1.0 | Project Summary Information

1.1 Project Name (35 letters max) Saratoga Springs Redwood Road Trail

1.2 Project Type Trail

1.3 Limits (descriptions should be identifiable. i.e: intersections, place names, landmarks, 35 characters max) The Saratoga Springs Redwood Road Trail begins at about 1135 North Redwood Road and extends south approximately 2,000 feet to about 790 North.

1.4 Project Description (summary of project) The Saratoga Springs Redwood Road Trail Project proposes to construct a 2,040-foot-long, by ten-foot wide multi-use trail adjacent to Redwood Road. The trail will connect to existing trails at the northern and southern termini and increase the trail network locally and regionally.

1.5 Sponsor (jurisdiction, agency name) Saratoga Springs City

1.6 Contact Information
   - Project Manager Jeremy Lapin
   - Office Phone 801-6506 ext 171
   - Cell Phone 801-694-8829
   - Fax 801-766-9872
   - Email JLapin@saratogaspringscity.com

1.7 Cost Estimate
   - Total Project Cost (include matches, pledged funds, etc.) $314,000
   - MPO funding request (include any match) $314,000
     - PE Cost $18,000
     - ROW Cost 0
     - Construction Cost $243,000
     - Soft Match proposed for project $0
1.8 Project Rank (rank this project compared to your other submittals)
This project is ranked number two of Saratoga Springs three MAG submissions.

1.9 Air Quality Benefit (summarize CM/AQ Report, NA for non-CM/AQ eligible projects)

Based on the NOx emissions factor of 1.2 Kg/mile, and the VOC emissions factor of 0.6 Kg/mile (Susan Hardy, personal communication January 25, 2018), and the project length of 0.39 miles, the total reduction in emissions for this project is 0.47 Kg for NOx and 0.23 Kg for CO.
2.0 | Project Scope
Always enter “NA” rather than leave an answer blank...

2.1 Describe purpose and need of project.
The purpose of the proposed trail is to connect existing trail segments, increase the trail network locally and regionally, and provide recreation opportunities for the community. The trail also provides a non-motorized commuting option for pedestrians and cyclists, promotes a healthy lifestyle, and provides safe, accessible routes to serve and benefit the local and regional community. The proposed trail will increase safety along Redwood Road by eliminating conflicts between motorized and non-motorized travelers and increase access to Pioneer Crossing and Crossroads Boulevard.

2.2 Describe existing service/conditions
Currently, sidewalks and trails along Redwood Road are segmented and limited to locations adjacent to residential and commercial development. Pedestrians along Redwood Road are a considerable safety risk. As development and traffic volumes increase in Saratoga Springs, the safety hazard is likely to increase. The proposed trail will remedy the current condition by providing a connected route for non-motorized transportation along Redwood Road.

2.3 Highway Project Information (for non-highway projects go to 2.4)

2.3.1 State Route # or Federal Aid Route #
SR-68

2.3.2 Beginning Mile Post
31.97

2.3.3 End Mile Post
32.25

2.3.4 Length of project
2,040 Feet

2.3.5 Existing and proposed number of Travel Lanes
NA

2.3.6 Current and proposed width of facility (detail ROW, lanes, shoulders, ped/planter).
NA

2.3.7 Facility surface type.
NA

2.3.8 Describe how project is consistent with local or agency plans.
NA
2.3.9 Describe how project incorporates ITS needs.
NA

2.3.10 If phased or segmented, describe how the phase has logical termini and what will future phases consist of.
NA

2.3.11 Is project being coordinated with or constructed with a larger project?
NA

2.3.12 Describe how project will alleviate congestion on this or other facilities.
NA

2.3.13 Describe any traffic improvements. (i.e lanes, signal coordination, ITS, turn lanes, bus pullouts, etc.)
NA

2.3.14 Describe any safety improvements for vehicular and pedestrian traffic. (i.e. raised median, channelization of turn movements, barriers, parkway strips, etc.)
NA

