

Office of the Legislative Auditor General
Report to the UTAH LEGISLATURE





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May 12, 2025

TO: THE UTAH STATE LEGISLATURE

Transmitted herewith is our report:

"Public School Construction Standards and Efficiency" Report #2025-09.

An audit summary is found at the front of the report. The scope and objectives of the audit are included in the audit summary. In addition, each chapter has a corresponding chapter summary found at its beginning.

<u>Utah Code 36-12-15.3(2)</u> requires the Office of the Legislative Auditor General to designate an audited entity's chief officer. Therefore, the designated chief officer for the Utah State Board of Education is Superintendent Sydnee Dickson. Dr. Sydnee Dickson has been notified that they must comply with the audit response and reporting requirements as outlined in this section of *Utah Code*.

We will be happy to meet with appropriate legislative committees, individual legislators, and other state officials to discuss any item contained in the report in order to facilitate the implementation of the recommendations.

Sincerely,

Kade R. Minchey, CIA, CFE

Auditor General

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AUDIT SUMMARY

REPORT 2025-09 | MAY 2025

Office of the Legislative Auditor General | Kade R. Minchey, Auditor General



PERFORMANCE AUDIT

AUDIT REQUEST

The Legislative Audit
Subcommittee requested an audit of statewide school construction to determine the effectiveness of the Utah
State Board of Education's (USBE) oversight of school construction and determine the efficiency of USBE's school construction practices.

BACKGROUND

The Utah State Board of Education (USBE) is responsible for verifying compliance with inspection requirements and enforcing pre-construction requirements. USBE's responsibility to verify that school building inspections occur stems from the importance of assuring the life and safety of school building occupants.

STANDARDS AND EFFICIENCY OF SCHOOL CONSTRUCTION

- **✓ 1.1** K-12 School Construction Would Benefit From Improved Oversight
- ✓ 1.2 Cost Reporting for K-12 Construction Is Insufficient for Informed Decision Making at the Local Education Agency and State Levels
- **2.1** An Independent Review of School Building Compliance Identified Consistent Problems
- 2.2 Due to Oversight Weaknesses, The Legislature Should Review Options for Restructuring Oversight



RECOMMENDATIONS

- 1.1 The Utah State Board of Education should develop sufficient internal controls to functionally verify and enforce compliance with its pre-construction and inspection verification requirements.
- ✓ 1.3 The Utah State Board of Education should provide training for local education agencies so that they understand their responsibilities and are aware of the state board's code compliance requirements.
- ✓ 1.4 The Utah State Board of Education should implement a standardized cost reporting system, require construction managers at local education agencies to report all associated construction project costs according to standard criteria, and make it available to relevant agency and local education agency officials.
- ✓ 2.1 Local education agencies should comply with stateadopted building codes and state requirements for K-12 construction and inspection.
- 2.5 The Legislature should consider the restructuring options laid out in this report to implement legislative audit recommendations and to improve local education agency construction and inspection oversight.

LEGISLATIVE AUDITOR GENERAL

AUDIT SUMMARY

CONTINUED



K-12 School Construction Can Benefit From Improved Oversight

The state board is responsible for verifying compliance with state requirements, which they are not consistently doing. Local education agencies (LEAs) are responsible for complying with state construction and inspection requirements. We found several instances where this has not occurred.

Cost Reporting for K-12 Construction Is Insufficient for Informed Decision Making at the LEA and State Levels

The LEA construction cost data that USBE maintains is largely unusable because it is poorly managed. State officials and policymakers are unable to determine the actual cost of school construction in the state. There is an opportunity for better, more useful information to be reported and maintained.

Due to Oversight Weaknesses, The Legislature Should Review Options for Restructuring Oversight.

LEA noncompliance with building code and inspection requirements can increase risks to the safety of K-12 building occupants and state-insured public-school property. Deficient state oversight and enforcement of building code and inspection compliance contributes to these risks.

An Independent Review of School Building Compliance Identified Consistent Problems

Our independent, certified building inspectors found compliance problems with recent construction projects, which should generally not occur if LEAs comply with building code requirements. The effect of LEA noncompliance with building codes can manifest in risks to school property and building occupants.

One District Used Questionable Bid Practices That Other Districts Did Not Utilize

One school district's procurement practice represents an uncommon practice when compared with a sample of thirteen other districts in the state. Although we did not establish undue bias nor illegal procurement methods, the district's practices exhibit the appearance of impropriety.

USBE Maintains Current Level of Oversight With Improvements

The Legislature could maintain the status quo, with USBE responsible for overseeing K–12 school construction and inspection. In this scenario, USBE should address the recommendations for improvement in this audit.

A Designated State Agency Takes Over the State Board's Current Responsibilities

The Legislature could establish an oversight division within a state agency, such as the Department of Government Operations or even the Division of Facilities and Construction Management (DFCM). In this scenario, LEAs maintain current level of control over building construction, financing, and planning. The only difference is that LEAs would report to a new entity designated by the Legislature, which would ensure compliance with current statutory requirements.

The Designated State Agency Increases or Decreases Oversight Over LEAs

The Legislature could establish a division within a state agency that is responsible for management and oversight of school construction. In this scenario, LEAs would retain responsibility for financing construction, but the Legislature could consider varying levels of oversight and resource provision along a spectrum from more to less involvement.



CHAPTER 1 Summary

USBE Is Not Sufficiently Overseeing K-12 School Construction; Legislature Should Consider New Oversight Options



BACKGROUND

The Utah State Board of Education (USBE) is responsible for verifying local education agency (LEA) compliance with inspection requirements and enforcing pre-construction requirements. USBE's responsibility to verify that school building inspections occur stems from the importance of assuring the life and safety of school building occupants.

FINDING 1.1 K-12 School Construction Would Benefit from Improved Oversight.

RECOMMENDATION 1.1

The Utah State Board of Education should develop sufficient internal controls to functionally verify and enforce compliance with its pre-construction and inspection verification requirements.

RECOMMENDATION 1.2

The Utah State Board of Education should develop or procure an online document management system, or portal, to maintain all the state required construction and inspection documentation to enable verification of compliance with statute and *Administrative Rule*.

RECOMMENDATION 1.3

The Utah State Board of Education should provide training for local education agencies so that they understand their responsibilities and are aware of the state board's code compliance requirements.

FINDING 1.2 Cost Reporting For K-12 Construction Is Insufficient for Informed Decision Making at the LEA and State Levels.

RECOMMENDATION 1.4

The Utah State Board of Education should implement a standardized cost reporting system, require construction managers at local education agencies to report all associated construction project costs according to standard criteria, and make it available to relevant state agency and local education agency officials.



CONCLUSION

USBE needs to fulfill its oversight responsibilities and enforce compliance according to its authority as it pertains to school construction. Lack of strong oversight by USBE may contribute to a culture of LEA noncompliance with state requirements.





Chapter 1 USBE Is Not Sufficiently Overseeing K-12 School Construction; Legislature Should Consider New Oversight Options

The Utah State Board of Education (USBE or state board)'s school construction oversight structure is not functioning according to statute. USBE is responsible for verifying compliance with inspection requirements and enforcing preconstruction requirements. The need for improved oversight was apparent in a

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While LEAs are responsible for their own compliance, USBE has not fulfilled its statutory responsibilities nor enforced compliance according to its authority.

review of state board processes and local education agency (LEA) noncompliance with state construction and inspection requirements. The effect of LEA noncompliance with building codes can manifest in risks to school property and building occupants. While LEAs are responsible for their own compliance, USBE has not fulfilled its oversight responsibilities nor enforced compliance according to its authority. In this chapter we primarily focus on state level oversight of school construction. We believe that

ineffective oversight by USBE has encouraged a culture of LEA noncompliance with state requirements. Therefore, in Chapter 2 we recommend the Legislature consider new oversight options for school construction.

1.1 K-12 School Construction Would Benefit From Improved Oversight

USBE is not directly responsible for ensuring building code compliance. The state board is responsible for verifying compliance with state requirements, which they are not consistently doing. LEAs are responsible for complying with state construction and inspection requirements. We found several instances where this has not occurred. The impact of insufficient inspections and untrained building officials can materialize as a risk to school property and the life and safety of school building occupants.

USBE Has Not Enforced Pre-Construction Requirements, Contributing to a Culture of LEA Noncompliance

Administrative Rule requires LEAs to complete USBE's school construction permitting process (pre-construction checklist) before construction begins, after



which USBE issues a permit (project number).¹ USBE's pre-construction checklist ensures that required coordination with certain state and local entities happens before construction begins. To enforce this and other requirements, *Administrative Rule* provides enforcement mechanisms, but USBE has reportedly never used them.

The general lack of USBE enforcement of pre-construction requirements appears to have contributed to persistent noncompliance among the state's LEAs. However, some LEAs have reported that USBE is not timely in processing their submissions, and both contractors and LEAs have reported that USBE has not generally enforced compliance. USBE's lack of timely processing of required permit submittals likely impacts its ability to enforce deadlines when the state board itself is not keeping up. Because of this situation, LEAs often proceed with construction before complying with rules.

Figure 1.1 shows an analysis of pre-construction compliance for 30 construction projects from 2017 to 2024. Eighty-seven percent of these LEA construction projects were noncompliant with current requirements, either having started to build before receiving a permit or never having received a permit at all.

Figure 1.1 Compliance with USBE Pre-Construction Permitting Requirements in a Sample of LEA Construction Projects. The median duration of noncompliance was about 74 days for the 18 LEA construction projects that started construction before receiving a USBE permit.

Noncompliant—Began to Build Before Receiving USBE Permit	19
Noncompliant—No USBE Permit Issued	7
Compliant—Received USBE Permit Before Beginning to Build	4
LEA Construction Projects Reviewed	30

Source: LEA project documentation submitted to OLAG auditors and USBE project database.

A prior lack of LEA compliance with USBE pre-construction requirements was observed in a 2023 legislative audit; this resulted in increased costs and delays to the audited LEA's projects because the local government enforced a shutdown at its construction site. This example shows the possible effect of LEA noncompliance with state pre-construction requirements. USBE reportedly began to proactively monitor potential construction projects and educate districts. However, as demonstrated in Figure 1.1, issues of noncompliance persist.

The requirement is clear that pre-construction submissions must be made, and a project number issued before construction begins. For their part, LEAs should

¹ Administrative Rule R277-471-6(1)



comply with pre-construction requirements before beginning to build; USBE should encourage compliance by faithfully enforcing its authority using the existing mechanisms in *Administrative Rule*.

The State Board's Inspection Verification Process Is Broken

The Legislature has established requirements for LEAs and for the state board to ensure that inspections of school buildings occur during the construction process. LEAs directly oversee the inspection of their own schools and are required to comply with state requirements. The state board's responsibilities are various but summarized well in this specific statutory requirement:

Utah Code 53E-3-707(4)

"The State board shall develop a process to verify that inspections by qualified inspectors occur in each school district or charter school."

USBE's responsibility to verify that school building inspections occur stems from the importance of assuring the life and safety of school building occupants. Qualified inspections verify compliance with the state-adopted building codes,

which exist to establish minimum standards for the protection of property and the safety of building occupants. We commissioned independent code inspectors to verify compliance in a sample of recent school construction projects. Chapter 2 reports findings of LEA noncompliance with building codes.

The State Board's Project Closeout Process Does Not Verify Inspection Compliance. USBE reported that current processes have no way to verify that inspections are occurring, outside of trusting a building official's attestation.² When USBE is the

Verification of compliance is the statutory standard, and the consequences of noncompliance can be a risk to school property and life and safety of building occupants.

authorizer of permanent occupancy of a school building, *Utah Code* requires that the state superintendent shall either issue a certificate of occupancy (CO) or deliver a letter to the LEA indicating deficiencies in building code compliance or inspection, which must be addressed.³ However, the current process reportedly does not yield any information which would allow the state board to identify

² The LEA building official—who is most often not a certified code inspector—attests that the building is compliant with building codes in the CO request form.

³ USBE is directly involved on final occupancy certification when an LEA opts for third-party inspections.



any deficiencies; it is essentially a rubber stamp. Verification of compliance is the statutory standard, and the consequences of noncompliance can be a risk to school property and life and safety of building occupants. Thus, the state board should ensure that its systems and activities provide functional verification of compliance, according to legislative mandate.



Despite LEA noncompliance, the state board has reportedly not enforced penalties to encourage compliance. USBE's Inspection Verification Authority Has Enforcement Provisions That Have Reportedly Never Been Used. As reported in the independent building code review in Appendix A, monthly inspection reports were often incomplete and not consistently submitted to USBE in some cases; these occurrences should trigger enforcement actions.

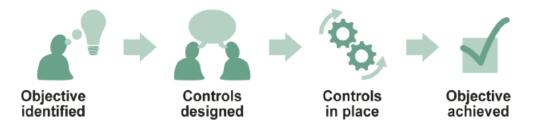
However, as with the pre-construction process, the state board has never enforced these penalties to encourage compliance.

USBE's school construction specialist reports that he doesn't have the tools to adequately enforce compliance. The current process involves receiving inspection summary documents via email and manually placing them into project folders, and a tracking database is inconsistently updated. USBE's document management system is ill equipped to efficiently manage the volume of monthly inspection reports and does not facilitate enforcement of noncompliance. The independent building inspectors recommended the creation of an online document management system, or portal, to maintain all the state-required documentation. This recommendation was also echoed by LEA and USBE officials.

The State Board Needs to Create Internal Controls to Fulfill Statutory Objectives. Internal control is a process put in place by management that reasonably assures that an entity can achieve its objectives. Statute makes clear that some of the state board's main objectives are to verify inspections and ensure compliance.

⁴ There is no tracking (manual or automated) to confirm noncompliance with required monthly submissions and trigger enforcement actions.





Source: GAO. | GAO-14-704G

The lack of good internal controls to allow fulfillment of legislative requirements and the lack of any enforcement at all have contributed to ineffective oversight. As it stands, USBE cannot reasonably ensure that LEAs are complying with inspection requirements. The board needs to make improvements to systems and build processes that generate the necessary information to verify inspections and enforce compliance.

It appears from years of neglect of this process that oversight of LEA school construction and inspection is not a priority for the board. USBE's primary focus is not construction; while the state board employs one person with construction expertise to oversee this process, one position is reportedly insufficient to fulfill state requirements. In the next chapter, we discuss the effect of the board's weak oversight and LEA noncompliance with building codes, which can increase risks to property and life and safety of school building occupants.



for the board.

In Chapter 2, we recommend the Legislature look for other options to oversee school construction. If the Legislature decides to keep the oversight with USBE, then USBE should develop sufficient internal controls, including the creation of an inspection document portal, to facilitate the verification of compliance and enable timely enforcement.

RECOMMENDATION 1.1

The Utah State Board of Education should develop sufficient internal controls to functionally verify and enforce compliance with its pre-construction and inspection verification requirements.



RECOMMENDATION 1.2

The Utah State Board of Education should develop or procure an online document management system, or portal, to maintain all the state required construction and inspection documentation to enable verification of compliance with statute and *Administrative Rule*.

The State Board Is Not Providing for the Required Training Conference

Utah Code requires the state board to "provide for" an annual training conference for LEA building officials.⁵ The training is expected to address specifics on school construction and inspections, with an emphasis on state and local requirements. USBE has outsourced this responsibility to the Utah Facilities Operation and Maintenance Association (UFOMA). This association is governed primarily by school district facilities officials and funded primarily by private vendors, which hosts semi-annual conferences.

USBE's school construction specialist is a qualified construction professional who attends the UFOMA conference and uses the forum to get feedback from

attending building officials. ⁶ However, despite requirements to "provide for" and "sponsor" a conference, USBE reports that it does not materially fund the association, ⁷ nor does USBE have a controlling interest in the association to ensure that statutory requirements for the conference are met.⁸

USBE's attendance at the UFOMA conference does not fulfill statutory training responsibilities.

The Legislature has designated this conference for charter school and district representatives. However, USBE does not know how many of its building officials attend these conferences, nor how often. Furthermore, both

⁵ Unlike the statutory requirement to "provide for," *Administrative Rule* R277-471-12 states that the board "shall sponsor" an annual school construction conference.

⁶ The USBE school construction specialist presented for one hour on state requirements at the April 2025 UFOMA Conference.

⁷ USBE reports that they do not provide any funding to this Association outside of membership and conference fees for the USBE School Construction Specialist.

⁸ UFOMA bylaws allow regular members to vote and to be elected to leadership positions. Because state board personnel involved with facilities and construction qualify as regular members, USBE member participants could be elected to leadership positions and participate more actively in association governance. However, USBE does not reportedly participate in a governance capacity.



UFOMA and the state board reported that few charter schools regularly attend.⁹ With 114 charter schools that may build and renovate facilities, this is a large cohort of LEA officials who are unaccounted for. USBE's attendance does not fulfill its statutory training responsibilities.

There are real training needs among LEA building officials—as identified by the independent building inspectors who recommended annual training for LEAs and industry partners involved in design, plan review, and inspections. In addition to training LEA officials, USBE should also consider providing training to third-party professionals who contract with LEAs for building code compliance services.

Given the importance of inspections in ensuring minimum protection of property and life and safety of school building occupants, training local officials from charter schools and school districts according to legislative mandate should be prioritized.

RECOMMENDATION 1.3

The Utah State Board of Education should provide training for local education agencies so that they understand their responsibilities and are aware of the state board's code compliance requirements.

1.2 Cost Reporting for K-12 Construction Is Insufficient for Informed Decision Making at the LEA and State Levels

The LEA construction cost data that USBE maintains is largely unusable because it is poorly managed, and little to no effort has been made to make it comparable across LEAs. Construction cost information is supposed to be submitted on required forms. However, this information has been inconsistently put into the school construction database over the years. State officials and policymakers are unable to determine the actual cost of school construction in the state. There is an opportunity for better, more useful information to be reported and maintained.

Throughout this audit, it has become clear that comparing costs accurately requires systematized and standardized cost reporting. Because USBE does not require standardization of reported project cost data, state and local

⁹ A charter school building official reported that they had never attended UFOMA conferences, although they had received conference invites by email up until 2017.



policymakers cannot make informed decisions about construction costs in the state. Cost effective planning and decision making require accurate cost tracking. We believe that when performance is measured, performance improves.

Standardized Cost Reporting Would Improve K-12 Construction Management

The value of standardized cost reporting is best understood in the context of the current reporting system. Some building officials already track construction costs

internally, and all are required to report basic cost information to USBE throughout the construction process, but this cost information is not standardized and has relatively low utility for decision makers. Alternatively, the introduction of standardized cost reporting and an associated database offers leverage to state and LEA construction managers, as well as policymakers, who can use the information to promote accountability and make improvements. In conversations with 13 LEA building officials across the Wasatch front, 12 agreed that standardized cost reporting would be a valuable tool for management of their construction projects.

The introduction of standardized cost reporting requirements for each school construction project allows state and local decision makers to promote accountability and improve outcomes.

Standardized cost reporting is a strategy used by the Division of Facilities and Construction Management (DFCM). The Construction Specifications Institute (CSI) Masterformat is the cost reporting system used by DFCM; it divides all construction elements into distinct divisions. By providing a consistent framework, such systems ensure that all stakeholders—architects, engineers, contractors, LEA officials, and state officials—use the same cost categories when overseeing, planning, and executing construction projects.

Available Cost Data Is Unreliable, Undermining Cost Comparison

K-12 construction cost reporting is minimal, materializing at the state level as self-reported total costs when LEAs submit USBE reporting forms. USBE reports annually on construction costs for projects that have been reported to the state board. 10 The costs USBE has chosen to report are estimated costs from forms submitted during the pre-construction process, which do not provide actual construction costs and cannot be relied upon for accurate comparison.

¹⁰ The annual superintendent's report goes beyond statutory requirement, which only requires number and size of projects occurring in the reporting year.



In the absence of reliable cost data from USBE, the audit team collected pay applications from many of the 41 school districts in the state on new schools built



With reliable, detailed construction cost data, policymakers and construction managers can better understand what factors drive school construction costs. since 2019.¹¹ Over this period, 57 new construction projects were identified with a combined reported value of about \$2,105,000,000.¹² However, due to differences in how LEAs classify construction costs, we were unable to generate useful cost reporting metrics, such as cost per square foot, with any accuracy.¹³

With reliable, detailed construction cost data, policymakers and construction managers can better

understand what factors drive school construction costs. While it seems reasonable to assume that apparent school construction cost increases are because of inflation, we are unable to make any claims with certainty. Requiring LEAs to report construction cost data, according to standardized cost categories, will paint a more accurate picture of construction across the state.

A Recent DFCM Cost Comparison Demonstrates That Actual School Construction Costs Are Likely Not Well Understood Nor Currently

Comparable. The cost of a recently completed technical high school in Washington County School District (WCSD) was reportedly communicated to policymakers at a much lower amount than cost estimates for a future state technical school nearby. However, DFCM investigated the costs of these projects more closely to make sense of the reported differences. In this analysis, DFCM standardized the WCSD project costs according to DFCM's cost categories, ¹⁴ included site costs and other costs (which DFCM reports were previously excluded by WCSD), and adjusted for inflation. This allowed for fair comparison and brought the cost of WCSD and DFCM's technical schools closer to parity. DFCM's costs were ultimately greater, but by a factor of 14 percent instead of the previously reported 58 percent. DFCM builds to a standard above code minimum, which may explain at least some of the remaining difference.

