



Black Metal Mountain 2.4 kV Electrical Power Upgrade

Engineering and Operations Committee

Item 7-3

September 13, 2021

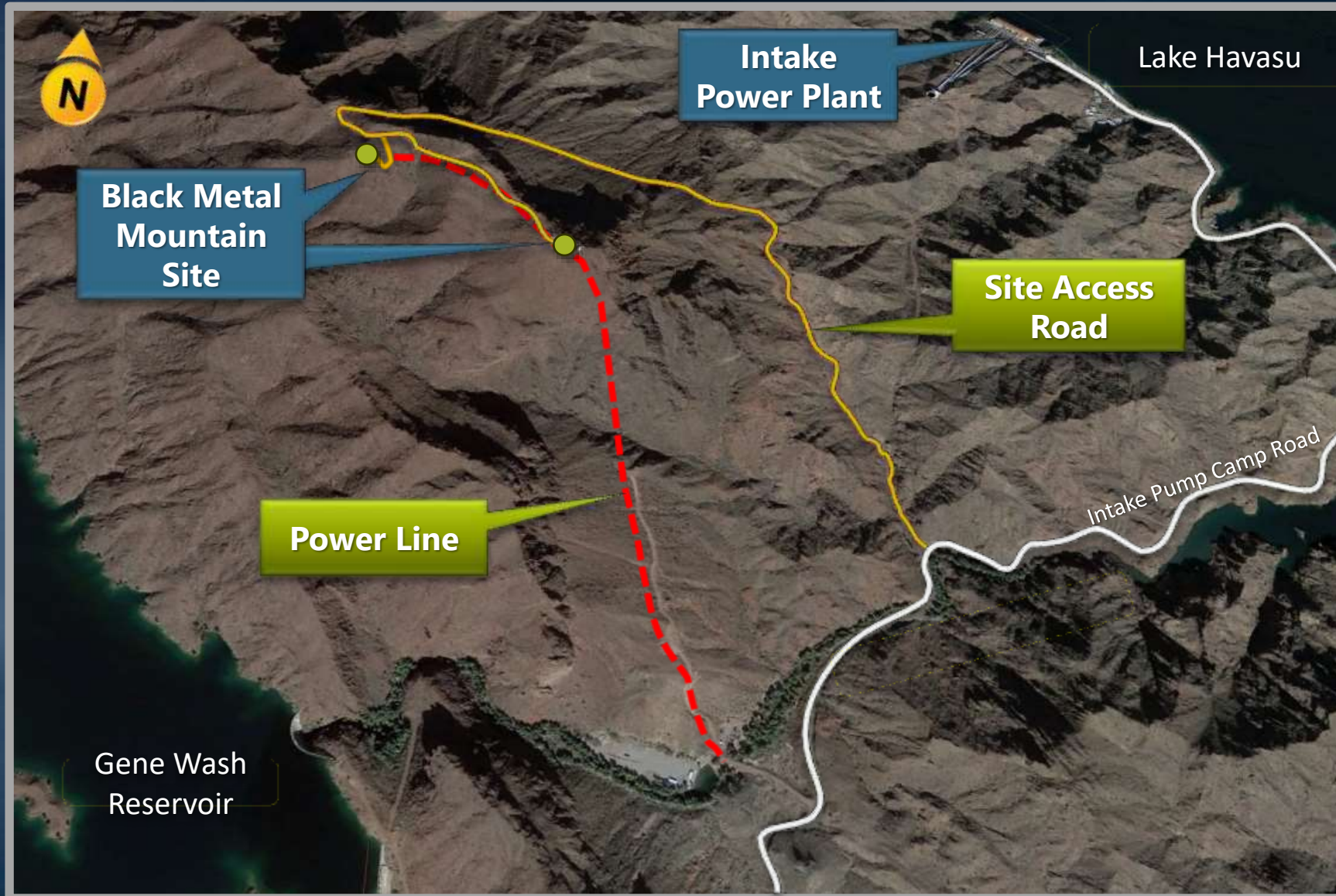
Current Action

- Authorize an agreement with HDR Engineering, Inc. in an amount not to exceed \$635,000 for engineering services to replace the 2.4 kV power line to Black Metal Mountain communications site

