

SHARP ENVIRONMENTAL ANALYSIS

PHASE 1: TASK 1

CONCEPT: Improved soft-surface

non-motorized connector trails from

Mammoth Rock Trail to Borrow Pit

(Sherwins Trailhead) staging area.

See The Sherwin Area Recreation Plan

(SHARP) for detailed concepts and

rationale for the following trail segements:

SHARP Summer Map ID #18

SHARP Summer Map ID #13

Proposed alignments are expected to

change slightly based on environmental/

field review and precise design work

on the ground before construction

- This map is for informational purposes and may not

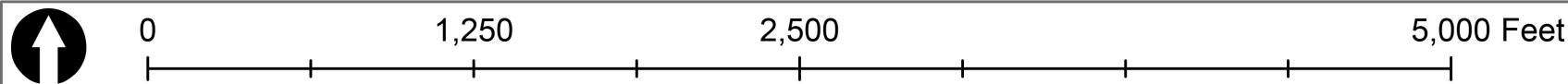
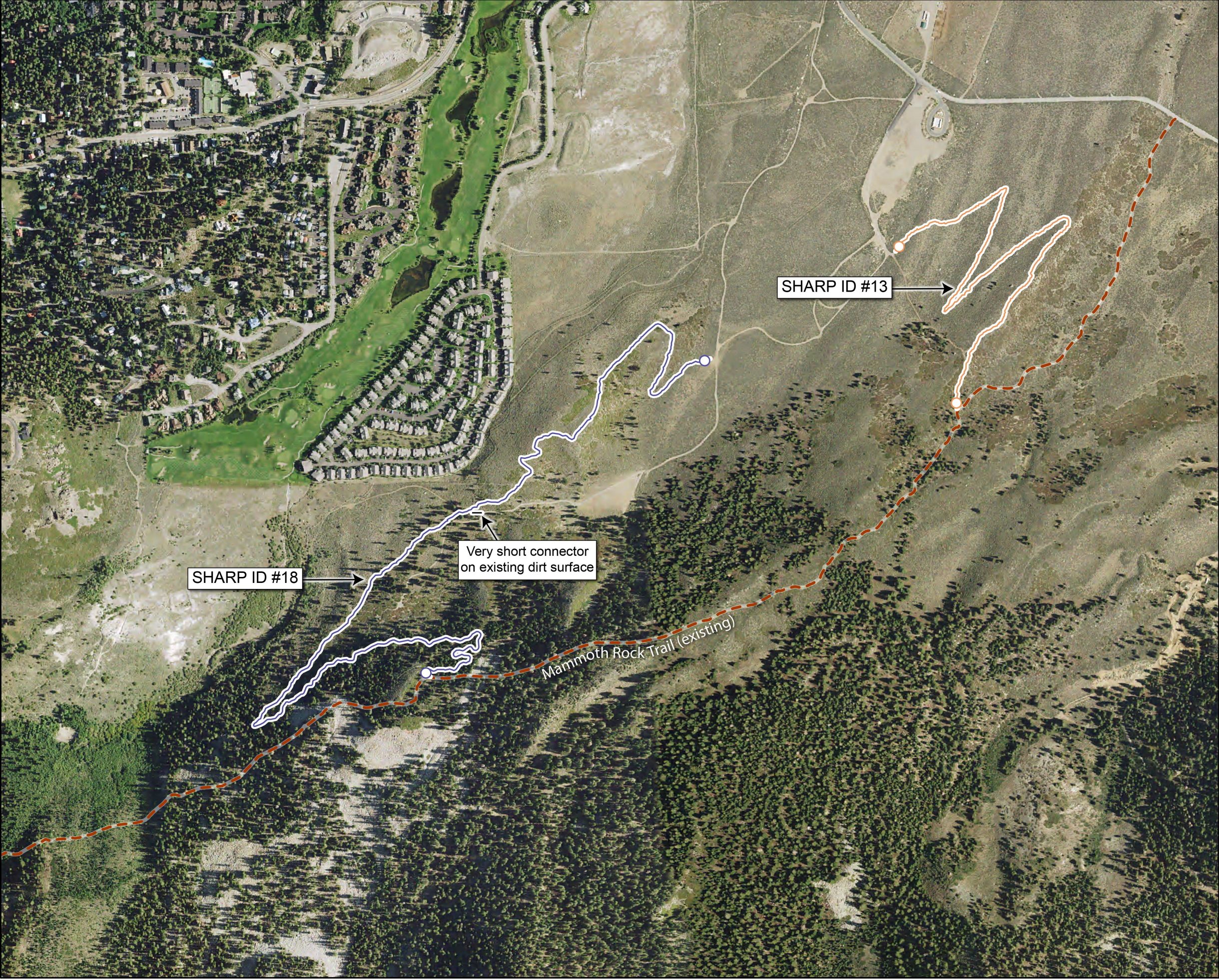
have been prepared for, or be suitable for legal,

