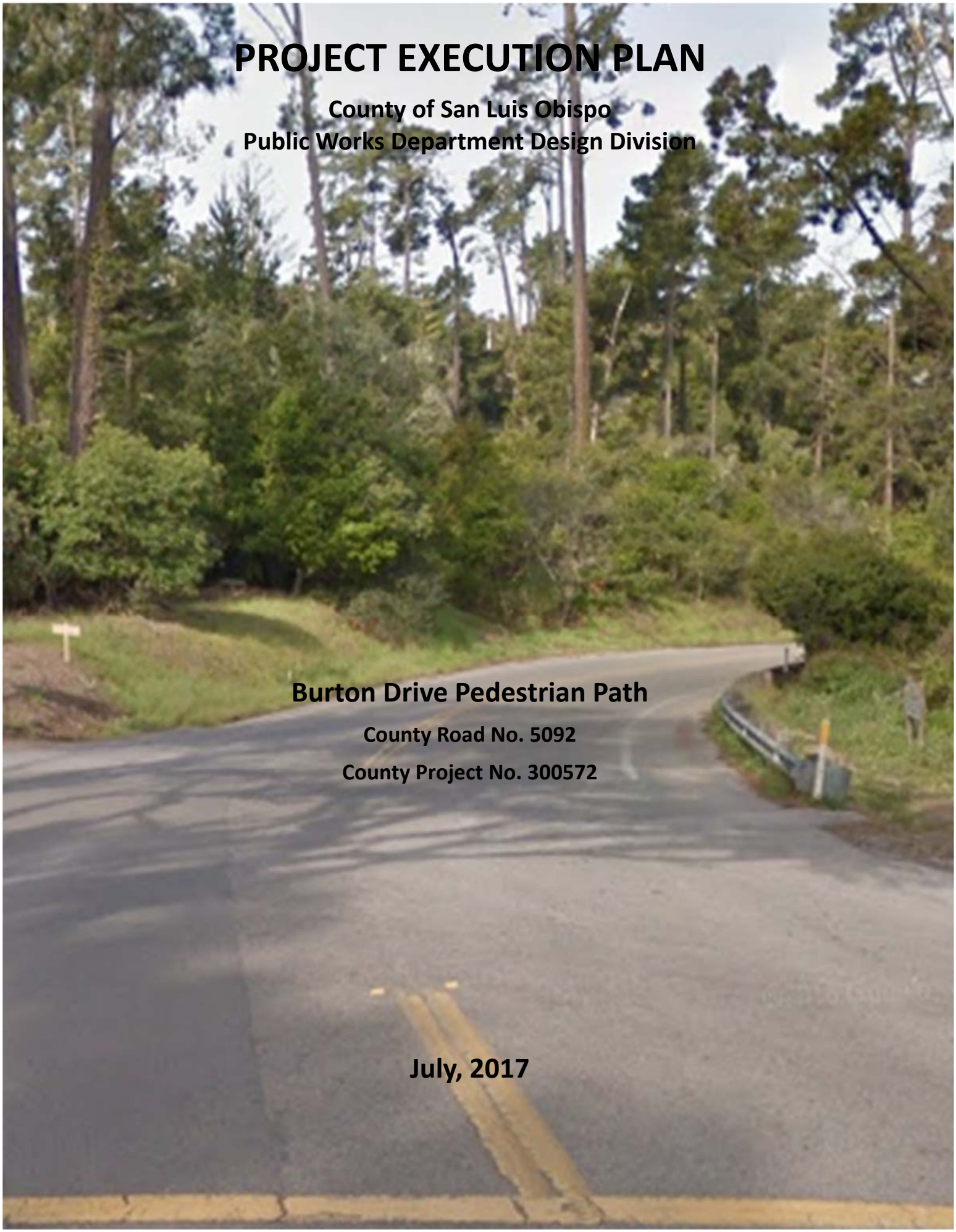
PROJECT EXECUTION PLAN

County of San Luis Obispo
Public Works Department Design Division



Burton Drive Pedestrian Path

County Road No. 5092

County Project No. 300572

July, 2017

PROJECT EXECUTION PLAN APPROVAL:

Approved By: _____ **Date:** 6/8/17

Jeff Werst, Design Division Manager

Reviewed By: _____ **Date:** 7/12/17

Project Controls

Approved By: Dave Flynn **Date:** 7/17/17

Dave Flynn, Deputy Director

Prepared By: _____ **Date:** June, 2017

Mark Davis, Design Division, RCE No. 63477

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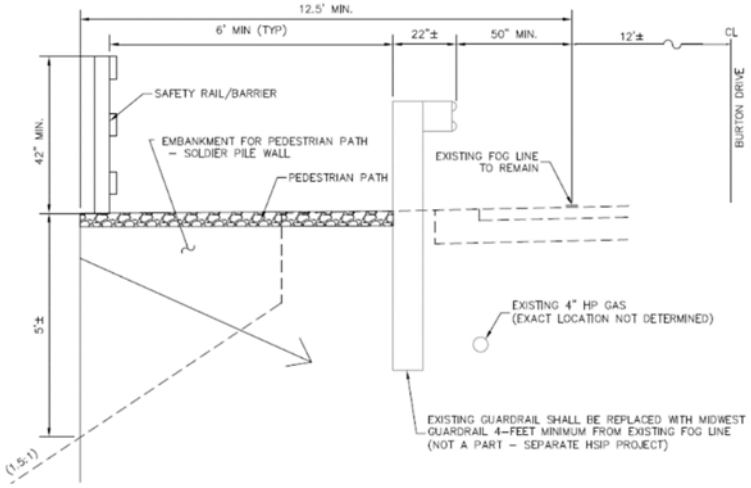
Appendix

I. PROJECT BACKGROUND

A. Project Objective

The project proposes to install 2,050 linear foot pedestrian path on the north side of Burton Drive from Eton Road to the southern sidewalk of Santa Rosa Creek Bridge (5092 B1) and to reconstruct a portion of existing sidewalk at the northern terminus of said bridge to ensure ADA compliance.

The project is located 0.5 miles north of the State Highway 1 and Burton Drive intersection in Cambria, California.



B. Purpose and Need

The purpose of the project is to improve safety. Burton Drive is one of five County roads that provide access to downtown Main Street. However, Burton Drive provides the most direct route for both central and south Cambria. These portions of the community include Cambria Grammar School, Santa Lucia Middle School, and numerous night stay establishments.

Pedestrian access on Burton Drive is limited to the travel way itself or within minimal width shoulders. Within the proposed project limits, bicyclists and pedestrians are subject to a varying width paved shoulder of two (2) to six (6) feet. As an alternative, a dirt pathway exists behind the guardrail. However, much of this small pathway is obstructed or has failed resulting in pedestrian traffic being forced to the shoulder. Therefore, no adequate pedestrian path is currently serving this large part of the Cambria Community to the downtown area.

Between 2012 and 2016, four (4) collisions occurred on Burton Drive between Eton Road and Rodeo Grounds Road. The collision rate of this segment is 1.52 collisions per million vehicle miles (mvm) which is equal to the county average collision rate for suburban roads. No collisions with pedestrians or bikes occurred during this time.

Burton Drive recently received a Highway Safety Improvement Program (HSIP) grant to raise the guard rail to current standards while providing a 4-foot shoulder throughout the project limits.

II. DESIGN CRITERIA

The proposed project design shall comply with the 2014 Public Improvement Standards of San Luis Obispo County and 2016 California Building Code.

The proposed pedestrian path is being designed for a width of 6-feet. Given the anticipated obstructions due to utilities and vegetation the following minimum clear widths can be incorporated into the pedestrian path as needed. (Refer to Sections 11b-403.5 of the 2016 CBC)

- The clear width for the pedestrian path shall be 48 inches minimum.
- When because of right-of-way restrictions, natural barriers or other existing conditions create an unreasonable hardship, the clear width may be reduced to 36 inches.
- Clear width shall be permitted to be reduced to 32 inches minimum for a length of 24 inches provided that reduced width segments are separated by segments that are 48 inches long minimum and 36 inches wide minimum. (Refer to Sections 11B-403.5 of the 2016 CBC)

- The existing concrete sidewalk from the curb inlet north of Santa Rosa Creek Bridge south to the pedestrian trail connection shall be upgraded to provide an ADA compliant pathway. However, given the site constraints of the existing bridge, an ADA compliant pathway or bridge railing may not be structurally practical or technically feasible. An unreasonable hardship finding may be considered and documented via a memo or design exception. As an alternative, this specific scope of work may become part of a separate highway bridge program project.

Given Burton Drive has a continuous longitudinal slope exceeding 9% the pedestrian path shall have resting areas, 60 inches in length, at intervals of 400 feet maximum. The resting area shall be at least as wide as the pedestrian path. The slope of the resting area in all directions shall be 2% maximum. (Per Division of State Architect and CBC Section 11B-403.7)

Due to the anticipated drop-off, a safety railing/barrier is required. However, handrails may be required as part of an accessible route, ramp, or stairs. Given the question whether the proposed pedestrian path meets the definition described in Section 11B-505 of the 2016 CBC remains unclear. The State Architect was consulted with little resolution. The State Architect suggested we consult with our risk management if we were concerned with not providing a handrail. At this time the PEP refrains from incorporating handrails.

The pedestrian path surface shall maintain a cross slope of less than 2.0%. However, as discussed above, the longitudinal slope shall be consistent with

the existing road slope. Pedestrian paths surfaces other than concrete or asphalt require best practices. Best practices at a minimum would include the following mitigations;

- Binding agents to a Gravel / DG pathway to minimize erosion and maintenance
- Edge containments such as header boards
- 90-95% compaction requirements
- Drainage facilities to minimize erosion and maintenance. Run-off from Burton Drive will need to be mitigated to avoid erosion on the pedestrian path.

III. RECOMMENDED PROJECT

The recommended project shall satisfy the following minimum design control measures;

- Provide a 6-foot pedestrian path in harmony with Section II.
- Provide a pedestrian setback to accommodate a 4' paved shoulder from the existing fog line of Burton Drive
- Provide a pedestrian setback to accommodate the installation of a mid-west guardrail system
- Provide additional embankment to accommodate said pedestrian path and any associated run-off from Burton Drive.

Typical Sections A,B,C,D, and E (attached) represent the anticipated dominant condition given the existing site constraints and corresponding design control measures. (5) Five alternatives were considered for embankment widening.

A. SHEET PILE

Benefits:

- Speed of placement
- Minimal embankment disturbance
- Facilitates additional road widening now if so desired

Negatives:

- Cost ($80 SF, $1.8 million, not feasible)
- Construction noise within residential and night stay establishment

Given the length of the pedestrian path, it is not cost effective to consider sheet pile wall.

B. GRAVITY BLOCK

Benefits:

- No special equipment required
- No tie-backs required
- Limited to excavation, placement, and backfill
- No maintenance
- Within California Conservation Corp Scope of Work

Negatives:

- Cost ($165 per block, $280k delivered)
- Likely require removal of existing guardrail and portions of HMA pavement
- Relocation of 4” HP Gas Main likely

Given typical installation cost is equal to the cost of gravity blocks, it is not cost effective to consider gravity blocks as construction estimates would likely exceed $700k.

C. GABIONS

Benefits:

- No special equipment required
- No tie-backs required
- Limited to excavation, placement, and backfill
- Low maintenance
- Within California Conservation Corp Scope of Work

Negatives:

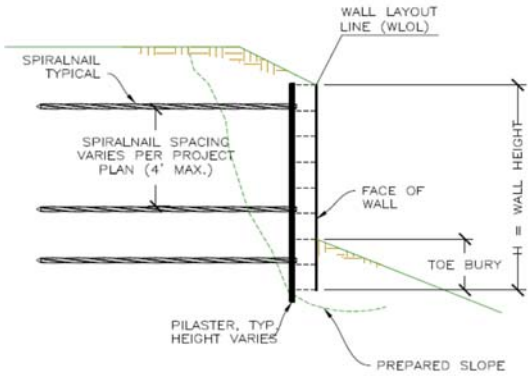
- Likely require removal of existing guardrail and portions of HMA pavement
- Relocation of 4” HP Gas Main likely

The excavation for gabions is similar to that of alternative B, and the material differences also remain the same. It is estimated the Gabions themselves would not exceed $60k, but the rock backfill is estimated to be $240k. This equates to approximately $300k. However, we would expect installation costs to be much less than a gravity block installation and conducive to the work typically performed by the California Conservation Corp. In addition, Gabions can be phased as needed without significant mobilization costs.

D. SPIRAL NAIL WIRE TRUSS SYSTEM

Positive Benefits:

- No removal of existing guardrail
- No removal of existing HMA pavement
- Minimal excavation, placement, and backfill
- Low maintenance
- No stepping of truss system. Built along Burton Drive



Negatives:

- Excavator attached hammer – special equipment
- Spiral nail tie-backs required
- Relocation of 4" HP Gas Main likely
- Portion of Work not suitable for California Conservation Corp
- Proprietary Product
- Unknown Soils/Geography and impact on spiralnail

The spiral nail wire truss system involves the placement of a hammer at the end of an excavator. The spiral nail is then placed into the embankment to act as an anchor for the panel face. After the face is anchored to the spiral nail, the panel is backfilled with native soil using a soil cloth.

Spiral nail materials and rental of hammer is anticipated to be $150K. Imported backfill is anticipated to be $40k. Once the spiral nails are placed, labor is not expected to exceed those of alternatives B and C.

E. SOLDIER PILE WALL

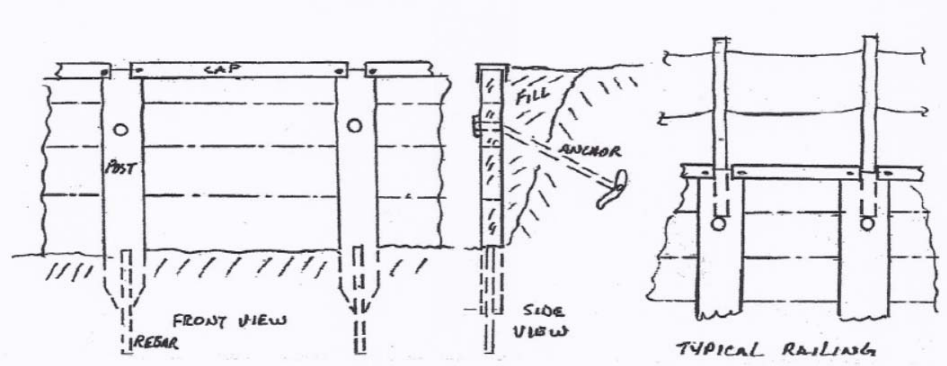
Positive Benefits:

- Requires less time to install than Gabions
- No cement or post holes
- Accommodates all types of soil & rock
- Handrails can be easily installed
- Accommodates all height requirements
- Components can be plain or galvanized steel
- CCC can furnish all materials, tools, and equipment to install entire wall and railing with no assistance from a general contractor (i.e. traffic control, grading).
- No removal of existing HMA pavement
- No excavation
- No removal of 4" gas main.
- No stepping of truss system. Built along Burton Drive
- Facilitates phased construction

Negatives:

- CCC may use proprietary system (Sutter Retaining Wall)

A soldier pile wall (Sutter Wall) is constructed as shown below. The CCC has installed this wall on various projects in the County including the recent Atascadero Creek Trail and the San Simeon / Piedras Blancas Elephant Seal viewing area.



Typical Installation: (See separate detailed instructions)

1) With hydraulic hammer, drive 1" dia. rebar, "H" posts and anchors into ground
2) Pre load anchors and fasten to "H" posts
3) Place 1" lumber in web of posts
4) Place caps and fasten to top of "H" posts and backfill
5) Install optional railing

IV. Recommended Project

The recommended project is Alternative E. Given the initial funding of $72k, the development and construction of Alternative E must occur in phases as needed until full funding can be obtained. The breakdown of potential phases are as follows;

Phase 1: Project Development / Design

Phase 2: Right-of-Way Acquisitions / Utility Coordination

Phase 3: Construction

Actual phases will be dependent on funding availability.

Construction up to Phase 3 is required prior to or during the construction of HSIP Guardrail upgrades. This ensures the replaced guardrail can be relocated in areas that do not currently provide for a 4-foot shoulder.

The California Conservation Corp (CCC) has reviewed the various design alternatives and recommended the soldier pile (Sutter Wall) as the preferred and most cost-effective solution. In addition, the CCC can perform all aspects of work. Please refer to the CCC letter of support (attached). CCC typically comes as a crew of (12) and (1) supervisor. Crew charges $20 per person and $0 for the supervisor resulting in a typical daily charge of $1,920 (daily) or $9,600 (weekly). Please refer to the CCC quote (attached).

V. ENVIRONMENTAL ASSESSMENT

A. CEQA

Preliminary environmental research identified potential impacts to biological and cultural resources. However, the project is anticipated to qualify for a Mitigated Negative Declaration. The Cultural study will require plant and nesting surveys between the months of April and May.

B. CDP

The proposed project will require a Coastal Development Permit. However, it's not anticipated the permit will proceed beyond the County Planning Commission.

C. Stormwater Management

The project is located within the NPDES coverage area and is subject to the San Luis Obispo Post Construction Requirements.

Since the proposed scope of work is limited to a pedestrian path, the project satisfies Table 3-2 ii and iii which states;

ii. Sidewalk and bicycle lane projects (where no other impervious surfaces are created or replaced), and built to direct stormwater to adjacent vegetated areas are exempt from post construction requirements.

iii. Trails and pathways (where no other impervious surfaces are created or replaced), and built to direct stormwater runoff to adjacent vegetated areas are exempt from post construction requirements.

Therefore, in harmony with the RWQCB Resolution R3-2013-0032 adopted July 12, 2013, we determined the project to be exempt from post construction requirements. Certification of this exemption can be found in the attached Post Construction Control Plan (PCCP).

D. Expected Permits
No permits are anticipated.

E. Expected Mitigation
It is likely that vegetation planting will be required, to mitigate for vegetation removal.

VI. RIGHT OF WAY IMPACTS
Preliminary right-of-way research indicates the existing right-of-way is approximately 50' wide. Comparing the most recent record of survey for Burton Drive (RS 95-20) with GIS and Google Mapping suggests portions of Burton Drive may deviate beyond the road right-of-way. Without a field survey, it's unclear how the aerial aligns with the record of survey. In-lieu of a right-of-way data sheet, an estimate was determined assuming a maximum of 6,000 feet of acquisition exists.

Given the limited scope and budget of the project, the County can pursue one of two options. The first is to determine the actual road right-of-way in relation to the proposed pedestrian path. Determining the actual road right-of-way will incur research costs and acquisition costs if determined in fact Burton Drive deviates from the road right-of-way. The second is to make the determination the scope of work falls under adverse possession. Regardless of the actual location of the right-of-way, the proposed scope of work occurs within the existing roadway prism. These areas are currently being used by the public making the case for a prescriptive easement.

Prior to proceeding with design, the determination must be made and adjustment to this PEP if required. The PEP includes a budget for acquisition as the County Surveyor strongly advises a boundary determination be performed. A data sheet can then be prepared.

VII. UTILITIES
Overhead utilities at the site include various communication lines and PG&E powerlines. The pedestrian path shall be adjusted as needed to ensure existing surface are protected in-place.

Underground at the site includes the Gas Company 4" high pressure gas line. Confirmation on the location and depth of the high pressure gas main shall be determined prior to design to determine whether an adjustment to this PEP is required. As discussed in Section III, it's anticipated the existing 4" HP gas line will require relocation.

VIII. OTHER INVOLVED AGENCIES
Besides coordination with the local CSD and key stakeholders (refer to public outreach plan) only the California Conservation Corp will be involved.

IX. PUBLIC OUTREACH
A Public Outreach Plan has been prepared for this project and is attached hereto.

X. PROJECT BUDGET
Initial funding of $72,000 for this project is from the Urban State Highway Account and will be reimbursed by SLOCOG.