2.3.15 How are complete streets addressed with this project? (plan for pedestrians, bikes, transit, trails, ITS)
NA

2.3.16 Describe traffic control changes at intersections. (include info to warrant changes)
NA

2.3.17 What right-of-way is already secured?
NA

2.3.18 What additional right-of-way is needed?
NA

2.3.19 Describe utility work to be performed and indicate who will do the work.
NA

2.3.20 What type of environmental work will most likely be needed?
NA
2.4 Non-Highway Projects (Transit / ITS / Active Transportation, Park and Ride, etc.)

2.4.1 Transit Route #
SR-68

2.4.2 Length of project
Approximately 2,040 Feet

2.4.3 What is the expected use of the facility or program?
Multi-use trail for pedestrians and cyclists.

2.4.4 What services are provided in the operating of this project?
A dedicated non-motorized vehicle trail.

2.4.5 Describe any equipment to be purchased (buses, ITS, etc.).
No equipment is needed for the proposed project.

2.4.6 Describe how project is consistent with local or agency plans.
The Redwood Road Trail is part of the Saratoga Springs Bicycle and Pedestrian Master Plan. The proposed trail will provide connection to other proposed or existing paved trails.

2.4.7 Describe how project incorporates ITS needs.
NA

2.4.8 If phased or segmented, describe how the phase has logical termini and what will future phases consist of.
Not phased.

2.4.9 Is project being coordinated with or constructed with a larger project?
This project is not part of a larger project.

2.4.10 Describe how project will alleviate congestion on this or other facilities.
The proposed trail will provide an alternative commuting option for residents of Saratoga Springs. Alternatives to motorized transportation alleviate congestion by reducing the number of vehicles on the road.

2.4.11 Describe any traffic improvements. (i.e lanes, signal coordination, ITS, turn lanes, bus pullouts, etc.)
NA
2.4.12 Describe any safety improvements for transit and pedestrian traffic. (i.e. raised median, channelization of turn movements, barriers, parkway strips, bridges, etc.) The proposed project improves safety for pedestrians and cyclists by providing a dedicated non-motorized trail. The trail will relocate non-motorized traffic from the roadside to the proposed trail. The proposed trail will increase the safety of the pedestrian and reduce distraction for the motorized travelers along Redwood Road.

2.4.13 How are complete streets addressed with this project? (plan for pedestrians, bikes, transit, trails, ITS) The project is planned for pedestrian and cyclists along Redwood Road.

2.4.14 What right-of-way is already secured? A portion of the ROW is owned by Saratoga Springs; however some additional ROW will need to be purchased for this project.

2.4.15 What additional right-of-way is needed? This project will require the purchase of 60,328 sq ft of ROW.

2.4.16 Describe utility work to be performed and indicate who will do the work. No utility work is needed for this project.

2.4.17 What type of environmental work will most likely be needed? It is anticipated that a Categorical Exclusion environmental document is needed.
### 2.5 Facility Design

<table>
<thead>
<tr>
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<th>Current Conditions</th>
<th>Design Year 2022</th>
<th>Design Year w/o Improvements</th>
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<tbody>
<tr>
<td><strong>Average Daily Traffic</strong></td>
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<td><strong>Design Speed</strong></td>
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<td>*<strong>Accident Rate</strong></td>
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<td>NA</td>
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<td><strong>Transit Ridership</strong></td>
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<td><strong>Ped/Trail Usage</strong></td>
<td>46,000 (estimate of current bike lane users)</td>
<td>92,000 trips/yr (based on counter on Jordan River Trail at 2100 N Lehi)</td>
<td>56,000</td>
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<tr>
<td><strong>Park and Ride Usage</strong></td>
<td>NA</td>
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</tr>
</tbody>
</table>
3.0 | Project Ranking

The following categories will be used by MPO staff to score each project. The points associated with each category show what total points MPO staff can give. MPO staff’s recommendations will be made available to the MPO TAC Committee for their use in making final project selection recommendations. MPO staff ranking is a tool to aid the MPO TAC Committee in their final selection. The committee is not required to pick projects solely on MPO staff ranks.