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information should review or consult the primary

data and information sources to ascertain the

usability of the information. Map Draft Date 11/03/16





Winter 2017 Draft Report

Alignment Proposals for the Inyo National Forest and the Town of Mammoth Lakes

Map ID #S18

February 08, 2017





**Map ID #S18 Key Agreements
As of February 08, 2017**

- A. Alignment:** This trail is intended to reroute and formalize the existing and unsustainable use trail connection that currently links the central section of the Mammoth Rock Trail to the proposed loop trail around the Sherwins Meadow (SHARP Project ID #08).
- 1. Trailhead and Destination(s):** Mammoth Rock Trail and SHARP Map ID#8.
 - 2. Naming:** Meadow Trail Connector
 - 3. Control Points/Narrative:** The proposed trail will begin at the intersection of the existing USFS Road AKA 27E201 and SHARP ID #S07 (1). The trail meanders southwest toward the base of the hill, after a short distance the trail meets with SHARP ID #S03 (2) and proceeds to turn northeast in a wide radius turn (3). The alignment continues through manzanita at a 5% grade to the top of the hill and takes another wide radius turn above several beautiful white fir trees (4) and a cluster of large boulders (5) revealing a landscape view of Mammoth Mountain, Mammoth Rock, and Mammoth Pass. The trail proceeds south along the top of the hill through manzanita following a 5% grade past a split boulder (6) revealing sweeping views of Mammoth Mountain, Mammoth Rock, and Mammoth Pass (7). The trail begins to descend from the top of hill and proceeds to flow into a series of wide radius turns. After the first two turns the trail passes an interesting rock feature and reveals another sweeping view of Mammoth Rock and the surrounding area (8). The trail continues through manzanita and crosses an existing use trail (9) and parallels the USFS Road AKA 27E201 as it meanders through clusters of trees. A large rock on this section of the trail may provide a possible side feature for mountain bikes (10). From there the trail maintains a gentle uphill grade through a manzanita grove with rolling contour trail at 2%-3% grade. The alignment then crosses an existing use trail which will require signage to keep users on the "official" trail as it continues along the contour (11). A grove of old growth juniper trees (12) is on display near a rock outcropping with a framed "window" view of Mammoth Mountain and Mammoth Rock as the trail continues to roll along the contour at 5% grade. The trail alignment then meets a large boulder which provides an opportunity to create an interesting turn using the natural shape of the rock (13). The trail then meets a rock slide area with big views (14). There is an opportunity for an alternate rocky alignment above the main route for added interest for more



experienced trail users (14). The trail continues along the contour, which is now on a steep side slope. The trail will cross the same downhill use trail again (15) near a stand of old growth juniper trees. From there the trail finds a natural opportunity for a wide radius turn into a grove of trees (16). Another wide radius turn yields a big view (17), followed by yet another wide turn (18). The last uphill turn curves around a large tree (19) and the final approach gently merges at a confluence with the Mammoth Rock Trail (20). Signage will be needed to encourage users to stay on the new trail and to not stray onto existing use trails.

