<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ATTRIBUTE</th>
<th>DESCRIPTION</th>
<th>BUILDING TYPE</th>
<th>RELATED DEPARTMENTS</th>
<th>REMARKS/OPPORTUNITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENERGY</td>
<td>Energy Monitoring</td>
<td>Each panelboard and large piece of equipment. Important for net zero to verify energy usage and production and to identify problem areas of high energy use for reduction.</td>
<td>TBD</td>
<td>TBD</td>
<td>Ability to track usage and ensure system is working efficiently. Saves operational costs.</td>
</tr>
<tr>
<td></td>
<td>Solar Emergency Microgrid</td>
<td>Police Station-Solar PV; energy storage; and monitoring, communications &amp; control panel to provide reliable back-up power for critical loads. Adds additional level of redundancy for power outage, reduces reliance on fossil fuels in the event that trucks cannot get through to deliver fuel (or in the event that fuel is prioritized for places like hospitals and it is difficult to get in time). Provides opportunity to use the police station as a safe refuge where community members can come to charge phones and get in touch with loved ones during a major emergency (power for batteries is currently not included in building layout).</td>
<td>TBD</td>
<td>TBD</td>
<td>Potential to educate community as well as city staff. Can be displayed on dynamic screen - production of PVs coupled with energy demand. Has proven to contribute to user responsibility and increased energy savings. First civic center to include technology; showcase for SValley Library: $604K; PD: $422K; Admin/PD/Chamber: $770K.</td>
</tr>
<tr>
<td></td>
<td>PVs</td>
<td>Exterior Roof. PV system can reduce size of Emergency Generator.</td>
<td>Approx. 5 years</td>
<td>TBD</td>
<td>Provides ability to track system performance and save on potential operational costs.</td>
</tr>
<tr>
<td></td>
<td>Central Plant</td>
<td>Efficient system for campus approach. Each building in the facility is served by a central chilled and hot water plant. The plant consists of a modular heat pump chiller which provides both heating and cooling from the single unit. The modular nature of the system allows it to operate at peak efficiency, regardless of load.-campus wide</td>
<td>TBD</td>
<td>TBD</td>
<td>Provides ability to track system performance and save on potential operational costs.</td>
</tr>
</tbody>
</table>

[Continued on the next page]
### Water

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ATTRIBUTE</th>
<th>EXTENT</th>
<th>SUSTAINABILITY SCORERD NOTES</th>
<th>ROI LIBRARY</th>
<th>ROI ADMIN-PD</th>
<th>EDUCATIONAL ASSETS</th>
<th>RESILIENCY</th>
<th>OPPORTUNITIES</th>
<th>BASE BID ESTIMATED COST $,000</th>
<th>ALTERNATE ESTIMATED COST $,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-site Well</td>
<td>Well with power source and pressure tank for onsite non-potable demands</td>
<td>One well for entire site</td>
<td>Well allows for groundwater exchange concept (offset withdrawals with onsite infiltration).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Base Cost:  
- Hook irrigation system and building up to municipal water supply.

Well Alternate Additional Cost:  
- TOTAL COST = $48,000

Estimated ROI:  
- Water savings: 83,450 gal/yr at library and 600,000 gal/yr for site irrigation (+ 3M gal/yr for irrigation system start up) at 51.650 pa.

Savings Year 1 @ $51,600  
RO = ($89,000 - $51,600)/$51,600 = 10 years

ROI (irrigation only) = ($89,000 - $20,000)/$6,000 = 11.5 years

CAMPUS benefit -  
10-11 years for both Library and CO/PD

See Library  
Enhances water balance story. Water from well is used for irrigation and goes back to replenish aquifer. Resiliency from water price increase and water shortage.

Graywater | Treatment for Passive Irrigation | At Library | Reduces reliance on well for irrigation. CAC raised concerns that graywater could be harmful to redwoods if proper soaps are not used in bathrooms for handwashing or if children wash paint brushes in bathroom sinks. Some operational controls required to ensure potentially harmful chemicals are not used in the library sinks. | | | | | | | |$42 |

Base Cost:  
- Plumb library bathroom sinks directly to sewer.