¹¹ We did not gather charter school construction cost data because we were unable to find reliable contact information for the building officials of the state's 114 charter schools.

¹² Cost escalated to 2024 dollars according to DFCM escalation formula.

¹³ Some districts will reportedly include soft costs, such as design and engineering fees, and furniture, fixtures, and equipment (FF&E) in calculating the total cost of construction. Other districts will include demolition and site prep while others will not.

¹⁴ DFCM uses a standardized cost reporting system that categorizes construction costs in distinct divisions.



The lack of clarity in this situation is a direct result of insufficient reporting. We use this example because it succinctly demonstrates the need for standardized cost reporting so that cost comparisons across LEAs and other agencies can be made for the benefit of the public, policymakers, and the LEAs responsible for building costeffective buildings.

Because there are no standard reporting criteria from USBE, makers. the reporting of cost data loses comparability and thus, much of its value for LEA construction managers, state oversight agencies, and policymakers. We recommend that the state implement a standardized cost reporting system and make the information available to relevant state agency and LEA officials to encourage accountability, efficiency, and improvement in the K-12 construction process.



Because there are no standard reporting criteria from USBE, the reporting of cost data loses comparability and thus, much of its value for state and local decision

RECOMMENDATION 1.4

The Utah State Board of Education should implement a standardized cost reporting system, require construction managers at local education agencies to report all associated construction project costs according to standard criteria, and make it available to relevant state agency and local education agency officials.



CHAPTER 2 Summary

The Legislature Can Explore Options for Improving State Enforcement of Building Inspection Reporting Compliance



BACKGROUND

The Utah State Board of Education is statutorily responsible for providing oversight of the construction and inspection of K–12 building projects completed by the state's local education agencies (LEAs). Since 2019, the state board has been responsible for overseeing compliance for about \$3.6 billion of LEA school construction projects.

FINDING 2.1 An Independent Review of School Building Compliance Identified Consistent Problems.

RECOMMENDATION 2.1

Local education agencies should comply with state-adopted building codes and state requirements for K-12 construction and inspection.

RECOMMENDATION 2.2

The Utah State Board of Education should create a functional oversight system to review and enforce compliance with state requirements.

RECOMMENDATION 2.3

The Utah State Board of Education should outline clear expectations, according to building code requirements, for local education agency officials and professionals conducting code reviews and inspections.

RECOMMENDATION 2.4

The Utah State Board of Education should communicate expectations for required plan reviews, types of inspections, the frequency of inspections, and reporting requirements for functional verification.

FINDING 2.2 Due to Oversight Weaknesses, the Legislature Should Review Options for Restructuring Oversight.

RECOMMENDATION 2.5

The Legislature should consider the restructuring options laid out in this report to implement legislative audit recommendations and to improve local education agency construction and inspection oversight.

RECOMMENDATION 2.6

Should the Legislature give another state agency the responsibility for school construction oversight, that agency should address the recommendations in this audit rather than the Utah State Board of Education.



CONCLUSION

USBE and LEAs should prioritize compliance with building inspection requirements, given the Legislature's explicit statutory requirements and the risks that can materialize to property and safety when building codes are not adhered to. With persistent state oversight issues since at least 2017 and local compliance concerns identified in this audit, we recommend that the Legislature consider options for new oversight.





Chapter 2 The Legislature Can Explore Options for Improving State Enforcement of Building Inspection Reporting Compliance

Inadequate state board oversight and local education agency (LEA) noncompliance with building codes indicate a need for oversight improvements. The Utah State Board of Education (USBE) is statutorily responsible for providing oversight of the construction and inspection of K–12 building projects completed by the state's LEAs (i.e., school districts and charter schools). ¹⁵ Since 2019, the state board has been responsible for overseeing compliance for about \$3.6 billion of LEA school construction projects. ¹⁶ A building code review of a



USBE and LEAs should prioritize compliance with building inspection requirements, given statutory requirements and the risks that can materialize to property and safety when building codes are not adhered to.

selection of K–12 schools identified noncompliance with building codes, inspection reporting, and state board oversight. USBE and LEAs should prioritize compliance with building inspection requirements, given the Legislature's explicit statutory requirements and the risks that can materialize to property and safety when building codes are not adhered to.

With persistent state oversight issues since at least 2017 and local compliance concerns identified in this audit, we recommend that the Legislature consider options for new oversight.

2.1 An Independent Review of School Building Compliance Identified Consistent Problems

Overall, the projects we reviewed generally meet the intent of providing safe, functional school buildings. However, our independent, certified building inspectors found compliance problems with recent construction projects, which should generally not occur if LEAs comply with building code requirements. Inexperienced and unqualified building officials likely contributed to noncompliance. However, USBE's lack of verification and enforcement of inspection requirements may have contributed to the noncompliance found. It is

¹⁵ USBE provides oversight on LEA construction projects. USBE requires reporting on all projects exceeding \$100,000. This threshold is established in the School Construction and Facilities Resource Manual (resource manual).

¹⁶ Value derived from insured value data for buildings in the state's Division of Risk Management portfolio.



important to note that some of the required reviews, inspections, and/or reporting identified as missing in the independent building code review may have occurred. However, we cannot confirm that this documentation was made available to us until after completion of the code review.

Independent Inspectors Identified Specific Code Compliance and Inspection Issues at Schools Selected for Review

Building codes are the minimum requirements to reasonably protect against risks to property, life, and safety. When construction projects don't comply with adopted building codes, these risks increase. LEAs need to comply with state requirements and be held accountable for demonstrating compliance.

Our contracted building inspectors identified problems with code compliance at a selection of LEA school buildings and provided recommendations for improvement.

Our contracted building inspectors identified problems with code compliance at a selection of LEA school buildings and provided recommendations to improve the state's inspection oversight process. Their full report with all findings and recommendations is available in Appendix A. Some of the notable problems with building codes, plan reviews, and inspections are highlighted here:

- Firewalls—Multiple schools did not build required fire walls in compliance with code. Fire walls are highly regulated because if a firewall fails, fires can spread more rapidly, increasing risk to property and building occupants. According to our independent inspectors, firewall compliance flaws are likely the most significant discovery in this review.
- Mechanical, plumbing, and electrical reviews—These systems were not reviewed in depth. Kitchen hoods are an area of significant hazard in a school; codes keep them safe, efficient, and effective. There was little evidence of tests or inspections. Inspectors confirmed problems during site visits.
- Plan reviews—Many of the projects' plans were incomplete and missing required design professional seals, approvals, and stamps. The International Building Codes (IBC) requires stamps because, without them, it is reportedly impossible to evaluate which plans were reviewed and/or approved.
- Special inspections—Special inspections of nonstructural items were largely missing on the projects evaluated. These types of special



inspections are required in the building codes, verifying things such as the strength of concrete masonry and the inclusion of fire-resistant materials.

These problems may be more likely to occur when inexperienced or unqualified building officials, who are authorized to enforce state building codes, are overseeing plan review and inspection decisions. Regardless, LEAs should



LEAs should comply with all building code requirements, and state regulators should determine how best to ensure compliance according to legislative mandate.

comply with all building code requirements, and state regulators should determine how best to ensure compliance according to legislative mandate.

LEA Building Officials Have Inappropriately Waived Building Code Requirements. Unqualified LEA administrators without the necessary technical code expertise should not negotiate with design professionals on critical life-safety issues. During a review of building plans, our independent code professionals found that some LEA building officials

are waiving code requirements without proper qualifications—they do not have the authority to do so. The independent code professionals recommend that proper training be provided so that LEA building officials understand the limitations of their authority While some of these districts have certified staff outside of the designated building official, only 5 of the 41 school district building officials appear to hold some sort of building code certification.

USBE's Oversight System Has Deficiencies, Which Limit Its Effectiveness

USBE has oversight responsibilities, but there are consistent issues with state board processes, which contribute to the code noncompliance identified in the previous section. The independent building inspectors identified problems with the code and inspection verification resources that USBE provides to LEAs. For example, USBE's school construction website cites out-of-date building codes, and *Administrative Rule* provides a link to an outdated manual from 2013.¹⁷ These and other problems are laid out in detail within the full building code compliance review in Appendix A.



There are consistent issues with state board processes that contribute to LEA's noncompliance with code, which was identified by the independent building code compliance review.

 $^{^{\}rm 17}$ USBE's resource manual—the School Construction and Facilities Resource Manual—was updated in January 2025.



There are a number of state-level oversight deficiencies and needs identified by the independent inspectors, which likely contributed to the LEA noncompliance outlined in the building code review. For example:

- USBE has not outlined clear expectations for what should be included in required plan reviews, what inspections are required, how often inspections should occur, and how they should be reported for verification.
- There is insufficient training for those responsible for ensuring compliance with building codes.
- USBE needs a better document management system, which facilitates verification of compliance.
- USBE's reporting and verification process needs improvements.

The building code review concluded with the following statement:

A more uniform system of review and enforcement would assist in ensuring buildings meet minimum code requirements and improve overall compliance across school construction projects in the state.

USBE is expected to create a functional system of inspection review and enforcement to satisfy legislative requirements. LEAs are principally responsible for complying with state-adopted building codes and ensuring that required inspections and reviews are conducted according to law. Therefore, LEAs should comply with building codes and state board construction and inspections requirements for K-12 projects.¹⁸

RECOMMENDATION 2.1

Local education agencies should comply with state-adopted building codes and state requirements for K-12 construction and inspection.

RECOMMENDATION 2.2

The Utah State Board of Education should create a functional oversight system to review and enforce compliance with state requirements.

¹⁸ The Office of the Legislative Auditor General will conduct a follow-up audit on a sample of LEA construction projects.



RECOMMENDATION 2.3

The Utah State Board of Education should outline clear expectations, according to building code requirements, for local education agency officials and professionals conducting code reviews and inspections.

RECOMMENDATION 2.4

The Utah State Board of Education should communicate expectations for required plan reviews, types of inspections, the frequency of inspections, and reporting requirements for functional verification.

2.2 Due to Oversight Weaknesses, the Legislature Should Review Options for Restructuring Oversight

LEA noncompliance with building code and inspection requirements can increase risks to the safety of K-12 building occupants and state-insured public

school property. Deficiencies in state oversight, enforcement of building code, and inspection compliance contribute to these risks. Because of USBE deficiencies in addressing oversight responsibilities, the Legislature may want to consider options for restructuring the state's oversight of school construction and inspection. If the Legislature opts to give oversight responsibilities to another state agency, that agency should implement this audit's recommendations which are currently addressed to USBE.



construction and inspection.

school

A New Administrative Structure May Better Facilitate Improvements in School Construction Oversight

The state board has been responsible for verifying the qualified inspection of LEA construction projects since at least 1999. USBE leadership mentioned that since then, the number of school construction projects are continuing to increase, making it ever more difficult to oversee LEA construction activities. While the state board recognizes a growing need, leadership reported that they have not asked the Legislature for help in addressing USBE's construction oversight responsibilities. This suggests that the state board has not prioritized its statutory responsibilities for LEA construction and inspection oversight.



Furthermore, it appears that since 1988, *Utah Code* has allowed USBE to contract with the state fire marshal or the Division of Facilities and Construction Management (DFCM) to enforce compliance with statutory school construction requirements. 19 Yet, USBE has not done so, opting to assign one qualified individual to the task of providing oversight of all the state's LEAs.²⁰

The state board is tasked with general control and supervision of public education in the state.²¹ However, as shown in Chapter 1, USBE has not adequately enforced construction and inspection compliance for years. These findings indicate that USBE is not providing proper supervision and further support the conclusion that the state board is not prioritizing construction oversight responsibilities.



The state board is tasked with supervision of **public education** in the state. However, years of non-enforcement of construction compliance indicate improper supervision of LEA construction.

USBE's years of not wielding its enforcement authority have contributed to LEA noncompliance with building code and inspection requirements identified in this audit. Insufficient LEA compliance can result in increased risks to life and safety, highlighting the importance of adequate state-level oversight and enforcement.

Based on the findings of LEA noncompliance and ineffective USBE oversight and enforcement, we recommend that the Legislature look at options to

restructure oversight of LEA construction.

The Legislature Has Options to Improve Construction Oversight in K–12 **Schools.** The Legislature should consider options available to them to ensure fulfillment of legislative requirements concerning school construction and inspection oversight. Because of USBE's years of oversight neglect and the state board's general lack of construction expertise, we question whether oversight needs can be adequately addressed at USBE. Therefore, the Legislature should consider one of the following three options:

¹⁹ Utah Code 53E-3-706(2).

²⁰ The state's LEAs currently consist of 41 school districts and 114 charter schools.

²¹ Utah Constitution, Article X, Section 3 [State Board of Education.] "The general control and supervision of the public education system shall be vested in a State Board of Education..."



USBE Maintains Current Level of Oversight With Improvements

The Legislature could maintain the status quo, with USBE responsible for overseeing K–12 school construction and inspection. In this scenario, USBE should address the recommendations for improvement in this audit.

A Designated State Agency Takes Over the State Board's Current Responsibilities

The Legislature could establish an oversight division within a state agency, such as the Department of Government Operations or even the Division of Facilities and Construction Management. In this scenario, LEAs maintain current level of control over building construction, financing, and planning. The only difference is that LEAs would report to a new entity designated by the Legislature, which would ensure compliance with current statutory requirements.

The Designated State Agency Increases or Decreases Oversight Over LEAs

The Legislature could establish a division within a state agency that is responsible for management and oversight of school construction. In this scenario, LEAs would retain responsibility for financing construction, but the Legislature could consider varying levels of oversight and resource provision along a spectrum from more to less involvement.

Source: Auditor generated.

We have not recently conducted an audit of DFCM; accordingly, we cannot speak to their efficiency or effectiveness. However, they are currently the state's construction office and likely have more construction expertise than the state board. We recommend that if the Legislature considers placing some responsibility over school construction with DFCM, then the Legislature should also consider authorizing a performance audit of DFCM.

DFCM Provides a Template for an Oversight and Management Structure That Could Be Applied to Overseeing K–12 School Construction. DFCM supervises the construction or alteration of all state facilities, with some exceptions. Delegation authority allows institutions to manage their own construction projects, subject to some level of oversight. There are several options the Legislature could consider concerning LEA construction management responsibility: (1) all LEAs retain current levels of project management responsibility, (2) only LEAs with a proven construction oversight record retain current levels of project management, or (3) a state construction agency oversees all project management for LEA construction. During our audit, we found that small LEAs may need more help than larger LEAs with construction related matters.

²² *Utah Code* 63A-5b-604(1).



Utah's neighboring states have various construction management oversight levels. Some states have state-level divisions or teams dedicated to management and oversight of K–12 school construction.²³



The School Facilities Division is housed in the State Construction Department, which implements policies, guidelines and standards for K-12 construction. School districts in Wyoming do not finance construction; the state pays for and oversees all projects.

The School Facilities Oversight Board (SFOB) provides oversight for K-12 school construction in Arizona. It operates within the Arizona Department of Administration; district liaisons assist by providing technical support and verifying policy compliance.





The Public-School Facilities Authority (PSFA) provides oversight of K-12 construction in New Mexico, performing functions such as ensuring compliance with applicable building codes. PFSA is staff to the Public-School Capital Outlay Council (PSCOC) and consults with and reports annually to the state department of education.

The Capital Construction Unit is within The Colorado Department of Education (CDE). CDE reports that they work with districts and contractors to make sure that rules and regulations regarding school construction are followed.

CO

Source: Auditor generated.

If the Legislature tasks a different state agency with K-12 construction and inspection oversight, that agency should establish an adequate oversight system which enforces state construction and inspection requirements.

RECOMMENDATION 2.5

The Legislature should consider the restructuring options laid out in this report to implement legislative audit recommendations and to improve local education agency construction and inspection oversight.

RECOMMENDATION 2.6

Should the Legislature give another state agency the responsibility for school construction oversight, that agency should address the recommendations in this audit rather than the Utah State Board of Education.

²³ Notable exceptions are Idaho and Nevada, which leave oversight responsibility largely at the local level.



CHAPTER 3 Summary

One District's Bid Practices Were Concerning



BACKGROUND

Procurement of construction services for the building of public schools must be done through a competitive bid. Local education agencies (LEAs) generally bid large construction projects individually and not bundled. Specifically, if an LEA determines that they have several large projects that need to be done over several years, it is generally the case, that each of these projects are bid separately.

FINDING 3.1 One District Used Questionable Bid Practices That Other Districts Did Not Utilize.

RECOMMENDATION 3.1

The Legislature should consider prioritizing an audit of local education agency practices for procurement of construction and related services.

CONCLUSION

Procuring a single contractor to do multiple projects over an extended period is concerning. Local education agencies should conduct procurement of construction services in a competitive manner, avoiding the appearance of impropriety.





Chapter 3 One District's Bid Practices Were Concerning

One school district's procurement practice represents an uncommon practice when compared with a sample of thirteen other districts in the state. Although we did not establish undue bias nor illegal procurement methods, the district's practices exhibit the appearance of impropriety. The school district should conduct procurement of construction services in a competitive manner, avoiding the appearance of impropriety.

3.1 One District Used Questionable Bid Practices That Other **Districts Did Not Utilize**

A school district procured construction services in a questionable manner that we did not find in the other districts we interviewed. This district has contracted exclusively with a single general contractor on eighteen school construction projects since 2014. For the eighteen projects, only two bid solicitations were issued. The 2013 solicitation resulted in a \$135.5 million contract, under which fourteen construction projects were completed over a period of nine years.²⁴ The 2023 solicitation was issued for four construction projects with a budgeted cost of about \$126 million, which have yet to be completed.

This district has contracted exclusively with a single general contractor on eighteen significant school construction projects since 2014.

All thirteen of the sampled district's building officials we interviewed reported to us that bundling so many projects into one bid solicitation is not common in their jurisdiction. Five of these districts reported bundling a maximum of two or three projects. One district reported that once they bundled five smaller projects at one time, reportedly for about \$19 million. Based on our review, when bundling does occur, it is typically only for smaller projects or for specific circumstances such as having identical or similar projects. Bundling many large construction projects may not be inappropriate, and the LEA's building official reported that it drives down costs. However, we could not substantiate this claim, and, in our opinion, this practice is concerning.

²⁴ The \$135.5 million dollar contract size was determined by the Guaranteed Maximum Price (GMP), which was negotiated in the construction contract. The final cost of the projects came in under the GMP at about \$134 million.



The general contractor that the district has almost exclusively used since at least 2014 appears to often offer services to the district for a much lower price than



Construction costs can understandably increase for a number of reasons, but when project costs exceed bid amounts and budgets, the appearance of the district's almost exclusive use of a single general contractor is concerning.

other bidders. However, the school district only retains recent bid documentation, making it difficult to entirely validate this claim. With the available documentation, we found one project's final cost was much higher than what was bid. On another contract, the final cost exceeded the maximum budget set by the district in the original bid solicitation. ²⁵ We did not do a full audit of project costs to definitively determine the reason for increased costs; but other factors such as inflation can understandably increase construction costs. Nevertheless, when project costs exceed bid amounts and budgets, the appearance of the district's almost exclusive use of a single general contractor is concerning.

On a few projects for which bid selection records could be found, the district's selection committee appears to have also scored this local general contractor

higher than their competitors on non-cost criteria. These competitors included general contractors well known across the state for building schools. From the district's limited records we could not determine undue bias.

It appears that in the bids we reviewed, this particular general contractor has been winning by fulfilling the district's solicitation criteria better than its competition. However, using one contractor for an extended length gives the appearance of impropriety.

The school district cooperated with all our records requests promptly. However, the district had already disposed of some bid records, complicating the review.

The District Did Not Adequately Follow State Document Retention Policies for Some Projects. While the district reported this to be an administrative error, district officials did not retain bid documents according to the state's retention schedule.²⁶ The school district cooperated with all our records requests promptly.

²⁵ In the 2013 bid solicitation mentioned before, the school district stated a maximum allowable cost of about \$106 million for the projects. The final cost of the projects came in at about \$129 million; less than the GMP but more than the maximum allowed in the original bid solicitation. ²⁶ GRS-1991. The rule indicates that bid documents should be retained for six years after the completion of a project.



However, the district had already disposed of some bid records when we asked for them,²⁷ complicating our review.

We did not review procurement practices across the state's LEAs in depth. However, the procurement practices laid out in this chapter demonstrate an area of LEA construction management that is currently not overseen at the state level. The Legislature could consider additional oversight in this area as it reviews policy options discussed in the previous chapter.

RECOMMENDATION 3.1

The Legislature should consider prioritizing an audit of local education agency practices for procurement of construction and related services.

²⁷ The final project associated with the 2013 bid proposal was completed in 2023, meaning that bid selection documentation should still have been retained upon request in 2025.







Complete List of Audit Recommendations





Complete List of Audit Recommendations

This report made the following eleven recommendations. The numbering convention assigned to each recommendation consists of its chapter followed by a period and recommendation number within that chapter.

Recommendation 1.1

The Utah State Board of Education should develop sufficient internal controls to functionally verify and enforce compliance with its pre-construction and inspection verification requirements.

