MTB TRAILS MASTER PLAN

SMITHERS, BC

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Management, Planning & Design Solutions

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ABBREVIATIONS:
SMBA - Smithers Mountain Bike Association
RSTBC - Recreation Sites and Trails, BC
WTS - Whistler Trail Standards
IMBA - International Mountain Bike Association
POI - Point of Interest
MTB - Mountain Bike or Mountain Biking
aMTB - Adaptive Mountain Biking
DH - Downhill MTB
TTF - Technical Trail Feature
GIS - Global Information System
ELEV - Elevation above sea level

DEFINITIONS
HAZARD - A hazard is an identified area where excessive or unreasonable risk exposure exists. This includes, but is not limited to, constructed features that are decrepit, under threat of partial or full collapse or where there is unsafe or improper construction that endangers the rider, neglected trail or sections of trail that pose a hazard to trail users due to condition, egregious impacts to the trail tread which may affect the safety of trail users, a natural feature or section of trail that exceeds current maximum classification thresholds or where, due to particular site dynamics, there is egregious risk exposure to the trail user and warning signage, or other user notification is required to reasonably warn trail users of upcoming feature or section of trail.

TTF - An obstacle on the trail requiring navigation, the feature can be either man made or natural.[1]
ROLLING CONTOUR TRAIL - A trail characterized by gentle grade, grade reversals, and outsloped tread.[2]

Cover Photo: Riders getting ready to drop in on Backdoor trail from high in the alpine.

[1] 2003 Whistler Trail Standards p.19
[2] 2003 IMBA's Guide to Building Sweet Singletrack, p.266

HOW TO USE THIS PLANNING DOCUMENT

Given the geographic expanse and the total amount of trails, trail networks and proposed areas of expansion, a significant amount of data was collected in the creation of this planning document. To ensure the breadth of data collected is made available, while at the same time ensuring this Master Plan document remains both navigable and user-friendly, overview maps and corresponding POI data charts are included in the APPENDIX of this document, and a number of additional documents are provided to augment this report. Detailed close up maps of each respective trail area, with individual maps for each respective POI, is provided under separate cover. Additionally, a series of excel documents provides a complete data set for all categorized POI, including site prescriptions and cost projections.

ADDITIONAL FILES

EXCEL FILES

SMITHERS TRAILS.xlsx
SMITHERS POI. xlsx
SMITHERS TTF. xlsx
SMITHERS WOOD. xlsx
SMITHERS DEVELOPMENT. xlsx

GIS FILES

SMITHERS TRAILS.kml
SMITHERS POI.kmz
SMITHERS TTF.kmz
SMITHERS WOOD.kmz
SMITHERS DEV POI.kmz
SMITHERS DEV TRACKS.kml

MAPS

Individual maps for each trail area is provided under separate cover in GEO PDF format, for each categorized POI.

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METHODOLOGY & SCOPE OF WORK

IMPROVEMENT PLAN

Trail Holistics was hired by the Smithers Mountain Bike Association (SMBA) to assess trails in the following areas; 1) Bluff Trail Network, 2) the Piper Recreational area, 3) Ptarmigan Recreational trails, and 4) the Backdoor trail. This assessment includes an inventory of all technical trail features and wood structure, updated classification of trails with specific prescriptions to repair and improve trails and trail infrastructure.

Trails were assessed and mapped during the field study conducted in July/Aug 2023. Points of interest (POI) have been geo-located and categorized, including site specific observations and prescriptions as required to improve sustainability by addressing hazards, reducing risks, mitigating impacts, and to improve user experience. Additionally, it was identified where trails, features or signage are not compliant with Recreation Sites and Trails (RSTBC) policies, and prescriptions are provided as required. A summary of findings is provided including prioritized recommendations and cost estimates to address deficiencies.

Each TTF and WOOD STRUCTURE POI (boardwalk/bridge) has been designated using one of the following categories:

M	Monitor/Maintain (no immediate action required)
E	Enhance - repairs/improvement and/or signage required
R	Remove or replace

DEVELOPMENT PLAN

Trail Holistics personnel conducted field reconnaissance to determine feasibility for future trail development of the following conceptual SMBA projects; 1) climbing route from Deep Bluff to Skyline Road, 2) traverse from the Bluff Trail Network to Backdoor, 3) development of a multi use path to Malkow Lookout, and 4) potential development of a green/blue trail circuit above the Ptarmigan parking area.

Feasibility for each of these proposed projects was determined and findings provided within the Development Plan including terrain observations, soil analysis, noted hydrological concerns, and environmental considerations. Where projects are deemed feasible, construction prescriptions and specifications are provided with corresponding cost projections, including geo located POI (points of interest).

CRITERIA

Trails were evaluated using the using the following guidelines, standards, policies and best practices:

1) IMBA Guidelines & Whistler Trail Standards (WTS)
2) RSTBC Schedule F
3) Evolving sustainable best practices & Professional trail building standards

Whistler Trail Standards can be found online using this LINK.
RSTBC Schedule F can be found online using this LINK.

Trail classifications are determined using Whistler Trail Standards (WTS) and RSTBC Schedule F. Notification is provided within this report where trails or trail features exceed thresholds of WTS and/or RSTBC standards, including recommendations to modify trails or TTFs as required.

LIMITATIONS

SMBA is actively engaged in the ongoing repair of trails including the replacement of aged structures on an ongoing basis. Prescriptions within this planning document are based on observations made during the field assessment in July/Aug 2023 and may not account for repairs or improvements that have been implemented by SMBA since the assessment.

GIS aberration varies from 1.8m to 4m. The geo-location of some POI may have been slightly adjusted during the creation of maps for this planning document to ensure the maps remain user friendly and easy to read.

1.0 EXECUTIVE SUMMARY

This planning document is comprised of two parts: 1) IMPROVEMENT PLAN and 2) DEVELOPMENT PLAN

IMPROVEMENT PLAN

The following trails and trail areas were assessed and improvement prescriptions provided.

TRAIL NETWORK	TOTAL TRAIL DISTANCE (km)
Backdoor Trail	5.78
Bluff Trail Network	35.82
Piper Recreation Area	8.17
Ptarmigan Recreational Trails	4.87
TOTAL	54.64

A summary of findings is provided within this Master Plan, including prioritized recommendations to address deficiencies and to upgrade trails and trail infrastructure to ensure trails are compliant with RSTBC policies. Trails were classified using Whistler Trail Standards (WTS). Where RSTBC standards and policies overlap WTS, RSTBC standards and policies will take priority to determine trail classification, prescriptions and recommendations. For additional details on assessment specifications, please refer to METHODOLOGY & SCOPE and CRITERIA on previous page.

POI - SUMMARY

POI	TOTAL POI	PIPER	BACKDOOR	PTARMIGAN	BLUFF
GENERAL	53	10	3	1	39
HAZARD	13	1	3	4	5
REPAIR	41	16	8	6	11
REROUTES	9	3	2	0	4
SIGNAGE	86	15	5	12	54
TOTAL	202	45	21	23	113

WOOD STRUCTURE POI - SUMMARY

WOOD STRUCTURE - STATUS	CAT.	TOTAL	PIPER	BACKDOOR	PTARMIGAN	BLUFF
MONITOR/MAINTAIN	M	24	0	4	0	20
ENHANCE	E	24	0	6	6	12
REPLACE/ REMOVE	R	22	6	7	2	7
TOTAL		70	6	17	8	39

M - Monitor/Maintain E - Enhance - repairs/improvement required R - Remove or replace

TTF POI - SUMMARY

TTF POI - STATUS	CAT.	TOTAL	PIPER	BACKDOOR	PTARMIGAN	BLUFF
MONITOR/MAINTAIN	M	156	62	2	39	53
ENHANCE	E	69	15	11	14	29
REPLACE/ REMOVE	R	26	4	10	0	12
TOTAL		251	81	23	53	94

M - Monitor/Maintain E - Enhance - repairs/improvement and/or signage required R - Remove or replace

DEVELOPMENT PLAN

A total of 4 proposed trail projects were assessed for feasibility. Where these proposed projects are deemed feasible, construction prescriptions with corresponding cost estimates are provided. Where projects are deemed not feasible, field observations are provided with reasoning for determination. See 3.0 DEVELOPMENT PLAN for project detail.

PROPOSED PROJECT	STATUS
Malkow Lookout Multi Use Trail	Feasible
Deep Bluff to Skyline Rd Climb Trail	Feasible
Bluff Trail Network to Backdoor Connector	Not Feasible
Ptarmigan Parking Area – Kids Trail Network	Not Feasible

ADDITIONAL DEVELOPMENT

PROPOSED PROJECT	STATUS
Alpine Climb Trail to Backdoor	TBD
Amenities at Bluff Trail main parking lot	TBD
Skills Area at Childs Play trail entrance	TBD
Lower Bluff route improvement	TBD

TBD - To Be Determined

Additional development recommendations are provided for future consideration to enhance the existing trail networks.

Smithers is a mecca for outdoor recreation, providing numerous trail opportunities for all types of trail users. Future development will add to the myriad of existing trails including the Silver King Basin route that takes users into the spectacular Babine Mountain Range as seen in this photo.

1.1 KEY RECOMMENDATIONS

1) Hazards are a top priority, including all R categorized TTF & WOOD STRUCTURE POI.

2) Priority replacement/repair/removal (see site specific prescriptions) of all HAZARD POI as recommended:
    a. HAZARD POI 2, 3, 4 - Backdoor trail
    b. HAZARD POI 5 - Shining Trail (entry wooden TTF)
    c. HAZARD POI 6 - bridge connecting Uptrack to Long Way trails
    d. HAZARD POI 11 - wood ramp bolted into rock face on Pump Daddy trail

3) Re-classify trails as recommended and update on all media including signage, kiosk maps and Trailforks.

4) Trail repairs and improvements, TTF and WOOD STRUCTURE POI modifications (all E categorized TTF/WOOD STRUCTURE POI) to be implemented as recommended.

5) Maps, new signage and signage modification should be implemented, including trailhead, wayfinding, CAUTION! and all TTF signage as recommended, with priority given to all CAUTION!, TTF and trail classification signage. DO NOT ENTER! signage should be considered to be posted at the exit of all DH specific trails where high speed DH traffic occurs, to be determined by SMBA.

6) As trail maps are installed on kiosks, cohesion of kiosk signage with key messaging should be considered including the addition of trail etiquette, emergency contact information, contacts for trail users to provide input or incident reports and particular to the Bluff Trails, it should be considered to highlight recommended routes for different skill levels to aid first time visitors to the network.

7) SMBA to determine prioritization of recommended reroutes and their implementation.

8) SMBA to determine prioritized revitalization of trails as recommended: 1) Backdoor 2) Pay Dirt 3) Pump Daddy

9) A schedule of ongoing brushing should be created if none exists to ensure this occurs on a proactive and ongoing basis considering the verdant understory in the area.

10) SMBA to consider the opportunity to hire a seasonal trail crew on an annual basis to provide consistent engagement in the ongoing maintenance and monitoring of trails as part of a long term strategy to ensure a sustainable, high quality trail experience while addressing hazards in a timely manner as they arise.

11) SMBA to consider the opportunity to implement a Trail Adoption Program in which local businesses/organizations can adopt a trail for a nominal amount while providing personnel on scheduled trail days on their adopted trail with work efforts being led by SMBA personnel.

12) Future collaboration between SMBA and the Hudson Bay Mountain Resort should occur to construct a climbing route to access the alpine trailhead of the Backdoor trail from the base of the ski lifts on Prairie Road.

13) Future consideration should occur to design and construct a new skills area in the Bluff Trail Network to replace the existing wood structures at the entrance to the Childs Play trail.

14) Future consideration should occur to determine the desire and feasibility to improve user experience along the Lower Bluff Connector.

15) Future consideration should occur to determine the desire and feasibility to construct additional amenities at the Bluff Trail Area main parking lot.

16) Determine the desire to pursue feasible development projects: 1) Malkow Lookout Multi Use Trail 2) Deep Bluff to Skyline Rd climbing trail

1.11 TABLE: PRIORITY TASKS

PRIORITY	TASK	DETAIL	DESCRIPTION
VERY HIGH	RISKS & HAZARDS	HAZARDS	13 total HAZARD POI 1 - 13
		TTF: R	26 total TTF POI - R categorized
	SIGNAGE	TTF SIGNAGE	18 total TTF SIGNAGE POI 1 - 18
		WOOD: R	22 total WOOD STRUCTURE POI - R categorized
	CLASSIFICATION	SIGNAGE INSTALL	CAUTION! signage and Trail Classification updates
		CLASSIFICATION	Update trail classifications as required across all media
HIGH	REPAIRS & IMPROVEMENTS	TTF: E	69 total TTF POI - E categorized
		WOOD: E	24 total WOOD STRUCTURE POI - E categorized
	SIGNAGE	SIGNAGE INSTALL	MAPS, Kiosk info, Trailhead
MEDIUM	REPAIRS & IMPROVEMENTS	REPAIRS - TRAIL	41 total REPAIR POI 1 - 41
	REROUTES	REROUTES	9 total REROUTE POI 1 - 9 Determine priority and desire, implement.
	SIGNAGE	SIGNAGE INSTALL	Wayfinding
	CAPACITY BUILDING	MAINTENANCE	Create brushing schedule
		TRAIL ADOPTION	Consider the creation of a Trail Adoption program or other mechanism for community engagement including a trail day schedule or other. Primary goal is to facilitate proactive maintenance and improvements on an ongoing basis. Potential mechanism to generate funds.
	TRAIL REVITALIZATION	TRAIL CREW	Consider the feasibility and funding required to hire a seasonal trail crew.
	PLANNING	TRAIL REVITALIZATION	SMBA and partners to determine priority revitalization of 1) Backdoor 2) Pay Dirt and/or 3) Pump Daddy
		BLUFF PARKING LOT	Determine priority, desire and agreeability of land owners to construct amenities at Bluff Parking Lot including: washrooms, change room, covered area, etc.
LOW	PLANNING	CLIMBING ROUTE BACKDOOR (ALPINE)	Determine priority to construct a climbing route to the alpine entrance of Backdoor trail. Future trail development at Hudson Bay Mountain Resort will influence this determination.
		SKYLINE CLIMBING ROUTE	Determine priority and desire to construct a climbing route that connects Deep Bluff trail to Skyline Road.
	FUTURE DEVELOPMENT	MALKOW LOOKOUT TRAIL	Determine priority to construct a new multi use trail to access Malkow Lookout.
		SKILLS AREA	Determine priority and desire to re-design/re-construct Childs Play skills area.
		LOWER BLUFF CONNECTOR	Determine priority and desire to improve Lower Bluff Connector.

1.2 POI SUMMARY

A GIS file of all POI (SMITHERS POI.kmz, SMITHERS TTF.kmz, SMITHERS WOOD.kmz) is provided in conjunction with this document, with each POI being geo located and given a unique identifier that corresponds with GEO PDF maps provided for each riding area. An excel document augments this report (SMITHERS POI.xlsx, SMITHERS TTF.xlsx, SMITHERS WOOD.xlsx) that includes all POI, including site observations, recommendations, prescriptions and cost projections. POI data and overview maps can be found in the APPENDIX of this document.