Graywater Alternate Additional Cost:  
- TOTAL COST = $42,000

Estimated ROI:  
- Assumes 15,000 gal of water savings per year at $0.01/gal. ($150/yr)

RO = ($42,000 - $150)/$150 = 420 yrs

CAMPUS benefit -  
App. 420 yrs

See Library  
Part of the Water Story; Illustration of Atherton as a Steward; Not dependent of municipal systems

Rainwater Harvesting | Treatment for reuse as irrigation and/or toilet flushing | Collection and reuse at Library Building. Tie collection system for Police / Admin Bldg. into Library treatment and reuse system. | Meets stormwater management objectives. Reduces reliance on municipal water for toilet flushing and irrigation. If rainwater harvesting is not implemented additional bioswale retention area is needed for stormwater treatment and detention. | | | | | | | |$48 |

Base Cost:  
- 400 sq ft of raingarden including deep base rock section to provide necessary detention.

Rainwater Harvesting Alternate Additional Cost:  
- Total = $231,000

Estimated ROI:  
- Assumes 15,000 gal of water savings per year at $0.01/gal. ($150/yr)

RO = ($231,000 - $150)/$150 = 1,540 yrs

CAMPUS benefit -  
App. 1540 yrs

See Library  
Part of the Water Story; Illustration of Atherton as a Steward; Not dependent of municipal systems

Additional Stormwater Infiltration | Underground storage for permeability and compliance | Site water | Reduces infiltration into stormwater storage and release to Infiltration Channel. Improves flood risk. Supports aquifer exchange concept. | | | | | | | |$43 |

Base Cost:  
- Below grade storage for detention (assume buried pipe or chamber system).

SW Infiltration Alternate Additional Cost:  
- Cost = $57,000

Estimated ROI:  
- NA

NA  
No. No annual savings from this strategy.

See Library  
Part of the Water Story; Illustration of Atherton as a Steward.

Blackwater | Treatment for unconditional reuse | All building wastewater | City Council rejected. Reduces reliance on well for irrigation / flushing. Requires additional room for equipment and plumbing fixtures to beprovided with dual connections. | | | | | | | |$28 |

Base Cost:  
- Plumb library building and police/admin building with municipal domestic water only.

Dual Plumbing Alternate Additional Cost:  
- LIBRARY:  
  - Cost = $13,000

- POLICE BUILDING:  
  - Cost = $28,000

Estimated ROI:  
- LIBRARY:  
  - Assumes 15,000 gal of water savings per year at $0.01/gal. ($150/yr)

RO = ($13,000 - $150)/$150 = 87 yrs

- POLICE / ADMIN BUILDING:  
  - Assumes 65,000 gal of water savings per year at $0.01/gal. ($650/yr)

RO = ($28,000 - $650)/$650 = 40 yrs

See Library  
Combines with Well water for enhanced water story

**Dual Plumbing**  
Library Building and Potentially Police / Admin Bldg.

Dual plumbing library building such that non-potable water can be used for flushing toilets.

Base Cost:  
- Plumb library building and police/admin building with municipal domestic water only.

Dual Plumbing Alternate Additional Cost:  
- LIBRARY:  
  - Cost = $13,000

- POLICE BUILDING:  
  - Cost = $28,000

Estimated ROI:  
- LIBRARY:  
  - Assumes 15,000 gal of water savings per year at $0.01/gal. ($150/yr)

RO = ($13,000 - $150)/$150 = 87 yrs

- POLICE / ADMIN BUILDING:  
  - Assumes 65,000 gal of water savings per year at $0.01/gal. ($650/yr)

RO = ($28,000 - $650)/$650 = 40 yrs

See Library  
Part of the Water Story; Illustration of Atherton as a Steward.

