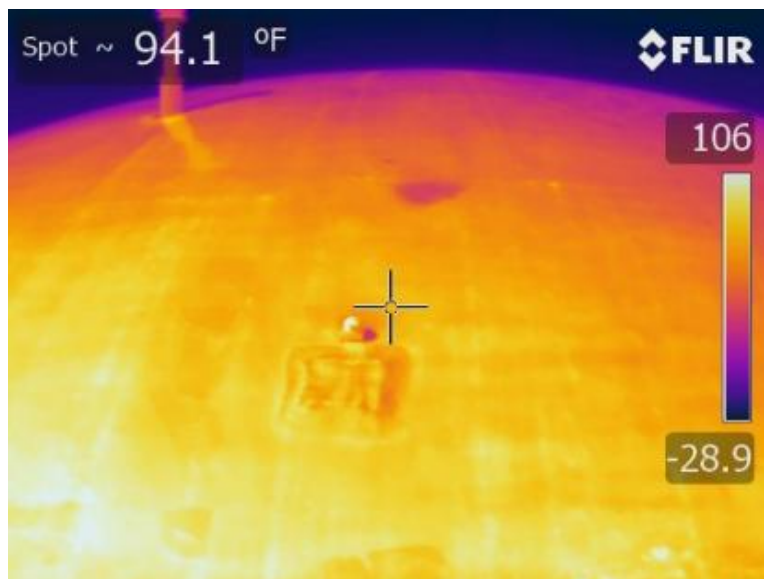


FIGURE 135: AREA OF DOME #1 SHOWING TEMPERATURE ANOMALY.

Bubbles beneath the roof membrane were observed primarily on dome #1. See Figures 16 and 17. This can be an indication of moisture beneath the roof membrane that turns to vapor when heated and expands, creating a bubble. These locations were photographed with the IR camera but did not indicate temperature anomalies.

At the bases of the domes, the original roof system, where still present, and the repaired roof system both lap onto the horizontal concrete of the footings. Several

areas were observed where the coating lapping onto the concrete has debonded (peeled away) from the concrete. This has resulted in the exposure of the underlying foam insulation to moisture, and at some locations organic growth is present in the foam insulation. See Figures 18 through 21.

Minor holes and voids in both the repaired roof coating and the original roof membrane were present at all domes. These voids will allow moisture to enter the roof system and saturate the foam insulation in isolated areas. This will reduce the thermal effectiveness of the spray foam and increase the rate of degradation of the roof system. See Figures 22 through 27.



FIGURE 146: BUBBLES IN ROOF MEMBRANE AT DOME #1.



FIGURE 157: BUBBLES IN ROOF MEMBRANE AT DOME #1.



FIGURE 168: ROOF COATING AT REPAIRED ROOF AREA ON DOME #5 DEBONDED FROM HORIZONTAL CONCRETE.



FIGURE 179: ROOF COATING AT REPAIRED ROOF AREA ON DOME #4 DEBONDED FROM HORIZONTAL CONCRETE, ALLOWING ORGANIC GROWTH TO OCCUR.



FIGURE 20: ORIGINAL ROOF MEMBRANE AT DOME #1 DEBONDING FROM HORIZONTAL CONCRETE.



FIGURE 21: ROOF COATING AT REPAIRED ROOF AREA ON DOME #2 DEBONDED FROM HORIZONTAL CONCRETE, ALLOWING ORGANIC GROWTH TO OCCUR.



FIGURE 22: SPLIT IN ROOF COATING AT REPAIRED ROOF AREA ON DOME #4.



FIGURE 23: SEVERAL HOLES THROUGH THE ORIGINAL ROOF MEMBRANE WITH EVIDENCE OF PREVIOUS REPAIRS AT DOME #4.



FIGURE 24: SEVERAL HOLES THROUGH THE REPAIRED ROOF AREA AT DOME #2.



FIGURE 25: SPLIT IN ROOF MEMBRANE AT DOME #1 WITH EVIDENCE OF PREVIOUS REPAIR THAT HAS SINCE FAILED.