Item	Burton Drive Pedestrian Path
Preliminary Engineering	$12,000
Topography	N/A*
Boundary Survey	$6000
Environmental	$24,000
Design (PS&E)	$20,000
Wall Design	$5,000
Geotech / Soils	NA**
Right of Way (staff)	$10,000
Subtotal (USHA Funding Available)	$72,000
Appraisal (1 parcel)	$5,000
Right-of-Way Acquisition ($2/s.f.)	$12,000
Utility Coordination/Pothole	$11,000
Project Management (8%)	$25,000
Overhead (4%)	$15,000
Subtotal (18/19 Cambria USHA)	$68,000
Construction	$394,505
Construction Contingency (15%)	$59,175
Construction Administration (15%)	$59,175
Subtotal (10YR Cambria USHA Advance)	$512,855
Total	$652,855

*It is anticipated the topography survey necessary for the Burton Drive Pedestrian Path will be obtained from the concurrent HSIP MBGR upgrade project.

**Due to the limited scope of work and foundation requirements of a pedestrian path no soils report is anticipated. Conservative values will be assumed when sizing the retention system.

XI. PROJECT DEVELOPMENT TEAM

The responsibilities listed below are tentative in nature and subject to change based on County staff availability and funding.

A. Transportation Division

Transportation Division personnel will be responsible for

1) Project Management – including but not limited to contract administration, community outreach, and coordination of HSIP MBGR upgrade project, right of way determination.

2) Coordination with CCC

B. Design Division

Design Division personnel will be responsible for

3) Design Unit – Preparation of the PS&E, advertising, and award of the construction contract.

4) Surveying/Utilities Unit – Coordinate survey control and consultant for construction staking. Utility Coordination – Letters A,B,C.

C. Environmental Division

Environmental Division will be responsible for:

Processing of the CEQA document

- Cultural Surveys (Nesting, plants, etc.)
- Arch

Processing Coastal Development Permit

Prepare environmental permit summary form

Habitat mitigation and monitoring efforts

D. Right of Way Unit

Pending the decision of Section V, the Right of Way Unit may be responsible for appraisal and acquisition; preparing permission-to-enter forms and attaining permissions-to-enter; assist in public outreach.

E. Construction Division

Construction Division will be responsible for construction inspection and administration of the construction contract.

XII. SCHEDULE

A Baseline MS Project schedule is attached.

XIII. FUNDING

Project Development:	$72,000 in currently available Urban State Highway Account
Right-of-Way:	$68,000 in 18/19 Cambria Urban State Highway Account
Construction Phase:	$493,857 advance of 10-year Cambria Urban State Highway Account Funds (19-20 FFY through 28/29 FFY)

XIV. RISK ASSESSMENT

Unresolved PEP item discussions include;

1. Determining whether hand rails shall be incorporated into the safety rail / barrier. The PEP as written does not propose to do so.

- PEP assumes right-of-way acquisition will be required. A survey data sheet shall be performed immediately upon completion of the boundary survey to determine limits of acquisition and cost. PEP will be amended as necessary.

VICINITY MAP

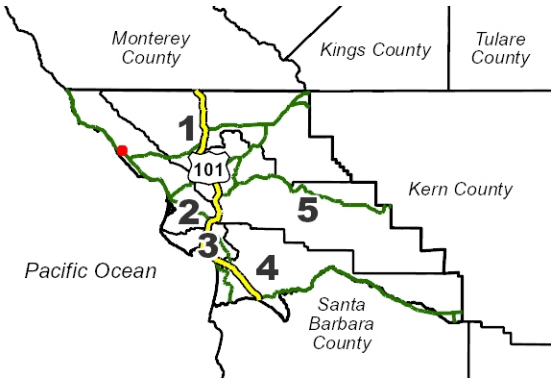
Burton Drive Pedestrian Path
Cambria, California

COUNTY OF SAN LUIS OBISPO

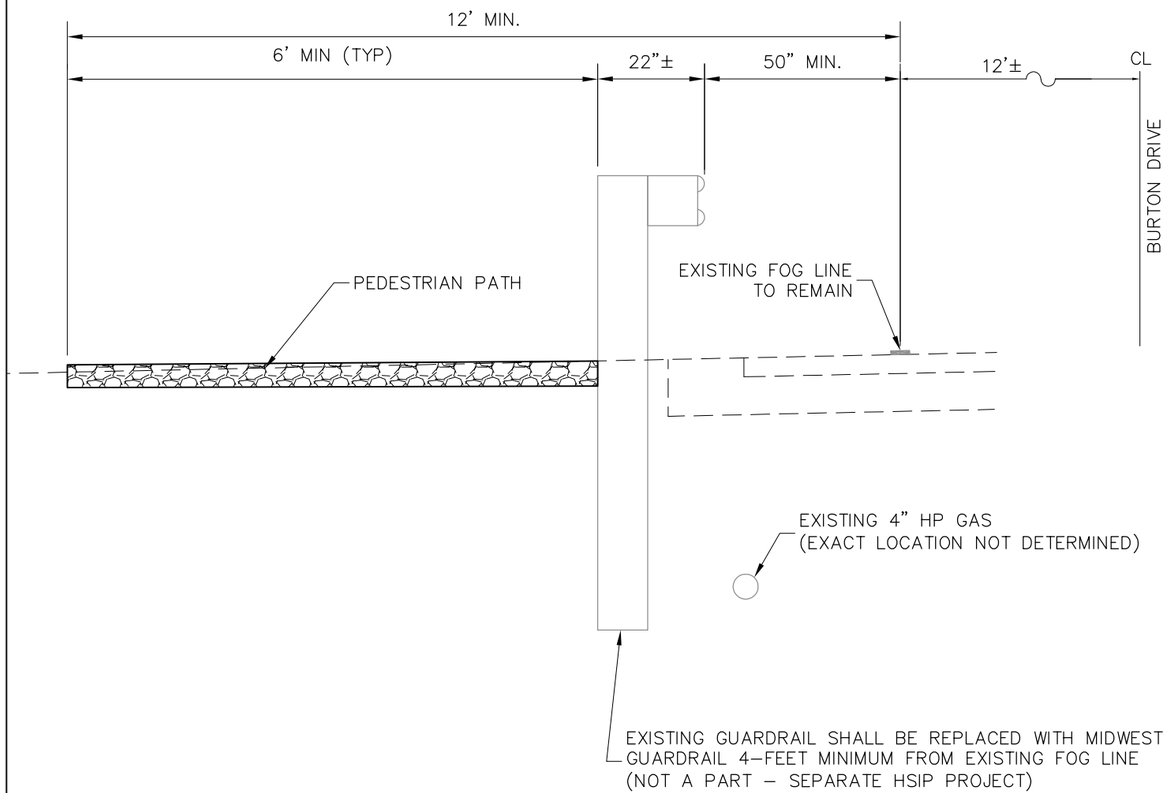
DEPARTMENT OF PUBLIC WORKS

1: 4,800

0 200 400 Feet

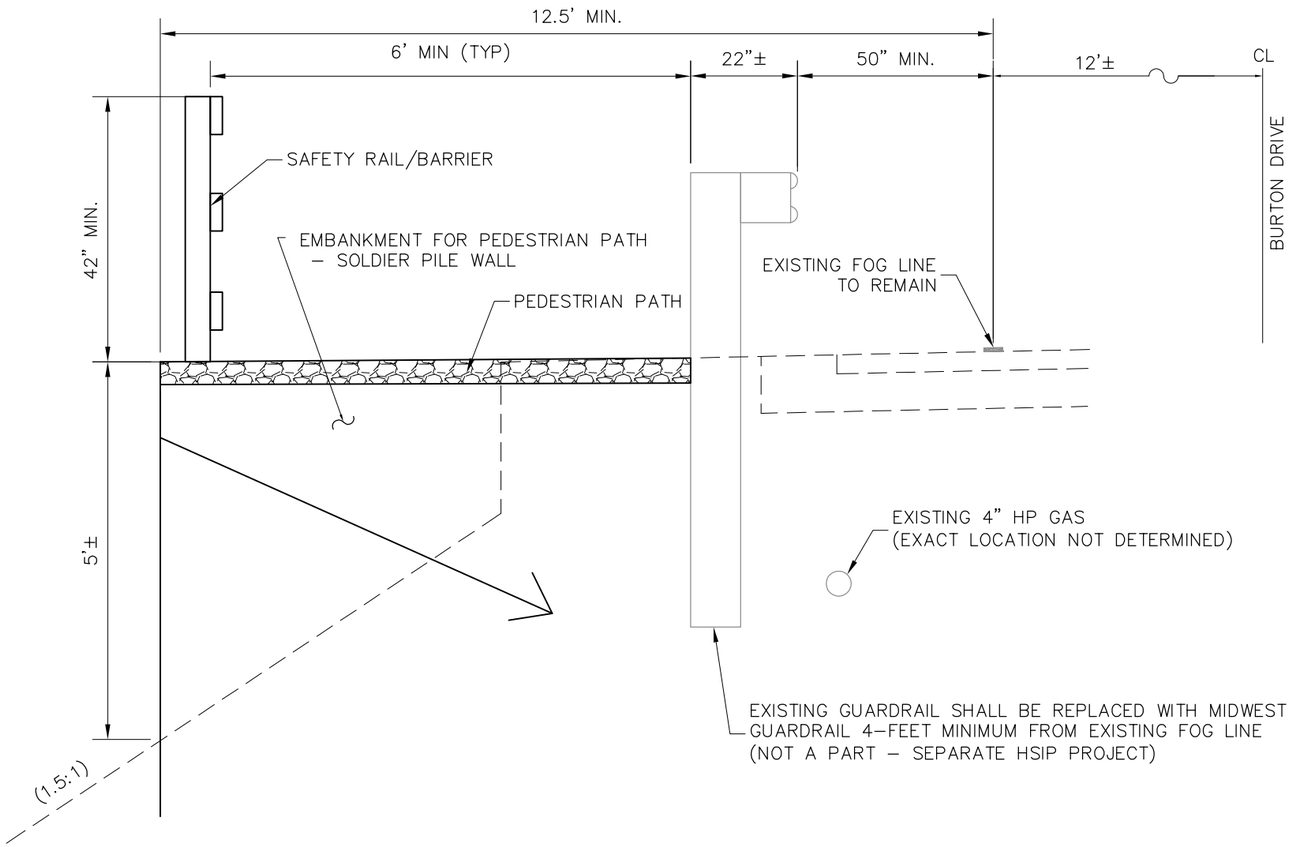


ROAD NO.	JOB NO.	SHEET NO.	SHEETS TOTAL
5092	300572	1	2



TYPICAL SECTION 'A' (L=530'±) ALONG BURTON DRIVE

N.T.S.

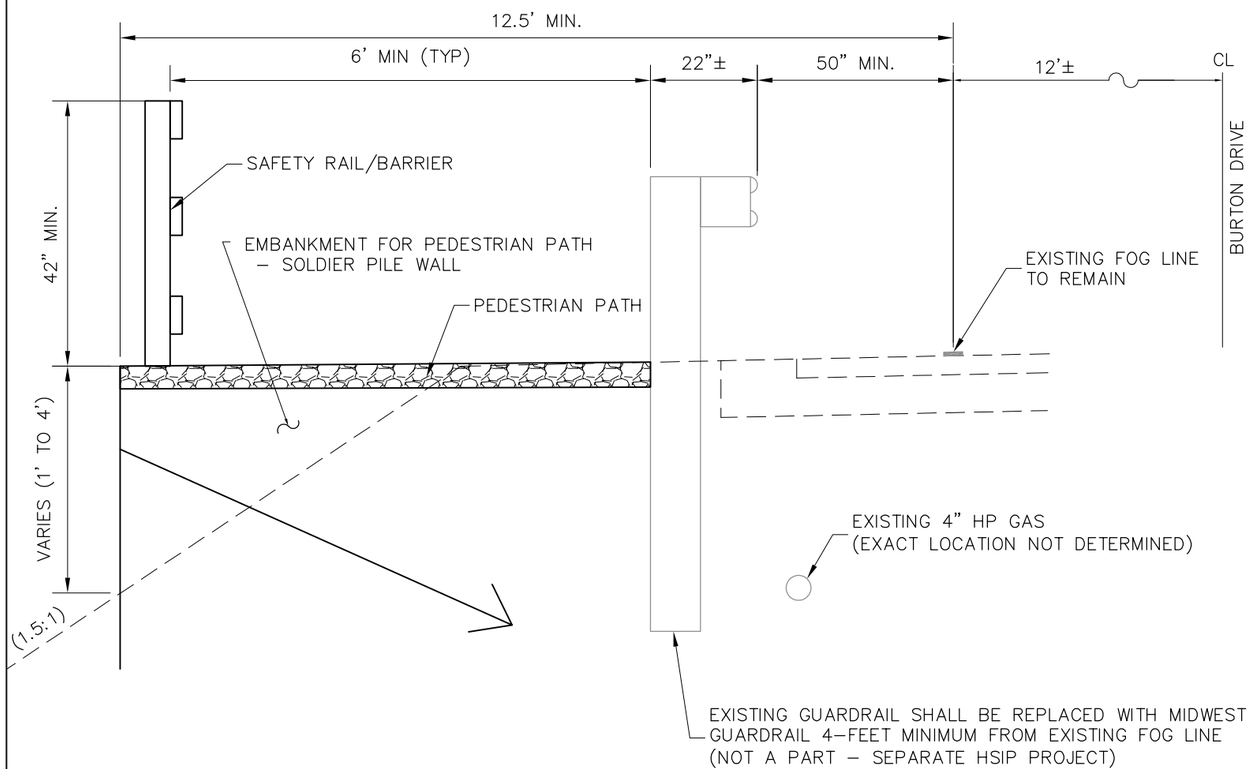


TYPICAL SECTION 'B' (L=185'±) ALONG BURTON DRIVE

N.T.S.

BURTON DRIVE PEDESTRIAN PATH					
TYPICAL PEDESTRIAN PATH SECTIONS (A & B)					
CAMBRIA, CA.					
Designer	Date	Drawn By	Date	Design Engineer	Date
M DAVIS	5/2017	MD	5/2017	J WERST	5/2017

ROAD NO.	JOB NO.	SHEET NO.	SHEETS TOTAL
5092	300572	2	2



TYPICAL SECTION 'C' (L=835'±) ALONG BURTON DRIVE

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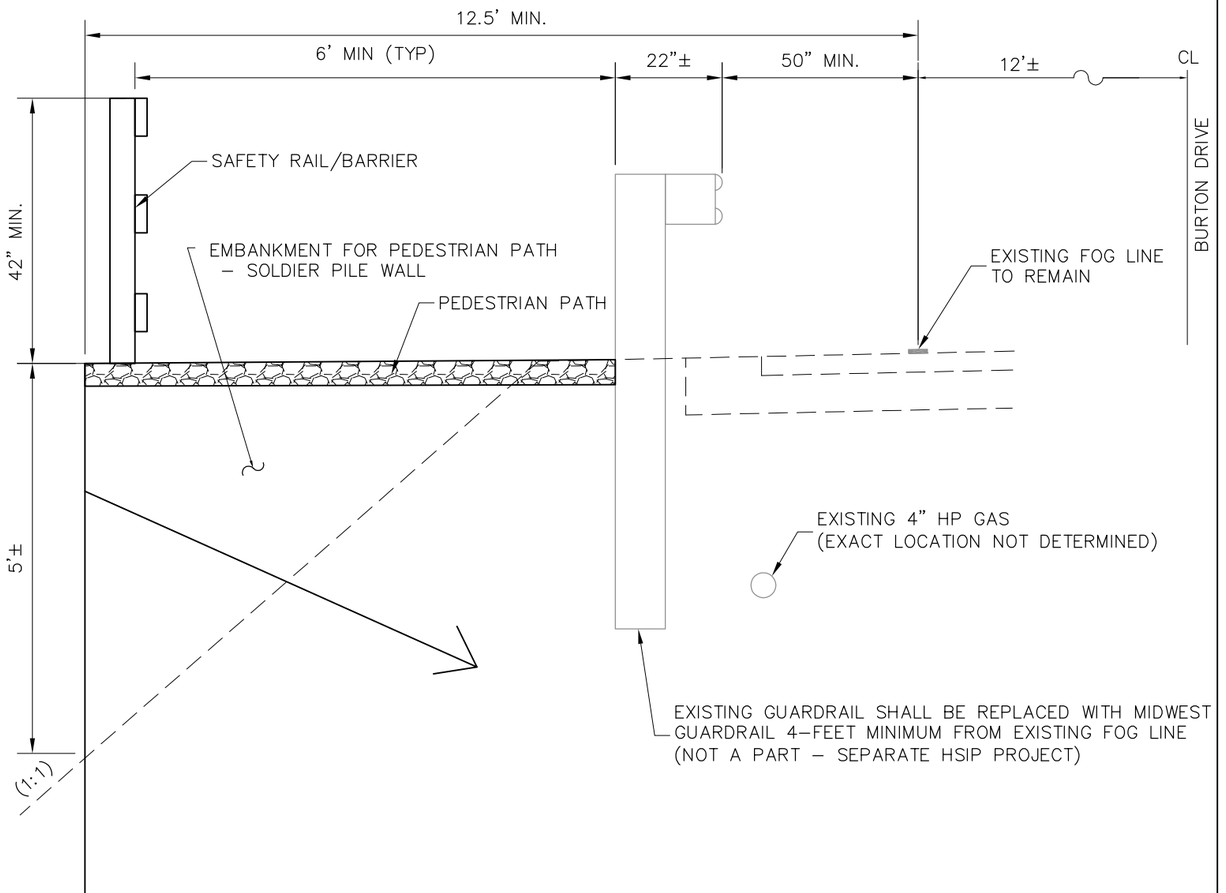
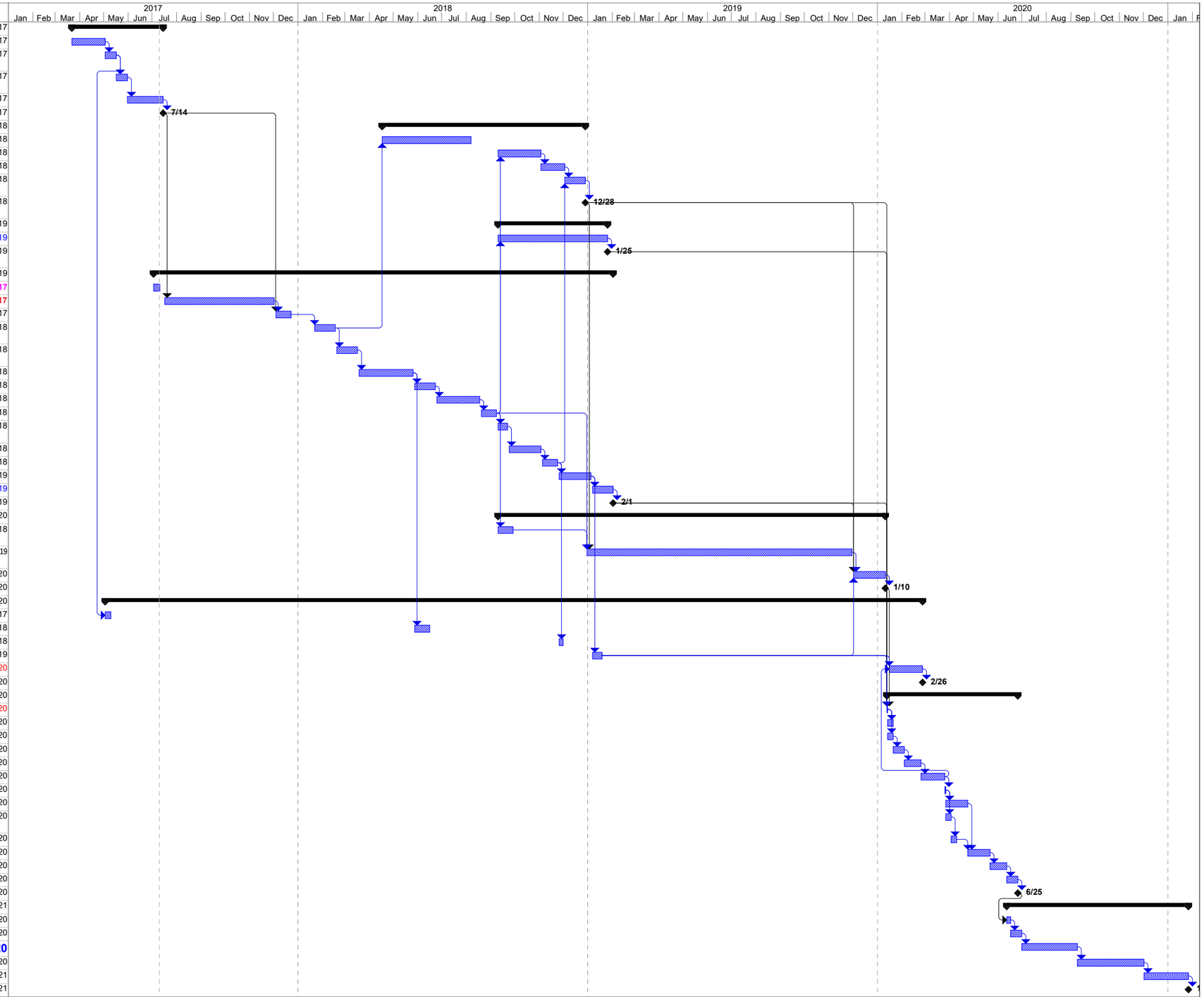


TYPICAL SECTION 'D' (L=450'±) ALONG BURTON DRIVE

N.T.S.