4. Map Reference: SHARP TTC: Map ID #S18, 02/08/17

B. Design Specifications:

- 1. Trail Type:** Type 2 (preferred mountain bike; tread narrow—less than 36 inches; minimal allowance for passing. See Chapter 6.6 Soft-Surface Trail Design Guidelines from TSMP).
- 2. Users:** Non-motorized users: mountain bikers, day hikers, equestrian
- 3. Width:** See "Trail Type."
- 4. Grade:** See "Trail Type."
- 5. Surface:** Soft-surface. See "Trail Type."
- 6. Features:** The primary feature is to provide a sustainable alternative to existing use/social trails connecting the Mammoth Rock Trail to the Sherwins Meadow and the Sherwins Meadow Trail. Opportunities exist to potentially take advantage of existing social trails and temporary parking areas in the northeastern section of the proposed alignment.
- 7. User Experience/Aesthetics:** This trail is intended to be an easy-to-moderate two-way (uphill and downhill) non-motorized trail connecting SHARP Map ID #08 with the Mammoth Rock Trail. This rolling contour trail with 3%-5% grades will provide an easy to moderate multi-use trail with scenic views and rock features for mountain bikers, day hikers, and equestrians. Making the trail "two-way" helps to prevent and mitigate possible user conflict between riders coming downhill at higher speeds and users traveling more slowly uphill. This connector will allow mountain bikers to exit the Mammoth Rock Trail before reaching the sandy eastern end (an undesirable soil type for mountain bikers) and connect them back to Town via the Tamarack Street or the Borrow Pit trailheads. This will open loop opportunities in the Sherwins area and on the Mammoth Lakes Trail System for all trail users.
- 8. Trail Amenities:** Viewpoints exist along the route that could be utilized for pullouts taking advantage of the unique geography and scenic opportunities.

C. Winter/Summer Interface: None.



- D. Signage and Wayfinding Special Considerations:** As noted earlier, specific signage will be needed to keep users on the new trail and not distracted by existing use trails which will need to be rehabilitated by appropriate land management agencies. Signage and wayfinding will be minimal and consistent with the “MLTS Wayfinding and Signage Standards Manual”.

TO BE COMPLETED BY AGENCIES/JURISDICTIONS

- A. Environmental Review:** Anticipated decision from USFS will be a categorical Exclusion per the District Ranger.
- B. Construction & Maintenance:** Town of Mammoth Lakes under CCS and Potentially SUP.
- C. Funding Considerations & Ownership:** Funding Construction through Measure R and MLTS Trail Facilities Construction Reserve Account; Ownership via USFS with Maintenance provided by the MLTS.
- D. Construction Cost Estimator**

Total Linear Feet New Trail Construction	8,700 feet
Total Estimated Cost per Linear Foot	\$5.00
Total Estimated Cost of New Trail Construction	\$43,400
Type of Amenities	Type 9a Signage
# of Amenities	5
Cost per Amenity	\$200
Total Cost of Amenities	\$1,000
Rehabilitation Cost	N/A
Total Cost Estimate for SHARP ID #S18	\$44,500

- a. **Total linear feet of new trail construction:** 8,700 feet
- b. **Total estimated cost per linear foot:** approx. \$5.00
- c. **Estimated Cost of Amenities:** \$1,000 for Type 9a signage. A minimum of four Type 9a (Trail Directional) signs will be needed on this trail: one at the trailhead (control point 1), two at intersections with existing use trail to keep users on the trail, one near the rock slide for the alternative rocky alignment for experienced users, and at the end of the trail where it meets the Mammoth Rock Trail. Signs are approximately \$200 each, the estimated signage budget for this trail will be \$1,000.
- d. **Rehabilitation cost estimate:** N/A
- e. **First-guess cost estimate:** \$44,500
 - i. **Preferred Alignment:** \$44,500





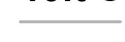




ii. Alternative alignment: None

E. Other Special Considerations: SHARP ID #08 needs to be formalized as a USFS System Trail prior to construction of SHARP ID #S18. Hand tools will likely be the primary means of construction for this trail, and are desired to reinforce the character of the finished product.