FIGURE 26: HOLE THROUGH ROOF COATING AND SPRAY FOAM AT REPAIRED ROOF AREA ON DOME #1.



FIGURE 27: HOLE THROUGH ROOF COATING AT REPAIRED ROOF AREA ON DOME #4.

3.3 EXPLORATORY OPENING

3.3.1 OBSERVATIONS AND DISCUSSION

An exploratory opening had been previously created on the south side of Dome #2. The opening was the result of a split in the coating and foam of a repaired area of the roof that had been expanded and a section of foam removed during our time on site. The spray foam added during the repair appeared to have debonded from the spray foam of the original roof system. Evidence of an attempted repair of the split insulation was observed in the form of additional spray foam added between the layers. The split between the layers of insulation was apparent adjacent to the exploratory opening where the foam moved when pressed. The total depth of the insulation outboard of the concrete was approximately 2 inches. There appeared to be approximately 1 ½ inches of foam from the original roof assembly and approximately ½ inch of foam from the repair conducted in 2012. See Figures 28 through 33.

A hole was cored through the concrete, by the materials engineer who was on site at the same time, to observe the condition of the concrete. Approximately 4 inches of concrete was cored and removed, but the core was not drilled through the entire depth of the concrete dome.



FIGURE 28: SPLIT IN ROOF COATING AND FOAM BEFORE REMOVAL WITH EVIDENCE OF PREVIOUS REPAIR.



FIGURE 29: SPLIT BETWEEN LAYERS OF FOAM INSULATION.



FIGURE 30: OUTER LAYER OF FOAM REMOVED, REVEALING EVIDENCE OF PREVIOUS REPAIR WITH ADDED SPRAY FOAM.



FIGURE 31: LAYERS OF FOAM INSULATION AT EXPLORATORY OPENING.



FIGURE 32: DEPTH OF FOAM INSULATION AT EXPLORATORY OPENING.



FIGURE 33: FOAM INSULATION ADDED DURING 2012 REPAIR.

3.4 INTERIOR REVIEW

3.4.1 OBSERVATIONS AND DISCUSSION

Visual review and IR camera images were conducted at the exterior wall of various classrooms on the first, second, and third floors of Dome #1 and at the gymnasium of Dome #2. These tasks were also conducted in the service area above the faux

atrium at the peak of Dome #1. A visual review of the interior of Dome #3 was also conducted.

No evidence of water ingress through the concrete domes was observed in any of the dome interiors reviewed. No staining that would indicate water leakage, or temperature anomalies in the IR images were observed during the interior review. Several cracks in the concrete interior wall of the dome were observed in Dome #1. See Figures 34 through 36.



FIGURE 34: CRACK IN CONCRETE OBSERVED IN CLASSROOM 108.



FIGURE 35: CRACKS IN CONCRETE THAT HAD RECENTLY BEEN PAINTED OVER, ROOM 110.



FIGURE 36: UNDERSIDE OF TOP OF DOME #1 IN SERVICE AREA ABOVE FAUX ATRIUM.

3.5 VERTICAL WALLS AND DOORS

3.5.1 OBSERVATIONS AND DISCUSSION

At the entrances to the domes, and the connecting corridor between domes #1 and #2, there are vertical walls with doors installed. There are also overhead coiling doors at domes #3 and #5, as well as louver assemblies at Dome #2 and Dome #5. These entrances typically have arched roofs over them, with the same roof assembly as the

domes, or canopies to provide shelter to the doors. The vertical walls are clad with exterior insulated finish system (EIFS). See Figures 37 through 42.



FIGURE 37: TYPICAL MAIN ENTRANCE AT DOMES #1 AND #2.



FIGURE 38: TYPICAL SECONDARY ENTRANCE AT ALL DOMES.



FIGURE 39: ENTRANCES AT CORRIDOR BETWEEN DOMES #1 AND #2. NOTE THAT CANOPY DOES NOT COVER ALL DOORS.



FIGURE 40: TYPICAL LOUVER ASSEMBLY INSTALLED IN VERTICAL WALL.