Recommendation 1.2

The Utah State Board of Education should develop or procure an online document management system, or portal, to maintain all the state required construction and inspection documentation to enable verification of compliance with statute and Administrative Rule.

Recommendation 1.3

The Utah State Board of Education should provide training for local education agencies so that they understand their responsibilities and are aware of the state board's code compliance requirements.

Recommendation 1.4

The Utah State Board of Education should implement a standardized cost reporting system, require construction managers at local education agencies to report all associated construction project costs according to standard criteria, and make it available to relevant state agency and local education agency officials.

Recommendation 2.1

Local education agencies should comply with state-adopted building codes and state requirements for K-12 construction and inspection.

Recommendation 2.2

The Utah State Board of Education should create a functional oversight system to review and enforce compliance with state requirements.

Recommendation 2.3

The Utah State Board of Education should outline clear expectations, according to building code requirements, for local education agency officials and professionals conducting code reviews and inspections.

Recommendation 2.4

The Utah State Board of Education should communicate expectations for required plan reviews, types of inspections, the frequency of inspections, and reporting requirements for functional verification.

Recommendation 2.5

The Legislature should consider the restructuring options laid out in this report to implement

legislative audit recommendations and to improve local education agency construction and inspection oversight.

Recommendation 2.6

Should the Legislature give another state agency the responsibility for school construction oversight, that agency should address the recommendations in this audit rather than the Utah State Board of Education.

Recommendation 3.1

The Legislature should consider prioritizing an audit of local education agency practices for procurement of construction and related services.



Appendix



A. Building Code Compliance Review





April 17, 2025

BCS Project No: 025-010-005



Prepared For:

State of Utah
Office of Legislative Auditor General
W315 State Capitol Complex
Salt Lake City, UT 84114

Prepared By:

Building Code Solutions, Inc. 11757 S. Sun Tea Way South Jordan, UT 84009



Date: April 17, 2025

To: Kade Minchey, Legislative Auditor General

Office of Legislative Auditor General

W315 State Capitol Complex Salt Lake City, UT 84114

Re: Utah School Building Projects – Building Code Compliance Review

At the request of the State of Utah's Office of Legislative Auditor General (OLAG), Building Code Solutions (BCS) has completed a review of selected Utah school building projects that have been completed within the past few years. The purpose of this review was to see how well school districts and charter schools are complying with the building codes adopted by the State of Utah in addition to complying with the provisions for compliance established by the Utah State Board of Education. The scope of this review was determined in meetings between our office and Jake Davis, a lead auditor with OLAG. The attached report provides a summary of our findings along with details of what has been reviewed and recommendations for future improvement.

Please feel free to reach out if you have any questions in relation to the attached report or of our review of the schools discussed herein.

Sincerely,

Building Code Solutions, Inc.

Chris Kimball, SE, FPE, MCP, CBO Lead Plan Check Engineer (801) 682-5031 chris@bcscodegroup.com George Williams, MCP, CBO Lead Plans Examiner (801) 408-8152 george@bcscodegroup.com

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1. EXECUTIVE SUMMARY

At the request of the Utah Office of the Legislative Auditor General (OLAG), Building Code Solutions (BCS) conducted a building code compliance review of five recently completed public and charter school construction projects across the State. The purpose of this review was to evaluate whether the selected projects met the minimum building code requirements established in Title 15A of the Utah Code, along with procedural requirements outlined by the Utah State Board of Education (USBE) and State administrative rules.

The five projects selected for review included a mix of new construction and additions/remodels, representing elementary, junior high, and high school facilities across different local education agencies (LEAs), including one charter school project. BCS evaluated all provided plan review documentation, inspection reports, USBE compliance forms, and other relevant materials. Site visits were also conducted for each school.

Key Findings

- Plan Review: Plan reviews were often incomplete or missing required stamps, approvals, or
 design professional seals. Key code elements such as fire separations, egress, occupancy
 classifications, and energy compliance were inconsistently addressed. Mechanical, plumbing,
 electrical, and accessibility reviews were generally limited or lacking.
- **Inspections:** Code inspection reports frequently lacked detail, correction items, and final inspection documentation. In many cases an insufficient number of code inspections were provided. Special inspections, particularly of nonstructural elements, were missing in most cases. Energy-related inspections and reports were minimal or absent.
- **USBE Reporting:** Required forms (SP-4, SP-8, SP-9, SP-10, SP-11) were inconsistently completed. Some forms were missing, unsecure, or contained incomplete information. Final closeout documentation often lacked structural observation reports, deferred submittal approvals, or verifiable sign-offs from all required agencies.
- **Certificates of Occupancy:** Final inspections and closeout processes were incomplete for several projects. Coordination with the local jurisdictions and required reporting under state rules was often not documented.
- **Site Visits:** Field walkthroughs identified issues related to accessibility, signage, exiting, and mechanical system installations. While most issues were not life-threatening, they reflect a lack of final verification during project closeout.



While the reviewed projects generally resulted in functioning school facilities, the documentation and enforcement of code compliance varied widely. A lack of consistent oversight, qualified reviewers, and clear closeout procedures has resulted in missed code requirements and incomplete reporting. Strengthening review processes, standardizing inspections, enhancing training, and improving USBE oversight and documentation protocols are necessary to ensure school construction projects meet the safety and performance expectations set by the State-adopted building code.



2. INTRODUCTION

At the request of the State of Utah's Office of Legislative Auditor General (OLAG), Building Code Solutions (BCS) has completed an evaluation of select Utah school building projects to determine whether the construction of these projects was found to be in general conformance with the state-adopted building code. The scope of this evaluation was determined in meetings between our office and OLAG staff. As part of these discussions, it was determined that an evaluation of five separate school construction projects should be carried out. Section 3 of this report will further discuss how these schools were selected and will provide a brief description of each school evaluated.

As noted in the title of this report, our office was tasked with performing a "Building Code Compliance Review" of Utah schools. Before discussing the schools themselves, it is important to understand how compliance with the buildings codes is achieved in the State of Utah. Title 15A of the Utah Code is known as the "State Construction and Fire Codes Act". Chapter 2 of this act requires that all new commercial construction comply with the International Building Code (IBC), International Plumbing Code (IPC), International Mechanical Code (IMC), International Fuel Gas Code (IFGC), National Electrical Code (NEC), International Energy Conservation Code (IECC), and International Existing Building Code (IEBC). The IPC, IMC, IFGC, IECC and IEBC are considered referenced codes per Section 101.4 of the IBC and are "...considered to be part of the requirements of this code...". For most of this report, we will refer to the IBC in relation to building code compliance, noting that this may also refer to one of these other codes referenced by the IBC and listed in Title 15A.

Section 101.3 of the IBC notes that its purpose "...is to establish the minimum requirements to provide a reasonable level of safety, health and general welfare through structural strength, means of egress, stability, sanitation, light and ventilation, energy conservation, and for providing a reasonable level of life safety and property protection from hazards of fire, explosion or dangerous conditions, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations." In general, the purpose for adopting and enforcing the building code is to ensure a minimum level of life safety for the building occupants.

Those responsible for enforcing the adopted codes are often referred to as the authority having jurisdiction (AHJ), but Title 15A uses the term "compliance agency". Title 15A goes on to define a compliance agency as one of the following:

1) an agency of the state or any of its political subdivisions which issues permits for construction regulated under the codes;



- 2) any other agency of the state or its political subdivisions specifically empowered to enforce compliance with the codes;
- 3) a third-party inspection firm as defined in Section 15A-1-105; or
- 4) any other state agency which chooses to enforce codes adopted under this chapter by authority given the agency under a title other than this part and Part 3, Factory Built Housing and Modular Units Administration Act.

School construction projects are often considered to comply with Item #2 above, as the local school districts or charter schools oversee the construction projects and provide compliance reports directly to the Utah State Board of Education (USBE). Title 53E of the Utah Code allows USBE, a local government entity or other qualified personnel, to perform the requisite plan review and inspections for school projects. Furthermore, both Title 10 (Utah Municipal Code) and Title 17 (Counties) of the Utah Code outline how the local school districts and charter schools can provide their own inspections of school construction projects rather than going through the local municipality. Section R277-471 of the Utah Administrative Rules outlines how USBE, school districts, and charter schools can provide code compliance oversight of school construction projects in lieu of the local jurisdictions. Regardless of who performs the requisite inspections, these individuals are required to be qualified and licensed under Rule 56 of Title R156, Occupational and Professional licensing.

To assist in ensuring school construction projects comply with the minimum requirements of the code, Title 53E requires USBE to adopt construction guidelines for public schools. The most recent version of the "School Construction and Facilities Resource Manual" is dated January 2025. Throughout the remainder of this report, we will simply refer to the "School Construction and Facilities Resource Manual" as the USBE Manual. Section R277-471-12 of the Utah Administrative Code also requires USBE to hold an annual "School Construction Conference" to educate members of each school district and charter school on the requirements that must be met when designing, constructing and performing inspections on school projects.

For each of the five schools discussed within this report, BCS reviewed the construction documents, plan review letters, code inspection reports, special inspection reports, USBE forms and other documentation to determine whether minimum code requirements (Title 15A) were met and if the procedures outlined by State statute or rule, the USBE Manual, and the USBE website were properly followed. The remainder of this report provides a summary of our findings along with details of what has been reviewed and recommendations for future improvement.



3. DESCRIPTION OF SCHOOLS

There are numerous local education agencies (LEAs) throughout the State of Utah. Currently there are 41 separate school districts in the state while the Utah Association of Public Charter Schools (UAPCS) notes that there are 115 charter school LEAs that oversee roughly 135 charter school campuses. The UAPCS website states that currently 80,000 students, or 12% of public students in Utah, attend charter schools. With the large number of LEAs in the State of Utah, new school construction or additions and renovations to existing schools is constant.

Due to time and budgetary limitations, it was determined that at this time only five sample school construction projects that have occurred in the last few years should be evaluated. In choosing these five schools it was decided that at least one high school, one junior high and one elementary school project should be reviewed. No two projects selected should be from the same school district and at least one charter school project should be included. It was also decided that the projects should include both new school construction and some existing schools that were undergoing additions and/or remodels. After reviewing a list of close to a hundred school construction projects, five were eventually selected that met the criteria noted above. Without naming the specific schools, below is a brief description of each school construction project evaluated.

High School #1 - New Construction

This high school project consists of a new two-story 140,000 square foot main high school building in addition to a separate 40,000 square foot gymnasium. Many ancillary facilities were provided in addition to these buildings such as baseball and softball fields, tennis courts, a football field and track, related bleachers, and associated landscaping, roadways and parking areas.

High School #2 - Addition and Remodel

This project included a significant renovation to an existing high school that was originally built in the 1970's. The renovation work consisted of several additions and numerous alterations and remodeling throughout. The entire high school campus is roughly 300,000 square feet while the additions and remodels affected just over fifty percent of this space.

Junior High School #1 - Addition

The lone junior high school project that was evaluated was an addition to an existing junior high. The addition is a free-standing building, is roughly 15,000 square feet, and consists of ten new classroom and lab spaces as well as associated restroom facilities. The new building resides 20 feet away from the existing building.



Elementary School #1 – New Construction

This was the only elementary school run by a school district that was evaluated as part of this study. It is a new two-story Pre-K through sixth grade campus that is roughly 90,000 square feet.

Charter School #1 - New Construction

This is the lone charter school project reviewed as part of this evaluation. It is a new K-12 facility and was developed by a group that owns other charter schools in the State and is aware of the USBE requirements. It is a two-story facility that is roughly 60,000 square feet.



4. COMPLIANCE AREAS

The purpose of this evaluation is to determine whether school construction in the State of Utah is found to be in general compliance with the adopted building code. As described in the introduction of this report, the IBC is adopted by the State under Title 15A of the Utah Code and it subsequently is the responsibility of the school districts and charter schools to follow the guidelines established by USBE to ensure compliance with the building code. The following describes building code compliance requirements that have been established by USBE in addition to items that are specifically required by the IBC. These requirements were considered as each of the projects described in Section 3 of this report were evaluated.

Plan Review

Section 104.2 of the IBC states that the building official shall review construction documents and issue permits for proposed construction. As previously noted, the school districts and charter schools are their own LEAs and are required to establish their own LEA Building Officer, often termed the School District Building Official (SDBO) or Charter School Board Building Official (CSBBO). As the acting building official, the SDBO or CSBBO are required to provide plan reviews of proposed construction projects and once these are found to comply with the building code, to issue building permits so that the work can commence.

USBE has clarified in the USBE Manual the plan reviews that must be provided for all school construction projects. The table below describes each of the reviews required by USBE. After documentation is provided noting that all reviews have been completed and approved, a permitted set of construction documents must be provided. In accordance with Section 107.3.1 of the IBC, once the permit is issued the construction document must be stamped as "Reviewed for Code Compliance" and a copy of these stamped plans is to be always kept on the job site.

Review Type	Description
Certified Plans Examiner Review	An ICC certified commercial building plans examiner is required to perform a detailed review of the construction documents (CDs) for code compliance prior to contractor bidding. The USBE guidelines appear to recommend this review to occur in phases, including the design development (DD) stage of the project.
Structural Peer Review	At the completion of the 100% CDs, an independent third-party structural review of the project shall be performed by a state-licensed structural engineer.



Review Type	Description		
Energy Code Plan Review	At the completion of the 100% CDs, an ICC-certified commercial plan reviewer shall ensure that the proposed design meets the energy conservation standard of at least 25% higher than the ASHRAE Standard 90.1-2004 as established by the Utah State Building Board. Current codes are already all 49-50% better than the 2004 standards.		
State Risk Management Review	USBE recommends that the LEAs submit their projects to State Risk Management for a preliminary review of the construction plans for accessibility and playground equipment safety.		
Health Department Review	A review is required by the local health department for newly installed or modified sewage disposal systems, new commercial kitchens, and for new or renovated public pools.		
State Fire Marshal Review	At the completion of the 100% CDs, the plans must be provided to the State Fire Marshal's Office for them to perform a fire and life safety plan review. Separate fire protection systems submittals (i.e., fire sprinklers, fire alarms, Type I hood suppression systems, etc.) must also be submitted to the State Fire Marshal's Office for review and approval.		
Utah Geological Survey (UGS)	UGS should be utilized to review the project-specific soils report and to perform a preliminary site screening of any geological hazards.		
Local Municipality (AHJ)	The design team is required to coordinate the following items with the local municipality: • Planning and zoning reviews • Review of newly installed or modified sewage disposal systems • Review of proposed utilities • Review of traffic control devices & local traffic implications		

Construction Inspections

Section 110.1 of the IBC states that the building official is required to perform inspections of the work in progress and that all construction work shall remain visible until the requisite inspections have been performed and approved by the building official. While most often the designated SDBO or CSBBO do not provide these inspections, they do select an individual to act as the LEA Inspector of Record for the project. The USBE Manual requires



that these inspectors be qualified. Qualification is typically accomplished through experience performing similar inspections on other school construction projects, having appropriate certifications issued by the International Code Council (ICC), and by being licensed as an inspector with the State of Utah. The SDBO and CSBBO are required to monitor all inspection work performed by the LEA Inspector of Record and to file appropriate documents with both USBE and the local municipality.

In addition to the code inspections provided by the LEA Inspector of Record, third-party special inspections are also required for each project as required by Section 110.3.11 of the IBC. Chapter 17 of the IBC prescribes when these "special inspection" and material testing items need to be provided, how the individual special inspectors become qualified, and the reporting requirements to the LEA, contractor and design professional. Special inspections are required for a number of structural (i.e., steel, concrete, masonry, wood, deep foundations, high seismic, high wind, etc.) and nonstructural items (i.e., spray-applied fireproofing, intumescent paint, penetrations in fire-rated assemblies, smoke control systems, etc.).

The table below describes what inspections must be provided for most school construction projects, as outlined in the IBC. Please note that many of these items will require numerous inspections in and of themselves (e.g., footing and foundation or framing inspections).

Inspection Type	Description	
Code Inspections		
Footing and Foundation Inspections	Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place.	
Concrete Slab and Underfloor Inspection	Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.	
Lowest Floor Elevation	If the project is located within a Flood Hazard Area, the elevation of the lowest floor must be surveyed and a certificate of elevation provided prior to further vertical construction.	



Inspection Type	Description		
Frame Inspection	Framing inspections shall be made after the roof deck or sheathing, all framing, fire-blocking and bracing are in place.		
Lath and Gypsum Panel Inspection	Lath, gypsum board and gypsum panel product inspections shall be made after lathing, gypsum board and gypsum panel products, interior and exterior, are in place, but before any plastering is applied or gypsum board and gypsum panel product joints and fasteners are taped and finished.		
Fire- and Smoke- Resistant Penetrations	Lath, gypsum board and gypsum panel product inspections shall be made after lathing, gypsum board and gypsum panel products, interior and exterior, are in place, but before any plastering is applied or gypsum board and gypsum panel product joints and fasteners are taped and finished. Protection of joints and penetrations in fire-resistance-rated assemblies, smoke barriers and smoke partitions shall not be concealed from view until inspected and approved. Underground mechanical inspections should occur prior to backfill. Rough mechanical inspections occur after ductwork and equipment are installed but before the walls are closed. Final mechanical inspections occur when the building is complete and prior to occupancy. Underground plumbing and gas inspections should occur prior to the backfill. Rough plumbing and gas inspections occur after piping is in place but before the walls are closed. Final plumbing and gas inspections occur after all fixtures are in place and prior to occupancy. Underground electrical inspections should occur before the wiring is buried. Rough electrical inspections occur before the walls are closed. Final electrical inspections occur before the walls are closed. Final electrical inspections occur when the building is complete and prior to occupancy. Underground electrical inspections should occur before the walls are closed. Final electrical inspections occur when the building is complete and prior to occupancy.		
Mechanical Inspections	Underground mechanical inspections should occur prior to backfill. Rough mechanical inspections occur after ductwork and equipment are installed but before the walls are closed. Final mechanical inspections occur when the building is complete and prior to occupancy.		
Plumbing and Gas Inspections	Underground plumbing and gas inspections should occur prior to the backfill. Rough plumbing and gas inspections occur after piping is in place but before the walls are closed. Final plumbing and gas inspections occur after all fixtures are in place and prior to occupancy.		
Electrical Inspections	Underground electrical inspections should occur before the wiring is buried. Rough electrical inspections occur before the walls are closed. Final electrical inspections occur when the building is complete and prior to occupancy.		
Energy Efficiency Inspections	Inspections shall be made to determine compliance with the energy efficiency design and shall include, but not be limited to, inspections for: envelope insulation R- and U-values, fenestration U-value, duct system R-value, and HVAC and water-heating equipment efficiency.		



Inspection Type	Description		
Other Inspections	In addition to the inspections specified above, the building official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code. USBE Form SP-8 also lists specific accessibility, suspended ceiling, painting, insulation, suspended slab, waterproofing, elevator, play equipment, portable classroom, hydrant, final grade, and structural inspections.		
Final Inspection	The final inspection shall be made after all work required by the building permit is completed. The final special inspection and structural observation reports should be provided before this inspection occurs.		
	Special Inspections		
Structural	Sections 1705.2 through 1705.14 of the IBC outline special inspections and tests that are required for steel, concrete, masonry, wood, soils, deep foundations, highwind regions, and high-seismic regions. These inspections and tests are to be performed at specified frequencies, either continuously or periodically.		
Nonstructural	Sections 1705.15 through 1705.14 of the IBC outline special inspections and tests that are required for sprayed fire-resistant materials, mastic and intumescent fire-resistant coatings, exterior insulation and finish systems, fire-resistant penetrations and joints, and for smoke control systems. These inspections and tests are also required to be performed either continuously or periodically.		
Final Report	A final report documenting required special inspections and tests, and correction of any discrepancies noted in the inspections or tests, shall be submitted to the building official (i.e., SDBO or CSBBO) upon completion of all special inspection tasks.		
State Fire Marshal Inspections			
Fire and Life Safety Inspections	The State Fire Marshal should be called to inspect the work and system components while exposed and prior to concealment. In addition, an inspection is required		



Inspection Type	Description			
	when the project reaches 95% of completion in addition to a final inspection.			
Fire Protection System Inspections	Inspections shall be provided while all system components are exposed and prior to concealment. A final inspection with the fire protection system contractor present to test the systems in the presence of the Fire Marshal is required.			
Certificate of Fire Clearance	After all work is complete, including the testing and approval of all fire protection systems, the Fire Marshal's Office will issue a certificate of fire clearance. This certificate will be required prior to occupancy.			
	Local AHJ Inspections			
Storm Drainage and Detention Inspections	Inspections as required by the local municipality (AHJ) shall be provided.			
Offsite Street or Utility Improvements	Inspections as required by the local municipality (AHJ) shall be provided.			
Fire Suppression Water System Inspections	Inspections as required by the local municipality (AHJ) shall be provided.			
Other Inspections				
Structural Observations	Section 1704.6 of the IBC requires all school building projects to have structural observations performed by the engineer of record for the project during specific phases of construction. At the conclusion of the project a structural observation report is to be provided to the building official (i.e., SDBO or CSBBO).			
Asbestos Removal and Containment	The Asbestos Hazard Emergency Response Act (AHERA) requires LEAs to inspect for asbestos-containing materials within existing facilities and to plan for active mitigation. Inspections shall be performed by an accredited inspector.			
Boiler Inspections	All new boilers, pressure vessels, water heaters and storage tanks, unless otherwise exempt, shall be inspected by the Chief Boiler Inspector of Utah.			