Please note, if questions pertinent to the project are not answered, zero points will be given.

3.1 Congestion Relief (25 Points)

Explain if the project...

a) Provides an alternate transportation facility that corrects an identified congested problem? Congestion along Redwood Road will continue to increase with development and population growth. The proposed project will provide an alternate transportation option for commuters.

b) Reduces congestion by reducing the number of vehicles. The proposed project provides a non-motorized commuting option which will reduce the number of vehicles on Redwood Road.

c) Reduces the need for additional highway lanes for peak hour capacity. The proposed project will provide an alternative transportation option which will decrease the number of vehicles on the road. A decrease in the traffic volume will reduce the need for additional highway lanes.

d) Increases the efficiency of transportation system through traffic management measures. NA

e) Adds turning movements to relieve a congested intersection. NA

3.2 Mode Choice (25 points)

Explain if the project...

a) Benefits multiple transportation systems (transit and highway, pedestrian and transit). The project benefits pedestrian and cyclist transportation system by connecting existing trails and increasing the overall trail network.

b) Promotes alternative transportation solution to SOV use. Yes, the purpose of this project is to provide a non-motorized option for commuters.
c) Creates or improves linkages between transportation modes.
   The Redwood Road Trail connects two existing trail segments along Redwood Road and will provide connectivity to Pioneer Crossing and Crossroads Boulevard.

d) Reduces physical, psychological, or economic barriers to carpool, bike, walk, or transit use.
   It reduces physical barriers to pedestrian and bicycle use because it provides a dedicated non-motorized vehicle alternative thereby increasing the safety of the users.

e) Provides incentives to carpool, bike, walk, or transit use.
   The incentive to bike and walk on a convenient, dedicated multi-use path is increased as it avoids travel along busy, unsafe roadways.

3.3 Environmental Quality (15 points)
Explain if the project...

a) Provides cost effective emission reductions (air quality score).
   The proposed project will reduce emissions by providing a non-motorized commuting option. This section of the Redwood Road Trail is a gap in the overall trail system that, once completed, will encourage resident usership.

b) Minimizes environmental impacts or reduces existing impacts (e.g. air/water/noise pollution).
   Because the proposed project encourages bike and pedestrian travel, it will reduces environmental impacts to air, water, and noise pollution by taking vehicles off Redwood Road.

c) Enhances the natural, cultural, or historic environment.
   The creation of the multi-use trail system through a mostly undisturbed environment enhances the users’ experience and exposure to the natural environment.

d) Mitigates invasive impacts to existing neighborhoods/commercial areas (minimal relocations).
   There are no relocations.

3.4 Safety (20 points)
Explain if the project...

a) Corrects/improves a verified or potential safety or accident problem.
   It corrects or improves the potential safety hazard of conflicts between motorists and pedestrians or cyclists by providing a dedicated trail for non-motorist travel.

b) Improves information/communications for traffic operations and emergency responders.
   NA
c) Reduces severity of crashes.
   The project reduces the severity of cyclist and pedestrian incidents as it relocates non-motorized
   users farther away from Redwood Road to a dedicated trail.

d) Enhances safe movement of pedestrian, bicycle traffic.
   The project will enhance safe movement because it will restrict non-motorized travel to the
   limits of the paved trail, away from Redwood Road. Thy physical separation of vehicles and
   pedestrians will allow increased ease of travel for all users.

e) Provides an intermodal safety improvement (e.g. separation of vehicles-trains, vehicles-
   pedestrian).
   The proposed project will provide an intermodal safety improvement by separating vehicles and
   non-motorized users. The Redwood Road Trail will allow the Redwood Road corridor to
   accommodate multiple modes of travel in a safe and efficient manner.

