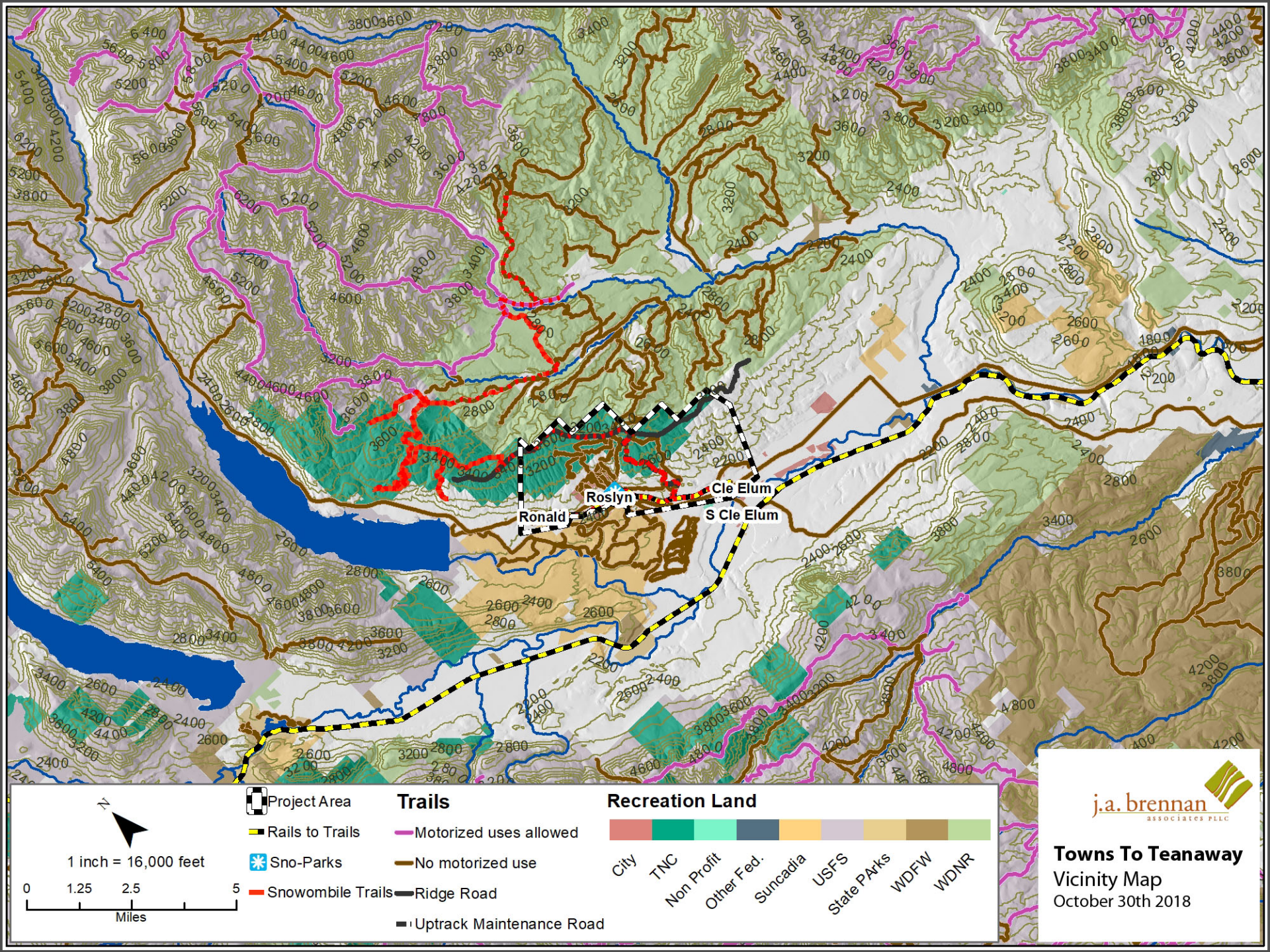
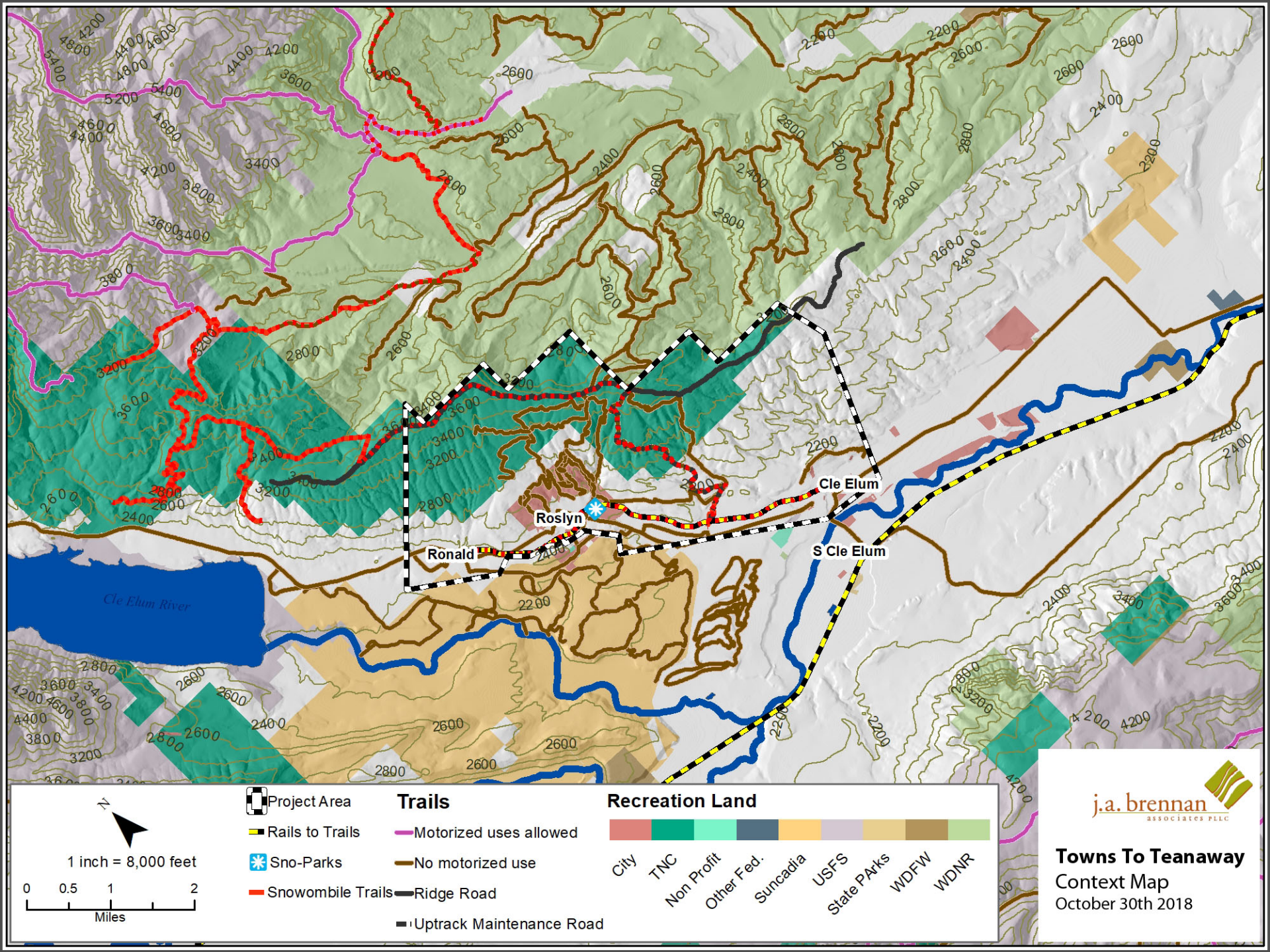
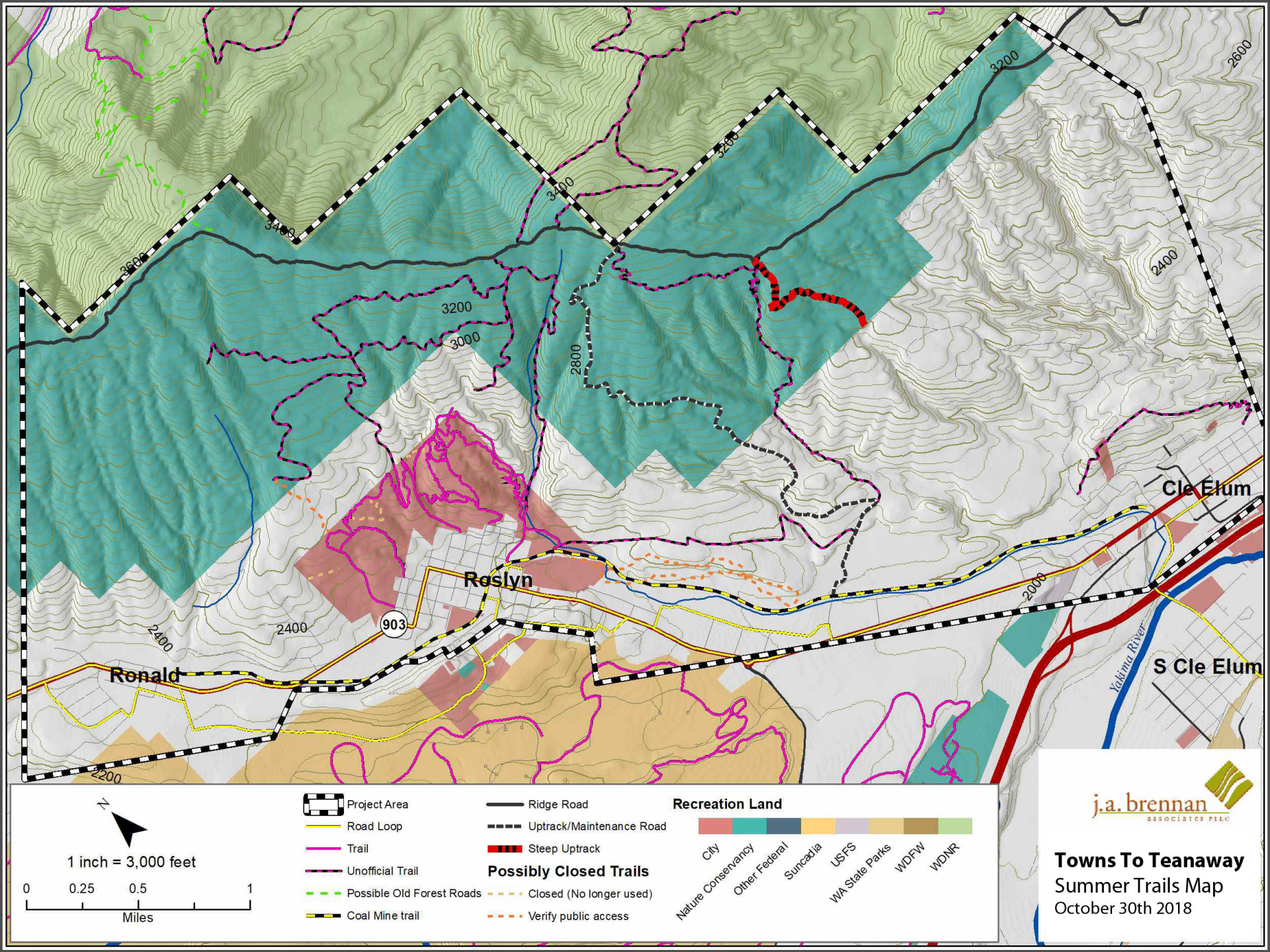
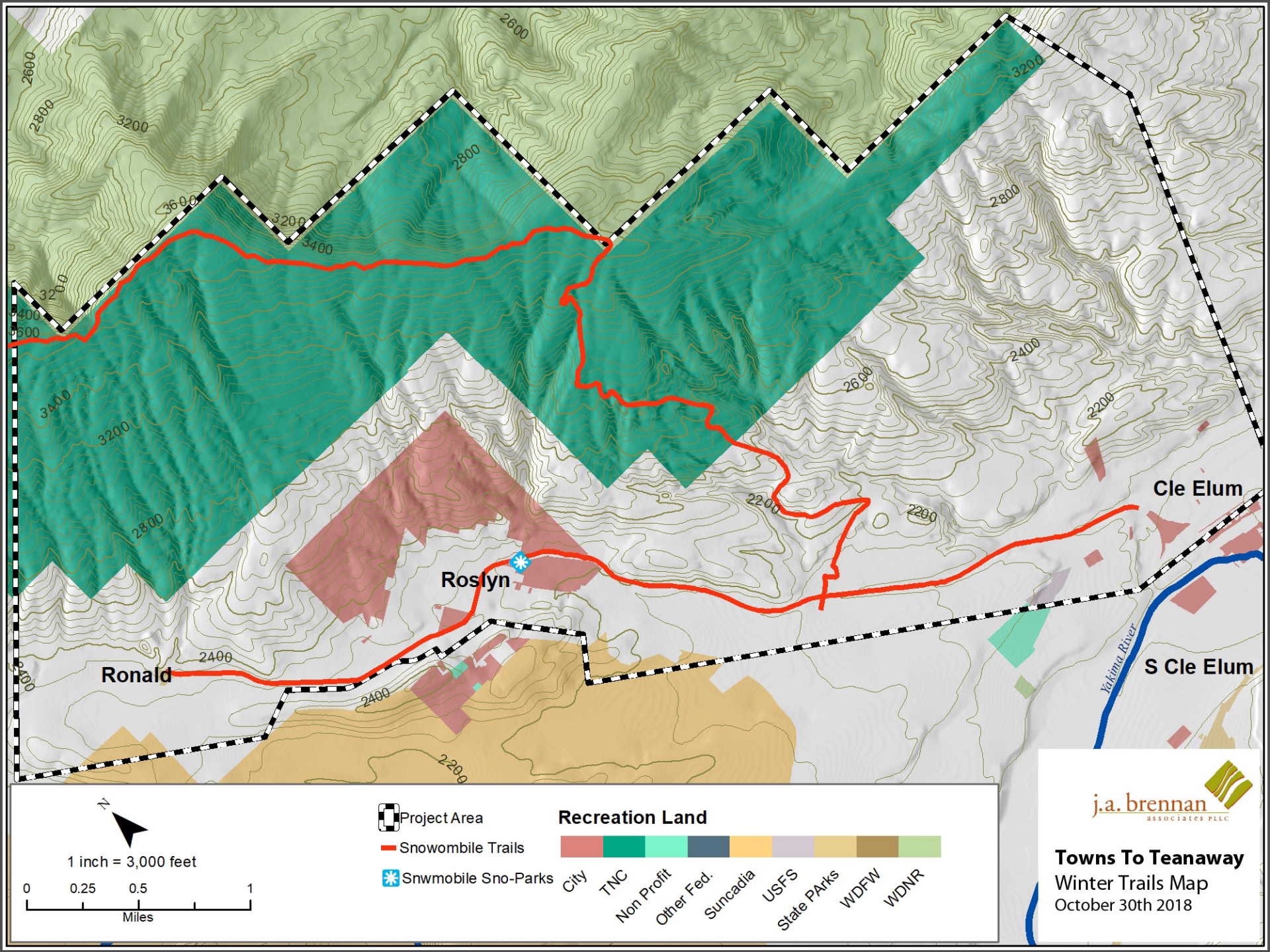
Appendix A