Inspection Type	Description
Elevator Inspections	The Labor Commission of Utah requires that an elevator inspection be provided for all new and modified elevators by a State-approved elevator inspector.
Annual Gas Inspections	The Labor Commission of Utah requires annual inspections of natural gas piping valves, connections, and above-ground piping.
Annual Roof Inspections	Roofing inspections should be conducted by the LEA annually and after major storm events, when vandalism is suspected or when rooftop equipment is serviced or installed. A standard checklist should be used to evaluate the condition of the roofing system(s).

USBE Reporting

To ensure projects meet the minimum requirements of the building code, including the plan review and inspection items noted above, USBE has developed several forms that must be completed by the SDBO or CSBBO and submitted directly to them for review and documentation purposes. Many of these forms are described in the USBE Manual and templates for most are provided on the USBE website. The table below describes each of the applicable forms that must be provided to USBE. USBE does have other forms which are not described below that assist in the planning and design process, but which are not applicable to ensuring compliance with the building code.

USBE Form	Description		
Preconstruction Checklist	This form must be completed and submitted to USBE prior to commencing any construction activities. It lists the SDBO or CSBBO, notes all required plan reviews that have occurred, provides utility information, and more.		
SP-4 Form	This form provides general information for the overall project; lists the LEA, contractor, designer, plan reviewers, and inspector of record; and provides funding and finance information. This form must be submitted to USBE along with the preconstruction checklist prior to commencing any construction.		



USBE Form	Description		
SP-8 Form	This is a monthly report that must be provided to USBE noting all inspections that have occurred for that month. The types of inspections, the inspector who performed them, date of inspection and notes for each inspection are to be provided. The supporting code inspection reports are to be attached to the SP-8 form while individual special inspection reports need not be included.		
SP-9 Form	This is the final inspection form. Once all inspection items have been completed this form is to be completed and submitted to USBE. In this form all inspectors of record should be included along with their required certifications. Before this form can be submitted, the certificate of fire clearance, state boiler certificate, state elevator certificate, and health department approval must be in hand.		
Project Closeout Checklist	This form must be completed and submitted to USBE prior to submitting a request for a certificate of occupancy. It includes a checklist of all items that must be completed prior to allowing occupancy.		
SP-10 Form	This form must be provided to USBE whenever the school construction project is overseen by an approved third-party inspection agency. In this case USBE will issue the certificate of occupancy for the school. For projects inspected by the local jurisdiction or by LEA inspection personnel, USBE does not issue the certificate of occupancy, and this form is not required.		
SP-11 Form	This form is not included on the USBE website nor is it discussed within the USBE Manual. It was provided with some of the schools evaluated and is entitled "School Construction Building Certificate of Verification and Performance Evaluation (Closeout) Form". It includes information on contractors and provides performance ratings.		



5. FINDINGS

The following outlines our findings in relation to each of the compliance areas discussed in Section 4 of this report. This section also includes findings in relation to certificates of occupancy and items that were identified when performing individual site visits to each school. This section provides a general summary of our findings while detailed information in relation to each school can be found in the appendices to this report. The items noted in this section serve as the basis of the recommendations outlined in Section 6.

Plan Review

Our office reviewed all the construction plans and plan review letters provided in association with each school. Table 1, "Plan Review Evaluation", provides a general summary of the principal building code reviews that were performed for these five projects and their general adequacy. In addition, the following provides a list of our general findings when evaluating the documentation provided.

- Approved Plans: Section 107.3.1 of the IBC states once the plan review is completed and the construction documents can be approved that the document shall include a stamp stating, "Reviewed for Code Compliance". A copy of this "approved" set of construction documents must be always kept onsite and all work should be based upon this approved set. None of the construction documents provided for this evaluation included a notation from the LEA/AHJ noting that the plans or specifications were approved. A copy of the "approved plan" associated with each project must be permanently retained for each project.
- Design Professional Seals: Several of the construction plan sets and specification manuals provided for our review did not include seals from the licensed design professionals in responsible charge. Section 601 of the "Professional Engineers and Professional Land Surveyors Act Rule" (Utah R156-3a) states that "...all final plans, specifications, reports, maps, sketches, surveys, drawings, documents and plats prepared by the licensee... shall be sealed..." Similarly, Section 601 of the "Architect Licensing Act Rule" (Utah R156-3a) requires that "All technical submissions... shall be signed and dated by the licensee's seal." It is very important that the "approved" plan set include the permit stamp from the AHJ/LEA and that appropriate professional seals are included on this set. This approved set is what should be maintained in the field and all work should be based on the approved set.
- <u>Deferred Submittals</u>: It was not clear how deferred submittals were handled on any
 of these projects. Section 202 of the IBC defines "deferred submittals" as portions of
 a project where design is not submitted within the initial construction documents



but are provided "...to the building official within a specified period of time". Section 107.3.4.1 of the IBC further clarifies that deferred submittal items are to first be reviewed by the architect or engineer of record for the project to ensure it is in general conformance with their design and that construction or implementation of those elements is not allowed until they have been reviewed and approved by the building official. Each project reviewed had several items listed as deferred submittals but there was no documentation that showed they were reviewed by the building official, architect or engineer of record.

- <u>Code Analysis</u>: The code analysis is essentially a roadmap of how the proposed building or addition will meet the adopted codes. This information was generally provided for each building; however, many fail to demonstrate code compliant construction. Key areas of concern that should have been addressed by the design professionals and plan reviewers for each include the following:
 - Consistency of construction types throughout the plan set and on the respective forms, as well as on certificates of occupancy. The construction type often appears incorrect and/or is inadequately addressed. Combustible materials are specified in buildings considering a non-combustible building type. Schools are commonly Type II-B buildings, meaning all construction materials apart from select finishes, must consist of non-combustible materials. [IBC 603]
 - Providing a clear scope of work, complete with additional square footage, areas being modified etc. will assist the reviewers in accurately evaluating the provisions of the code. New construction is straightforward; however, additions and remodels become challenging without this critical information.
 - The code requires plumbing fixtures based on the calculated occupant loads. Schools are unique in the sense that student body load is limited, and many areas of the school are not utilized simultaneously. Modifications to the calculated occupant load, for use in calculated required plumbing fixtures must be documented and approved in writing by the LEA. The projects evaluated lacked such documentation.
 - As these projects are Group E occupancies, consistency with respect to accessory occupancies, and other uses and spaces allowed by the IBC in order to be considered Group E is critical. Each project took a different approach, however most often overall code compliance for other uses within these Group E spaces was not clear.



- One of the projects in question is two stories while the code analysis considered it to be only one story. Due to the code in place at the time of construction, the allowable area modifier used was not applicable and the building was over allowable area.
- <u>Fire Walls</u>: The depiction, use and construction of fire walls in the larger schools is inconsistent with the provisions of the building code. These code compliance flaws are perhaps the most significant discovered throughout the audit process.
 - o Fire walls are used to create separate "buildings" and allow for increased building areas. From the plans provided, some of the design professionals appear to be confused regarding the difference between "fire areas" and the idea of "separate buildings". IBC Chapter 7 describes fire areas as being separated by means of fire barriers, but they do not allow larger building areas. Only fire walls can allow for a larger building area. Large schools will consistently face allowable area limitations and will therefore require the introduction of fire walls. Multiple schools failed to accurately address this issue in a code-compliant manner. As a result, multiple schools considered in this study are over the code-allowed building areas.
 - o Fire walls are highly regulated in the IBC with respect to both horizontal and vertical continuity. In several instances the vertical continuity of fire walls is missing on projects reviewed. In several other instances the horizontal continuity for the fire walls at the intersection with exterior walls has been incorrectly configured. In addition, Section 706.2 of the IBC requires fire walls to meet structural stability requirements, allowing for the structure on either side of the fire wall to fall away without negatively impacting the integrity of the fire wall itself. In performing the plan reviews and site visits it was apparent that structural independence of the fire walls was not considered by the design team. Since the fire walls do not meet the continuity and structural stability requirements of the IBC, building area increases should not be allowed. This results in buildings exceeding the allowable areas of the IBC.
- Means of Egress: Efficiently and safely exiting people from these buildings is of critical importance. Some egress elements lack code compliance including the following:
 - Life safety sheets generally show the occupant loads of each space, travel distances and paths, common paths of travel, exiting plans, exit separations and required egress widths at each exit. Accurate and clear life safety sheets were not always provided with some not including critical elements.



- Handrail projections at both the top and bottom of stairs and ramps in multiple locations were non-compliant. Either railings failed to extend the required distances, did not return to a wall or floor, or projected as an obstruction. In each case this is not allowed by code.
- Maximum occupant load signs are required to be posted in assembly spaces.
 These signs were often missing or located in the wrong locations.
- Required signage at elevators directing occupants to utilize the stairs in the event of an emergency were missing.
- o Tactile signage at exterior doors, were missing in many locations.
- Mechanical, Plumbing & Electrical Reviews: It was rather clear from the audit that the
 mechanical, plumbing and electrical systems are not being reviewed beyond a very
 cursory level. The plan reviews did not generally include comments related to these
 disciplines, which typically contain code related issues, warranting modifications to
 the plans. It is unclear what background the plan reviewers have in these areas. Some
 concerns identified include:
 - Lack of plumbing details, seismic bracing of supported equipment, interceptor sizing and outdoor air calculations.
 - Lack of electrical arc fault calculations, some issues with exit doors from electrical rooms, incomplete panel schedules, etc.
 - Kitchen hoods are an area of significant hazard in a school. The cooking, fire, grease and exhaust systems must be designed, reviewed, installed, tested and inspected per code. Typically, a plan review requires a full kitchen hood submittal. This would include the CaptiveAire submittal or equivalent, with cut sheets for all proposed hoods. These documents were often not included in the documentation reviewed, and there was little evidence from the inspectors, or fire marshal of performing tests or inspections on these systems. In the field, some alignment issues were discovered, as well as exhaust fan termination issues.
- Accessibility: One area of concern is related to accessibility provisions in these schools. Schools serve a large community of diverse individuals with unique needs. Numerous accessibility issues were noted when evaluating the plans provided and during the individual site visits. Some areas of note include the following:
 - o Accessible signage issues at classrooms, restrooms and other locations.



- Maneuvering clearances at doors, specifically within restrooms at accessible restroom stalls, projections from drinking fountains and handrail extensions, handicapped ramp landings, etc.
- Projections of more than 4" into walking paths were found in many locations,
 AED machines, fire extinguishers, handrail projections, drinking fountains etc.
- Some drinking fountains were mounted lower than allowed by code, eliminating code required knee space beneath fixtures.
- Energy Conservation: Energy conservation is critical for both cost savings and environmental issues. A detailed review of the energy compliance documents, building envelope, lighting and mechanical systems can result in substantial savings over the life cycle of the building. A minimal cost investment prior to construction, followed by careful inspection can ensure the buildings meet current energy code minimums. The buildings evaluated lacked sufficient review, as well as adequate inspection. Some issues include:
 - Failure to gather the correct energy compliance documents during the plan review process, specifically envelope compliance certificates and HVAC load calculations.
 - Failure to ensure the provided construction plans and specifications match the values on the energy compliance documents.
 - Lack of energy compliance notes and details in the plan set, including controls for systems serving vestibules, insulation types, thicknesses and Rvalues, lack of performance values for windows, skylights and translucent wall panels, lack of proper lighting controls in various spaces, adjacent to glazing and beneath skylights.
 - Lack of inspection reports mentioning energy compliance elements, specifically minimal insulation reports, lack of reports regarding roofing insulation, and lack of code compliant details or inspections related to slabedge insulation.
- Structural Review: Structural integrity is a key life-safety component for any building. As such, USBE requires a structural peer review to be provided for every school project exceeding \$100,000 in cost. The structural plans, supporting calculations, structural peer review letters, and response letters from the engineers of record were reviewed for each project. The following highlights some general areas of concern when evaluating these items:



- o In many cases the initial plan review letter, written response letters, and/or the final acceptance letter from the structural peer reviewer were not provided. Documentation should be provided that maintains all iterations of the structural peer review process.
- o In many cases structural calculations were not provided. Supporting calculations should be maintained for all school construction projects.
- The structural peer review comments appeared to be rather sparse for the most part. In many cases it appeared that the structural requirements of the code were not necessarily being evaluated, and simply the lateral load path was being looked at. Key items that were not addressed in the reviews include special inspections, existing building limitations, etc.
- When dealing with existing buildings, there were numerous instances where the structural engineer of record and the structural peer reviewer did not identify key building evaluation triggers. In some instances, this would have required the entire existing building along with the addition to be analyzed, yet only a portion was checked as part of the design and review.
- Special Inspections: In most cases, the statement of special inspections provided on the plans was incomplete. While special inspections for structural items are mainly included, in most cases nonstructural items requiring special inspections are not listed. This includes special inspections of spray-applied fireproofing, intumescent fire-resistant coatings, penetrations and joints in fire-rated construction, and restraint of nonstructural components. As a result, special inspections of these nonstructural items were not performed on any of the projects evaluated.
- <u>Justifications</u>: When the design team identifies issues, it is not uncommon for alternatives to be proposed. The current system would push code issues to the plan reviewer, who would not typically have authority to grant modifications. The LEA building official in many cases lacks the building code technical expertise to make such determinations, however it appears that such determinations have been made on the projects evaluated, one example being reducing the required number of plumbing fixtures. It appears that there is some confusion regarding whether the LEA building officials have authority to "waive" requirements of the code. Section 107.6.2 of the IBC clarifies that the building officials do not have this authority. Page 68 of the USBE Manual further states that the LEA Building Official is, "...directed to enforce all the provisions of the state-adopted building codes". If modifications are being made, clear documentation should be provided by the LEA building official in



- accordance with Section 104.10 noting how the "...modification is in compliance with the intent and purpose of this code...".
- State Fire Marshal's Office Review: The state fire marshal reviewer would benefit from being copied on the building code review for each project. Coordination between the fire review and the code compliance review is typically necessary on large-scale projects, and there is little evidence of this currently taking place. As noted, some critical issues were discovered during our cursory review, and it would be expected that these issues would normally require collaboration between building and fire reviewers. These compliance negotiations should not take place independently, as they lead to decisions being made on incomplete information.
- <u>Local Health Department Review</u>: Local health department review ensures health and safety in the kitchens and cafeterias associated with these schools. Full documentation of these reviews, responses, and approvals appears to be lacking.
- State Risk Management Review: The USBE Manual notes that preliminary school reviews for accessibility and playground equipment safety can be done yet the documentation provided did not show if these reviews had been performed for any of the projects in question.
- <u>UGS Review</u>: The USBE Manual notes that during the initial site selection the Utah Geological Survey (UGS) should perform a preliminary site screening to identify any geologic hazards prior to design. The documentation provided did not show if this preliminary site screening had been performed for any of the projects in question.

Table 1: Plan Review Evaluation²

Items	High School #1	High School #2	Junior High #1	Elementary #1	Charter School #1
Certified Plans Examiner Review ¹	Minimal	Minimal	Good	Minimal	Sub- Standard
Structural Peer Review ¹	Minimal	Sub- Standard	Minimal	Minimal	Minimal
Energy Code Plan Review ¹	Sub- Standard	Sub- Standard	Adequate	Sub- Standard	Sub- Standard
Total Building Comments	15	25	40	45	4
Total Structural Comments	4	27	4	12	10
Total Energy Comments	2	0	6	1	2
Total Square Feet per Plan Review Comment (Target +/- 1,000)	6,667	3,077	300	1,552	3,750

Footnotes



- 1. The following is a description of the overall level of plan review that was provided for each project:
 - Sub-standard The review appears to be insufficiently thorough, or incomplete and failed to identify code-related issues.
 - Minimal The review appears to have addressed basic code related items, some code related items were missed or omitted. A more thorough review would have benefitted the project.
 - Adequate The review represents a complete review of the plans, including key aspects of the IBC, IMC, IPC, IFGC and reference standards. This level of review is what would be expected on a project of similar size, reviewed by experienced staff.
 - Good The review is hi-level, well documented, meets all the requirements of an "adequate" review, but exceeds the expected level of review from experienced staff.
- 2. Items that do not meet the minimum expected level of plan review are highlighted in pink. These notations are based on the opinions of BCS and are subject to interpretation.

Construction Inspections

Our office has reviewed all the code inspection and special inspection reports associated with each school evaluated. Table 2, "Code Inspection Report Evaluation", provides a general summary of the level of code inspections that were provided for these five projects and their general adequacy. In addition, the following is a list of our general findings when evaluating the inspection reports provided.

- Lack of Correction Items: Each inspector has leeway regarding how needed corrections are communicated to the contractor. It is true that many minor items can be pointed out to the contractor in the field, and at times, corrected during the course of the inspection. Ideally, these items are mentioned in the inspection report but not marked as failing or requiring reinspection. Other times, items are pointed out to the contractor during the inspection, document on the report, and a reinspection occurs at a future date. The inspection reports provided often lack the amount of expected correction items, with upwards of 90% of all inspection reports indicating approval, without noting items requiring correction.
- Lack of Detail on Reports: Inspection reports serve as the evidence of inspection on a project. They guide the contractor on what portions of the building have been approved and are allowed to be covered or concealed. The level of detail is somewhat subjective, and varies by inspector; however, including adequate information is critical. Ideally an inspection report details the work inspected, the precise location of the work being approved, information about the configuration of what is being inspected (i.e. footing size and depth, rebar size, spacing, quantity), provides directions to the contractor regarding a pass or fail, sometimes references plan sheets or detail callouts, and outlines any deficiencies. Most of the inspection reports provided for evaluation did not provide this level of detail.



- Energy Related Reports: Energy efficiency is a critical element of future costs, and
 interior comfort related to the school buildings. It is evident that this is important for
 school projects as USBE specifically requires an energy efficiency plan review to be
 performed. Only some of the projects evaluated included insulation inspections and
 where those occurred the reports lacked standard information such as insulation
 type and thickness, as well as R-values.
- <u>Site Work Inspections</u>: On a project such as a school, the inspector of record is often
 required to also oversee site related work, such as installation of irrigation lines,
 storm drainage, site sewer, water lines, fire lines and hydrants etc. On a typical DFCM
 job, those inspections are performed by the building inspector and documented.
 Clarity on who has jurisdiction and responsibility over those inspections appears to
 be unclear based on the audit findings.
- State Fire Marshal's Office Inspections: Actual inspection reports from the State Fire
 Marshall's Office have not been provided. As a checklist item, the documentation
 shows that a Certificate of Fire Clearance has been provided, but no other
 documentation has been included.
- Special Inspections: The special inspection programs are lacking in several areas. As noted in the plan review items above, special inspections for nonstructural items were not provided. In addition, numerous structural items requiring special inspections were not inspected or reports were not provided. As an example, most of the schools reviewed did not have special inspection reports for masonry construction. There were several instances where concrete strengths were not met at 7 days, yet the 28-day break results were not provided. Additionally, there were numerous instances where report numbers would jump, showing that several reports were not included in the files provided.
- <u>Structural Observations</u>: Structural observations by the engineer of record are required for all school construction projects. This is not noted in the USBE Manual, and no structural observation reports were included in the documentation provided. These reports should be provided to the building official prior to final inspection.
- Other Inspections: Per the USBE Manual, numerous other inspections are to occur
 besides those from the code inspector, special inspector, and State Fire Marshal's
 Office. Those include some inspections from the local municipality, boiler inspector,
 elevator inspector, and asbestos removal. While not all of these inspections would
 be required for each project, inspection reports noting that these occurred were not
 provided for most of the projects evaluated.



- Filing with Local Jurisdiction: While not mentioned in the USBE Manual, Section R277-471-6(4)(d) of the Utah Administrative Rules requires inspection reports to be submitted to the building official of the local municipality. There was no documentation provided which noted this had occurred. It is often noted by local building officials that they do not receive said inspection reports.
- Lack of Final Inspection Reports: One critical part of closing out any project is performing final inspections for each area of a building. The final inspection involves multiple disciplines, such as building elements, accessibility, mechanical, plumbing, electrical and energy code. Documentation of these final inspections in the form of a standard inspection report are lacking for the majority of the projects evaluated. Other documentation such as the SP-9, SP-10 or Sp-11 forms do not replace the need for these final inspections to both occur and be well documented.

