

Memorandum

Date: 12 June 2023

To: Matt Burke, Senior Project Manager
The Church of Jesus Christ of Latter-day Saints

From: Jeremy D. Bastow, AIA, Senior Architect
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Subject: **Cody Wyoming Temple Exterior Lighting Design**

Defined in this memorandum is an explanation of the operation and fixtures of the exterior lighting program of the Cody, Wyoming temple for The Church of Jesus Christ of Latter-day Saints.

Site Lighting

Site lighting is used to provide safety and visibility to those visiting a property and its associated buildings. The International Building Code (IBC) dictates minimum light levels at building entrances and egress paths, whereas municipalities dictate minimum light levels for roadways, parking lots, and sidewalks. The 2021 IBC requires a minimum of 1 footcandle at walking surfaces, and the City of Cody has no codified minimum requirement for surface lighting. As is standard with all projects, site lighting is to be contained within the property boundaries to protect the property rights of neighboring entities.

The site lighting fixtures for the Cody Wyoming Temple are comprised of 3'-6" tall walkway bollards, and 12'-6" and 18'-0" tall pole-mounted luminaires. Please note that the pole/luminaires on this project are shorter than what would be specified for standard commercial/business site lighting. The purpose here is to keep light sources low for more manageable control over glare and light spillage onto adjacent properties. Furthermore, to control the lighting, all fixtures have a full cutoff angle design.

The Illuminating Engineering Society (IES) defines "full cutoff angle" as no light transmittance above the horizontal plane of a fixture. This means that the light fixture has zero uplighting capability, which in turn limits its ability for light pollution to the night sky. The IES is the internationally recognized technical and educational authority on illumination.

The operation of the temple site lighting is comprehensive, and as such, is far more sophisticated than most commercial/business lighting procedures. This sophistication has three purposes: (1) to not create illumination and glare for neighbors when not in use, (2) to provide safety and security when necessary, and (3) to save energy.

All site lighting is controlled by an astronomical timeclock and photocell, and each pole-mounted luminaire is given a motion/occupancy sensor for individual control. Based upon the building schedule, after the temple has closed for the day, the luminaires will dim to 50% brightness to allow temple staff to safely leave the premises. After a set time, the luminaires will turn off completely until the temple opens on the next scheduled day of use. However, once the luminaires are dimmed to 50% brightness or turned off, the integral motion sensor on each luminaire will bring that individual fixture back to 100% illuminance until motion is no longer detected in its vicinity. The integral motion controlled function provides safety and security when the temple is closed. As to the lighting schedule, the local Temple Facilities Manager (TFM) determines the time the luminaires turn on and off, and at what time the luminaires are dimmed to 50% illuminance.

Architectural Exterior Building Lighting

Architectural exterior building lighting is used to relay information or initiate an emotional response with the viewer, i.e., awe or reverence. This type of electrical lighting has been used for decades by designers and building owners to draw attention to a building's purpose and/or design. Oftentimes, buildings of high importance are well lighted at night to convey value to the community and the viewer. Such current and historical exterior lighting examples include: government buildings and statehouses for the values of law and order, schoolhouses and libraries for the value of education, theaters and performing arts centers for the value of community, and churches and temples for the value of moral self-governance.

The Church of Jesus Christ of Latter-day Saints consider temples the most sacred places on the earth and fully light them at night to draw the whole earth unto them as a reminder of God and His ever available light and love.

The architectural exterior lighting fixtures of the Cody, Wyoming temple are comprised of short floodlights that are mounted within the landscaping at the ground level, and on the low slope roof hidden behind the roof parapets. They are placed in these locations to be inconspicuous and ensure that focus is on the temple and not the fixtures themselves. The ground mounted floodlights wash the vertical surfaces of the main level of the building, and the roof mounted floodlights wash the upper parapet and spire surfaces. Great effort is used through design and computer modeling to balance the lighting evenly and avoid hot spots. To avoid glare and unnecessary light spillage, all floodlights are accessorized with baffles, or "barn doors". These adjustable baffles mount to the tops and sides of the fixtures and make it possible to have a



distinct cutoff of light at edges of walls and tops of parapets; this includes the vertical spire surfaces.

As is true for many commercial buildings, the exterior building lighting of the temple is controlled by an astronomical timeclock and photocell. The temple lighting will turn completely on and off based on the photocell.

End of Memorandum