November 8, 2016

Truckee Tahoe Airport Trails Master Plan

1. INTRODUCTION

In 2014, the Truckee Tahoe Airport (TRK) embarked on a formal process to consider opportunities for non-motorized trails that would provide critical connectivity to existing and future local and regional trails in and around Truckee while offering a new venue for recreation in the region. With an existing commitment to open space and easements, some that allow non-motorized recreation, the airport's decision to formalize a plan for trails on airport property is a natural step. Additional opportunities to better orient and inform constituents of the airport's natural landscape, as related to its primary aeronautical mission, was also considered an important driving force behind the development of a trails master plan. The Truckee Tahoe Airport Trails Master Plan (Trails Plan) emerged from this vision of high quality recreational experience on airport property, where the airport's location and acreage make it an ideal environment for walking, bicycling, and experiencing the Truckee Tahoe Airport.

This Trails Plan is to be used as a long-term planning document and a framework that will guide the development of trails on and around TRK property as financial resources become available.

2. TRUCKEE COMMUNITY PROFILE

Geography. The Truckee Tahoe Airport District (TTAD) covers an area of approximately 485 square miles in eastern Nevada and Placer counties including approximately 1,529 acres of open space owned in fee, and an additional 141 acres in conservation easements set aside as a recreational benefit for the community. The airport sits on the floor of the Martis Valley at an elevation of approximately 5,900 feet, with the Martis Creek Lake National Recreational Area to the southeast, Tahoe National Forest to the south, and the Town of Truckee to the north and west. The airport property occupies approximately 926 acres of land.

Two state highways serve the Truckee area and airport visitors: Highway 267, lying adjacent to the south edge of the airport boundary and connecting Lake Tahoe to Interstate 80; and Highway 89, connecting Truckee with Lake Tahoe's west shore, and north to Sierra County. Interstate 80 is the primary highway access to Truckee, connecting the west and east ends of town, and Truckee with Sacramento to the west and Reno to the east.

Economy. Truckee has approximately 16,000 year-round residents, with 44% over the age of 25 with a bachelor's degree or higher. Truckee's average household income is approximately $82,837, with the majority of the population employed in professional, management, or service industries. The economy of Truckee is heavily dependent on recreation. Several ski resorts are located in and around Truckee, while in the summertime, the area is popular for hiking, mountain biking, road biking, and trail running, among other warm weather pursuits. Roughly 47% of residences in Truckee are second homes.

3. AIRPORT LAND USES AND PLANNING

The Town of Truckee, Nevada County, and Placer County are responsible for land use planning in the area surrounding the airport. Residential neighborhoods and recreation facilities exist adjacent to or within 2,500 of airport property to the north, south, and west. To the east lies the town's wastewater treatment plant and a gravel plant facility.

Lands along the airport's north and west side are designated for mixed commercial/retail, industrial, and workforce housing uses under the Town's 2025 General Plan, adopted in 2006. This General Plan is a long-term policy guide for growth and environmental protection in the Town of Truckee, providing direction on how Truckee might best fulfill its community vision. The General Plan includes the goal of a safe and comprehensive non-motorized trails system (see "Coordination With Other Trails Plans"). Also of note to TRK, the specific plan for Joerger Ranch (Planned Community - 3) was approved by Truckee Town Council in March of 2015 and will provide critical trail connectivity to the airport's proposed Trails Plan.

The Truckee Tahoe Airport District itself also has policy and planning documents to guide operations. The Airport's Strategic Plan, completed in March 2011, addresses airport facilities, services, and their relationship to the community. Among the objectives addressed in this document is the use of a portion of tax revenue every year for potential open space acquisitions that consider community enhancement benefits to TTAD constituents. TRK has also conducted community surveys to explore public and pilot awareness and opinions concerning airport operations. Here, results show that the community considers preservation of open space and emergency services to be the most important services of the airport.

The airport's most recent Master Plan update (2016) was designed to create a blueprint for facility and infrastructure planning over the next 10-15 years. The three focus areas in the Master Plan include: (1) exploring options to expand annoyance mitigation programs; (2) managing growth of aviation facilities; and (3) enhancing community-related functions. Only about 35% of contiguous airport land is occupied by aviation facilities. While expansion of aviation facilities has top priority for future uses, the master plan indicates that the remaining land is potentially available for non-aviation development.

4. COORDINATION WITH OTHER TRAILS PLANS

This Trails Plan supports and conforms well with trails plans of other local jurisdictions. The Town of Truckee Trails & Bikeways Master Plan (2015) is a comprehensive framework for the creation of a town-wide trails and bikeways network designed for community and regional connectivity. Although the scope of this plan is limited to town boundaries, the importance of regional connectivity is recognized and encouraged in this document. The Martis Valley Community Plan (2003) calls for the development of a system of interconnected hiking, riding, and bicycling trails and paths suitable for active recreation, including a soft surface trail between TRK and Martis Creek Lake. Additionally, the Placer County Regional Bikeways Plan (2002) speaks to the need for a regional system of bikeways for transportation and recreation purposes; the Martis Creek Lake Master Plan (draft – 2015) includes development and

maintenance of trails; and the Truckee Donner Recreation and Parks District Strategic Plan (2014) articulates support for trails.

Waddle Ranch Preserve (TTAD property with a conservation easement owned by the Truckee Donner Land Trust) encompasses 1,462 acres with roughly seven miles of trail. Trails and proposed trails within this area are referenced in the Waddle Ranch Preserve Trails Master Plan. These trails are in close proximity to the airport, with TRK providing a natural link to this trails system.

The Northstar Community Services District is the lead agency for the proposed Class 1 Martis Valley Regional Trail which begins at the intersection of Highway 267 and Airport Road, and will meander through Martis Valley to the Village at Northstar and ultimately to Lake Tahoe. **See Figure 1**

The Joerger Ranch (Planned Community- 3) contains provisions for a coordinated pedestrian and bicycle network within the planned community and greater Truckee area, including linkage to future connections to the Truckee River Regional Park, Truckee River Legacy Trail, River View Sports Park, and Martis Valley Regional Trail. The Joerger Ranch Specific Plan's Class 1 bike paths also provide critical connectivity to TRK. **See Figure 2**