Table 1: Code Inspection Report Evaluation³

Items	High School #1	High School #2	Junior High #1	Elementary #1	Charter School #1
Details of Inspection Reports ¹	Adequate	Adequate	Good	Adequate	Poor
Correction Items Requested	Almost None	Very Few	Adequate	Almost None	Almost None
Civil & Site Work ²	2	3	4	2	1
Footings/Foundations /Slabs ²	3	1	3	3	2
Underground ²	3	3	4	3	2
Masonry ²	4	N/A	4	4	1
Framing ²	1	3	2	2	2
Ceiling Grids ²	1	3	3	3	2
Rough Electrical ²	3	3	3	3	2
Rough Plumbing ²	3	3	3	3	2
Rough Mechanical ²	1	2	3	2	1
Energy/Insulation ²	1	2	2	2	2
Gypsum ²	1	1	2	3	1
Fire-Rated Assemblies & Penetrations ²	1	2	3	1	N/A
Accessibility ²	1	1	1	1	1
Final Inspections ²	1	1	2	1	2
Total Inspection Reports	141	108	188	167	21



Items	High School #1	High School #2	Junior High #1	Elementary #1	Charter School #1
Months of Construction	15	27	14	15	7
Inspection Reports per Month (Target +/- 12)	9.4	4.7	13.6	11.1	3
Square footage per Inspection (Target +/- 500)	978.9	2,770	77.4	520	2,806

Footnotes

1. The following is a description of the level of detail contained in each inspection report:

Poor – Basic information missing such as location, floor level and description of work.

Adequate – Location and scope of work documented but no specifics on sizes, rebar, materials, etc.

Good – Combination of details provided, locations, scope of work, footing and wall sizes, rebar size and quantity, stud gage, materials used and similar information.

Excellent - Combination of items listed for "Good" with plan sheet references.

- 2. The following is a description of the scores provided for the general inspection disciplines:
 - 1 No record of inspection
 - 2 Minimal record of inspection
 - 3 Expected amount of inspections
 - 4 Significant records of inspection
 - 5 Potentially excessive records of inspection
- 3. Items that do not meet the minimum expected level of code inspection are highlighted in pink. These notations are based on the opinions of BCS and are subject to interpretation.

USBE Reporting

Our office has reviewed all the reports submitted to USBE in relation to each school. The following is a list of our general findings after reviewing these documents.

- <u>SP-8 Forms</u>: The SP-8 form is being utilized in many ways, some of which prove problematic when attempting to ensure an adequate inspection, report review and verification. Examples include:
 - The SP-8 form often lists inspections that are not supported with corresponding inspection report forms.
 - The SP-8 form often lacks the indication of inspections, where inspection report forms exist.
 - The SP-8 forms are not always provided for each month of the project, even when inspection report forms exist for the respective month.



- Special Inspections: The USBE Manual currently states that individual special inspection reports do not need to be submitted with the monthly SP-8 forms. Based on the special inspection reports provided it appears that proper tracking of these reports is likely not occurring.
- SP-9 Form: This form is entitled the "Final Inspection Certificate". It lists the code inspections that occurred and whether the certificate of fire clearance was provided. State boiler inspection, state elevator inspection, and health department reviews were performed. Before the final code inspections are performed other information should also be collected such as the final special inspection report, structural observation report, inspection signoffs from the local municipality, water system disinfection certificate, and more.
- <u>SP-11 Form</u>: This form is not included on the "Forms" page of the USBE website
 (https://schools.utah.gov/financialoperations/constructionfacilitysafety). The SP-11
 form is entitled the "School Construction Building Certificate of Verification and
 Performance Evaluation (Closeout) Form". Per Section R277-471-9(1)(a) of the Utah
 Administrative Rules a copy of this form must be provided to both USBE and the
 local municipal building official.
- Lack of Security: The PDFs provided for the SP-4, SP-8, SP-9, SP-10 and SP-11 forms are not secure, meaning anyone opening the forms can manipulate the check boxes, etc. As a result, the value of the form, and the attestations made by the signees can be questioned.

Certificate of Occupancy

Section R277-471-9 of the Utah Administrative Rules outlines the requirements that must be met for a certificate of occupancy to be issued in relation to a school. Much of this is also outlined in the USBE Manual. The following are some of our general findings in relation to certificates of occupancy for each school project evaluated:

- Project closeout process: The project closeout is critical to ensure the overall safety
 and completion of a building. The process involves gathering a substantial amount
 of documentation, and ensuring all applicable parties have the information they
 need and can sign-off prior to issuing the certificate of occupancy for a project. Some
 concerns identified as part of the final closeout process include:
 - <u>Final Inspections:</u> The current USBE process appears to lack critical steps, as a majority of the projects lack documentation in relation to the final code inspections performed. Final inspections typically take place and are documented for each discipline (i.e., building, plumbing, electrical,



- mechanical, fire, etc.). Ideally, the final code inspection(s) contains a recommendation for the issuance of a Certificate of Occupancy. The SP-10 form comes from the LEA Building Officer and therefore has the potential to bypass the code inspector.
- Documentation: There are numerous close-out documents that appear to fall outside of the current process such as, disinfection of potable water reports, verification of resolution of all potentially outstanding code inspection items, verification of resolution of all non-compliance reports from the special inspector, copies of any structural observation reports, receipt and approval of all deferred submittal items, copies of NFRC documentation for windows and skylights, etc.
- SP-9: Use of this form is inconsistently used. The large series of check boxes is not used correctly as most of the boxes are left unchecked. The code inspector must "sign-off" that the scope of work is complete and would need to indicate the areas approved. It's unclear who is completing this section of the SP-9 forms, as they are often inaccurate.
 - Similar to the SP-11 form, the names of various approving entities are listed, but those individuals do not have to sign-off on the form. There's a gap in the process, and a lack of ability to verify against the dates of inspection reports.
- SP-10: The form lacks the approval of the code inspector or special inspector and does not list their license numbers or date of approval.
- SP-11: The form asks for the name and license number of the person issuing fire clearances, elevator approval, boiler approvals, health department approvals etc. but does not have a place to document the date of the approvals. This is needed to then verify against the actual documentation provided. In some cases, the names of the individuals were also not included in the forms.
- Local Municipalities: Section R277-471-9(1)(a) of the Utah Administrative Rules requires the certificate of verification form (SP-11) to be submitted to both the Superintendent and to the building official for the local municipality. Once the actual certificate of occupancy is issued, Section R277-471-9(7) also requires a copy to be provided to the building official for the local jurisdiction. Page 74 of the current USBE Manual also notes this requirement. There was no documentation provided which noted this information was shared with the local municipality. It is often noted by local building officials that they do not receive this information from the LEAs.



Site Visits

BCS scheduled a site visit to each of the five school construction projects included as part of this evaluation. To ensure that each site visit followed a similar approach, a site visit report was created and filled out at each site. This report included separate sections for items of relevance in relation to the exterior of each building, the interior of each building, fire and life safety items, accessibility items, mechanical/electrical/plumbing (MEP) items, energy efficiency items, and roof inspection findings. The following is a list of our general findings that were common with the sites visited. Most of the building elements are no longer visible once the building is complete due to interior and exterior finishes and therefore the results of the site visits performed are limited to readily visible items.

- <u>Signage</u>: Occupant loads were not posted in areas where required due to use and occupant load. Exit signage was not always clear and consistent with directional arrows missing or leading opposite directions. Tactile exit signage was missing at numerous exterior doors. Accessible signage was missing at classrooms, restrooms and elsewhere.
- Accessibility Issues: Multiple accessibility issues were discovered, primarily at doors
 where maneuvering clearances were not provided, as well as mounting heights of
 drinking fountains, projections into walkways beyond 4", controls outside of
 accessible reach ranches, missing grab bars, lacking clearances at changes in
 direction at ramps. Missing accessible lockers.
- Exiting: An obstructed egress path was encountered by a locked exterior gate. Improper handrail extensions and missing stair/ramp landings were noted in a few locations. Guardrails were found to be 1-2" low at some ramps and changes in elevation. In some cases, exit signs were also missing.
- Mechanical: Equipment suspended from ceilings were almost always missing seismic bracing/anchorage. There were several instances of rooftop equipment being too close to the roof edge and kitchen exhaust being too close to the building. Missing or improperly installed sediment traps were noted as well as missing pipe insulation. Many of he domestic ranges were missing required hoods.
- <u>Fire Related</u>: Unprotected penetrations in rated walls, duct openings in rated walls without dampers, and discontinuities in fire walls were noted.
- <u>Electrical</u>: Improperly sized fuses at mechanical equipment, lacking clearances in front of disconnects, etc.



6. RECOMMENDATIONS

The purposes of this study were to evaluate five recent school construction projects to gauge how well building code compliance is being met. Section 5 of the report notes our general findings after having evaluated the construction documents, applicable reviews performed, code and special inspection reports, and USBE documentation for each school. From these findings it is rather apparent that some improvement can be made to school construction projects to ensure that minimum code requirements are met. The following is a list of our recommendations for consideration by OLAG. Please feel free to reach out to us for any further clarification in relation to these recommendations.

Online Portal/Document Management System

An online document management system, or portal, would greatly benefit USBE, school districts, charter schools, design professionals and third-party agencies that are tasked with ensuring code compliance. This system should be used to maintain all preconstruction documents, initial construction document submission, plan review letters, plan review response letters, final approved (i.e., permitted) construction documents, code inspection reports, special inspection reports, USBE forms, other agency documentation, deferred submittals, addendums, requests for information, certificates of occupancy, and more.

 Tracking down the correct forms, reports, construction documents, and other documentation was a challenge for this project. This demonstrates the need for a better document control method, which inherently could assist in reducing some of the items noted within the findings of this report.

Appeals Process

To support the school district and charter school representatives a method of appeals should be established. The SDBO and CSBBO's often lack the technical building code expertise to negotiate with design professionals on critical life-safety issues. Rather than place them in situations where mistakes could be made, it would be best to have a means of deferring these items to a USBE representative, or group, that has pertinent building code experience and expertise.

Clarification on Limits of Authority

The SDBO and CSBBO's must understand the limitations in their authority as outlined in Section 107.6.2 of the IBC. They are free to offer interpretations; however, they do not have authority to "waive" building code requirements. Proper training should be provided to all



LEA school construction representatives to ensure this is well understood. This training should refer individuals to the appeals process described in the previous recommendation.

Updates to USBE Website and Manual

The following are some items that should be addressed to ensure that current State and USBE requirements are being enforced on school construction projects:

- The USBE website includes numerous references to outdated codes. In addition, form SP-11 appears to be required to ensure code compliance yet this form cannot be accessed on the USBE website. A careful review of the website should be carried out and updates made where needed. This should be done every time updated codes are adopted by the State or new USBE requirements are implemented.
- Section R277-471-3 of the Utah Administrative Code provides a reference to the USBE Manual and specifically lists the following website link: https://www.schools.utah.gov/administrativerules/documentsincorporated. This link takes the user to the 2013 version of the USBE Manual while the current version of the USBE Manual is dated January 2025. This reference should be corrected.
- Page 3 of the USBE Manual notes that it should be updated every three years. This same requirement is outlined in Section 53E-3-707 of the Utah Code. Section R277-471-3(4) of the Utah Administrative Rules states that the USBE superintendent is to review the USBE Manual each year and suggest changes to the Board. The State of Utah does not necessarily adopt building codes every three years and the USBE Manual should be updated to ensure it is compliant with the current code adopted by the State, whether such adoption is one year since the last update or three years. The three-year update cycle should match with the adoption of the codes by the State of Utah and must be taking place consistently. The information currently provided is outdated.

Training Opportunities

Additional training appears to be needed to ensure all parties better understand the building code compliance process for schools; the requirements of the USBE forms; timelines for submitting forms; and to discuss the roles, authorities, documentation and responsibilities of all individuals. While USBE is required to provide annual training to LEAs, it is recommended that annual training also be provided to design professionals, third-party plan reviewers, third-party code inspectors, and special inspection agencies so they are aware of the USBE code compliance requirements. For school construction projects it is very



common that the same design firms and third-party agencies are involved. To help encourage attendance it is recommended that continuing education credits be offered.

Approved List of Program Participants

Having a USBE approved list of third-party plan reviewers, code inspection firms, special inspection firms, etc. would ensure more consistency. Those performing work on behalf of USBE should be known, have adequate training, expertise and knowledge of the USBE process and systems. These individuals must be accountable to USBE, with the possibility of being removed from the approved list based on performance.

Guidelines Outlining Expectations

The requirement for a "detailed review" appears to have multiple interpretations. Having a guideline of what aspects should be reviewed as part of the building code review, structural peer review, and energy code reviews should be provided. A similar guideline should be provided to note what code inspections are required, the expected inspection frequencies, and documentation expectations. These guidelines should highlight to both the reviewers and the code inspectors what elements of the building code are to be verified.

Plan Review Recommendations

- Approved plans must be stamped (physical or electronically) by the reviewers, the State Fire Marshal, and sealed by the design professionals in responsible charge. This must serve as the "approved" set of construction documents that is to be maintained in the field. Any changes to these documents must be re-submitted for review and approval and similar notations provided to ensure an updated set of "approved" plans.
- All forms, documents and plans must be protected to ensure that the information contained is not altered during, prior to or after construction. As noted previously, if an online portal or document management system is implemented this may not be required as all documents are readily available electronically and cannot be altered.
- It is recommended that costs associated with third-party plan reviews, code inspections, and special inspections for each school project be tracked. The Utah Division of Facilities and Construction Management (DFCM) estimates that roughly 0.9% of project construction costs should be allocated to plan review, code inspection, and special inspection tasks. By tracking the costs spent on school construction projects these can be compared to a set standard (i.e., 0.9%) and it may flag if a project has had insufficient reviews, code inspections or special inspections.



Energy Reviewer Qualifications

The USBE Manual makes numerous references to the importance of energy efficiency in schools, the costs over the life of buildings, etc. While this is stated, the actual level of energy code compliance for schools evaluated is lacking. A huge element of the energy efficiency review is with respect to mechanical, electrical and plumbing systems. These elements are not being adequately reviewed and remain unfamiliar to many design professionals. The USBE Manual notes that the energy reviewer may be an ICC Commercial Building Plans Examiner [B3], while the SP-4 Form states that this review is to be an ICC Commercial Energy Plans Examiner [78]. It is recommended that this reviewer be certified as both an ICC B3 and ICC 78 reviewer.

Code Inspection Recommendations

The audit observations suggest that a wide range of opinions likely exist regarding what needs to be inspected, and how often such inspections are to take place. The USBE must set expectations regarding this matter. Key areas of importance include:

- Clear delineation of aspects to be looked at by the special inspection firms (i.e. concrete, masonry walls, etc.) vs. the responsibilities of the code inspectors.
 - Although both inspectors often look at the same elements, there is a distinction between what a special inspector is looking for in relation to compliance and what the code inspector is looking for. They also look at things form a different perspective as one is working for the owner and one is working for the authority having jurisdiction.
 - Special inspectors cannot verify electrical conduits in walls, underground piping, etc. They are also not concerned with clearances, accessibility, fire ratings, etc.
- Periodic oversight is needed with respect to the LEAs and third-party agencies. At
 the end of a project, a periodic review of whether sufficient inspections took place,
 as well as the quality of the documentation within the reports would likely improve
 code compliance. This could be performed by USBE or take place as part of a periodic
 audit.
- Entities with in-house staff are often more likely to have their staff frequently onsite
 and provide substantial inspections. When third-party inspection agencies are used,
 the tendency is to request inspections less frequently due to cost factors, often
 resulting in insufficient inspections. Creating a line-item budget for inspections or



shifting the source of funding the inspections could lead to improved inspection detail and frequency.

Special Inspection Program

The enforcement of special inspections appears to be significantly lacking in most cases. In most cases a clear Statement of Special Inspections [IBC 1704.3.1] is not being provided. Nonstructural items requiring special inspections are often not listed and therefore the special inspections for these items are not being carried out. Structural items requiring special inspections often are not receiving them (i.e., masonry and steel construction). There are numerous gaps in special inspection reports submitted. The "Guidelines Outlining Expectations" described previously can substantially assist with this. LEAs should be provided with clear guidelines and training on how to implement an appropriate special inspection and testing program for school construction projects.

Structural Observation Reports

All schools having an occupant load above 250 are considered Risk Category III per Section 1604.5 of the IBC. This encompasses most school construction apart from structures such as portable classrooms. As a Risk Category III project, Section 1704.6 of the IBC requires that structural observations by the engineer of record be performed and that these observation reports be submitted to the LEA building official. While required for all the school projects evaluated, no such observation reports were submitted for our review. The USBE SP-9 and SP-10 forms should be updated to require the structural observation reports for all school buildings having more than 250 occupants.



7. CONCLUSION

The intent of this audit was to evaluate how well Utah school construction projects comply with both the adopted building codes and the procedures established by state law and USBE guidelines. While the framework for code compliance exists, this review found consistent issues across major phases of school construction—documentation, plan review, inspections, and project closeout.

Plan reviews often lacked documentation of approval, required design professional seals, and a thorough evaluation of life safety, accessibility, and energy code provisions. Mechanical, electrical, and plumbing systems were routinely under-reviewed, and energy code compliance was not adequately documented, reviewed or enforced.

Inspections, both general code and special inspections, varied in frequency and detail. Many inspection reports lacked meaningful correction items or clear descriptions of work inspected. Final inspections were frequently incomplete or undocumented. Special inspections for nonstructural elements—required by code—were largely missing.

Reporting and documentation to USBE was inconsistent. Required forms were sometimes missing, improperly filled out, or editable with no security features. Documentation of structural observations, fire clearance, or other required approvals were often missing or undocumented. Coordination with local municipalities was lacking in most cases.

Overall, the review indicates that while most projects meet the intent of providing safe, functional school buildings, the process lacks consistency, documentation, and oversight. Improvements are needed in reviewer qualifications and depth, inspection practices, training, as well as the USBE reporting and verification process. A more uniform system of review and enforcement would assist in ensuring buildings meet minimum code requirements and improve overall compliance across school construction projects in the state.

With the pace of school construction in the State of Utah, a reliable system, clear expectations, accountability measures and staffing to monitor and enforce the USBE requirements in real time is needed.



Appendix A

High School #1 – New Construction – Summary of Findings

This appendix outlines specific items of interest that our office noted when reviewing the construction documents, plan review letters, code inspection reports, special inspection reports, submitted USBE forms, and when performing a site visit for the High School #1 project. These items are laid out in the same format as the "Compliance Areas" described in Section 4 of this report, with the addition of items found during our site visit to the school in question.

1. PLAN REVIEW FINDINGS

While a detailed review of the construction documents could not be provided in the time allotted, our office did perform a cursory review of the plans to determine the general level of code compliance. As part of this evaluation, we also evaluated all plan review and response letters provided to determine if these provided a general level and quality of review as should be expected for school projects. The following table addresses our findings in relation to each review required by USBE as outlined in Section 4 of this report.

Review Type	Findings	
Certified Plans Examiner Review	There was a combination of 26 plan review items, split between bid package #1 (BP1) and bid package #2 (BP2) of this project. It is unclear how correspondence between the design team and the reviewer occurred, as approval letters for the review exist, but little documentation regarding the number of reviews, or full nature of the responses was provided. The review provided appears to be minimal in nature, with a variety of comments addressing various aspects of the IBC and ICC A117.1, however, only limited review comments associated with plumbing, mechanical, electrical and energy-related items. For a project of this size a more extensive record of review comments would be expected.	
	 Items identified when reviewing BP1 of the construction documents provided: No stamp of approval from the building, energy or structural reviewers. It is impossible to evaluate which set was reviewed, and/or approved. The construction type is incorrect, it is listed as II-A which would require fire ratings per IBC Table 601 of 1-hr. protection for the 	
	primary structural frame etc. which have not been provided. This appears to be a Type II-B building.	



Review Type	Findings
	 The allowable area calculations are listed wrong, indicating an allowable area of 57,000 SF which isn't accurate, as Table 506.2 indicates 43,500. Luckily the building still complies, as it is only 40,519 SF.
	 The building has plywood sheathing called out in numerous locations. Type II-A and II-B buildings cannot contain combustible materials.
	 HVAC is provided to the press boxes, yet no mechanical plans exist for these buildings.
	 Ambulatory restroom stall doors must swing out. The stalls provided are shown with doors swinging in.
	 Maneuvering clearances are lacking at the accessible stalls in Rest 109A, Rest 108A. ICC A117.1.
	Items identified when reviewing BP2 of the construction documents provided:
	 No stamp of approval from the building, energy or structural reviewers. It is impossible to evaluate which set was reviewed, and/or approved.
	 Sheet A0.1: The added "Fire Wall" separating Area #2 from Area #6 does not continue up through the level above as required by fire walls. IBC 706.6. The terminology used is also inconsistent with the 2018- These must be "fire walls" by definition, not area separation walls or "fire barriers."
	 Sheet A0.2: The fire wall separating Area #3 from Area #5 does not have appropriate horizontal continuity as required by IBC 706.5. The terminology used is also inconsistent with the 2018- These must be "fire walls" by definition, not area separation walls or "fire barriers."
	 Fire walls separating Area #1 from Area #2 don't line up on the levels above and don't comply with IBC 706.2 or 706.6.
	 Areas beneath the stairs require a 1-hr. rated ceiling, these appear to be lacking in numerous locations. IBC 1011.7.3
	 Existing door frames are indicated to remain, that are now in fire walls. Fire rated doors are proposed, but the door frames are existing. This would not result in protected openings per IBC 716.
	 Sheets A8.13 & A8.14- Reduced headroom requires a barrier or rail beneath stairs as per ICC A117.1. This appears to be missing.
	 The stove in Faculty Loung A107 should have exhaust per IMC 505.