BURTON DRIVE PEDESTRIAN PATH					
TYPICAL PEDESTRIAN PATH SECTIONS (C & D)					
CAMBRIA, CA.					
Designer	Date	Drawn By	Date	Design Engineer	Date
M DAVIS	5/2017	MD	5/2017	J WERST	5/2017

ID	Task Name	Project Manager	Duration	Start	Finish
1	Preliminary Engineering	M. Davis	83 days	Wed 3/22/17	Fri 7/14/17
2	Draft Project Execution Plan (PEP)	M. Davis	30 days	Wed 3/22/17	Tue 5/2/17
3	Comments/Revised Project Execution Plan (PEP)	M. Davis	10 days	Wed 5/3/17	Tue 5/16/17
4	Revised Final PEP (including division budgets)	M. Davis	10 days	Wed 5/17/17	Tue 5/30/17
5	APPROVAL of PEP	M. Davis	33 days	Wed 5/31/17	Fri 7/14/17
6	Preliminary Engineering Complete	M. Davis	0 days	Fri 7/14/17	Fri 7/14/17
7	Environmental Document	T.B.D.	184 days	Tue 4/17/18	Fri 12/28/18
8	Spring Surveys/Studies	T.B.D.	80 days	Tue 4/17/18	Mon 8/6/18
9	CEQA - Mitigated Negative Declaration	T.B.D.	40 days	Mon 9/10/18	Fri 11/2/18
10	Public Review & Other	T.B.D.	30 edays	Fri 11/2/18	Sun 12/2/18
11	BOS Approves Project & Adopts MND (w/ Budget Language)	T.B.D.	20 days	Mon 12/3/18	Fri 12/28/18
12	ED Complete (No NEPA Needed -nonFederal)	T.B.D.	0 days	Fri 12/28/18	Fri 12/28/18
13	Environmental Permitting	T.B.D.	100 days	Mon 9/10/18	Fri 1/25/19
14	Local Coastal Dev Permit	T.B.D.	100 days	Mon 9/10/18	Fri 1/25/19
15	Permitts Complete (assumed not needed)	T.B.D.	0 days	Fri 1/25/19	Fri 1/25/19
16	Design	T.B.D.	415 days	Mon 7/3/17	Fri 2/1/19
17	**Outreach North Co Advisory Council**	**T.B.D.**	**6 days**	**Mon 7/3/17**	**Mon 7/10/17**
18	**ON HOLD - Other Priorities**	**T.B.D.**	**5 mons**	**Mon 7/17/17**	**Fri 12/1/17**
19	Kick-off PDT Meeting	T.B.D.	15 days	Mon 12/4/17	Fri 12/22/17
20	Right of Entry for Survey and Studies (if needed)	T.B.D.	20 days	Mon 1/22/18	Fri 2/16/18
21	Ex R/W Determination (some survey from HSIP Guardrail)	T.B.D.	20 days	Mon 2/19/18	Fri 3/16/18
22	30% PS&E	T.B.D.	50 days	Mon 3/19/18	Fri 5/25/18
23	Review/Redlines/PDT	T.B.D.	20 days	Mon 5/28/18	Fri 6/22/18
24	60% PS&E	T.B.D.	40 days	Mon 6/25/18	Fri 8/17/18
25	Review/Redlines/PDT	T.B.D.	15 days	Mon 8/20/18	Fri 9/7/18
26	**Outreach Public Meeting (near 60% Design)**	T.B.D.	10 days	Mon 9/10/18	Fri 9/21/18
27	95% PS&E Deliverables	T.B.D.	30 days	Mon 9/24/18	Fri 11/2/18
28	95% Review	T.B.D.	15 days	Mon 11/5/18	Fri 11/23/18
29	Final Plans	T.B.D.	30 days	Mon 11/26/18	Fri 1/4/19
30	Final PS&E & Final Bid Documents	T.B.D.	20 days	Mon 1/7/19	Fri 2/1/19
31	Design Complete	T.B.D.	0 days	Fri 2/1/19	Fri 2/1/19
32	Right Of Way	T.B.D.	350 days	Mon 9/10/18	Fri 1/10/20
33	Final Data Sheets and Estimate(not needed?)	T.B.D.	15 days	Mon 9/10/18	Fri 9/28/18
34	R/W Acquisition & Appraisal (Permit to Enter and Construct)	T.B.D.	12 mons	Mon 12/31/18	Fri 11/29/19
35	R/W Certification	T.B.D.	30 days	Mon 12/2/19	Fri 1/10/20
36	R/W Complete	T.B.D.	0 days	Fri 1/10/20	Fri 1/10/20
37	Utility Coordination	T.B.D.	736 days	Wed 5/3/17	Wed 2/26/20
38	Letter A - Notify and Request Data	T.B.D.	5 days	Wed 5/3/17	Tue 5/9/17
39	Letter B	T.B.D.	15 days	Mon 5/28/18	Fri 6/15/18
40	Letter C	T.B.D.	5 days	Mon 11/26/18	Fri 11/30/18
41	Relocation Scheduled/Final Letter	T.B.D.	10 days	Mon 1/7/19	Fri 1/18/19
42	Relocation of Utilities (if needed)	T.B.D.	30 days	Thu 1/16/20	Wed 2/26/20
43	Utility Coordination Complete	T.B.D.	0 days	Wed 2/26/20	Wed 2/26/20
44	AD-15 Processing	T.B.D.	119 days	Mon 1/13/20	Thu 6/25/20
45	ON HOLD	T.B.D.	1 day	Mon 1/13/20	Mon 1/13/20
46	Draft BOS Letter	T.B.D.	5 days	Tue 1/14/20	Mon 1/20/20
47	Ready to Advertise Checklist	T.B.D.	5 days	Tue 1/14/20	Mon 1/20/20
48	Contract/Plans/Specs Approved	T.B.D.	10 days	Tue 1/21/20	Mon 2/3/20
49	BOS Letter (signed)	T.B.D.	15 days	Tue 2/4/20	Mon 2/24/20
50	Advertise	T.B.D.	22 days	Tue 2/25/20	Wed 3/25/20
51	Bids Open	T.B.D.	1 day	Thu 3/26/20	Thu 3/26/20
52	Board Letter/Process	T.B.D.	20 days	Fri 3/27/20	Thu 4/23/20
53	Award Checklist (Bidder and Bond info iscurrent)	T.B.D.	5 days	Fri 3/27/20	Thu 4/2/20
54	Execution Checklist (Bonds, Insurrance and Award)	T.B.D.	5 days	Fri 4/3/20	Thu 4/9/20
55	BOS Award Contract	T.B.D.	20 days	Fri 4/24/20	Thu 5/21/20
56	Fully Executed Contract (signed)	T.B.D.	15 days	Fri 5/22/20	Thu 6/11/20
57	Notice to Proceed	T.B.D.	10 days	Fri 6/12/20	Thu 6/25/20
58	AD-15 Processing Complete	T.B.D.	0 days	Thu 6/25/20	Thu 6/25/20
59	Construction	T.B.D.	163 days	Fri 6/12/20	Tue 1/26/21
60	Pre Construction Meeting	T.B.D.	3 days	Fri 6/12/20	Tue 6/16/20
61	WPCP Approved (now SWPPP)	T.B.D.	10 days	Wed 6/17/20	Tue 6/30/20
62	**Construction**	**T.B.D.**	**50 days**	**Wed 7/1/20**	**Tue 9/8/20**
63	Notice of Completion	T.B.D.	60 days	Wed 9/9/20	Tue 12/1/20
64	Submitt Close Out	T.B.D.	40 days	Wed 12/2/20	Tue 1/26/21
65	Construction Complete	T.B.D.	0 days	Tue 1/26/21	Tue 1/26/21



BURTON DRIVE PEDESTRIAN PATH
BETWEEN ETON ROAD AND BRIDGE 5092 B1
CAMBRIA, CA
COUNTY CONTRACT NO. 300572

ENGINEERS ESTIMATE

ITEM NO.	CODE NO.	DESCRIPTION OF ITEM	APPROX. QUANTITY	UNIT OF MEASURE	UNIT PRICE (IN FIGURES) DOLLARS, CENTS	TOTAL AMOUNT DOLLARS, CENTS
1	074016	CONSTRUCTION SITE MANAGEMENT	1	LS	$ 5,000.00	$ 5,000.00
2	120090	CONSTRUCTION AREA SIGNS	1	LS	$ 3,000.00	$ 3,000.00
3	120100	TRAFFIC CONTROL SYSTEM	1	LS	$ 10,000.00	$ 10,000.00
4	120100	SOLDIER PILE WALL, PATHWAY, BARRIER, (CCC QUOTE)	1	LS	$ 354,505.00	$ 354,505.00
5		ADA UPGRADES	1	LS	$ 7,000.00	$ 7,000.00
6		CONSTRUCTION STAKING	1	LS	$ 15,000.00	$ 15,000.00

TOTAL ESTIMATE $ 394,505.00

CALIFORNIA CONSERVATION CORPS
Los Padres Center
PO Box 1380, San Luis Obispo, California 93406
(805) 549-3561 FAX 877-568-8937
www.ccc.ca.gov

April 18, 2017

Subject: Burton Drive Pedestrian Path, Cambria, CA

To whom it may concern,

The California Conservation Corps (CCC) is a State Agency working with young adults 18 – 25 for the benefit of the State's public and environment. We have viewed the potential Burton Drive Pedestrian Path and have agreed that this project could meet criteria for work with the CCC, and confirm that the CCC has completed many pedestrian path projects in the past, both locally and statewide. As far as the County of San Luis Obispo has articulated their expectations, and work collaboratively with us, we support and believe the CCC could complete this project in concept.

We have historically worked many projects with the County specifically and do not hesitate working with them again. We are comfortable we could work cooperatively and complete a high quality project for all involved.

If there are any questions or something I can further clarify, please do not hesitate to call me.

Sincerely,
Mike Anderson

Mike Anderson

California Conservation Corps
Conservation Supervisor
Mike.anderson@ccc.ca.gov
805 549-3561 O
805 215-2493 M

PUBLIC OUTREACH PLAN

June 2017

Burton Drive Pedestrian Path
County Road No. 5092
County Project No. 300572

San Luis Obispo County
Department of Public Works
County Project No. 300572

I. PROJECT BACKGROUND

A. Project Objective/Statement of Goals

The project proposes to install 2,050 linear foot pedestrian path on the north side of Burton Drive from Eton Road to Santa Rose Creek Bridge (5092 B1).

The project is located 0.5 miles north of the State Highway 1 and Burton drive intersection in Cambria, California.

B. Project "Purpose and Need"

The purpose of the project is to improve safety. Burton Drive is only one of two County roads that provide access from central and south Cambria to downtown Main Street. Being the most direct access to Main Street, Burton Drive receives much of the traffic including those from Cambria Grammar School, Santa Lucia Middle School, and numerous night stay establishments.

Pedestrian access on Burton Drive is limited to the travel way itself or within minimal width shoulders. Within the proposed project limits, bicyclists and pedestrians are subject to a varying width paved shoulder of two (2) to six (6) foot. As an alternative, a dirt pathway exists behind the guardrail, however, much of this small pathway is obstructed or has failed resulting in pedestrian traffic being placed immediately adjacent to the traveled way. Thus, no adequate pedestrian path is currently serving this large part of the Cambria Community to the downtown area.

Between 2012 and 2016, four (4) collisions occurred on Burton Drive between Eton Road and Rodeo Grounds Road. The collision rate of this segment is 1.52 collisions per million vehicle miles (mvm) which is equal to the county average collision rate for suburban roads. No collisions with pedestrians or bikes occurred during this time.

Burton Drive received a Highway Safety Improvement Program (HSIP) grant to raise the guard rail to current standards. The proposed project along with the upgraded guardrail will provide a safe pedestrian pathway.

II. PROPOSED PUBLIC ENGAGEMENT STRATEGY

A. Community Meetings

The North Coast Advisory Council will be kept advised of plans and progress as necessary, with written reports submitted prior to their regular monthly meetings.

Local residents and businesses as directed from Supervisors Gibson office along with the Project Stakeholders will be contacted separately and advised when critical issues are taken before the Advisory Council.

B. Information Outreach Tools

Project Fact Sheet will be prepared for distribution at any Community Meetings.

C. Input on Design Elements

Information on Scope, Schedule, Budget will be prepared in fact sheet format for distribution. Public comments regarding the project will be directed to the Project Manager who will take them to the project development team (PDT) for consideration. The PDT will evaluate proposed

recommendations based on safety, funding eligibility, constructability, environmental effect, and overall cost (including maintenance cost).

III. PROJECT SCHEDULE

Draft PEP to NCAC	June 2017
Attend June NCAC Traffic Committee Meeting	June 2017
Approved PEP	July 2017

The Advisory Council will be informed of the project during the PEP preparation to allow for comments prior to PEP approval. Once the PEP is approved, when any critical milestones are reached, an email update will be sent to the said council. Any changes in scope, schedule or budget will result in a notice to the key stakeholders.

IV. PROJECT PHASE AND CLOSE-OUT

A. Development email NCAC traffic Committee chair quarterly

The Project Manager will be responsible for preparing email status reports.

B. Coordination of lane closure along Burton Drive

C. Method to address Environmental documents and project notices

All complaints will be directed to and addressed by the Resident Engineer. Indirect complaints will be addressed by the Project Manager. The Resident Engineer will coordinate with the Project Manager when appropriate.

V. KEY STAKEHOLDERS

Kathe Tanner
The Cambrian
2068 Main Street
Cambria, CA 93428

Cambria Community Services District
1316 Tamson St.
Cambria, CA 93428

Coast Unified School District
1350 Main Street
Cambria, CA 93428

Cal Fire
6126 Coventry Lane
Cambria, CA 93428

Cambria Fire Department
2850 Burton Drive
Cambria, CA 93428
(805) 927-6240
North Coast Advisory Council (NCAC)
P.O. Box 533
Cambria, CA 93428

Supervisor Gibson & any requested businesses and residences (within 500' of project limits)
1055 Monterey Street, Room D430
San Luis Obispo, CA 93401
(805) 781-5450

The Land Conservancy
P.O. Box 12206
San Luis Obispo, CA 93406
(805) 544-9096

San Luis Obispo County Parks & Recreation Department
1087 Santa Rosa
San Luis Obispo, CA 93401
(805) 781-5200

VI. ADJACENT PROPERTY OWNERS

(500’ within project limits – GIS query at time of mailing)

VI. COMMUNITY MEETING

During Draft Environmental Document, hold a public review and meeting at the Vet’s Hall. This proceeds taking the Draft Environmental Document to the Board for FED/project approval.

Project Cost Estimate Summary

Project Title: County of SLO - Burton Drive Trail

Location: Burton Drive

Project Manager: Mark Davis

Technical Supervisor: Paul Hancock

Proposed Work Force: 12 Corpsmembers

Estimated Project Length: 22 Weeks

Crew Size: 12

Funding Source:

Estimated Total Project Cost: $392,944

$0 Estimated Match Cost

Project Expenditure Code:

$392,944 Estimated Grant Cost

Project Need:

Health and Safety:	X
Resource Protection:	X
Preservation of Investment:	X
Visitor Convenience:	X
Capital Outlay:	
Accessibility	

Project Description:

The CCC will supply materials for and construct 2,000' of hardened trail, 1,455' of Sutter Retaining Wall, and 328' of handrail along Burton Drive. The CCC will install the Sutter Wall per specifications, and all other trail specifications per DPR Statewide Trails Guidelines. A handrail will be installed at any location exceeding 30" from trail edge and the native soil.

Cost Summary Estimate	UNIT		UNIT COST	GRANT MATCH "1" Yes or "2" No		TOTAL
Attached Trail Cost Estimating Totals						
Worksheet #1	1	ea	$354,504.96	2	$0	$354,505
Attached Road to Trail/Road Removal Cost Estimating Totals						
Worksheet #1	1	ea	$0.00	2	$0	$0
Attached Road Re- Engineering Cost Estimating Totals						
Worksheet #1	1	ea	$0.00	2	$0	$0
Project Planning & Design Costs						
Engineering Geologist	0	hr	$63.84		$0	$0
Senior Landscape Architect	0	hr	$72.49		$0	$0
Senior Park and Recreation Specialist	0	hr	$57.56		$0	$0
Supervising Engineering Geologist	0	hr	$79.58		$0	$0
Associate Civil Engineer	0	hr	$61.82		$0	$0
Park Maintenance Chief III	0	hr	$48.41		$0	$0
Park Maintenance Chief II	0	hr	$44.01		$0	$0
Park Maintenance Chief I	0	hr	$40.03		$0	$0
Park Maintenance Supervisor	0	hr	$39.11		$0	$0
Park Maintenance Worker II	0	hr	$30.95		$0	$0
Park Maintenance Worker I	0	hr	$28.28		$0	$0
CEQA/NEPA Cost						
Filing & Advertising Cost	0	ea	$200.00		$0	$0
Staff Cost for Developing CEQA & NEPA Documents						
Supervising Engineering Geologist	0	hr	$79.58		$0	$0
Engineering Geologist	0	hr	$63.84		$0	$0
Park Maintenance Chief III	0	hr	$48.41		$0	$0
Park Maintenance Chief II	0	hr	$44.01		$0	$0
Park Maintenance Chief I	0	hr	$40.03		$0	$0
Park Maintenance Supervisor	0	hr	$39.11		$0	$0
Associate Environmental Scientist	0	hr	$54.00		$0	$0
Associate State Archaeologist	0	hr	$43.00		$0	$0
State Park Historian 2	0	hr	$43.33		$0	$0
Permit Costs						
Fish and Game	0	ea	$4,482.75		$0	$0
Coastal Commission Permit	0	ea	$0.00		$0	$0
Water Quality Control Board	0	ea	$1,543.00		$0	$0
Army Corps of Engineers	0	ea	$0.00		$0	$0
Other Permits	0	ea	$0.00		$0	$0
Staff Cost for Developing Permits & Obtaining Project Consultations						
Park Maintenance Chief III	0	hr	$48.41		$0	$0
Park Maintenance Chief II	0	hr	$44.01		$0	$0
Park Maintenance Chief I	0	hr	$40.03		$0	$0
Engineering Geologist	0	hr	$63.84		$0	$0
Park Maintenance Supervisor	0	hr	$39.11		$0	$0
Associate Environmental Scientist	0	hr	$54.00		$0	$0