Figure 1 – Proposed Martis Valley Regional Trail

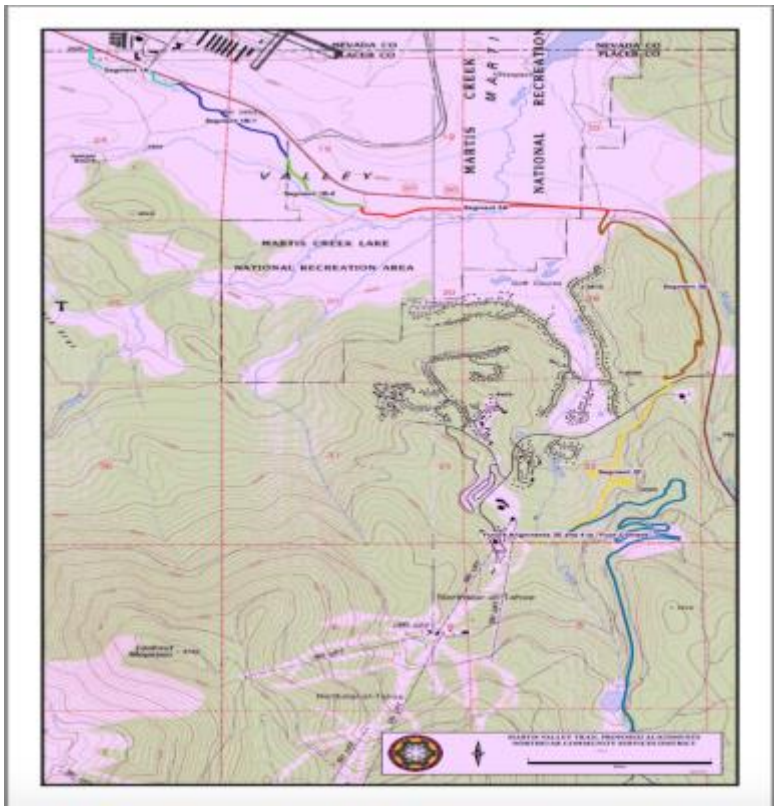


Figure 2 – Joerger Ranch Class 1 Bike Path Plan

5. TRAILS MASTER PLAN GUIDING PRINCIPLES

The development of this trails master plan is grounded in the following:

Community Benefit

- TRK envisions safe and convenient non-motorized recreational trail options for the local community and visiting public.
- TRK is committed to an airport trails system that is safely connected to the broader trail network in the Truckee community and surrounding unincorporated areas.
- TRK is committed to providing recreational trail opportunities for users of all abilities, and will ensure trails are accessible to the physically challenged where feasible.
- TRK believes trails on airport property, by linking to the broader community, will: help improve health through active living; generate economic activity; improve air quality; and enhance cultural awareness and community identity.
- Trail-side interpretive signage will help educate trail users of the natural and cultural resources in Martis Valley and provide information about airport operations and aeronautical principles.

Visual Impacts/Aesthetics

- Airport trails will be incorporated into the surrounding landscape to the fullest extent possible and with attention to aesthetic value.
- TRK will strive to avoid undesirable visual impacts.

Natural Resources

- Protection of natural resources on airport property is a primary goal.
- Corridors with sensitive natural resources will be avoided wherever possible.

Trail Design

- Trails will be designed to be compliant with Americans with Disabilities Act (ADA) standards.
- Trails will be planned with the current, highest quality, and most cost-effective design possible.
- Surface material will reflect the type of user and volume of use.
- Trails will be developed at a rate which incorporates long term maintenance needs and construction costs.
- Trails will be aligned, designed, and regulated to ensure safety of trail users and airport operations. This includes (but is not limited to) possible regulation of dogs on trails.

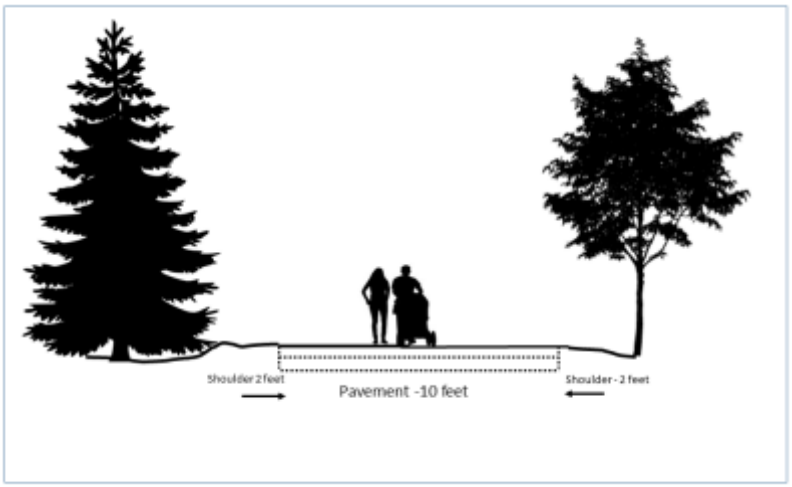
6. TYPES OF TRAILS

The airport anticipates constructing its trails with one of two surfaces, depending on the location in the Trails Plan.

- ***Class 1 Bike Path or Bike Trail:*** These are paved trails designed for use by bicycles and pedestrians. Paths are typically 10-12 feet wide, with a minimum 2-foot wide graded area adjacent to the path to provide clearance from trees, poles, walls, guardrails, etc. These paths are typically constructed with adequate subgrade compaction to minimize cracking and sinking

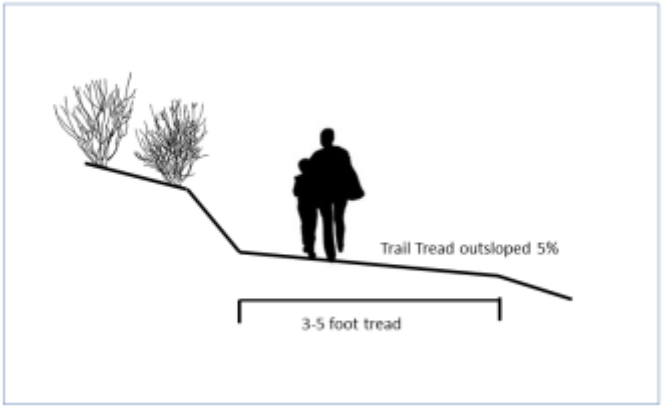
and to accommodate appropriate loadings (maintenance trucks, emergency vehicles, etc.). Shoulders on one or both sides of the path are recommended where feasible to accommodate pedestrians and help reduce pathway conflicts. A 2% cross slope is preferable to ensure proper drainage. **See Figure 3**

Figure 3 – Paved Trail Cross Section



- ***Unpaved (dirt) multi-purpose paths.*** These trails are popular with walkers and mountain bikers. Trails should be made as accessible as possible while maintaining the character of the resource and natural environment. The minimum trail width is 3 feet with a maximum cross slope of 5%. Trails may be surfaced with wood chips, crushed stone or shell, or may be made of compacted earth. Whatever is used, the surface should be firm and stable. **See Figure 4**

Figure 4 – Dirt Trail Cross Section



7. PROPOSED TRAILS AND BIKEWAYS

TRK sits on the relatively flat Martis Valley floor, with vegetative cover that include sagebrush, rabbit brush, bitterbrush and mountain whitethorn, with a forested area on the north side of the proposed trail plan, largely made up of Jeffrey, ponderosa, and lodge pole pine. Some areas also contain both native and introduced grasses and sedges. A few drainages and one wetland area are also present in the Trails Plan area.

Attachment A provides a map of proposed trail corridors, including anticipated surfacing, for proposed perimeter and loop trails in the Master Plan. If approved, TRK may authorize construction of trails, assist in funding trails work on airport property, or build trails as financially feasible through a phased approach. Phases may be altered depending on funding availability.