FIGURE 41: TYPICAL OVERHEAD COILING DOOR AT DOME #5.



FIGURE 42: TYPICAL COVERED ENTRANCE AT SMALLER DOMES.

Entrance doors are typically non-thermally broken hollow metal framed units with glass of varying in size throughout. Gaskets provided at the perimeters of the doors are in bad condition with damage, gaps and painted gaskets observed, which will limit the ability for the gaskets to seal. Gaskets at overhead coiling doors are similarly in bad condition, with many gaps and damaged gaskets observed. Hollow metal framed doors typically have brush sweeps over aluminum thresholds at the sills.

Sealant joints between the doors, louvers, and EIFS cladding appeared to be in good condition. See Figures 44 through 51.

The EIFS cladding does not appear to be from the original construction, but appeared to be a face-sealed system, as there was no accommodation for draining the system observed. Whether a weather resistant membrane is provided on the exterior sheathing beneath the EIFS cladding was not known; the original architectural drawings do not show a sheathing membrane. See Figure 43. Face-sealed EIFS systems are problematic, as they do not account for moisture entering behind the face seal, and don't provide a method of draining incidental moisture. They also typically don't provide a weather resistant barrier on the exterior sheathing that would protect the wall assembly from moisture-related deterioration. There is also an area at the enclosed corridor between Domes #1 and #2 where the EIFS system interfaces directly with the roof system and is not vertical, with a portion of the EIFS clad wall being skyward facing. EIFS is not intended to be installed on walls that aren't vertical.

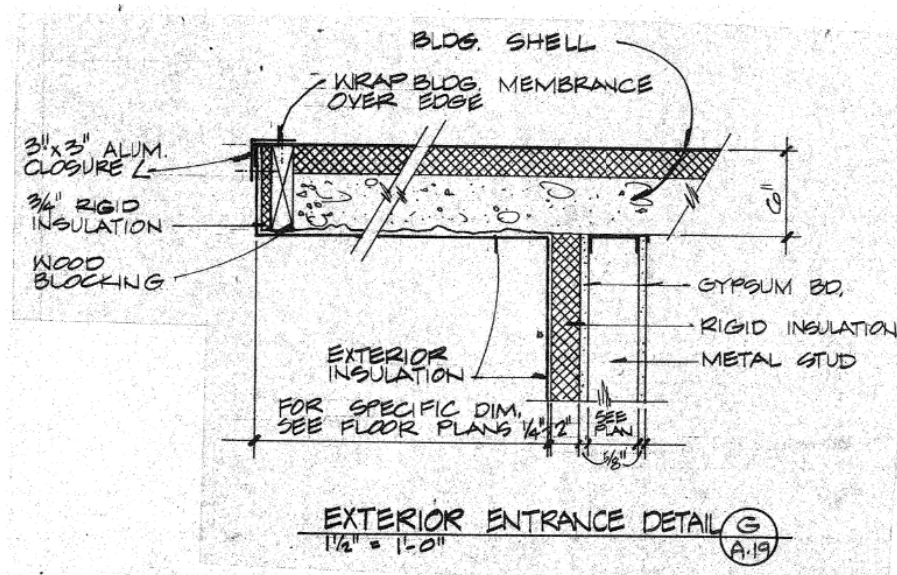


FIGURE 43: WALL/ROOF DETAIL AT ENTRANCE.



FIGURE 44: TYPICAL HOLLOW METAL DOOR ASSEMBLY.



FIGURE 45: HOLLOW METAL FRAME SHOWING LACK OF THERMAL BREAK.



FIGURE 46: DAMAGED GASKETS AT HOLLOW METAL DOOR.



FIGURE 47: PAINTED GASKETS AT HOLLOW METAL DOOR, WHICH LIMITS THE ABILITY FOR THE GASKETS TO SEAL.



FIGURE 48: SKYWARD FACING EIFS CLADDING INTERFACING DIRECTLY WITH REPAIRED ROOF AREA.



FIGURE 49: TYPICAL LOUVER ASSEMBLY INSTALLED IN VERTICAL WALL.