A summary of cost estimates to implement improvement recommendations and repairs for each riding area is provided under 2.0 COST ESTIMATES while cost estimates for individual site prescriptions can be found in the excel document SMITHERS POI.xlsx, SMITHERS TTF.xlsx, and SMITHERS WOOD.xlsx.

202 Points of Interest (POI) are provided in total and are categorized using the following:

POI	DESCRIPTION
GENERAL	areas of interest including parking, view points and gradient readings
HAZARD	where there is an unreasonable risk posed to the trail user due to observed site conditions
REPAIR	site prescriptions provided to address specific condition of trail, infrastructure or identified impacts
REROUTE	where alternate routing is recommended to improve sustainability and/or user experience
SIGNAGE	signage requirements and recommendations

NOTE: A total of 86 SIGNAGE POI are provided with a total of 150 new signs & 8 kiosk maps being prescribed. See 1.24 SIGNAGE POI

The following are the total number of POI observed, as categorized:

POI - SUMMARY

POI	TOTAL POI	PIPER	BACKDOOR	PTARMIGAN	BLUFF
GENERAL	53	10	3	1	39
HAZARD	13	1	3	4	5
REPAIR	41	16	8	6	11
REROUTES	9	3	2	0	4
SIGNAGE	86	15	5	12	54
TOTAL	202	45	21	23	113

WOOD STRUCTURE POI - SUMMARY

WOOD STRUCTURE - STATUS	CAT.	TOTAL	PIPER	BACKDOOR	PTARMIGAN	BLUFF
MONITOR/MAINTAIN	M	24	0	4	0	20
ENHANCE	E	24	0	6	6	12
REPLACE/ REMOVE	R	22	6	7	2	7
TOTAL		70	6	17	8	39

M - Monitor/Maintain E - Enhance - repairs/improvement required R - Remove or replace

TTF POI - SUMMARY

TTF POI - STATUS	CAT.	TOTAL	PIPER	BACKDOOR	PTARMIGAN	BLUFF
MONITOR/MAINTAIN	M	156	62	2	39	53
ENHANCE	E	69	15	11	14	29
REPLACE/ REMOVE	R	26	4	10	0	12
TOTAL		251	81	23	53	94

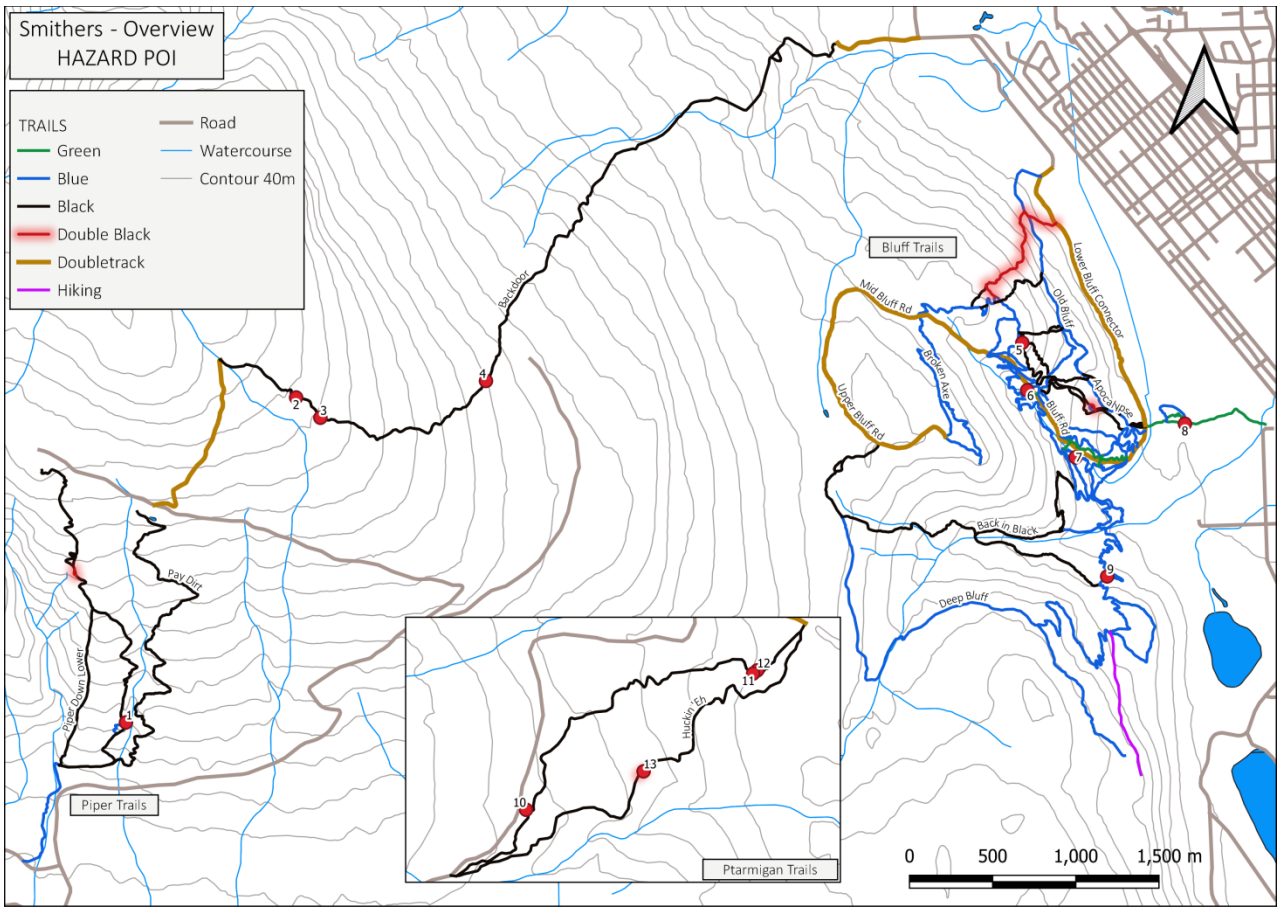
M - Monitor/Maintain E - Enhance - repairs/improvement and/or signage required R - Remove or replace

1.21 HAZARD POI

Where egregious risk exposure has been observed, sites have been designated a HAZARD POI. All hazards should be dealt with expeditiously as priority. Additionally, any and all TTF POI and WOOD STRUCTURE POI categorized as R - Remove/Replace should also be addressed as a priority hazard.

HAZARD POI

POI	DESCRIPTION
1	fall hazard beside Heckle Rock slab. critical fall potential. requires load bearing testing for entire length of fence and fencing expansion at run out where critical fall exposure exists.
2	broken decking in boardwalk. See WOOD STRUCTURE POI 10
3	broken decking in boardwalk. See WOOD STRUCTURE POI 11
4	broken skinny downramp on mainline, only option. See TTF POI 86
5	large TTF at entry of Shining - aged, decrepit, supports missing. See TTF POI 201
6	critical load bearing posts rotted, off camber decking. bridge should be closed and rebuilt. See WOOD POI 55
7	tree hanging over trail. trail requires 2.4m high clearance as per WTS - remove.
8	fast high speed section DH into blind junction. High traffic entry area/multiple trail convergence. deactivate with logs and/or fencing with signage if required.
9	short cut trail bissects MS at multiple points resulting in blind exits at speed. At this point it exits at high speed onto MS, at jump entrance. deactivate trail/close to DH bike traffic
10	high speed corner coming out of large table top. clear fall zone outside turn to 1.5m.
11	wood ramp bolted into rock face requires upgrades to structure and fencing due to age, condition and critical fall exposure. See TTF POI 153
12	fall protection fence aged and unstable. replace. fall hazard >6m h. cribbing in trail is rotten, replace.
13	merge from easy bypass into drop run out: high risk of collision. choke off upper merge point from easy bypass



NOTE: A close up GEO PDF map of each trail area identifying all HAZARD POI is provided under separate cover.

1.22 TTF POI

A total of 251 TTFs were assessed cumulatively in all trail areas. A GIS file (SMITHERS TTF.kmz), along with close up maps of each trail area and an excel document (SMITHERS TTF. xlsx) have been provided with each TTF being given a unique identifier. Data for each TTF POI, including measurements, classification, observations and improvement prescriptions as required, is provided for each trail/trail area in the excel document along with cost estimates to implement improvements, repairs and/or rebuilds per each TTF.

The following are the total number of TTF POI assessed, as categorized:

TTF STATUS	CAT.	TOTAL	PIPER	BACKDOOR	PTARMIGAN	BLUFF
MONITOR/MAINTAIN	M	156	62	2	39	53
ENHANCE	E	69	15	11	14	29
REPLACE/ REMOVE	R	26	4	10	0	12
TOTAL		251	81	23	53	94

M - Monitor/Maintain E - Enhance - repairs/improvement and/or signage required R - Remove or replace

NOTE: Where TTF is one category higher than trail classification, it must be off the mainline and be signed. All ♦♦ TTFs require permission from RSTBC.[3]

This marquee feature at the entrance to Shining trail is aged and has several observed deficiencies including areas of rot in posts and decking, missing supports and overall concern over load bearing ability given these deficiencies. It has been identified as a hazard and requires deactivation. It will need to be determined by SMBA if there is desire to rebuild this feature. TTF POI 201

[3] Schedule F MTB Trails p.3 In some cases, Technical Trail Features or obstacles on a trail may exceed the difficulty classification of the trail. In these cases, the TTF must be signed, and an alternate route or 'ride around' must be available that is consistent with the overall trail classification. TTF's with ride arounds may only exceed the trail difficulty rating by one level. Each proposed feature rated expert unlimited (♦♦) must be approved by the District Recreation Officer (DRO).

1.23 WOOD STRUCTURE POI

A total of 70 utilitarian wood structures (boardwalks/bridges) were assessed cumulatively in all trail areas. A GIS file (SMITHERS WOOD.kmz) and corresponding excel document (SMITHERS WOOD.xlsx) have been provided with each WOOD STRUCTURE POI being given a unique identifier that corresponds across all data mediums, including a GEO PDF of each trail area. Data for each WOOD STRUCTURE POI, including measurements and improvement prescriptions as required, is provided and tabulated by each trail/trail area in the excel document along with cost estimates to implement improvements, repairs and/or rebuilds.

The following are the total number of WOOD STRUCTURE POI assessed, as categorized:

WOOD STRUCTURE - STATUS	CAT.	TOTAL	PIPER	BACKDOOR	PTARMIGAN	BLUFF
MONITOR/MAINTAIN	M	24	0	4	0	20
ENHANCE	E	24	0	6	6	12
REPLACE/ REMOVE	R	22	6	7	2	7
TOTAL		70	6	17	8	39

M - Monitor/Maintain E - Enhance - repairs/improvement required R - Remove or replace

Due to age and condition, many of the wood structures on Backdoor trail are in immediate need of replacement.

1.24 SIGNAGE

A total of 86 SIGNAGE POI are provided with a total of 150 new signs & 8 kiosk maps being prescribed.

SIGNAGE TYPE	TOTAL
KIOSK MAPS	8
STICKERS	115
HARD SIGNS	35
SIGN POSTS	67

NOTE: Above totals includes all TTF signage as prescribed (see TTF POI.xlsx).

STICKERS: Sticker required to affix on carsonite post.
HARD SIGN: To affix to tree at site for optimum visibility as a standalone sign.
SIGN POST: Carsonite post required at site.

Signage is prescribed where existing signage is not compliant with RSTBC regulations (see RSTBC Schedule F) or does not exist and is required to uphold RSTBC regulatory requirements. Other signage prescriptions are intended to improve navigation and/or to notify trail users of upcoming risk exposure (fall hazard, trail merge, trail/road crossing, etc.). For all signage prescriptions, please see SIGNAGE POI and TTF POI in APPENDIX and SMITHERS POI.xlsx & SMITHERS TTF.xlsx.

SIGNAGE INSTALLATION GUIDELINES

- All CAUTION! signage, including but not limited to TRAIL MERGE! or TRAIL CROSSING AHEAD! signage should be highly visible and utilize recognizable colours of alarm (red/yellow) that utilize universal symbols (eg. exclamation mark within triangle).
- TTF signage and trailhead signage should uphold all RSTBC signage standards (see RSTBC Schedule F).

Carsonite posts are easily transported to site locations where sticker signage can be easily affixed. Hard signage is prescribed in treed areas as an alternative (see inset) where visibility may be improved by affixing hard signage to tree.

1.3 ACCESS, AMENITIES & STAGING

The Bluff Trail network appears to experience the most consistent and highest usage as evidenced by traffic encountered during the month long field assessment, perhaps due to its proximity to town, ease of access and diversity of trail experiences. Other trail users were encountered at other trail areas, but the volume and frequency of users at the Bluff Trail network seemed to indicate the trails in the Bluff Network are some of the most highly utilized trails in the Smithers area and therefore, any infrastructure investment in staging facilities should be prioritized here. This is anecdotal evidence based on observations only and if empirical data is required to determine usage patterns, the deployment of trail counters could be considered in future.

To support the observed high usage at the Bluff Trails, the future construction of changing facilities, washrooms that are directly adjacent to the parking lot and even a covered gathering area could be considered. Hartland Trail Network staging area in Saanich on Vancouver Island includes a bike wash station, flushing toilets in separate his/her bathrooms that also double as a heated change room, complete with bench and wall hooks, serves as an ideal model for staging facilities.

SMBA is currently working on the creation and installation of updated maps on existing kiosks. Along with updated trail classifications on maps, kiosks should include emergency contact information, contacts to provide input or incident reports and particular to the Bluff Trails, it should be considered to highlight recommended routes and progression opportunities for different skill levels to aid first time visitors to this dense network of trails. Additionally, visitor information on trail etiquette could also be included on kiosks. It should be noted the effectiveness of the user-populated white board at the Bluff Trail network, where users actively post wildlife sightings and other key information, including current hazards such as locations of hornet nests. A whiteboard of this type could be considered as an addition to the kiosk at the main parking lot also. Additionally, kiosk messaging could encourage trail users to contribute updates on Trailforks which not only serves to inform visitors of current conditions but would provide helpful information to SMBA to be targeted and timely in their trail stewardship efforts as maintenance issues arise.

Staging kiosks throughout the trail areas are generally in good condition, currently awaiting updated maps. Messaging should be consistent throughout all kiosks and visually cohesive to avoid the risk of losing key messaging through 'signage pollution' as evidenced in the abundant and variably formatted signage at the Ptarmigan trailhead kiosk (inset). The main photo shows the Bluff Trail Network main parking lot where there is ample room for additional amenities as determined.