Phase 1 (approximately 8,377 linear feet of paved trail) will include construction of the regional Trailhead at the corner of Highway 267 and Truckee Tahoe Airport Road. From this starting point, there will be both a proposed dirt and Class 1 (paved) trail, both heading southeast towards Martis Dam Road as illustrated in the map, **Attachment A**. From the trailhead, the routes drop slightly into a seasonal wetland area that will be crossed with a 100-foot boardwalk. Both trails will turn north on the eastern edge of airport property, with the paved trail ending at the small parking lot off of Martis Dam Road, and the dirt trail creating a loop, as seen in **Attachment A**.

Table 1 – Phase 1

 Proposed trailhead parking lot at corner of Highway 267 and Truckee Airport Road.	 First leg with slight elevation drop leading to wetland area; proposed 100-foot boardwalk to cross.	 Phase 1: Slight elevation gain to get trail above wetland area.	 Phase 1 ends at Martis Dam Road.

Phase 2 (approximately 6,221 linear feet of paved trail) will pick up where Phase 1 ended, and continue to the Waddle Ranch Preserve connection. The separate dirt trail will join up with the paved path at the connection to Alpine Meadows Campground. From Alpine Meadows Campground, the paved trail route would continue north on TRK property, paralleling Martis Dam Road and end at the Waddle Ranch Preserve trails system connection.

Note: An additional option for Phase 1 and Phase 2 is to not construct a trail but to direct users to Martis Dam Road. Although this would result in cost savings, the option is not recommended due to high motorized traffic use on this road in the summertime, cars frequently traveling above the speed limit, and the lack of shoulders on the road. These factors can create unsafe conditions for non-motorized uses. See **Attachment B**.

Table 2– Phase 2

 Phase 2 starts where Phase 1 ends off, on airport property along Martis Dam Road (adjacent to parking lot).	 Proposed end of Phase 2 at Waddle Ranch trail system connection.

Phase 3 (approximately 8,828 linear feet of paved trail) will pick up at the Waddle Ranch Preserve connection and end at River View Sports Park for connectivity to the Truckee River Legacy Trail and Truckee Bike Park. The paved portion of this phase will hug the tree line at the north end of the property, while the proposed dirt loop will provide users with the option of a shadier experience in the forested slope south of the paved path. The paved path will travel for a short distance on Martis Dam Road heading west. In addition, as noted in Attachment A, segments of this phase run off of airport property, where trails easements or other arrangements will need to be made to complete the phase.

Table 3 – Phase 3

 Phase 3 will utilize a short segment of Martis Dam Road.	 The Phase 3 paved path will run along the tree line.	 Phase 3 will end at a logical terminus, the River View Sports Park with connection to the Truckee River Legacy Trail.	 To trail route will need to cross Joerger Drive. Crossing at the River View driveway means users must watch for vehicles on the blind curve.	 Crossing Joerger Drive slightly east of River View presents better visibility.

Phase 4 (approximately 991 linear feet of paved trail) will best commence when the PC-3 trails (noted in **Attachment A and Figure 2**) have been completed, and will involve completion of the airport loop trail by connecting to PC-3's proposed trail terminus at the Hampton Inn, back to the original trailhead. The timing of this phase is uncertain and depends in part on the timing of the PC-3 trail construction.

Table 4 – Phase 4

			
PC-3 trail construction will begin at River View Sports park and head west and then south towards the Hampton Inn.	Phase 4 can utilize an existing path in front of Hampton Inn.	To complete the phase, a trail easement will be necessary on this vacant property on Highway 267 approaching Truckee Airport Road.	Trail users will have the option of crossing Highway 267 to access the Martis Valley Regional Trail. However, keeping the airport trail on the NW side of 267 will help maximize user safety for those intending to use the airport trail.

For a discussion outlining the decision points regarding these proposed alignment and phasing, see **Attachment B.**

8. TRAIL CONSTRUCTION COST AND FUNDING

The TTAD recognizes that construction of this proposed trails system will be costly. Precise estimates of dirt and paved trail planning and construction for this specific effort are not feasible at this time. However, rough estimates can be made based on costs totals from similar trails projects locally and analysis of profiles generated from LiDAR contour data. Using this analysis, it is estimated that 24,417 linear feet of paved trail will cost approximately $1,346,370/mile (See **Attachment C** for detailed analysis).

Estimates for dirt trail construction can also be made using local trail construction data, which averages out to $45,000 per mile.

Potential sources of outside funding for trail planning and construction include:

- The California Recreational Trails Program (RTP)
- California Bicycle Transportation Account (BTA)
- Caltrans Bicycle Facilities Unit (BFU)
- Town of Truckee's Measure R
- North Lake Tahoe Resort Association TOT Project Funding

The grant funding environment in California changes frequently, and some grants are not available every year. Likewise, the amount of funding in any given program varies from year to year, and the likelihood of funding depends on grant competitiveness with other applicants. Full research into appropriate funding mechanisms should be conducted further into the trail planning process.

9. TRAIL MAINTENANCE

Routine trail maintenance for both paved (patch holes, slurry seal, sweep, trim vegetation, clear drains/culverts, etc.) and dirt trails (repair tread, clear drains, trim vegetation, etc.) must also be taken into consideration. Future capital replacement cost (paved trails only) will also be an important annual reserve. Local estimates for maintenance are shown in **Table 4**.

Table 4 - Annual Trail Maintenance Costs Per Mile

	Routine/ Preventative	Capital Replacement	Total
Paved Trails (Town of Truckee estimates)	$10,600	$3,640	$14,240
Dirt Trails (Truckee Trails Foundation estimates)	$1,000	$0	$1,000

10. TRAIL DEVELOPMENT PARTNERS

Numerous opportunities exist to maximize trails opportunities in and around the airport. The Town of Truckee's Measure R (1/4-cent tax for trail construction and maintenance) represents a viable funding option for any Class 1 trail in town boundaries that is on the Truckee Trails and Bikeways Master Plan, including a portion of Phase 3 of the Truckee Tahoe Airport Trails Plan. Preliminary discussions with the Town of Truckee have indicated a willingness to escalate mutual trail segments when collaborative funding partnerships are present. The local Army Corps of Engineers has expressed strong interest in partnering with TRK to create a trail connection from the proposed airport trail along Martis Dam Road that would connect with Alpine Meadows Campground. As well, the Army Corps of Engineers has also expressed a willingness to discuss cooperative efforts involving use of their parking area or Martis Dam Road for the proposed plan. Coordinating with the Joerger Ranch development could also help ensure project success. Finally, TRK should consider working with the appropriate parties to negotiate a trails easement for a 950-foot trails easement along Highway 267 leading up to Truckee Airport Road for Phase 4.

11. NEXT STEPS

In addition to working with the potential partners mentioned above, critical next steps are listed below. See Table 5 for a proposed timeline for completion.