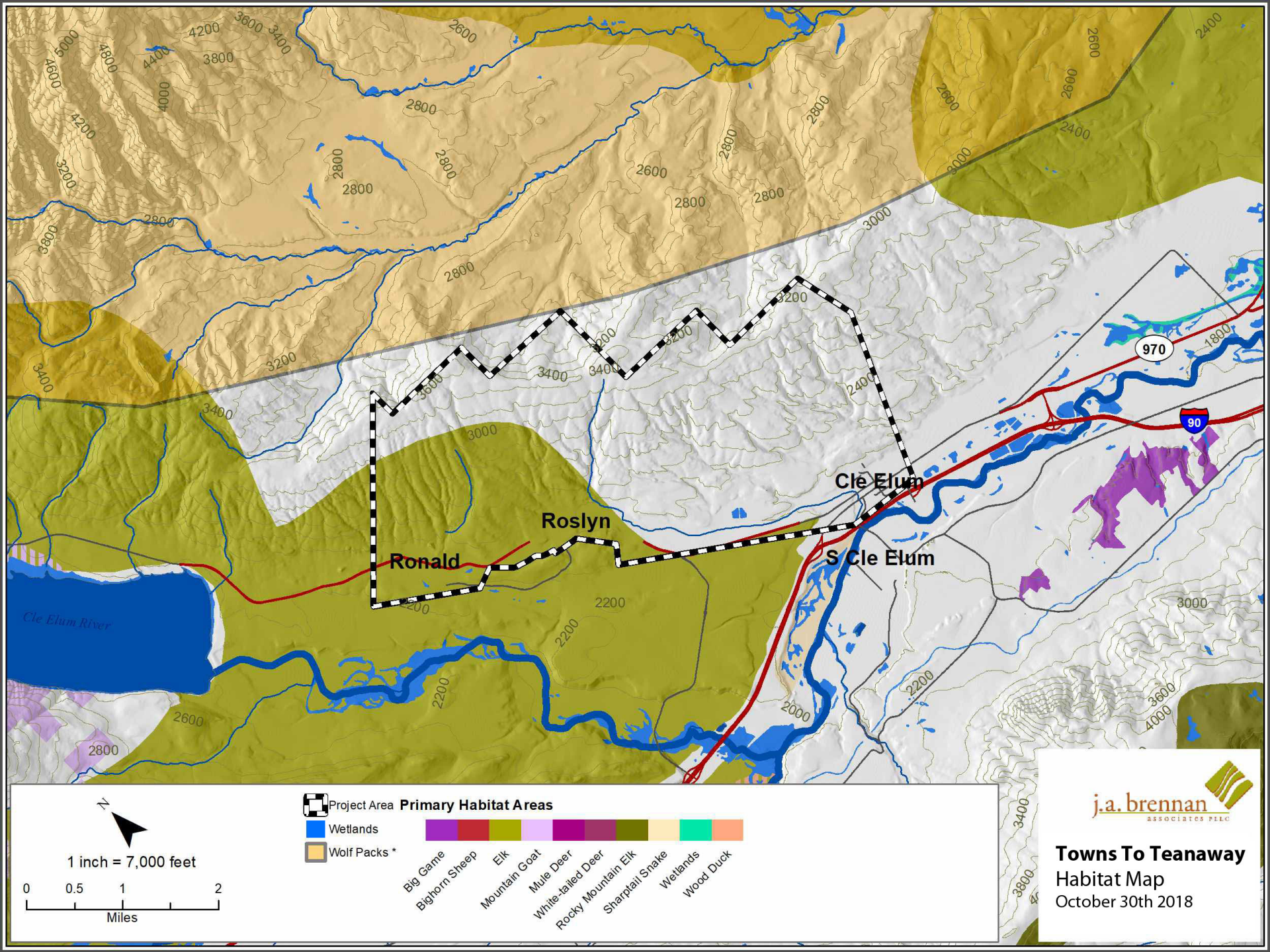
Site Analysis

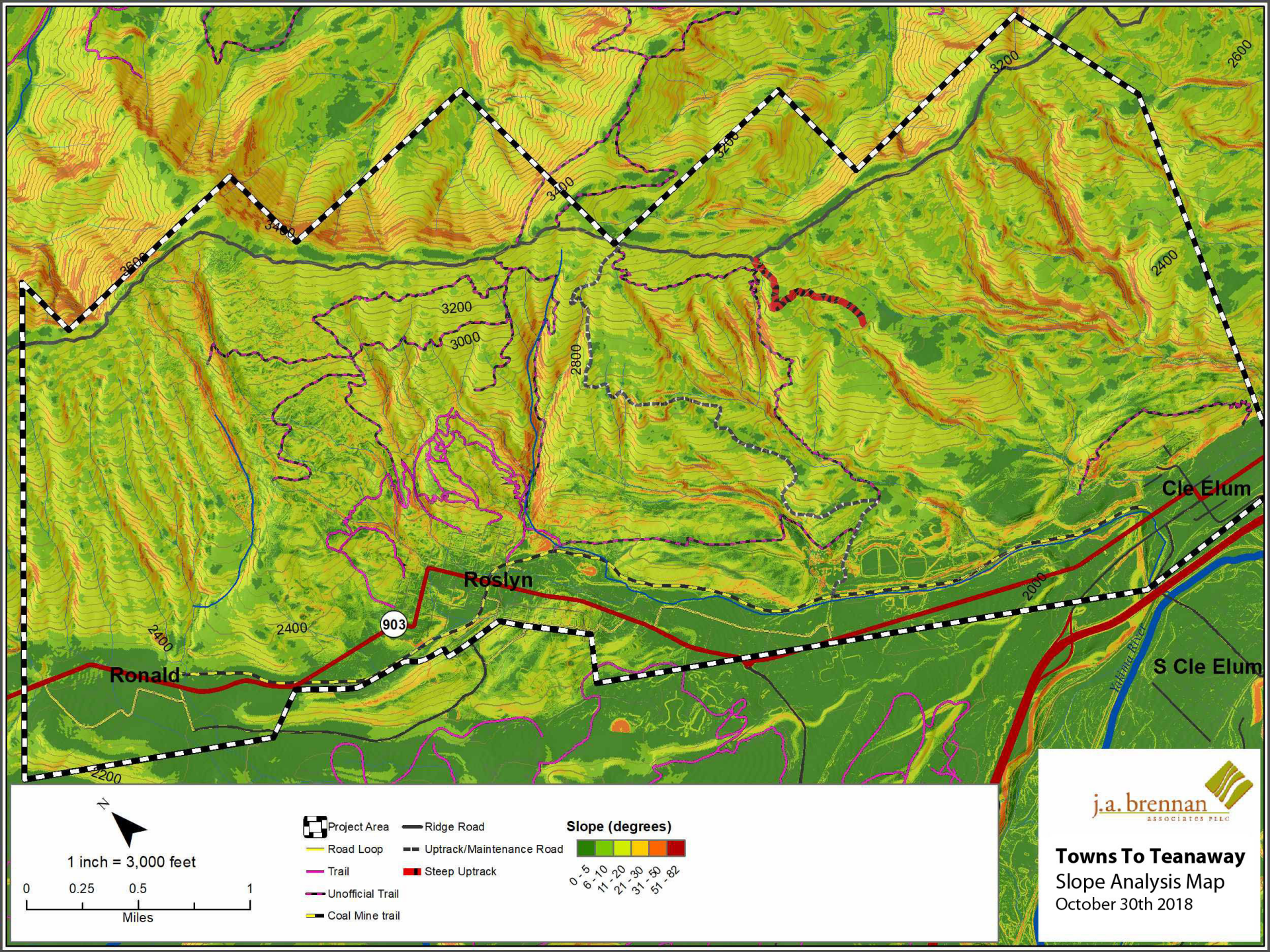

Roslyn
Ronald
Cle Elum
S Cle Elum
N
1 inch = 16,000 feet
0 1.25 2.5 5
Miles
Project Area
Rails to Trails
Sno-Parks
Snowombile Trails
Trails
Motorized uses allowed
No motorized use
Ridge Road
Uptrack Maintenance Road
Recreation Land
City
TNC
Non Profit
Other Fed.
Suncadia
USFS
State PArks
WDFW
WDNR
j.a. brennan
associates PLLC
Towns To Teanaway
Vicinity Map
October 30th 2018


Cle Elum
Roslyn
Ronald
S Cle Elum
Cle Elum River
N
1 inch = 8,000 feet
0 0.5 1 2
Miles
Project Area
Rails to Trails
Sno-Parks
Snowombile Trails
Trails
Motorized uses allowed
No motorized use
Ridge Road
Uptrack Maintenance Road
Recreation Land
City
TNC
Non Profit
Other Fed.
Suncadia
USFS
State PArks
WDFW
WDNR
j.a. brennan
associates PLLC
Towns To Teanaway
Context Map
October 30th 2018


Roslyn
Ronald
Cle Elum
S Cle Elum
903
Yakima River
3600
3400
3200
3000
2800
2600
2400
2200
2000
N
1 inch = 3,000 feet
0 0.25 0.5 1
Miles
Project Area
Road Loop
Trail
Unofficial Trail
Possible Old Forest Roads
Coal Mine trail
Ridge Road
Uptrack/Maintenance Road
Steep Uptrack
Possibly Closed Trails
Closed (No longer used)
Verify public access
Recreation Land
City
Nature Conservancy
Other Federal
Suncadia
USFS
WA State Parks
WDFW
WDNR
j.a. brennan
associates PLLC
Towns To Teanaway
Summer Trails Map
October 30th 2018


Cle Elum
Roslyn
Ronald
S Cle Elum
Yakima River
2600
2800
3200
3600
3400
2400
2200
N
1 inch = 3,000 feet
0
0.25
0.5
1
Miles
Project Area
Snowombile Trails
Snwmobile Sno-Parks
Recreation Land
City
TNC
Non Profit
Other Fed.
Suncadia
USFS
State PArks
WDFW
WDNR
j.a. brennan
associates PLLC
Towns To Teanaway
Winter Trails Map
October 30th 2018


Cle Elum
Roslyn
Ronald
S Cle Elum
970
90
Cle Elum River
N
1 inch = 7,000 feet
0 0.5 1 2
Miles
Project Area
Primary Habitat Areas
Wetlands
Wolf Packs *
Big Game
Bighorn Sheep
Elk
Mountain Goat
Mule Deer
White-tailed Deer
Rocky Mountain Elk
Sharptail Snake
Wetlands
Wood Duck
j.a. brennan
associates PLLC
Towns To Teanaway
Habitat Map
October 30th 2018


3600
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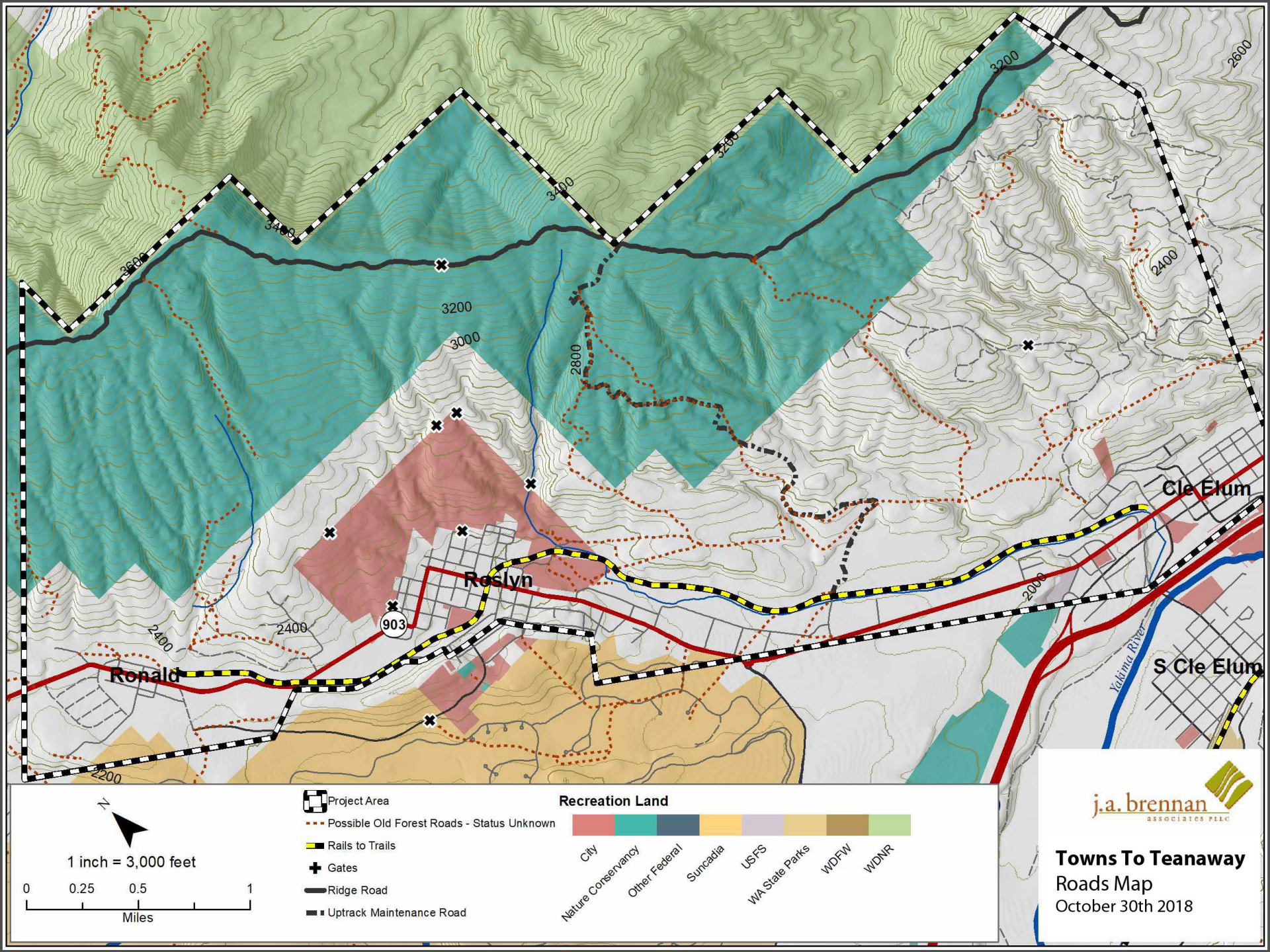
2400
3200
3000
2800
Cle Elum
Roslyn
903
2400
2400
2000
Ronald
S Cle Elum
Yakima River
2200
N
1 inch = 3,000 feet
0
0.25
0.5
1
Miles
Project Area
Road Loop
Trail
Unofficial Trail
Coal Mine trail
Ridge Road
Uptrack/Maintenance Road
Steep Uptrack
Slope (degrees)
0 - 5
6 - 10
11 - 20
21 - 30
31 - 50
51 - 82
j.a. brennan
associates PLLC
Towns To Teanaway
Slope Analysis Map
October 30th 2018


Roslyn
Ronald
Cle Elum
S Cle Elum
Yakima River
903
3600
3400
3200
3000
2800
2600
2400
2200
N
1 inch = 3,000 feet
0 0.25 0.5 1
Miles
Project Area
Possible Old Forest Roads - Status Unknown
Rails to Trails
Gates
Ridge Road
Uptrack Maintenance Road
Recreation Land
City
Nature Conservancy
Other Federal
Suncadia
USFS
WA State Parks
WDFW
WDNR
j.a. brennan
associates PLLC
Towns To Teanaway
Roads Map
October 30th 2018

Appendix B

Public Process

j.a. brennan
associates PLLC
landscape architects & planners
2701 First Avenue | Suite 510 | Seattle, WA 98121
t | 206.583.0620 | w | jabrennan.com

September 11, 2017

TOWNS TO TEANAWAY

Public Meeting #1

Cle Elum @ 6:30 PM on 08/30/17

MEETING NOTES

Prepared by:
J.A. Brennan Associates

Introduction/Presenters

- Craig Mabie – Introductory comments
- Jim Brennan
- Tanja Wilcox

Meeting Notes

- General Notes and Comments:
  1. Consider conduit for motor bike use through site to Teanaway Community Forest
  2. Consider separation of trail uses for safety
  3. Connect into Roslyn Urban Forest (RUF) + Teanaway Community Forest (TCF)
  4. Community desires trails for different skill levels
  5. Consider sharing some hiking and biking trails w/ horseback riders
  6. It is dangerous to have fast bikes share trails with horses especially on down tracks
  7. There is a concern about roads being obliterated and how that would affect access for forestry and fire control; Response: roads will typically remain and are not the focus of this project.
  8. North Carolina – horse trails improved (more compacted) by mountain bike use (alternated users by weekday)
  9. Consider access for mobility challenged w/ ATV? (Response: not on this project)
  10. Land owners – liability + rules + regulations for trail use?
      a. Kiosk w/ use guidelines
      b. State law: liability statute + county insurance policy
  11. A water trough for horse riding trails is desired
  12. Roslyn to ridge – ca. 2 miles
  13. The Rat Pac Up-Track trail which is 6 miles long is noted as an example of the distance between Cle Elum & the ridge
  14. Separate hiker + mountain bike down trails are preferred
  15. The project area is 7717 Acres
  16. The TNC has said there are no limitations on steepness/class of trails
  17. There is a desire to keep horse trails challenging – but not like yellow hill which is too steep (some bush-whacking is good and makes for an interesting trail).