1.4 TRAIL RECLASSIFICATION

After assessment, the following trails require reclassification to the following:

TRAIL	PRESENT	UPDATE TO	REASONING
PIPER TRAILS			
PIPER CROSS	■	♦	Plane gap: double black - TTF POI 3 Schedule F allows TTFs only 1 category higher than trail classification
PTARMIGAN TRAILS			
HUCKIN 'EH	■	♦	Drop: double black - TTF POI 112 Schedule F allows TTFs only 1 category higher than trail classification
BLUFF TRAILS			
AUNTIE FLO	■	♦	Tread gradient readings of 55% (GENERAL POI 46) exceed blue max grade of 35% on dirt as per WTS TTF POI 189 mainline rock gradient measures 70% exceeding blue max grade of 45% (on rock/wood) as per WTS
SMOOTHY	■	♦	Drop: double black - TTF POI 219 Schedule F allows TTFs only 1 category higher than trail classification
CHILDS PLAY	●	■	Rainbow roll: black - TTF POI 245* Schedule F allows TTFs only 1 category higher than trail classification
TRAIL OF BONES	♦	♦♦	Multiple ♦♦ mainline features - TTF POI 179, 181,183 NOTE: Schedule F does not allow double black trails

*TTF POI 245 is a black diamond feature on the mainline – if on Crown land, must adhere to RSTBC Schedule F (see NOTE 2 below)

NOTE 1: Trail classifications based on RSTBC Schedule F and Whistler Trail Standards

NOTE 2: Where TTF is one category higher than trail classification, it must be off the mainline and be signed. All ♦♦ TTFs require permission from RSTBC. Please refer to Schedule F RSTBC, p.3.

Huckin 'Eh requires re-classification to black diamond to accommodate this double black diamond drop. RSTBC Schedule F allows only 1 category higher TTF and all ♦♦ TTFs require DRO permission.

1.5 TRAIL REVITALIZATION - CAPITAL PROJECTS

Four trails have been identified during assessment where a top to bottom refresh would improve sustainability and user experience. It should be noted that Backdoor trail requires more urgent attention, given the condition of the aged woodwork. It is recommended the following trails to be considered for a prioritized overhaul based on repairs and improvements as prescribed in order to improve current conditions and the future sustainability of these trails.

ESTIMATED IMPROVEMENT COSTS

TRAIL	TOTAL
BACKDOOR	$89,500
PAY DIRT	$60,200
PUMP DADDY	$27,750
FUZZY MONKEY	$16,950

NOTE:

- BACKDOOR estimate does not include 16m bridge replacement over creek crossing (WOOD STRUCTURE POI 23)
- PAY DIRT estimate opts for reroute 1 & 2 as opposed to REPAIR 12 & 14
- FUZZY MONKEY - WOOD STRUCTURE POI 6 (21m bridge replacement) is a prioritized task to be implemented prior to PAY DIRT revitalization. Cost estimate includes removal of TTF POI 15 vs. rebuild of wall ride

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Upper Backdoor has several long sections of connected skinnies. Due to their age and being under heavy snowpack in winter, many are in poor condition and require replacement.

1.51 BACKDOOR

Backdoor trail is considered a 'destination trail', highly coveted by locals while being a tourism draw to visitors. The trail provides over 1000m in vertical descent over a distance of 5.7km. Due to the current condition of wood infrastructure on the trail, revitalization of Backdoor trail should be considered as a priority task.

Currently unsanctioned, the trail sees intermittent, ad hoc maintenance. Despite the unsanctioned status, the trail appears on Trailforks and sees consistent use. In addition to 8 prescribed trail repairs, and 2 recommended, albeit optional reroutes, much of the woodwork requires repair or entire replacement including replacement of 10 TTFs and 7 wood structures, as well as the enhancement/repair of 11 TTFs and 6 wood structures. The largest capital project on this trail is the 16m bridge replacement (WOOD STRUCTURE POI 23) and of note, is not included in the cost estimate below due to the varied methods and material options, and the option to construct or realign.

Beyond these prescribed repairs and improvements, the rider experience could be improved with a top to bottom refresh of the trail tread, targeting maintenance of degraded sections and filling of tread depressions where needed. Although this trail will require a significant amount of work to address the cumulative issues identified, this trail provides a high quality 'big mountain' experience and the investment would be well worth the effort. Once the repairs and improvements have been made on this trail, future considerations could include the construction of a climbing route to access the alpine trail head in partnership with Hudson Bay Mountain Resort.

BACKDOOR ESTIMATED IMPROVEMENT COSTS:

TYPE	TOTAL
REPAIR POI 17 – 25	$2,500
REROUTE POI 4, 5	$8,500
WOOD STRUCTURE POI 7 - 22	$26,200
TTF	$39,500
TREAD MAINTENANCE & IMPROVEMENTS	$12,800
TOTAL	**$89,500**

NOTE: WOOD STRUCTURE estimate does not include the 16m bridge replacement (WOOD STRUCTURE POI 23) however, the estimate does include a realignment to bypass bridge site (see REROUTE POI 5).

TREAD MAINTENANCE & IMPROVEMENTS - 2 trail workers x 4 weeks @ $40/h

WOOD STRUCTURE POI 23

After assessment of the 16m bridge on Backdoor, the support posts and sills were found to contain moderate to advanced decay. Additionally, decking exceeds overhang and spacing standards, requiring new decking or decking modification or installation of additional stringers to support current deck overhang. Existing stringers have not been de-barked (bark holds moisture and heightens rate of decay) and may be of insufficient diameter related to clear span at site. This combination of deficiencies culminates in a recommendation for full replacement of the structure. Alternately, trail realignment is an option to avoid this creek crossing (see REROUTE POI 5).

IMPORTANT! If there is any delay of significance before the bridge is replaced, the support trestles for the 16m bridge should be replaced in the short term as an interim solution.

Given the multitude of options available in the design and construction of a new bridge at this site, combined with the high anticipated costs associated with this scale of project, SMBA and its partners should determine whether to pursue this bridge replacement or realign the trail. Associated costs may vary greatly with the different construction options whether cedar, fir or pre-fabricated aluminum. Due to the decking height above the creek (2.2m), a handrail could be considered or decking width increased beyond current width. The option to install a Bailey bridge at this site is another method that could be considered in the deliberation process. It should be noted the bridge crossing provides a desirable 'flow' to the trail whereas the alternate option to realign the trail will result in a less desirable trail 'flow'.

Advanced decay was discovered in the post supports and sills of the 16m bridge. WOOD STRUCTURE POI 23

This wall ride on Backdoor rides very well, providing riders with a high speed, exhilarating experience. Due to age, deficiencies in overhang and gap in decking, and other construction methods, this structure requires replacement. TTF POI 82

1.52 PAY DIRT

Pay Dirt could become another "destination trail" for mountain bikers, considering its length (3.4 km) and the considerable amount of jumps (66). There are four (4) jumps identified during the field assessment that would benefit from re-sculpting but the entire trail could be improved with a top to bottom re-fresh including re-shaping of jumps by an someone who is an experienced jumper *and* jump builder to ensure consistency of jump lengths and jump lips, being sure to reduce any abrupt or 'kicky' jump lips. Some jumps are considered narrow and table top widths could be widened on these jumps. Most berms require a raking and/or moderate re-shaping/tune up. The 5m wooden bridge at the exit is in a dilapidated state and requires replacement. Drainages including ditches and swales require clearing throughout the majority of the trail.

Two areas in particular were observed in which a capital rebuild is required: REPAIR POI 12 & 14. These areas suffer from significant degradation due to a combination of sustained gradients, large footprint and unobstructed exposure to the elements (devoid of tree canopy to deflect rain/snow). A high degree of aggregate was observed in the soils at these site locations so a re-sculpting of these areas should include the import of more resilient loam soils that include binders (clay), adding to the costly restoration of these sites. It could prove to be cost prohibitive to import dirt to these sites and even with the import of better soils, it may result in the same long term issues as observed due to the aforementioned site conditions. Alternately, test digs could occur in the general vicinity in an attempt to find improved soils to dig borrow pits however, the amount of soil required to restore each area will be significant. Realignment of these two areas may be the most viable and cost effective option (REROUTE POI 1, 2). If these sections were realigned within the forest canopy using rolling contour design, the long term sustainability of these sections could be improved. Each of these sections is approximately 100m in length and may require > 150m of new trail construction to effectively realign. Hand building these realignments may be the most reasonable solution. It should be considered that driving a machine to these sites may adversely impact the rest of the trail.

Repairs on Fuzzy Monkey (REPAIR POI 15 & 16) should also occur in tandem with the revitalization of Pay Dirt including the replacement of the >21m bridge (WOOD STRUCTURE POI 6), and determination whether to rebuild or remove TTF POI 15 (wall ride).

PAY DIRT ESTIMATED IMPROVEMENT COSTS:

TYPE	TOTAL
REPAIR POI 12 - 14	$50,200
REROUTE POI 4, 5	$15,000
WOOD STRUCTURE POI 5	$3,500
TTF 18, 23, 29, 44, 66, 78	$900
TREAD MAINTENANCE & IMPROVEMENTS	$25,600
TOTAL	**$95,200**
OPTION - REROUTE 1 & 2 not REPAIR 12 & 14	**$60,200**

NOTE: Cost estimate for REPAIR POI 12 & 14 ($50,000) includes a full scale overhaul by machine. Cost estimate for REROUTE POI 1 & 2 ($15,000) is for hand built reroutes.

TREAD MAINTENANCE & IMPROVEMENTS provides an estimate for hand work to sculpt jumps and berms where required, brushing and drainage work - 2 trail workers x 8 weeks @ $40/h.

1.53 FUZZY MONKEY

It is recommended WOOD STRUCTURE POI 6 is replaced as priority prior to the revitalization of Pay Dirt. SMBA to determine if TTF POI 15 (wall ride) is to be fully replaced or removed.

FUZZY MONKEY ESTIMATED IMPROVEMENT COSTS:

TYPE	TOTAL
REPAIR POI 15, 16	$950
WOOD STRUCTURE POI 6	$14,500
TTF POI 15 (wall ride)	$12,500
TOTAL	**$27,950**
OPTION - Remove TTF POI 15 vs. rebuild	**$16,950**

NOTE: Estimate can be adjusted by $11,000 to remove wall ride (TTF POI 15) as opposed to full rebuild (cost estimate $1,500 to remove).

This section on Pay Dirt (REPAIR POI 14) is in a severely degraded state. Open to the elements with high aggregate content of site soils, the result is exacerbated erosion and clogged drainages. The ideal solution would be to realign this section into the forest to utilize tree canopy deflection of the elements and improved tread composition. This should result in improved long term sustainability and an improved user experience.

The rebuilding of this 21m bridge on Fuzzy Monkey should occur as priority. Advanced rot within supports can be seen in inset photo. Structure is aged and due for near future replacement. WOOD STRUCTURE POI 6

1.54 PUMP DADDY

This trail requires some important upgrades including replacement of a >22m boardwalk (WOOD STRUCTURE POI 30). Of higher priority is the repair of TTF POI 153 (wood ramp bolted into cliff) and safety fencing upgrades at site, due to observed deficiencies in age and condition. Additionally, the re-sculpting of two (2) jumps is recommended (TTF POI 133 & 134). Beyond these recommended repairs and improvements, the trail would benefit from reshaping and/or repositioning of some jumps to ensure consistency of jumps and to reduce any abrupt or 'kicky' jump lips, or to reposition jumps to provide better set up time for riders, or to shorten or lengthen transitions as required to be consistent with trail speed and be consistent with other jumps on the trail. At 2.4km in length, the trail is approximately 1km shorter than Pay Dirt and has far fewer TTFs (35 in total as compared to 66), making it a less costly/labour intensive overhaul by comparison. In general terms, the trail does ride well although the overall experience could be improved through a concerted effort to implement the recommended repairs and improvements including additional work to reshape and/or reposition jumps as required. In summary, the combination of prescribed improvements, a top to bottom re-design of jumps as determined, including positioning, length and lip shape, would improve the overall user experience. This work could be taken on by a SMBA trail crew and/or a group of passionate volunteer stewards working to professional standards, either of which should be made up of advanced riders who are experienced at both jumping *and* building jumps, while also being familiar with riding Pump Daddy so as to effectively ascertain what jumps require improvement for ride quality and consistency.

ESTIMATED COSTS:

TYPE	TOTAL
REPAIR POI 26 - 29	$2,200
WOOD STRUCTURE POI 30, 31	$8,000
TTF 126, 127, 133, 134, 139, 153, 155	$4,750
TREAD MAINTENANCE & IMPROVEMENTS	$12,800
TOTAL	**$27,750**

TREAD MAINTENANCE & IMPROVEMENTS - 2 trail workers x 4 weeks @ $40/h.

This TTF requires improved fencing and other repairs. Fencing cable is loose and threatens to catch bars or pedals on the narrow entry. Support posts and some decking should be replaced due to age and condition (see inset photo). TTF POI 153

2.0 COST PROJECTIONS

This section provides cost projections based on estimates to implement prescribed improvements. Costs may vary depending on methods used and may include any or all of the following options:

1) Contractor 2) SMBA Trail Crew 3) Volunteer

WOOD MATERIALS

As a standard method, any wood structure repair or replacement should utilize cedar as the ideal material considering its rot resistance, water shedding properties and grain strength. Fir is a good second choice. Any decking should utilize 2" x 6" rough cut fir or cedar. Where large clear span bridges are required, other methods may be considered including pre fabricated aluminum bridges, high strength steel C-channel or other.

CONSTRUCTION METHODS

As a standard, all elevated wood structures should utilize post & beam construction methods. Sills and any wood contact points with the ground should be placed on rock or use other suitable methods to discourage water ingress where soils are saturated. All logs must have bark peeled. Stringers must adequately support a minimum load of 495 lbs as per Whistler Trail Standards. All decking must be affixed using two nails each side, being galvanized spiral ardox. As an alternative, GRK fasteners may be used.

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Some wood structures have been recently replaced by SMBA including this feature on Piper Down. Any new construction should utilize the same high quality construction methods and materials.

2.1 PIPER TRAILS

SMBA will need to determine the pursuit of realignment of two significantly degraded sections of Pay Dirt (REROUTE POI 1 & 2) or the rebuild of these sections (REPAIR 12 & 14). The estimated costs of each are included in the TOTAL below and the TOTAL will therefore need to be adjusted as determined. For reference, REROUTE POI 1 & 2 is estimated at $15, 000 using hand build methods to realign and REPAIR POI 12 & 14 is estimated at $50, 000 using an excavator and work crew to rebuild these sections. These figures provide a high and low end scalable estimate for the identified problem areas (REPAIR 12 & 14).

PIPER TRAILS IMPROVEMENTS - ESTIMATE

TYPE	TOTAL
REPAIR POI 1 - 16	$55,600
REROUTE POI 1, 2, 3	$18,500
WOOD STRUCTURE POI 1 - 6	$21,500
TTF - REPAIR & REBUILD	$18,600
TREAD MAINTENANCE & IMPROVEMENTS: PAY DIRT	$25,600
TOTAL	**$139,800**
OPTION 1 – REROUTE 1& 2 ONLY	**($50,000)**
OPTION 2 - TTF POI 15 - remove vs. rebuild	**($11,000)**

NOTE: Cost saving options can be deducted from TOTAL as determined by SMBA. OPTION 2 accounts for $1,500 in labour to remove wall ride ($1,500) on Fuzzy Monkey as opposed to a full rebuild ($12, 500).