Review Type	Findings
	 Sheet A1.2B: Faculty Restroom B207A, doesn't meet minimum accessibility requirements. A minimum width of 60" clear is required at all water closets.
	 Door clearances are missing at accessible stalls in Boys B206 and B204.
	 Sheets A1.1A, A1.1E, A1.2A: Drinking Fountain at corner does not comply with accessibility requirements for projections. ICC A117.1
	 Sheet A1.1C: Drinking Fountain at auxiliary gym does not comply with accessibility requirements for projections. ICC A117.1
	 Sheet A1.1E: Lavatories obstruct required maneuvering clearances to the accessible stall in Men's E119. ICC A117.1 front approach.
	 Details 2 & 3/P6.4 show a non-compliant sediment trap installation in violation of the IFGC.
	 Sheet P5.1- Plans lack grease interceptor sizing calculations.
	 The plans lack through penetration details for cable trays through fire walls per IBC 714, as well as seismic separation from building to building through fire walls.
Structural Peer Review	A total of four plan review comments were made by the structural peer reviewer, which is <i>very minimal</i> for a project of this size. A response letter was provided and a final letter from the peer reviewer noting that all items were resolved was also provided.
	Items identified when reviewing the peer review letter and construction documents provided include:
	 The plans do not list the concrete exposure and durability requirements of IBC Chapter 19 and ACI 318.
	 There are numerous site retaining walls and structural sheets do not specify the drainage requirements behind retaining walls.
	 The plans show several of the new foundations resting on top of the existing foundations, but it could not be confirmed that these existing footings were checked for the additional eccentric load being applied.
	 The seismic separation between the new and existing structures is not specified.
	 The peer review did not appear to check if any of the new construction adds load to or reduces the capacity of existing structural elements.



Poviow Type	Findings
Review Type	
Energy Code Plan Review	The review requested standard energy compliance forms and documentation, but did not appear to involve an in-depth review of the plan sheets with respect to energy compliance. In total the energy review consisted of 6 comments. The documentation provided did not include energy compliance certificates, making a more detailed evaluation difficult. The Energy Compliance Documents, consisting of the lighting compliance certificates were provided, mechanical compliance certificates and HVAC load calculations were not provided for review.
	Items identified when reviewing the BP1 construction documents provided:
	 It appears an Envelope Compliance Certificate was requested but never provided, rather EnergyCraft insulation product cut sheets were provided. The plan sheets do not indicate what R-value of the EnergyCraft products were proposed. Various values are available.
	 The HVAC load calculations suggest a roof value of 28.57, and a wall value of 19.23, with windows at 0.410. The wall values do not appear to comply with Table C402.1.3.
	 Concrete walls are shown with 2" of rigid insulation, no R-values specified. The project manual suggests an R-10. Table C402.1.3 would require R-11.4 continuous insulation.
	 Elevations on A3.1 are calling for both aluminum framed windows, as well as translucent wall panels. The U-factors for these elements would need to comply with IECC C402.1.2.
	 Plans lack information on A5.1 regarding proposed glazing values. These should be listed on the plans and verified at the end of the project. IECC C402.1.2
	 Vestibules should not be conditioned as proposed/built. (Sheet M1.1A) C403.4.1.3 regulates the heating of vestibules, requiring shutoffs when outdoor air temperature exceeds 45-Deg. F. Vestibules also require an individual thermostat limiting heating to 60-Deg. F. maximum, and cooling to not less than 85-Deg. F.
	 Heating and cooling load calculations were provided; however, they are utilizing a building area of 36,069 SF and the actual building is 40,519 SF.
	 Various other buildings exist in this bid package, such as the Press Box, Storage Shed, etc. Normally Envelope Compliance Certificates would be provided for each building. The proposed



Review Type	Findings
	buildings do not meet minimum insulation requirements to be provided with A/C or heat as shown on Sheet E10.1. Items identified when reviewing the BP2 construction documents
	provided:
	 It's unclear how the building complies with the envelope compliance provisions of the IECC. It is assumed a prescriptive approach was utilized; however, the values on Sheet A1.4 do not appear to meet the provisions of Table C402.1.3.
	 Exterior walls are shown with 2" rigid insulation, generally resulting in R-10 insulation. The code required a minimum of R- 11.4 for mass walls. Areas with 4" spray foam likely comply.
	 Wall types #3 and #5 would not result in a cumulative 4" thickness, or the R-values desired due to the stud framing.
	 The plans are calling for (3) Layers of 2" rigid insulation on the roof.
	 Rigid insulation must continue up through the slab, not stop at the bottom of the slab as detailed throughout on Sheet S1.2. The installations don't meet the prescriptive code requirements and allow for thermal bridging directly into the interior of the building.
	 Plans lack information on A5.2 regarding proposed glazing values. These should be listed on the plans and verified at the end of the project. IECC C402.1.2
	 U-factors for the proposed skylights should also be in the plans and confirmed to comply with IECC C402.
	 Vestibules should not be conditioned as proposed/built. (Various sheets) C403.4.1.3 regulates the heating of vestibules, requiring shutoffs when outdoor air temperature exceeds 45-Deg. F. Vestibules also require an individual thermostat limiting heating to 60-Deg. F. maximum, and cooling to not less than 85-Deg. F.
	 Aux. Gym AC100, the shop areas, Commons B112 and any area over 2,500 SF with 15' ceilings require skylights. Skylights are missing per IECC C402.4.2, and lighting exceeds the exception.
State Risk Management Review	No documentation was provided to show whether the construction documents were provided to State Risk Management for review and comment.
Health Department Review	The local health department provided a review and issued and approval letter for the project in question. There were no correction items noted. A food establishment permit was not provided in the project documentation; however, with a large commercial kitchen,



Review Type	Findings
	such documentation would be required prior to the issuance of a certificate of occupancy. A disinfection report for the potable water was included as typical for a project of this type.
State Fire Marshal Review	The Utah State Fire Marshal's (USFM) Office performed a fire and life safety review for the project. Initial comments were addressed and USFM issued an approval letter. Copies of USFM plan reviews for fire protection systems were not provided, however a fire flow analysis was provided. A fire clearance was not provided with the project documentation but would be required prior to occupying the building.
Utah Geological Survey (UGS)	No documentation was provided to show whether UGS performed a site risk assessment or whether the project geotechnical report was sent to UGS for review and comment.
Local Municipality (AHJ)	No documentation was provided to show whether the local municipality performed planning/zoning reviews, utility infrastructure reviews, or traffic reviews of the project.

2. CODE INSPECTION FINDINGS

The construction occurred over a span of 29 months with a total of 208 total code inspection reports provided for our review and 8 code inspection reports that appear to be missing. The 216 overall code inspections average to about 7.4 inspections per month over the course of construction. The project is on-going, as the bid package #3 of the project is at the rough framing stage of construction. The new construction completed as part of BP1 and BP2 totals just over 178,000 square feet and the number of inspections provided appeared to be good for concrete, underground work, and masonry; however, rough inspections for mechanical, electrical and plumbing, as well as gypsum, fire rated assemblies and accessibility appear to be lacking considering the size and duration of the project. It was confirmed that the two code inspectors of record for this project are both certified by ICC and licensed building inspectors by the State of Utah.

3. SPECIAL INSPECTION FINDINGS

The special inspection reports provided for this project included several deficiencies. Those include the following:

- It was clear that not all special inspection reports were provided as numerous report numbers are skipped (i.e., Soils #13 to Soils #22).
- There are numerous concrete break reports where the 7-day breaks did not meet the required concrete strength, but the 28-day break results were not provided.



- No masonry special inspection reports were provided, yet a significant amount of masonry work was performed.
- No structural steel special inspection reports were provided for Phase 1 work, which included a steel framed building.
- No nonstructural special inspections were listed or performed.

4. OTHER INSPECTIONS

A copy of the local health department drinking water sample reports were provided indicating on-site collection of samples and noting passing test results. Copies of USFM final inspection reports from two different dates were also provided. There is no record of other inspections that would typically be provided, such as hydrostatic testing of sprinkler lines, flush tests, inspections by the local AHJ related to civil site items, structural observation reports or other field reports.

5. USBE REPORTING

As part of this evaluation, we reviewed all the building compliance forms that were provided to USBE for this project. The following table addresses our findings in relation to each required USBE form as outlined in Section 4 of this report.

USBE Form	Findings
Preconstruction Checklist	This checklist was completed and submitted to USBE by the LEA.
SP-4 Form	This form was completed and submitted to USBE by the LEA.
SP-8 Form	SP-8 forms were completed and submitted to USBE along with the associated code inspection reports by the LEA for each month of construction; however, nine months of SP-8 forms were missing, and the provided forms were inconsistent, with respect to the associated inspection report dates.
SP-9 Form	An SP-9 form was submitted to USBE by the LEA; however, many of the applicable check boxes on the form were left blank, which is inconsistent with the scope of the project. • Special inspection firm and individuals is not listed.
	 Boxes indicating who completed the form were left unchecked.
	 License numbers are missing for the fire and health department reviewers, and there is no boiler inspector name or license number.



USBE Form	Findings
Project Closeout Checklist	This checklist was completed and submitted to USBE by the LEA. This may be because Bid Package #3 of the project is yet to be completed.
SP-10 Form	While this form was completed and submitted to USBE by the LEA, there were two concerns noted when reviewing this form:
	 The form for BP1 incorrectly lists the construction type as Type V-B.
	 The form for BP2 utilizes an occupant load of 2,620, which does not match the provided plans, which per Sheet A0.1 would be around 3,500.
SP-11 Form	An SP-11 form was not provided for this project. This may be because Bid Package #3 of the project is yet to be completed.

6. SITE VISIT FINDINGS

As described in Section 5 of this report, a formal site visit report was used when visiting each site to ensure that the same elements were looked at for uniformity purposes. The report includes separate sections to address the exterior of each building, the interior of each building, fire and life safety items, accessibility items, mechanical/electrical/plumbing (MEP) items, energy efficiency items, and roof inspection findings. It is important to note that this site visit was not a formal building inspection, but a walkthrough of the project. No effort was made to review concealed elements, and time was limited for each site visit. The following is a list of items that were encountered during the site visit.

- Exterior ramps require a code-compliant turning space at all changes in direction.
- Some exterior stairs have a code compliant handrail, but lack of a 42" guard, as the change of elevation more than 30" occurs adjacent to the stairs.
- Training Room B201 lacks code-required handrails at the stairs. The room requires (2)
 exits and only has (1) exit sign. The occupant load of the room of 56 must be posted in
 the room. The room does not have space for a person in a wheelchair in the front row
 of the room.
- Handrail projections in various locations either stop prior to (1) tread depth beyond the bottom riser, or in other locations project out, rather than returning to the floor, wall, or to an elevation of at least 27" above finished floor (AFF).
- Maximum occupant load signage was missing in several assembly spaces.
- Some racking in the metal shop was not anchored to the ground or back wall.



- The passenger loading zone at the front of the school is not marked with a paint or contrasting surface.
- Detectable warnings (truncated domes) are required at raised crosswalks at the front entry to the building.
- Fire extinguisher cabinet in one location is wall mounted and projects more than 4". The space from 27" 80" AFF and within the path of egress cannot have such projections.
- Maneuvering clearances at restroom accessible stall doors is lacking in several restrooms. A clearance of 18" beyond the latch side of the door is required on the pull side.
- At least 5% of all lockers, both student lockers, as well as lockers in locker rooms, shop areas, kitchens, etc., must be identified as being accessible and comply with the requirements of ICC A117.1.
- The bottom 10" of the gates to the dugout must have a solid surface.
- AED machine cabinets project more than 4" of the wall and are mounted from 27" 80"
 AFF.
- Gas lines on radiant heaters are not per manufacturer's installation instructions.
- Sediment traps at roof-top equipment are on a horizontal run of pipe, not vertical as required by the IFGC.
- Unit heaters in various locations are lacking code required seismic bracing, both in the fieldhouse and the school.
- Disconnects for A/C condensers are located behind the unit. They must be in an accessible location with adequate clearances.
- Domestic range hoods should be provided for breakroom cooktops. The microwaves must be within accessible reach ranges.
- Portions of copper water lines were not insulated in the mechanical room.
- Rooftop equipment was located closer than 10' from the roof edge without protection in some locations.
- The Type I hood discharge location must be at least 5' away from the exterior building walls.



Appendix B

High School #2 - Addition and Remodel - Summary of Findings

This appendix outlines specific items of interest that our office noted when reviewing the construction documents, plan review letters, code inspection reports, special inspection reports, submitted USBE forms, and when performing a site visit for the High School #2 project. These items are laid out in the same format as the "Compliance Areas" described in Section 4 of this report, with the addition of items found during our site visit to the school in question.

1. PLAN REVIEW FINDINGS

While a detailed review of the construction documents could not be provided in the time allotted, our office did perform a cursory review of the plans to determine the general level of code compliance. As part of this evaluation, we also evaluated all plan review and response letters provided to determine if these provided a general level and quality of review as should be expected for school projects. The following table addresses our findings in relation to each review required by USBE as outlined in Section 4 of this report.

Review Type	Findings	
Certified Plans Examiner Review	There were 25 initial review comments provided for Part 1 of this project, with no record of review items for Part 2. The review provided is minimal, with essentially a checklist or reproduction of the code analysis documented. The review appears to focus on the IBC, ICC A117.1 with little references plumbing, mechanical, electrical and energy-related items. A project of this size with numerous coderelated issues would typically have substantially more comments, as well as several rounds of review comments and responses from the design professionals. The building has significant issues related to fire walls and allowable building area. Items identified when reviewing Part 1 construction documents provided:	
	 The accessible stall in BOYS A102 does not have code compliant maneuvering clearance for ICC A117.1. Sheet G002 is unclear related to building code compliance. In order to comply with code, the high school must be separated into 7 "buildings" each individually separated with "fire walls" rather than the 7 fire areas as shown. This is a critical code consideration that needed to be more clearly depicted. Over 32,000 SF of additional space was added to the school, adding occupant load, a plumbing fixture analysis should have 	



Review Type	Findings
	been provided, and potentially additional restroom fixtures added to the building.
	 Sheet A231 indicates 2-hr. rated walls, which should be structurally independent 2-hr. rated fire walls per IBC 706. The separations appear to be consistent with fire barriers per IBC 707, not fire walls per IBC 706. Wall Type D1E is not consistent with a fire wall per the provisions of the code. Detail E6/S502 shows masonry walls that don't extend to the underside of the roof deck. The numerous jogs in this necessary fire wall make compliance with IBC 706.6 not possible.
	 The analysis provided on the stamped copy of Sheet G002 itself, even with the flawed approach previously indicated, clearly shows an allowable area of 60,128 SF and a proposed area of 60,399 SF which exceeds the limitations of the code by 271 SF.
	 Sheet G003 indicates an allowable area of only 60,001 SF for Area 5, and utilizes different frontage increase values.
	 Sheet G003 indicates an allowable area of 60,015 SF for Area 1 and indicates a proposed area of 61,878 which exceeds the allowable. Additionally, Area 1 is a (2) story building, making the allowable area only 45,515. This exceeds the limitations of the code by 16,363.
	 Part 1 consists of around 137 individual plan sheets. The only version with an approval stamp is limited to 9 total sheets, and the only stamps are found on Sheet G002. No stamp of approval from the structural reviewers. It is impossible to evaluate which set was reviewed, and/or approved.
	 Door 311a does not meet ICC A117.1 maneuvering clearances. It is located in a fire wall and requires a closer and lacks the 18" beyond the latch on the pull side.
	 The cooktops in Biology Prep 328 should have exhaust per IMC 505.
	 Typical plan review requires a full kitchen hood submittal. This would include the CaptiveAire submittal or equivalent, with cut sheets for all proposed hoods. These documents should have been submitted and reviewed. Sheet A404 shows substantial cooking equipment for Food Lab 308.
	 Electrical Roob B108 has equipment at 1,200A and 6' wide and would require a 2nd exit. The exceptions do not appear to be met. NEC 110.26



Review Type	Findings
	 Required outdoor air calculations should have been included in a table, consistent with IMC Table 403.3.1.1.
	Items identified when reviewing Part 2 construction documents provided:
	 A letter from the School District justifying the reduced occupant load of 1,600 for plumbing fixture calculations should have been provided. The building occupant load is indicated on Sheet G002 as 10,904.
	 The termination of the fire walls between the new addition at Area E and Area J is not in compliance with IBC 706.5 and results in a hazardous condition where "buildings" as defined by the IBC and necessary for the allowable areas proposed, are not adequately separated from fire exposure.
	 Toilet Room 420 lacks code required privacy partitions per the IPC. It's understood that this is a common application in daycares, but is in violation of the adopted codes, regardless of state programs.
	• The plans appear to include new 2-hr. rated walls in Area C. The line types used make it difficult to discern between new and existing walls. Sheet A260 indicates 2-hr. rated walls, which should be structurally independent 2-hr. rated fire walls per IBC 706. The separations appear to be consistent with fire barriers per IBC 707, not fire walls per IBC 706. Wall Type B4E could comply, but the continuity through roof framing is in question. Sheet S151C makes new masonry walls in these locations more unclear as none are shown where depicted. This issue persists throughout the set. Wall types on Sheet A268 utilized as "2-hr. Fire Walls" creating the separations indicated in the architectural set do not meet the requirements for fire walls.
	 Several large-diameter ceiling fans are proposed. These generally require seismic anchorage from an engineer, and in compliance with the manufacturer.
	 Required outdoor air calculations should have been included in a table, consistent with IMC Table 403.3.1.1.
	 Code required arc fault calculations were not included in the plan submittal.
Structural Peer Review	A total of 27 plan review comments were made by the structural peer reviewer which appropriate for a project of this size. While a response letter was provided, the initial structural peer review letter and a final



Review Type	Findings
	letter from the structural peer reviewer noting that all comments were resolved were not given.
	Items identified when reviewing the construction documents include: • Sheet S001:
	 A wind importance factor (I_w) of 1.0 while a value of 1.15 is required for school buildings.
	 A wind exposure B is listed but based on the site a wind exposure C should have been considered.
	 Areas A and B use different lateral force-resisting systems but seismic separations are not apparent and the combination procedures of ASCE 7 should be considered. (Similar combinations are noted on Sheet S051 of Phase 2.)
	 There are several deferred submittals listed but no information was provided for these items.
	 Structural observations are listed but it does not note they are to be provided to building official.
	 No nonstructural special inspections are listed.
	 Sheet S002: The CP-3 piers have no vertical reinforcing specified. Sheet S101A: Nonparallel systems are shown but it could not be confirmed that this was considered in the analysis. Calculations:
	 Both phases of the project only considered select portions of the overall building. Based on the work performed, the IEBC requires that the entire structure be analyzed. In addition, due to the irregularities that exist it is likely that a modal analysis would be required per ASCE 7.
	 In our spot check, the FC5.0 footing calculation requires a 13- inch thickness while the footing schedule lists a thickness of 12"
Energy Code Plan Review	The review provided appears to be limited to a verification of energy compliance document submission but is otherwise very limited with respect to energy compliance issues. The documentation did not appear to include all the energy compliance certificates or HVAC load calculations, making a more detailed evaluation difficult.
	Items identified when reviewing the construction documents provided:
	 The area of 60,399 SF listed on the energy review is consistent with Fire Area 5 on G003, this suggests that the review may not have been as extensive as necessary as the SP-11 form indicates



Review Type	Findings
	299,231 SF of project area. The letter does not identify if it applies to Part 1 or Part 2, or both.
	 The Interior Lighting Compliance Certificate – Part 1 only accounts for 30,000 SF of the project area.
	 The Interior Lighting Compliance Certificate- Part 2 only accounts for 93,216 SF of project area. It's unclear if this encompasses all of Part 2.
	 The Envelope Compliance Certificate (Part 1) only accounts for 17,345 SF which is assumed to be the floor area of the addition.
	 Sheet C-300 suggests a southerly addition of around 25,000 SF including the infill in Area 3 is an additional 8,000 SF.
	Part 1- Envelope Compliance Certificate:
	 The ECC indicates R-30 Roof, Sheet A321 indicates R-34.8.
	 The ECC indicates skylight with U-0.600 values. The plans and specifications do not contain any information regarding the performance requirements of skylights.
	 The ECC indications slab on grade insulation with R-10 continuous at the building perimeter, Sheet A321 calls for a proper material and thickness, indicates R-1.76, but the installation does not meet the provision of the code, requiring the insulation to extend to the top of the slab.
	 The ECC indicates exterior walls with 0.059 U-factor (R-17), the plans on Sheet A321 are calling for R-12 spray foam.
	 Other exterior walls are 8" metal studs with batt insulation. These have not been accounted for in the ECC.
	 The ECC indicates metal frame windows with U-0.35. Plans lack information on A601 regarding proposed glazing values. These should be listed on the plans and verified at the end of the project. IECC C402.1.2 and ASHRAE 90.1- 5.5.4.3.
	Part 2- Envelope Compliance Certificate: Not Provided
	 Over 25,000 SF of additional building footprint was added associated with Part 2, in Area E. As a result, envelope compliance documentation needed to be submitted, reviewed and approved. These documents are missing.