Goals:

1. Provide emergency services to recreation area
2. Design trails that require less maintenance. (Define easily maintained?)-Response: trail tread design with materials that don't easily rut; drain dips and swales, etc. for erosion control

3. Consider potential for volunteer trail maintenance
4. Connect horse trails up to existing horse park
5. Incorporate accessible walking trails for those that are mobility challenged
6. Consider different types of trail users + ratio of users to available trails
7. The TNC has said there aren't any hard and fast rules on quality of trails but to stay within boundaries of private owners' wishes/requests.
8. Maintain quality of life and create downtown cores that are vibrant places for visitors with routes through the community to trailheads.
9. Create a range of motion opportunities, balancing trails for toddlers and elderly with mountain biking trails where there are easy trails near town that are for hikers only

Issues and Opportunities:

1. The "Viewing Rock" is another name for "wedding rock"
2. Horse trails and trail heads for horses are desired
3. Horse riding to ridge and riding loop is desirable (no water is ok)
4. Horse trail connection to Teanaway Community Forest is also a desire
5. From Cle Elum it is about 2.5 miles to ridge (possibly more, since Rat Pac up-track is 6 miles) – Consideration should be made for whether there is opportunity for a trailhead that is part way up ridge that you can drive to
6. Wayfinding is needed for winter ski trails
7. There are several great mountain bike up-tracks available
8. There is opportunity for stacked loop trail but need to determine where this would go
9. Signs at junctions get taken down
    a. Use maps along the way
10. There are exciting opportunities for challenging mountain biking trails but also want trails that are easy for kids to get out and use
11. There is emergency access and cell service is good, but there need to be frequent wayfinding points so that it is possible for an injured person to provide a location for emergency services to go to.
12. Is there an opportunity to drive up Montgomery Rd in Cle Elum and create a trailhead for a shorter hiking trail to ridge? (Gated @ bottom)

Program:

1. Wayfinding signs are needed
2. Post winter trails maps and summer trails maps -> (Digital too?)
3. Trail type mix: – 25% easy trails; 25% difficult and 50% moderate difficulty
4. Community-based trails – there is a desire for them to be easier
5. Create steep mountain bike trails – desire for good down-tracks; Separate from other uses
6. Rotate uses between horse + mountain bikes
7. Destination hikes? Don't make too many amenities; keep wilderness character
    a. Manage to protect from getting ruined by over-use
8. A mix of trail types is good for hikers and a 12% slope is doable and should be included
9. Start with one awesome moderate/easy trail for everyone – a couple loops; add more difficult later

Process / Logistics:

1. How is this project going to be phased?
    a. ID priority trails
    b. ID bare-bones initial trail system
2. It will succeed or fail depending on volunteers -> build trails
3. A board member from Mountains to Sound Greenway pointed out that they are a lead organization for funding and building the trails; support for this trail system exists

4. For implementation there will be a RCO Funding Cycle in 2018 and the masterplan should be done by early 2018, allowing it to be used to pursue RCO funds.
5. The WDFW will review plan for wildlife habitat protection (William Meyer)
6. Use Survey Monkey to get more feedback from a broader range of ages and user groups.

Towns to Teanaway Corridor Project

PUBLIC MEETING #2 NOTES – ALTERNATIVE CONCEPTS
February 27, 2018

Time: 6:30-9:00
Location: Putnam Centennial Center, 719 East Third Street, Cle Elum, Washington

MEETING NOTES:

Comments on Presentation and Graphics

- Provide maps in GEO PDF for ground-truthing routes and providing comments beyond this meeting
- Provide overlay of both options to see difference

Comments on Trails

- Propose well-made MTB Trails
- Positive feedback for trails with separate uses
- Desire for more adventure and variety
- Desire for a connection to hiking trail from the City Heights trail head
- An 8-mile loop on horseback takes about 2 hours; 2-hour horseback ride option desired
- Potential for horse trailer parking in Roslyn at trailhead
- Focus on good trails – density can be fairly tight
- Desire for trail labeling and mileage markers. GPS coordinates on trail markers so that can be provided in an emergency.
- Create link to Roslyn Riders Arena
- Make sure equestrian trails work without conflicts
- Comment about removing bikes from multi-use trails
- Put signage at trailhead – fewer signs in forest
- Equestrians want a trail over to the West Fork in the Teanaway
- Equestrians need a loop trail off the Coal Mine Trail to the top and back down
- Desire for trail from end of Coal Mine Trail in Ronald connecting to top of Ridge Trail and back to beginning of Coal Mine trail in Cle Elum.

- Like the idea of keeping uses separate as it minimizes user conflicts
- Desire for clear trail connection to Teanaway – higher priority for trails that connect
- Cross country ski trails require special design
- Signage is really important
- Desire for public restrooms, water availability and parking.
- Keep downhill tracks in RUF to the roads. The two downhill tracks that lead to RUF don't have a straight outlet and essentially they make all the trails in RUF downhill. Please don't do this – resolve this issue
- Trail system and additional trails could evolve over time
- Multi-use trails that include bikers with hikers and equestrians are dangerous – should separate bikers
- Mountain bike down tracks should be separated from all other uses – especially equestrians
- Ensure future connections to trails south and north for long distance state-wide trail
- Please consult with bikers before and while constructing mountain bike trails. Mountain bike trails are not all created equal!
- The designated downhill trails for bikes is good as this helps with the issue of conflict with other user groups on multi-use trails
- Alternative 2 is preferred for meeting more user needs and would more closely meet goal of being a world class trail network
- Comment desiring three access points into Teanaway from ridge – west, middle and east
- Density of trails – Playful Loops Alt. - more hiking opportunity and are not too dense
- Alternate 2 – more separation between horse use and others
- Suncadia trails – what about shared-use of those? Suncadia has desire to connect into this trail system – idea can go both ways
- Disperse people on trails across site
- Cle Elum City Planner comment: "Anything within City Heights (Sean Northup property north of Cle Elum) must be reviewed by City of Cle Elum and compared with the City Heights development agreement tied to that land."

Comments on Parking

- Great potential horse trailer parking at base of Rat Pac
- Consider parking for 10-15 horse trailers at Centennial Park
- Comment saying absolutely no parking lot at the top
- Support for a balance between Quiet Exploration and Playful Loops concepts – there should be a balance of mileage for both hiker and biker – leans more toward the Quiet Loop concept

- Roslyn Riders Arena – need parking for a significant number of trailers. Riders would like access to park and the trail system from the arena. Is there a potential for loops from the arena?
- The Coal Mines Trailhead will have very few parking spaces. There are more parking spaces near Flag Pole Park
- In either plan, horses need to be kept on the trails –want parking for horse trailers
- No motorized vehicles should be allowed on ridge
- No parking lot on ridge
- Comment expressing no trailhead or main access at the City Heights development as this is private/residential
- Need parking areas large enough to accommodate horse trailers
- Well-designed parking for horse trailers
- Cle Elum City Planner recommends trailhead parking, including horse trailer parking, be located in Cle Elum south of W. Railroad Ave. and east of S. Cle Elum Way, where there is an existing parking area and potential for expansion.

Comments on Management / Process

- Comment stating the need for good communication between groups of users – for example, when one group is having a meeting or event, other groups will need to be informed so as not to conflict with events. Who is in charge of this?
- Question about who will enforce trail rules and regulations? Will permits be required for special events?
- There should not be a requirement to purchase a pass to use the area; there is enough of that in other places
- Do not advertise all trails; keep some trails for community and residents only
- More trail users will require more services like Search and Rescue
- Design Alternative 2 to be an add-on to Alt 1 for phased grant applications – consecutive WWRP / RCO biennium
- Concern for patrolling graffiti and garbage when more access is allowed. Teanaway already has these issues
- Question about other trails being decommissioned and why this would happen
- Bike Park Down Track entry to Cle Elum is busy and has trash build-up – some say this is from youth hanging out there, not bikers
- Mountain bikers will build trails + additional volunteer hour match
- Desire to share trails but don’t want to have too much advertising of the trails
- Don’t advertise trails too much
- Management of trails – don’t have multiple events on same day – permit for events
- Limit number of events; not on holiday weekends

- Roslyn Riders – Memorial Day Weekend ride is a long standing annual event; will continue
- Limit number of events annually
- Central website for info, including events, umbrella organization for permits for the trail system – multiple ownerships
- Teanaway, Central Cascades and TTT - eventually management needed
- Backcountry horsemen – maintain trails
- Other groups need to do maintenance also
- Next – PROVIDE COMMENTS ONLINE FOR ONE MONTH
- Comments send to : TownstoTeanaway@gmail.com

Environment / Wildlife

- Wildlife require more area than provided including crossing boundaries through RUF / CAC
- Are there detailed wildlife / plant surveys? Knapweed is a big issue
- Black bears feed at Crystal Creek
- Slow moving uses through the wildlife corridor not a problem (expert opinion)
- Concern that new trails along ridge will impact wildlife
- Higher trail density option is good, but want to see poor trails, that damage habitat, decommissioned

Miscellaneous Comments

- Equestrians don't want to ride horses across highway
- Is cell phone reception available on ridge?
- Hard to use private land east of Vista HOA
- Comment about an Arena grant at Washington State Horse Park
- Water needed at the top of ridge for horses – potential cistern (Andy Baur idea)?
- Garbage: pack it in pack it out
- What about winter recreation?
- Most residents are not business owners so economic gain is not a big concern – the priority is to maintain a quiet community and not impact neighborhoods
- Horses cross road (SR903) from Suncadia and ride up to ridge
- Designate helicopter landing zones for rescue purposes
- Alternative 2 is a great choice – great work!
- Some new businesses and resources coming into community which is a good thing
- When it's too crowded, no one wants to go there anymore – Yogi Berra
- Horse camping on Teanaway, but full with hikers from surrounding areas

- Indian camp – horse users used to have this but it has been taken over by hikers who camp here

Next Public meeting late May 2018 – Draft Master Plan

JAB'S OBSERVATIONS OF TRENDS

Overall public feedback appears to be in support of Alternative 2, Playful Loops.

Trail Comment Trends:

- Provide trails with separate uses, which is not possible with Alternative 1.
- Mountain bikes down tracks should be single use.
- MTB downhill tracks in the RUF should be clearly marked and identified in order to eliminate down track use of all RUF trails. Use old road grades where possible?
- Equestrians would like a trail connection to the Roslyn Riders Arena; a loop trail from the Coal Mine Trail in Ronald to the ridge trail and down to the Coal Mine Trail in Cle Elum; and trail connections into the Teanaway (3 from ridge).
- Provide for winter uses; special trail requirements for cross country skiing;
- Maintain existing snowmobile trail
- Consider phased development of Alt 2 over time.
- Wayfinding signage should promote directing public to primary trailheads to minimize impacts to residential neighborhoods.
- Provide wayfinding signage that helps people locate themselves on the trail in case of emergency.

Trailhead/Parking Comment Trends:

- Create a trailhead with parking in each of the three communities.
- Provide vehicle and horse trailer parking in Cle Elum south of W. Railroad Ave and east of S. Cle Elum Way.

- Consider including horse trailer parking in trailheads
- Connect to City Heights trails
- Consider connecting to Suncadia trails
- Do not provide vehicular access and parking at the top of the ridge, except for potential road east of TNC property, outside of the project area, as in Alt 2. Consider for ADA access.

Management Comment Trends:

- Create a central website for information on the TTT system, including coordination and potential permits for events; limit number of events per year.
- Management of the trail system is needed between Teanaway, Central Cascades and TTT.
- Maintenance required at trails and trailheads. Encourage volunteer maintenance assistance.
- Limit advertisement of trails; don't advertise some local trails, such as some on the RUF.

Environment/Wildlife Comment Trends:

- Protect wildlife habitat; have WDFW wildlife biologist review preferred trail plan.
- Trail crossings across wildlife corridors should be short and promote slow-moving uses.
- Concern that more wildlife habitat areas are needed; want decommissioning of poor trails and habitat restoration.

Towns to Teanaway Corridor Project

PUBLIC MEETING #3 – PUBLIC COMMENTS

August 29, 2018

Location: Putnam Centennial Center, 719 East Third Street, Cle Elum, Washington

9/29/18 from Chris Barchet

Hello TTC Committee -

Thanks for all hard work you've put into this project! The new trail system looks great!

One concern that I've heard from the MTB community is the lack of up-trails that don't allow horses. The unfortunate side of horses on the shared trails is the droppings. No biker or hiker enjoys walking through them or smelling them. The hikers have an option but bikers don't.

I think this is a major problem. We want people to come enjoy our community and spend their dollars here. This system will not be as appealing to bikers if they have to deal with horse droppings. A better solution is needed.

Thanks for listening!

Best,
Chris

9/28/18 from James Moschella

To whom it may concern,

Please accept the attached document as formal submission of comments for Washington Trails Association on the Towns to Teanaway Corridor Project Master Plan. (see Comment Letter attached)

Best,
James Moschella

9/3/18 from Leslie Thurston

Hi Craig and congrats again on bringing this big project home! A couple of horseback rider issues:
- The map legend defines green as multi-use for "equestrian, hiking, biking", but the trails through the Martin property exclude horses, so that definition is erroneous in that area. Those sections that are for hiking and biking only need to be changed to a different color in order to prevent mistakes by horseback riders and to make it obvious to all where we can ride. Taking out those trails makes for some very long rides!
- The planning team has decided to first build the major trail that excludes horseback riders....as long as horse people can still use the same trails they've been using in that area, then no big deal. If that is not the case, then that would be a very troubling choice for obvious reasons.
Thank you very much for listening and taking all this into account.
Sincerely,
Leslie

Leslie Thurston
Executive Director
Washington State Horse Park
877-635-4111
www.wahorsepark.org

8/31/18 from Scott Gray

Great work on balancing the various concerns of the private landowners, user groups and wildlife. This project has my enthusiastic support. Now lets get the KPRD to run a levy for building this system out.

Scott Gray
205 S. First
Roslyn Wa

8/31/18 from David Van Wert

I was very encouraged by everything that I heard at the third TTC meeting. I want to thank everyone who has had a part in making this project happen. It will be a big asset to all the citizens of Kittitas County and beyond. My only comment would be concerning the horse trailer parking. I would think that the best place to park a horse trailer would be at the Washington State Horse Park. A trail could be made to connect the horse park with Alliance Road. I would not like to have the rigs parked at the corner of 6th street and Summit View. There just isn't enough room and technically Summit View is a private road. The horse people sometimes park at the end of the Coal Mines Trail on Stafford and that area becomes too congested as well.
Thanks again for all the good work and I look forward to seeing you on the trails!

David Van Wert

8/30/18 from Sam Skimore

Hi!

I love the plan that has been put together for this. Thank you so much for the hard work and great public involvement.

One suggestion is to add/allow for uphill mountain bike traffic on the grotto trail or the hiking trail just to the west, so that there is access to the ridge from the center of Roslyn. There are downhill routes here, but no easy way to regain the ridge.

Also, is there a conversation going with DNR to improve trails in the TCF to get down the north side of the ridge (completing the towns to Teanaway connection)?

Thanks again!

8/30/18 from Jeff Topham

Hi there,

I love this master plan; I think you guys have created a really great plan. I can't wait to get out there on my bike!

Sincerely,
Jeff Topham

E.B. BELEW

September 28, 2018

P.O. Box 622, Roslyn WA 98941
(509)649-2377

Leadership Group
Towns to Teanaway Project
c/o Craig Maybe
Kittitas County Parks District 1

Let me begin by noting I have worked toward unified, ecologically sustainable management of the "Ridge to River" environment for almost 30 years. Throughout, I have advocated for a non-motorized recreational system in concert with sustainable ecological and economic land management plans and practices.

I have actively advocated for the Towns-to-Teanaway Corridor project since first discussions began. I state this to make it clear that I support the vision and legacy of this project.