3.5 Other Considerations (15 points)
Explain if the project...

a) Effectively distributes funding throughout the MPO area.
   Yes. The project will give Saratoga Springs funding, thereby distributing it throughout the MPO
   area. The proposed trail connects to existing trails and will provide connectivity to the regional
   trail system. Increased connectivity will benefit Saratoga Springs residents as well as adjacent
   communities such as Eagle Mountain and Lehi.

b) Phases project in a manner that the MPO can use limited funds efficiently.
   The proposed project completes a gap in the existing trail system and is approximately 2,040
   feet long. Due to the scope of the project, it is planned to be completed in one phase.

c) Additional funding above required match is pledged toward project (including any soft match).
   Saratoga Springs is committed to required 6.77% ($20,919) match for this project.

d) Project sponsor ranking of project.
   This project ranks number two out of the three MAG projects proposed by Saratoga Springs.

e) Project is numbered project within the current RTP.
   Yes: SR-68 Redwood Road is #102 on the MPO’s TransPlan40 Trail Map (March 2, 2017).
4.0 | Air Quality Report

All projects that are eligible for CM/AQ and CM/AQ-PM2.5 funds must complete this report. These funds are eligible for projects and programs countywide. Contact Susan Hardy at Mountainland AOG if you need help completing 4.4 Quantitative Analysis below, 801/229-3842 or shardy@mountainland.org.

4.1 Eligibility

CM/AQ funds can only be used for projects and programs that a direct benefit to air quality can be demonstrated. Highway expansion, such as new single occupancy vehicle lanes, is not eligible. Turn lanes at congested intersections, transit programs, pedestrian and trail projects, signal modernization, ITS, and IM programs are typical eligible CM/AQ projects.

4.2 CM/AQ Program

The purpose of the CM/AQ program is to fund transportation projects or programs that will contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) in Ozone (O₃), Carbon monoxide (CO), Particulate Matter – 10 microns (PM₁₀), and PM₂·₅ non-attainment and maintenance areas. The city of Provo is a maintenance area for CO and Utah County is a non-attainment area for PM₁₀ and PM₂·₅.

4.3 Completing this Report

All projects eligible for CM/AQ funds must complete this report. Completing this report can be quite technical, Susan Hardy, Air Quality Coordinator at Mountainland, can help with filling out this report. Contact her at 801/229-3842 or shardy@mountainland.org

4.4 Quantitative Analyses

A quantitative assessment of how a proposed project or program is expected to reduce emissions is important to assist in selecting the most effective use of this fund. List below all travel benefits directly related to this project. Air quality benefit calculations must utilize Mobile 6. The air quality analysis should include assessing emission reductions of transit, traffic flow improvements, ITS projects and programs, ridesharing, bicycle and pedestrian improvements. Complete at least one of the sections below. If quantitative analyses cannot be done, do a qualitative assessment in 4.3.

a) Vehicle Miles Traveled
   Number of Vehicle Miles Traveled reduced (VMT): NA
   Average distance of trips reduced: NA
   Emission reduction per average weekday: NA

b) Idling Time
   Average idling time per vehicle reduced: NA
   Number of vehicles with reduced idling time: NA
   Emission reduction per average weekday: NA

C) Vehicle Speed
   Average change in vehicle speed (speed before and after): NA
Number of vehicles affected: NA
Emission reduction per average workday: NA

4.5 Qualitative Assessment
Although a quantitative analyses of air quality impacts is required whenever possible, some improvements may not lend themselves to rigorous quantitative analysis, because of the projects characteristics or because practical experience is lacking to adequately analyze the project. In these cases, a qualitative assessment based on a reason and logical examination of how the project or program will decrease emissions and contribute to attainment or maintenance of a NAAQS is appropriate.