Associate State Archaeologist	0	hr	$43.00		$0	$0
State Park Historian 2	0	hr	$43.33		$0	$0
Project Survey Cost						
Rare Plant Survey Contract	0	ea	$2,000.00		$0	$0
Archeological Survey Contract	0	ea	$3,000.00		$0	$0
Historical Survey Contract	0	ea	$1,000.00		$0	$0
Bird Survey Contract	0	ea	$4,000.00		$0	$0
Amphibian Survey Contract	0	ea	$2,000.00		$0	$0
Other Survey Contracts	0	ea	$0.00		$0	$0
Associate Environmental Scientist	0	hr	$54.00		$0	$0
Associate State Archaeologist	0	hr	$43.00		$0	$0
State Park Historian 2	0	hr	$43.33		$0	$0
Construction Costs (Facilities Management/ CCC):						
Tool, Spike, Equipment Mobilization - PMW I	0	hr	$29.32		$0	$0
Tool, Spike, Equipment Mobilization - Sr Maint Aid	0	hr	$14.62		$0	$0
Park and Recreation Specialist Project Admin	0	hr	$34.49		$0	$0
Travel Time	0	hr	$34.49		$0	$0
Per Diem Costs	0	days	$135.00		$0	$0
DPR Vehicle Cost	0	miles	$0.55		$0	$0
Park and Recreation Specialist - Project	0	hr	$34.49		$0	$0
Travel Time	0	hr	$34.49		$0	$0
Per Diem Costs	0	days	$40.00		$0	$0
Tool, Spike, Equipment De-Mobilization - PMW I	0	hr	$29.32		$0	$0
Tool, Spike, Equip De-Mobilization - Sr Maint Aid	0	hr	$14.62		$0	$0
Project Leader (PMW1) Travel Time	0	hr	$29.32		$0	$0
Project Leader (PMW1) Per Diem Costs	0	days	$40.00		$0	$0
DPR Vehicle Cost	0	miles	$0.55		$0	$0
CCC Spike and Management Costs:						
Conservation Supervisor CCC Coordination	0	hr	$45.00		$0	$0
Travel Time	0	hr	$45.00		$0	$0
Per Diem Costs	0	days	$135.00		$0	$0
Additional Equipment Rental Costs:						
	0	ea/hr/day	$0.00		$0	$0
	0	ea/hr/day	$0.00		$0	$0
	0	ea/hr/day	$0.00		$0	$0
	0	ea/hr/day	$0.00		$0	$0
	0	ea/hr/day	$0.00		$0	$0
	0	ea/hr/day	$0.00		$0	$0
New Tools and Equipment Required:						
Equip. Purchased: Toters	3	ea	$2,200.00		$0	$6,600
Equip. Purchased: vibraplates	2	ea	$2,000.00		$0	$4,000
Equip. Purchased:	0	ea	$0.00		$0	$0
Project Materials Used as Match					$0	
Rolling Stock & Equipment Used as Match					$0	
Project Labor Used as Match					$0	
Subtotal					$0	$365,105
Administrative Overhead	**0.025**	**Percent**			$0	$9,128
Contingency:	**0.05**	**Percent**				$18,712
Total					**$0**	**$392,944**
Grand Total						**$392,944**

Trail: Burton Drive Date: 6/7/17

Segment _____ Land Unit: _____

Begin Feet	End Feet	Action	Feature	Size/Qty L	Size/Qty H	Size/Qty W	Units	Comment
0	0		Start of Trail					N. end of trail at bridge - Burton Drive
3	3		Signpost					
18	18		Gas pipeline Sign					
0	70			70'		5'		Hardened trail (soil to be removed)
70	134	install	Sutter Wall		3'	5'		" To be installed "
134	134		Tree					
134	163	install	Sutter Wall		4'	5'		" To be installed" w/ Railing
163	213		Landslide					-Gabions to be installed by contractor
213	270	install	Sutter Wall		4'	5'		"To be installed" w/ Railing
270	357		Village Lane					
357	442	install	Sutter Wall		3'	5'		" To be installed "
442	617	install	Sutter Wall		1'	5'		" To be installed "
590	590	install	Staging area					Remove guard rail to access Material
617	640	install	Sutter Wall		3'	5'		" To be installed "
648	648		Oak Tree					Remove Limb
696	696		Telephone Pole					
716	716		Sign Post					
708	750	install	Sutter Wall		1'	5'		" To be installed "
750	878	install	Sutter Wall		2'	5'		"To be installed" w/ landing at 757+-
878	920			42'		5'		Hardened Trail (soil to be removed)
920	1110	install	Sutter Wall		1'	5'		" To be installed "
1110	1157	install	Sutter Wall		2'	5'		" To be installed" w/ Landing at 1157+-
1157	1200	install	Sutter Wall		3'	5'		" To be installed "
1200	1236	install	Sutter Wall		2'	5'		" To be installed "
1236	1246	install	Sutter Wall		3'	5'		" To be installed "
1246	1394	install	Sutter Wall		4'	5'		" To be installed " w/ Railing

Trail: Burton Drive Date: 6/7/17 Page 2

Segment _____ Land Unit: _____

Begin Feet	End Feet	Action	Feature	Size/Qty L	Size/Qty H	Size/Qty W	Units	Comment
1394	1420	Install	Sutter Wall		1'	5'		
1420	1490	Install	Sutter Wall		4'	5'		Install Railing
1490	1652	Install	Sutter Wall		3'	5'		Install landing at 1557 +-
1593	1593		Tree					
1593	1675	Install	Sutter Wall		4'	5'		Install Railing
1716	1716		Sign					
1675	1840	Install	Sutter Wall		1'	5'		
1840	2086	Install	Hardened Trail		1'	5'		Remove soil
2086	2086	Install	Drainage Dip					
2086	2086		End of Trail					

Trail Construction Cost Estimating Worksheet

To locate construction activity within spreadsheet use key stroke "CONTROL F"

Trail: _____

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
					Crew Labor Rate			
Trail Brushing and Clearing					$20.00			
Trail Brushing maint. (light)	0	260	lin ft	@	$20.00	=		
Trail Brushing maint. (medium)	0	160	lin ft	@	$20.00	=		
Trail Brushing maint. (heavy)	0	120	lin ft	@	$20.00	=		
Trail Brushing const. (light)	0	120	lin ft	@	$20.00	=		
Trail Brushing const. (medium)	0	60	lin ft	@	$20.00	=		
Trail Brushing const. (heavy)	0	30	lin ft	@	$20.00	=		
Trail Brushing const. (extra heavy)	0	20	lin ft	@	$20.00	=		
Clearing, tree& stob removal, light	2000	80	lin ft	@	$20.00	=	$500.00	
Clearing, tree& stob removal, med.	0	40	lin ft	@	$20.00	=		
Clearing, tree& stob removal, heavy	0	20	lin ft	@	$20.00	=		
Down Tree Removal 1'- 3' chainsaw	0	2	hr/ea	@	$20.00	=		
Down Tree Removal 4'- 6' chainsaw	1	6	hr/ea	@	$20.00	=	$120.00	
Down Tree Removal 7'- 9' chainsaw	0	12	hr/ea	@	$20.00	=		
Down Tree Removal 1'- 3' crosscut	0	6	hr/ea	@	$20.00	=		
Down Tree Removal 4'- 6' crosscut	0	20	hr/ea	@	$20.00	=		
Down Tree Removal 7'- 9' crosscut	0	40	hr/ea	@	$20.00	=		
Partial Stump Removal by chainsaw	0	20	cu ft	@	$20.00	=		
Removal of Whole Down Tree by Rigging	0	est.	hr/ea	@	$20.00	=		
Down Tree Removal Multiple Stem	0	6	hr/ea	@	$20.00	=		
Trio Maintenance (Hand crew)								
Trio Maintenance 2' tread	0	40	lin ft	@	$20.00	=		
Vibraplate (180 lb) Operation Cost	0	300	lin ft	@	$4.17	=		
Trio Maintenance 3' tread	0	26.5	lin ft	@	$20.00	=		
Vibraplate (180 lb) Operation Cost	0	300	lin ft	@	$4.17	=		
Trio Maintenance 4' tread	0	20	lin ft	@	$20.00	=		
Vibraplate (180 lb) Operation Cost	0	200	lin ft	@	$4.17	=		
Trio Maintenance 5' tread	0	16	lin ft	@	$20.00	=		
Vibraplate (180 lb) Operation Cost	0	160	lin ft	@	$4.17	=		

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Accessible Trail Trio Maintenance & Outsloping on Native Soil Tread (hand crew)								
3' Wide Tread	0	20	lin ft	@	$20.00	=		
Vibraplate (180 lb) Operation Cost	0	300	lin ft	@	$4.17	=		
4' Wide Tread	0	15	lin ft	@	$20.00	=		
Vibraplate (180 lb) Operation Cost	0	200	lin ft	@	$4.17	=		
5' Wide Tread	0	12	lin ft	@	$20.00	=		
Vibraplate (180 lb) Operation Cost	0	160	lin ft	@	$4.17	=		
Trail Construction (New)								
Mechanized Equipment Construction								
Trail Construction on Slopes < 20%								
Dozer Operator (tread 4')	0	200	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	70	lin ft	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	128	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 5')	0	45	lin ft	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	40	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	200	lin ft	@	$4.17	=		$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	32	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	160	lin ft	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Trail Construction on Slopes > 20% <40%								
Dozer Operator (tread 4')	0	100	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	35	lin ft	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	64	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 5')	0	22.5	lin ft	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	35	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	200	lin ft	@	$4.17	=		$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	28	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	160	lin ft	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Trail Construction on Slopes > 40% < 60%								
Dozer Operator (tread 4')	0	66	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	23	lin ft	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	42	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 5')	0	15	lin ft	@	$30.95	=	$0.00	$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	30	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	200	lin ft	@	$4.17	=		$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	24	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	160	lin ft	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Trail Construction on Slopes > 60% < 90%								
Dozer Operator (tread 4')	0	44	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	15.3	lin ft	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	28	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 5')	0	9.8	lin ft	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	26	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	200	lin ft	@	$4.17	=		$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	21	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	160	lin ft	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Mechanized Equipment Construction Accessible Trails								
Trail Construction on Slopes < 20%								
Dozer Operator (tread 4')	0	200	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	70	lin ft	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	128	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 5')	0	45	lin ft	@	$30.95	=	$0.00	$0.00
Accessible Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	20	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	200	lin ft	@	$4.17	=		$0.00
Accessible Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	16	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	160	lin ft	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Trail Construction on Slopes > 20% <40%								
Dozer Operator (tread 4')	0	100	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	35	lin ft	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	64	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 5')	0	22.5	lin ft	@	$30.95	=	$0.00	$0.00
Accessible Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	18	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	200	lin ft	@	$4.17	=		$0.00
Accessible Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'		14.4	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	160	lin ft	@	$4.17	=		$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Trail Construction on Slopes > 40% < 60%								
Dozer Operator (tread 4')	0	66	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	23	lin ft	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	42	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread)	0	15	lin ft	@	$30.95	=	$0.00	$0.00
Accessible Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	15	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	200	lin ft	@	$4.17	=		$0.00
Accessible Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	12	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	160	lin ft	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Trail Construction on Slopes > 60% < 90%								
Dozer Operator (tread 4')	0	44	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	15.3	lin ft	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	28	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread)	0	9.8	lin ft	@	$30.95	=	$0.00	$0.00
Accessible Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	11.5	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	200	lin ft	@	$4.17	=		$0.00
Accessible Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	9.2	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	160	lin ft	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Hand Crew Construction								
Trail Construction on Slopes < 20%								
Trail Construction 2' tread	0	25	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	300	lin ft	@	$4.17	=		$0.00
Trail Construction 3' tread	0	11	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	266	lin ft	@	$4.17	=		$0.00
Trail Construction 4' tread	0	6.2	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	200	lin ft	@	$4.17	=		$0.00
Trail Construction 5' tread		3.9	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	160	lin ft	@	$4.17	=		$0.00
Trail Construction on Slopes > 20% < 40%								
Trail Construction 2' tread	0	12.5	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	300	lin ft	@	$4.17	=		$0.00
Trail Construction 3' tread	0	5.5	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	266	lin ft	@	$4.17	=		$0.00
Trail Construction 4' tread	0	3	lin ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Vibraplate Compactor Operation Cost	0	200	lin ft	@	$4.17	=		$0.00
Trail Construction 5' tread	0	2.0	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	160	lin ft	@	$4.17	=		$0.00
Trail Construction on Slopes > 40% < 60%								
Trail Construction 2' tread	0	8.3	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	300	lin ft	@	$4.17	=		$0.00
Trail Construction 3' tread	0	3.7	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	266	lin ft	@	$4.17	=		$0.00
Trail Construction 4' tread	0	2	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	200	lin ft	@	$4.17	=		$0.00
Trail Construction 5' tread	0	1.3	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	160	lin ft	@	$4.17	=		$0.00
Trail Construction on Slopes > 60% < 90%								
Trail Construction 2' tread	0	5.5	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	300	lin ft	@	$4.17	=		$0.00
Trail Construction 3' tread	0	2.4	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	266	lin ft	@	$4.17	=		$0.00
Trail Construction 4' tread	0	1.4	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	200	lin ft	@	$4.17	=		$0.00
Trail Construction 5' tread	0	0.9	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	160	lin ft	@	$4.17	=		$0.00
Hand Crew Construction Accessible Trails								
Trail Construction on Slopes < 20%								
Trail Construction 3' tread	0	7.5	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	266	lin ft	@	$4.17	=		$0.00
Trail Construction 4' tread	0	4.2	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	200	lin ft	@	$4.17	=		$0.00
Trail Construction 5' tread	250	2.7	lin ft	@	$20.00	=	$1,851.85	
Vibraplate Compactor Operation Cost	250	160	lin ft	@	$4.17	=		$6.52
Trail Construction on Slopes > 20% < 40%								
Trail Construction 3' tread	0	3.8	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	266	lin ft	@	$4.17	=		$0.00
Trail Construction 4' tread	0	2.1	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	200	lin ft	@	$4.17	=		$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Trail Construction 5' tread	1750	1.4	lin ft	@	$20.00	=	$25,000.00	
Vibraplate Compactor Operation Cost	1750	160	lin ft	@	$4.17	=		$45.61
Trail Construction on Slopes > 40% < 60%								
Trail Construction 3' tread	0	2.5	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	266	lin ft	@	$4.17	=		$0.00
Trail Construction 4' tread	0	1.4	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	200	lin ft	@	$4.17	=		$0.00
Trail Construction 5' tread	0	0.9	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	160	lin ft	@	$4.17	=		$0.00
Trail Construction on Slopes > 60% < 90%								
Trail Construction 3' tread	0	1.7	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	266	lin ft	@	$4.17	=		$0.00
Trail Construction 4' tread	0	0.9	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	200	lin ft	@	$4.17	=		$0.00
Trail Construction 5' tread	0	0.6	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	160	lin ft	@	$4.17	=		$0.00
Trail Reconstruction								
Mechanized Equipment Reconstruction								
Dozer Operator (tread 4')	0	175	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	61	lin ft	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	140	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 5')	0	49	lin ft	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	40	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	200	lin ft	@	$4.17	=		$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	35	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	160	lin ft	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Mechanized Equipment Reconstruction Accessible Trails								
Dozer Operator (tread 4')	0	175	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	61	lin ft	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	140	lin ft	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 5')	0	49	lin ft	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	20	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	200	lin ft	@	$4.17	=		$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	18	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	160	lin ft	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Hand Crew Reconstruction								
Trail Reconstruction 2' tread	0	15	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	300	lin ft	@	$4.17	=		$0.00
Trail Reconstruction 3' tread	0	9.9	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	250	lin ft	@	$4.17	=		$0.00
Trail Reconstruction 4' tread	0	7.4	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	200	lin ft	@	$4.17	=		$0.00
Trail Reconstruction 5' tread	0	5.9	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	160	lin ft	@	$4.17	=		$0.00
Hand Crew Reconstruction Accessible Trails								
Trail Reconstruction 3' tread	0	6.7	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	250	lin ft	@	$4.17	=		$0.00
Trail Reconstruction 4' tread	0	5	lin ft	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	200	lin ft	@	$4.17	=		$0.00
Trail Reconstruction 5' tread	0	4	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	160	lin ft	@	$4.17	=		$0.00
Trail Hardening Including Turnpike & Causeway Fill (Retaining Walls Not Included)								
Aggregate Surfacing 3' Tread								
Mechanized Support (toters or carriers 1,000lb. capacity)								
Crushed Rock specified Lift <300'	0	22.5	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	4000	13.5	cu ft	@	$20.00	=	$5,925.93	
Crushed Rock specified Lift >800'<1300'	0	8.1	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	4.86	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	2.92	cu ft	@	$20.00	=	$0.00	
Material cost	148		cu yd	@	$55.00	=		$8,148.15
Fabric underlayment	8000		sq ft	@	$0.11	=		$880.00
Toter Operation Cost	148		hr.	@	$9.18	=		$1,360.00
Tractor/Loader Operation Cost	74		hr.	@	$7.05	=		$522.22
Vibraplate (180 lb) Operation Cost	4000	100	cu ft hr	@	$4.17	=		$166.80
Non Mechanized (wheelbarrows)								
Crushed Rock specified Lift <300'	4000	11.6	cu ft	@	$20.00	=	$6,896.55	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Crushed Rock specified Lift >300'<800'	0	6.73	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	3.9	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	2.26	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	1.31	cu ft	@	$20.00	=	$0.00	
Material cost	148		cu yd	@	$55.00	=		$8,148.15
Fabric underlayment	8000		sq ft	@	$0.11	=		$880.00
Vibraplate (180 lb) Operation Cost	4000	100	cu ft hr	@	$4.17	=		$166.80
Aggregate Surfacing 4' Tread								
Mechanized Support (toters or carriers 2,500 lb capacity)								
Crushed Rock specified Lift <300'	0	47.5	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	23.75	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	11.88	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	5.94	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	2.97	cu ft	@	$20.00	=	$0.00	
Material cost	0		cu yd	@	$55.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Toter Operation Cost	0		hr.	@	$13.72	=		$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$4.17	=		$0.00
Mechanized Support (toters or carriers 3,500 lb capacity)								
Crushed Rock specified Lift <300'	0	55	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	27.5	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	13.75	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	6.88	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	3.44	cu ft	@	$20.00	=	$0.00	
Material cost	0		cu yd	@	$55.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Toter Operation Cost	0		hr.	@	$15.65	=		$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$4.17	=		$0.00
Non Mechanized (wheelbarrows)								
Crushed Rock specified Lift <300'	0	11.6	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	6.73	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	3.9	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	2.26	cu ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Crushed Rock specified Lift >1800'<2500'	0	1.31	cu ft	@	$20.00	=	$0.00	
Material cost	0		cu yd	@	$55.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$4.17	=		$0.00
Aggregate Surfacing 5' Tread								
Mechanized Support (toters or carriers 2,500 lb capacity)								
Crushed Rock specified Lift <300'	0	47.5	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	1750	23.75	cu ft	@	$20.00	=	$1,473.68	
Crushed Rock specified Lift >800'<1300'	0	11.88	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	5.94	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	2.97	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >2500'<3200'	0	2.3	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >3200'<3900'	0	1.8	cu ft	@	$20.00	=	$0.00	
Material cost	65		cu yd	@	$55.00	=		$3,564.81
Fabric underlayment	3500		sq ft	@	$0.11	=		$385.00
Toter Operation Cost	37		hr.	@	$13.72	=		$505.47
Tractor/Loader Operation Cost	18		hr.	@	$7.05	=		$129.87
Vibraplate (180 lb) Operation Cost	1750	100	cu ft hr	@	$4.17	=		$72.98
Mechanized Support (toters or carriers 3,500 lb capacity)								
Crushed Rock specified Lift <300'	0	55	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	27.5	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	13.75	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	6.88	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	3.44	cu ft	@	$20.00	=	$0.00	
Material cost	0		cu yd	@	$55.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Toter Operation Cost	0		hr.	@	$15.65	=		$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$4.17	=		$0.00
Non Mechanized (wheelbarrows)								
Crushed Rock specified Lift <300'	250	11.6	cu ft	@	$20.00	=	$431.03	
Crushed Rock specified Lift >300'<800'	0	6.73	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	3.9	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	2.26	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	1.31	cu ft	@	$20.00	=	$0.00	
Material cost	9		cu yd	@	$55.00	=		$509.26
Fabric underlayment	500		sq ft	@	$0.11	=		$55.00
Vibraplate (180 lb) Operation Cost	250	100	cu ft hr	@	$4.17	=		$10.43
Aggregate Surfacing 3' Tread Accessible Trails								