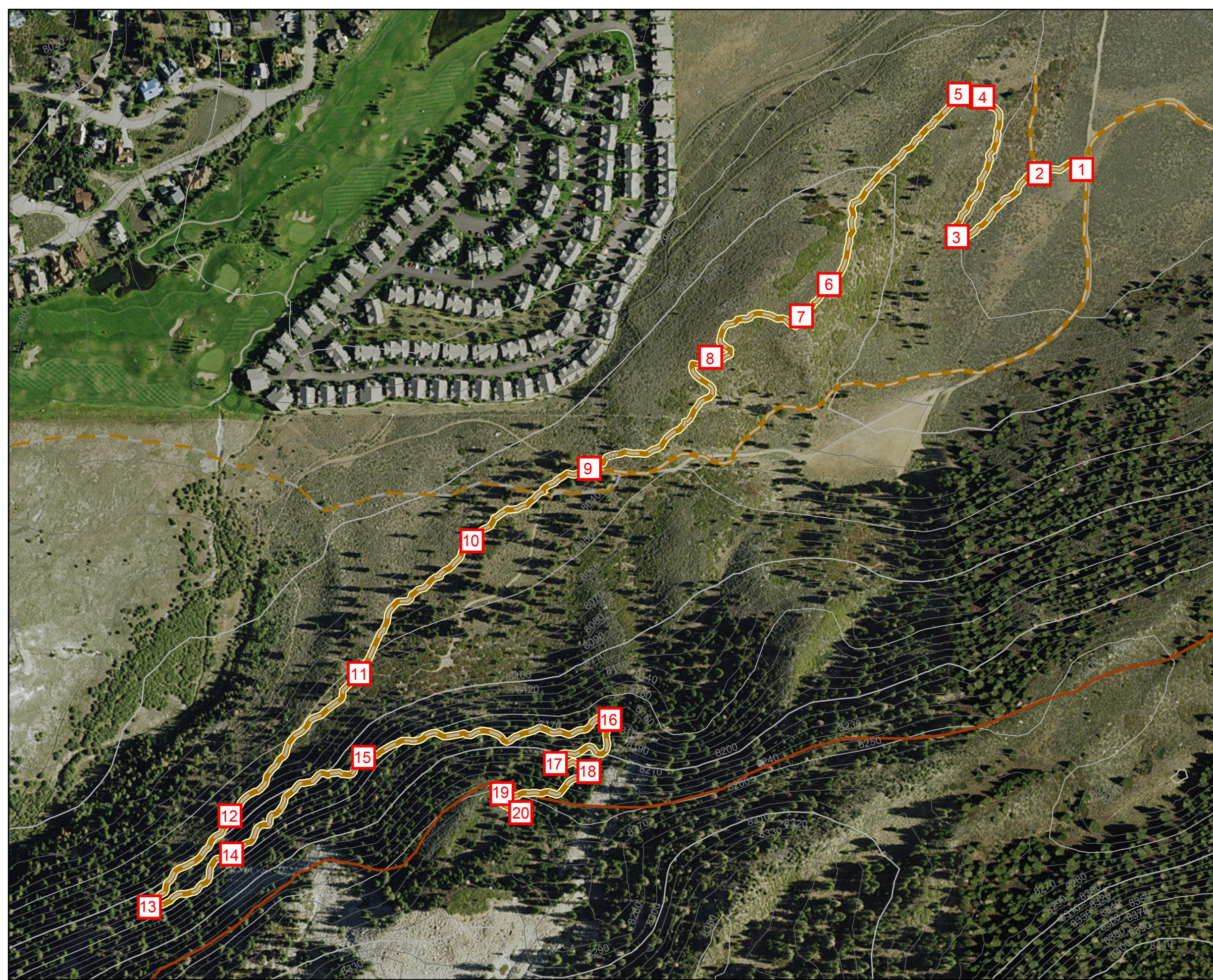
SHARP TTC: Map ID #18
CONCEPT: Improved soft-surface
 non-motorized connector from Mammoth
 Rock Trail to proposed meadow loop trail.
 (see Summer Map ID #8).
 See The Sherwin Area Recreation Plan
 (SHARP) for detailed concept and
 rationale
 Map Draft Date 02/08/17