Based on the NOx emissions factor of 1.2 Kg/mile, and the VOC emissions factor of 0.6 Kg/mile (Susan Hardy, personal communication January 25,2018), and the project length of 0.39 miles, the total reduction in emissions for this project is 0.47 Kg for NOx and 0.23 Kg for CO.
5.0 | Project Cost Estimate

To develop a project cost estimate, please supply a detailed cost breakdown of your unit costs, inflation, equipment, right-of-way, contingency, etc. To do so, use the Concept Costs Estimate Excel form provided by UDOT (available on Mountainland.org website). Non-construction projects such as equipment purchases, operations, administration programs, studies, etc. can use other methods to show their estimated costs. All sheets or methods used should be submitted as part of the Supplemental Information accompanying the Concept Report.

5.1 Cost Summary

Summarize the information from the Costs Estimate Excel form or other method. Enter NA for items that do not apply to the project.

a) Preliminary Engineering $16,000
b) Environmental Work: $5,000
c) Construction $205,000
d) UDOT Review (project cost <$500k = $5k, >500K = $10k) $5,000
e) Construction Engineering $20,000
f) Subtotal (in today’s dollars) $262,000
g) Inflated Cost Factor (inflate to 2022) 3.5%
h) Total 2022 Cost $314,000
i) Non-MPO Funds Available to Project $0
j) MPO Funding Request (includes 6.77% local match) $314,000

6.0 | Supplemental Information

Please submit any supporting documentation including maps, diagrams, charts, cost estimates, etc. that will allow MPO and UDOT staff and any Technical Advisory Committee to make an informed decision regarding the proposed project. Keep Supplemental Information submittals to 8 pages total.

6.1 Concept Report Submittal

In order to facilitate the distribution of the Concept Reports and any supplemental information, all Concept Reports shall be combined with any supplemental information and saved in PDF format as one document. Please note that this might create a large data file that might be too large to emailed. Plan accordingly to submit your report in electronic format (CD, DVD, Flash Drive) by the required due date. Concept Reports are due by March 29, 2018 at 6pm.

6.2 Contacts, Questions

For help with the Concept Report or questions, please contact:

Bob Allen 801/229-3813
REDWOOD ROAD TRAIL
REDWOOD ROAD FROM 790 N. TO 1135 N.
SARATOGA SPRINGS, UTAH

EXISTING CONCRETE SIDEWALK
EXISTING ROADWAY
PROPOSED 10' ASPHALT TRAIL
2' UTBC SHOULDER

EXISTING EDGE OF ASPHALT
EXISTING OVERHEAD POWER TO BE REMOVED AND BURIED
PROPOSED 10' ASPHALT TRAIL
2' UTBC SHOULDER

TRAIL PLAN
PP-01

GRAPHIC SCALE: 1" = 30'
EXISTING OVERHEAD POWER TO BE REMOVED AND BURIED

PROPOSED 10' ASPHALT TRAIL
2' UTBC SHOULDER

EXISTING ROADWAY

EXISTING CONCRETE SIDEWALK

28'

30'

40'

42'

DRAFT
NOT FOR
CONSTRUCTION
TYPICAL SECTION FOR REDWOOD ROAD AND PROPOSED TRAIL
Prepared By: Zachary Scott  
Date: 2/2/2018

**Proposed Project Scope:** New Trail Construction on a New Alignment

- **Proposed Route Reference Mile Post (BEGIN)**: 0.000  
- **Proposed Route Reference Mile Post (END)**: 0.386  
- **Project Length**: 0.386 miles, 2,040 ft
- **Current FY Year (July-June)**: 2018
- **Assumed Construction FY Year**: 2022
- **Construction Items Inflation Factor**: 1.19, 4 yrs for inflation
- **Assumed Yearly Inflation for Engineering Services (PE and CE) (%/yr)**: 3.5%
- **Assumed Yearly Inflation for Right of Way (%/yr)**: 3.0%
- **Items not Estimated (% of Construction)**: 20.0%
- **Preliminary Engineering (% of Construction + Incentives)**: 8.0%
- **Construction Engineering (% of Construction + Incentives)**: 10.0%

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<td>Roadway and Drainage</td>
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<th>2022</th>
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<td><strong>$309,000</strong></td>
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**PROPOSED COMMISSION REQUEST**  
**TOTAL**  
**$262,000**  
**TOTAL**  
**$309,000**

**Project Assumptions/Risks**

1.  
2.  
3.  
4.  
5.  
6.  
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8.  
9.  
10.  
11.  
12.  
13.  
14.  