TREAD MAINTENANCE & IMPROVEMENTS: PAY DIRT provides an estimate for hand work to sculpt jumps and berms where required, brushing and drainage work - 2 trail workers x 8 weeks @ $40/h.

2.2 BACKDOOR

SMBA will need to determine the pursuit of REROUTE 4 & 5. Drainage work to the existing trail may solve the need to implement REROUTE 4. REROUTE 5 is provided as an option to the 16m bridge replacement. If the bridge replacement is pursued (WOOD STRUCTURE POI 23), SMBA will need to determine costs based on material and methods. Potential partnerships with RSTBC and/or Hudson Bay Mountain Resort would help to share associated costs. Efforts should be made to connect with BC Hydro or the Ministry of Transportation and Infrastructure or other government entity for potential donation of salvage bridges that may be appropriate for this site.

Future consideration could include the construction of a climbing trail to access the alpine start of Backdoor. Future trail development at Hudson Bay Mountain Resort may influence this determination.

BACKDOOR TRAIL IMPROVEMENTS - ESTIMATE

TYPE	TOTAL
REPAIR POI 17 – 25	$2,500
REROUTE POI 4, 5	$8,500
WOOD STRUCTURE POI 7 - 23	$26,200
TTF - REPAIR & REBUILD	$39,500
TREAD MAINTENANCE & IMPROVEMENTS	$12,800
TOTAL	**$89,500**

NOTE: Estimate does not include 16m bridge replacement WOOD STRUCTURE POI 23 however, the estimate does include the realignment to bypass bridge site (see REROUTE POI 5).

TREAD MAINTENANCE & IMPROVEMENTS - 2 trail workers x 4 weeks @ $40/h.

2.3 PTARMIGAN TRAILS

SMBA to determine if tread maintenance and improvements to be pursued on Pump Daddy (see 1.54 PUMP DADDY).

PTARMIGAN TRAILS IMPROVEMENTS - ESTIMATE

TYPE	TOTAL
REPAIR POI 26 - 31	$2,500
WOOD STRUCTURE POI 24 - 31	$21,050
TTF - REPAIR & REBUILD	$5,100
TREAD MAINTENANCE & IMPROVEMENTS: PUMP DADDY	$12,800
TOTAL	**$41,450**

TREAD MAINTENANCE & IMPROVEMENTS: PUMP DADDY - 2 trail workers x 4 weeks @ $40/h.

2.3 BLUFF TRAILS

SMBA to determine pursuit of REROUTE POI 6 with a cost estimate of $9,500 (included in below total) which may or may not be utilized by trail users considering the Upper Bluff Road provides a reasonable and efficient route from Broken Axe to Deep Bluff. Additionally, SMBA to determine the pursuit of REPAIR POI 41 with a cost estimate of $750 (included in below total) to implement minor tread improvements and brushing of existing hiking trail from the Deep Bluff lookout to Meanstreak with the purpose to accommodate MTB use. If REPAIR POI 41 is pursued, it will require additional navigational signage from the Deep Bluff lookout.

Future consideration by SIMBA could include the development of amenities at the Bluff Trail Network main parking lot, including the potential for a change room, covered gathering area and washroom facilities to serve both locals and visitors alike for what appears to be the most highly utilized trail network in Smithers.

SMBA to consider future planning for 1) re-development of the Childs Play skills area and 2) improvements to the Lower Bluff Connector if desired. Additional consideration would include the development of a climbing route from Deep Bluff to Skyline Road to access the Ski Resort area (see 3.0 Development Plan).

BLUFF TRAILS IMPROVEMENTS - ESTIMATE

TYPE	TOTAL
REPAIR POI 32 - 41	$3,750
REROUTE POI 6 - 9	$21,000
WOOD STRUCTURE POI 32 - 70	$24,125
TTF - REPAIR & REBUILD	$32,800
TOTAL	**$89,500**
OPTION - REROUTE POI 6	**($9,500)**
OPTION - REPAIR POI 41	**($750)**

2.4 COST PROJECTIONS - SUMMARY

Cost estimates for all POI, TTFs and WOOD STRUCTURE can be found in SMITHERS POI.xlsx, SMITHERS TTF.xlsx, SMITHERS WOOD.xlsx.

PIPER TRAILS IMPROVEMENTS - ESTIMATE

TYPE	TOTAL
REPAIR POI 1 - 16	$55,600
REROUTE POI 1, 2, 3	$18,500
WOOD STRUCTURE POI 1 - 6	$21,500
TTF 1, 2, 5, 6, 8, 10, 11 - 13, 15, 18, 23, 29, 44, 66, 78	$18,600
TREAD MAINTENANCE & IMPROVEMENTS: PAY DIRT	$25,600
TOTAL	**$139,800**
OPTION 1 - REROUTES ONLY	**($50, 000)**
OPTION 2 - TTF POI 15 - remove vs. rebuild	**($11,000)**

BACKDOOR TRAIL IMPROVEMENTS - ESTIMATE

TYPE	TOTAL
REPAIR POI 17 – 25	$2,500
REROUTE POI 4, 5	$8,500
WOOD STRUCTURE POI 7 - 23	$26,200
TTF - REPAIR & REBUILD	$39,500
TREAD MAINTENANCE & IMPROVEMENTS	$12,800
TOTAL	**$89,500**

PTARMIGAN TRAILS IMPROVEMENTS - ESTIMATE

TYPE	TOTAL
REPAIR POI 26 - 31	$2,500
WOOD STRUCTURE POI 24 - 31	$21,050
TTF - REPAIR & REBUILD	$5,100
TREAD MAINTENANCE & IMPROVEMENTS: PUMP DADDY	$12,800
TOTAL	**$41,450**

BLUFF TRAILS IMPROVEMENTS - ESTIMATE

TYPE	TOTAL
REPAIR POI 32 - 41	$3,750
REROUTE POI 6 - 9	$21,000
WOOD STRUCTURE POI 32 - 70	$24,125
TTF - REPAIR & REBUILD	$32,800
TOTAL	**$89,500**
OPTION - REROUTE POI 6	**($9,500)**
OPTION - REPAIR POI 41	**($750)**

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3.0 DEVELOPMENT PLAN

Trail Holistics personnel conducted reconnaissance of the following conceptual proposals to determine feasibility and if feasible, provide construction prescriptions and cost projections.

1) Trail connectivity from the Bluff Trail Network to Back Door trail.
2) Beginner trail development (loop trail) in the lower parking lot area of the Ptarmigan trails.
3) Climbing route from Deep Bluff to Skyline Road.
4) Development of a multi use trail to Malkow Lookout.

After conducting an extensive field study of the areas of interest, the following determinations are provided:

PROJECT	STATUS	COST ESTIMATE LOW	COST ESTIMATE HIGH
Bluff Trail Network to Back Door trail	Not feasible	-	-
Beginner trail development Ptarmigan	Not feasible	-	-
Deep Bluff to Skyline Road	Feasible	$152,750	$222,750
Multi Use trail Malkow Lookout	Feasible	$102,230	$141,590

Malkow lookout is a highly popular destination trail for tourists and locals alike. Currently, visitors hike up a dirt road to access the lookout. The SMBA vision is to construct a meandering multi use trail that traverses the western slopes of Malkow hill, climbing to the current lookout via a hogs back ridge.

3.1 SKYLINE CLIMBING ROUTE

The vision of this project is to provide trail access from the Bluff Trail network to the ski hill allowing the option for riders to access the midpoint of Back Door, the Piper trail area or to continue climbing to the alpine entry of Back Door. Route finding proved challenging in this area in order to avoid numerous slope drainages and saturated areas. After eight days of reconnaissance in the area of interest, a reasonable corridor was identified and field flagged to successfully accommodate the vision to construct a climbing route to fulfill the SMBA vision.

The identified route begins off Deep Bluff trail at 821m elev and terminates on Skyline Road at an elevation of 1202m for a total gain of 381m in elevation. The estimated length of total constructed trail would be approximately +/- 4.35km. The corridor has been flagged using pink ribbon, providing a route that, with one area of exception of an estimated trail distance of +/- 1100m, offers well drained, easily accessed soils through moderate to densely spaced second growth forest for the majority of the route. It is recommended the final alignment of the trail should aim for an average gradient not to exceed 10% and to avoid gradients that exceed 25% for any tread length longer than 15m. Construction difficulty ranges from easy to moderately difficult, with the aforementioned section mid route that would be described as challenging digging for an estimated length of 1000m to 1300m.

Dense second growth forest predominates from 821m elevation to approximately 950m elev. Of note, a short plateau of low grade slope (<5%) was noted at 937m elev for approximately 30m and again at 1172m elev, where the terrain flattens (<5%) for approximately 150m. Soils appear to be easily accessed and well draining in both areas, based on test digs conducted intermittently along the identified route. The most difficult area of construction begins at 994m elev and climbs to 1104m elev for a total elevation gain of 110m, identified on the map between POI 61 and POI 67. The footprint of this section is a vertical corridor approximately 590m in slope width. The estimated length of trail to be constructed in this area is approximately 1100m to 1300m in order to retain the target average trail gradient <10%. This section is described as challenging due to sections of thick vegetative cover including intermittent patches of devil's club and the potential to encounter saturated soils, jackpots of dense wind throw, the presence of large mature trees with expansive root systems, and flat sections of slope that contain a moderate to deep duff layer that contains embedded rotting logs. Test digs in this area resulted in the discovery of what appears to be well drained soils under a varying thickness of duff ranging from 10cm to 30cm depth. It should be noted that slopes were dry at time of inspection due to dry weather occurring during the summer months prior to and during assessment. Of note, small intermittent rock bluffs were noted from 1120m elev to approximately 1150m elev, located on easily navigable 35% slopes with moderately spaced second growth forests that provides ample options to avoid observed rock bluffs.

It is reasonable to pursue this project with the recommendation to utilize a small excavator to construct. The use of a small machine will minimize disturbance during construction while resulting in a trail with a small footprint. There is a single point of access to this project from Skyline Road meaning the machine must be constructed downwards and walked out (upwards) along the trail once completed. The design components of rolling contour trail should be utilized and where sections of trail are recessed below grade after excavation of organics, native soils found on site should be used to elevate tread above grade.

3.11 TRAIL SPECIFICATIONS - SKYLINE CLIMBING ROUTE

CLIMBING ROUTE: TRAIL SPECIFICATIONS & METHODS

DEEP BLUFF TO SKYLINE RD – MTB CLIMBING ROUTE	
ESTIMATED LENGTH	4.35km
PRIMARY USE	MTB
TRAIL TYPE	WTS TYPE 3: Unsurfaced single track.
TRAIL GRADIENT	10% average grade, 25% maximum gradient <15m length
TRAIL WIDTH	+/- 1m
CORNERS	Switchbacks are required where the trail turns on slopes greater than 15%, climbing corners can be constructed where the trail turns on slopes less than 15%. Minimum corner radius 7'. Switchbacks must be retained on low side using good quality materials. Logs with any signs of rot are not acceptable and any log used must be of reasonable diameter >8" and be set firmly in place with stakes. Where multiple logs are used, logs should be joined using lap joints and large galvanized spikes.
METHODOLOGY	Utilize rolling contour design. Minimize footprint and disturbance during construction. Naturalize all borrow pits and areas of disturbance. Avoid tree root degradation by building over roots or avoiding root balls where possible. When constructing bench cut trail, absolutely no covering of duff with mineral soils particularly on the critical edge. After removal of duff layer, trail must not be recessed so as to hold water. Where trail is recessed after removal of duff layer, capping methods should be used to raise tread surface above grade using native soils found on site.
GENERAL PRESCRIPTION	Machine built trail using a mini excavator to minimize footprint and disturbance. All disturbances to be naturalized/no-traced including but not limited to borrow pits and duff removal. Naturally occurring tread obstacles should be retained where possible. Minimize tree root disturbance, cap root systems where possible..

WOOD CONSTRUCTION PRESCRIPTION:

WOOD STRUCTURE	DETAIL
DECKING	2" X 6" rough cut fir or cedar decking. Maximum 5cm overhang, 3cm spacing. Width as prescribed (see 3.13 COST PRESCRIPTIONS)
STRINGERS & SILLS	Stingers & sills to be fir or cedar, bark removed. Not to be in contact with high water mark. Load bearing 495lbs as per WTS.

TOTAL WOOD CONSTRUCTION PROJECTS

WOOD STRUCTURE	TOTAL LENGTH
BOARDWALK (4 PROJECTS) – POI 53, 55, 62, 67	45m
BRIDGE (1 PROJECT) – POI 51	5m

3.12 SOIL ANALYSIS

The B Horizon can be accessed under a moderate layer of organic ranging from 10 - 30cm depending on the area.
A marked difference in soil composition was observed above 1100m.

TYPICAL SOIL - SITE CLASSIFICATION: SILT/CLAY LOAM below 1100m

CATEGORY	CLASSIFICATION	DETAIL
STICKINESS	Sticky	Soil material adheres to both digits and stretches slightly before breaking when digits pulled apart (25-40% clay).
GRAININESS	Slightly Grainy	Some grain detected, but non-grainy material (silt and clay) dominant (20–50% sand).
PLASTICITY	Slightly Plastic	Slightly Plastic – a roll 4cm long and 4mm thick can be formed but cannot support its own weight when dangled from thumb and forefinger.
COMPOSITION	Gravels	Small gravels observed <5cm at a low frequency <5%.

TYPICAL SOIL - SITE CLASSIFICATION: SANDY LOAM above 1100m

CATEGORY	CLASSIFICATION	DETAIL
STICKINESS	Non Sticky	Practically no soil material adheres to the thumb and forefinger (< 10% clay)
GRAININESS	Grainy	Sand detected as the dominant material. Some non-grainy material detected between sand grains (50–80% sand).
PLASTICITY	Non Plastic	Non plastic – a 4cm long and 4mm thick worm cannot be formed
COMPOSITION	Gravels	Small gravels observed <5cm at a low frequency <5%.

The B horizon is easily accessed under a varying organic layer from 10cm to 30cm depth. This sample was taken at 888m.