(1) Secure necessary land swaps that will enable full development of the trails plan
(2) Secure necessary trail easements
(3) Identify regulatory and permitting requirements for each segment
(4) Identify funding sources for trail planning and construction
(5) Submit grant applications for trail planning and construction funding

Table 5 – Proposed Trails Master Plan Timeline

Trails Master Plan Timeline		
Year	**Task Completion Goal**	**Completion Goal**
2016	Airport board approval of master plan	Fall 2016
2017	Identify regulatory/permitting requirements	February 2017
2017	Secure land swaps/easements necessary for trail development	December 2017
2017	Fundraising for CEQA, engineer design, and permits	December 2017
2018	Complete CEQA, engineering design, permits	December 2018
2019	Phase 1 - fundraising for trail construction	December 2019
2020	Phase 1 construction complete/ribbon cutting	September 2020
2020	Phase 2 – fundraising for trail construction	December 2020
2021	Phase 2 construction/ribbon cutting	September 2021
2021	Phase 3 – fundraising for trail construction	December 2021
2022	Phase 3 construction/ribbon cutting	September 2022
2023	Phase 4 – fundraising for Phase 4	December 2022
2024	Phase 4 construction/ribbon cutting – trails complete	September 2023

Attachment B – Alignment & Phasing Rationale

The trails project committee met numerous times throughout 2015 to determine the best possible approach to an interconnected, recreational trails plan for TTAD. The following outlines the decision points and ultimate conclusions.

1. **Trailhead.** The committee considered two options for the official start of the trail (regional trailhead). The two options were a designated location at the airport administrative/terminal building or at the airport property at the corner of Airport Road and Highway 267. Having the trailhead at the administrative/terminal building parking lot was appealing, as it would serve to draw users in to the airport, where additional facilities (restroom, playground, restaurant) are available. However, concern was expressed about the availability of parking at this location. As well, after contemplating numerous options, it was decided that no ideal (and safe) route from the administrative/terminal building to the perimeter trail would be possible. As such, it was decided that putting the official trailhead (and parking lot) at the corner of Airport Road and Highway 267 represented the best option.

2. **Surfacing.** The committee discussed the pros and cons of trail surfacing to determine if dirt or Class 1 (paved) paths were preferable. Dirt trails are substantially less expensive to build yet are less accessible to users. Dirt trails have a shorter use season, and are not preferable for users with wheel chairs, training wheels, roller blades, strollers, etc. Class 1 paths are significantly more expensive but are available for a longer use season and to a wider variety of users. The committee also discussed the option of building a paved trail in phases (base surface first, then pavement as funds are available). However, research conducted by the Town of Truckee in their trail building endeavors revealed that this approach to paved trail construction ends up costing 25% more than if building a paved trail as a single project.

   Realizing the benefits of both surfacing options, the committee proposes a system that highlights both Class 1 and dirt trails, thereby optimizing recreational opportunities. However, cost factors may force this surfacing to be reconsidered in the future.

3. **Trail Phases.** Because funding for this airport loop system will likely come over time, the committee agreed to divide the trail alignments into proposed phases. Several considerations went into selection of these phases. Highest of importance was trail user safety, given this is a trail system designed for users of all ages and ability levels. Another important factor in determining the phased segments was ensuring that there was no "segment to nowhere," and that each segment had a logical terminus.

   a. **Phase 1** is proposed to run from the Regional Trailhead at the corner of Highway 267 to a parking lot off of Martis Dam Road.
   b. **Phase 2** will run from the Martis Dam Road parking lot to the connection at Waddle Ranch Preserve. The committee discussed the possibility of leading the trail to Martis Dam Road and using the road itself to bring users to the Waddle Ranch Connection and remainder of the airport trail route. However, although Martis Dam Road is popular with pedestrians in winter months (when the road is closed to motorized vehicles), heavy vehicle traffic on this

road in summer months makes it a more dangerous option for non-motorized recreation. **See Tables 6 and 7.**

c. **Phase 3** picks up at the Waddle Ranch Preserve connection and ends at River View Sports Park. The PC-3 segment will take the trail from River View to the edge of the PC-3 property, at the Hampton Inn.

d. **Phase 4:** Phase 4 will involve completion of the airport loop trail by connecting to PC-3's proposed trail terminus at the Hampton Inn back to the regional trailhead. The timing of this phase is uncertain and depends in part on the timing of the PC-3 trail construction. Because the Martis Valley Regional Trail trailhead begins where the PC-3 trail ends (but on the south side of Highway 267), committee members discussed the possibility of having airport trail users cross Highway 267 to the Martis Valley Regional Trail, then cross back Highway 267 at Truckee Airport Road to complete the airport loop. This option is discouraged given the safety hazards of twice crossing 267 for many (if not all) user groups. To optimize trail user safety at this location, the option of securing a trails easement on the vacant property between the Hampton Inn and the regional trailhead should be investigated to complete the airport loop.

Table 6 - Traffic Counts, Martis Dam Road[1]

Month	Estimated Vehicles	Estimated Vehicles Per Day
July 2015	5,516	178
August 2015	5,395	174
September 2015	4,000	133
May 2016	2,687	86
June 2016	5,345	178

Table 7 - Isolated Traffic Counts[2]

Date	Time	Number of Vehicles	Non-motorized
Sunday, June 24, 2016	11 AM - Noon	25 out, 16 in	1 jogger, 1 road cyclist
Thursday, July 21, 2016	5 PM – 6 PM	16 out, 32 in	None
Wednesday, August 9, 2016	Noon – 1 PM	18 out, 6 in	1 pedestrian

[1] Estimates provided by Army Corps of Engineer's automatic counters.

[2] Conducted by Truckee Trails Foundation staff

Attachment C

AUERBACH ENGINEERING CORPORATION

CIVIL ENGINEERING • LAND SURVEYING • ENVIRONMENTAL PLANNING

Proj. #: 420.20

MEMORANDUM

To: Alison Pedley

From: Nathan Chorey

Date: June 1, 2016

Re: TTAD – Trail Master Plan Cost Estimate

At the request of the Truckee Trails Foundation, Auerbach Engineering Corporation (AEC) has reviewed the Truckee-Tahoe Airport District's (TTAD) Trail Master Plan and prepared a concept-level construction cost estimate for approximately 25,400 linear feet of hard surface paved trail.

To develop the cost estimate, AEC relied upon their previous project experience, as well as bid results from the following local projects.

- Northstar Community Services District, Martis Valley Trail Segment 1A.
- Northstar Community Services District, Martis Valley Trail Segment 1B1.
- Town of Truckee, Truckee River Legacy Trail Phase 3A.
- Town of Truckee, Truckee River Legacy Trail Phase 3B.

We analyzed the bid results of the above projects and calculated a cost per unit length of trail ($/LF). The unit cost for each of the above trails varies wildly at first glance, but upon studying it further, the variation can be attributed to a number of factors including the extent of amenities along the trail, number of trailheads, road crossings, drainage crossings, boardwalks, and slope of the existing terrain.

For the prepared cost estimate, we provided individual line items for each variable we identified during our review of the local bid results. Generally, we have assumed a moderate level of amenities similar to what is provided along the Martis Valley Trail. The number of trailheads, road crossings, drainage crossings, and linear feet of boardwalk is based on our review of Attachment A provided by Truckee Trails Foundation, and the profile generated from LiDAR contour data. This profile is too conceptual to see every potential need for a drainage structure or boardwalk or bridge, but it does give us some indication of the terrain.

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Lastly, utilizing available LiDAR data, the slopes of the existing terrain were analyzed, and categories (or ranges) of slopes through the project corridor were created. Our experience is that the cost per unit of trail rise as the natural ground slopes rise, primarily due to grading requirements. We calculated the total quantity of trail within each slope category, and applied a unit cost to those quantities.