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Mechanized Support (toters or carriers 1,000lb. capacity)								
Crushed Rock specified Lift <300'	0	16.88	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	10.13	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	6.08	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	3.65	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	2.19	cu ft	@	$20.00	=	$0.00	
Material cost	0		cu yd	@	$38.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Toter Operation Cost	0		hr.	@	$9.18	=		$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$4.17	=		$0.00
Non Mechanized (wheelbarrows)								
Crushed Rock specified Lift <300'	0	8.7	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	5.05	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	2.93	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	1.7	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	0.98	cu ft	@	$20.00	=	$0.00	
Material cost	0		cu yd	@	$38.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$4.17	=		$0.00
Aggregate Surfacing 4' Tread Accessible Trails								
Mechanized Support (toters or carriers 2,500 lb capacity)								
Crushed Rock specified Lift <300'	0	35.63	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	17.81	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	8.91	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	4.45	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	2.23	cu ft	@	$20.00	=	$0.00	
Material cost	0		cu yd	@	$38.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Toter Operation Cost	0		hr.	@	$30.00	=		$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$9.50	=		$0.00
Mechanized Support (toters or carriers 3,500 lb capacity)								
Crushed Rock specified Lift <300'	0	41.25	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	20.63	cu ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Crushed Rock specified Lift >800'<1300'	0	10.31	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	5.16	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	2.58	cu ft	@	$20.00	=	$0.00	
Material cost	0		cu yd	@	$38.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Toter Operation Cost	0		hr.	@	$15.65	=		$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$4.17	=		$0.00
Non Mechanized (wheelbarrows)								
Crushed Rock specified Lift <300'	0	8.7	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	5.05	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	2.93	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	1.7	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	0.98	cu ft	@	$20.00	=	$0.00	
Material cost	0		cu yd	@	$38.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$4.17	=		$0.00
Aggregate Surfacing 5' Tread Accessible Trails								
Mechanized Support (toters or carriers 2,500 lb capacity)								
Crushed Rock specified Lift <300'	0	35.63	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	2000	17.81	cu ft	@	$20.00	=	$2,245.93	
Crushed Rock specified Lift >800'<1300'	0	8.91	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	4.45	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	2.23	cu ft	@	$20.00	=	$0.00	
Material cost	74		cu yd	@	$38.00	=		$2,814.81
Fabric underlayment	4000		sq ft	@	$0.11	=		$440.00
Toter Operation Cost	56		hr.	@	$13.72	=		$770.35
Tractor/Loader Operation Cost	28		hr.	@	$7.05	=		$197.92
Vibraplate (180 lb) Operation Cost	2000	100	cu ft hr	@	$4.17	=		$83.40
Mechanized Support (toters or carriers 3,500 lb capacity)								
Crushed Rock specified Lift <300'	0	41.25	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	20.63	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	10.31	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	5.16	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	2.58	cu ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Material cost	0		cu yd	@	$38.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Toter Operation Cost	0		hr.	@	$15.65	=		$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$4.17	=		$0.00
Non Mechanized (wheelbarrows)								
Crushed Rock specified Lift <300'	0	8.7	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >300'<800'	0	5.05	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >800'<1300'	0	2.93	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1300'<1800'	0	1.7	cu ft	@	$20.00	=	$0.00	
Crushed Rock specified Lift >1800'<2500'	0	0.98	cu ft	@	$20.00	=	$0.00	
Material cost	0		cu yd	@	$38.00	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Vibraplate (180 lb) Operation Cost	0	100	cu ft hr	@	$4.17	=		$0.00
Wall-less Turnpike (With Parallel Ditches)								
Wall-less Turnpike, Native Soils 3'	0	5	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	100	lin ft	@	$4.17	=		$0.00
Wall-less Turnpike, Native Soils 4'	0	4	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	75	lin ft	@	$4.17	=		$0.00
Wall-less Turnpike, Native Soils 5'	0	3	lin ft	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	60	lin ft	@	$4.17	=		$0.00
Riprap (rock tread armoring)								
Riprap Construction	0	1	cu ft	@	$20.00	=	$0.00	
Rock for dry rock structure	0.0		cu ft					
Trail Stabilizers								
Soil Stabilizers - Batch Mix 3" Depth (hand crew using wheelbarrows)								
Stabilizer Installed (hand) <300'	0	32	sq ft	@	$20.00	=	$0.00	
Stabilizer Installed (hand) >300'<800'	0	21	sq ft	@	$20.00	=	$0.00	
Stabilizer Installed (hand) >800'<1300'	0	14	sq ft	@	$20.00	=	$0.00	
Stabilizer Installed (hand) >1300'<1800'	0	9	sq ft	@	$20.00	=	$0.00	
Stabilizer Installed (hand) >1800'<2500'	0	6	sq ft	@	$20.00	=	$0.00	
Double Drum Roller 38" Wide Rental Cost	0	600	sq ft	@	$19.28	=		$0.00
Soil Stabilizing Material	0	1	sq ft	@	$0.85	=		$0.00
Soil Stabilizers - Batch Mix 3" Depth (hand crew using mechanized equipment)								
Stabilizer Installed (hand) <300'	0	90	sq ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Stabilizer Installed (hand) >300'<800'	0	60	sq ft	@	$20.00	=	$0.00	
Stabilizer Installed (hand) >800'<1300'	0	40	sq ft	@	$20.00	=	$0.00	
Stabilizer Installed (hand) >1300'<1800'	0	26	sq ft	@	$20.00	=	$0.00	
Stabilizer Installed (hand) >1800'<2500'	0	17	sq ft	@	$20.00	=	$0.00	
Toter Operation Cost 3,500 lb capacity	0		hr.	@	$15.65	=		$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Double Drum Roller 38" Wide Rental Cost	0	600	sq ft	@	$19.28	=		$0.00
Soil Stabilizing Material	0	1	sq ft	@	$0.85	=		$0.00
Asphalt (contract with paving machine)	0	1	sq ft	@	$3.72	=		$0.00
Asphalt (hand crew using wheelbarrows)								
Trail Paving Hand 2.5" depth <300'	0	32	sq ft	@	$20.00	=	$0.00	
Trail Paving Hand 2.5" depth >300'<800'	0	21	sq ft	@	$20.00	=	$0.00	
Trail Paving Hand 2.5" depth >800'<1300'	0	14	sq ft	@	$20.00	=	$0.00	
Trail Paving Hand 2.5" depth >1300'<1800'	0	9	sq ft	@	$20.00	=	$0.00	
Trail Paving Hand 2.5" depth >1800'<2500'	0	6	sq ft	@	$20.00	=	$0.00	
Double Drum Roller 38" Wide Rental Cost	0	600	sq ft	@	$19.28	=		$0.00
Asphalt Hot Mix Cost 2.5" depth	0		sq ft	@	$1.60	=		$0.00
Asphalt (hand crew using mechanized equipment)								
Trail Paving Hand 2.5" depth <300'	0	90	sq ft	@	$20.00	=	$0.00	
Trail Paving Hand 2.5" depth >300'<800'	0	60	sq ft	@	$20.00	=	$0.00	
Trail Paving Hand 2.5" depth >800'<1300'	0	40	sq ft	@	$20.00	=	$0.00	
Trail Paving Hand 2.5" depth >1300'<1800'	0	26	sq ft	@	$20.00	=	$0.00	
Trail Paving Hand 2.5" depth >1800'<2500'	0	17	sq ft	@	$20.00	=	$0.00	
Toter Operation Cost 3,500 lb capacity	0		hr.	@	$15.65	=		$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Double Drum Roller 38" Wide Rental Cost	0	600	sq ft	@	$19.28	=		$0.00
Asphalt Cost 2.5" depth	0		sq ft	@	$1.60	=		$0.00
GeoBlock (Does not include aggregate if prescribed use aggregate surfacing above)								
Installing 2" GeoBlock 6.5' wide	0	15.00	sq ft		$20.00	=	$0.00	
2" GeoBlock material	0		sq ft		$2.25	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Installing 2" GeoBlock (two 1.7' wide strips)	0	20.00	sq ft		$20.00	=	$0.00	
2" GeoBlock material	0		sq ft		$2.25	=		$0.00
Fabric underlayment	0		sq ft	@	$0.11	=		$0.00
Site Restoration								

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Tread (Hand Labor)								
Trail Obliteration (level ground)	0	100	sq ft	@	$20.00	=	$0.00	
Trail Obliteration (Full Fill Recovery) on Slopes < 20%								
Trail Obliteration 2' tread	0	16	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 3' tread	0	7	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 4' tread	0	4	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 5' tread	0	2.5	lin ft	@	$20.00	=	$0.00	
Trail Obliteration (Full Fill Recovery) on Slopes >20% <40%								
Trail Obliteration 2' tread	0	8	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 3' tread	0	3.5	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 4' tread	0	2	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 5' tread	0	1.25	lin ft	@	$20.00	=	$0.00	
Trail Obliteration (Full Fill Recovery) on Slopes >40% < 60%								
Trail Obliteration 2' tread	0	5.3	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 3' tread	0	2.3	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 4' tread	0	1.3	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 5' tread	0	0.84	lin ft	@	$20.00	=	$0.00	
Trail Obliteration (Full Fill Recovery) on Slopes >60% < 90%								
Trail Obliteration 2' tread	0	3.5	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 3' tread	0	1.5	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 4' tread	0	0.86	lin ft	@	$20.00	=	$0.00	
Trail Obliteration 5' tread	0	0.55	lin ft	@	$20.00	=	$0.00	
Trail Narrowing (<20% slope)	0	100	sq ft	@	$20.00	=	$0.00	
Tread (Mechanized Mini Excavator)								
Trail Obliteration (level ground)	0	1000	sq ft	@	$30.95	=	$0.00	$0.00
Trail Obliteration Finishing With Hand Crew (support for excavator)	0	300	sq ft	@	$20.00	=	$0.00	
Trail Obliteration (Full Fill Recovery) on Slopes < 20%								
Trail Obliteration 4' tread	0	56	lin ft	@	$30.95	=	$0.00	$0.00
Trail Obliteration 5' tread	0	36	lin ft	@	$30.95	=	$0.00	$0.00
Trail Obliteration Finishing With Hand Crew (support for excavator)	0	100	lin ft	@	$20.00	=	$0.00	
Trail Obliteration (Full Fill Recovery) on Slopes > 20% <40%								
Trail Obliteration 4' tread	0	28	lin ft	@	$30.95	=	$0.00	$0.00
Trail Obliteration 5' tread	0	17.9	lin ft	@	$30.95	=	$0.00	$0.00
Trail Obliteration Finishing With Hand Crew (support for excavator)	0	50	lin ft	@	$20.00	=	$0.00	
Trail Obliteration (Full Fill Recovery) on Slopes > 40% <60%								

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Trail Obliteration 4' tread	0	18.5	lin ft	@	$30.95	=	$0.00	$0.00
Trail Obliteration 5' tread	0	11.8	lin ft	@	$30.95	=	$0.00	$0.00
Trail Obliteration Finishing With Hand Crew (support for excavator)	0	33	lin ft	@	$20.00	=	$0.00	
Trail Obliteration (Full Fill Recovery) on Slopes > 60% <90%								
Trail Obliteration 4' tread	0	12.2	lin ft	@	$30.95	=	$0.00	$0.00
Trail Obliteration 5' tread	0	7.8	lin ft	@	$30.95	=	$0.00	$0.00
Trail Obliteration Finishing With Hand Crew (support for excavator)	0	22	lin ft	@	$20.00	=	$0.00	
Trail Narrowing (< 20% slopes)	0	1000	sq ft	@	$30.95	=	$0.00	$0.00
Trail Obliteration Finishing With Hand Crew (support for excavator)	0	300	sq ft	@	$20.00	=	$0.00	
Structures								
Bridge Removal	0	2	lin ft	@	$20.00	=	$0.00	
Trestle Removal	0	8	ea	@	$20.00	=	$0.00	
Wood Step / Waterbar Removal	0	4	ea	@	$20.00	=	$0.00	
Hand Rail Removal	0	30	lin ft	@	$20.00	=	$0.00	
Split Rail Fence Removal	0	30	lin ft	@	$20.00	=	$0.00	
Wood Retaining Wall Removal	0	30	sq ft	@	$20.00	=	$0.00	
Rock Waterbar Removal	0	10	cu ft	@	$20.00	=	$0.00	
Mortared Rock Retaining Wall Removal	0	5	cu ft	@	$20.00	=	$0.00	
Remove Trail Sign (wood post with metal sign)	0	1	ea	@	$20.00	=	$0.00	
Culvert Removal	0	2	lin ft	@	$20.00	=	$0.00	
Asphalt Removal								
Hand Labor (wheelbarrows)								
Asphalt 2.5" or Less Lift <300'	0	44	sq ft	@	$20.00	=	$0.00	
Asphalt 2.5" or Less Lift >300'<800'	0	29	sq ft	@	$20.00	=	$0.00	
Asphalt 2.5" or less Lift >800'<1300'	0	19	sq ft	@	$20.00	=	$0.00	
Asphalt 2.5" or less Lift >1300'<1800'	0	13	sq ft	@	$20.00	=	$0.00	
Asphalt 2.5" or less Lift >1800'<2500'	0	8	sq ft	@	$20.00	=	$0.00	
Mechanized								
Asphalt 2.5" or Less Lift <300'	0		sq ft					
Mini Excavator	0	200	sq ft	@	$30.95	=	$0.00	$0.00
Toter 2,500 lb capacity	0		hr.	@	$13.72	=		$0.00
Asphalt Removal (Hand Crew Support for Excavator and Toter Operation)	0			@	$20.00	=	$0.00	
Asphalt 2.5" or Less Lift >300'<800'	0							
Mini Excavator	0	200	sq ft	@	$30.95	=	$0.00	$0.00
Toter 2,500 lb capacity	0		hr.	@	$13.72	=		$0.00
Asphalt Removal (Hand Crew Support for Excavator and Toter Operation)	0			@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Asphalt 2.5" or less Lift >800'<1300'	0							
Mini Excavator	0	200	sq ft	@	$30.95	=	$0.00	$0.00
Toter 2,500 lb capacity	0		hr.	@	$13.72	=		$0.00
Asphalt Removal (Hand Crew Support for Excavator and Toter Operation)	0			@	$20.00	=	$0.00	
Asphalt 2.5" or less Lift >1300'<1800'	0							
Mini Excavator	0	200	sq ft	@	$30.95	=	$0.00	$0.00
Toter 2,500 lb capacity	0		hr.	@	$13.72	=		$0.00
Asphalt Removal (Hand Crew Support for Excavator and Toter Operation)	0			@	$20.00	=	$0.00	
Asphalt 2.5" or less Lift >1800'<2500'	0							
Mini Excavator	0	200	sq ft	@	$30.95	=	$0.00	$0.00
Toter 2,500 lb capacity	0		hr.	@	$13.72	=		$0.00
Asphalt Removal (Hand Crew Support for Excavator and Toter Operation)	0			@	$20.00	=	$0.00	
Soil Stabilizer Removal								
Hand Labor (wheelbarrows)								
Stabilizer 3" or Less Lift <300'	0	44	sq ft	@	$20.00	=	$0.00	
Stabilizer 3" or Less Lift >300'<800'	0	29	sq ft	@	$20.00	=	$0.00	
Stabilizer 3" or less Lift >800'<1300'	0	19	sq ft	@	$20.00	=	$0.00	
Stabilizer 3" or less Lift >1300'<1800'	0	13	sq ft	@	$20.00	=	$0.00	
Stabilizer 3" or less Lift >1800'<2500'	0	8	sq ft	@	$20.00	=	$0.00	
Mechanized								
Stabilizer 3" or Less Lift <300'	0		sq ft					
Mini Excavator	0	200	sq ft	@	$30.95	=	$0.00	$0.00
Toter 2,500 lb capacity	0		hr.	@	$13.72	=		$0.00
Stabilizer Removal (Hand Crew Support for Excavator and Toter Operation)	0			@	$20.00	=	$0.00	
Stabilizer 3" or Less Lift >300'<800'	0							
Mini Excavator	0	200	sq ft	@	$30.95	=	$0.00	$0.00
Toter 2,500 lb capacity	0		hr.	@	$13.72	=		$0.00
Stabilizer Removal (Hand Crew Support for Excavator and Toter Operation)	0			@	$20.00	=	$0.00	
Stabilizer 3" or less Lift >800'<1300'	0							
Mini Excavator	0	200	sq ft	@	$30.95	=	$0.00	$0.00
Toter 2,500 lb capacity	0		hr.	@	$13.72	=		$0.00
Stabilizer Removal (Hand Crew Support for Excavator and Toter Operation)	0			@	$20.00	=	$0.00	
Stabilizer 3" or less Lift >1300'<1800'	0							
Mini Excavator	0	200	sq ft	@	$30.95	=	$0.00	$0.00
Toter 2,500 lb capacity	0		hr.	@	$13.72	=		$0.00
Stabilizer Removal (Hand Crew Support for Excavator and Toter Operation)	0			@	$20.00	=	$0.00	
Stabilizer 3" or less Lift >1800'<2500'	0							
Mini Excavator	0	200	sq ft	@	$30.95	=	$0.00	$0.00
Toter 2,500 lb capacity	0		hr.	@	$13.72	=		$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Stabilizer Removal (Hand Crew Support for Excavator and Toter Operation)	0			@	$20.00	=	$0.00	
Switchback & Climbing Turns								
Mechanized Construction	number of turns							
Switchback Construction 4' tread > 30% < 40%								
Dozer Operator	0	4	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	8	hr.	@	$30.95	=	$0.00	$0.00
Switchback Construction 4' tread >40% <60%								
Dozer Operator	0	5.4	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	10.8	hr.	@	$30.95	=	$0.00	$0.00
Switchback Construction 4' tread >60% <90%								
Dozer Operator	0	7.2	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	14.4	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	16	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	8	hr.	@	$4.17	=		$0.00
Switchback Construction 5' tread >30% <40%								
Dozer Operator	0	5.4	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	10.8	hr.	@	$30.95	=	$0.00	$0.00
Switchback Construction 5' tread >40% <60%								
Dozer Operator	0	7.3	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	14.6	hr.	@	$30.95	=	$0.00	$0.00
Switchback Construction 5' tread >60% <90%								
Dozer Operator	0	9.8	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	19.6	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	20	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	10	hr.	@	$4.17	=		$0.00
Climbing Turn Construction 4' tread <20%								
Dozer Operator	0	2	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	4	hr.	@	$30.95	=	$0.00	$0.00
Climbing Turn Construction 4' tread >20% <30%								
Dozer Operator	0	2.7	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	5.4	hr.	@	$30.95	=	$0.00	$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Trail Finishing With Hand Crew (support for dozer & excavator)	0	12	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	4	hr.	@	$4.17	=		$0.00
Climbing Turn Construction 5' tread <20%								
Dozer Operator	0	2.7	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	5.4	hr.	@	$30.95	=	$0.00	$0.00
Climbing Turn Construction 5' tread >20% <30%								
Dozer Operator	0	3.6	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	7.2	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	14	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	5	hr.	@	$4.17	=		$0.00
Switchback Reconstruction 4' tread								
Dozer Operator	0	2	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	4	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	12	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	4	hr.	@	$4.17	=		$0.00
Switchback Reconstruction 5' tread								
Dozer Operator	0	2.9	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	5.8	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	16	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	5	hr.	@	$4.17	=		$0.00
Climbing Turn Reconstruction 4' tread								
Dozer Operator	0	1.4	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	2.8	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	8	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	2	hr.	@	$4.17	=		$0.00
Climbing Turn Reconstruction 5' tread								
Dozer Operator	0	1.7	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	3.4	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	10	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	3	hr.	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Mechanized Construction Accessible Trails	**number of turns**							
Switchback Construction 4' tread >30% <40%								