FIGURE 50: DAMAGED/MISSING GASKETS AT OVERHEAD COILING DOORS.



FIGURE 51: BROOM SWEEP GASKET AT HOLLOW METAL DOOR SILL.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1.1 ROOF SYSTEM

The roof system is exhibiting signs of previous and current water ingress. Although there was no evidence of moisture ingress into the interior of the building, leaks into the roof system will exacerbate degradation of the system and reduce the

effectiveness of the thermal insulation, requiring higher energy costs to heat and cool the buildings. The extensive repairs conducted in 2012 provide evidence of previous issues in the roof system that required removal of the original roof membrane and replacement with additional spray foam and waterproof coating. These repairs are now exhibiting signs of water ingress, breaches, delaminations, and general failure of the system. The amount of thermal insulation provided by the spray foam also does not provide the R-value required by current codes, which will also contribute to higher energy costs from heating and cooling of the domes.

It appears that the entire roof system, from the original construction, which is approximately 40 years of age, with the extensive repairs, has reached the end of its effective lifespan and should be replaced. However, the original construction of these domes are not conducive to replacement of the roof system. The unique construction of these domes will mean that roof replacement is very challenging. Typically, for more conventional construction, we would recommend a roof replacement system with a self-adhered air/vapor barrier applied directly to the concrete with rigid board insulation (typically polyisocyanurate), with an SBS modified asphalt, 2-ply roof membrane system, or a single ply membrane system. The challenges with either of these systems are the attachment of the insulation, and the fact that rigid insulation will not conform to the curvature of the domes. Attachment of the insulation could be achieved by either adhering to the air/vapor barrier, or mechanical attachment. Both methods pose challenges since typical roof adhesive is not intended for the steep slopes that are present on the domes, and mechanical attachment will require drilling thousands of holes into the concrete structure. Providing a more flexible insulation to conform to the curvature of the domes, such as mineral wool, will then also require a coverboard to attach the roof membrane to, which will not conform to the curvatures. To bring the roof assembly up to current building codes, additional insulation will need to be added to bring the R-value up to R-30; the increased weight will need to be evaluated by a structural engineer.

There are also the issues of warranty, maintenance, and liability. Roofing manufacturers will likely not provide a warranty on such unique structures. A designer of a roof replacement would also likely charge exorbitant fees to offset the increase in liability due to the challenging nature of these roofs. Access to the roof areas to perform maintenance and repairs is also a challenge for the dome structures. Fall protection anchors will likely need to be added to allow maintenance and repair access. The attachment of these anchors will also require evaluation by a structural engineer.

A spray foam roof system should be considered, such as what was utilized for the repairs conducted in 2012. However, these systems are not widely used and may require an out-of-state contractor to install. The installation challenges and warranty issues noted above will also apply to this type of system, but it is possible that a manufacturer of this type of system will provide a standard warranty. These systems are also less durable than the other systems described above, as evidenced by the damage to the repaired areas observed during the assessment. A separate cladding system could be installed around the bases of the domes to provide enhanced durability where accessible.

A further option would be a standing seam roof system intended for special building shapes. These are systems that use a substructure that can be adjusted in three dimensions to compensate for irregularities in the supporting structure. Again, the added weight of this substructure would have to be evaluated by a structural engineer to ensure the structure can support this. This option would likely be more expensive than a spray foam roof system, but would be more durable and have a longer service life.

Stantec recommends replacement of the roof system. The design of the replacement roof system will require further investigation into the viability of a replacement system.

4.1.2 VERTICAL WALLS AND DOORS

Although the doors and EIFS cladding do not appear to be contributing to water ingress, their thermal performance and air leakage resistance are likely not performing at current standards to provide R-value or air leakage resistance. Per current building code requirements, steel-framed walls require R-15 cavity insulation plus R-10.4 continuous exterior insulation, or R-21 cavity insulation and R-9.3 continuous exterior insulation. Currently, the only insulation provided in the vertical walls is 2 inches of expanded foam insulation provided in the EIFS system. This would amount to approximately R-10 worth of thermal resistance in these walls. Additional cavity insulation could be provided in these walls to bring them up to current code standards, but this would require removal of interior finishes. The preferred approach would be to remove the existing exterior EIFS cladding, install a weather resistant barrier to the exterior sheathing, install additional insulation to provide R-value in line with current codes, and replace the cladding with new EIFS or other cladding per the owner's choice.