The completed conceptual cost estimate is attached. Note that several sections of trail were identified that would not meet strict ADA standards of 5% longitudinal slope. That goal is the highest standard, but may not be achievable in all cases, and there are other standards which could be relied upon to increase profile grade. Having said that, if 5% is the target, these sections of trail will cost more to construct as it will require lengthening the trail between landing points to reach that maximum grade.

We have applied a fairly generous contingency to the estimate to account for the above unknowns. The contingency might also be seen as a buffer for cost escalation over time. As the design progresses and a schedule becomes more in focus, both the unit costs and cost escalation can be accounted for in a more detailed manner, and the contingency can be reduced.

Truckee Trails Foundation

TTAD - Trails Master Plan

Concept-Level Estimate of Costs

June 1, 2016

Item Number	Description	Quantity	Unit	Unit Price	Total
1	0% - 2% Trail	7,381	LF	$ 170	$ 1,254,770
2	2% - 10% Trail	14,677	LF	$ 190	$ 2,788,630
3	10% - 20% Trail	2,525	LF	$ 220	$ 555,500
4	20% - 30% Trail	479	LF	$ 280	$ 134,120
5	30%+ Trail	322	LF	$ 360	$ 115,920
6	Boardwalk	150	LF	$ 1,500	$ 225,000
7	Road Crossing	1	EA	$ 60,000	$ 60,000
8	Trailhead	5	EA	$ 2,000	$ 10,000
9	Drainage Crossing	3	EA	$ 20,000	$ 60,000
				Sub-Total	$ 5,203,940
				Contengency (25%)	$ 1,300,985
				Total	**$ 6,504,925**

Sheet 1 of 7
Overall Layout
TTAD Trail Master Plan
Truckee Trails Foundation
420.20 June 1, 2016

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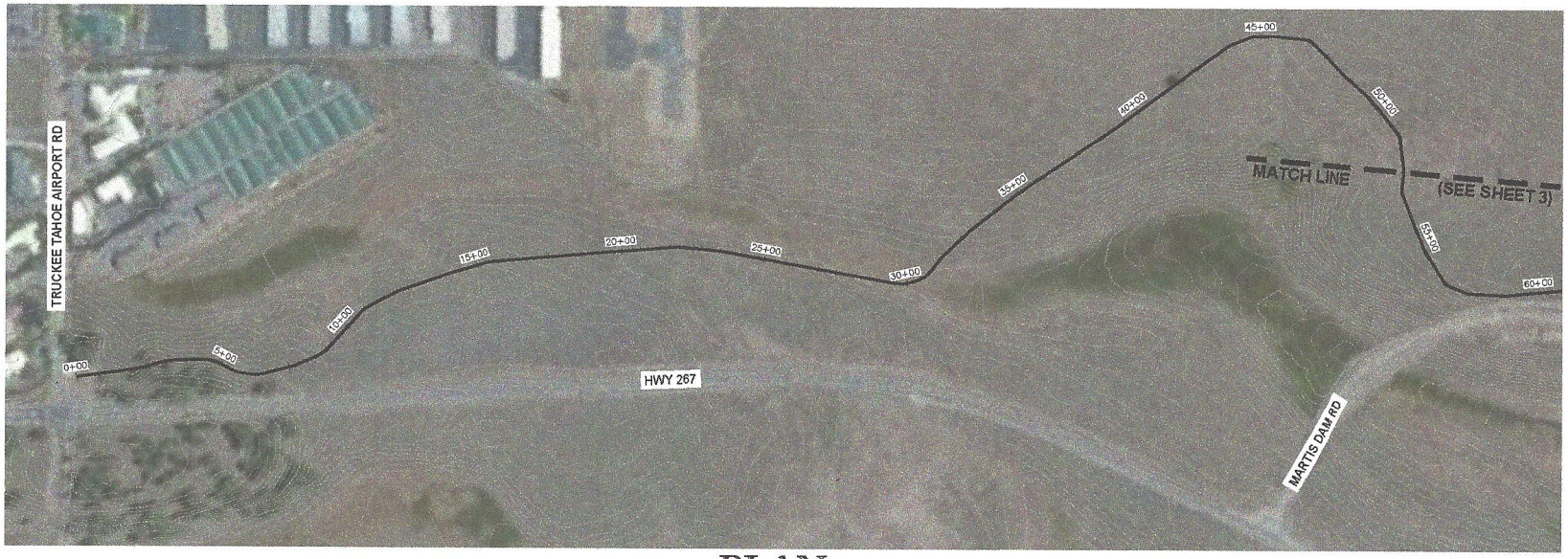

PLAN

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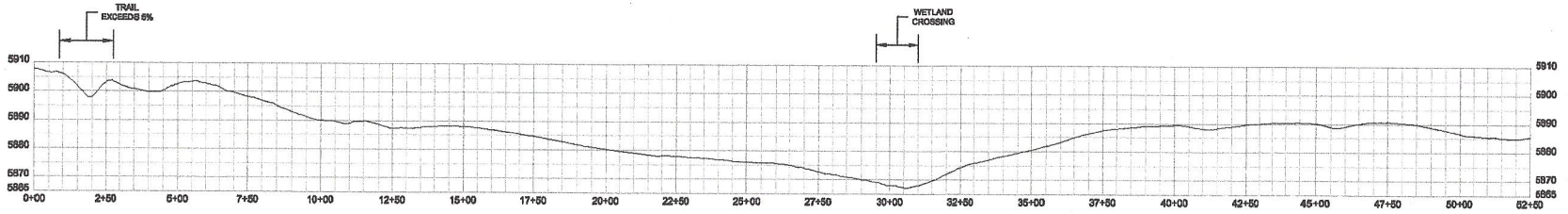

PROFILE

SCALE: (H) 1" = 200'
(V) 1" = 20'

Sheet 2 of 7
Plan and Profile
TTAD Trail Master Plan
Truckee Trails Foundation
420.20 June 1, 2016