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Dozer Operator	0	4	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	8	hr.	@	$30.95	=	$0.00	$0.00
Switchback Construction 4' tread >40% <60%								
Dozer Operator	0	5.4	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	10.8	hr.	@	$30.95	=	$0.00	$0.00
Switchback Construction 4' tread >60% <90%								
Dozer Operator	0	7.2	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	14.4	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	24	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	8	hr.	@	$4.17	=		$0.00
Switchback Construction 5' tread >30% <40%								
Dozer Operator	0	5.4	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	10.8	hr.	@	$30.95	=	$0.00	$0.00
Switchback Construction 5' tread >40% <60%								
Dozer Operator	0	7.3	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	14.6	hr.	@	$30.95	=	$0.00	$0.00
Switchback Construction 5' tread >60% <90%								
Dozer Operator	0	9.8	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	19.6	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	30	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	10	hr.	@	$4.17	=		$0.00
Climbing Turn Construction 4' tread <20%								
Dozer Operator	0	2	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	4	hr.	@	$30.95	=	$0.00	$0.00
Climbing Turn Construction 4' tread >20% <30%								
Dozer Operator	0	2.7	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	5.4	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	18	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	4	hr.	@	$4.17	=		$0.00
Climbing Turn Construction 5' tread <20%								
Dozer Operator	0	2.7	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	5.4	hr.	@	$30.95	=	$0.00	$0.00
Climbing Turn Construction 5' tread >20% <30%								
Dozer Operator	0	3.6	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	7.2	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	21	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	5	hr.	@	$4.17	=		$0.00
Switchback Reconstruction 4' tread								
Dozer Operator	0	2	hr.	@	$30.95	=	$0.00	$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Excavator Operator	0	4	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	18	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	4	hr.	@	$4.17	=		$0.00
Switchback Reconstruction 5' tread								
Dozer Operator	0	2.9	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	5.8	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	24	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	5	hr.	@	$4.17	=		$0.00
Climbing Turn Reconstruction 4' tread								
Dozer Operator	0	1.4	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	2.8	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	12	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	2	hr.	@	$4.17	=		$0.00
Climbing Turn Reconstruction 5' tread								
Dozer Operator	0	1.7	hr.	@	$30.95	=	$0.00	$0.00
Excavator Operator	0	3.4	hr.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator)	0	15	hr.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	3	hr.	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0		hr	@	$13.72	=		$0.00
Switchback & Climbing Turns								
Hand Construction	**number of turns**							
Switchback Construction 2' tread >30% <40%	0	20	hr	@	$20.00	=	$0.00	
Switchback Construction 2' tread >40% <60%	0	26.8	hr	@	$20.00	=	$0.00	
Switchback Construction 2' tread >60% <90%	0	35.9	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	3	hr	@	$4.17	=		$0.00
Switchback Construction 3'tread >30% <40%	0	33.2	hr	@	$20.00	=	$0.00	
Switchback Construction 3' tread >40% <60%	0	44.5	hr	@	$20.00	=	$0.00	
Switchback Construction 3' tread >60% <90%	0	59.6	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	6	hr	@	$4.17	=		$0.00
Switchback Construction 4' tread >30% <40%	0	47.8	hr	@	$20.00	=	$0.00	
Switchback Construction 4' tread >40% <60%	0	64	hr	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Switchback Construction 4' tread >60% <90%	0	85.8	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	8	hr	@	$4.17	=		$0.00
Switchback Construction 5' tread >30% <40%	0	65	hr	@	$20.00	=	$0.00	
Switchback Construction 5' tread >40% <60%	0	87	hr	@	$20.00	=	$0.00	
Switchback Construction 5' tread >60% <90%	0	116.6	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	10	hr	@	$4.17	=		$0.00
Climbing Turn Construction 2' tread <20%	0	13	hr	@	$20.00	=	$0.00	
Climbing Turn Construction 2' tread >20% <30%	0	17.4	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	3	hr	@	$4.17	=		$0.00
Climbing Turn Construction 3' tread <20%	0	21.6	hr	@	$20.00	=	$0.00	
Climbing Turn Construction 3' tread >20% <30%	0	28.9	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	6	hr	@	$4.17	=		$0.00
Climbing Turn Construction 4' tread <20%	0	31.1	hr	@	$20.00	=	$0.00	
Climbing Turn Construction 4' tread >20% <30%	0	41.7	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	8	hr	@	$4.17	=		$0.00
Climbing Turn Construction 5' tread <20%	0	42.3	hr	@	$20.00	=	$0.00	
Climbing Turn Construction 5' tread >20% <30%	0	56.7	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	10	hr	@	$4.17	=		$0.00
Switchback Reconstruction 2' tread	0	12	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	2	hr	@	$4.17	=		$0.00
Switchback Reconstruction 3' tread	0	17.3	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	3	hr	@	$4.17	=		$0.00
Switchback Reconstruction 4' tread	0	21.6	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	4	hr	@	$4.17	=		$0.00
Switchback Reconstruction 5' tread	0	26	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	5	hr	@	$4.17	=		$0.00
Climb. Turn Reconstruction 2' tread	0	8	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	1	hr	@	$4.17	=		$0.00
Climb. Turn Reconstruction 3'tread	0	11.5	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	1.5	hr	@	$4.17	=		$0.00
Climb. Turn Reconstruction 4' tread	0	14.4	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	2	hr	@	$4.17	=		$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Climb. Turn Reconstruction 5'tread	0	17.3	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	3	hr	@	$4.17	=		$0.00
Switchback & Climbing Turns Accessible Trail Hand Construction	number of turns							
Switchback Construction 3' tread >30% <40%	0	48	hr	@	$20.00	=	$0.00	
Switchback Construction 3' tread >40% <60%	0	64.3	hr	@	$20.00	=	$0.00	
Switchback Construction 3' tread >60% <90%	0	86.2	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	6	hr	@	$4.17	=		$0.00
Switchback Construction 4' tread >30% <40%	0	69	hr	@	$20.00	=	$0.00	
Switchback Construction 4' tread >40% <60%	0	92.6	hr	@	$20.00	=	$0.00	
Switchback Construction 4' tread >60% <90%	0	124	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	8	hr	@	$4.17	=		$0.00
Switchback Construction 5' tread >30% <40%	0	93.8	hr	@	$20.00	=	$0.00	
Switchback Construction 5' tread >40% <60%	0	125.7	hr	@	$20.00	=	$0.00	
Switchback Construction 5' tread >60% <90%	0	168.5	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	10	hr	@	$4.17	=		$0.00
Climbing Turn Construction 3' tread <20%	0	31	hr	@	$20.00	=	$0.00	
Climbing Turn Construction 3' tread >20% <30%	0	41.5	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	6	hr	@	$4.17	=		$0.00
Climbing Turn Construction 4' tread <20%	0	44.6	hr	@	$20.00	=	$0.00	
Climbing Turn Construction 4' tread >20% <30%	0	59.8	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	8	hr	@	$4.17	=		$0.00
Climbing Turn Construction 5' tread <20%	0	60.6	hr	@	$20.00	=	$0.00	
Climbing Turn Construction 5' tread >20% <30%	0	81.3	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	10	hr	@	$4.17	=		$0.00
Switchback Reconstruction 3'tread	0	27.4	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	3	hr	@	$4.17	=		$0.00
Switchback Reconstruction 4' tread	0	34.2	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	4	hr	@	$4.17	=		$0.00
Switchback Reconstruction 5' tread	0	41	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	5	hr	@	$4.17	=		$0.00
Climb. Turn Reconstruction 3' tread	0	18.7	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	1.5	hr	@	$4.17	=		$0.00
Climb. Turn Reconstruction 4' tread	0	23.4	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	2	hr	@	$4.17	=		$0.00
Climb. Turn Reconstruction 5' tread	0	28.1	hr	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost	0	3	hr	@	$4.17	=		$0.00
Log Barrier Installation (local logs)								
Log Crib (Movement < 50')	0	2.5	sq ft	@	$20.00	=	$0.00	
Log Crib (Movement > 50' < 100')	0	2	sq ft	@	$20.00	=	$0.00	
Log Crib (Movement > 100' < 150')	0	1.5	sq ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Rock Barrier Installation (local rock)								
Rock (Movement < 50')	0	2	cu ft	@	$20.00	=	$0.00	
Rock (Movement > 50' < 100')	0	1.5	cu ft	@	$20.00	=	$0.00	
Rock (Movement > 100' < 150')	0	1	cu ft	@	$20.00	=	$0.00	
Drainage Structures								
Drainage Lens	0	4	cu ft	@	$20.00	=	$0.00	
Quarry rock 6"-8" for Drain Lense	0.0		cu ft					
Fabric for lens	0		sq ft	@	$0.11	=		$0.00
Culvert Installation								
ABS Culvert Single Wall								
1' dia. Pipe	0	2.5	lin ft	@	$20.00	=	$0.00	$0.00
1.5' dia. Pipe	0	2	lin ft	@	$20.00	=	$0.00	$0.00
2' dia. Pipe	0	1.5	lin ft	@	$20.00	=	$0.00	$0.00
2.5' dia. Pipe	0	1	lin ft	@	$20.00	=	$0.00	$0.00
ADS Culvert Double Wall								
2' dia. Pipe	0	1.5	lin ft	@	$20.00	=	$0.00	$0.00
2.5' dia. Pipe	0	1.25	lin ft	@	$20.00	=	$0.00	$0.00
3' dia. Pipe	0	1	lin ft	@	$20.00	=	$0.00	$0.00
4' dia. Pipe	0	0.75	lin ft	@	$20.00	=	$0.00	$0.00
Fabric for culverts	0		sq ft	@	$0.11	=		$0.00
Culvert Headwalls Rock								
Rock headwall construction	0	1	cu ft	@	$20.00	=	$0.00	
Quarry Rock 200-300 lbs for Headwalls	0.0		cu ft					
Rock Culverts Open and Closed	0	1	cu ft	@	$20.00	=	$0.00	
Quarry Rock 200-300 lbs for culvert	0.0		cu ft	@				
Armored Swale Crossing	0	1	cu ft	@	$20.00	=	$0.00	
Quarry Rock 200-300 lbs for Armored D.S.	0.0		cu ft	@				
Armored Stream Crossing)	0	1	cu ft	@	$20.00	=	$0.00	
Quarry Rock 300-500 lbs for Armored Stream Crossing	0.0		cu ft					
Energy Dissipater Installation	0	1	cu ft	@	$20.00	=	$0.00	
Quarry Rock 200-300 lbs for Energy Dissipater	0.0		cu ft					
Step Stone Crossing/Ford	0	1	cu ft	@	$20.00	=	$0.00	
Quarry Rock 500-700 lbs for Step Stones	0.0		cu ft					
Drainage Ditch Construction	0	20	cu ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Waterbar, wood								
waterbar, wood 2' trail	0	0.5	hr. ea	@	$20.00	=	$0.00	
Wood for waterbar	0		bd ft	@	$2.80	=		$0.00
Rebar for waterbar	0		lin ft	@	$0.52	=		$0.00
waterbar, wood 3' trail	0	0.75	hr. ea	@	$20.00	=	$0.00	
Wood for waterbar	0		bd ft	@	$2.80	=		$0.00
Rebar for waterbar	0		lin ft	@	$0.52	=		$0.00
waterbar, wood 4' trail	0	1	hr. ea	@	$20.00	=	$0.00	
Wood for waterbar	0		bd ft	@	$2.80	=		$0.00
Rebar for waterbar	0		lin ft	@	$0.52	=		$0.00
waterbar, wood 5' trail	0	1.25	hr. ea	@	$20.00	=	$0.00	
Wood for waterbar	0		bd ft	@	$2.80	=		$0.00
Rebar for waterbar	0		lin ft	@	$0.52	=		$0.00
Waterbar, rock	0	2	cu ft	@	$20.00	=	$0.00	
Quarry Rock 200-300 lbs for Waterbar	0.0		cu ft					
Drain Dip / Grade Reversal								
Mechanized Construction								
Dozer Operator (tread 4')	0	0.25	hr. ea.	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 4')	0	0.41	hr. ea.	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	0.34	hr. ea.	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 5')	0	0.56	hr. ea.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	1	hr. ea.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	0.25	hr. ea	@	$4.17	=		$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	1.25	hr. ea	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	0.3	hr. ea	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0	0.15	hr. ea	@	$13.72	=		$0.00
Hand Crew Construction								
Trail Construction 2' tread	0	2	hr. ea	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	0.15	hr. ea	@	$4.17	=		$0.00
Trail Construction 3' tread	0	3.3	hr. ea	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	0.2	hr. ea	@	$4.17	=		$0.00
Trail Construction 4' tread	0	4.8	hr. ea	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	0.25	hr. ea	@	$4.17	=		$0.00
Trail Construction 5' tread	1	6.5	hr. ea	@	$20.00	=	$130.00	
Vibraplate Compactor Operation Cost	1	0.3	hr. ea	@	$4.17	=		$1.25
Rolling Grade Dip								
Mechanized Construction								
Dozer Operator (tread 4')	0	0.5	hr. ea.	@	$30.95	=	$0.00	$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Excavator Operator (tread 4')	0	0.83	hr. ea.	@	$30.95	=	$0.00	$0.00
Dozer Operator (tread 5')	0	0.68	hr. ea.	@	$30.95	=	$0.00	$0.00
Excavator Operator (tread 5')	0	1.12	hr. ea.	@	$30.95	=	$0.00	$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 4'	0	1	hr. ea.	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 4'	0	0.25	hr. ea	@	$4.17	=		$0.00
Trail Finishing With Hand Crew (support for dozer & excavator) tread 5'	0	1.25	hr. ea	@	$20.00	=	$0.00	
Vibraplate (180 lb) Operation Cost 5'	0	0.3	hr. ea	@	$4.17	=		$0.00
Toter (2,500 lb) Operation Cost	0.0	0.15	hr. ea	@	$13.72	=		$0.00
Hand Crew Construction								
Trail Construction 2' tread	0	4	hr. ea	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	0.15	hr. ea	@	$4.17	=		$0.00
Trail Construction 3' tread	0	6.6	hr. ea	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	0.2	hr. ea	@	$4.17	=		$0.00
Trail Construction 4' tread	0	9.6	hr. ea	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	0.25	hr. ea	@	$4.17	=		$0.00
Trail Construction 5' tread	0	13	hr. ea	@	$20.00	=	$0.00	
Vibraplate Compactor Operation Cost	0	0.3	hr. ea	@	$4.17	=		$0.00
Retaining Wall Construction								
Rock Retaining Walls								
Dry Stone Single Tier Crib or Causeway Wall	0	2	cu ft	@	$20.00	=	$0.00	
Dry Stone Multi Tier Structural Wall	0	1	cu ft	@	$20.00	=	$0.00	
Dry Stone Non Structural (junk wall)	0	4	cu ft	@	$20.00	=	$0.00	
Mortar Wall	0	1.5	cu ft	@	$20.00	=	$0.00	
Rock 200-300 lbs for Single Tier & Non Structural Retaining Walls	0.0		cu ft					
Rock 300-500 lbs for Dry Stone & Mortar Rock Retaining Walls	0.0		cu ft					
Mortar	0	90 lb	bags	@	$7.90	=		$0.00
Non Structural (junk wall) Large Local Rocks moved short distances	0	4	cu ft	@	$20.00	=	$0.00	
Rock movement for installation of non structural retaining wall (movement < 50')	0	6	cu ft	@	$20.00	=	$0.00	
Wood								
Wood Cribbed (Interlocking)	**Total Facer Dimensions**				**Total Wing Dimensions**			
Retaining Wall #1	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions			**3.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Retaining wall material cost (wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #2	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions			**4.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #3	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions			**4.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #4	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #5	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #6	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Log Retaining Wall Crib								
Log Crib (Movement < 50')	0	2.5	sq ft	@	$20.00	=	$0.00	
Log Crib (Movement > 50' < 100')	0	2	sq ft	@	$20.00	=	$0.00	
Log Crib (Movement > 100' < 150')	0	1.5	sq ft	@	$20.00	=	$0.00	
Log Turnpike Wall								
Log Crib (Movement < 50')	0	2.5	sq ft	@	$20.00	=	$0.00	
Log Crib (Movement > 50' < 100')	0	2	sq ft	@	$20.00	=	$0.00	
Log Crib (Movement > 100' < 150')	0	1.5	sq ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Rebar (Pinning All Log Crib Structures)	0		lin ft	@	$0.52	=		$0.00
Synthetic/Non Native Material Retaining Walls								
Geotextile Fabric Wall	0	4	sq ft	@	$20.00	=	$0.00	
Geotextile Fabric	0		sq ft	@	$0.11	=		$0.00
Cellular Confinement Wall (8" cell)	0	4	cu ft	@	$20.00	=	$0.00	
Cellular Confinement	0		cu ft	@	$2.45	=		$0.00
Soldier Pile with Timber Lagging All Weather Steel	**Total Facer Dimensions**				**Total Wing Dimensions**			
Retaining Wall 2' High	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0**		**2'**		**0**		**2'**	
Labor for constructing retaining wall	0	1.5	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Number of Wings	**0**							
Boards: insert 1 for wood or 2 for plastic	**0**							
Retaining Wall 3' High	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0**		**3'**		**0**		**3'**	
Labor for constructing retaining wall	0	1.5	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Number of Wings	**0**							
Boards: insert 1 for wood or 2 for plastic	**0**							
Retaining Wall 4' High	**length**		**height**		**length**		**Four feet**	
Fill in Facer and Wing dimensions	**0**		**4'**		**0**		**4'**	
Labor for constructing retaining wall	0	1.5	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Number of Wings	**0**							
Boards: insert 1 for wood or 2 for plastic	**0**							
Soldier Pile with Timber Lagging Galvanized Steel	**Total Facer Dimensions**				**Total Wing Dimensions**			
Retaining Wall 2' High	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**497**		**2'**		**0**		**2'**	
Labor for constructing retaining wall	994	1.5	sq ft	@	$20.00	=	$13,253.33	
Retaining wall material cost								$29,904.97
Retaining wall (rock fill)	#######		cu ft					

Trail:

Cells that may require data entry

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Number of Wings	0							
Boards: insert 1 for wood or 2 for plastic	0							
Retaining Wall 3' High	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**402**		**3'**		**0**		**3'**	
Labor for constructing retaining wall	1206	1.5	sq ft	@	$20.00	=	$16,080.00	
Retaining wall material cost								$31,373.36
Retaining wall (rock fill)	#######		cu ft					
Number of Wings	0							
Boards: insert 1 for wood or 2 for plastic	0							
Retaining Wall 4' High	**length**		**height**		**length**		**Height**	
Fill in Facer and Wing dimensions	**332**		**4'**		**0**		**4'**	
Labor for constructing retaining wall	1328	1.5	sq ft	@	$20.00	=	$17,706.67	
Retaining wall material cost								$28,255.47
Retaining wall (rock fill)	#######		cu ft					
Number of Wings	0							
Boards: insert 1 for wood or 2 for plastic	0							
Retaining Wall 6' High	**length**		**height**		**length**		**Four feet**	
Fill in Facer and Wing dimensions	**0**		**6'**		**0**		**6'**	
Labor for constructing retaining wall	0	1.5	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Number of Wings	0							
Boards: insert 1 for wood or 2 for plastic	0							
Plastic Wood Cribbed (Interlocking)	**Total Facer Dimensions**				**Total Wing Dimensions**			
Retaining Wall #1	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (plastic wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #2	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (plastic wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #3	**length**		**height**		**length**		**height**	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (plastic wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #4	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (plastic wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #5	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (plastic wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #6	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (plastic wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #7	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (plastic wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Retaining Wall #8	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0.0**		**0.0**		**0.0**		**0.0**	
Labor for constructing retaining wall	0	1	sq ft	@	$20.00	=	$0.00	
Retaining wall material cost (plastic wood)								$0.00
Retaining wall (rock fill)	0.00		cu ft					
Edge Protection / Pinch Points								
Edge Protection (wood/log)	0	10	lin ft	@	$20.00	=	$0.00	
Down Tree Gathering/Transport Time	0	50	lin ft	@	$20.00	=	$0.00	
Edge Protection (rock)	0	2	cu ft	@	$20.00	=	$0.00	
Quarry Rock 300-500 lbs for Edge Protection	0		cu ft	@				
Edge Protection (curbing)	0	10	lin ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Wood materials for Bull Rail	0		bd ft	@	$2.60	=		$0.00
Pinch Point (rock)	0	2	cu ft	@	$20.00	=	$0.00	
Quarry Rock 500-700 lbs for Pinch Points	0		cu ft	@				
Log Pinch Point (Movement < 50')	0	2.5	sq ft	@	$20.00	=	$0.00	
Log Pinch Point (Movement > 50' < 100')	0	2	sq ft	@	$20.00	=	$0.00	
Log Pinch Point (Movement > 100' < 150')	0	1.5	sq ft	@	$20.00	=	$0.00	
Step Construction								
Standard Single Step #1								
Number of steps	0	1	ea	@	$20.00	=	$0.00	$0.00
Step width (in feet)	0							
Step landing depth (in feet)	0.0							
Boards: insert 1 for wood or 2 for plastic	0							
Rock Backfill Material	0		cu ft					
Standard Single Step #2								
Number of steps	0	1	ea	@	$20.00	=	$0.00	$0.00
Step width (in feet)	0							
Step landing depth (in feet)	0.0							
Boards: insert 1 for wood or 2 for plastic	0							
Rock Backfill Material	0		cu ft					
Interlocking Steps-Single #1								
Number of steps	0	0.5	ea	@	$20.00	=	$0.00	$0.00
Step width (in feet)	0							
Step landing depth (in feet)	0.0							
Boards: insert 1 for wood or 2 for plastic	0							
Rock Backfill Material	0		cu ft					
Interlocking Steps-Single #2								
Number of steps	0	0.5	ea	@	$20.00	=	$0.00	$0.00
Step width (in feet)	0							
Step landing depth (in feet)	0.0							
Boards: insert 1 for wood or 2 for plastic	0							
Rock Backfill Material	0		cu ft					
Interlocking Steps-Double #1								
Number of steps	0	0.33	ea	@	$20.00	=	$0.00	$0.00
Step width (in feet)	0							
Step landing depth (in feet)	0.0							
Boards: insert 1 for wood or 2 for plastic	0							