3.13 COST PROJECTIONS - SKYLINE CLIMBING ROUTE

SKYLINE MTB CLIMBING TRAIL

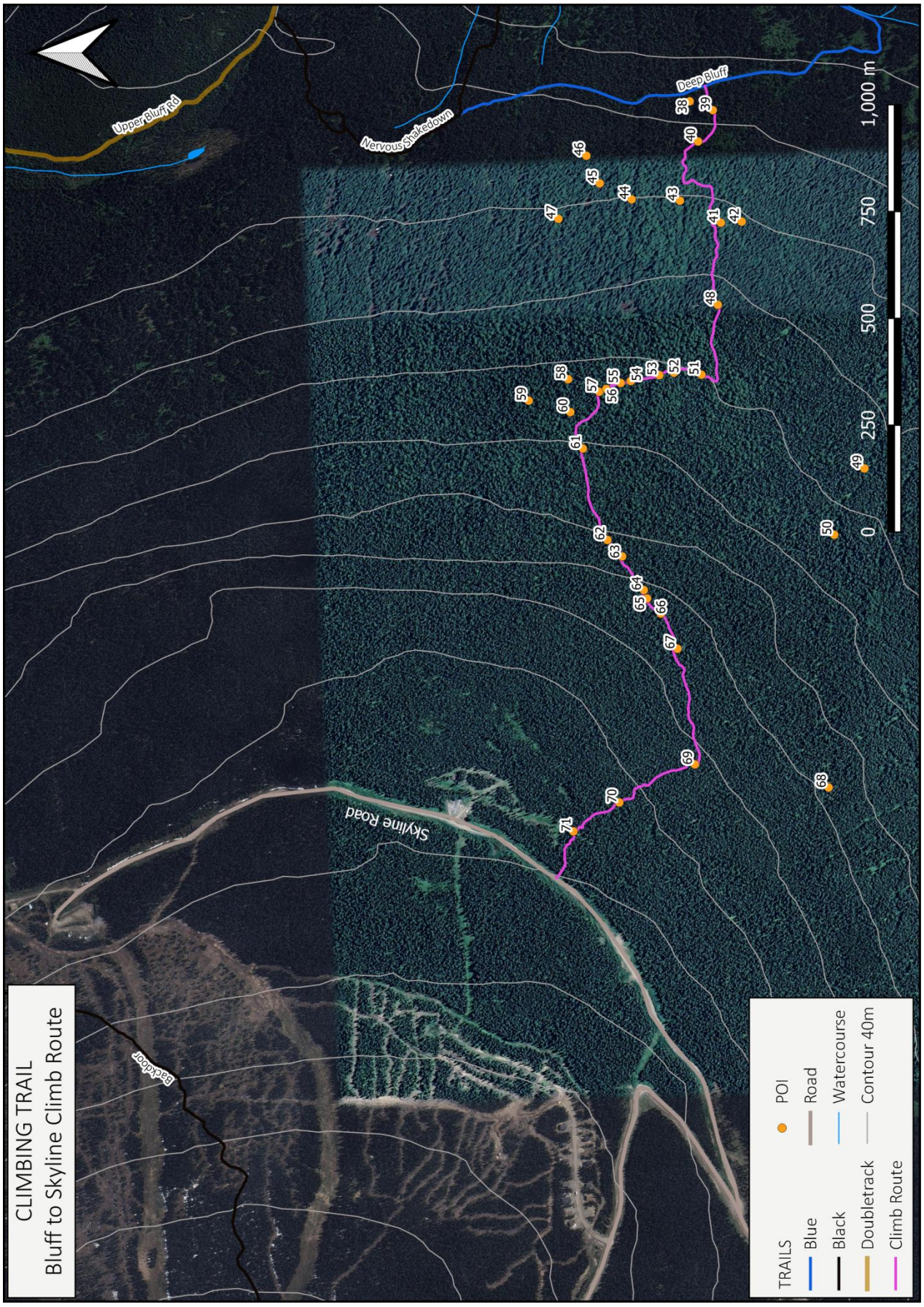
COMPONENT	LOW ESTIMATE	HIGH ESTIMATE
TRAIL CONSTRUCTION – 4.35km	@$30/m = $130,500	@$45/m = $195,750
WOOD PROJECTS	$22,250	$27,000
TOTAL	$152,750	$222,750

WOOD PROJECTS: SKYLINE CLIMBING ROUTE

			COSTS	
POI	TYPE	DESCRIPTION	LOW	HIGH
51	bridge	bridge 5m over ephemeral flow. Minimum 3' width of decking.	$3,750	$5,000
53	boardwalk	>15m boardwalk over ephemeral draw. Minimum 2' width decking.	$6,250	$7,500
55	boardwalk	boardwalk 5m long thru devils club. Minimum 2' width decking.	$2,500	$3,250
62	boardwalk	draw with sedge grass and devils club. 5m boardwalk. Minimum 2' width decking.	$2,500	$3,250
67	boardwalk	requires 20m boardwalk. Minimum 2' width decking.	$7,250	$8,000
TOTAL			$22,250	$27,000

IMPORTANT! *Cost estimates provided are a professional estimate based on the scope of work recommended and the prescription outlined within this planning document. These estimates may or may not be applicable should alternate prescriptions, methodology, scope of work or other planning methods be determined by the client or another third party. This quote is for estimation purposes and is not a guarantee of cost for services. Actual cost may change once project elements are finalized or negotiated with contractor.*

3.14 MAP: SKYLINE CLIMBING ROUTE



trail holistics

3.15 TABLE: SKYLINE CLIMBING ROUTE POI

POI	TYPE	DESCRIPTION
38	watercourse	ephemeral channel
39	slope	25 - 30% slope. good terrain, well drained soils. stay to south of draw
40	draw	ephemeral draw
41	sound	good slope/drainage
42	saturated	avoid as southern border of corridor
43	watercourse	ephemeral
44	watercourse	ephemeral
45	saturated	flat, hummocky
46	flat	hummucky
47	slope	low grade hummocky bad vegetative indicators
48	flat	terrain plateaus. well drained soils
49	watercourse	wide drainage course
50	saturated	dense devils club, poorly drained soils, large area below perched wetland
51	bridge	bridge 5m over ephemeral flow. 3' minimum width of decking.
52	traverse	side hill traverse on 20% slope moderately drained soils
53	boardwalk	>15m boardwalk over ephemeral draw. Minimum 2' width decking.
54	sidehill	30% slope moderately drained soils
55	boardwalk	boardwalk 5m long thru devils club. Minimum 2' width decking.
56	soil	2" organics, high quality loam B horizon.
57	soil	begin to gain elevation again through moderately to poorly drained soils, increased duff layer and deadfall. approx 150m
58	saturated	devil's club, saturated zone
59	watercourse	ephemeral course
60	saturated	wet area
61	dense	thick vegetation, may require short sections of boardwalk
62	boardwalk	draw with sedge grass and devils club. 5m boardwalk. Minimum 2' width decking.
63	complex	traverse across dank zone until boardwalk. deep duff, rotted logs and windthrow. thimbleberry and devils club. some old growth
64	complex	plenty of rotten logs and windthrow, duffy but there is dirt
65	soil	easy access good quality soils
66	flat	low profile slope, dense vegetation, windthrow 40m
67	boardwalk	more expansive devils club field below, this is the best crossing point. requires 20m boardwalk approx. Minimum 2' width decking.
68	watercourses	series of intermittent draws/watercourses, saturated plateaus, deep duff, poor terrain.
69	slope	35% slope, well drained, well spaced forest
70	flat	well drained, flat open forest 150m
71	road	trail crosses pilot road

3.16 TERRAIN SUMMARY

820m to 960m elevation

The flagged route begins off Deep Bluff trail, avoiding watercourses and saturated soils that border the identified corridor to the N and S, providing a moderately dry vertical rib of land varying in width from 30m to 60m through dense second growth forest on slopes that range between 25% to 35% gradients. Slope gradients flatten at 937m elev (POI 48) and remain low (+/- 5%) to 960m elev where the route traverses in a northerly direction. The start to the climb off Deep Bluff trail should be positioned to accommodate the momentum of the rider upon entry.

960m to 994m elevation

The route contours northward, soon crossing a moderate sized ephemeral drainage where slopes concentrate water flow into a defined channel through a pinch point, requiring an approximate 5m bridge (POI 51) with minimum 3' wide decking. Additional construction of an estimated 15m boardwalk is required to span an ephemeral draw (POI 53) and an estimated 5m boardwalk is prescribed to cross a patch of devils club (POI 55) in this section.

994m to 1104m elevation

This section gains 110m of elevation and will require an estimated length of trail to be approximately 1100m to 1300m to retain the target average trail gradient <10%. Thick vegetative cover dominates this area including intermittent patches of devil's club, one section of dense wind throw for approximately 40m length, low grade slopes (<10%), mature trees with large root systems, moderate to deep duff coverage 10cm to 30cm depth, and the potential to encounter saturated soils. Test digs did occur in this area uncovering well drained soils but it should be noted that slopes were dry at time of inspection due to dry weather occurring during the summer months prior to and during assessment. Boardwalk construction is prescribed in two locations, with estimated lengths of 5m (POI 62) and >20m (POI 67).

1104m to 1202m elevation

The forest changes dramatically from dense mature forest with thick understory to well spaced second growth at approximately 1110m elevation. Soils are well drained in this area with understory and non-complex terrain that is easily navigated. Small rock bluffs were observed from 1120m to approximately 1150m, located on 30% - 40% slopes in open forest where these bluffs can be easily avoided. Slope gradient diminishes to flat or near flat at 1160m elev for approximately 170m until encountering a pilot road which is easily crossed where the remaining 100m distance to Skyline Rd travels through relatively non-complex terrain on a +/- 15% slope gradient.

Dense second growth dominates the area immediately above Deep Bluff and at 937m elev the slope gradient lessens significantly (+/- 5%) for approximately 175m. POI 48

3.17 TERRAIN PHOTOS - SKYLINE CLIMBING ROUTE

A deep duff layer, thick vegetation, windthrow jackpots and low grade slopes prevail from 994m elev to 1104m elev.

Large, mature trees can be found from 994m elev to 1104m elev where expansive root systems will pose an additional challenge.

Dense second growth forest dominates from 821m elevation to approximately 950m elev.

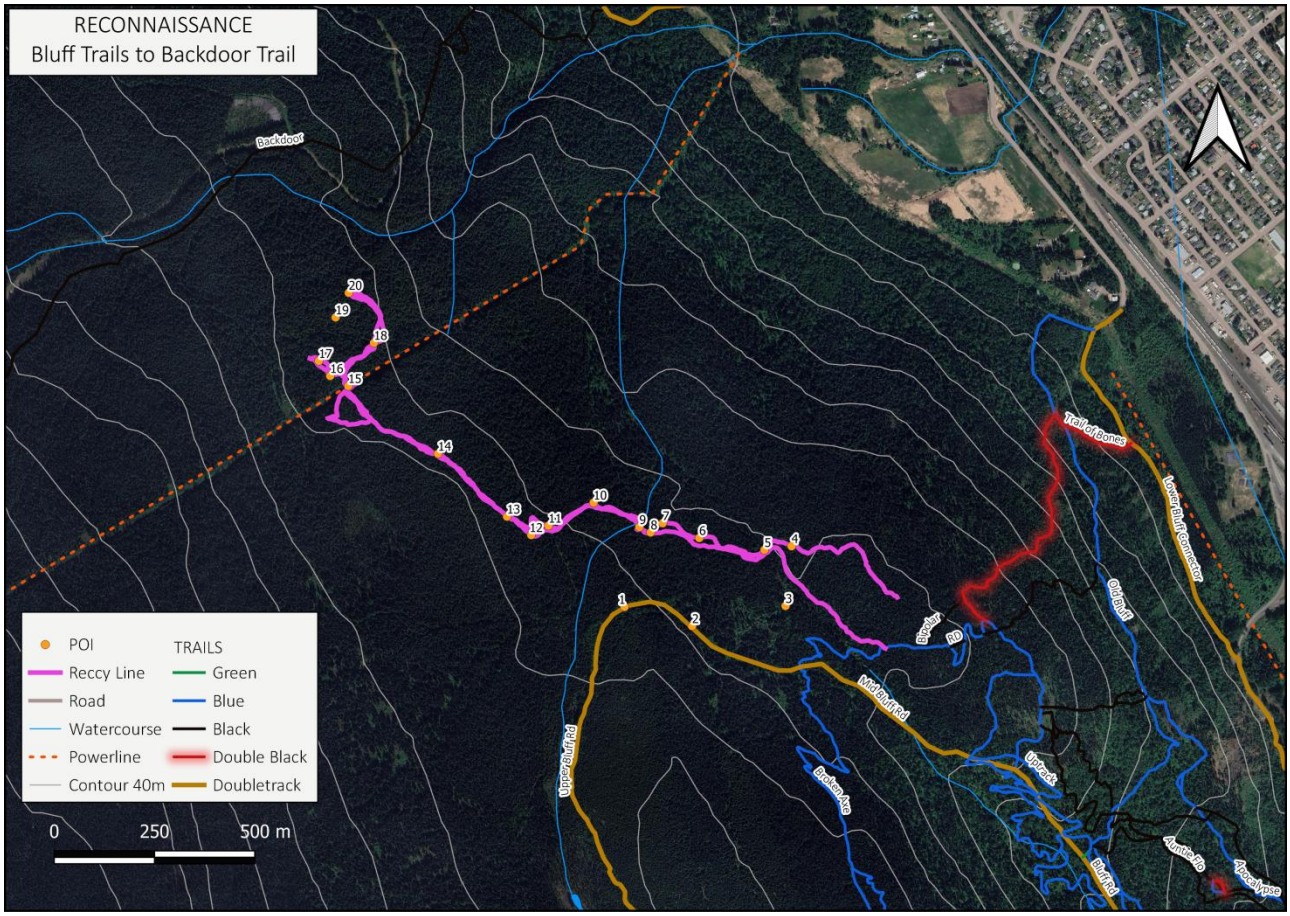
Above the complex terrain observed below 1100m, there is a significant change in vegetation and forest canopy providing well drained soils from 1100m through to Skyline Rd.

3.3 BLUFF TRAIL NETWORK TO BACK DOOR TRAIL

SMBA expressed the desire to construct a trail that connects the Bluff Trail Network to the Back Door trail.
The area north of the Bluff Trail Network contains a combination of terrain ranging from flat to moderate grade slopes. Saturated areas dominate the landscape, particularly nearer the Upper Bluff Road and areas to the NW of the Bluff Trail Network. Although a feasible route could be determined as far as the powerlines (POI 15), the terrain becomes complex thereafter where a large, flat plateau of saturated soils and multiple jackpots of windthrow were encountered. Explorations below this plateau encountered steep slopes (>70%) culminating in a series of steep, rocky drainages divided by successive flutes of land. Exploration seeking well drained slopes above the large saturated plateau was unsuccessful and travel through this area is challenging considering the amount of windthrow, dense vegetation and saturation. Given the terrain constraints discovered on this reconnaissance, it was determined the pursuit of this project is not feasible, particularly when the option to develop a climbing route from Deep Bluff to Skyline Road was ground-truthed with confidence and, in essence, serves a similar purpose being to connect the Bluff Trail Network to Back Door trail albeit via Skyline Road.

Trail development in this area is not recommended.

Complex areas were encountered as the route neared Back Door trail including steep flutes of land separated by aggressive drainages and a large saturated plateau with stacked windthrow jackpots.