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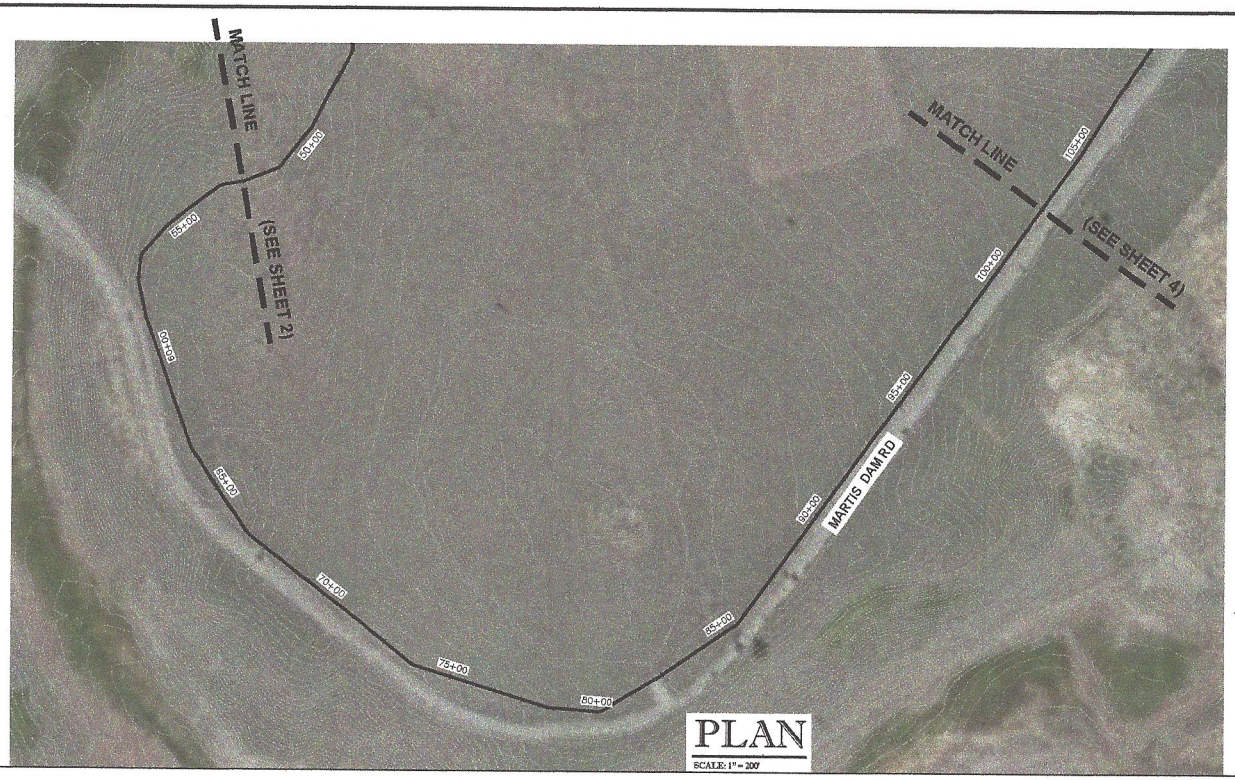

PLAN
SCALE: 1" = 200'

GRAPHIC SCALE
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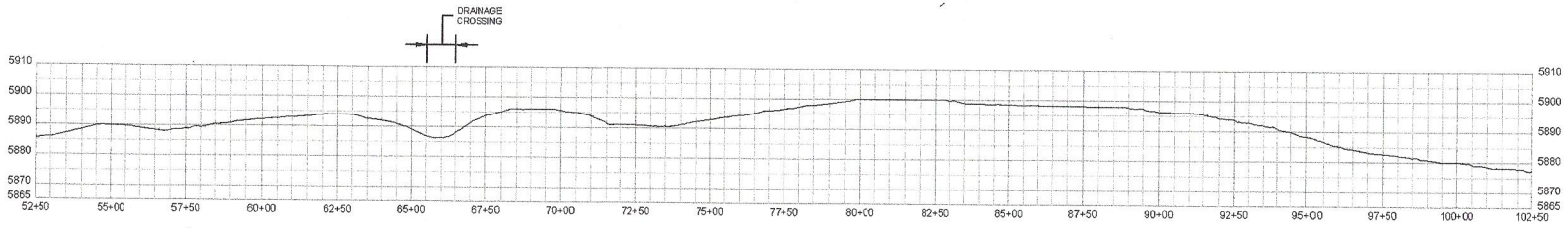
1 INCH = 200 FEET



PROFILE
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Sheet 3 of 7
Plan and Profile
TTAD Trail Master Plan
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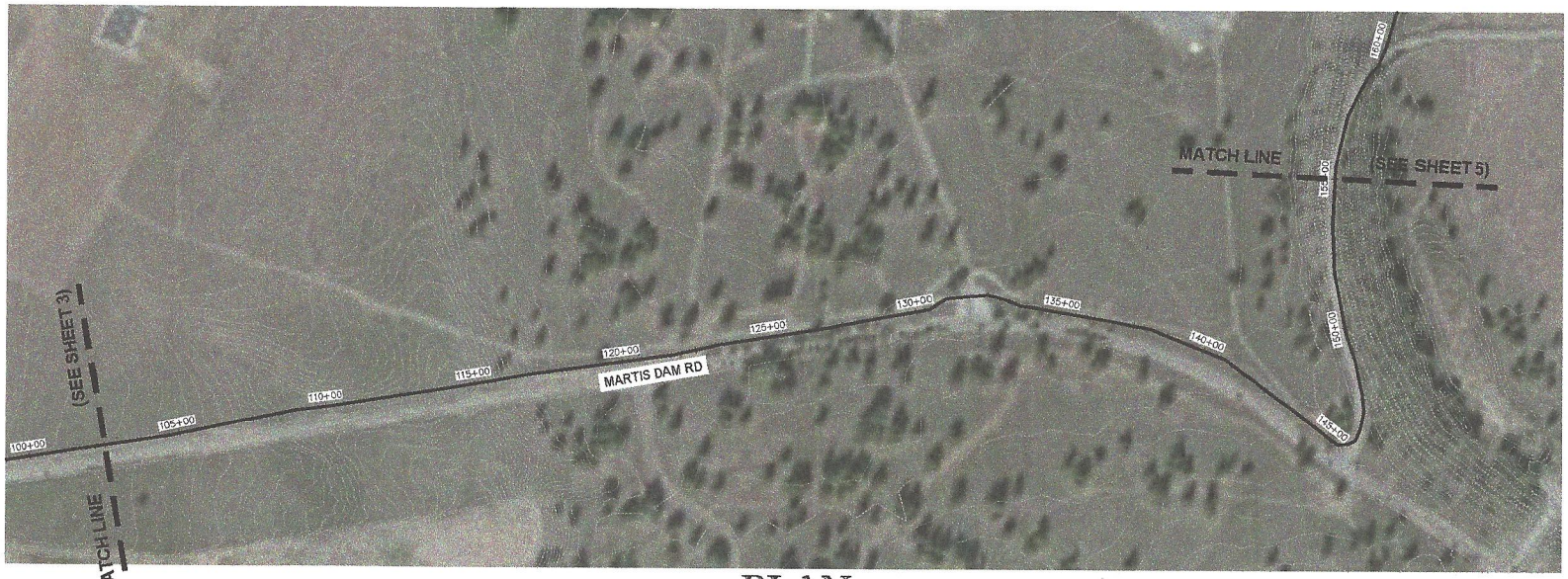
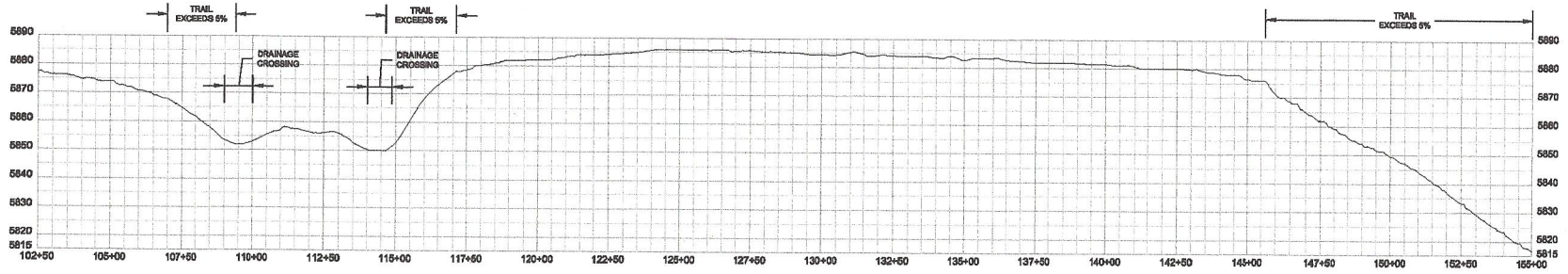


