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<td><strong>Description:</strong></td>
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<td>Chester Hong</td>
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<td><strong>Organization:</strong></td>
<td>Golder</td>
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<tr>
<td><strong>Submitter Role:</strong></td>
<td>Applicant Consultant</td>
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Visual Resource - Appendix 5.13 A
Landscape Photographs and Simulations

Submitted to:
Hydrostor Inc.

Submitted by:
Golder Associates Ltd.
Suite 200 - 2920 Virtual Way Vancouver, BC, V5M 0C4 Canada

+1 604 296 4200

August 2020
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1.0 INTRODUCTION

This report is included as Appendix 5.13A of the Applicant’s (Hydrostor Inc.) Application for Certification (AFC) for a proposed Advanced Compressed Air Energy Storage (A-CAES) facility in the County of San Luis Obispo, California (the Project).

A photographic field survey was conducted by Golder Associates Ltd. (Golder) field staff during a field survey conducted between July 10th and 11th, 2021 to capture landscape photographs and observation information from viewpoint locations near the Project. Simulations of Project-related components were rendered in advanced 3D landscape modelling software (Autodesk 3D StudioMAX) from key observation points (KOPs) and composited with photographic images gathered during the photographic field survey. This included landscape modelling for daytime viewing as well as nighttime viewing to illustrate the Project lighting design. Photographic and simulation images are presented in Figure 1 to Figure 18. Photographic inventory information for surveyed KOPs is presented Table 1.

Following California Energy Commission (CEC) guidelines for preparing simulations, panoramic images presented in this report are provided as full page colour images of the existing site and the proposed Project from each KOP sized so that when held 10 inches from the viewers eye it is in scale with the actual viewing experience. Based on standards for scaled panoramic simulations that have a cylindrical projection, the images presented are 4.5 inches high by 15.5 inches wide and represent an approximately 90-degree horizontal field of view (New Zealand Institute of Landscape Architects 2010, Palmer 2019). Panoramic images presented in this report were prepared for presentation on A3 paper size (i.e., 11 by 17) while minimizing edge distortion. The horizontal extent of these panoramic images represents a sufficiently wide field of view to depict the landscape context which an observer can view in a single viewing direction.

These images do not account for effects presented by seasonal atmospheric conditions (e.g., fog and haze) beyond those presented in the photographs and simulations. Due to variations in the calibration of different monitors, printers, and other media that may be used to display these images, consistent reproduction is not guaranteed.

There are two options for the 230 kV transmission line route that would extend from the Project illustrated in these simulations. The preferred option for the transmission line route interconnects at the PG&E Morro Bay substation to the northwest (Preferred Route). An alternative routing is also proposed slightly further to the north than the Preferred Route (Alternate 1). The 230 kV transmission line routes used in the Application are considered to be preliminary and subject to change. The generation tie routing options simulated here were prepared for the purposes of supporting the visual assessment.
2.0 LANDSCAPE PHOTOGRAPHS AND SIMULATIONS

Figure 1: KOP1 (Cerro Cabrillo) – Existing Conditions
Figure 2: KOP1 (Cerro Cabrillo) – Project Site with Preferred Route Simulation
Figure 3: KOP2 (Canet Road) – Existing Conditions
Figure 4: KOP2 (Canet Road) – Project Site with Preferred Route Simulation
Figure 5: KOP3 (Quintana Road) – Existing Conditions
Figure 6: KOP3 (Quintana Road) – Project Site with Preferred Route Simulation
Figure 7: KOP4 (San Luisito Creek Road / State Route-1) – Existing Conditions
Figure 8: KOP4 (San Luisito Creek Road / State Route-1) – Project Site with Preferred Route Simulation
Figure 9: KOPS (State Route-1Southbound) – Existing Conditions
Figure 10: KOPS (State Route-1 Southbound) – Project Site with Preferred Route Simulation
Figure 11: KOP6a (State Route-1 Southbound / San Bernardo Creek Road) – Existing Conditions
Figure 12: KOP6a (State Route-1 Southbound / San Bernardo Creek Road) – Project Site with Preferred Route Simulation
Figure 13: KOP6b (State Route-1 Northbound / San Bernardo Creek Road) – Existing Conditions
Figure 14: KOP6b (State Route-1 Northbound / San Bernardo Creek Road) – Project Site with Alternate 1 Simulation
Figure 15: KOP7 (Little Morro Creek Road) – Existing Conditions
Figure 16: KOP7 (Little Morro Creek Road) – Project Site with Preferred Route Simulation
Figure 17: KOPS (State Route-1 Southbound Southbound) – Existing Nighttime Conditions
Figure 18: KOPS (State Route-1 Southbound Southbound) – Nighttime Project Lighting Simulation
3.0 PHOTOGRAPHIC INVENTORY OBSERVATION LOG

Date Started: 07/10/2021  Date Completed: 07/11/2021
Photographer: Maria Sheen (Golder)
Type of Camera: Nikon Z5
Lens: 50mm
Projection: UTM Zone 10 Datum: NAD 83

Table 1: Key Observation Point Observations

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<tr>
<th>Key Observation Point</th>
<th>Photo Date</th>
<th>Viewing Conditions</th>
<th>Viewpoint Type</th>
<th>Viewing Duration[li]</th>
<th>Purpose of Photo</th>
<th>F Stop[li]</th>
<th>ISO</th>
<th>Exposure (sec)</th>
<th>X Coordinate</th>
<th>Y Coordinate</th>
<th>Elevation (MASL)</th>
<th>Approx. Viewing Direction[⁰]</th>
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<tr>
<td>KOP1 - Cerro Cabrillo</td>
<td>07/10/2021</td>
<td>Clear and sunny</td>
<td>Recreational users</td>
<td>Sustained / Brief</td>
<td>Project site and PG&amp;E’s Morro Bay substation preferred option (Preferred Route)</td>
<td>f/9</td>
<td>100</td>
<td>1/500</td>
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<td>3914329</td>
<td>267</td>
<td>90⁰</td>
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<td>KOP2 - Canet Road</td>
<td>07/10/2021</td>
<td>Clear and sunny</td>
<td>Residents, local motorists, agricultural workers</td>
<td>Permanent / Sustained / Brief</td>
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<td>3914618</td>
<td>30</td>
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<td>3916951</td>
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<td>260⁰</td>
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<td>KOP7 - Little Morro Creek Road</td>
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<td>1/400</td>
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<td>17</td>
<td>150⁰</td>
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Notes:

- Viewing duration ratings reflect the exposure of viewers related to types of activities typically available at each site and the opportunities they present for viewing: Brief = temporary and/or intermittent viewing opportunity (i.e., moving vehicle); Sustained = extended viewing opportunity (i.e., rest stop, viewpoint); Permanent = continual viewing opportunity (i.e., residence);
- Aperture settings may vary for separate frames of a panoramic sequence to normalize exposure of each image;
- Viewing direction provided for panorama presented in this report.

° = degrees; mm= millimetres; sec= seconds; MASL= metres above sea level; NAD= North American Datum; UTM= Universal Transverse Mercator; ISO = International Standards Organization is a numerical value used colloquially in the context of film to represent the sensitivity of a given film emulsion to light, often referred to as “film speed.”; KOP = Key Observation Point;
REFERENCES