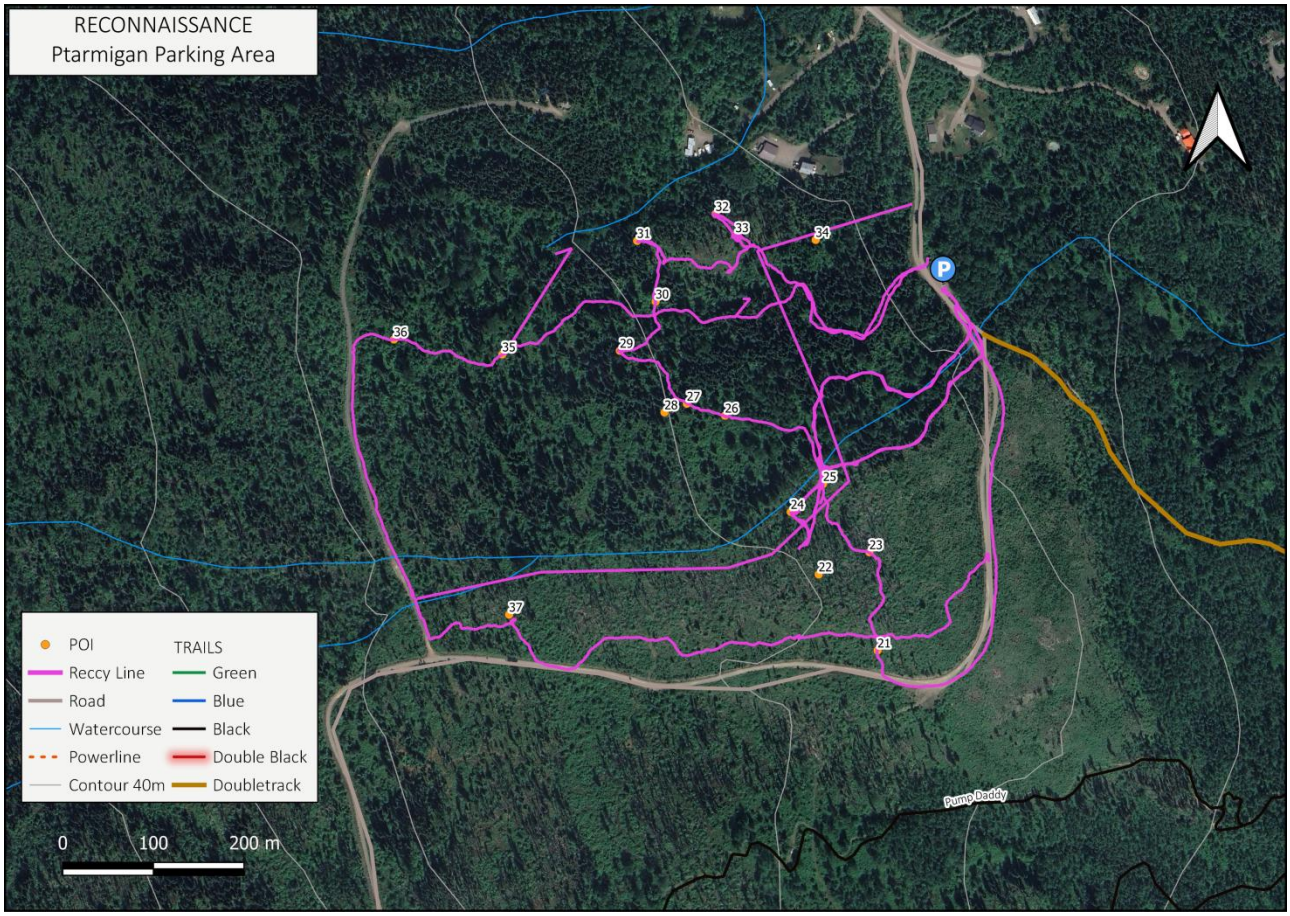
POI	TYPE	DESCRIPTION
1	saturated	road is muddy, 18% sustained grade, channelled. deep veg on low side indicates saturated soils.
2	saturated	
3	dense	flat and saturated, dense veg
4	slope	flat and duffy 70m
5	boardwalk	20m thru swamp
6	old road	
7	slope	20% slope
8	bridge	4m bridge reqd over ephemeral creek
9	bridge	7m bridge reqd over ephemeral flow
10	road	double track road travels upwards >15%
11	slope	30% mature well spaced second growth trees
12	turns	quality slope 30 - 40% gradient
13	dirt	quality dirt, easily accessible
14	forest	forest changes to dense regen
15	boardwalk	saturated soils under powerlines. >10m boardwalk approximately
16	bridge	bridge reqd - 5m over creek
17	saturated	flat hummocky saturated
18	bridge	10m bridge required, steep 'fluted' terrain. challenging crossing
19	saturated	flat, saturated, dense windthrow
20	windthrow	dense wind throw throughout area

3.4 PTARMIGAN LOOP TRAIL

The area above and to the W of the Ptarmigan Parking area was explored to determine feasibility to construct a beginner/intermediate trail loop. After survey of the area, it was discovered soils to be poorly drained due to a lack of slope gradient resulting in pooling water, large areas of saturated soils, multiple draws and dense vegetation with recurring vegetative indicators of subsurface saturation. Areas adjacent to the road appear to be receptive for trail construction but the area is a very narrow strip of land that parallels the road resulting in limited options to reduce trail gradient and ultimately, what may be considered as an unattractive setting for trail users.

Trail development in this area is not recommended.

The area above and to the west of the lower Ptarmigan parking lot is not suitable for trail development due to saturated soils, flat hummocky terrain and dense vegetation with indicators of sub surface water, particularly in the western extent of the area of interest.



POI	TYPE	DESCRIPTION
21	potential	dry ground, low grade slope +/- 15%
22	flat	flat and log filled
23	low lying	natural bowl
24	draw	dense veg
25	flat	flat, low lying, dense veg
26	slope	low grade, dense veg, 5%
27	slope	low grade 5%
28	slope	slight slope <5%
29	flat	devils club, flat, poorly drained
30	flat	poor drainage
31	cliff	15m edge falls into drainage basin
32	steep	bluff edge falls away NE
33	open	open forest
34	low spot	poor drainage
35	dense	flat, dense veg, poor drainage
36	veg	devils club, dense veg
37	slope	low grade, well drained 10%

APPENDIX

4.0 POI

This section provides overview maps with all POI as categorized. Following each map are tables for all POI that include observations and prescriptions with corresponding identifiers. Detailed maps are provided for each trail area under separate cover as an additional reference.

A total of 202 Points of Interest (POI) are provided, spanning all trail areas, as categorized using the following:

GENERAL - areas of interest including parking, lookout points and tread gradient readings.
HAZARD - where there is an unreasonable risk posed to the trail user due to observed site conditions.
REPAIR - site prescriptions provided to address specific condition of trail, infrastructure or identified impacts.
REROUTE - where alternate routing is recommended to improve sustainability and/or user experience.
SIGNAGE - signage requirements and recommendations.

The following are the total number of POI observed, as categorized:

POI	TOTAL POI
GENERAL	53
HAZARD	13
REPAIR	41
REROUTE	9
SIGNAGE	86
TOTAL	202

WOOD STRUCTURE POI

A total of 70 utilitarian wood structures (boardwalks/bridges) were assessed cumulatively in all trail areas. A GIS file (SMITHERS WOOD.kmz) and corresponding excel document (SMITHERS WOOD. xlsx) have been provided with each WOOD STRUCTURE POI being given a unique identifier. Data for each WOOD STRUCTURE POI, including measurements and improvement prescriptions as required, is provided and tabulated by each trail/trail area in the excel document along with cost estimates to implement improvements, repairs or rebuilds.

The following are the total number of WOOD STRUCTURE POI assessed, as categorized:

WOOD STATUS	CAT.	TOTAL	PIPER	BACKDOOR	PTARMIGAN	BLUFF
MONITOR/MAINTAIN	M	24	0	4	0	20
ENHANCE	E	24	0	6	6	12
REPLACE/ REMOVE	R	22	6	7	2	7
TOTAL		70	6	17	8	39

M - Monitor/Maintain E - Enhance - repairs/improvement required R - Remove or replace

TTF POI

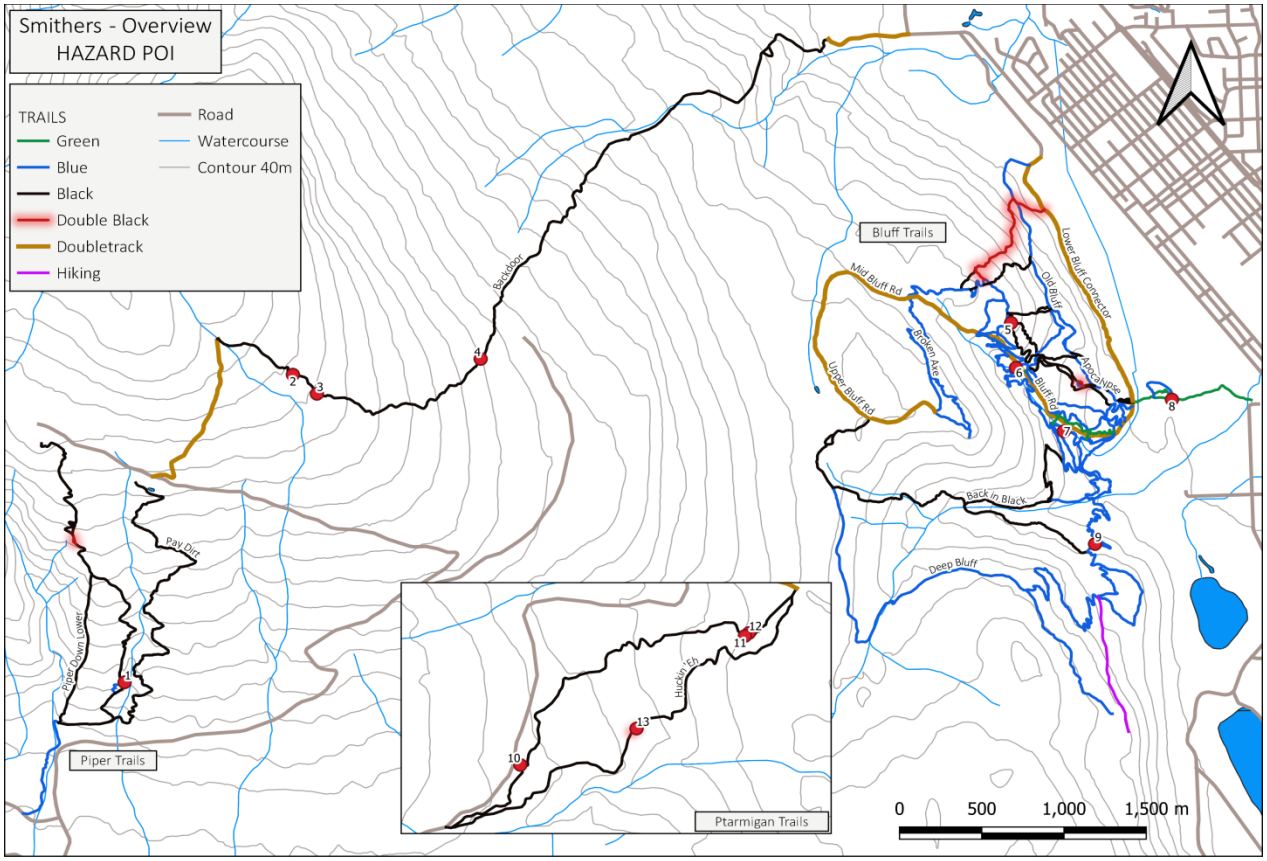
A total of 251 TTFs were assessed cumulatively in all trail areas. A GIS file (SMITHERS TTF.kmz), along with detailed maps of each riding area and an excel document (SMITHERS TTF. xlsx) have been provided with each TTF being given a unique corresponding identifier. Data for each TTF POI, including measurements, classification, observations and improvement prescriptions as required, is provided and tabulated by each trail/trail area in the excel document along with cost estimates to implement improvements, repairs or rebuilds.

TTF STATUS	CAT.	TOTAL	PIPER	BACKDOOR	PTARMIGAN	BLUFF
MONITOR/MAINTAIN	M	156	62	2	39	53
ENHANCE	E	69	15	11	14	29
REPLACE/ REMOVE	R	26	4	10	0	12
TOTAL		251	81	23	53	94

M - Monitor/Maintain E - Enhance - repairs/improvement and/or signage required R - Remove or replace

4.1 HAZARD POI

Hazard POI identify areas where excessive or unreasonable risk exposure exists to the trail user. These areas require immediate attention due to the heightened risk(s) identified at the site location.
NOTE: For TTF and WOOD STRUCTURE removal or replacement please refer to TTF POI & WOOD STRUCTURE POI.