PLAN

SCALE: 1" = 200'



PROFILE

SCALE: (H) 1" = 200'
(V) 1" = 20'

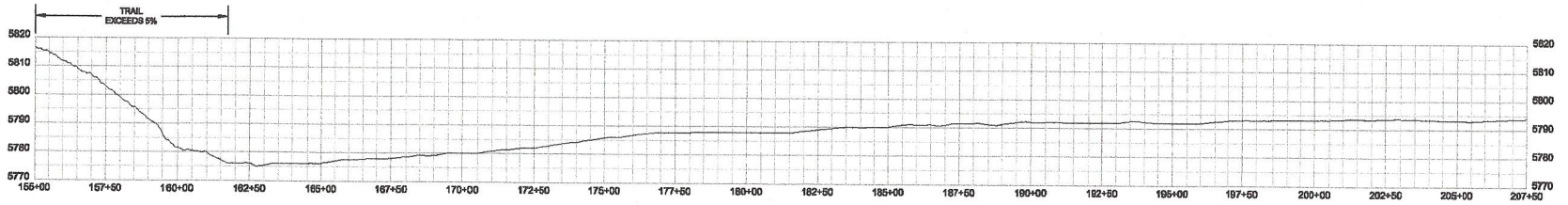
Sheet 4 of 7
Plan and Profile
TTAD Trail Master Plan
Truckee Trails Foundation
420.20 June 1, 2016

AUERBACH ENGINEERING CORPORATION

J:\420.20\Dwg\Exhibits\420.20_MasterPlan.dwg

PLAN

SCALE: 1" = 200'



PROFILE

SCALE: (H) 1" = 200'
(V) 1" = 20'

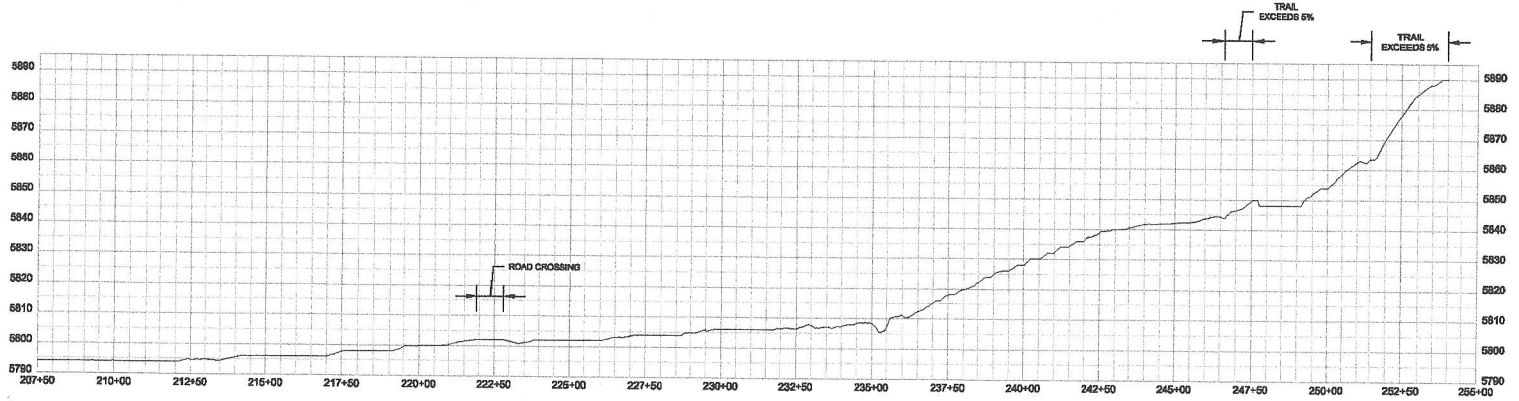
Sheet 5 of 7
Plan and Profile
TTAD Trail Master Plan
Truckee Trails Foundation
420.20 June 1, 2016

AUERBACH ENGINEERING CORPORATION

J:\420.20\Dwg\Exhibits\420.20_MasterPlan.dwg

PLAN

SCALE: 1" = 200'



PROFILE

SCALE: (H) 1" = 200'
(V) 1" = 20'

Sheet 6 of 7
Plan and Profile
TTAD Trail Master Plan
Truckee Trails Foundation
420.20 June 1, 2016

AUERBACH ENGINEERING CORPORATION

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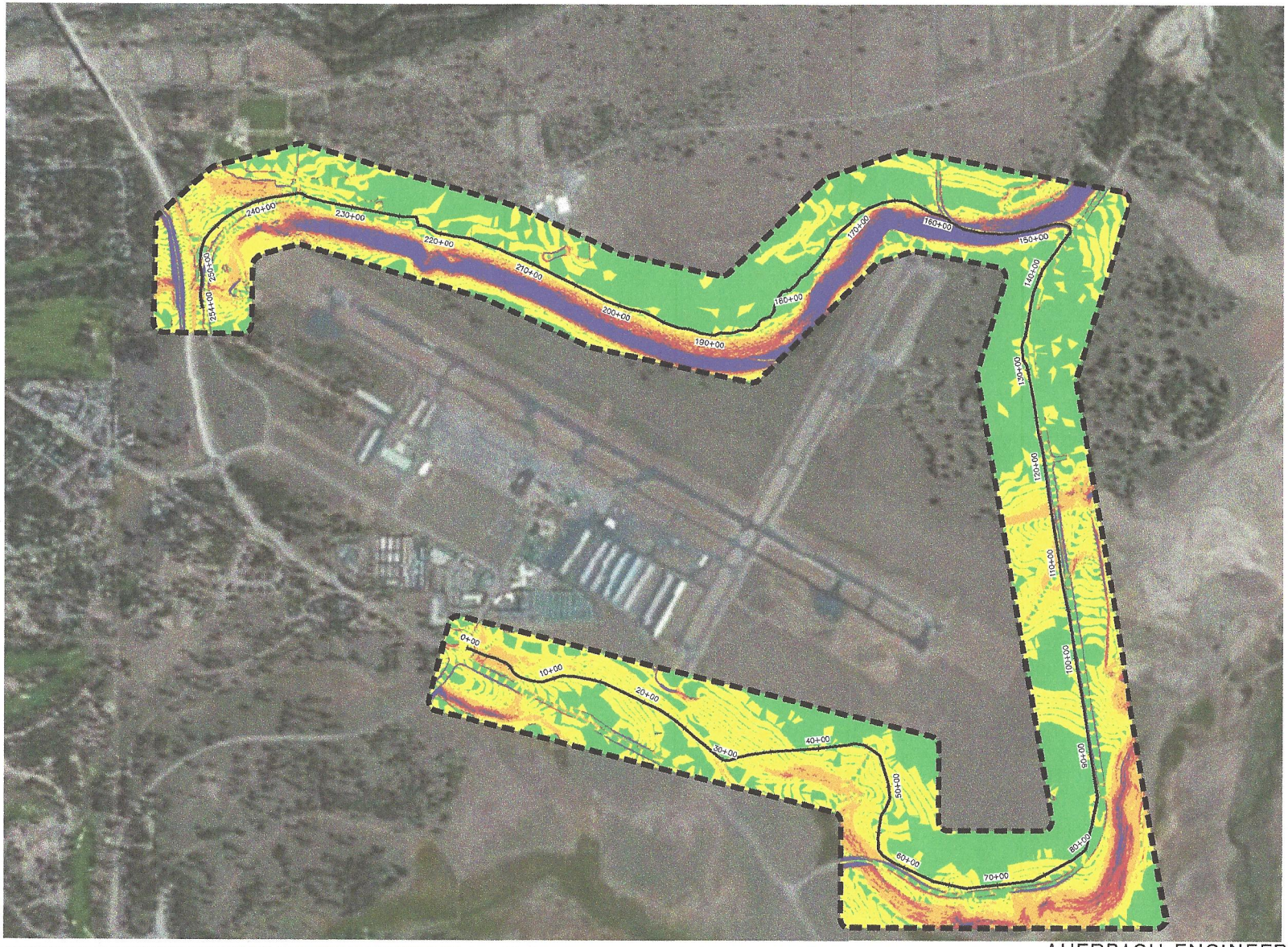