Plan for alternative water source.
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ATTRIBUTE</th>
<th>EXTENT</th>
<th>SUSTAINABILITY SCORECARD NOTES</th>
<th>ROI LIBRARY</th>
<th>ROI ADMIN/PD</th>
<th>EDUCATIONAL ASSETS</th>
<th>RESIDENCY</th>
<th>OPPORTUNITIES</th>
<th>BASE BID ESTIMATED COST ($K)</th>
<th>ALTERNATE ESTIMATED COST ($K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall Dual Plumbing Combined</td>
<td>Combined costs / ROI for Wall and Dual plumbing at library building and police/admin building such that non-potable water can be used for flushing toilets</td>
<td>Campus wide</td>
<td>Net zero requires no potable water to be used for non-potable demands.</td>
<td>CAMPUS benefits - app. 16 yrs. See Library</td>
<td>Enhances water balance story. Water from well is used for potable water, required water for in building use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$130K</td>
</tr>
<tr>
<td>Wall Dual Plumbing + Stormwater Infiltration Combined</td>
<td>Combined costs / ROI for Wall, Stormwater Infiltration, Dual plumbing at library building and police/admin building such that non-potable water can be used for flushing toilets</td>
<td>Campus wide</td>
<td>Net zero requires no potable water to be used for non-potable demands.</td>
<td>CAMPUS benefits - app. 24 yrs. See Library</td>
<td>Enhances water balance story. Water from well is used for irrigation and goes back to replenish aquifer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$187K</td>
</tr>
<tr>
<td>Plumbing</td>
<td>Solar thermal heating</td>
<td>Located at Police Building to support showers only</td>
<td>Solar thermal systems will work to preheat domestic hot water and reduce the energy needed to heat the buildings. ROI – Plumb-1: Solar Thermal for Police Station showers – expected ROI details as follows: 7 year payback after receipt of California Solar Rebate.</td>
<td>App. 7 yrs</td>
<td>App. 7 yrs</td>
<td>Displays how some PV is used for building energy and some hot water use. Water and Energy connection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architectural</td>
<td>Good insulated walls and roofs</td>
<td>Library Building and Police / Admin Bldg.</td>
<td>Solar thermal systems will work to preheat domestic hot water and reduce the energy needed to heat the buildings. ROI – Plumb-1: Solar Thermal for Police Station showers – expected ROI details as follows: 7 year payback after receipt of California Solar Rebate.</td>
<td>App. 0 yrs</td>
<td>_app. 0 yrs</td>
<td>Reduces demand on electrical and mechanical systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Envelope</td>
<td>Good insulated walls and roofs</td>
<td>Library Building and Police / Admin Bldg.</td>
<td>Solar thermal systems will work to preheat domestic hot water and reduce the energy needed to heat the buildings. ROI – Plumb-1: Solar Thermal for Police Station showers – expected ROI details as follows: 7 year payback after receipt of California Solar Rebate.</td>
<td>App. 0 yrs</td>
<td>_app. 0 yrs</td>
<td>Reduces demand on electrical and mechanical systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glazing</td>
<td>High efficiency glazing as part of architectural envelope</td>
<td>Library Building and Police / Admin Bldg.</td>
<td>Solar thermal systems will work to preheat domestic hot water and reduce the energy needed to heat the buildings. ROI – Plumb-1: Solar Thermal for Police Station showers – expected ROI details as follows: 7 year payback after receipt of California Solar Rebate.</td>
<td>App. 0 yrs</td>
<td>_app. 0 yrs</td>
<td>Reduces demand on electrical and mechanical systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighting type</td>
<td>Reduced Light Power Density (RPS)</td>
<td>Library Building and Police / Admin Bldg.</td>
<td>Architectural systems at level 1 can reduce annual energy lighting power density costs in new buildings a significant amount. RPS reduces the amount of lighting power required to achieve a specified light level in a building by regulating the amount of light that is available to occupants. The controls are continuous dimming with a 0-10 VDC input signal. Interior lighting is at 0.05 nits/ft² for a total of 2,000 watts. - expected ROI details as follows: immediate payback</td>
<td>App. 0 yrs</td>
<td>App. 0 yrs</td>
<td>Reduces demand on mechanical systems; increases indoor environmental quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td>Good occupant satisfaction</td>
<td>Library Building and Police / Admin Bldg.</td>
<td>Solar thermal systems will work to preheat domestic hot water and reduce the energy needed to heat the buildings. ROI – Plumb-1: Solar Thermal for Police Station showers – expected ROI details as follows: 7 year payback after receipt of California Solar Rebate.</td>
<td>App. 0 yrs</td>
<td>App. 0 yrs</td>
<td>User comfort</td>
<td>User comfort</td>
<td></td>
<td></td>
<td>PD $13</td>
</tr>
<tr>
<td>Ceiling Fans</td>
<td>Good occupant satisfaction</td>
<td>Library Building and Police / Admin Bldg.</td>
<td>HV Ceiling Fans provide user comfort and satisfaction while increasing the temperature band by as much as 3 degrees</td>
<td>App. 0 yrs</td>
<td>App. 0 yrs</td>
<td>User comfort</td>
<td>User comfort</td>
<td></td>
<td></td>
<td>PD $13</td>
</tr>
</tbody>
</table>