2/5/2018  
Page 1 of 7  
Concept Level Est Form  
Rev. 5/30/2017
# Roadway and Drainage

**PIN:** PROJECT # PROJECT NAME: Redwood Road Trail

<table>
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<th>Item #</th>
<th>Item</th>
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<th>Price</th>
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<tr>
<td>015547005</td>
<td>Traffic Control</td>
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<tr>
<td>01557001*</td>
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<td>$2,500.00</td>
<td>Usually 1% of construction</td>
<td></td>
</tr>
<tr>
<td>015727020</td>
<td>Dust Control and Watering</td>
<td>5 1000 gallon</td>
<td>$500.00</td>
<td>$2,500.00</td>
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</tr>
<tr>
<td>022317010</td>
<td>Clearing and Grubbing</td>
<td>1 lump</td>
<td>$16,000.00</td>
<td>$16,000.00</td>
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</tr>
<tr>
<td>023167010</td>
<td>Roadway Excavation (Plan Quantity)</td>
<td>2,014 2022</td>
<td>$15.00</td>
<td>$30,210.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>027217010</td>
<td>Untreated Base Course</td>
<td>1,077 ton</td>
<td>$15.00</td>
<td>$16,155.00</td>
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<tr>
<td>027417050</td>
<td>HMA - 1/2 Inch</td>
<td>378 3.50%</td>
<td>$80.00</td>
<td>$30,240.00</td>
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<tr>
<td><strong>Roadway Subtotal</strong></td>
<td><strong>$124,605</strong></td>
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</tr>
<tr>
<td><strong>Drainage</strong></td>
<td><strong>$10,000</strong></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Drainage</td>
<td><strong>$10,000</strong></td>
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<tr>
<td>015407010</td>
<td>Public Information Services</td>
<td>1 lump</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
<td>Usually 0.25% of construction</td>
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</table>
## Structures

PIN: PROJECT # PROJECT NAME: Redwood Road Trail

<table>
<thead>
<tr>
<th>Item #</th>
<th>Item</th>
<th>Quantity</th>
<th>2/2/2018</th>
<th>Price</th>
<th>Cost</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geotech</td>
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<td></td>
<td>Geotech Report</td>
<td>1</td>
<td>Lump</td>
<td>$10,000.00</td>
<td>$10,000.00</td>
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<td></td>
<td><strong>Structures Subtotal</strong></td>
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<td>$10,000</td>
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</table>
# Environmental and Landscaping

PIN: PROJECT # PROJECT NAME: Redwood Road Trail

<table>
<thead>
<tr>
<th>Item #</th>
<th>Item</th>
<th>Quantity</th>
<th>2/2/2018</th>
<th>Price</th>
<th>Cost</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Temporary Erosion Control</strong></td>
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<tr>
<td>015717030</td>
<td>Silt Fence</td>
<td>4,080</td>
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<td>$2.00</td>
<td>$8,160.00</td>
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<tr>
<td></td>
<td><strong>Landscaping</strong></td>
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<tr>
<td>029127050</td>
<td>Strip, Stockpile, and Spread Topsoil (Plan Quantity)</td>
<td>2,226</td>
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<td>$4.50</td>
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<tr>
<td>029227030</td>
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<td>2022</td>
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<td><strong>Environmental Mitigation Subtotal</strong></td>
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<td>3.50%</td>
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Concept Level Est Form
Rev. 5/30/2017