The swing doors and overhead doors provided in the vertical walls are non-thermally broken and have deficient gaskets. These doors have also likely reached the end of



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



their effective lifespans and Stantec recommends they be replaced with thermally broken units with continuous gaskets to limit air leakage.

Yours truly,

Stantec Consulting Services Inc.

Jason McKenzie, RRO, RWC
Senior Building Science Consultant
jason.mckenzie@stantec.com

John Daly
Peer Review
Senior Building Science Consultant
john.daly@stantec.com



Engineering
Opportunities

412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985

SECTION #7

Conceptual Cost Estimation of Recommendations

by

Beniton Construction



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



Emmett High School – Facility Condition Assessment

Conceptual Cost Estimation

721 W 12th Street, Emmett, ID 83617



KPFF Job No. 1021260001

June 26, 2026

EXECUTIVE SUMMARY

Beniton Construction reviewed the building evaluation reports prepared by each design professional and developed a cost estimate for the recommended improvements. The estimate includes hard construction costs, soft costs, and other project-related expenses to provide a realistic overall project budget. Certain items are identified as ‘TBD’ due to the variations in Owner preferences, operational needs, and project-specific requirements.

This estimate is conceptual in nature and has been developed using the information currently available. Reasonable assumptions have been made regarding scope and construction methods where project details are not yet defined. Beniton recommends refining the estimate as design develops and additional information becomes available.

Constructions costs are based on current market pricing. A 3% annual escalation factor should be applied to the “Construction Total” for each year between the date of this estimate and the anticipated bid date to account for increases in labor and material costs.

Beniton recommends the Owner carry a separate minimum 5% project contingency to account for scope refinement and other unknowns that may arise as the project progresses.

To provide additional cost perspective, current market pricing for new educational facilities ranges from approximately \$375 to \$425 per square foot.

1 SCOPE OF WORK ASSUMPTIONS & CLARIFICATIONS

1.1 SITE IMPROVEMENTS

- Re-grade a 20ft perimeter around each dome. Patchback disturbed area with a mix of landscaping and hardscaping surfaces. Includes replacement of exterior slab-on-grade at the music room entry.
- Incorporate an underground stormwater retention system.

1.2 GENERAL BUILDING UPDATES

- Remove exterior building skin and insulation at all domes. Install new spray foam insulation (5”). It is assumed the dome structures can support additional load from insulation. Structural upgrades are not included in the project budget.
- Install metal shingle exterior cladding at all domes (includes tie-off anchors). It is assumed the dome structures can support additional load from metal shingles. Structural upgrades are not included in the project budget.

- Reconstruct EIFS at entries to include weather barrier and additional insulation.
- Replace exterior swing doors, frames, and overhead doors.
- Replace 25% of interior doors, frames, and hardware to correct door swing issues and ADA deficiencies.
- Replace 75% of interior door hardware to correct ADA deficiencies.
- Construct a 7-ft tall framed wall around the perimeter on all levels of each building to eliminate low-headroom areas.
- Allowance to upgrade building finishes includes replacement of cabinetry, trim, ceilings, acoustic panels, paint, flooring, whiteboards, lockers, etc.
- Extend fire sprinklers into areas without sprinkler coverage (assumed to be 25% of building area).
- Upgrade plumbing equipment and piping per Musgrove's recommendations. Includes replacement of sewer/water piping located under slab and within walls.
- Upgrade HVAC equipment and hydronic heat piping per Musgrove's recommendations. Includes refurbishing air handlers in-place (air handler cabinets / enclosures to remain). Provide new DDC controls for HVAC equipment in all domes.
- Increase power outlet accessibility within classrooms (assumed 4 new outlets in each classroom).
- Install new LED lighting, voice evacuation fire alarm system, data cabling infrastructure, and intercom system throughout all domes.
- Upgrade electrical gear (main switch boards, motor control centers, and branch panels).