I also appreciate the enormous amount of personal commitment and volunteered resources that many, including various members of the "leadership group," have invested in this project.

Unfortunately, after attending the 8/29/18 public meeting (and every other previous public meeting) on the project, I have grave concerns as to what happens next.

To begin with, I was disturbed the plan presented at the 8/29/18 meeting is a done deal. Winston Norish, a new (to me) member of the "leadership group," stated, as the maps were projected, "This is what's going to happen." None of the information from this meeting was available prior to the meeting, nor where hard copies available at the meeting.

I am therefore not offering comments on the specifics of the mapped proposal, so as not to waste my time.

HABITAT CONNECTIVITY
The original concept of a Towns-to-Teanaway Corridor **system** has not been brought forward. Instead, it is a trail system proposal that does not specifically or explicitly enhance or facilitate habitat/ ecological-niche connectivity.

As the "leadership group" discussed a trail system with landowners, there was never even conversation with these landowners (or the larger community) about including habitat connectivity, or about ways the same easement process could be used to promote, protect, and

enhance such connectivity. (This is according to what I have been told by various members of the "leadership group.")

On the lands within the study area, from the RatPack Trail to the western border, almost every trail is within .4 miles of another trail.

The Number 3 and Number 6 Canyon areas are labeled "Wildlife Corridors." The only specific habitat concession is that trails here cross perpendicular to the canyons. The Number 3 Canyon has 5 proposed trail crossings.

From what I heard at the 8/29/18 meeting, there never was any kind of inventory of niche elements within the study area, nor has there ever been any kind of overlay that would identify key, critical, or rare habitat pockets (flora, fauna) or even incorporate the current hydrology of the Ridge. The contract with JA Brennan and Associates states, "the consultant will:
"Incorporate environmental constraints, such as wildlife corridors, critical areas (as defined in the Roslyn Urban Forest Land Stewardship Plan and the WA State Growth Management Act), threatened and endangered species, biology, soils, geology, and management for placement of trail corridors."
Where is this information incorporated? Why was no other environmental information gathered or incorporated?

Note also, another deliverable is to "Highlight locations in the project area where noxious and invasive weeds are observed during field work." Does this information exist?

ORGANIZATIONAL AND FINANCIAL ACCOUNTABILITY
I asked about this at the 8/29 meeting but did not receive an answer.

The "leadership group" has no official authority nor any public accountability. Its membership has changed through the process, although there has never been any opportunity for members of the public to even apply. The group is not incorporated. It does not follow, nor is it bound by, the Public Meetings Act. No minutes or meeting notices have ever been given to the public. There also has been no incorporation of larger environmental review processes, such as SEPA.

As this project continues to move forward, it is unclear what moneys have been collected, how they have been spent, and who held/holds and dispersed/disperses such funds. At no time has any budget (income/expenses) been presented to the public, although we have been told something like $70,000 has gone to the project consultant.

The contract for the project planning work was signed by representatives of the Kittitas County Parks District 1 and the Economic Development Group of Kittitas County. The *Daily Record*

reported (06-02-18) "The project is being spearheaded by the Mountains to Sound Greenway Trust, the Nature Conservancy and the Kittitas County Parks and Recreation District 1." So who is running the show?

LACK OF PRIORITIZED WORK PLAN-IMPLEMENTATION

At the 8/29 meeting, there was mention made of some kind of "final trail plan" to include implementation, and some sort of 5 year plan. We were told both of these will be made public (without additional public input, I assume) by late 2018. It is unclear to me who will be establishing these priorities. TNC is unilaterally moving forward with at least one volunteer trail-building project that links to the Roslyn Urban Forest.

In theory, some existing trails will be decommissioned, as the proposed trails are built or brought up to trail standards (see note below). However, there is no prioritization of what work will happen when. In addition, there is no forum for the public to have input on such prioritization.

Note: one "deliverable" from the contract for services with JA Brennan and Associates is to "Create a GIS catalog existing trails and paths and their condition within the project area" and a GIS "Inventory of existing trails and related facilities in and around the project area, trail heads, parking areas, and existing corridors for community connectivity." If this was ever done, the information has never been shared with the public.

TRAIL SPECIFICATIONS and FOUR-SEASON USE

I asked about both of these at the 8/29 meeting.

I was told previously presented trail standards are to be rolled forward. However, the information posted from the 8/29 meeting (TTT Master Plan Trail Typology.pdf) gives only slope and difficulty categories, not the actual trail specifications (width, trailbed, size of area to be brushed out, tightness of switchbacks, structures or lack thereof, etc.). The trails, as mapped and assigned user types, will require significantly different profiles.

Without trail profiles, or any documented concept of winter use patterns, the likelihood that these trails will be appropriate for various winter uses (skiing, for example) is doubtful. There are no plans for how to address fragility of trails during wet spring and fall use.

SNOWMOBILES

Unlike many many TNC lands, where habitat comes first, the areas in this project will be totally open to snowmobiles, including off-trail use, with the user responsible for deciding if there is adequate snow cover. The issue of wildlife conflicts does not seem to have been discussed or documented. If you want to see what such unregulated

off-trail snowmobile use does to an area, visit the lands to the immediate north of where the French Cabin Creek Road crosses the Cle Elum River. (It becomes one solid snowmobile track in winter, between almost every tree. Summer ground compaction is followed by winter compaction. What kind of ground cover can possibly establish itself?)

Two partners to this project (the City of Roslyn and Chris Martin) do not allow any snowmobiling on their lands. There is already illegal use on these lands, which will only increase as ridership increases on adjacent lands and a trail system that feeds into these areas. The proposed plan does not address this.

Going into the 8/29 public meeting, I had hoped there were be further opportunity to have input on these issues, as well as the specifics of the trail system proposal. This is not the case.

Again, I want to be clear that I have supported this project and its concepts and possibilities, throughout. I wish there was a more pleasant way of incorporating my concerns with whoever is running this project.

I believe in the public process, and I will continue to work to make the Towns-to-Teanaway a community process where all can help.

Thank you again for your individual work.

Sincerely,

Ellie Belew

Washington Trails Association
705 Second Avenue, Suite 300, Seattle WA 98104 • 206.625.1367 • wta.org

September 25, 2018

Craig J. Mabie
Commissioner – Position 2
Kittitas County Park and Recreation District #1
Comments submitted to: townstoteanaway@gmail.com

Re: Towns to Teanaway Corridor Project Master Plan

To whom it may concern;

WTA is appreciative of the opportunity to provide comment on the Towns to Teanaway Trails Master Plan. We are proud to provide support for this master plan, and look forward to the development of a trail system that links the towns of Ronald, Roslyn and Cle Elum to the ridge and down into the Teanaway Community Forest and its future trail system.

Washington Trails Association has a 50-year legacy of engaging the hiking community. WTA enhances hiking experiences in Washington state by empowering a diverse and growing community of hikers to explore, steward and protect trails and public lands. WTA is the nation's largest state-based trail advocacy organization, with 15,500 member households, thousands of volunteers each year and an online community of more than 100,000. WTA has been actively involved with both the Teanaway Community Forest Advisory Committee and Towns to Teanaway planning processes.

This plan is unique in its ability to provide for all users who recreate outdoors. It offers hiking, mountain biking and equestrian opportunities leaving from each of the three towns in the plan. Furthermore, it provides trails for users of all difficulty levels, allowing for users to choose their own experience within the Towns to Teanaway Corridor and possibly reducing trail congestion.

While many of the trails are draft in nature, they are well-designed and have few notable issues. We are appreciative of the clear care taken to create a trail system that suits all those that recreate outdoors. These aspects include:

- The inclusion of separate down track options for mountain biking
- Connections to the main ridge road allowing for hiking along the ridgeline
- Accessible trailheads near to Ronald, Roslyn and Cle Elum

As this plan moves forward, we look forward to further opportunities to promote the development of this plan. WTA supports this vision of multiuse trails within the Towns to Teanaway Corridor, and encourage the committee to look for opportunities for connecting with the Teanaway Community Forest, as well.

Sincerely,

Andrea Imler
Advocacy Director

Appendix C

Alternatives

TEANAWAY COMMUNITY FOREST (DNR)

NATURE CONSERVANCY

MAIN RIDGE ROAD

STEINERS CANYON

CURRY CANYON

BALMERS CANYON

GREENS CANYON

PRIVATE ROAD

STEEP CONDITIONS

VISTA DEVELOPMENT HOA

RAT PACK UPTRACK

RAT PACK DOWNTRACK

POWER LINE FOR POTENTIAL CONNECTOR

CLE ELUM

YAKIMA RIVER

NO 5 CANYON

FLAG POLE PARK

CITY PARK

MULTI-USE TRAIL

COAL MINE TRAIL

SR 903

I-90

CLE ELUM HIGH SCHOOL

DAWSON PARK

WASHINGTON STATE HORSE PARK

SUNCADIA

PROJECT LEGEND

- PARKING TRAILHEAD
- TRAILHEAD
- KEY DESTINATION
- EXISTING TRAIL
- MULTI USE TRAIL
  - EQUESTRIAN
  - HIKING
  - BIKE
- HIKING TRAIL
- MOUNTAIN BIKE TRAIL

GENERAL LEGEND

- Coal Mine trail
- Road Loop
- Trail
- Unofficial Trail
- Ridge Road
- Uptrack/Maintenance Road
- Steep Uptrack
- Private Roads

Possibly Closed Trails

- Closed (No longer used)
- Verify public access

SelectedRecPoints

Category

- School
- Information
- Museum
- Park
- Possible Forest Roads
- Project Area
- Gates
- Tax Parcels
- BPA Power Lines
- Recreation Areas

Points of Interest

Railroad Lines

- Active
- Abandoned

Early State Highways

- Wagon Road
- Sunset Highway
- Roslyn Cemeteries
- Historic District

Historic Buildings

- Cle Elum Historic Register
- Roslyn Historic Register
- WHR and National Register
- Washington Heritage Register
- Unknown List
- Coal Mines

0 0.2 0.4 Miles

TOWNS TO TEANAWAY CORRIDOR MASTER PLAN AND DESIGN

PROJECT AREA EAST - ALTERNATIVE 2 - PLAYFUL LOOP CONCEPT

Scale: 1" = 600'

0' 600' 1200'

TOWNS TO TEANAWAY CORRIDOR PROJECT LEADERSHIP GROUP

Manastash Mapping www.manastashmapping.com

2/23/2018

j.a. brennan associates PLLC

TEANAWAY COMMUNITY FOREST (DNR)

VIEW OF TCF

VIEW OF MT. STUART

SLICKROCK

WEDDING ROCK

TOWER

MAIN RIDGE ROAD

CROOKED TREE TRAIL

4TH OF JULY TRAIL

MIDDLE TRAVERSE TRAIL

TRAVERSE TRAIL

WILDLIFE CORRIDOR

RAT PAC UPTRACK

RAT PAC DOWNTRACK

ROTT TRAIL

NO 9. CANYON

NEW CLIMB

ROCKY'S TRAIL

PAN TREE TRAIL

NEW RUFF CLIMB

UPPER PAN TREE TRAIL

KARNS TRAIL

SLICKROCK TRAIL

REROUTE TRAIL

TREES TRAIL

ROSLYN URBAN FOREST

CEDAR GULCH WEST

ALASKA ALLEY TRAIL

NO 3. CANYON

ROSLYN

SLAGPILE KIDS LOOP

CRYSTAL CREEK

ROSLYN PIONEER PARK

CENTENNIAL PARK

PARK RESTROOM

SR 903

COAL MINE TRAIL

(MULTI-USE TRAIL)

RONALD

SUNCADIA

CLE ELUM RIVER

TOWNS TO TEANAWAY CORRIDOR MASTER PLAN AND DESIGN

PROJECT AREA WEST - ALTERNATIVE 2 - PLAYFUL LOOP CONCEPT

Scale: 1" = 600'

0' 600' 1200'

TOWNS TO TEANAWAY CORRIDOR PROJECT LEADERSHIP GROUP

Manastash Mapping

2/23/2018

j.a. brennan associates PLLC

TEANAWAY COMMUNITY FOREST (DNR)

NATURE CONSERVANCY

MAIN RIDGE ROAD

STEINERS CANYON

CURRY CANYON

BALMERS CANYON

STEEP CONDITIONS

GREENS CANYON

PRIVATE ROAD

VISTA DEVELOPMENT HOA

RAT PACK UPTRACK

RAT PACK DOWNTRACK

POWER LINE FOR POTENTIAL CONNECTOR

CLE ELUM

NO. 5 CANYON

YAKIMA RIVER

FLAG POLE PARK

CITY PARK

(MULTI-USE TRAIL)

COAL MINE TRAIL

SR 903

I-90

CLE ELUM HIGH SCHOOL

DAWSON PARK

SUNCADIA

WASHINGTON STATE HORSE PARK

PROJECT LEGEND

- PARKING TRAILHEAD
- TRAILHEAD
- KEY DESTINATION
- EXISTING TRAIL
- MULTI USE TRAIL
  - EQUESTRIAN
  - HIKING
  - BIKE
- HIKING TRAIL
- MOUNTAIN BIKE TRAIL

GENERAL LEGEND

- Coal Mine trail
- Road Loop
- Trail
- Unofficial Trail
- Ridge Road
- Uptrack/Maintenance Road
- Steep Uptrack
- Private Roads

Possibly Closed Trails

- Closed (No longer used)
- Verify public access

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- Active
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- Wagon Road
- Sunset Highway
- Roslyn Cemeteries
- Historic District

Historic Buildings

- Cle Elum Historic Register
- Roslyn Historic Register
- WHR and National Register
- Washington Heritage Register
- Unknown List
- Coal Mines

0 0.2 0.4 Miles

TOWNS TO TEANAWAY CORRIDOR MASTER PLAN AND DESIGN

PROJECT AREA EAST - ALTERNATIVE 1 - QUIET TRAIL CONCEPT

Scale: 1" = 600'

0' 600' 1200'

TOWNS TO TEANAWAY CORRIDOR PROJECT LEADERSHIP GROUP

Manastash Mapping

2/23/2018

j.a. brennan associates PLLC

TEANAWAY COMMUNITY FOREST (DNR)

VIEW OF TCF

VIEW OF MT. STUART

SLICKROCK

WEDDING ROCK TOWER

MAIN RIDGE ROAD

WILDLIFE CORRIDOR

CROOKED TREE TRAIL

4TH OF JULY TRAIL

MIDDLE TRAVERSE TRAIL

TRAVERSE TRAIL

RAT PAC UPTRACK

RAT PAC DOWNTRACK

GROTT TRAIL

NO. 6 CANYON

NEW CLIMB

ROCKY'S TRAIL

UPPER TREE TRAIL

KARNS TRAIL

SLICKROCK TRAIL

REROUTE TRAIL

TREES TRAIL

ROSLYN URBAN FOREST

CEDAR GULCH WEST

ALASKA ALLEY TRAIL

SLAGPILE KIDS LOOP

CRYSTAL CREEK

ROSLYN

WILDLIFE CORRIDOR

NO 3. CANYON

ROSLYN PIONEER PARK

CENTENNIAL PARK

PARK RESTROOM

SR 903

COAL MINE TRAIL

(MULTI-USE TRAIL)

RONALD

SUNCADIA

CLE ELUM RIVER

TOWNS TO TEANAWAY CORRIDOR MASTER PLAN AND DESIGN

PROJECT AREA WEST - ALTERNATIVE 1 - QUIET TRAIL CONCEPT

Scale: 1" = 600'

0' 600' 1200'