Trail:

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Rock Backfill Material	0		cu ft					
Interlocking Steps-Double #2								
Number of steps	0	0.33	ea	@	$20.00	=	$0.00	$0.00
Step width (in feet)	0							
Step landing depth (in feet)	0.0							
Boards: insert 1 for wood or 2 for plastic	0							
Rock Backfill Material	0		cu ft					
Full Crib Steps #1								
Number of steps	0	0.2	ea	@	$20.00	=	$0.00	$0.00
Step width (in feet)	0							
Boards: insert 1 for wood or 2 for plastic	0							
Rock Backfill Material	0		cu ft					
Full Crib Steps #2								
Number of steps	0	0.2	ea	@	$20.00	=	$0.00	$0.00
Step width (in feet)	0							
Boards: insert 1 for wood or 2 for plastic	0							
Rock Backfill Material	0		cu ft					
Cable Steps	0	1	ea	@	$20.00	=	$0.00	
Wood for cable steps	0	0	bd ft	@	$2.90	=		$0.00
Wire rope for cable steps	0		lin ft	@	$1.00	=		$0.00
Wire rope clips for cable steps	0		ea	@	$0.90	=		$0.00
Deadman anchors for cable steps	0	0	lin ft	@	$2.00	=		$0.00
Rock Backfill Material	0		cu ft					
Cut-out Stringer Steps	0	0.75	ea	@	$20.00	=	$0.00	
3" x 12" wood stringer & step (3 stringers)	0	0	bd ft	@	$2.80	=		$0.00
Rock Steps								
Rock Steps Structural Framed	0	0.5	cu ft	@	$20.00	=	$0.00	
Rock Steps Non Structural	0	1.5	cu ft	@	$20.00	=	$0.00	
Mortar Rock Steps	0	0.75	cu ft	@	$20.00	=	$0.00	
Quarry Rock 300-500 lbs for Dry Stone & Mortar Rock Steps	0.0		cu ft					
Mortar for mortared steps	0	90 lb	bags	@	$7.90	=		$0.00
Abutment Construction								
Abutment Wood Cribbed (Interlocking)	**Total Facer Dimensions**				**Total Wing Dimensions**			
Abutment #1	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0**		**0**		**0**		**0**	

Trail:

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Labor for constructing abutments	0	1	sq ft	@	$20.00	=	$0.00	
Abutment material cost (wood)								$0.00
Abutment material (rock backfill)	0.00		cu ft					
Abutment #2	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0**		**0**		**0**		**0**	
Labor for constructing abutments	0	1	sq ft	@	$20.00	=	$0.00	
Abutment material cost (wood)								$0.00
Abutment material (rock backfill)	0.00		cu ft					
Abutment #3	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0**		**0**		**0**		**0**	
Labor for constructing abutments	0	1	sq ft	@	$20.00	=	$0.00	
Abutment material cost (wood)								$0.00
Abutment material (rock backfill)	0.00		cu ft					
Abutment #4	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0**		**0**		**0**		**0**	
Labor for constructing abutments	0	1	sq ft	@	$20.00	=	$0.00	
Abutment material cost (wood)								$0.00
Abutment material (rock backfill)	0.00		cu ft					
Abutment Plastic Wood Cribbed (Interlocking)	**Total Facer Dimensions**				**Total Wing Dimensions**			
Abutment #1	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0**		**0**		**0**		**0**	
Labor for constructing abutments	0	1	sq ft	@	$20.00	=	$0.00	
Abutment material cost (wood)								$0.00
Abutment material (rock backfill)	0.00		cu ft					
Abutment #2	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0**		**0**		**0**		**0**	
Labor for constructing abutments	0	1	sq ft	@	$20.00	=	$0.00	
Abutment material cost (wood)								$0.00
Abutment material (rock backfill)	0.00		cu ft					
Abutment #3	**length**		**height**		**length**		**height**	
Fill in Facer and Wing dimensions	**0**		**0**		**0**		**0**	
Labor for constructing abutments	0	1	sq ft	@	$20.00	=	$0.00	
Abutment material cost (wood)								$0.00
Abutment material (rock backfill)	0.00		cu ft					
Abutment #4	**length**		**height**		**length**		**height**	

Trail:

Cells that may require data entry

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Fill in Facer and Wing dimensions	**0**		**0**		**0**		**0**	
Labor for constructing abutments	0	1	sq ft	@	$20.00	=	$0.00	
Abutment material cost (wood)								$0.00
Abutment material (rock backfill)	0.00		cu ft					
Abutment Concrete	**Length**	**Height**	**Width**					
Abutment #1	**0**	**0**	**0**					
Labor for Forming of Abutments	0	3	sq ft	@	$20.00	=	$0.00	
Labor for Pouring of Abutments	0	4	cu ft	@	$20.00	=	$0.00	
Abutment Materials				@		=		$0.00
Abutment #2	**0**	**0**	**0**					
Forming of Abutments	0	3	sq ft	@	$20.00	=	$0.00	
Pouring of Abutments	0	4	cu ft	@	$20.00	=	$0.00	
Abutment Materials						=		$0.00
Abutment #3	**0**	**0**	**0**					
Forming of Abutments	0	3	sq ft	@	$20.00	=	$0.00	
Pouring of Abutments	0	4	cu ft	@	$20.00	=	$0.00	
Abutment Materials						=		$0.00
Abutment #4	**0**	**0**	**0**					
Forming of Abutments	0	3	sq ft	@	$20.00	=	$0.00	
Pouring of Abutments	0	4	cu ft	@	$20.00	=	$0.00	
Abutment Materials						=		$0.00
Abutment #5	**0**	**0**	**0**					
Forming of Abutments	0	3	sq ft	@	$20.00	=	$0.00	
Pouring of Abutments	0	4	cu ft	@	$20.00	=	$0.00	
Abutment Materials						=		$0.00
Abutment #6	**0**	**0**	**0**					
Forming of Abutments	0	3	sq ft	@	$20.00	=	$0.00	
Pouring of Abutments	0	4	cu ft	@	$20.00	=	$0.00	
Abutment Materials						=		$0.00
Abutment Trestle (Mid Span Support)								
Trestle Wood Single #1								
Trestle Height	0							
Concrete Pad for Trestle	**Length**	**Height**	**Width**					
	0	0	0					
Forming of Abutments	0	4	sq ft	@	$20.00	=	$0.00	
Pouring of Abutments	0	6	cu ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Fabricating and Assembling Trestle	0	0.25	lin ft	@	$20.00	=	$0.00	
Trestle Materials						=		$0.00
Trestle Wood Single #2								
Trestle Height	0							
Concrete Pad for Trestle	**Length**	**Height**	**Width**					
	0	0	0					
Forming of Abutments	0	4	sq ft	@	$20.00	=	$0.00	
Pouring of Abutments	0	6	cu ft	@	$20.00	=	$0.00	
Fabricating and Assembling Trestle	0	0.25	lin ft	@	$20.00	=	$0.00	
Trestle Materials						=		$0.00
Trestle Wood Double #1								
Trestle Height	0							
Concrete Pad for Trestle	**Length**	**Height**	**Width**					
	0	0	0					
Forming of Abutments	0	4	sq ft	@	$20.00	=	$0.00	
Pouring of Abutments	0	6	cu ft	@	$20.00	=	$0.00	
Fabricating and Assembling Trestle	0	0.25	lin ft	@	$20.00	=	$0.00	
Trestle Materials						=		$0.00
Trestle Wood Double #2								
Trestle Height	0							
Concrete Pad for Trestle	**Length**	**Height**	**Width**					
	0	0	0					
Forming of Abutments	0	4	sq ft	@	$20.00	=	$0.00	
Pouring of Abutments	0	6	cu ft	@	$20.00	=	$0.00	
Fabricating and Assembling Trestle	0	0.25	lin ft	@	$20.00	=	$0.00	
Trestle Materials						=		$0.00
Trestle Galvanized Steel Single #1								
Trestle Height	0							
Concrete Pad for Trestle	**Length**	**Height**	**Width**					
	0	0	0					
Forming of Abutments	0	4	sq ft	@	$20.00	=	$0.00	
Pouring of Abutments	0	6	cu ft	@	$20.00	=	$0.00	
Assembling Trestle	0	1	lin ft	@	$20.00	=	$0.00	
Trestle Materials						=		$0.00
Abutment Rock- Dry Stack	0	1	cu ft	@	$20.00	=	$0.00	

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Abutment Rock-Mortar	0	1.5	cu ft	@	$20.00	=	$0.00	
Quarry Rock 300-500 lbs for Dry Stone & Mortar Rock Abutments	0	1.5	cu ft	@	$20.00	=	$0.00	
Abutment material (rock backfill)	0.0		cu ft					
Mortar	0	90 lb	bags	@	$7.90	=		$0.00
Rock Manufacturing & Gathering Cost for Drainage, Retaining Wall, Edge Protection, Step & Abutment Structures								
Quarrying local rock using rock drills, plugs and feathers and rock splitting tools (soft rock)	0.0	6	cu ft	@	$20.00	=	$0.00	
Quarrying local rock using rock drills, plugs and feathers and rock splitting tools (medium rock)	0.0	4	cu ft	@	$20.00	=	$0.00	
Quarrying local rock using rock drills, plugs and feathers and rock splitting tools (hard rock)	0.0	2	cu ft	@	$20.00	=	$0.00	
Combination gas powered drill/breaker operation cost	0.0	2	hr.	@	$6.80	=		$0.00
Transport of the Rock Manufactured & Gathered for Drainage, Retaining Wall, Edge Protection, Step & Abutment Structures								
Hand Crew (with wheelbarrows)								
import < 300'	0	15	cu ft	@	$20.00	=	$0.00	
import > 300'< 800'	0	5.63	cu ft	@	$20.00	=	$0.00	
import > 800'< 1300'	0	3.46	cu ft	@	$20.00	=	$0.00	
import > 1300'< 1800'	0	2.49	cu ft	@	$20.00	=	$0.00	
import > 1800'< 2500'	0	1.79	cu ft	@	$20.00	=	$0.00	
Mechanized (toters) 2,500 lb capacity								
import < 300'	0	60	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	22.5	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	13.84	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	9.96	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	7.17	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Mechanized (toters) 3,500 lb capacity								
import < 300'	0	100	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	37.5	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	23.06	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	16.61	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	11.96	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Rock Import Cost for Drainage, Retaining Wall, Edge Protection, Step & Abutment Structures								
Quarry Rock 6"- 8" for Drain Lense								
Hand Crew (with wheelbarrows)								
import < 300'	0	15	cu ft	@	$20.00	=	$0.00	
import > 300'< 800'	0	5.63	cu ft	@	$20.00	=	$0.00	
import > 800'< 1300'	0	3.46	cu ft	@	$20.00	=	$0.00	
import > 1300'< 1800'	0	2.49	cu ft	@	$20.00	=	$0.00	
import > 1800'< 2500'	0	1.79	cu ft	@	$20.00	=	$0.00	
Mechanized (toters) 2,500 lb capacity								
import < 300'	0	60	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	22.5	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	13.84	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	9.96	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	7.17	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Mechanized (toters) 3,500 lb capacity								
import < 300'	0	100	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	37.5	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	23.06	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	16.61	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	11.96	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Quarry Rock 6" - 8" to be purchase	0		cu yd	@	$40.00	=		$0.00
Quarry Rock 200 - 300 lbs for Headwalls, Rock Culverts & Armored Drain Swales								
Hand Crew (with wheelbarrows)								
import < 300'	0	15	cu ft	@	$20.00	=	$0.00	
import > 300'< 800'	0	5.63	cu ft	@	$20.00	=	$0.00	
import > 800'< 1300'	0	3.46	cu ft	@	$20.00	=	$0.00	
import > 1300'< 1800'	0	2.49	cu ft	@	$20.00	=	$0.00	
import > 1800'< 2500'	0	1.79	cu ft	@	$20.00	=	$0.00	
Mechanized (toters) 2,500 lb capacity								
import < 300'	0	60	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	22.5	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	13.84	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	9.96	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	7.17	cu ft	@	$20.00	=	$0.00	$0.00
import > 2500'< 3200'	0	5.59	cu ft	@	$20.00	=	$0.00	$0.00
import > 3200'< 3900'	0	4.36	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Mechanized (toters) 3,500 lb capacity								

Trail:

Cells that may require data entry

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
import < 300'	0	100	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	37.5	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	23.06	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	16.61	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	11.96	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Quarry Rock 200 - 300 lbs To Be Purchased	0		cu yd	@	$50.00	=		$0.00
Quarry Rock 300 - 500 lbs for Rock Walls, Abutments, Armored Stream Crossings & Energy Dissipaters								
Hand Crew (with wheelbarrows)								
import < 300'	0	15	cu ft	@	$20.00	=	$0.00	
import > 300'< 800'	0	5.63	cu ft	@	$20.00	=	$0.00	
import > 800'< 1300'	0	3.46	cu ft	@	$20.00	=	$0.00	
import > 1300'< 1800'	0	2.49	cu ft	@	$20.00	=	$0.00	
import > 1800'< 2500'	0	1.79	cu ft	@	$20.00	=	$0.00	
Mechanized (toters) 2,500 lb capacity								
import < 300'	0	60	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	22.5	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	13.84	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	9.96	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	7.17	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Mechanized (toters) 3,500 lb capacity								
import < 300'	0	100	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	37.5	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	23.06	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	16.61	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	11.96	cu ft	@	$20.00	=	$0.00	$0.00
Excavator Operation Cost	0		hr.	@	$26.08	=		$0.00
Quarry Rock 300 - 500 lbs To Be Purchased	0		cu yd	@	$50.00	=		$0.00
Quarry Rock 500 - 700 lbs for Step Stone Crossings & Pinch Points								
Mechanized (toters) 2,500 lb capacity								
import < 300'	0	100	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	38	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	23.6	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	17	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	12.2	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Mechanized (toters) 3,500 lb capacity								
import < 300'	0	120	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	45.6	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	28.3	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	20.4	cu ft	@	$20.00	=	$0.00	$0.00

Trail: _____

Cells that may require data entry

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
import > 1800'< 2500'	0	14.7	cu ft	@	$20.00	=	$0.00	$0.00
Excavator Operation Cost	0		hr.	@	$26.08	=		$0.00
Quarry Rock 500 - 700 lbs To Be Purchased	0		cu yd	@	$52.00	=		$0.00
Quarry Rock Selection, Enter 1 if Hand Crew, 2 if Excavator	2							
Crew Labor to select and sort wall rock at quarry	0.00	1	cu yd	@	$20.00	=	$0.00	
Excavator and staff cost to select wall rock at quarry	0.0	15	cu yd	@	$28.28	=	$0.00	$0.00
Crush Fill Rock 2"- 3" for Retaining Wall, Step & Abutment Backfill								
Hand Crew (with wheelbarrows)								
import < 300'	0	20	cu ft	@	$20.00	=	$0.00	
import > 300'< 800'	0	7.5	cu ft	@	$20.00	=	$0.00	
import > 800'< 1300'	0	4.61	cu ft	@	$20.00	=	$0.00	
import > 1300'< 1800'	0	3.32	cu ft	@	$20.00	=	$0.00	
import > 1800'< 2500'	0	2.39	cu ft	@	$20.00	=	$0.00	
Mechanized (toters) 2,500 lb capacity								
import < 300'	0	95	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	35.63	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	21.91	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	15.77	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	11.36	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Mechanized (toters) 3,500 lb capacity								
import < 300'	0	112.5	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	42.19	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	25.95	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	18.68	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	13.45	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Crush fill rock to be purchased	0		cu yd	@	$36.00	=		$0.00
Bridge Construction								
Wood Milled Stringer Design (0' to 30')	0	0.2	lin ft	@	$20.00	=	$0.00	
Bridge #1 Material cost	0	ft	Based on bridge #1 cost sheet			=		$0.00

Trail:

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Bridge #2 Material cost	0	ft	Based on bridge #2 cost sheet			=		$0.00
Bridge #3 Material cost	0	ft	Based on bridge #3 cost sheet			=		$0.00
Bridge #4 Material cost	0	ft	Based on bridge #4 cost sheet			=		$0.00
Wood Gluelam Stringer Design (0' to 100')	0	0.25	lin ft	@	$20.00	=	$0.00	
Bridge #1 Material cost	0	ft	Based on bridge #1 cost sheet			=		$0.00
Bridge #2 Material cost	0	ft	Based on bridge #2 cost sheet			=		$0.00
Bridge #3 Material cost	0	ft	Based on bridge #3 cost sheet			=		$0.00
All Weather Steel Stringer Design (0 to 100')	0	0.175	lin ft	@	$20.00	=	$0.00	
Bridge #1 Material cost	0	ft	Based on bridge #1 cost sheet			=		$0.00
Bridge #2 Material cost	0	ft	Based on bridge #2 cost sheet			=		$0.00

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Bridge #3 Material cost	0	ft	Based on bridge #3 cost sheet			=		$0.00
Galvanized Steel Stringer Design (0 to 100')	0	0.175	lin ft	@	$20.00	=	$0.00	
Bridge #1 Material cost	0	ft	Based on bridge #1 cost sheet			=		$0.00
Bridge #2 Material cost	0	ft	Based on bridge #2 cost sheet			=		$0.00
Bridge #3 Material cost	0	ft	Based on bridge #3 cost sheet			=		$0.00
Fiber Glass I Beam Stringer Design (0' to 24')	0	0.25	lin ft	@	$20.00	=	$0.00	
Bridge #1 Material cost	0	ft	Based on bridge #1 cost sheet			=		$0.00
Bridge #2 Material cost	0	ft	Based on bridge #2 cost sheet			=		$0.00
Bridge #3 Material cost	0	ft	Based on bridge #3 cost sheet			=		$0.00
Bridge #4 Material cost	0	ft	Based on bridge #4 cost sheet			=		$0.00

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Bridge #5 Material cost	0	ft	Based on bridge #4 cost sheet			=		$0.00
Bridge #6 Material cost	0	ft	Based on bridge #4 cost sheet			=		$0.00
Bridge #7 Material cost	0	ft	Based on bridge #4 cost sheet			=		$0.00
Bridge #8 Material cost	0	ft	Based on bridge #4 cost sheet			=		$0.00
Fiber Glass Stringer Pony Truss Design (0' to 100")	0	0.3	lin ft	@	$20.00	=	$0.00	
Bridge #1 Material cost	0	ft	Based on bridge #1 cost sheet			=		$0.00
Bridge #2 Material cost	0	ft	Based on bridge #2 cost sheet			=		$0.00
Bridge #3 Material cost	0	ft	Based on bridge #3 cost sheet			=		$0.00
Pipe Bridge Construction (8' sections)	0	1	lin ft	@	$20.00	=	$0.00	
Pipe Bridge Length & Material cost	0	ft	Based on pipe bridge cost			=		$0.00
Hand Transport Bridge Materials	0	Estimated Person Hours		@	$20.00	=	$0.00	
Transport Bridge Stringers (Rigging)								
Bridge Stinger Transport <300'	0	40	hrs/set	@	$20.00	=	$0.00	
Rigging Truck Operation	0	4	hrs/set	@	$36.00	=		$0.00
Bridge Stinger Transport >300' < 600'	0	40	hrs/set	@	$20.00	=	$0.00	
Rigging Truck Operation	0	6	hrs/set	@	$36.00	=		$0.00
Bridge Stinger Transport >600' < 900'	0	56	hrs/set	@	$20.00	=	$0.00	