1.3 RATED SEPARATION AT LEVEL 2 OF ATRIUM

- Provide an additional layer of gypsum board with fire tape within the atrium on level 2.
- Infill level 2 atrium openings with a fire-rated glazing system.
- It is assumed the existing smoke exhaust system is sufficient for smoke control within the atrium.

1.4 REPLACE / MODIFY HANDRAILS

- Replace 50% of handrails with new and modify 50% of handrails to meet ADA requirements.

1.5 PATCH DOME AT EXPOSED REINFORCEMENT

- Patch dome in gymnasium air handler room. The exposed reinforcement is assumed to be isolated and not a widespread condition.

1.6 VESTIBULES & SECURED MAIN ENTRANCE

- It is assumed that vestibule structures will be sized to minimize the impact on existing building components, louvers, etc.
- Vestibules are not included at music room entry, gymnasium dome northeast entry (near women's locker room), classroom dome south entry (near classroom C-147), and (3) small dome entrances.

1.7 RESTROOM UPGRADES

- Reconfigure all restrooms to meet ADA requirements.
- Upgrade fixtures and finishes.

1.8 RECONFIGURE SELECT CLASSROOMS

- Relocate teaching walls in select rooms.
- Adjust wall layout in (2) classrooms to improve sightlines.

1.9 KITCHEN EXPANSION

- Existing equipment and walk-in units are expected to remain in place.
- Convert approximately 350 SF of the adjacent classroom into kitchen space to accommodate additional dry storage, serving line reconfiguration, and related support functions.

2 PROFESSIONAL SERVICE FEES, SOFT COSTS & ADDITIONAL ITEMS

2.1 CONSTRUCTION MANAGEMENT & ARCHITECTURAL COSTS

- General Conditions, CM fee, Contingency, and Architectural / Engineering fees are subject to change based on the final construction scope, project complexity, and phasing. The estimate includes placeholders for these costs for budgeting and planning purposes. The cost for this initial dome assessment is included in this section. The cost for additional crack monitoring and placement of GPS points by Atlas is captured within the Architectural / Engineering fee allowance.

2.2 SOFT COSTS & ADDITIONAL ITEMS

- Soft costs are an important component to the overall project budget and should be considered when evaluating total project funding. The estimate includes allowances for soft costs that apply to this specific project scope. Items with a 'TBD' cost are dependent on final Owner and engineering requirements.



412 E Parkcenter Blvd, Suite 200
Boise, ID 83706
208.336.6985 | kpff.com



- Additional Items represent project costs that are not included in the direct construction costs or soft costs. Furnishings, Fixtures & Equipment (FF&E) include all non-permanent items required to operate the facility, such as movable equipment, desks, chairs, and other loose furnishings. Technology includes classroom and administrative equipment such as computers, laptops, tablets, printers and displays required to support school operations and instruction. These items vary based on the Owner's needs and preferences. As a result, these costs have been identified as 'TBD'.



Project: Emmett High School Improvements
Current Date: 6/30/2026
Estimator: BG & AU