TOWNS TO TEANAWAY CORRIDOR PROJECT LEADERSHIP GROUP

Manastash Mapping www.manastashmapping.com

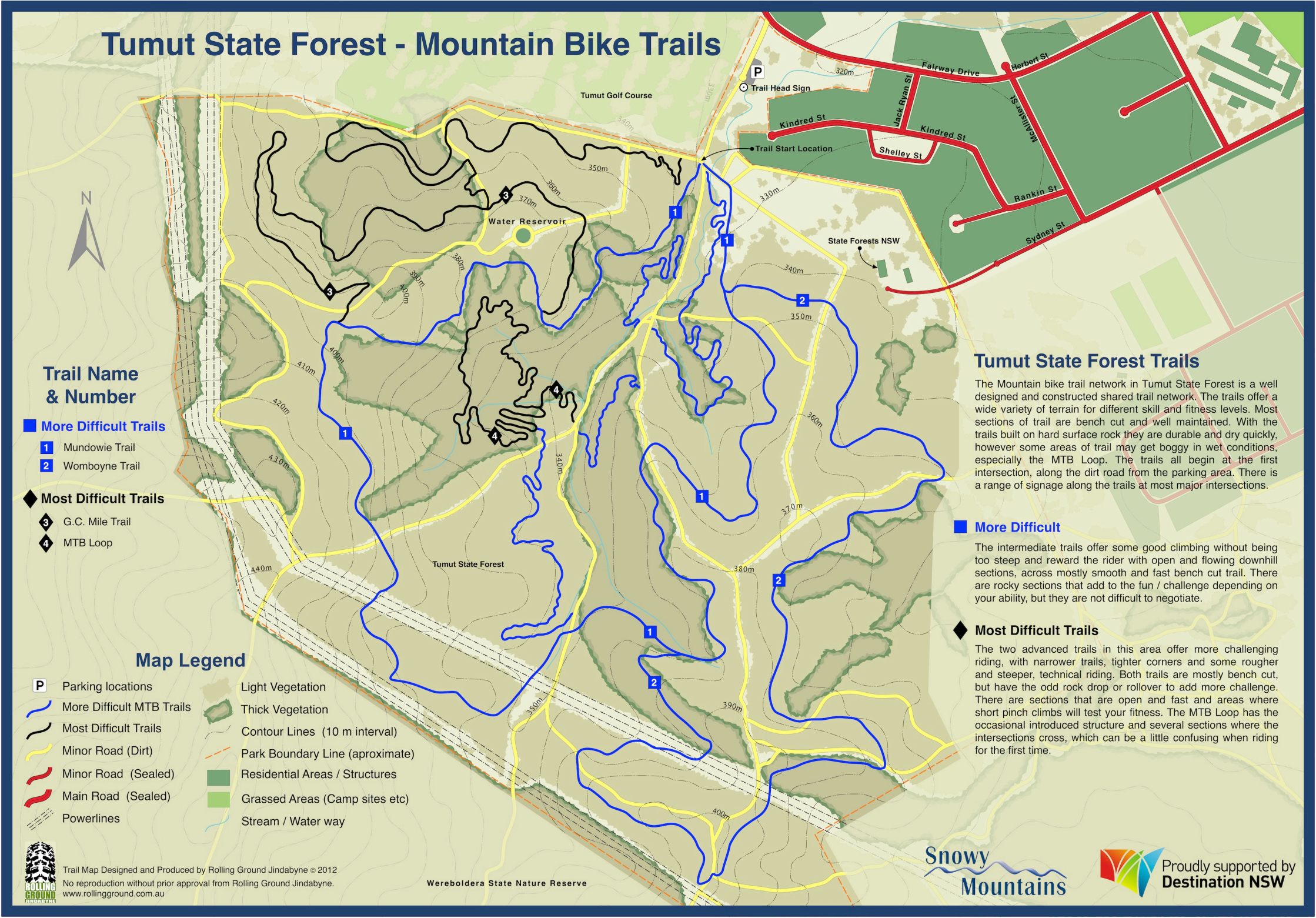
2/23/2018

j.a. brennan associates PLLC

Appendix D

Case Study Maps

Tumut State Forest - Mountain Bike Trails



Trail Name & Number

More Difficult Trails

1. Mundowie Trail
2. Womboyne Trail

Most Difficult Trails

3. G.C. Mile Trail
4. MTB Loop

Map Legend

- Parking locations
- More Difficult MTB Trails
- Most Difficult Trails
- Minor Road (Dirt)
- Minor Road (Sealed)
- Main Road (Sealed)
- Powerlines
- Light Vegetation
- Thick Vegetation
- Contour Lines (10 m interval)
- Park Boundary Line (aproximate)
- Residential Areas / Structures
- Grassed Areas (Camp sites etc)
- Stream / Water way

Tumut State Forest Trails

The Mountain bike trail network in Tumut State Forest is a well designed and constructed shared trail network. The trails offer a wide variety of terrain for different skill and fitness levels. Most sections of trail are bench cut and well maintained. With the trails built on hard surface rock they are durable and dry quickly, however some areas of trail may get boggy in wet conditions, especially the MTB Loop. The trails all begin at the first intersection, along the dirt road from the parking area. There is a range of signage along the trails at most major intersections.

More Difficult

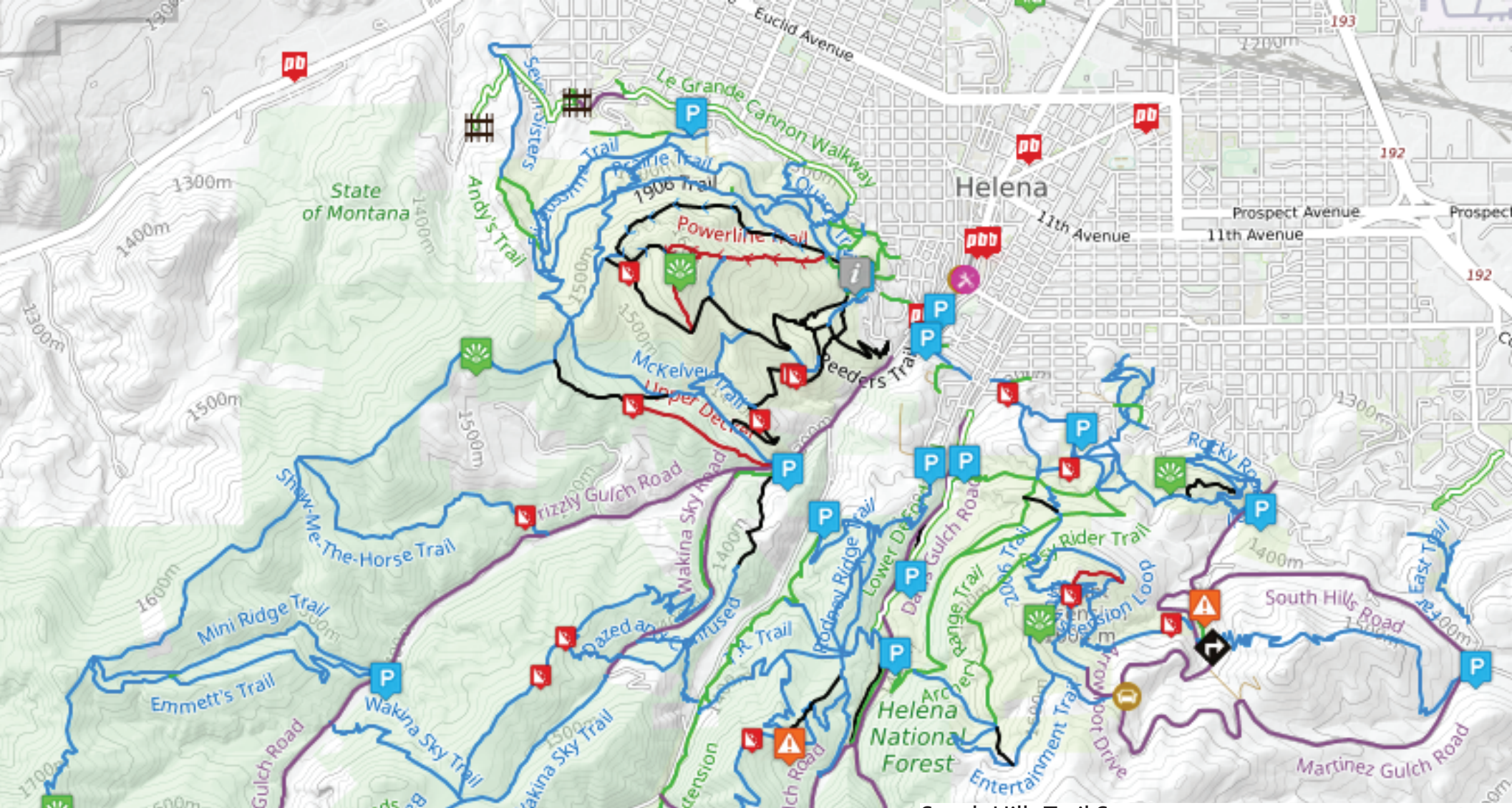
The intermediate trails offer some good climbing without being too steep and reward the rider with open and flowing downhill sections, across mostly smooth and fast bench cut trail. There are rocky sections that add to the fun / challenge depending on your ability, but they are not difficult to negotiate.

Most Difficult Trails

The two advanced trails in this area offer more challenging riding, with narrower trails, tighter corners and some rougher and steeper, technical riding. Both trails are mostly bench cut, but have the odd rock drop or rollover to add more challenge. There are sections that are open and fast and areas where short pinch climbs will test your fitness. The MTB Loop has the occasional introduced structure and several sections where the intersections cross, which can be a little confusing when riding for the first time.

Snowy Mountains

Proudly supported by Destination NSW



South Hills Trail System:
Helena, MT

- Shared Access (Bike & Car)
- Bike Trail, Easy
- Bike Trail, Medium
- Bike Trail, Difficult
- Bike Trail, Most Difficult

Not To Scale

Icons indicate parking, obstacles, views, & rider notes.

Approx. 80 mi of trail within system
Approx 2,100 veritcal feet of elevation change within system
Approx 6.5 mi x 5 mi footprint (~20,800 acres)


Difficult Trails
Features
Map Locations 1
Roads
Trail Access
Bay View Trailhead
Port Gamble Rd Trailhead
RANGER
STUMPS
EWOK
HOPE
E.T.
FORBIDDEN FOREST
THE HOOD
DOWNHILL
ANKLE BITER
SISTER
TWISTED
THE AVIARY
WARLOCK
SEASON OF THE WITCH
PARALLEL
MAGGIE ROCKS
MORDOR
CUT-OFF
LOWER MIRKWOOD
UPPER MIRKWOOD
DROP TRAIL
ALDERS
BIG ROSE
YELLOW JACKET
DERAILED
CAMELBACKS
BOBSLED
CLEARCUT TRAILS
Pvt. Rd
BM 82
1320
1340
1330
1310
1000
1311
1300
1400
1510
1500
1610
1710
1600
1700
1800
1910
1900
1920
2000
1200
1800


FLUTE
PICCOLO
SYMPHONY BOWL
BURNT STEW TRAIL
LITTLE WHISTLER PEAK
ELEVATION: 2115M / 6903FT.
WHISTLER PEAK
ELEVATION: 2187M / 7160FT.
GLACIERS PERMANENTLY CLOSED
GLACIER BOWL
WHISTLER BOWL
LITTLE WHISTLER TRAIL
HARMONY BOWL
MUSICAL BUMPS TRAIL
(TO SINGING PASS IN GARIBALDI PROVINCIAL PARK)
HARMONY EXPRESS (CLOSED)
GLACIER LOOKOUT
1987M / 6519FT.
PEAK CHAIR (CLOSED)
RIDGE LOOKOUT
1922M / 6306FT.
T-BARS (CLOSED)
GLACIER TRAIL
BC Parks
HARMONY MEADOWS
RIDGE LOOKOUT TRAIL
HELI PAD
HARMONY LAKE
1737M / 5699FT.
RESERVOIR
THE ROUNDHOUSE LODGE
ADVENTURE DESK
1837M / 6030FT.
LOWER HARMONY LAKES
1712M / 5617FT.
HARMONY LAKE TRAIL & LOOP
SNOWSHOE TRAIL
LOWER HARMONY LOOP
7TH HEAVEN LOOKOUT
1987M / 6519FT.
PALEFACE TRAIL
G.S. BIKE TRAIL
LOOKOUT
FRANZ'S CHAIR (CLOSED)
RESERVOIR
WHISKEY JACK
RED LINE EXPRESS (CLOSED)
MARMOT
MAINLINE
GREEN EXPRESS (CLOSED)
L'IL PAPOOSE
GREEN ACRES
VILLAGE DESCENT
BEAR CUB
BOBCAT
THE CHIC PEA (CLOSED)
TANTALUS LOOKOUT
1987M / 6519FT.
PAPOOSE
BANANA PEEL
PIG ALLEY
PONY TRAIL
BYPASS
MAINLINE
ORANGE CHAIR (CLOSED)
VIPER
BEAR CUB
SINGING PASS TRAIL
RIVER OF GOLDEN DREAMS LOOKOUT
1500M / 4921FT.
GARBANZO EXPRESS
MIDSTATION
1300M / 4265FT.
OLYMPIC LOOKOUT
1400M / 4593FT.
THE LABYRINTH
VILLAGE DESCENT
WHISTLER VILLAGE GONDOLA
4.1
UPPER FANTASTIC
LITTLE ALDERS
WORLD CUP TUNNEL
3.6
MID OLYMPIC
EXPRESSWAY
OLYMPIC CHAIR (CLOSED)
BIKE ZONE & LEARNING CENTRE
UPPER CRABAPPLE
SUMMER MID ROAD
OLYMPIC RUN
2.5 KM
BLUEBERRY CRUMBLE
AFTER ATLANTIS
ROUTE RUTABAGA
BADLANDS
OLYMPIC STATION
1019M / 3346FT.
2.3
CRABAPPLE
GOLDEN TRIANGLE
RIPPIN' RUTABAGA
FLOWERED MEADOWS LOOKOUT
819M / 2687FT.
FANTASTIC
WORLD CUP SINGLE TRACK
OLD OLY ROAD
1.7
101
SINGING PASS ROAD
301
401
201
NORTHERN LIGHTS
HO CHI MIN
FITZSIMMONS EXPRESS
COMING HOME
SUPERCROSS (PROPOSED)
DUAL SLALOM
SUMMER ROAD
WHISTLER VILLAGE
675M / 2214FT.
GUEST RELATIONS/ADVENTURE DESK
GARIBALDI LIFT CO. BAR & GRILL
GLACIER SHOP – SALES, SERVICE & RENTALS
COMING HOME
LEGEND
Hiking Trails
Bike Trails (Guided ride only)
Mountain Bike Park (Self Guided)
Hiking & Bike Trails
Summer Road
(Authorized vehicles only. Cycling and hiking not permitted – lift privileges will be revoked.)
Permanently Closed Areas
Area Boundary
Somewhat Challenging
Challenging
Difficult
(For serious, well prepared hikers, or expert riders).
Telephone
Washroom
Restaurant
First Aid
This map is an artist's rendering. Actual terrain may vary.

Appendix E

USDA Trail Standards

Trail Design Parameters

Hiker/Pedestrian (FSH 2309.18, Section 23.11, Exhibit 01)

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent.[1] Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use HIKER/PEDESTRIAN		Trail Class 1	Trail Class 2	Trail Class 3[2]	Trail Class 4[2]	Trail Class 5[2]
Design Tread Width	**Wilderness** (Single Lane)	0″ – 12″	6″ – 18″	12″ – 24″ Exception: may be 36″ – 48″ at steep side slopes	18″ – 24″ Exception: may be 36″ – 48″ at steep side slopes	Not applicable
	Non-Wilderness (Single Lane)	0″ – 12″	6″ – 18″	18″ – 36″	24″ – 60″	36″ – 72″
	Non-Wilderness (Double Lane)	36″	36″	36″ – 60″	48″ – 72″	72″ – 120″
	Structures (Minimum Width)	18″	18″	18″	36″	36″
Design Surface[3]	**Type**	Native, ungraded May be continuously rough	Native, limited grading May be continuously rough	Native, with some onsite borrow or imported material where needed for stabilization and occasional grading Intermittently rough	Native with improved sections of borrow or imported material, and routine grading Minor roughness	Likely imported material, and routine grading Uniform, firm, and stable
	Protrusions	≤ 24″ Likely common and continuous	≤ 6″ May be common and continuous	≤ 3″ May be common, not continuous	≤ 3″ Uncommon, not continuous	No protrusions
	Obstacles (Maximum Height)	24″	14″	10″	8″	No obstacles
Design Grade[3]	**Target Grade**	5% – 25%	5% – 18%	3% – 12%	2% – 10%	2% – 5%
	Short Pitch Maximum	40%	35%	25%	15%	5% FSTAG: 5% – 12%[2]
	Maximum Pitch Density	20% – 40% of trail	20% – 30% of trail	10% – 20% of trail	5% – 20% of trail	0% – 5% of trail

Designed Use HIKER/PEDESTRIAN		Trail Class 1	Trail Class 2	Trail Class 3[2]	Trail Class 4[2]	Trail Class 5[2]
Design Cross Slope	Target Cross Slope	Natural side slope	5% – 20%	5% – 10%	3% – 7%	2% – 3% (or crowned)
	Maximum Cross Slope	Natural side slope	25%	15%	10%	3%
Design Clearing	Height	6′	6′ – 7′	7′ – 8′	8′ – 10′	8′ – 10′
	Width	≥ 24″ Some vegetation may encroach into clearing area	24″ – 48″ Some light vegetation may encroach into clearing area	36″ – 60″	48″ – 72″	60″ – 72″
	Shoulder Clearance	3″ – 6″	6″ – 12″	12″ – 18″	12″ – 18″	12″ – 24″
Design Turn	Radius	No minimum	2′ – 3′	3′ – 6′	4′ – 8′	6′ – 8′

[1] For definitions of Design Parameter attributes (for example, Design Tread Width and Short Pitch Maximum) see FSH 2309.18, Section 05.