Legend

-  SHARP TTC Trail Alignments
-  SHARP Proposed Trails
-  INF Trails
-  Centerlines
- 10ft Contours**
 -  Contour Line, Major
 -  Contour Line, Minor
 -  Contour Line, Intermediate

SHARP TTC

- The SHARP TTC is committed to staying true to the original wording and intent of the SHARP proposals, as crafted by the Sherwins Working Group, and will therefore not revisit or revise any part of any recommendation unless warranted by agency sideboards or other opportunities or constraints as identified by land management agencies such as the INF.
- This map is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



0 500 1,000 2,000 Feet





Project Cover Sheet: Map ID #S18

SHARP CONCEPT	Improved soft-surface non-motorized connector from Mammoth Rock Trail to proposed meadow loop trail (See Summer Map ID #8). Improve the existing trail connection that links the eastern section of Mammoth Rock Trail to the loop trail around the meadow (see Summer Map ID #8). The connector will be clearly delineated and marked as two-way (uphill and downhill), utilize the existing use-trail, which is currently in good shape except for the top portion, and will be open to non-motorized use only. Equestrian use will be accommodated per appropriate and sustainable design needs of the topography and terrain, which could include a second trail.
SHARP RATIONALE	This connector will allow mountain bikers to exit the Mammoth Rock Trail before reaching the sandy eastern end (an undesirable soil type for mountain bikers) and can connect them via the backbone trails to the Tamarack Street trailhead (see Summer Map ID #2 and #7). This link will open up loop opportunities both within the Sherwins area and on Mammoth Lakes Trail System facilities accessible from the Tamarack Street trailhead and the borrow pit staging area (see Summer Map ID #1). Making the trail two-way helps to prevent and mitigate user conflict between riders coming downhill at higher speeds and users traveling more slowly upslope.
RELATED PROJECTS	SHARP project ID #1 - See the SHARP Summer Proposal for details. SHARP project ID #2 - See the SHARP Summer Proposal for details. SHARP project ID #7 - See the SHARP Summer Proposal for details. SHARP project ID #8 - See the SHARP Summer Proposal for details.
WORKFLOW CHECKLIST TASK	DATE COMPLETED
Group overview in-house meeting to present work plan and desired	September 17, 2015
Group overview field trip and technical analysis in-house	September 23, 2015
Drafting/staking	October 16, 2015
Technical review field trip	September 7, 2016
Draft revision	November 2, 2015
Final review meeting	December 30, 2015
Presentation to USFS	January 4, 2016
AGENCY SIDEBOARDS	TBD
DESIRED OUTSIDE PARTICIPANTS	Town of Mammoth Lakes, Inyo National Forest
ENVIRONMENTAL REVIEW	NEPA: Anticipated decision from USFS will be a Categorical Exclusion per the District Ranger. Specific action still pending.
OTHER NOTES	TBD
PARTICIPANTS	2015-2017 Participants: Alan Jacoby, Joel Rathje, Jamie Rathje, John Wentworth, Andrew Mulford, and Kelly Workman.