Design Lead: KPFF
Budget: TBD
Duration: 7 months

Conceptual Estimate

Square Feet: 103,575

Description	Estimate Amount	SF Cost	Notes
Construction Cost			
Site Improvements			20ft perimeter around domes
- Grading	\$ 166,985	\$ 1.61	
- Storm Drainage	\$ 106,970	\$ 1.03	
- Landscaping / Hardscaping	\$ 298,710	\$ 2.88	
General Building Updates			
- Remove/Replace Exterior Insulation	\$ 1,712,900	\$ 16.54	
- Metal Shingle Cladding	\$ 1,575,216	\$ 15.21	See standing seam alternate (page 2)
- Reconstruct EIFS at Entrances	\$ 86,042	\$ 0.83	
- Doors, Frames, & Hardware	\$ 507,000	\$ 4.90	
- Mitigate Low-Headroom Areas	\$ 229,222	\$ 2.21	
- Allowance to Upgrade Finishes	\$ 2,978,817	\$ 28.76	
- Fire Sprinklers	\$ 123,254	\$ 1.19	Assuming 25% of area
- Plumbing Improvements	\$ 1,917,173	\$ 18.51	
- Water Softener			
- Water Heater (Gym Dome)			
- Reduced Pressure Backflow Preventer			
- Replace Sanitary Sewer Piping			
- Replace Domestic Water Piping			
- HVAC Improvements	\$ 3,502,498	\$ 33.82	
- New Boilers, Pumps, and Hydronic Heat Piping			
- Refurbish Air Handlers			
- Relief Fans			
- Smoke Exhaust Equipment			
- DDC Controls			
- Electrical Improvements			
- Power Outlet Accessibility	\$ 321,750	\$ 3.11	
- LED Light Fixtures	\$ 435,015	\$ 4.20	
- Fire Alarm	\$ 502,339	\$ 4.85	
- Data Cabling	\$ 385,299	\$ 3.72	
- Intercom System	\$ 332,476	\$ 3.21	
- Electrical Gear (MSBs, MCCs, Branch Panels)	\$ 947,500	\$ 9.15	
Rated Separation at Level 2 of Atrium	\$ 138,384	\$ 1.34	
Replace / Modify Handrails	\$ 23,700	\$ 0.23	
Patch Dome at Exposed Reinforcement	\$ 6,255	\$ 0.06	
Vestibules & Secured Main Entrance	\$ 885,600	\$ 8.55	
Restroom Upgrades (ADA & Finshes)	\$ 1,333,200	\$ 12.87	
Reconfigure Select Classrooms	\$ 62,600	\$ 0.60	
Kitchen Expansion	\$ 158,400	\$ 1.53	Expand into adjacent classroom
Escalation Factor	TBD	\$ -	See report for annual rate

	Construction Subtotal	\$ 18,737,305	\$ 180.91	per sqft
	General Conditions/Reimbursables	\$ 357,730	\$ 3.45	
	CM Fee	\$ 954,752	\$ 9.22	
	Weather Protection/Temporary Heat	TBD	\$ -	
	Contingency @ 10%	\$ 1,873,731	\$ 18.09	
	Construction Total	\$ 21,923,517	\$ 211.67	per sqft

Design Cost				
	A&E Fee Allowance	\$ 1,753,881	\$ 16.93	
	A&E Reimbursables Budget	\$ 15,000	\$ 0.14	
	Design Cost Subtotal	\$ 1,768,881	\$ 17.08	per sqft

Soft Costs				
	Plan Review & Building Permit Fees	\$ 185,000	\$ 1.79	
	Misc. Review Fee Budget	\$ 2,000	\$ 0.02	
	Cable, Fiber, Gas Service Upgrades	TBD	\$ -	
	Initial Dome Assessment	\$ 70,550	\$ 0.68	
	Survey Work - Design	\$ 5,000	\$ 0.05	
	Materials Testing & Inspections	\$ 30,000	\$ 0.29	
	Builders Risk Insurance	\$ 20,000	\$ 0.19	
	Building Commissioning	TBD	\$ -	
	Soft Costs Total	\$ 312,550	\$ 3.02	per sqft

Additional Items				
	Furnishings, Fixtures, & Equipment	TBD	\$ -	
	Technology	TBD	\$ -	
	Bond Planning Measures	\$ 20,000	\$ 0.19	
	Additional Items Subtotal	\$ 20,000	\$ 0.19	per sqft

Total Project Cost	\$ 24,024,949	\$ 231.96	per sqft
---------------------------	----------------------	------------------	-----------------

Alternates (not included above)				
1	Standing Seam Cladding in lieu of Metal Shingles	\$ 3,634,976	\$ 35.10	
	Alternates Total	\$ 3,634,976	\$ 35.10	per sqft

Total with Alternates	\$ 27,659,925	\$ 267.05	per sqft
------------------------------	----------------------	------------------	-----------------