[2] Trail Classes 3, 4, and 5, in particular, have the potential to provide accessible passage. If assessing or designing trails for accessibility, refer to the Forest Service Trail Accessibility Guidelines (FSTAG) for more specific technical provisions and tolerances (FSM 2350).

[3] The determination of trail-specific Design Grade, Design Surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Trail Design Parameters

Bicycle (FSH 2309.18, Section 23.13, Exhibit 01)

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent.[1] Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	6″ – 12″	12″ – 24″	18″ – 36″	24″ – 48″	36″ – 60″
	Double Lane	36″ – 48″	36″ – 48″	36″ – 48″	48″ – 84″	72″ – 120″
	Structures (Minimum Width)	18″	18″	36″	48″	60″
Design Surface[2]	**Type**	Native, ungraded May be continuously rough Sections of soft or unstable tread on grades < 5% may be common and continuous	Native, with limited grading May be continuously rough Sections of soft or unstable tread on grades < 5% may be common	Native, with some onsite borrow or imported material where needed for stabilization and occasional grading Intermittently rough Sections of soft or unstable tread on grades < 5% may be present, but not common	Native, with improved sections of borrow or imported materials and routine grading Stable, with minor roughness	Likely imported material and routine grading Uniform, firm, and stable
	Protrusions	≤ 24″ Likely common and continuous	≤ 6″ May be common and continuous	≤ 3″ May be common, but not continuous	≤ 3″ Uncommon and not continuous	No protrusions
	Obstacles (Maximum Height)	24″	12″	10″	8″	No obstacles
Design Grade[2]	**Target Grade**	5% – 20%	5% – 12%	3% – 10%	2% – 8%	2% – 5%
	Short Pitch Maximum	30% 50% on downhill segments only	25% 35% on downhill segments only	15%	10%	8%
	Maximum Pitch Density	20% – 30% of trail	10% – 30% of trail	10% – 20% of trail	5% – 10% of trail	0% – 5% of trail
Design Cross Slope	**Target Cross Slope**	5% – 10%	5% – 8%	3% – 8%	3% – 5%	2% – 3%
	Maximum Cross Slope	10%	10%	8%	5%	5%

Designed Use BICYCLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Clearing	Height	6′	6′ – 8′	8′	8′ – 9′	8′ – 9′
	Width	24″ – 36″ Some vegetation may encroach into clearing area	36″ – 48″ Some light vegetation may encroach into clearing area	60″ – 72″	72″ – 96″	72″ – 96″
	Shoulder Clearance	0″ – 12″	6″ – 12″	6″ – 12″	6″ – 18″	12″ – 18″
Design Turn	Radius	2′ – 3′	3′ – 6′	4′ – 8′	8′ – 10′	8′ – 12′

[1] For definitions of Design Parameter attributes (for example, Design Tread Width and Short Pitch Maximum) see FSH 2309.18, Section 05.

[2] The determination of trail-specific Design Grade, Design Surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Trail Design Parameters

Cross-Country Ski (FSH 2309.18, Section 23.31, Exhibit 01)

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent.[1] Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use CROSS-COUNTRY SKI		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	Typically not designed or actively managed for cross-country skiing, although use may be allowed	2′ – 4′ Typically not groomed	6′ – 8′ Or width of grooming equipment	8′– 10′ Or width of grooming equipment	Typically not designed or actively managed for cross-country skiing, although use may be allowed
	Double Lane		6′ – 8′	8′ – 12′	12′ – 16′	
	Structures (Minimum Width)		36″	36″	36″	
Design Surface[2]	**Type**		Generally no machine grooming	May receive occasional machine grooming for snow compaction and track setting	Regular machine grooming for snow compaction and track setting	
	Protrusions		No protrusions	No protrusions	No protrusions	
	Obstacles (Maximum Height)		12″ Uncommon	8″ Uncommon (no obstacles if machine groomed)	No obstacles	
Design Grade[2]	**Target Grade**		5% – 15%	2% – 10%	0% – 8%	
	Short Pitch Maximum		25%	20%	12%	
	Maximum Pitch Density		10% – 20% of trail	5% – 15% of trail	0% – 10% of trail	
Design Cross Slope	**Target Cross Slope**		0% – 10%	0% – 5%	0% – 5%	
	Maximum Cross Slope (For up to 50″)		20%	15%	10%	

Designed Use CROSS-COUNTRY SKI		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Clearing	**Height** (Above normal maximum snow level)	Typically not designed or actively managed for cross-country skiing, although use may be allowed	6′ – 8′	8′ Or height of grooming equipment	8′ – 10′	Typically not designed or actively managed for cross-country skiing, although use may be allowed
	Width		24″ – 60″ Light vegetation may encroach into clearing area	72″ – 120″ Light vegetation may encroach into clearing area	96″ – 168″ Widen clearing at turns or if increased sight distance needed	
	Shoulder Clearance		0″ – 6″	0″ – 12″	0″ – 24″	
Design Turn	**Radius**		8′ – 10′	15′ – 20′ Or to accommodate grooming equipment	≥ 25′	

[1] For definitions of Design Parameter attributes (for example, Design Tread Width and Short Pitch Maximum) see FSH 2309.18, Section 05.

[2] The determination of trail-specific Design Grade, Design Surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Trail Design Parameters

Snowmobile (FSH 2309.18, Section 23.33, Exhibit 01)

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent.[1] Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use SNOWMOBILE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Single Lane**	Typically not designed or actively managed for snowmobiles, although use may be allowed	4′ – 6′ Typically not groomed	6′ – 8′ Or width of grooming equipment On turns with tight radius, increase groomed width to ≥ 10′	8′ – 10′ Or minimum width of grooming equipment On turns with tight radius, increase groomed width to ≥ 12′	Typically not designed or actively managed for snowmobiles, although use may be allowed
	Double Lane		10′ Typically not groomed	10′ – 12′	12′ – 20′	
	Structures (Minimum Width)		6′	12′	18′	
Design Surface[2]	**Type**		Generally no machine grooming Commonly rough and bumpy	May receive occasional machine grooming for snow compaction and conditioning Frequently rough and bumpy	Regular machine grooming for snow compaction and conditioning Commonly smooth	
	Protrusions		No protrusions	No protrusions	No protrusions	
	Obstacles (Maximum Height)		12″ Uncommon	6″ Uncommon (no obstacles if machine groomed)	No obstacles	
Design Grade[2]	**Target Grade**		0% – 12%	0% – 10%	0% – 8%	
	Short Pitch Maximum		35%	25%	20%	
	Maximum Pitch Density		15% – 30% of trail	10% – 20% of trail	5% – 10% of trail	

Designed Use SNOWMOBILE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Cross Slope	Target Cross Slope	Typically not designed or actively managed for snowmobiles, although use may be allowed	0% – 10%	0% – 5%	0%	Typically not designed or actively managed for snowmobiles, although use may be allowed
	Maximum Cross Slope		15%	10%	5%	
Design Clearing	Height (Above normal maximum snow level)		6′	6′ – 8′ Provide sufficient clearance for grooming equipment	8′ – 12′ Provide sufficient clearance for grooming equipment	
	Width		6′ – 12′ Some light vegetation may encroach into clearing area	8′ – 14 ′ Light vegetation may encroach into clearing area	10′ – 22′ Widen clearing at turns or if increased sight distance needed	
	Shoulder Clearance		6″ – 12″	12″ – 18″	12″ – 24″	
Design Turn	Radius		8′ – 10′	15′ – 20′ Or sufficient radius for grooming equipment	25′ – 50′	

[1] For definitions of Design Parameter attributes (for example, Design Tread Width and Short Pitch Maximum) see FSH 2309.18, Section 05.

[2] The determination of trail-specific Design Grade, Design Surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Trail Design Parameters

Pack and Saddle (FSH 2309.18, Section 23.12, Exhibit 01)

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent.[1] Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use PACK AND SADDLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Tread Width	**Wilderness** (Single Lane)	Typically not designed or actively managed for equestrians, although use may be allowed	12″ – 18″ May be up to 48″ along steep side slopes 48″ – 60″ or greater along precipices	18″ – 24″ May be up to 48″ along steep side slopes 48″ – 60″ or greater along precipices	24″ May be up to 48″ along steep side slopes 48″ – 60″ or greater along precipices	Typically not designed or actively managed for equestrians, although use may be allowed
	Non-Wilderness (Single Lane)		12″ – 24″ May be up to 48″ along steep side slopes 48″ – 60″ or greater along precipices	18″ – 48″ 48″ – 60″ or greater along precipices	24″ – 96″ 48″ – 60″ or greater along precipices	
	Non-Wilderness (Double Lane)		60″	60″ – 84″	84″ – 120″	
	Structures (Minimum Width)		Other than bridges: 36″ Bridges without handrails: 60″ Bridges with handrails: 84″ clear width	Other than bridges: 36″ Bridges without handrails: 60″ Bridges with handrails: 84″ clear width	Other than bridges: 36″ Bridges without handrails: 60″ Bridges with handrails: 84″ clear width	
Design Surface[2]	**Type**		Native, with limited grading May be frequently rough	Native, with some onsite borrow or imported material where needed for stabilization and occasional grading Intermittently rough	Native, with improved sections of borrow or imported material and routine grading Minor roughness	
	Protrusions		≤ 6″ May be common and continuous	≤ 3″ May be common, not continuous	≤ 3″ Uncommon, not continuous	
	Obstacles (Maximum Height)		12″	6″	3″	

Designed Use PACK AND SADDLE		Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Design Grade[2]	Target Grade	Typically not designed or actively managed for equestrians, although use may be allowed	5% – 20%	3% – 12%	2% – 10%	Typically not designed or actively managed for equestrians, although use may be allowed
	Short Pitch Maximum		30%	20%	15%	
	Maximum Pitch Density		15% – 20% of trail	5% – 15% of trail	5% – 10% of trail	
Design Cross Slope	Target Cross Slope		5% – 10%	3% – 5%	0% – 5%	
	Maximum Cross Slope		10%	8%	5%	
Design Clearing	Height		8′ – 10′	10′	10′ – 12′	
	Width		72″ Some light vegetation may encroach into clearing area	72″ – 96″	96″	
	Shoulder Clearance		6″ – 12″ Pack clearance: 36″ x 36″	12″ – 18″ Pack clearance: 36″ x 36″	12″ – 18″ Pack clearance: 36″ x 36″	
Design Turn	Radius		4′ – 5′	5′ – 8′	6′ – 10′	

[1] For definitions of Design Parameter attributes (for example, Design Tread Width and Short Pitch Maximum) see FSH 2309.18, Section 05.

[2] The determination of trail-specific Design Grade, Design Surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Appendix F

Wildlife Review

From: **Downes, Scott G (DFW)** <Scott.Downes@dfw.wa.gov>
Date: Thu, May 10, 2018 at 3:56 PM
Subject: RE: Thank you for today's meeting - requested maps attached WDFW Comments
To: Craig J Mabie <kprdpos2@gmail.com>
Cc: Nicky Pasi <nicky.pasi@mtsgreenway.org>, Lauren Shuck <bingshuck@inlandnet.com>, Jim Brennan <Jim@jabrennan.com>, "Jim Becker (jimbecker29@gmail.com)" <jimbecker29@gmail.com>, Unknown <andy@westconserve.org>, Winston Norrish <wnorrish@msn.com>, Darcy Batura <darcy.batura@tnc.org>

Craig,

Here are my comments from review. Tried to break them down by topic to make things flow better. Let me know if you have questions and will look forward to seeing this evolve.

Wildlife:

--Unlike the Teanaway, this landscape does not have some of the highly sensitive nesting sites or wildlife and in such a high proportion. The other benefit is that this recreation is planned to be non-motorized except some of the winter snowmobile that occurs. That being said, I'd recommend to build in some flexibility in the trail plan. While there is a historic northern spotted owl circle located along Cle Elum ridge, it isn't currently occupied as populations are much reduced. However, they could come back and other sensitive wildlife such as wolves can move their den sites. Thus, while there are no large conflicts currently, when we did the wildlife process for the TCF recreation plan, we set the stage that these wildlife are fluid and if there were changes in the future, some revisiting or discussion would need to happen. Important to tell people that up front and give them realistic expactations.

--It is good you have identified a couple of corridors so that trails don't become so thick that it makes it difficult for wildlife to move across the landscape. Your plan has already done a few elements that will help to reduce conflict between humans and wildlife: Majority of the plan is non-motorized, which lessens the noise issues to wildlife and these non-motorized uses are likely at their peak use during the main daylight hours of the day and less during the early morning and late evening period when wildlife are more active.

--Wildlife will use the entire landscape, but to identify corridors to give them priority is a helpful step. I would redraw one of your corridors slightly, wildlife either naturally follow stream drainages or ridges and generally try to avoid human elements on the landscape where possible. Your eastern "wildlife corridor" coming down No. 6 Canyon is a likely path for wildlife until it hits the Roslyn area. Once it hits the Roslyn forest they are likely to go east or west to find a more conducive path to cross SR 903 and get down to the Cle Elum River. The other path you identified between Ronald and Roslyn is a more likely path across SR 903 than the other. I would either redraw the southern end of that corridor to show through the community forest tying into the western corridor or split the corridor with an general arrow showing to the east as animals will follow the ridge above the housing and move east.

--General terrestrial impacts, minimize habitat impacts when building these trails. When at all possible, avoid large tree removal and brush clearing to the extent possible to build a trail. Trails should be easy to route around such habitat features. If it won't affect design, avoid removing large woody debris, large

established shrub clumps and overstory trees if there is an adjacent option where clearing will be much less.

--I don't know the numbers of people planned for these trails, if expected to be low/moderate the current density even of option 2 is fine. If you expect most of these trails would be occupied in heavy use during some periods, then look to reduce their density to truly make them easier for wildlife to co-exist.

Hydrology and stream crossings of trails:

--I don't see a huge difference in the two trail options, other than some of the loops will create additional stream crossings. In general it is good to minimize the number of stream crossings as each has complexity and need to be designed carefully in their approach and design so as to not impact stream habitat and hydrology. The loops will have to be analyzed if each is really needed and if the project has resources to develop that many stream crossings. The biggest impact to stream habitat from this project is likely the number of crossings and how those are designed. If minimized and well designed, the project might have minimal impacts on hydrology and streams. If not, there is potential to have impacts.

--While the proposed layout in general has done a great job of trying to have trails cross at perpendicular to the streams, I noticed there are a few places where it is running in the stream drainage. One of those places is the Rat Pac Downtrack lower area, to minimize stream impacts you'll want to eliminate those areas of stream adjacent trail as that will lead to heavy impacts on the stream habitat.

--Many of these crossings are on seasonal streams, a few are perennial and at some the lower crossings there is potential fish habitat. All can have significant runoff during spring, which can create scour at trail crossings if not designed carefully. Armored fords (hard rock) and foot bridges are generally better than culverts as substantial money has to be spent to get culverts of a large enough size to have capacity to not scour the streams. You'd also want to design a grade down to the stream with sufficient water bars to make sure the trail is not directing runoff from the trail directly at the stream. My general recommendation would be to reduce stream crossings to those only absolutely needed and where possible try to cross higher in the watershed where it will more likely be a seasonal stream. Then focus on design of the crossings which would be the next bullet.