Review Type	Findings
	 Additionally, numerous demo details in the AD sheets indicate removing existing batt insulation, making the changes to the building envelope more extensive.
	 The project also included new skylights in some locations.
	 Insulation related comments from Part 1 remain applicable to Part 2 regarding spray insulation, roof insulation, slab insulation etc.
	 Heating and cooling load calculations should have been provided and reviewed at the time of energy review. This is critical for the sizing of the mechanical equipment in accordance with the requirements of Section 6.4.2.1 of ASHRAE 90.1. This is also required in IMC 312. Short load forms, including applicable R- values and U-factors used in the calculations would be verified.
State Risk Management Review	No documentation was provided to show whether the construction documents were provided to State Risk Management for review and comment.
Health Department Review	The local health department provided a review and issued and approval letter for the project in question. A food establishment permit was issued by the local health department.
State Fire Marshal Review	The Utah State Fire Marshal's (USFM) Office performed a fire and life safety review for the project. Initial comments were addressed and USFM issued an approval letter. Copies of USFM plan reviews for fire protection systems were not provided, however a certificate of fire clearance was issued by USFM. Additionally, the local fire district approved an AMMR related to deficient fire flow. This was approved; however, it's unclear why this wasn't reviewed by the USFM.
Utah Geological Survey (UGS)	No documentation was provided to show whether UGS performed a site risk assessment or whether the project geotechnical report was sent to UGS for review and comment.
Local Municipality (AHJ)	No documentation was provided to show whether the local municipality performed planning/zoning reviews, utility infrastructure reviews, or traffic reviews of the project.

2. CODE INSPECTION FINDINGS

The construction occurred over a span of roughly 28 months with a total of 108 code inspection reports. The 108 overall code inspections averages about 3.9 inspections per month over the course of construction. With the additions, and interior courtyard being infilled, there was



roughly 40,000 square feet of new construction, and somewhere upward of 100,000 square feet of interior remodel of different varieties. This would suggest that the number of inspections provided is adequate considering the size and duration of the project. Minimal inspection reports related to footing/foundations, gypsum assemblies, accessibility and final inspections were included. It was confirmed that the code inspector of record for this project is certified by ICC and licensed building inspectors by the State of Utah.

3. SPECIAL INSPECTION FINDINGS

The special inspection reports provided for this project included several deficiencies. Those include the following:

- It was clear that not all special inspection reports were provided as numerous report numbers are skipped (i.e., Soils #13 to Soils #22).
- There are numerous concrete break reports where the 7-day breaks did not meet the required concrete strength, but the 28-day break results were not provided.
- No masonry special inspection reports were provided, yet a significant amount of masonry work was performed.
- No structural steel special inspection reports were provided for Phase 1 work, which included a steel framed building.
- No nonstructural special inspections were performed or listed on the plans.

4. OTHER INSPECTIONS

No documentation on inspections performed by other entities was provided. This includes inspections by the State Fire Marshal's Office, the local AHJ, structural observation reports, etc. It should be noted that a Certificate of Fire Clearance was provided by the State Fire Marshal's Office, but none of the actual field inspection reports.

5. USBE REPORTING

As part of this evaluation, we reviewed all the building compliance forms that were provided to USBE for this project. The following table addresses our findings in relation to each required USBE form as outlined in Section 4 of this report.

USBE Form	Findings
Preconstruction	A preconstruction checklist was completed and submitted to USBE,
Checklist	noting that items I.i, and I.j were not applicable.



USBE Form	Findings
SP-4 Form	The SP-4 form was provided with the USBE documentation. The square footages of addition and remodeled areas appear to vary from the project design drawings.
SP-8 Form	SP-8 forms were completed and submitted to USBE along with the associated code inspection reports by the SDBO for each month of construction. Three months appear to be missing associated SP-8 forms, and one additional month has no record of inspections taking place. Early in the project the SDBO specific monthly inspection summary forms were provided in lieu of the SP-8 forms.
SP-9 Form	An SP-9 form was submitted to USBE by the SDBO, however there is a gap of nearly 6 months between the form completion date and the last documented inspection. Additionally, many of the check boxes for relevant aspects of construction are left blank, which is inconsistent with the scope of work.
	 Inspectors' names are blank on the form, with no indication of code or special inspectors.
	 A license number for the SFM inspector has been omitted.
Project Closeout Checklist	This checklist was completed and submitted to USBE by the SDBO. Many of the checklist items are left blank, suggesting the checklist is not complete and all associated documentation had not been gathered or submitted.
SP-10 Form	A Certificate of Occupancy issued by the LEA was provided- which does not match the standard SP-10 form. There is no indication of use group, construction type, occupant load, the type of fire sprinklers provided and the indicated occupant load etc.
SP-11 Form	The SP-11 form that was submitted to USBE by the SDBO.

6. SITE VISIT FINDINGS

As described in Section 5 of this report, a formal site visit report was used when visiting each site to ensure that the same elements were looked at for uniformity purposes. The report includes separate sections to address the exterior of each building, the interior of each building, fire and life safety items, accessibility items, mechanical/electrical/plumbing (MEP) items, energy efficiency items, and roof inspection findings. It is important to note that this site visit was not a formal building inspection, but a walkthrough of the project. No effort was made to review concealed elements, and time was limited for each site visit. The following is a list of items that were encountered during the site visit.



- Exterior concrete in some locations has settled, creating abrupt changes in elevation. (very limited instances)
- Occupancy loads were not posted in all instances. Paper towel and soap dispensers in the lab areas at sinks are beyond ICC A117.1 reach ranges.
- Some exit sign placements are inconsistent, exit signs were not illuminated in some locations, missing in others, and not visible from the direction of travel. (limited instances)
- Chemical storage areas were provided. The rooms had locking doors, but the fire cabinets were not locked. It appears the 100-cfm exhaust fan in the room may not run continuously as chemical smell was strong.
- Sprinklers, fire extinguishers, devices, alarms etc. appeared to be provided per industry norms. There were some instances where placement of devices from one of many phases of construction over the years may vary from current code requirements.
- Kitchen hoods were provided in the demonstration kitchen, as well as the cafeteria kitchen. Hoods appeared to be in working order with proper fire protection. Placement of equipment beneath hoods was not consistent with the code, as edges of the hood did not overhang equipment by the 6" minimum of the code.
- Cooktops in the foods class area are not equipped with residential type hoods as required by the IMC.
- Exterior ramps lack adequate 60 x 60 landings at changes in direction.
- Handrail extensions at ramps and stairs project above the 27" elevation allowed by ICC A117.1 and should have extended below the 27" elevation or to the floor, or a wall. Some stair railings do not return to the wall, floor etc. and are open ended.
- Drinking fountains were mounted 1/2" lower than allowed by code to provide knee clearances.
- Accessible seating in the auditorium for people in wheelchairs is at a slope in excess of the 2% allowed by ICC A117.1.
- AED Cabinets are located above 27" and below 80" and project more than 4" from a wall. Creating a hazard for visually impaired people.
- Drinking fountains are located in corridors, and not protected by an alcove, wing walls or railings at the sides.
- Code required workspaces are not provided in the foods class work kitchen for students as required by ICC A117.1.
- Projections for exhaust fans are at head height, are located above 27" and below 80" and create a hazard per ICC A117.1.



- Some clearances at restroom stall doors do not meet the maneuvering clearances of ICC A117.1.
- Controls for ranges and wall ovens in the foods area are not within accessible reach ranges for height, and some require reaching over the burners which is not permitted. ICC A117.1.
- Exhaust from unit heaters and intakes for fresh air at the greenhouse are too close together per IMC requirements.
- Cooktops in the foods class area are not equipped with residential type hoods as required by the IMC.
- Access to some mechanical spaces and rooms was limited and doors appeared to be lacking landings, etc.
- Seismic bracing of light fixtures, large-diameter fans, ceiling grid clouds, and ground mounted equipment appeared to be missing in select locations.
- Some areas of the existing roof vs. new construction transition appear to have resulted in areas with a primary drain, but no means of secondary drainage. Scuppers etc. may have existed but no longer exist.
- Fume hood exhaust stacks lack standard guywires for seismic bracing.



Appendix C

Junior High School – Addition – Summary of Findings

This appendix outlines specific items of interest that our office noted when reviewing the construction documents, plan review letters, code inspection reports, special inspection reports, submitted USBE forms, and when performing a site visit for the Junior High School project selected. These items are laid out in the same format as the "Compliance Areas" described in Section 4 of this report, with the addition of items found during our site visit to the school in question.

1. PLAN REVIEW FINDINGS

While a detailed review of the construction documents could not be provided in the time allotted, our office did perform a cursory review of the plans to determine the general level of code compliance. As part of this evaluation, we also evaluated all plan review and response letters provided to determine if these provided a general level and quality of review as should be expected for school projects. The following table addresses our findings in relation to each review required by USBE as outlined in Section 4 of this report.

Review Type	Findings
Certified Plans Examiner Review	There were 40 initial plan review comments provided. Four total reviews were performed, on the fourth round the plan review was approved. The review provided appears to be adequate, with a variety of comments addressing various aspects of the IBC, ICC A117.1 as well as plumbing, mechanical, electrical and energy-related items. Several rounds of review took place, which is typical and to be expected.
	Items identified when reviewing the construction documents provided:
	 No stamp of approval from the building, energy or structural reviewers. It is impossible to evaluate which set was reviewed, and/or approved.
	 A letter from the LEA justifying the reduced occupancy load of 300 for plumbing fixture calculations was not provided.
	 The covered walkway connecting the existing school to the addition does not comply with the code with respect to fire separation distance (FSD). It must be counted as part of the addition "building" or part of the existing "building" or its own "building" but does not comply with IBC Table 705.5. With an FSD of 3 feet as outlined in the plan review response letter, 1-hr.



Review Type	Findings
	 protection would be required for exterior walls and columns. (Note: This canopy was never constructed.) The accessible stall in BOYS A102 does not have code compliant maneuvering clearance for ICC A117.1. Clearance at urinals in BOYS A102 are not wide enough per ICC A117.1. Door maneuvering clearance at Toilet A107 is insufficient on the pull side per ICC A117.1. Code required arc fault calculations were not included in the plan submittal. [NEC] The panel schedules on E501 are incomplete, lacking location, lugs, breaker, etc. [NEC] Plan review responses indicate that a list of deferred items was added to Sheet G101. This was not included on the construction documents provided so it appears we did not have the "approved" set when performing this evaluation.
Structural Peer Review	A total of four plan review comments were made by the structural peer reviewer, which appeared to be adequate for this simple detached addition. A response letter was provided and a final letter from the peer reviewer noting that all items were resolved was also provided. Items identified when reviewing the construction documents provided: The approved construction documents listed a wind importance factor (I _w) of 1.0 while a value of 1.15 is required for school
Energy Code Plan Review	buildings. (This was addressed in Addendum #1.) The review provided is well documented and shows a reasonable level of plan review for energy compliance issues. The documentation did not appear to include energy compliance certificates or HVAC load calculations, making a more detailed evaluation difficult. The Energy Compliance Documents, consisting of the Envelope, Lighting and Mechanical certificates, were not included in the USBE information or other supplemental information provided for this evaluation.
	 Items identified when reviewing the construction documents provided: Plans lack information on sheet A401 regarding proposed glazing values. These should be listed on the plans and verified at the end of the project. [IECC C402.1.2] Heating and cooling load calculations should have been provided and reviewed as part of the energy review. This is critical for the sizing of the mechanical equipment in accordance with the



Review Type	Findings
	requirements of IECC C403.1.1. This is also required in IMC 312. Short load forms, including applicable R-values and U-factors used in the calculations would be verified.
State Risk Management Review	No documentation was provided to show whether the construction documents were provided to State Risk Management for review and comment.
Health Department Review	The local health department provided a review and issued and approval letter for the project in question. There were three comments noted in the approval letter that were to be resolved as part of the construction process. A food establishment permit was not required for this project.
State Fire Marshal Review	The Utah State Fire Marshal's (USFM) Office performed a fire and life safety review for the project. Initial comments were addressed and USFM issued an approval letter. Copies of USFM plan reviews for fire protection systems were not provided, however a system activation report from the fire sprinkler contractor was included.
Utah Geological Survey (UGS)	No documentation was provided to show whether UGS performed a site risk assessment or whether the project geotechnical report was sent to UGS for review and comment.
Local Municipality (AHJ)	No documentation was provided to show whether the local municipality performed planning/zoning reviews, utility infrastructure reviews, or traffic reviews of the project.

2. CODE INSPECTION FINDINGS

The construction occurred over a span of 14 months with a total of 188 total inspection reports provided with 2 inspection reports that appear to be missing. The 190 overall code inspections average to about 13.6 inspections per month over the course of construction. The addition was just under 15,000 square feet and the number of inspections provided appeared to be good considering the size and duration of the project. It was confirmed that the two code inspectors of record for this project are both certified by ICC and licensed building inspectors by the State of Utah.

3. SPECIAL INSPECTION FINDINGS

The special inspection reports provided for this project included several deficiencies. Those include the following:

• There appeared to be several months when no special inspections were performed.



- In many cases only field reports were provided and not the test reports that coincided with these field reports.
- It was clear that not all special inspection reports were provided as report numbers would skip (i.e., Concrete 001 to Concrete 003).
- Several of the reports noted insufficient compaction of soil and nothing was provided to note how this was addressed.
- No masonry special inspection reports were provided, yet this was a masonry building.
- The statement of special inspections provided was not specific to this project as it included numerous items that do not apply such as prestressed concrete, etc.

4. OTHER INSPECTIONS

No documentation on inspections performed by other entities was provided. This includes inspections by the State Fire Marshal's Office, the local AHJ, structural observation reports, etc. It should be noted that a Certificate of Fire Clearance was provided by the State Fire Marshal's Office, but none of the actual field inspection reports.

5. USBE REPORTING

As part of this evaluation, we reviewed all the building compliance forms that were provided to USBE for this project. The following table addresses our findings in relation to each required USBE form as outlined in Section 4 of this report.

USBE Form	Findings
Preconstruction Checklist	This checklist was completed and submitted to USBE by the SDBO.
SP-4 Form	This form was completed and submitted to USBE by the SDBO.
SP-8 Form	An SP-8 form was completed and submitted to USBE along with the associated code inspection reports by the SDBO for each month of construction.
SP-9 Form	An SP-9 form was submitted to USBE by the SDBO, however this form lacked the name of the primary inspector, Mr. Brett Clark, as well as the name(s) of the associated special inspectors.
Project Closeout Checklist	This checklist was completed and submitted to USBE by the SDBO.
SP-10 Form	While this form was completed and submitted to USBE by the SDBO, there were two concerns noted when reviewing this form:



USBE Form	Findings
	 The indicated occupant load of 491 does not match Sheet G101 of the approved plans which lists 592 occupants.
	 The form was submitted to USBE two months prior to the final mechanical, electrical and plumbing inspection reports being submitted from the inspector of record.
SP-11 Form	Like the SP-10 form, the SP-11 form that was submitted to USBE includes a different occupant load than is noted on the plans and was dated prior to the final inspections that were performed on the project.

6. SITE VISIT FINDINGS

As described in Section 5 of this report, a formal site visit report was used when visiting each site to ensure that the same elements were looked at for uniformity purposes. The report includes separate sections to address the exterior of each building, the interior of each building, fire and life safety items, accessibility items, mechanical/electrical/plumbing (MEP) items, energy efficiency items, and roof inspection findings. It is important to note that this site visit was not a formal building inspection, but a walkthrough of the project. No effort was made to review concealed elements, and time was limited for each site visit. For this project no items of note stood out during this site visit except for items related to accessibility. The following is a list of accessibility items that were encountered during the site visit.

- The AED cabinet projects more than 4-inches from the wall and is above 27-inches above the finished floor in violation of ICC A117.1.
- One end of the building has a low drinking fountain, without the required high drinking fountain. This is in violation of IBC Chapter 11 as both should have been provided.
- Paper towel and soap dispensers in the lab areas at sinks are beyond ICC A117.1 reach ranges.
- At least 5% of lockers must be accessible. Some accessible lockers were provided; however, it is less than 5%.
- The sanitary napkin dispenser in the women's restroom projects more than 4-inches from the wall and is above 27-inches. Its location is also obstructing required clearances at the accessible stall door.
- The faculty restroom does not have ICC A117.1 required maneuvering clearance from the inside of the restroom, violating the provisions of the code.
- The boy's accessible stall lacks sufficient depth for maneuvering clearance at the accessible stall.



Appendix D

Elementary School #1 - New Construction - Summary of Findings

This appendix outlines specific items of interest that our office noted when reviewing the construction documents, plan review letters, code inspection reports, special inspection reports, submitted USBE forms, and when performing a site visit for the Elementary School #1 project. These items are laid out in the same format as the "Compliance Areas" described in Section 4 of this report, with the addition of items found during our site visit to the school in question.

1. PLAN REVIEW FINDINGS

While a detailed review of the construction documents could not be provided in the time allotted, our office did perform a cursory review of the plans to determine the general level of code compliance. As part of this evaluation, we also evaluated all plan review and response letters provided to determine if these provided a general level and quality of review as should be expected for school projects. The following table addresses our findings in relation to each review required by USBE as outlined in Section 4 of this report.

Review Type	Findings
Certified Plans Examiner Review	There were 45 initial code compliance items documented. The review provided appears to be utilizing a checklist of some kind and is essentially a reproduction of the code analysis. The review does not appear to request revisions, or a resubmittal. There are a variety of notes outlining various aspects of the IBC, ICC A117.1; however, there is very little indication of plumbing, mechanical, electrical review items. A project of this size would typically have many comments and require one or two resubmittals.
	Items identified when reviewing the construction documents provided:
	 No stamp of approval from the building, energy or structural reviewers. It is impossible to evaluate which set was reviewed, and/or approved.
	 A letter from the School District justifying the reduced occupancy load of 300 for plumbing fixture calculations was not provided.
	 In general, the occupant loads for Level 1 and Level 2 of 1566, and 786 aren't accounted for through the various exits. Luckily, sufficient exit width exists to ensure adequate egress per IBC Chapter 10.
	 When drop curtains are in the down position, the multi-purpose room has insufficient exiting from the kitchen side of the room. It results in 369 occupants with a single exit.



Review Type	Findings
Review Type	 The stove in Faculty Loung 110 should have exhaust per IMC 505. A112.1- Maneuvering clearance at door 137 to stage ramp. Missing 12" push clearance at the latch side. ICC A117.1 A112.2- Handrail extensions at top and bottom of stairs from the Platform / Music 137 top and bottom. (Sheet A2/A451) IBC 1014 Handrail extension at top of Ramp 137 on A4/A451 does not extend as per code. IBC 1014 Stair 300 A4/A452 would still require a code compliant landing at the top. IBC 1011 Typical plan review requires a full kitchen hood submittal. This would include the CaptiveAire submittal or equivalent, with cut
	 sheets for all proposed hoods. These documents should have been submitted and reviewed. Sheet M121- Toilet 204A is shown without code required exhaust. IMC 403.3.1.1 Calculations indicating how the grease interceptor was sized should have been part of the plans. IPC 1003.3.7 Required outdoor air calculations should have been included in a table, consistent with IMC Table 403.3.1.1.
Structural Peer Review	A total of twelve plan review comments were made by the structural peer reviewer, which is minimal for a project of this size. Response letters were not provided but a final letter from the structural was provided that notes all initial comments were resolved.
	 Items identified when reviewing the construction documents include: No structural calculations were provided so a very limited review occurred of the structural systems. Sheet S001:
	 The special inspection notes do not constitute a "Statement of Special Inspections" as outlined in IBC 1704.3.1. Numerous deferred submittals are listed but no information was provided in relation to these items. Structural observations are noted but a statement noting that these reports are to be provided to the building official/LEA was not included. [IBC 1704.6]
Energy Code Plan Review	The review provided appears to be limited to a verification of energy compliance document submission but is otherwise very limited with respect to energy compliance issues. The documentation did not



Review Type	Findings
	include HVAC load calculations, making a more detailed evaluation difficult.
	Items identified when reviewing the construction documents provided:
	 Photosensors are required in the daylit area beneath the main skylight at the stairway. They do not appear to have been provided. [IECC C405.2.3]
	 Plans lack information on A601 regarding proposed glazing values. These should be listed on the plans and verified at the end of the project. [IECC C402.1.2]
	 Vestibules should not be conditioned as proposed/built. (Sheet M111) C403.4.1.3 regulates the heating of vestibules, requiring shutoffs when outdoor air temperature exceeds 45-Deg. F. Vestibules also require an individual thermostat limiting heating to 60-Deg. F. maximum, and cooling to not less than 85-Deg. F.
	 Heating and cooling load calculations should have been provided and reviewed at the time of energy review. This is critical for the sizing of the mechanical equipment in accordance with the requirements of IECC C403.1.1. This is also required in IMC 312. Short load forms, including applicable R-values and U-factors used in the calculations would be verified.
	 A detached shed is shown with EUH-1, which is not permitted as the shed is not sufficiently insulated. The IECC does not permit conditioning in uninsulated spaces. [IECC C402.1.1]
State Risk Management Review	No documentation was provided to show whether the construction documents were provided to State Risk Management for review and comment.
Health Department Review	The local health department provided a review and issued and approval letter for the project in question. There were three comments noted in the approval letter that were to be resolved as part of the construction process. A food establishment permit was issued for the kitchen.
State Fire Marshal Review	The Utah State Fire Marshal's (USFM) Office performed a fire and life safety review for the project. Initial comments were addressed and USFM issued an approval letter. Copies of USFM plan reviews for fire protection systems were not provided, however a fire clearance was generated. The local fire chief also reviewed plans and issued an approval email.