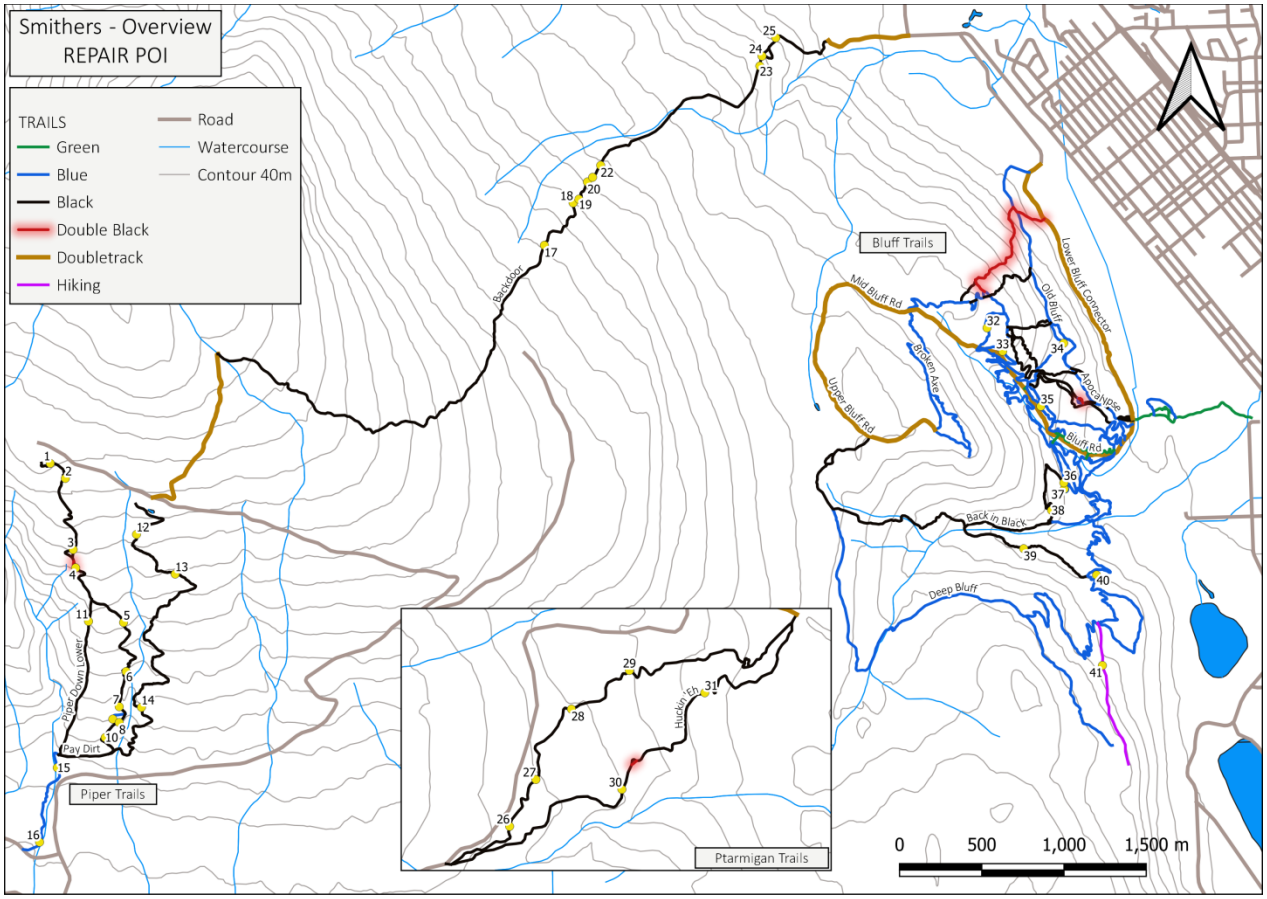


HAZARD POI

POI	DESCRIPTION
1	fall hazard beside Heckle Rock slab. critical fall potential. requires load bearing testing for entire length of fence and expansion at run out where critical fall exposure exists.
2	broken decking in boardwalk. See WOOD STRUCTURE POI 10
3	broken decking in boardwalk. See WOOD STRUCTURE POI 11
4	broken skinny downramp on mainline, only option. See TTF POI 86
5	large TTF at entry of Shining - aged, decrepit, supports missing. See TTF POI 201
6	critical load bearing posts rotted, off camber decking. bridge should be closed and rebuilt. See WOOD STRUCTURE POI 55
7	tree hanging over trail. trail requires 2.4m high clearance as per WTS - remove.
8	fast high speed section DH into blind junction. High traffic entry area/multiple trail convergence. deactivate with logs and/or fencing with signage if required.
9	short cut trail bissects MS at multiple points resulting in blind exits at speed. At this point it exits at high speed onto MS, at jump entrance. deactivate trail/close to DH bike traffic
10	high speed corner coming out of large table top. clear fall zone outside turn to 1.5m.
11	wood ramp bolted into rock face requires upgrades to structure and fencing due to age, condition and critical fall exposure. See TTF POI 153
12	fall protection fence aged and unstable. replace. fall hazard >6m h. cribbing in trail is rotten, replace.
13	merge from easy bypass into drop run out - high risk of collision, choke off upper merge point from easy bypass

4.2 REPAIR POI

Repair POI identifies trail deficiencies and provides site prescriptions for improvements.
NOTE: For TTF and WOOD STRUCTURE repairs and improvements please refer to TTF POI & WOOD STRUCTURE POI.



REPAIR POI

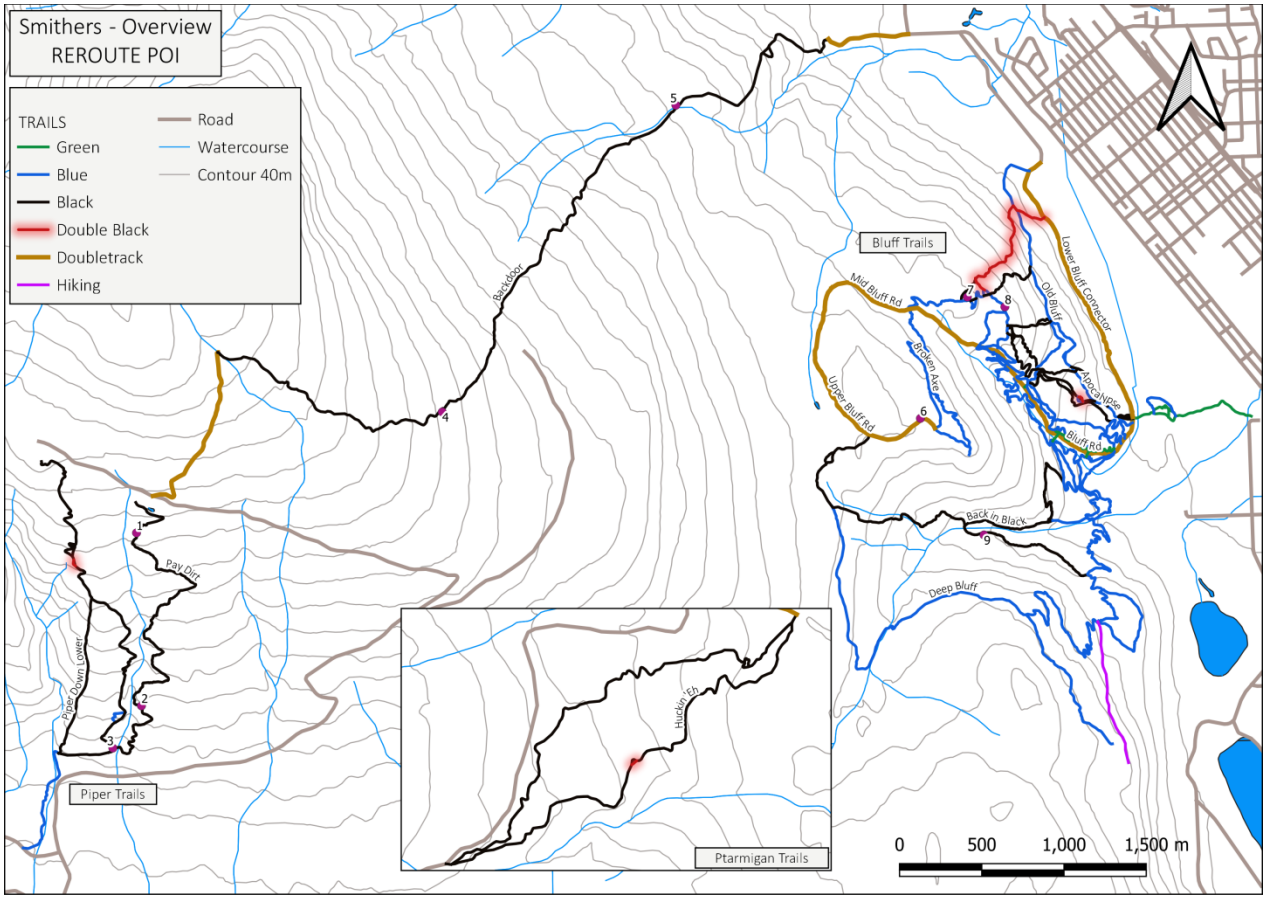
POI	DESCRIPTION
1	30% for 40 m. minor scouring of tread from coursing water. implement drainage/grade reversals as required. monitor
2	catch berm. requires fill. monitor wood backing, remove as determined and backfill with rock/dirt.
3	erosion/trenching/rotten wood. catch berm requires rebuild and backfill. cribbing before catch berm requires replacement and backfill. water dispersion required on bypass.
4	rotten crib log at merge point. replace.
5	add waterbars/swales/drainage where possible through sustained 15 % sustained descent +/- 50m.
6	berm. Punky log, replace or rebuild with rock & backfill with dirt.
7	30% section of trail for 40 m = fall line. moderate erosion, monitor and consider realignment if impact becomes egregious. difficult to install drainage due to sustained grade, could install jump or TTF. significant alluvial deposition observed. monitor
8	water run off from rock slab causing erosion and trenching at Heckle rock run out, 40% grade. consider realignment to create drainage using rolling contour/cascading DH design. RR flagged.
9	add water bars or swales through bypass route to divert water flow on sustained fall line grade or consider minor realignment(s) to implement rolling contour.
10	30% grade over 100 m. add grade reversals/swales and/or bike friendly water bars.

REPAIR POI, con't

POI	DESCRIPTION
11	log across trail at high speed section. remove. tight trees, consider minor glading.
12	berms eroding, drainages failing, very poor condition. high amount of aggregate in soil. drainages need cleaned, area needs a capital makeover approx 80m but will be a constant maintenance issue. Option to realign into forest +/- 200m (see REROUTE POI 1). Cost based on machine work for capital 'makeover'.
13	trail surface uneven left from machine work. hand work to improve trail surface for 30m.
14	tight berm sequence. berms eroding, drainages failing, very poor condition. requires redesign or capital makeover with imported dirt (predominatly aggregate in area). consider realignment into forest as alternative solution >80m section. Option to realign into forest +/- 200m (see REROUTE POI 2). Cost based on machine work for capital 'makeover'.
15	significant water coursing freely down trail after wall ride. install grade reversals, swales, waterbars or reroute, or a combination of all.
16	drainages are clogged. excavate and enhance drainages.
17	25% grade descent for 40m. minor erosion, monitor impact. implement water management above and below section with grade reversals and/or swales as required.
18	30% grade for 50 m. implement water management with swales/grade reversals where possible and as required.
19	Race line starts above tight switchbacks for 100m plus at 45 to 55%, straightlines tight switchbacks. limited erosion currently, may prove to be unsustainable for the long term. option to close, open for races only? monitor
20	Off camber tech root section 45% grade. moderate erodion, trenching occurring with expectation to increase. monitor, consider reroute in future.
21	low lying wet section. backfill holes with rock, cap with dirt.
22	25 to 35% descent for 50 m. monitor for further erosion, implement water management where possible as required.
23	25 to 35% descent over 50 m. tread in good condition. monitor, implement water management where possible, as required.
24	steep chunky section of 50%+ with tight catch berm, critical approach to steep 'inside line' to small drop. repair/rebuild aging catch berm. rake big chunks of scree off trail as part of regular maintenance schedule.
25	steep descent over roots 45 to 65%, wide with multiple options. trail bed in decent condition, braiding/moderate erosion occurring. catch berm at bottom in good shape. monitor and regular maintainenance as required.
26	exposed geotech mat in berm. remove logs and geotech, rebuild berm, backfill with dirt.
27	exposed culvert. cap with dirt or reinstall at improved depth.
28	10m section in seasonally wet area. cap trail surface with additional dirt, monitor in freshet to determine additional drainage as required.
29	exposed wood in berm. remove wood, rebuild berm, backfill with dirt.
30	berm. remove rotten wood retainer, rebuild berm, remove stump on inside.
31	wood backing in berm decrepit, remove and rebuild berm.
32	sustained grade. install bike friendly waterbars or swales at key points to divert water.
33	sustained grade. install bike friendly waterbars or swales at key points to divert water.
34	bear digging for snacks in switchback, large hole requires backfill.
35	sustained grade, install waterbars or swales at strategic locations to divert water and prevent erosion.
36	chunky off camber route section as intersection with Back In Black. soil has sluffed away from roots leaving little rideable trail tread. consider retaining wall/cribbing and backfill. monitor and action as required.
37	off camber root section. easily rideable without large obstacles. monitor for further erosion, repair/maintain as required, install retainer and backfill if impacts become egregious.
38	clean up sloughing on bench cut section where required.
39	saturated soils install boardwalk approx 5m.
40	hiking trail bissects MS. obstruct entry points to discourage DH biking.
41	hiking trail from picnic table. with brushing and minor tread improvements could be used by MTB.

4.3 REROUTE POI

Reroute POI identifies sections of trail where realignment or bypass is recommended.



REROUTE POI

POI	DESCRIPTION
1	reroute of eroded trail section should be considered to improve long term sustainability. Approx 200m.
2	reroute of eroded trail section should be considered to improve long term sustainability. Approx 200m.
3	blue ride around for final wood feature recommended. approx 50-75m of trail could be constructed by hand to create an easy bypass. may require wood feature to descend road cut and ditch.
4	seepage and water coursing down trail 25m. realign approx 45m. requires 15m boardwalk to span ski run/saturated soils after reroute. divert water from seep off trail above where rr rejoins existing trail.
5	option to realign trail to cross creek on FSR vs rebuild large bridge. 5m low bridge required or simply ride through cobble creek bed on FSR. reroute 60m section thru forest following pink flagging uphill after crossing.
6	potential to reroute rd section to Deep Bluff, but doubtful it would be used as Upper Bluff road would be more efficient.
7	30% x 5m = black climbing. blue bypass flagged, approx 40m. connects into Bipolar.
8	40% x 4m technical climb on return. bypass flagged to lessen gradient and serve as a reasonable blue climbing bypass.
9	mainline is 40% x 10m. climber's bypass flagged to climbers left if travelling west. approx 40m.

NOTE: POI 1, 2 - SMBA to determine rebuild of section or realignment. See section 1.52 Pay Dirt.

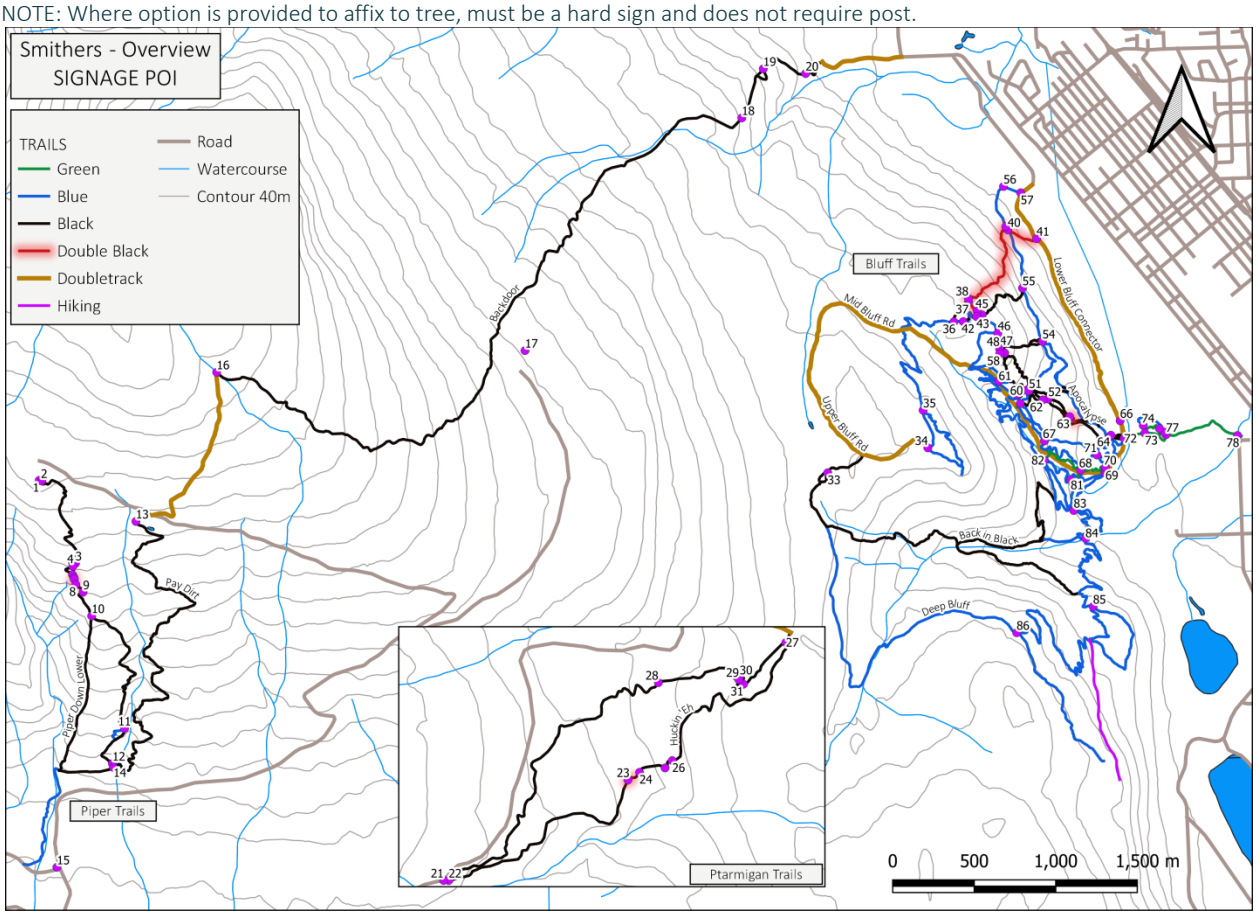
4.4 SIGNAGE POI

A total of 150 new signs & 8 kiosk maps are prescribed. See SMITHERS POI.xlsx for further detail.