--If you expect most of your usage on these trails during the summer when the streams have gone dry, rocked fords can work well, probably rocking the approaches too especially for more heavy uses such as mountain bikes. On more perennial streams or there is fish potential, small bridges would likely work better. When you get ready to construct these stream crossings you'll need to do some fieldwork to assess channel size and appropriate crossing size. A few of the crossings lower down are on streams marked as fish bearing. It is hard to know if fish could actually get to some of these streams currently, but especially these lower stream crossings on fish bearing streams should be covered under a WDFW Hydraulic Project Approval (HPA) permit. Fairly simple process, the biggest step will be the design of the stream crossings. I'd recommend hiring a person who has hydrologist knowledge and how to build such stream crossings when you get to that step. I'd be happy to meet them out in the field to exchange ideas. Once we reach that step, contact me and we'll get out there and look at those crossings (spring runoff time would be the ideal to see the hydrology the best). Once we get a design in place, I can also walk them through the HPA permit process.

For my review, I used both my knowledge of the wildlife and streams in these areas along with various tools we have at our disposal including the:

--WDFW PHS (Priority Habitat and Species) database showing some of the priority and sensitive wildlife data.

--Washington Wildlife Connectivity Layers which show some of the primary wildlife corridors and least resistance paths

--Washington Hydrology Layer and DNR Forest Practices Fish Bearing Layer which shows some of the hydrology and extent of modeled/documented fish habitat.

Take home messages:

--In general as long as you give the wildlife room to move and keep trails to no more than Option 2 and potentially even reduce some trails if they don't pan out in the feasibility you'll have wildlife use of this landscape.

--Build in some flexibility if sensitive wildlife do occupy some areas in the future.

--Stream crossings are doable but can be challenging in their design. If done well they can have minimal impacts on the stream, done poorly they can significantly degrade the stream. Reduce number of crossings where you can-both for costs and for impacts. When you've reduced where you can, probably good to sit down further and work through type of crossing that would be the most appropriate given expected recreation use, stream type (seasonal, perennial and any potential for fish use) and budgets. This would probably involve both office and field, spring time is great for this.

Hope this is helpful to you and again, thank you for reaching out and including habitat impacts in the design. Let me know if you have any questions to the above comments and I'll try to clarify.

Scott Downes
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Washington Department of Fish and Wildlife
Region 3 Habitat Program
1701 South 24th Ave
Yakima, WA 98902-5720
Scott.Downes@dfw.wa.gov
Office-509-457-9307
Cell-509-607-3578

From: Downes, Scott G (DFW) [mailto:Scott.Downes@dfw.wa.gov]
Sent: Tuesday, August 29, 2017 3:37 PM
To: Tanja Wilcox <Tanja@jabrennan.com>
Cc: Jim Brennan <Jim@jabrennan.com>
Subject: RE: Towns to Teanaway wildlife corridors

Tanja,
Some quick basic info-will be out in the field tomorrow, so this first note is all I can get in next couple of days but would appreciate staying engaged and helping in this. As mentioned, in addition to being involved already with many of the landowners here-City of Roslyn forest, TNC etc.. I am also involved in the Teanaway Community Forest recreation planning. So this ties in with all of those elements.

On your habitat maps it looks like you have the major items listed.
Elk:
In the project area, we don't have mapped elk calving area, but there is elk wintering area as you indicated. For the TCF planning, we were most concerned about winter motorized recreation in this area. Don't know how much of that is planned with your effort, but if it is generally I'd recommend some limitations on number of trails and recognizing that if the trails are in main use areas we could see some displacement. I can work with our game biologists for highest concentration areas if we need to get in the weeds on that subject.
Wolves:
At the edge of their known use area, and while they may use the area, not likely near their core areas and thus shouldn't be much of a concern for recreation planning here.
Cougar:
Cle Elum ridge is a high use area. To the extent possible, we should try to direct trails to several well used areas rather than many dispersed trails so we won't have people everywhere on the landscape that might push the cougars and their prey (deer) around too much.
Spotted Owl:
There is an old spotted owl circle up on Cle Elum ridge, it is not believed to be currently occupied but might be in future years if we can recover populations. If the area were occupied, we'd want to reduce or eliminate noise from trail maintenance and construction from March-August. Similarly we'd want to be careful about motorized recreation locations in the future if this area was found to be occupied in the future. Habitat wise, we wouldn't want to be removing owl habitat for trail or road construction, so we'd need to microsite those areas.
Stream adjacent trails or roads:
In general we've been trying to reduce or relocate trails and roads away from stream adjacent areas. Any new trails that get put in should try to build them out of the riparian area and cross at or near to a 90 degree angle with an appropriate water crossing structure. Speaking of water crossing structures, any crossing structures, bridge, ford or culvert will need an Hydraulic Project Approval (HPA) permit from WDFW. This link will help to inform more about that: http://wdfw.wa.gov/licensing/hpa/

Those are the quick notes. In general we'd want to see well planned trails that minimized habitat disturbance and overall fewer trails, so less dispersed and more trails that were well planned and connected recreation in good spots. As you move forward let me know how best to help,

Scott
Scott Downes
Fish & Wildlife Habitat Biologist

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Appendix G

Cost Estimate

TOWNS TO TEANAWAY CORRIDOR MASTER PLAN & DESIGN

PLANNING LEVEL

PRELIMINARY BUDGET ESTIMATE - ZONE SUMMARY

Date: 31-Oct-18

J.A. Brennan & Associates
Landscape Architects & Planners
2701 First Avenue, Suite 510
Seattle, WA 98121
(206) 583-0620

ZONE A

MOBILIZATION	$37,922.40
TRAILS	$260,509.00
TRAIL SIGNAGE	$7,600.00
TRAILHEAD 1 WITH PARKING (ZONE A - RONALD)	$107,115.00
ZONE A TRAILHEAD LANDSCAPE	$0.00
SITE AMENITIES	$4,000.00
STRUCTURES	$0.00
Subtotal	*$417,146.40*
Total (including tax, O&P, contingency)	**$608,866.89**
Total including design & permitting (20%)	***$723,965.92***

ZONE B

MOBILIZATION	$104,763.18
TRAILS	$734,316.75
TRAIL SIGNAGE	$24,400.00
TRAILHEAD 2 WITH PARKING (ZONE B - ROSLYN)	$16,000.00
TRAILHEAD 3 WITH PARKING (ZONE B - ROSLYN)	$171,635.00
ZONE B TRAILHEAD LANDSCAPE	$85,280.00
SITE AMENITIES	$16,000.00
STRUCTURES	$0.00
Subtotal	*$1,152,394.93*
Total (including tax, O&P, contingency)	**$1,682,035.63**
Total including design & permitting (20%)	***$2,000,004.44***

ZONE C

MOBILIZATION	$109,622.78
TRAILS	$558,262.75
TRAIL SIGNAGE	$171,635.00
TRAILHEAD 4 WITH PARKING (ZONE C - CLE-ELUM H	$171,635.00
TRAILHEAD 5 WITH PARKING (ZONE C - CLE ELUM)	$171,635.00
TRAILHEAD 6 WITH PARKING (ZONE C - CLE ELUM)	$16,000.00
TRAILHEAD 7 WITH PARKING (ZONE C - CLE ELUM)	$107,115.00
ZONE C TRAILHEAD LANDSCAPE	$53,300.00
SITE AMENITIES	$4,000.00
STRUCTURES	$0.00
Subtotal	*$1,363,205.53*
Total (including tax, O&P, contingency)	**$1,760,059.43**
Total including design & permitting (20%)	***$2,092,777.70***

Project Total

Total (including tax, O&P, contingency)	**$4,050,961.94**
Total including design & permitting (20%)	***$4,816,748.06***

TOWNS TO TEANAWAY CORRIDOR MASTER PLAN & DESIGN

PLANNING LEVEL

PRELIMINARY BUDGET ESTIMATE - ZONE A

Date: 31-Oct-18

J.A. Brennan & Associates
Landscape Architects & Planners
2701 First Avenue, Suite 510
Seattle, WA 98121
(206) 583-0620

MOBILIZATION

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Mobilization (10%)	0.1	%	379,224.00	37,922.40	
						$37,922.40

TRAILS

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Trail 1A (multiuse intermediate)	6,672	LF	4.75	31,692.00	
	Trail 2A (multiuse intermediate)	8,250	LF	4.75	39,187.50	
	Trail 3A (multiuse intermediate)	6,552	LF	4.75	31,122.00	
	Trail 4A (mountain bike down track intermediate)	5,675	LF	4.75	26,956.25	
	Trail 5A (multiuse intermediate)	1,094	LF	4.75	5,196.50	
	Trail 6A (multiuse intermediate)	2,234	LF	4.75	10,611.50	
	Trail 7A (hiking intermediate)	3,451	LF	4.75	16,392.25	
	Trail 8A (hiking intermediate)	6,818	LF	4.75	32,385.50	
	Trail 9A (mountain bike down track intermediate)	6,222	LF	4.75	29,554.50	
	Trail 10A (mountain bike intermediate)	2,031	LF	4.75	9,647.25	
	Trail 11A (hiking intermediate)	5,845	LF	4.75	27,763.75	
						$260,509.00

TRAIL SIGNAGE

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Directional Signs	10	EA	460.00	4,600.00	
	Interpretive Sign	1	EA	3000.00	3,000.00	
	Kiosk with Map	0	EA	16000.00	0.00	
						$7,600.00

TRAILHEAD 1 WITH PARKING (ZONE A - RONALD)

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Parking Area/Driveway (3" AC and aggregate base)	3000	SF	3.50	10,500.00	
	Striping	10	EA	20.00	200.00	
	Concrete Wheelstops	10	EA	150.00	1,500.00	
	Removable Bollards	1	EA	800.00	800.00	
	Entry Swing Gate	1	EA	4,500.00	4,500.00	
	Traffic Control Logs	1	LS	1,000.00	1,000.00	
	Kiosk with Map	1	EA	16000.00	16,000.00	
	Directional Signs	4	EA	460.00	1,840.00	
	Trail Entry Sign	1	EA	4000.00	4,000.00	
	Interpretive Sign	1	EA	3000.00	3,000.00	
	Clear, Grub, Haul, & Dump	0.5	AC	6,750.00	3,375.00	
	Temporary Sedimentation & Erosion Control	1	LS	10,000.00	10,000.00	
	Temporary Facilities	1	LS	10,000.00	10,000.00	
	Grading (Cut+Fill)	1	LS	3,000.00	3,000.00	
	Planting - General Landscaping	1	LS	8,000.00	8,000.00	
	Picnic Table w/ concrete pad	1	EA	3,500.00	3,500.00	
	Trash receptacle	1	EA	1,200.00	1,200.00	
	Bench	1	EA	1,700.00	1,700.00	
	Single Vault Toilet (CXT Single Cascadian)	1	EA	23,000.00	23,000.00	
						$107,115.00

ZONE A TRAILHEAD LANDSCAPE

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Directional Signs	0	EA	460.00	0.00	
	Trail Entry Sign	0	EA	4000.00	0.00	
	Pine Rail Fence	0	EA	2,000.00	0.00	
	Bench	0	EA	1,700.00	0.00	
	Planting - General Landscaping	0	EA	2,000.00	0.00	
	Site Prep	0	EA	500.00	0.00	
						$0.00

SITE AMENITIES

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Viewpoint	1	EA	4,000.00	4,000.00	
	Picnic Area	0	EA	0.00	0.00	
						$4,000.00

STRUCTURES

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Holding corral	0	LS	0.00	0.00	
	Restroom (625 SF)	0	LS	15,000.00	0.00	
	Warming hut	0	EA	0.00	0.00	

Maintenance shed/building	0	EA	0.00	0.00	
Picnic Shelter	0	EA	60,000.00	0.00	
					$0.00

SUBTOTAL	$417,146.40
SALES TAX: 8.0% (KITTITAS CTY)	$33,371.71
CONTRACTOR OVERHEAD & PROFIT: 12%	$54,062.17
DESIGN CONTINGENCY: 25%	$104,286.60
TOTAL	**$608,866.89**
DESIGN / PERMITTING: 20%	$115,099.03
TOTAL INCLUDING DESIGN / PERMITTING	**$723,965.92**

Notes:

All trail costs include layout flagging, clearing, base preparation, and placement or surfacing (as noted).

TOWNS TO TEANAWAY CORRIDOR MASTER PLAN & DESIGN

PLANNING LEVEL

PRELIMINARY BUDGET ESTIMATE - ZONE B

Date: 31-Oct-18

J.A. Brennan & Associates
Landscape Architects & Planners
2701 First Avenue, Suite 510
Seattle, WA 98121
(206) 583-0620

MOBILIZATION

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Mobilization (10%)	0.1	%	1,047,631.75	104,763.18	
						$104,763.18

TRAILS

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Trail 1B (hiking intermediate)	2,048	LF	4.75	9,728.00	
	Trail 2B (mountain bike intermediate)	1,883	LF	4.75	8,944.25	
	Trail 3B (multiuse easy)	3,078	LF	4.75	14,620.50	
	Trail 4B (multiuse easy)	2,567	LF	4.75	12,193.25	
	Trail 5B (multiuse easy)	4,146	LF	4.75	19,693.50	
	Trail 6B (multiuse easy)	1,784	LF	4.75	8,474.00	
	Trail 7B (multiuse intermediate)	3,776	LF	4.75	17,936.00	
	Trail 8B (multiuse easy)	2,456	LF	4.75	11,666.00	
	Trail 9B (multiuse intermediate)	5,687	LF	4.75	27,013.25	
	Trail 10B (multiuse easy)	3,857	LF	4.75	18,320.75	
	Trail 11B (mountain bike down track intermediate)	4,877	LF	4.75	23,165.75	
	Trail 12B (mountain bike down track intermediate)	1,921	LF	4.75	9,124.75	
	Trail 13B (mountain bike down track intermediate)	3,915	LF	4.75	18,596.25	
	Trail 14B (multiuse intermediate)	1,312	LF	4.75	6,232.00	
	Trail 15B (multiuse easy)	3,621	LF	4.75	17,199.75	
	Trail 16B (multiuse intermediate)	7,235	LF	4.75	34,366.25	
	Trail 17B (multiuse easy)	2,477	LF	4.75	11,765.75	
	Trail 18B (mountain bike down track intermediate)	6,210	LF	4.75	29,497.50	
	Trail 19B (multiuse easy)	2,378	LF	4.75	11,295.50	
	Trail 20B (multiuse intermediate)	1,690	LF	4.75	8,027.50	
	Trail 21B (multiuse intermediate)	2,227	LF	4.75	10,578.25	
	Trail 22B (hiking intermediate)	1,930	LF	4.75	9,167.50	
	Trail 23B (hiking intermediate)	7,659	LF	4.75	36,380.25	
	Trail 24B (mountain bike intermediate)	2,579	LF	4.75	12,250.25	
	Trail 25B (mountain bike intermediate)	1,212	LF	4.75	5,757.00	
	Trail 26B (multiuse intermediate)	2,333	LF	4.75	11,081.75	
	Trail 27B (multiuse intermediate)	3,055	LF	4.75	14,511.25	
	Trail 28B (multiuse intermediate)	1,340	LF	4.75	6,365.00	
	Trail 29B (multiuse easy)	2,585	LF	4.75	12,278.75	
	Trail 30B (multiuse intermediate)	787	LF	4.75	3,738.25	
	Trail 31B (mountain bike intermediate)	2,394	LF	4.75	11,371.50	
	Trail 32B (mountain bike intermediate)	708	LF	4.75	3,363.00	
	Trail 33B (multiuse intermediate)	2,685	LF	4.75	12,753.75	
	Trail 34B (hiking intermediate)	7,747	LF	4.75	36,798.25	
	Trail 35B (multiuse intermediate)	2,713	LF	4.75	12,886.75	
	Trail 36B (mountain bike down track difficult)	5,562	LF	4.75	26,419.50	
	Trail 37B (multiuse intermediate)	1,231	LF	4.75	5,847.25	
	Trail 38B (multiuse intermediate)	6,357	LF	4.75	30,195.75	
	Trail 39B (hiking intermediate)	6,639	LF	4.75	31,535.25	
	Trail 40B (hiking intermediate)	2,980	LF	4.75	14,155.00	
	Trail 41B (multiuse intermediate)	5,505	LF	4.75	26,148.75	
	Trail 42B (multiuse intermediate)	5,314	LF	4.75	25,241.50	
	Trail 43B (multiuse easy) (Coal Mines Trail)	12,133	LF	4.75	57,631.75	
						$734,316.75