Location Map



Location Map



Background

- Installed in 1970s
- Critical link for Metropolitan's desert facilities
- Site leased to other government agencies
 - San Bernardino County Sheriff's and Fire Departments
 - California Highway Patrol
 - Caltrans
 - Federal Aviation Administration



Communication Site Equipment

Background

- Power usage has increased over the years
 - Peak power demand exceeds rated capacity
 - Circuit breakers trip on a regular basis during the hottest desert conditions
- Wood poles are deteriorating due to weathering
 - Pole extensions & support require frequent repairs
- Steep & unpaved access road



Overloaded Power Pole

Alternatives Considered

- Remove some electrical loads from the site
 - Requires termination of existing leases
 - Runs counter to collaborative nature of radio communications sites
 - Does not address rehabilitation of deteriorating poles
- Selected option
 - Upgrade the power distribution
 - Install higher capacity 2.4 kV power line conductors
 - Replace deteriorating poles
 - Install steel poles suitable for high voltage environment
 - Address site access issues

Planned Work

- Install one-mile-long power line
 - New steel poles
 - New larger electrical conductors
- Improve site access & power line maintenance roads
 - Reduce/stabilize road slopes
 - Improve drainage
 - Pave parts of roadway for traction
 - Install guardrails



Light Duty Steel Pole

HDR Engineering, Inc.

New Agreement

- Competitively selected under RFQ 1215
- Scope of work
 - Site assessment & design criteria development
 - Electrical load calculations
 - Preparation of preliminary design
 - Preliminary construction cost estimates
- SBE participation level: 25%
- NTE amount: \$635,000

Metropolitan Scope

- Conduct field investigations
 - Geotechnical analysis
 - Site surveys and mapping
- Prepare environmental documentations & permitting as needed
- Assess temporary rights-of-way needs
- Identify outages & coordinate with other users
- Provide technical oversight & review consultant work
- Project controls & project management

Allocation of Funds

Professional Services

HDR Engineering, Inc.	\$ 635,000
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VE consultant	45,000
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Environmental services	240,000
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Geotechnical services	230,000
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Metropolitan Labor

Preliminary design support	188,000
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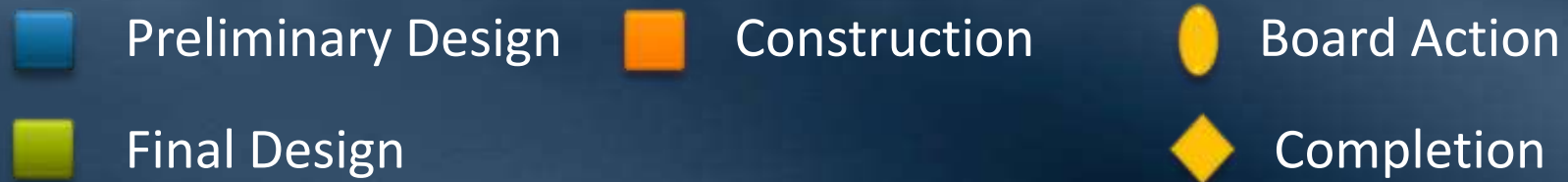
Project management & permitting	288,000
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Materials and Incidentals	7,000
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<u>Remaining Budget</u>	67,000
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Total:	\$1,700,000
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Project Schedule



Board Options

- Option #1

- Authorize an agreement with HDR Engineering, Inc. in an amount not to exceed \$635,000 for engineering services to replace the 2.4 kV power line to Black Metal Mountain communications site.

- Option #2

- Do not proceed with the project at this time, and staff will continue to monitor the operational status of the 2.4 kV power line.

Staff Recommendation

- Option #1