Slopes Table			
Number	Minimum Slope	Maximum Slope	Color
1	0%	2%	
2	2%	10%	
3	10%	20%	
4	20%	30%	
5	30%	30+	

TRAIL LENGTHS
0% - 2% = 7,381 LF
2% - 10% = 14,677 LF
10% - 20% = 2,526 LF
20% - 30% = 479 LF
30+ = 322 LF

GRAPHIC SCALE
500 0 250 500
1 INCH = 500 FEET

Sheet 7 of 7
Slope Map
TTAD Trail Master Plan
Truckee Trails Foundation
420.20 June 1, 2016

AUERBACH ENGINEERING CORPORATION

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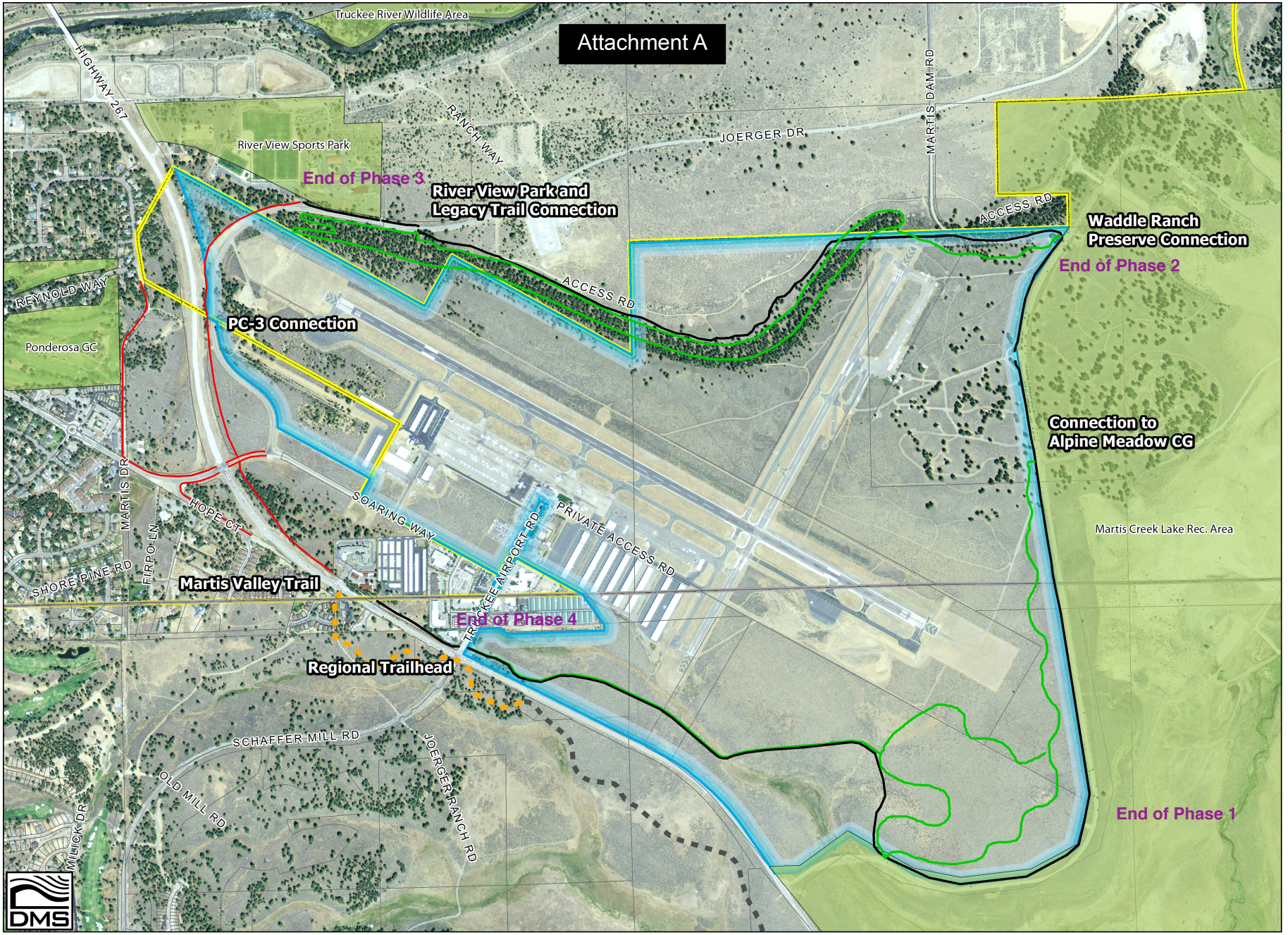

TRUCKEE TRAILS
EST. 2002

PO Box 1751
10065 Donner Pass Rd,
Truckee, CA 96161
(530) 587-8214

Truckee Airport District

Trail Development: Attachment A

Map Features

- Trailhead or Connection
- Potential Viewing Area
- Soft surface trail - 32,794 ft
- Hard surface trail - 24,417 ft
- PC-3 paved path - 10,036 ft
- Proposed Martis Valley Trail
- Current Martis Valley Trail
- Open Space Near Airport
- Airport Boundary
- Parcel outline
- County
- Town of Truckee

N

1 inch = 917 feet

500 250 0 500

Feet

Date: 10/03/2016; Image source: NAIP, 2012.
Data sources: Parcel data from Placer and Nevada County online GIS database. Trail options by airport district staff.
Map by: www.digitalmappingsolutions.com.