TRAIL SIGNAGE

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Directional Signs	40	EA	460.00	18,400.00	
	Interpretive Sign	2	EA	3000.00	6,000.00	
	Kiosk with Map	0	EA	16000.00	0.00	
						$24,400.00

TRAILHEAD 2 WITH PARKING (ZONE B - ROSLYN)

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Parking Area/Driveway (3" AC and aggregate base)	0	SF	3.50	0.00	
	Striping	0	EA	20.00	0.00	
	Concrete Wheelstops	0	EA	150.00	0.00	
	Removable Bollards	0	EA	800.00	0.00	
	Entry Swing Gate	0	EA	4,500.00	0.00	
	Traffic Control Logs	0	LS	0.00	0.00	
	Kiosk with Map	1	EA	16000.00	16,000.00	
	Directional Signs	0	EA	460.00	0.00	
	Trail Entry Sign	0	EA	4000.00	0.00	
	Interpretive Sign	0	EA	3000.00	0.00	

	Clear, Grub, Haul, & Dump	0	AC	6,750.00	0.00	
	Temporary Sedimentation & Erosion Control	0	LS	10,000.00	0.00	
	Temporary Facilities	0	LS	10,000.00	0.00	
	Grading (Cut+Fill)	0	LS	10,000.00	0.00	
	Planting - General Landscaping	0	AC	69,700.00	0.00	
	Picnic Table w/ concrete pad	0	EA	3,500.00	0.00	
	Bench	0	EA	1,700.00	0.00	
	Trash receptacle	0	EA	1,200.00	0.00	
	Double Vault Toilet (CXT Double Cascadian)	0	EA	36,000.00	0.00	
						$16,000.00

TRAILHEAD 3 WITH PARKING (ZONE B - ROSLYN)

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Parking Area/Driveway (3" AC and aggregate base)	10000	SF	3.50	35,000.00	
	Striping	30	EA	20.00	600.00	
	Concrete Wheelstops	30	EA	150.00	4,500.00	
	Removable Bollards	1	EA	800.00	800.00	
	Entry Swing Gate	1	EA	4,500.00	4,500.00	
	Traffic Control Logs	1	LS	2,000.00	2,000.00	
	Kiosk with Map	1	EA	16000.00	16,000.00	
	Directional Signs	6	EA	460.00	2,760.00	
	Trail Entry Sign	1	EA	4000.00	4,000.00	
	Interpretive Sign	2	EA	3000.00	6,000.00	
	Clear, Grub, Haul, & Dump	0.5	AC	6,750.00	3,375.00	
	Temporary Sedimentation & Erosion Control	1	LS	10,000.00	10,000.00	
	Temporary Facilities	1	LS	10,000.00	10,000.00	
	Grading (Cut+Fill)	1	LS	5,000.00	5,000.00	
	Planting - General Landscaping	1	LS	15,000.00	15,000.00	
	Picnic Table w/ concrete pad	3	EA	3,500.00	10,500.00	
	Bench	2	EA	1,700.00	3,400.00	
	Trash receptacle	1	EA	1,200.00	1,200.00	
	Double Vault Toilet (CXT Double Cascadian)	1	EA	37,000.00	37,000.00	
						$171,635.00

ZONE B TRAILHEAD LANDSCAPE

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Directional Signs	8	EA	460.00	3,680.00	
	Trail Entry Sign	8	EA	4000.00	32,000.00	
	Pine Rail Fence	8	EA	2,000.00	16,000.00	
	Bench	8	EA	1,700.00	13,600.00	
	Planting - General Landscaping	8	EA	2,000.00	16,000.00	
	Site Prep	8	EA	500.00	4,000.00	
						$85,280.00

SITE AMENITIES

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Viewpoint	4	EA	4,000.00	16,000.00	
	Picnic Area	0	EA	0.00	0.00	
						$16,000.00

STRUCTURES

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Holding corral	0	LS	0.00	0.00	
	Restroom (625 SF)	0	LS	150,000.00	0.00	
	Warming hut	0	EA	0.00	0.00	
	Maintenance shed/building	0	EA	0.00	0.00	
	Picnic Shelter	0	EA	60,000.00	0.00	
						$0.00

SUBTOTAL	$1,152,394.93
SALES TAX: 8.0% (KITTITAS CTY)	$92,191.59
CONTRACTOR OVERHEAD & PROFIT: 12%	$149,350.38
DESIGN CONTINGENCY: 25%	$288,098.73
TOTAL	$1,682,035.63
DESIGN / PERMITTING: 20%	$317,968.81
TOTAL INCLUDING DESIGN / PERMITTING	**$2,000,004.44**

Notes:

All trail costs include layout flagging, clearing, base preparation, and placement or surfacing (as noted).

TOWNS TO TEANAWAY CORRIDOR MASTER PLAN & DESIGN

PLANNING LEVEL

PRELIMINARY BUDGET ESTIMATE - ZONE C

Date: 31-Oct-18

J.A. Brennan & Associates
Landscape Architects & Planners
2701 First Avenue, Suite 510
Seattle, WA 98121
(206) 583-0620

MOBILIZATION

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Mobilization (10%)	0.1	%	1,096,227.75	109,622.78	
						$109,622.78

TRAILS

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Trail 1C (hiking intermediate)	6,203	LF	4.75	29,464.25	
	Trail 2C (multiuse intermediate)	885	LF	4.75	4,203.75	
	Trail 3C (multiuse intermediate)	8,980	LF	4.75	42,655.00	
	Trail 4C (mountain bike intermediate)	1,893	LF	4.75	8,991.75	
	Trail 5C (multiuse intermediate)	1,389	LF	4.75	6,597.75	
	Trail 6C (mountain bike intermediate)	3,093	LF	4.75	14,691.75	
	Trail 7C (mountain bike down track difficult)	7,708	LF	4.75	36,613.00	
	Trail 8C (multiuse intermediate)	4,192	LF	4.75	19,912.00	
	Trail 9C (multiuse intermediate)	5,160	LF	4.75	24,510.00	
	Trail 10C (mountain bike intermediate)	2,678	LF	4.75	12,720.50	
	Trail 11C (mountain bike intermediate)	862	LF	4.75	4,094.50	
	Trail 12C (mountain bike intermediate)	5,665	LF	4.75	26,908.75	
	Trail 13C (multiuse intermediate)	1,449	LF	4.75	6,882.75	
	Trail 14C (multiuse intermediate)	2,086	LF	4.75	9,908.50	
	Trail 15C (mountain bike intermediate)	2,927	LF	4.75	13,903.25	
	Trail 16C (multiuse easy)	1,013	LF	4.75	4,811.75	
	Trail 17C (multiuse intermediate)	1,316	LF	4.75	6,251.00	
	Trail 18C (multiuse easy)	1,757	LF	4.75	8,345.75	
	Trail 19C (hiking difficult)	3,020	LF	4.75	14,345.00	
	Trail 20C (hiking intermediate)	10,128	LF	4.75	48,108.00	
	Trail 21C (multiuse intermediate)	2,708	LF	4.75	12,863.00	
	Trail 22C (mountain bike down track difficult)	7,358	LF	4.75	34,950.50	
	Trail 23C (mountain bike intermediate)	751	LF	4.75	3,567.25	
	Trail 24C (mountain bike intermediate)	5,791	LF	4.75	27,507.25	
	Trail 25C (multiuse easy)	1,358	LF	4.75	6,450.50	
	Trail 26C (multiuse easy)	1,789	LF	4.75	8,497.75	
	Trail 27C (multiuse intermediate)	1,095	LF	4.75	5,201.25	
	Trail 28C (multiuse easy)	2,985	LF	4.75	14,178.75	
	Trail 29C (multiuse easy)	3,358	LF	4.75	15,950.50	
	Trail 30C (multiuse intermediate)	779	LF	4.75	3,700.25	
	Trail 31C (multiuse easy)	1,671	LF	4.75	7,937.25	
	Trail 32C (multiuse easy)	2,334	LF	4.75	11,086.50	
	Trail 33C (multiuse easy) (Coal Mines Trail)	13,148	LF	4.75	62,453.00	
						$558,262.75

TRAIL SIGNAGE

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Directional Signs	18	EA	460.00	8,280.00	
	Interpretive Sign	2	EA	3000.00	6,000.00	
	Kiosk with Map	0	EA	16000.00	0.00	
						$14,280.00

TRAILHEAD 4 WITH PARKING (ZONE C - CLE-ELUM HIGH SCHOOL AREA)

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Parking Area/Driveway (3" AC and aggregate base)	10000	SF	3.50	35,000.00	
	Striping	30	EA	20.00	600.00	
	Concrete Wheelstops	30	EA	150.00	4,500.00	
	Removable Bollards	1	EA	800.00	800.00	
	Entry Swing Gate	1	EA	4,500.00	4,500.00	
	Traffic Control Logs	1	LS	2,000.00	2,000.00	
	Kiosk with Map	1	EA	16000.00	16,000.00	
	Directional Signs	6	EA	460.00	2,760.00	
	Trail Entry Sign	1	EA	4000.00	4,000.00	
	Interpretive Sign	2	EA	3000.00	6,000.00	
	Clear, Grub, Haul, & Dump	0.5	AC	6,750.00	3,375.00	
	Temporary Sedimentation & Erosion Control	1	LS	10,000.00	10,000.00	
	Temporary Facilities	1	LS	10,000.00	10,000.00	
	Grading (Cut+Fill)	1	LS	5,000.00	5,000.00	
	Planting - General Landscaping	1	LS	15,000.00	15,000.00	
	Picnic Table w/ concrete pad	3	EA	3,500.00	10,500.00	
	Bench	2	EA	1,700.00	3,400.00	
	Trash receptacle	1	EA	1,200.00	1,200.00	
	Double Vault Toilet (CXT Double Cascadian)	1	EA	37,000.00	37,000.00	
						$171,635.00

TRAILHEAD 5 WITH PARKING (ZONE C - CLE ELUM)

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Parking Area/Driveway (3" AC and aggregate base)	10000	SF	3.50	35,000.00	
	Striping	30	EA	20.00	600.00	
	Concrete Wheelstops	30	EA	150.00	4,500.00	
	Removable Bollards	1	EA	800.00	800.00	
	Entry Swing Gate	1	EA	4,500.00	4,500.00	
	Traffic Control Logs	1	LS	2,000.00	2,000.00	
	Kiosk with Map	1	EA	16000.00	16,000.00	
	Directional Signs	6	EA	460.00	2,760.00	
	Trail Entry Sign	1	EA	4000.00	4,000.00	
	Interpretive Sign	2	EA	3000.00	6,000.00	
	Clear, Grub, Haul, & Dump	0.5	AC	6,750.00	3,375.00	
	Temporary Sedimentation & Erosion Control	1	LS	10,000.00	10,000.00	
	Temporary Facilities	1	LS	10,000.00	10,000.00	
	Grading (Cut+Fill)	1	LS	5,000.00	5,000.00	
	Planting - General Landscaping	1	LS	15,000.00	15,000.00	
	Picnic Table w/ concrete pad	3	EA	3,500.00	10,500.00	
	Bench	2	EA	1,700.00	3,400.00	
	Trash receptacle	1	EA	1,200.00	1,200.00	
	Double Vault Toilet (CXT Double Cascadian)	1	EA	37,000.00	37,000.00	
						$171,635.00

TRAILHEAD 6 WITH PARKING (ZONE C - CLE ELUM)

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Parking Area/Driveway (3" AC and aggregate base)	0	SF	3.50	0.00	
	Striping	0	EA	20.00	0.00	
	Concrete Wheelstops	0	EA	150.00	0.00	
	Removable Bollards	0	EA	800.00	0.00	
	Entry Swing Gate	0	EA	4,500.00	0.00	
	Traffic Control Logs	0	LS	0.00	0.00	
	Kiosk with Map	1	EA	16000.00	16,000.00	
	Directional Signs	0	EA	460.00	0.00	
	Trail Entry Sign	0	EA	4000.00	0.00	
	Interpretive Sign	0	EA	3000.00	0.00	
	Clear, Grub, Haul, & Dump	0	AC	6,750.00	0.00	
	Temporary Sedimentation & Erosion Control	0	LS	10,000.00	0.00	
	Temporary Facilities	0	LS	10,000.00	0.00	
	Grading (Cut+Fill)	0	LS	10,000.00	0.00	
	Planting - General Landscaping	0	AC	69,700.00	0.00	
	Picnic Table w/ concrete pad	0	EA	3,500.00	0.00	
	Bench	0	EA	1,700.00	0.00	
	Trash receptacle	0	EA	1,200.00	0.00	
	Vault Toilet	0	EA	0.00	0.00	
						$16,000.00

TRAILHEAD 7 WITH PARKING (ZONE C - CLE ELUM)

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Parking Area/Driveway (3" AC and aggregate base)	3000	SF	3.50	10,500.00	
	Striping	10	EA	20.00	200.00	
	Concrete Wheelstops	10	EA	150.00	1,500.00	
	Removable Bollards	1	EA	800.00	800.00	
	Entry Swing Gate	1	EA	4,500.00	4,500.00	
	Traffic Control Logs	1	LS	1,000.00	1,000.00	
	Kiosk with Map	1	EA	16000.00	16,000.00	
	Directional Signs	4	EA	460.00	1,840.00	
	Trail Entry Sign	1	EA	4000.00	4,000.00	
	Interpretive Sign	1	EA	3000.00	3,000.00	
	Clear, Grub, Haul, & Dump	0.5	AC	6,750.00	3,375.00	
	Temporary Sedimentation & Erosion Control	1	LS	10,000.00	10,000.00	
	Temporary Facilities	1	LS	10,000.00	10,000.00	
	Grading (Cut+Fill)	1	LS	3,000.00	3,000.00	
	Planting - General Landscaping	1	LS	8,000.00	8,000.00	
	Picnic Table w/ concrete pad	1	EA	3,500.00	3,500.00	
	Trash receptacle	1	EA	1,200.00	1,200.00	
	Bench	1	EA	1,700.00	1,700.00	
	Single Vault Toilet (CXT Single Cascadian)	1	EA	23,000.00	23,000.00	
						$107,115.00

ZONE C TRAILHEAD LANDSCAPE

Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Directional Signs	5	EA	460.00	2,300.00	
	Trail Entry Sign	5	EA	4000.00	20,000.00	
	Pine Rail Fence	5	EA	2,000.00	10,000.00	
	Bench	5	EA	1,700.00	8,500.00	
	Planting - General Landscaping	5	EA	2,000.00	10,000.00	

	Site Prep	5	EA	500.00	2,500.00	
						$53,300.00
	SITE AMENITIES					
Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Viewpoint	1	EA	4,000.00	4,000.00	
	Picnic Area	0	EA	0.00	0.00	
						$4,000.00
	STRUCTURES					
Item	Description	Quantity	Unit	Unit Costs	Subtotal	Total
	Holding corral	0	LS	0.00	0.00	
	Restroom	0	LS	150,000.00	0.00	
	Warming hut	0	EA	0.00	0.00	
	Maintenance shed/building	0	EA	0.00	0.00	
	Picnic Shelter	0	EA	60,000.00	0.00	
						$0.00
	SUBTOTAL					$1,205,850.53
	SALES TAX: 8.0% (KITTITAS CTY)					$96,468.04
	CONTRACTOR OVERHEAD & PROFIT: 12%					$156,278.23
	DESIGN CONTINGENCY: 25%					$301,462.63
	TOTAL					**$1,760,059.43**
	DESIGN / PERMITTING: 20%					$332,718.28
	TOTAL INCLUDING DESIGN / PERMITTING					**$2,092,777.70**

Notes:

All trail costs include layout flagging, clearing, base preparation, and placement or surfacing (as noted).