Winter 2017 Draft Report

Alignment Proposals for the Inyo National Forest and the Town of Mammoth Lakes

Map ID #S13

February 08, 2017





**Map ID #S13 Key Agreements
As of February 08, 2017**

- A. Alignment:** This trail is meant primarily as a connector from the Sherwins Trailhead to the Mammoth Rock Trail.
- 1. Trailhead and Destination(s):** Sherwins Trailhead and the Mammoth Rock Trail.
 - 2. Naming Suggestions:** Mammoth Rock Trail Connector
 - 3. Control Points/Narrative:** The trail begins at the south side of the Sherwins Trailhead where the decommissioned USFS Road AKA 4S106 and the proposed SHARP Map ID #S07 meet (1). The trail meanders east at an approximate 5% grade following the contour of the landscape and providing users with stunning views of the Glass Mountains, the Long Valley Caldera and the White Mountains. The trail then makes a wide radius turn to the southwest using the natural contour of the landscape (2). From there, the trail maintains a 5% grade or less as it passes a large rock just before making another sweeping turn towards the east (3). The trail continues east following the contour and passes a cluster of impressive granitic rocks on the left side of the trail that could serve as possible feature for mountain bikes (4). Just past this rock feature, the trail turns east in the final wide radius turn of this trail alignment. The trail follows the contour of the hillside passing another impressive rock feature (5) until it meets with an existing use trail at the top of the hill which will require reassurance signage to keep users on the system trail (6). The trail alignment crosses the existing steep and unsustainable use trail following the contour of the landscape through manzanita at a 5% grade heading south towards the lower section of the Mammoth Rock Trail. The trail meets a second use trail (7) and makes a quick turn further south following the existing use trail to its terminus at the intersection of the Mammoth Rock Trail (8). Signage will be needed to encourage users to stay on the new trail and to not stray onto use trails.
 - 4. Map Reference:** SHARP TTC: Map ID #S13, 12/19/16
- B. Design Specifications:**
- 1. Trail Type:** Type 2 (preferred mountain bike)
 - 2. Users:** Non-motorized
 - 3. Width:** See "Trail Type."
 - 4. Grade:** See "Trail Type."
 - 5. Surface:** See "Trail Type."



6. **Features:** See control points. Preventative measures will be taken to prevent cutting switchbacks and use of existing unsustainable use trails and USFS Road AKA 4S106.
 7. **User Experience/Aesthetics:** This trail exhibits good examples of manzanita communities on the east side of the Sierra, provides excellent views of Mammoth Rock, the Glass Mountains, Long Valley Caldera, and the White Mountains and offers an introduction to the front country/soft-surface trail experience.
 8. **Trail Amenities:** As directed by the *Mammoth Lakes Trail System Wayfinding and Signage Standards Manual*.
- C. Winter/Summer Interface:** No winter facilities are in apparent conflict with this project, with the possible exception, of soft surface signage, though it is proximate to the proposed snowplay area. If possible, it is desirable to compact snow in this area at the beginning of the trail to access the snowplay area. In this case, accommodation of a snowcat should be considered when planning rehabilitation of USFS Road AKA 4S106 in this area.
- D. Signage and Wayfinding Special Considerations:** As directed by the *Mammoth Lakes Trail System Wayfinding and Signage Standards Manual*. Additionally, there is the possibility to implement interpretive signage related to the variety of vegetation and other natural features of the area, which could connect into a larger interpretive experience at the Sherwins Trailhead (Map ID #S01).

TO BE COMPLETED BY AGENCIES/JURISDICTIONS

- A. Environmental Review:** Anticipated decision form USFS will be a Categorical Exclusion per the District Ranger.
- B. Construction & Maintenance:** Town of Mammoth Lakes under CCS and Potentially SUP.
- C. Funding Considerations & Ownership:** Funding Construction through Measure R and MLTS Trail Facilities Construction Reserve Account; Ownership via USFS with Maintenance provided by the MLTS.



D. Construction Cost Estimator:

Total Linear Feet New Trail Construction	5,018 feet
Total Estimated Cost per Linear Foot	\$5.00
Total Estimated Cost of New Trail Construction	\$25,090
Type of Amenities	Type 9a Signage
# of Amenities	4
Cost per Amenity	\$200
Total Cost of Amenities	\$800
Rehabilitation Cost	N/A
Total Cost Estimate for SHARP ID #S13	\$25,890