Review Type	Findings
Utah Geological Survey (UGS)	No documentation was provided to show whether UGS performed a site risk assessment or whether the project geotechnical report was sent to UGS for review and comment.
Local Municipality (AHJ)	No documentation was provided to show whether the local municipality performed planning/zoning reviews, utility infrastructure reviews, or traffic reviews of the project.

2. CODE INSPECTION FINDINGS

The construction occurred over a span of 15 months with a total of 167 total inspection reports provided. The 167 overall code inspections averaged about 11.13 inspections per month over the course of construction. The new school was roughly 90,000 square feet and the number of inspections provided appeared to be good considering the size and duration of the project. Limited inspection related to fire-rated assemblies, accessibility and final inspections were included. It was confirmed that the code inspector of record for this project was certified by ICC and licensed building inspectors by the State of Utah.

3. SPECIAL INSPECTION FINDINGS

The special inspection reports provided for this project included several deficiencies. Those include the following:

- It was clear that not all special inspection reports were provided as report numbers would skip (i.e., Concrete 001 to Concrete 003).
- No steel or masonry special inspection reports were provided, yet this was a masonry building with composite floor framing and steel roof framing and diaphragm.
- The statement of special inspections provided was not specific to this project as it included numerous items that do not apply such as prestressed concrete, etc.

4. OTHER INSPECTIONS

Documentation on inspections performed by other entities was provided to a limited extent. This includes a review email from the local fire chief, but no inspections by the State Fire Marshal's Office, the local AHJ, structural observation reports, etc. were provided. It should be noted that a Certificate of Fire Clearance was provided by the State Fire Marshal's Office, but none of the actual field inspection reports. In addition, a traffic impact study was also provided.

5. USBE REPORTING



As part of this evaluation, we reviewed all the building compliance forms that were provided to USBE for this project. The following table addresses our findings in relation to each required USBE form as outlined in Section 4 of this report.

USBE Form	Findings
Preconstruction Checklist	This checklist was completed and submitted to USBE by the SDBO. Portions of the form are incomplete, including the submission date.
SP-4 Form	This form was completed and submitted to USBE by the SDBO.
SP-8 Form	An SP-8 form was completed and submitted to USBE along with the associated code inspection reports by the SDBO for each month of construction. The form was utilized contrary to the form design, with checkmarks rather than inspection quantities and dates.
SP-9 Form	An SP-9 form was submitted to USBE by the SDBO, however this form lacked the name(s) of the associated special inspectors.
Project Closeout Checklist	A project closeout checklist was not completed or submitted to USBE by the SDBO.
SP-10 Form	The School District created the Certificate of Occupancy (C of O) in lieu of the USBE SP-10 C of O request form. The version provided lacks the USBE project number, and the designated occupant load does not match the plans.
SP-11 Form	The SP-11 form that was submitted to USBE includes a different occupancy load than is noted on the plans or set by the school district.

6. SITE VISIT FINDINGS

As described in Section 5 of this report, a formal site visit report was used when visiting each site to ensure that the same elements were looked at for uniformity purposes. The report includes separate sections to address the exterior of each building, the interior of each building, fire and life safety items, accessibility items, mechanical/electrical/plumbing (MEP) items, energy efficiency items, and roof inspection findings. It is important to note that this site visit was not a formal building inspection, but a walkthrough of the project. No effort was made to review concealed elements, and time was limited for each site visit. The following is a list of items that were encountered during the site visit.

• The AED cabinet projects more than 4-inches from the wall and is above 27-inches above the finished floor in violation of ICC A117.1.



- Handrail projections at stairs project more than 4" and are located above 27" and below 80" which is in violation of ICC A117.1. The rail should extend down to below the 27" elevation, or to the floor.
- Occupancy loads for the gymnasium are located outside the gymnasium, rather than within the space where they are required to be.
- Exit signage is lacking in the gymnasium space, directing occupants to the exits when the drop curtain is in place.
- The guard railing at the south ramp is only 40-41" in height and should have been a minimum of 42".
- Signage directing occupants not to use the elevator in the event of a fire are missing.
- Some penetrations in rated floor and wall assemblies have not been properly sealed with fire caulking in accordance with a listed through penetration fire-stop system.
- One large 16 x 20" opening exists in a 1-hr. Rated fire partition, with no fire damper.
- The drinking fountains are installed with only 26" of knee space, whereas the code required 27" minimum.
- The ADA push button for one of the entry doors is behind the swing of the door, which is not permitted.
- Fuses at multiple roof top A/C condensers are 30A where the equipment indicates 15A maximum fuse sizing.
- The range in teachers' lounge does not have a residential range hood.



Appendix E

Charter School #1 – New Construction – Summary of Findings

This appendix outlines specific items of interest that our office noted when reviewing the construction documents, plan review letters, code inspection reports, special inspection reports, submitted USBE forms, and when performing a site visit for the Charter School #1 project. These items are laid out in the same format as the "Compliance Areas" described in Section 4 of this report, with the addition of items found during our site visit to the school in question.

1. PLAN REVIEW FINDINGS

While a detailed review of the construction documents could not be provided in the time allotted, our office did perform a cursory review of the plans to determine the general level of code compliance. As part of this evaluation, we also evaluated all plan review and response letters provided to determine if these provided a general level and quality of review as should be expected for school projects. The following table addresses our findings in relation to each review required by USBE as outlined in Section 4 of this report.

Review Type	Findings
Certified Plans Examiner Review	There were 4 initial code compliance items documented. The review provided appears to be utilizing a checklist of some kind and is essentially a reproduction of the code analysis. There are a variety of notes outlining various aspects of the IBC, ICC A117.1; however, there is very little indication of plumbing, mechanical, electrical review items. A project of this size would typically have many comments and require one resubmittal.
	Items identified when reviewing the construction documents provided:
	 No stamp of approval from the building, energy or structural reviewers. It is impossible to evaluate which set was reviewed, and/or approved.
	 A letter from the School District justifying the reduced occupant load for plumbing fixture calculations should have been provided.
	 Sheet A401- Ambulatory stalls must be 36" wide clear, details show less than 3 feet. ICC A117.1
	 Additionally, ambulatory stall doors must swing outward on Level ICC A117.1 Installed Appropriately
	 Sheet E201B- All 110v receptacles located in the kitchen must be GFCI protected. (Check Panel K)



Review Type	Findings
	 Sheet E202A- Receptacles for drinking fountains must be GFCI protected per NEC 422. It's unclear how a roof mounted diesel fueled generator would be fueled on-site. Not installed Code required arc fault calculations were not included in the plan submittal.
Structural Peer Review	A total of ten plan review comments were made by the structural peer reviewer, which is minimal for a project of this size. A response letter was provided, but a final letter noting that all structural comments were resolved was not provided.
	 Items identified when reviewing the construction documents include: No structural calculations were provided so a very limited review occurred of the structural systems.
	 Sheet S001 lists a seismic importance factor of 1.0, but as this is a Risk Category III structure a value of 1.25 is required. Sheet S002:
	 Limited special inspections (soils, concrete steel, masonry) Structural observations are listed but several of the items noted are not applicable to the project (i.e., tilt-up panels, wood shear walls, etc.).
	 The project includes several re-entrant corner irregularities but without the calculations it was not possible to verify that this was considered in the design.
Energy Code Plan Review	The energy review was not included, only documentation that comments were responded to. Only 2 revised sheets were provided, suggesting that an extensive review was not performed. Energy compliance documents were also missing, as well as HVAC load calculations.
	 Items identified when reviewing the construction documents provided: Sheet G002 indicates that the prescriptive method will be utilized, and ASHRAE 90.1 is indicated. The wrong table for envelope values is referenced, as Table 5.5-5 would be applicable.
	 Mass walls require R-11.4 continuous insulation. The plans indicate R-21 cavity insulation. These do not comply. Skylights in Multi-purpose Room 105 include 25 (T8's) at 241 watts each for 6,025 watts. If more than 0.5 watts per square foot are used, skylights are required in the space. ASHRAE 90.1 section 5.5.4.2.3 requires a minimum skylight fenestration area for areas greater than 2,500 square feet with a 15-foot ceiling.



Paviou Type	Eindings
Review Type	Findings
	 A301- Shows 3" rigid at exterior walls- truncated. ASHRAE 90.1 Table 5.5 has no allowance for truncating the top of the slab edge insulation as indicated. (Sheet A311)
	 Plans indicate R-7.5 in some locations and R-15 in other locations.
	 The plans indicate R-30 on the roof but also call out 9" of XPS = which has roughly R-45. The design intent is unclear.
	 Exposed R-21 batts above ceiling height between levels. The insulation must run continuously through these spaces and have a vapor retarder through these spaces.
	 Detail 2/A404 shows an uninsulated portion of exterior CMU block wall at the elevator shaft roof extension. This is not permitted by using prescriptive methods.
	 Detail 4/A501- This detail represents a hole in the thermal envelope and direct thermal bridging from the uninsulated CMU block wall into the floor perimeter at the entire 2nd floor.
	 Detail 3/A502 shows framed walls with an unspecified thickness of rigid insulation on the exterior face, and R-21 batts in the wall cavity.
	 Detail 11/A502 shows rigid slab edge insulation terminating at the bottom of the slab, where the 2021 IECC requires it extend up through the top of the slab.
	 Sheet A611 indicates to see energy analysis for window U-factors. As this is prescriptive compliance there is no energy analysis. Values must be U-0.38 or better. Plans should indicate proposed values.
	 Heating and cooling load calculations should have been provided and reviewed at the time of energy review. This is critical for the sizing of the mechanical equipment in accordance with the requirements of Section 6.4.2.1 of ASHRAE 90.1. This is also required in IMC 312. Short load forms, including applicable R- values and U-factors used in the calculations would be verified.
	 Vestibules should not be conditioned as proposed/built. (Sheet M-100) Section 6.4.3.9 of ASHRAE 90.1 regulates the heating of vestibules, requiring shutoffs when outdoor air temperature exceeds 45-Deg. F. Vestibules also require an individual thermostat limiting heating to 60-Deg. F. maximum, and cooling to not less than 85-Deg. F.



Review Type	Findings
	 Code required lighting controls appear to be lacking in many locations such as the cafeteria and kitchen. Section 9.4.1.1 of ASHRAE 90.1.
State Risk Management Review	No documentation was provided to show whether the construction documents were provided to State Risk Management for review and comment.
Health Department Review	The local health department provided a review and issued and approval letter for the project in question. The comments were resolved and approved. A food establishment permit was issued for the kitchen. A disinfection of potable water test report was provided.
State Fire Marshal Review	The Utah State Fire Marshal's (USFM) Office performed a fire and life safety review for the project. Initial responses or approvals were not included. Copies of USFM plan reviews for fire protection systems were not provided, however a fire clearance was generated.
Utah Geological Survey (UGS)	No documentation was provided to show whether UGS performed a site risk assessment or whether the project geotechnical report was sent to UGS for review and comment.
Local Municipality (AHJ)	No documentation was provided to show whether the local municipality performed planning/zoning reviews, utility infrastructure reviews, or traffic reviews of the project.

2. CODE INSPECTION FINDINGS

The construction occurred over a span of 7 months with a total of 21 total inspection reports provided. The 21 overall code inspections average to about 3 inspections per month over the course of construction. The new school was roughly 60,000 square feet and the number of inspections provided appeared to be <u>very minimal</u> considering the size and duration of the project. An insufficient number of inspections related to the building structure, mechanical, plumbing, electrical, accessibility and final inspections were performed. It was confirmed that the code inspector of record for this project was certified by ICC and licensed building inspectors by the State of Utah.

3. SPECIAL INSPECTION FINDINGS

The special inspection reports provided for this project included several deficiencies. Those include the following:

• Numerous special inspection reports do not provide information on the individual performing the special inspections or tests.



- The concrete special inspection reports state that the require concrete compressive strengths should be 3,000 psi while the plans note that footings shall utilize 3,500 psi concrete and foundation walls shall have 4,500 psi concrete.
- No structural steel special inspection reports were provided, yet this project includes composite floor framing and steel roof framing.
- A final special inspection report was not provided. [IBC 1704.2.4]

4. OTHER INSPECTIONS

Documentation on inspections performed by other entities was not provided, as no inspections by the State Fire Marshal's Office, the local AHJ, structural observation reports, etc. were provided. It should be noted that a Certificate of Fire Clearance was provided by the State Fire Marshal's Office, but none of the actual field inspection reports.

5. USBE REPORTING

As part of this evaluation, we reviewed all the building compliance forms that were provided to USBE for this project. The following table addresses our findings in relation to each required USBE form as outlined in Section 4 of this report.

USBE Form	Findings
Preconstruction Checklist	This checklist was completed and submitted to USBE by the SDBO. Portions of the form are incomplete, including the submission date.
SP-4 Form	This form was completed and submitted to USBE by the SDBO.
SP-8 Form	An SP-8 form was completed and submitted to USBE along with the associated code inspection reports by the SDBO for each month of construction. The form was utilized contrary to the form design, with checkmarks rather than inspection quantities and dates. One month is missing the SP-8 form towards the end of the project.
SP-9 Form	An SP-9 form was submitted to USBE by the SDBO, however this form lacked the name(s) of the associated special inspectors, as well as the code inspector. The form has multiple check boxes that have been left blank and are applicable to the project.
Project Closeout Checklist	A project closeout checklist was completed or submitted to USBE by the SDBO.
SP-10 Form	Two different SP-10 forms were provided and signed by different individuals. One of the forms lacks the address of the LEA and a date.
SP-11 Form	The SP-11 form that was submitted to USBE by the SDBO.



6. SITE VISIT FINDINGS

As described in Section 5 of this report, a formal site visit report was used when visiting each site to ensure that the same elements were looked at for uniformity purposes. The report includes separate sections to address the exterior of each building, the interior of each building, fire and life safety items, accessibility items, mechanical/electrical/plumbing (MEP) items, energy efficiency items, and roof inspection findings. It is important to note that this site visit was not a formal building inspection, but a walkthrough of the project. No effort was made to review concealed elements, and time was limited for each site visit. The following is a list of items that were encountered during the site visit.

- Exiting from (3) ground level classrooms into the courtyard is obstructed due to a locked chain link fence at the end of the courtyard. This obstructs exiting.
- Exit signage directional arrows are incorrect or missing in multiple locations.
- Tactile exit signage is missing at all exit doors.
- Occupancy loads of assembly spaces in the cafeteria and gymnasium are not posted.
- Grab bars are completely missing in one of the kindergarten restrooms.
- Restroom signage in the kindergarten rooms is installed below the required heights in ICC A117.1.
- At least 5% of the lockers must be accessible, identified and have accessible features. None of the lockers meet these requirements.
- Classroom room numbers are marked in vinyl at the sidelight. This signage must be permanent, have braille and be installed at appropriate heights per ICC A117.1 and IBC Chapter 11, missing throughout.
- The clear floor space for the workrooms on the 2nd level must account for a parallel approach centered on the sinks. The sinks are too close to the side wall.
- The AED equipment cabinet projects more than 4" from the wall and is within the 27" 80" AFF, violating provisions of ICC A117.1.
- The code required sediment trap is missing at the water heater at the roof access room.
- Pipe insulation is missing from all copper water lines, it's unclear if they are insulated within the wall cavity and in the ceiling.
- Equipment was located within 10' of the roof edge in one location without adequate guards.







Agency Response Plan





May 9, 2025

Kade Minchey, CIA, CFE, Auditor General Office of the Legislative Auditor General Utah State Capitol Complex Rebecca Lockhart House Building, Suite W315 PO Box 145315 Salt Lake City, UT 84114

Dear Mr. Minchey:

Please find the required response to report 2025-09 A Performance Audit of Public School Construction Standards and Efficiency below.

The Utah State Board of Education (Board) is aware of school construction as an area of risk within the public education system, as evidenced by prioritizing an internal audit of school construction in November 2022. When the Legislative Audit Subcommittee prioritized a similar audit, and in consideration of the best use of taxpayer resources, the Board moved not to complete the planned internal audit. Thus, the USBE has been anticipating the results of this audit and recognizes the findings in the report as identified risks that must be assessed and responded to appropriately and in consideration of other risks within the public education system. We further acknowledge the related recommendations in the report as recommended risk responses.

This response is provided in accordance with Utah Code Annotated (UCA) 36-12-15.3, with recognition that given protections of draft audit reports under the Government Records Access and Management Act (UCA 63G-2-305), all members of the Utah State Board of Education (Board) have not had the opportunity to review the report nor the response. Therefore, the response may be revised subject to Board direction; any changes will be identified in the audit response update required in accordance with UCA 36-12-15.3(6).

With appreciation,

Sydney Dickson, Ed.D.

Utah State Board of Education

State Superintendent of Public Instruction

cc: Molly Hart, USBE, Vice Chair and Audit Committee Chair Scott Jones, Deputy Superintendent of Operations Dean Dykstra, USBE Construction Specialist Debbie Davis, USBE, Chief Audit Executive Kevin John, USBE, Deputy Audit Executive

Recommendations to USBE

(Combined response is provided below the recommendations)

Recommendation 1.1

The Utah State Board of Education should develop sufficient internal controls to functionally verify and enforce compliance with its pre-construction and inspection verification requirements.

Recommendation 1.2

The Utah State Board of Education should develop or procure an online document management system, or portal, to maintain all the state required construction and inspection documentation to enable verification of compliance with statute and Administrative Rule.

Recommendation 1.3

The Utah State Board of Education should provide training for LEAs so that they understand their responsibilities and are aware of USBE code compliance Requirements.

Recommendation 1.4

The Utah State Board of Education should implement a standardized cost reporting system, require LEA construction managers to report all associated construction project costs according to standard criteria, and make it available to relevant agency and LEA officials.

Recommendation 2.2

The Utah State Board of Education should create a functional oversight system to review and enforce compliance with state requirements.

Recommendation 2.3

The Utah State Board of Education should outline clear expectations, according to building code requirements, for LEA officials and professionals conducting code reviews and inspections.

Recommendation 2.4

The Utah State Board of Education should communicate expectations for required plan reviews, types of inspections, the frequency of inspections, and reporting requirements for functional verification.

USBE Response to all Recommendations

Explanation: The alternative action does not represent objection to the

recommendations directed to USBE. The alternative action reflects inclusion of the Utah State Board of Education governing body in policy- and decision-making in collaboration with the Legislature,

considering 1) the significance of the findings and

recommendations, 2) the resources needed to develop, implement,

and monitor the actions in the recommendations, and 3)

Recommendation 2.5, which calls for legislative consideration of

who should provide oversight of school construction.

The alternative action also recognizes the need to consider other policymaking initiatives related to school construction, such as school safety; as well as if changes to resource allocations for other public education priorities (e.g., attendance, literacy, educator compensation) or requests for appropriations will be needed.

Who: Board Leadership:

Matt Hymas, Chair (matt.hymas@schools.utah.gov)
Molly Hart, Vice Chair (molly.hart@schools.utah.gov)
LeAnn Wood, Vice Chair (leann.wood@schools.utah.gov)

Alternative Action: Upon release, the report will be referred to Board Leadership of the

Utah State Board of Education for consideration of involvement of the full board and next steps that will be taken to address the risks

identified in the audit.

How: Superintendent Dickson will provide a copy of the report to Board

Leadership and the Board's secretary for inclusion on the Board Leadership meeting agenda that follows the release of the report. Subsequent steps will be determined by Board Leadership at that

meeting.

Documentation: Email from Superintendent Dickson, Board Leadership Meeting

Agenda, and other documentation as needed based on subsequent

steps that are determined.

Timetable: 1. Superintendent Dickson email no later than May 31, 2025

2. Board Leadership discussion no later than August 31, 2025

3. Timeline for subsequent steps as determined by Board

Leadership

When: Contingent on subsequent steps determined by Board Leadership

and a legislative response to Recommendation 2.5.

Non-USBE Recommendations (provided for context and reference)

Recommendation 2.1

Local Education Agencies should comply with state-adopted building codes and state requirements for K-12 construction and inspection.

USBE Response

Recommendation is directed to Local Education Agencies not the Utah State Board of Education, therefore no response is provided.

Recommendation 2.5

The Legislature should consider the restructuring options laid out in this report to implement legislative audit recommendations and to improve LEA construction and inspection oversight.

USBE Response

Recommendation is directed to the Legislature not the Utah State Board of Education, therefore no response is provided.

Recommendation 2.6

Should the Legislature give another state agency the responsibility for school construction oversight, that agency should address the recommendations in this audit rather than the Utah State Board of Education.

USBE Response

Recommendation is directed to another state agency not the Utah State Board of Education, therefore no response is provided.

Recommendation 3.1

The Legislature should consider prioritizing an audit of Local Education Agency practices for procurement of construction and related services.

USBE Response

Recommendation is directed to another state agency not the Utah State Board of Education, therefore no response is provided.





THE MISSION OF THE LEGISLATIVE AUDITOR GENERAL IS TO

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