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CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Rigging Truck Operation	0	8	hrs/set	@	$36.00	=		$0.00
Bridge Stinger Transport >900' < 1,200'	0	70	hrs/set	@	$20.00	=	$0.00	
Rigging Truck Operation	0	10	hrs/set	@	$36.00	=		$0.00
Timber Planking/Puncheon/Boardwalk Construction								
Timber Planking								
Single Planking	0	4	lin ft	@	$20.00	=	$0.00	
Pedestrian Timber Planking Length & Material cost	0	ft	Based on single timber cost sheet			=		$0.00
Double Planking	0	3	lin ft	@	$20.00	=	$0.00	
Pedestrian Timber Planking Length & Material cost	0	ft	Based on double timber cost sheet			=		$0.00
Puncheon Construction								
Pedestrian Puncheon 5' wide	0	0.75	lin ft	@	$20.00	=	$0.00	
Pedestrian Puncheon Length & Material cost	0	ft	Based on puncheon cost sheet			=		$0.00
Equestrian Puncheon 5' wide	0	0.70	lin ft	@	$20.00	=	$0.00	
Equestrian Puncheon Length & Material cost	0	ft	Based on puncheon cost sheet			=		$0.00
Boardwalk Construction (Pedestrian)								
Mud Sill & Joist 5' wide	0	0.75	lin ft	@	$20.00	=	$0.00	
Mud Sill & Joist Boardwalk Length & Material cost	0	ft	Based on boardwalk cost sheet			=		$0.00
Post & Pier, Concrete Piers 5' wide	0	0.5	lin ft	@	$20.00	=	$0.00	
Diamond Pier Boardwalk Length & Material cost	0	ft	Based on boardwalk cost sheet			=		$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Helical Anchor, Header & Joist 5' wide	0	0.5	lin ft	@	$20.00	=	$0.00	
Helical Anchor Boardwalk Length & Material cost	0	ft	Based on boardwalk cost sheet			=		$0.00
Diamond Piers, Pier & Post 5' wide	0	0.5	lin ft	@	$20.00	=	$0.00	
Diamond Pier Boardwalk Length & Material cost	0	ft	Based on boardwalk cost sheet			=		$0.00
Mud Sill & Fiberglass Joist Boardwalk 5' wide	0	0.5	lin ft	@	$20.00	=	$0.00	
Mud Sill & Fiberglass Joist Boardwalk Length & Material cost	0	ft	Based on boardwalk cost sheet			=		$0.00
Railing and Fencing Construction								
Hand Railings Wood (Top Rail Only)	332	10	lin ft	@	$20.00	=	$664.00	
4" x 6"x10' Handrail Materials (top rail)	33	664	bd ft	@	$2.60	=		$1,726.40
4" x 6"x 6' Handrail Materials (post)	34	410.4	bd ft	@	$2.60	=		$1,067.04
Hand Railings Wood (With Diagonals)	0	5	lin ft	@	$20.00	=	$0.00	
4" x 6"x10' Handrail Materials (top rail)	0	0	bd ft	@	$2.60	=		$0.00
4" x 6"x 12' Handrail Materials (diagonal rail)	0	0	bd ft	@	$2.60	=		$0.00
4" x 6"x 6' Handrail Materials (post)	0	0	bd ft	@	$2.60	=		$0.00
Hand Railings (With Post Sills)	0	3	lin ft	@	$20.00	=	$0.00	
4" x 6"x10' Handrail Materials (top rail)	0	0	bd ft	@	$2.60	=		$0.00
4" x 6"x 12' Handrail Materials (diagonal rail)	0	0	bd ft	@	$2.60	=		$0.00
4" x 6"x 6' Handrail Materials (post)	0	0	bd ft	@	$2.60	=		$0.00
4" x 6"x 3.5' Handrail Materials (post braces)	0	0	bd ft	@	$2.60	=		$0.00
6"x 8" x 8' Post Sill Materials	0	0	lin ft	@	$28.50	=		$0.00
Split Railing Fence								
Three High Railing	0	0.75	lin ft	@	$20.00	=	$0.00	
(4"x 6"x12' Split Rails (3)	0	0	bd ft	@	$3.00	=		$0.00
4"x 6"x 5' Post) (2)	0	0	bd ft	@	$3.00	=		$0.00
4"x 6"x 1' railing block	0	0	bd ft	@	$3.00	=		$0.00
Tie Wire (9 gauge galvanized)	0	0	lin ft	@	$0.09	=		$0.00
Four High Railing	0	0.65	lin ft	@	$20.00	=	$0.00	
(4"x 6"x12' Split Rails (4)	0	0	bd ft	@	$3.00	=		$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
4"x 6"x 6' Post) (2)	0	0	bd ft	@	$3.00	=		$0.00
4"x 6"x 1' railing block	0	0	bd ft	@	$3.00	=		$0.00
Tie Wire (9 gauge galvanized)	0	0	lin ft	@	$0.09	=		$0.00
Symbolic Fencing	0	120	lin ft	@	$20.00	=	$0.00	
Metal post	0		ea	@	$21.00	=		$0.00
Vinyl coated wire rope	0		lin ft	@	$0.65	=		$0.00
Wire rope clips	0		ea	@	$0.90	=		$0.00
Excavation Soil & Rock								
Excavations Hand Crew								
Excavation (Rock) soft: Fractured Shale, Silt Stone or Conglomerate	0	4	cu ft	@	$20.00	=	$0.00	
Cobra Rock Breaker Operation Cost	0	4	cu ft	@	$6.47	=		$0.00
Excavation (Rock) medium: Sandstone, Limestone or Marble	0	2	cu ft	@	$20.00	=	$0.00	
Cobra Rock Breaker Operation Cost	0	2	cu ft	@	$6.47	=		$0.00
Excavation (Rock) hard: Basalt, Granite or Diorite	0	1	cu ft	@	$20.00	=	$0.00	
Cobra Combi Drill/Breaker	0	1	cu ft	@	$6.80	=		$0.00
Boulder Buster	0	27	cu ft	@	$20.35	=		$0.00
Bustar	0	27	cu ft	@	$36.30	=		$0.00
Excavation slide debris (soil)	0	20	cu ft	@	$20.00	=	$0.00	
Excavation slide debris (rocky soil)	0	15	cu ft	@	$20.00	=	$0.00	
Excavation slide debris (rocky soil with wood debris)	0	10	cu ft	@	$20.00	=	$0.00	
Excavation (Soil) soft: silt, sand or loam	0	20	cu ft	@	$20.00	=	$0.00	
Excavation (Soil) medium: Loam & Aggregate	0	14	cu ft	@	$20.00	=	$0.00	
Excavation (Soil) hard: Clay & Aggregate	0	7	cu ft	@	$20.00	=	$0.00	
Excavations Mechanized Mini Excavator								
Excavation With Hammer Drill (Rock) soft: Fractured Shale, Silt Stone or Conglomerate	0	54	cu ft	@	$30.95	=	$0.00	$0.00
Excavation With Hammer Drill (Rock) medium: Sandstone, Limestone or Marble	0	40	cu ft	@	$30.95	=	$0.00	$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Excavation With Hammer Drill (Rock) hard: Basalt, Granite or Diorite	0	27	cu ft	@	$30.95	=	$0.00	$0.00
Excavation slide debris (soil)	0	120	cu ft	@	$30.95	=	$0.00	$0.00
Excavation slide debris (rocky soil)	0	100	cu ft	@	$30.95	=	$0.00	$0.00
Excavation slide debris (rocky soil with wood debris)	0	70	cu ft	@	$30.95	=	$0.00	$0.00
Excavation (Soil) soft: silt, sand or loam	0	108	cu ft	@	$30.95	=	$0.00	$0.00
Excavation (Soil) medium: Loam & Aggregate	0	94	cu ft	@	$30.95	=	$0.00	$0.00
Excavation (Soil) hard: Clay & Aggregate	0	81	cu ft	@	$30.95	=	$0.00	$0.00
Export (soil) from drainage								
Hand Crew (with wheelbarrows)								
export < 100')	0	15	cu ft	@	$20.00	=	$0.00	
export > 100' < 200')	0	10	cu ft	@	$20.00	=	$0.00	
export > 200' < 300')	0	5	cu ft	@	$20.00	=	$0.00	
Mechanized (toters) 2,500 lb capacity								
export < 100')	0	30	cu ft	@	$20.00	=	$0.00	$0.00
export > 100' < 200')	0	20	cu ft	@	$20.00	=	$0.00	$0.00
export > 200' < 300')	0	10	cu ft	@	$20.00	=	$0.00	$0.00
Mechanized (toters) 3,500 lb capacity								
export < 100')	0	60	cu ft	@	$20.00	=	$0.00	$0.00
export > 100' < 200')	0	40	cu ft	@	$20.00	=	$0.00	$0.00
export > 200' < 300')	0	20	cu ft	@	$20.00	=	$0.00	$0.00
Import Fill for Walls, Pads, Overlooks etc.								
Hand Crew (with wheelbarrows)								
import < 300'	0	5	cu ft	@	$20.00	=	$0.00	
import > 300'< 800'	0	3	cu ft	@	$20.00	=	$0.00	
import > 800'< 1300'	0	2	cu ft	@	$20.00	=	$0.00	
import > 1300'< 1800'	0	1	cu ft	@	$20.00	=	$0.00	
import > 1800'< 2500'	0	0.5	cu ft	@	$20.00	=	$0.00	

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Vibraplate (180 lb) Operation Cost	0		hr.	@	$4.17	=		$0.00
Mechanized (toters) 2,500 lb capacity								
import < 300'	0	10	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	6	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	4	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	2	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	1	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Vibraplate (180 lb) Operation Cost	0		hr.	@	$4.17	=		$0.00
Mechanized (toters) 3,500 lb capacity								
import < 300'	0	20	cu ft	@	$20.00	=	$0.00	$0.00
import > 300'< 800'	0	12	cu ft	@	$20.00	=	$0.00	$0.00
import > 800'< 1300'	0	8	cu ft	@	$20.00	=	$0.00	$0.00
import > 1300'< 1800'	0	4	cu ft	@	$20.00	=	$0.00	$0.00
import > 1800'< 2500'	0	2	cu ft	@	$20.00	=	$0.00	$0.00
Tractor/Loader Operation Cost	0		hr.	@	$7.05	=		$0.00
Vibraplate (180 lb) Operation Cost	0		hr.	@	$4.17	=		$0.00
Aggregate Imported **(If not obtained on site)**	0		cu yd	@	$55.00	=		$0.00
Work Performed Without Established Production Rates	0	Estimated Person Hours		@	$20.00	=	$0.00	
Trailside & Trail Camp Amenities								
Trail Bench (Redwood Slab Style)	0	8	ea	@	$20.00	=	$0.00	$0.00
Trail Bench (Redwood Slab Style Accessible)	0	8	ea	@	$20.00	=	$0.00	$0.00
Bear Proof Trash Receptacle (double)	0	2	ea	@	$20.00	=	$0.00	$0.00
Concrete Pad for Receptacle	0	8	ea	@	$20.00	=	$0.00	$0.00

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
Bear Proof Food Locker	0	2	ea	@	$20.00	=	$0.00	$0.00
Concrete Pad for Receptacle	0	8	ea	@	$20.00	=	$0.00	$0.00
Information Kiosk	0	8	ea	@	$20.00	=	$0.00	$0.00
Fiber Glass Embedded Interpretive Panel	0	8	ea	@	$20.00	=	$0.00	$0.00
Concrete Pad for Panel	0	4	ea	@	$20.00	=	$0.00	$0.00
Trail Signs (metal)	0	1	ea	@	$20.00	=	$0.00	$0.00
Fire Rings Steel (accessible)	0	2	ea	@	$20.00	=	$0.00	$0.00
Picnic Tables (accessible)	0	2	ea	@	$20.00	=	$0.00	$0.00
Spotting Scope (accessible)	0	1	ea	@	$20.00	=	$0.00	$0.00
Concrete Pad for Scope	0	4	ea	@	$20.00	=	$0.00	$0.00
Trailhead Stile	0	8	ea	@	$20.00	=	$0.00	$0.00
Trailhead Stile (accessible)	0	8	ea	@	$20.00	=	$0.00	$0.00
Specialized Power Tool Usage								
Generator Gas Powered 2500 Watt	0		hrs	@	$4.25	=		$0.00
Generator Gas Powered 5000 Watt	396		hrs	@	$5.12	=		$2,027.52
Material Transportation Cost								
Helicopter Rental	0		hrs	@	$8,000.00	=		$0.00
Mule Packing Contract	No. Days	No. Mules						
Mule Packing Contract	0	0	day	@	$125.00	=		$0.00
Wrangler Cost	0		day	@	$175.00	=		$0.00
Hand Transport Misc. Materials Not Identified In Worksheet Cost	0	Estimated Person Hours		@	$20.00	=	$0.00	
Spike Camp/Per Diem Operation Costs								
If No Spike Camp Put "0" in Box, If Spike Camp Put "1" in Box, If Non Commercial Per Diem Put "2" in Box	0							

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
If No CCC Supervision & Spike Camp Operation Occur Put "0" in Box, If They Do Put "1" in Box	0							
Spike Camp Overhead Costs (Food & Camp Supplies)	0.00		weeks	@	$750.00	=		$0.00
Cook Contract	0.00		month	@	$4,800.00	=		$0.00
Non Commercial Per Diem	0.00		Day	@	$40.00	=		$0.00
Spike Camp Overhead Costs for Non Commercial Per Diem Camp	0.00		weeks	@	$150.00	=		$0.00
Vehicle Cost (If vehicles are used place number of months used in box adjacent to vehicle								
Crew Van	0.00		month	@	$1,500.00	=		$0.00
CCV	0.00		month	@	$1,800.00	=		$0.00
Pickup 4x4	0.00		month	@	$1,620.00	=		$0.00
Pickup 4x4 with Utility Box	0.00		month	@	$1,650.00	=		$0.00
1 Ton Stake side Truck	2.00		month	@	$1,740.00	=		$3,480.00
2.5 Ton Stake side Truck	0.00		month	@	$2,160.00	=		$0.00
4 Yard Dump Truck	2.00		month	@	$2,640.00	=		$5,280.00
							Materials & Equip. Operation Sub Total	$132,979.57
							Tax on Materials& Equip. Cost	
Trail Crew Management Information								
Crew Size (number of workers)	12						**Materials & Equip. Operation Total**	$132,979.57
Work Day Hours (8 or 10 hour days)	10							
Number of Crew Work Days Each Week	4							

Trail:

Cells that may require data entry

Cells that may require rock totals entered into rock manufacturing, gathering & transport categories

CONSTRUCTION ACTIVITY	ITEM TOTALS	PROD. RATE	UNIT		HR. LABOR COST		LABOR COST	MATERIAL, RENTAL, & CONTRACT COST
1 Ton Stake side Truck	2.00		month	@	$1,740.00	=		$3,480.00
2.5 Ton Stake side Truck	0.00		month	@	$2,160.00	=		$0.00
4 Yard Dump Truck	2.00		month	@	$2,640.00	=		$5,280.00
							Materials & Equip. Operation Sub Total	$132,979.57
Trail Crew Management Information								
Crew Size (number of workers)	12						**Materials & Equip. Operation Total**	$132,979.57
Work Day Hours (8 or 10 hour days)	10							
Number of Crew Work Days Each Week	4							
Total Crew Work Days	88.00				**Labor Sub Total**		$211,200.00	
Total Crew Work Weeks	22.00				**Camp Setup**		$0.00	
Cost Per Crew Day	2,400							
Average Daily Hiking Time on Project Display in increments of 15 minutes at .25 hours (ex .25, .50, .75, 1.00, 1.25, 1.50)		**Hiking Time**						
		Crew Labor Total					$211,200.00	
	1.00							
	Sub Total Tr. Equip. Operator Cost						$0.00	
	Trail Equip. Operator Hiking Time						$0.00	
	Total Trail Equipment Operator Cost						$0.00	
	Sub Total Supervision Cost							
		Supervision Hiking Time						
		Total Supervision Cost					$0.00	
	C1 / Crew Supervisor Overtime						$0.00	
	Tool & Equipment Replacement							$10,325.39
	TOTAL PROJECT COST							**$354,504.96**

SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS
Wade Horton, Director

County Government Center, Room 206 • San Luis Obispo CA 93408 • (805) 781-5252
Fax (805) 781-1229 email address: pwd@co.slo.ca.us

POST CONSTRUCTION CONTROL PLAN (PCCP)
FOR
BURTON DRIVE PEDESTRIAN PATH
(WBS 300572)

DATE: 4-11-17

This template is to be used in conjunction with the requirements, instructions, and criteria set forth in the ***County of San Luis Obispo Post Construction Stormwater Requirements Handbook***.

TABLE OF CONTENTS

POST CONSTRUCTION CONTROL PLAN

I. PROJECT INFORMATION

Project Name: BURTON DRIVE PEDESTRIAN PATH

County Contract No.: 300572

Federal Aid Project No.: N/A

Road Number: 5092

Project Manager: Mike Britton

Design Engineer: TBD (PEP by Mark Davis)

FOR ITEMS # 2, 3, and 4 – Please Refer to Chapter 3 of the PCR Handbook

II. IMPERVIOUS SURFACE VALUES– *Refer to the Glossary or Appendix C in the PCR Handbook*

Total Project Area (sqft)

Total Area (sqft): 16,000 +/-

Pre-Project (sqft)

Existing Impervious Area (sqft): 0

Post-Project (sqft)

New Impervious Area (sqft): 12,000

Reconstructed Impervious Area (sqft): 0

Removed Impervious Area (sqft): 0

Net Impervious Calculation (sqft)

New + (Reconstructed) - Removed (sqft): 12,000 (Exempt per Table 3-2, ii, iii)

III. REVIEW FOR EXEMPTION– *Refer to Figure 3-2 in the PCR Handbook*

- ❑ **SMARTS WATER BALANCE CALCULATOR OR SWCP REQUIRED** – The project is located outside the Stormwater Management (MS4) Area but involves site disturbance greater than 1 acre.
- ❑ **SWCP REQUIRED** – The project is located outside the Stormwater Management (MS4) Area but is subject to a 401 permit.
- ❑ **SWCP REQUIRED** – The project is located in a Stormwater Management (MS4) Area and involves at least 2,500 square feet of net impervious surface area.
- ■ **SWCP EXEMPT** – The project is exempt from a Stormwater Control Plan for the following reason:
  - □ **Outside of MS4.** The project is <u>not</u> located in a Stormwater Management Area.

□ **Less than 2,500 square feet.** The project creates or replaces less than 2,500 square feet of net impervious area.

■ **Proposed Work is Exempt.** Scope of work meets the exemptions on Table 3-1 and Table 3-2.

IV. PERFORMANCE REQUIREMENTS

Check the applicable performance requirements and identify whether the project meets the requirement:

■ **Exempt from SWCP**

❑ **#1 – Site Design**	Performance Requirement Met? ☐ YES	☐ NO
❑ **#2 – Water Quality Treatment**	Performance Requirement Met? ☐ YES	☐ NO
❑ **#3 – Runoff Retention**	Performance Requirement Met? ☐ YES	☐ NO
❑ **#4 – Peak Management**	Performance Requirement Met? ☐ YES	☐ NO

Are structural stormwater control measures proposed? ☐ YES ☐ NO

V. DESIGN CRITERIA – *Refer to PCR Handbook, Appendix A*

■ Exempt from SWCP

Watershed Management Zone #:

Applicable Rainfall Event (85/95):

24-hour Rainfall Isohyetal Line (in):

VI. CERTIFICATION

■ **Exempt.** This project is exempt from submitting a SWCP.

❑ **Full Compliance.** This project fully complies with all applicable Performance Requirements as outlined in the remaining Stormwater Control Plan documentation.

❑ **Alternative Compliance.** This project is unable to fully comply with all applicable Performance Requirements. As such, the applicant is requesting to use methods of alternative compliance.

Reason for non-compliance: _____

_____

Method for alternative compliance: _____

_____

This SWCP was prepared by or under my direction:

Engineer Name Mark Davis License No. 63477