- a. **Total linear feet of new trail construction:** 5,018 feet
 - b. **Total estimated cost per linear foot:** \$5.00 per linear foot
 - c. **Estimated Cost of Amenities:** \$800 for Type 9a signage. A minimum of four Type 9a (Trail Directional) signs will be needed on this trail: one at the trailhead (control point 1), two at intersections with existing use trail to keep users on the trail, and one at the end of the trail where it meets the Mammoth Rock Trail. Signs are approximately \$200 each, the estimated signage budget for this trail will be \$800.
 - d. **Rehabilitation cost estimate:** TBD
 - e. **First-guess cost estimate: \$25,890**
 - i. **Preferred Alignment: \$25,890**
 - ii. **Alternative alignment:** None
- E. Other Special Considerations:** None

SHARP TTC: Map ID #13

CONCEPT:Soft-surface non-motorized

connector from the borrow pit staging area

(see Summer Map ID#1)

to Mammoth Rock Trail

See The Sherwin Area Recreation Plan

(SHARP) for detailed concept and

rationale

Map Draft Date 12/19/16

Legend

- SHARP TTC Trail Alignments

SHARP Proposed Trails

INF Trails

Centerlines

10ft

Contours

Contour Line, Major

Contour Line, Minor

Contour Line, Intermediate

SHARP TTC

The SHARP TTC is committed to staying true to the original wording and intent of the SHARP proposals, as crafted by the Sherwins Working Group, and will therefore not revisit or revise any part of any recommendation unless warranted by agency sideboards or other opportunities or constraints as identified by land management agencies such as the INF.

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Project Cover Sheet: Map ID #S13

SHARP CONCEPT	Soft-surface non-motorized connector from the borrow pit staging area (see Summer Map ID #01) to Mammoth Rock Trail. Develop a soft-surface non-motorized connector trail from the Mammoth Rock Trail to the south side of the borrow pit staging area. Design concerns may necessitate rehabilitation of the two existing use-trails into one system trail that connects to the existing road on the south side of the borrow pit.
SHARP RATIONALE	This connection will enable users, particularly mountain bikers, to exit the Mammoth Rock Trail and make a direct connection to the Mammoth Creek Park East connector trail (see Summer Map ID #06) and the larger Mammoth Lakes Trail System, or to one of the two "backbone" trails connecting the borrow pit staging area to the Tamarack Street trailhead (see Summer Map ID #02 and #07). Consolidation of the two existing use-trails will reduce visual impact. This connection will deliver users from Mammoth Rock Trail directly into the borrow pit staging area, which is a major node featuring an array of facilities.
RELATED PROJECTS	SHARP ID #W01. See SHARP Winter Proposal for details. SHARP ID #S02. See SHARP Summer Proposals for details. SHARP ID #S06. See SHARP Summer Proposal for details. SHARP ID #S07. See SHARP Summer Proposal for details.
WORKFLOW CHECKLIST TASK	DATE COMPLETED
Group overview in-house meeting to present work plan and desired	June 12, 2010
Group overview field trip and technical analysis in-house	Field trip: June 12, 2010
Drafting/staking	June 12, 2010
Technical review field trip	September 2, 2016
Draft revision	February 8, 2017
Final review meeting	July 13, 2010
Presentation to USFS	November 18, 2010
AGENCY SIDEBOARDS	N/A
DESIRED OUTSIDE PARTICIPANTS	Town of Mammoth Lakes, Inyo National Forest
ENVIRONMENTAL REVIEW	NEPA: Anticipated decision from USFS will be a categorical Exclusion per the District Ranger. Specific action still pending. CEQA: TBD
OTHER NOTES	None.
PARTICIPANTS	2011-2016 Participants: Robin Morning, Lesley Bruns, Maggie Palchak, Malcolm Clark, John Walter, Greg Norby, Tammy Nguyen, Megan Mahaffey, Linsey Duddridge, Chuck Megivern, Kim Stravers, Drew Blankenbaker, Steve Speidel, Keith Dawley, Jon Kazmierski, and John Wentworth. 2016-2017 Participants: John Wentworth, Joel Rathje, Andrew Mulford, and Kelly Workman.