TYPE	TOTAL	DETAIL
KIOSK MAPS	8	Large scale map of riding area affixed to existing kiosk.
STICKER SIGNS	115	Sticker to affix on carsonite post.
HARD SIGNS	35	To affix to tree at site for optimum visibility.
SIGN POSTS	67	Carsonite post (or other) required at site.

NOTE: Above totals includes all TTF signage as prescribed (see TTF POI.xlsx).

NOTE: Where option is provided to affix to tree, must be a hard sign and does not require post.



NOTE: SIGNAGE POI 32 is not shown on Ptarmigan inset map and is located at Ptarmigan lower parking lot.

NO. - # of signs required POST - # of posts required TREE - # of hard signs to affix to tree (sticker req'd if not posted on tree)

POI	SIGN TYPE	NO.	POST	TREE	DESCRIPTION
1	MAP				kiosk. blank - requires mapping. New
2	TH	1	1		trailhead sign needed. ensure correct classification - Piper Cross: black. New
3	WF	1	1		junction. alternate route wayfinding. alt route R arrow. sign and sign post reqd. New
4	MERGE	1		1	Trail Merge! sign reqd on bypass. Affix to tree. New
5	MERGE	2		2	trail merges with straightaway outrun. Trail Merge! sign for both trails (x 2). Post on trees. New
6	WF	1			dbl blk TTF ahead existing sign & signpost. add alternate route L arrow. 1 sign, add to existing signpost. New
7	WF	1		1	alt route sign required: Alt Route or Easy Way L arrow. sign with post or affix to tree at junction. New
8	MERGE	2		2	Trail Merge! x 2 . 2 Signs with 2 posts or affix to trees. (replace existing sign on drop run out line as it's too small). New

WF - WAYFINDING (Navigation) TH - TRAILHEAD R - Right L – Left

NOTE: Where option is provided to affix to tree, must be a hard sign and does not require post.

POI	SIGN TYPE	NO.	POST	TREE	DESCRIPTION
9	MERGE	2		2	alt black section with blue ride-around. black = 65% for 20 m. Trail Merge! sign for both trails prior to re merge. 2 signs, 2 posts or affix to trees. New
10	TH & WF	2	1		junction. add TH signage for Piper Down black. wayfinding: Piper Cross R arrow. signs and post, need to install on rock slab. New
11	TTF & WF	2	1		WARNING! black TTF. Alternate Route R arrow. position above entrance to Heckle Rock. sign and sign post reqd. New
12	TTF & WF	2	1		black TTF sign required . Alt route R arrow if easy bypass is created. Sign(s) and signpost(s) required. New
13	MAP & TH	1	1		kiosk. requires brushing, consider installing map of Piper area. TH sign reqd for Pay Dirt. Sign and signpost reqd. New
14	MERGE	1	1		Trail Merge! sign and signpost reqd for Pay Dirt traffic
15	IMPROVE				existing Rec Site sign requires brushing and new paint to improve visibility.
16	TH	1	1		Backdoor TH signage reqd - Black. Sign and signpost reqd. New
17	WF	1	1		map at Ski Hill area could use a refresh. Wayfinding to direct riders to gap jump entry will ensure they avoid saturated FSR. Backdoor L arrow. New
18	CAUTION	1		1	45% descent down to road grade for 8 m. trail crosses road. brush area to improve sightlines, consider CAUTION! Road Crossing Ahead signage prior to road. post on tree. New
19	MERGE	2		2	Trail Merge! steeper inside line joins trail. sign for riders on both trails. 2 signs, 2 sign posts or affix to trees. New
20	WF	1	1		trail junction. install wayfinding signage: 'To Town' up arrow or other. Sign and signpost reqd. New
21	MAP				kiosk. needs a refresh, new paint and map. veering on sign pollution at entry, remove superfluous signs or unify messaging on kiosk. New
22	TH	2	2		TH sign reqd for both trails: Pump Daddy Black, Huckin 'Eh Black. 2 signs, 2 posts. install at Y in trail. New
23	WF	1		1	blue bypass sign - remove and replace with 'Alternate Route' or 'Bypass'. black rock roll on bypass inside line makes bypass black. 1 sign, 1 signpost or hang on tree. New
24	IMPROVE				easy bypass merges with drop run out. improve visibility of merge sign.
25	TTF	1			warning reqd, black TTF L arrow. 1 sign, signpost exists. New
26	TTF & WF	2	1		(1) add Alt Route sign L arrow. (2) add double black warning sign. 2 signs, 1 signpost. New
27	MERGE	1		1	caution trail merge. sign and signpost or post on tree. New
28	TTF & WF	2	1		warning sign reqd, double black feature, Alt Route L arrow. 2 signs, 1 signpost. New
29	TTF & WF	2	1		alternate route sign on signpost tied to tree. dbl blk TTF warning sign on tree. recommend updating on signpost and placing at T junction: TTF R arrow, Alt Route L arrow. 2 signs, 1 signpost (install on rock slab). New
30	WF	1			blue square on alt route is actually black route due to gradient. remove sign, replace with Alt Route L arrow, affix to tree.
31	MERGE	1		1	Trail Merge! need additional merge sign for ttf traffic. brush to improve sightlines. 1 sign, 1 signpost or affix to tree. New
32	MAP				kiosk - install updated map. requires a refresh of paint.
33	WF	2	1		Log Skinny L arrow, Bypass R arrow. 2 signs, 1 post. New
34	IMPROVE				post loose in ground - stabilize

WF - WAYFINDING (Navigation) TH - TRAILHEAD R - Right L - Left

POI	SIGN TYPE	NO.	POST	TREE	DESCRIPTION
35	WF	1	1		wayfinding recommended: To Viewpoint L arrow. sign and signpost. New
36	WF	4			needs repositioned. add Broken Axe Up arrow x 2 for both directions of travel. Currently 'Skitzo', replace with 'Trail of Bones' x 2. 2 signs + 2 signs on existing post. New
37	WF	1	1		wayfinding Trail of Bones Up arrow at T junction. 1 sign, 1 signpost. New
38	TH	1	1		start of Trail of Bones descent. need TH sign to indicate double black trail or features. New
39	WF	1	1		exit of Trail of Bones requires wayfinding sign. R arrow to Lower Bluff Connector. sign and signpost. New
40	WF	1	1		additional wayfinding needed for riders on OB and Trail of Bones. To Lower Bluff trail. sign and signpost. New
41	WF	2			wayfinding needed. Lower Bluff dbl arrow. R arrow to Bluff Trails and Parking. Remove Alternate Route sign. 2 signs, signpost in place. New
42	CAUTION	1	1		recommend: CAUTION! Trail bissects climbing route, watch for riders. 1 sign, 1 signpost.
43	TH & WF & CAUTION	4	2		upper entry to RD needs wf/TH sign. Remebrance Day L arrow, Broken Axe R arrow. Recommend independent sign at start of RD descent: CAUTION! Trail bissects climbing route, watch for riders. 4 signs, 2 signposts. New
44	WF	1			change Skitzo to Trail of Bones. 1 sign. New
45	WF	1			add Broken Axe L arrow. 1 sign. New
46	WF	2			Auntie Flo - change to black. change Skitzo to Trail of Bones. 2 signs, signpost in place. New
47	TH & WF	2	1		junction. TH required for Four Horsemen. Up arrow needed to direct riders to Auntie Flo, change AF to black. 2 signs, 1 signpost for FH TH sign. New
48	TH	1	1		TH sign reqd Auntie Flo trailhead, black. 1 sign, 1 signpost. New
49	CAUTION & WF & MERGE	4	1	2	optional 55% decent for 25m. 1) add black signage and alternate route R arrow. 2) requires Trail Merge sign at bottom for both directions. 1) 2 signs, 1 signpost. 2) 2 signs, 2 signposts or affix to trees.
50	WF & MERGE	2		1	junction. add 'Trail Merge' on auntie flo. change AF sign on signpost to black. 2 signs, 1 signpost or affix merge sign on tree. New
51	WF & MERGE	2		1	Auntie Flo, R arrow black (missing on signpost). requires Trails Merge sign. 2 signs, 1 signpost or affix Merge sign on tree. New
52	WF	1			junction. requires updated AF sign to black. 1 sign, affix to existing post. New
53	MAP & TH	2	2		kiosk will require updated map. TH sign reqd for 1) Old Bluff black 2) Smoothy, black. 2 signs, 2 signposts
54	WF	1		1	wayfinding needed at end of Four Horseman: Apocalypse R arrow. 1 sign, 1 signpost or affix to tree. New
55	WF	1		1	wayfinding reqd to direct riders exitting from RD. Lower Bluff L arrow.1 sign and 1 signpost or affix to tree. New
56	WF	1	1		wayfinding required at road junction: To Bluff Trails R arrow. 1 sign, 1 signpost. New
57	MAP & WF	1	1		kiosk - requires updated map. wayfinding required: To Bluff Trails on signpost. 1 sign, 1 signpost. New
58	TH	1	1		Shining requires TH sign and post. 1 sign, 1 signpost. New

WF - WAYFINDING (Navigation) TH – TRAILHEAD R - Right L - Left

POI	SIGN TYPE	NO.	POST	TREE	DESCRIPTION
59	WF	1			change uptrack sign to blue. 1 sign, existing post. New
60	MERGE	1		1	recommend a more prominent merge sign and location due to entry point at high speed section at entry point to TTF on AF. 1 sign and signpost or affix to tree. New
61	WF	2	2		junction. clarify signage to better direct riders. consider a wayfinding sign and post each for: 1) uptrack 2) longway. 2 signs, 2 signposts. New
62	MERGE	1		1	Trails Merge sign on Smoothy should be more prominent. 1 sign, 1 signpost or affix to tree. New
63	WF	1	1		sign Alt route prior to drops: Easy Bypass R arrow. 1 sign, 1 signpost. New
64	TTF & WF	2	1		Bypass R arrow, Black TTF warning sign. 2 signs, 1 signpost.
65	TTF	1	1		Install Double Black TTF sign to indicate the two upcoming 'Pro' lines, before they 'Y'. 1 sign, 1 post or affix to tree
66	WF	1	1		wayfinding needed at T junction to direct traffic from Lower Bluff: To Bluff trails/Parking R arrow. 1 sign, 1 signpost. New
67	WF	1			junction. change uptrack sign to blue (presently green on signpost). 1 sign, replace existing sign on existing signpost. New
68	CAUTION	1	1		alt entry point to Riff Raff requires signage: STOP! You are entering a high speed jump trail - Downhill rider has right of way. Only enter when clear. Universal CAUTION symbol required. 1 sign, 1 signpost or affix to tree. New
69	TH	1	1		requires TH signage. Uptrack green. 1 sign, 1 signpost. New
70	CAUTION	1			for traffic exiting from Riff Raff: CAUTION! 2 way traffic. Yield to others. 1 sign, 1 signpost or affix to tree. New
71	CAUTION	1			install warning sign for traffic travelling to Lower Auntie Flo: CAUTION! High Speed trail crossing, only cross when clear. 1 sign, 1 signpost or affix to tree. New
72	TH	1	1		TH reqd for Boardwalk blue, 1 sign and 1 signpost. New
73	TH	1	1		junction. TH sign and signpost reqd for Childs Play blue and/or Skills Area. 1 sign, 1 post. New
74	TH	1	1		TH sign for Childs Play blue if not installed at POI 73. 1 sign and 1 sign post. New
75	CAUTION & WF	2	1	1	junction. 1) No Uphill Traffic sign recommended on Childs Play berm line. 2) wayfinding: to Up Track L arrow. 2 signs, 2 signposts or affix 1) to tree. New
76	CAUTION & WF	2	1	1	junction. wood sign child's play climber. 1) wf To Bluff Trails L arrow. 2) No Uphill Traffic on CP exit. 2 signs, 2 signposts or affix 2) to tree. New
77	CAUTION	1		1	recommend: CAUTION! 2 Way Traffic for climbing riders. 1 sign and 1 signpost or affix to tree. New
78	MAP & TH	1	1		kiosk - add map, recommended routes for different skill levels, safety messaging, etiquette, etc. TH sign needed for Boardwalk, green. 1 sign, 1 signpost. New
79	MAP				kiosk. will require updated map, include consistent messaging from parking lot kiosk.
80	TH & CAUTION	4	2	2	2 trailhead signs for 1) Longway, blue and 2) All Screwed Up, blue. each requires trailhead signage. CAUTION! 2 way traffic reqd on both trails. 4 signs, 4 signposts or affix 2 way traffic on trees. New

WF - WAYFINDING (Navigation) TH – TRAILHEAD R - Right L - Left

POI	SIGN TYPE	NO.	POST	TREE	DESCRIPTION
81	TH	1	1		TH for ASU blue. 1 sign, 1 signpost. New
82	IMPROVE				junction. uptrack shown as Q1 connector on Trailforks, need to update Trailforks. reposition 2-way traffic sign to improved visibility location on Longway.
83	WF	1			junction. consider adding: Back in Black L arrow. 1 sign affix to existing signpost. New
84	WF	4	1		recommend post and sign both sides: 1) ASU horizontal dbl arrow, MS up arrow 2) ASU horizontal dbl arrow, Parking R arrow. 4 signs, 1 post. New
85	WF	2	1		position of wooden sign may confuse users. install wayfinding signage to indicate MS Lollipop L arrow, MS climb R arrow. 2 signs, 1 signpost. New
86	WF	1			reposition 2 way traffic notice to more visible point. add sign to existing signpost: Lookout 1km R arrow. New

ASU – All Screwed Up
MS – Meanstreak

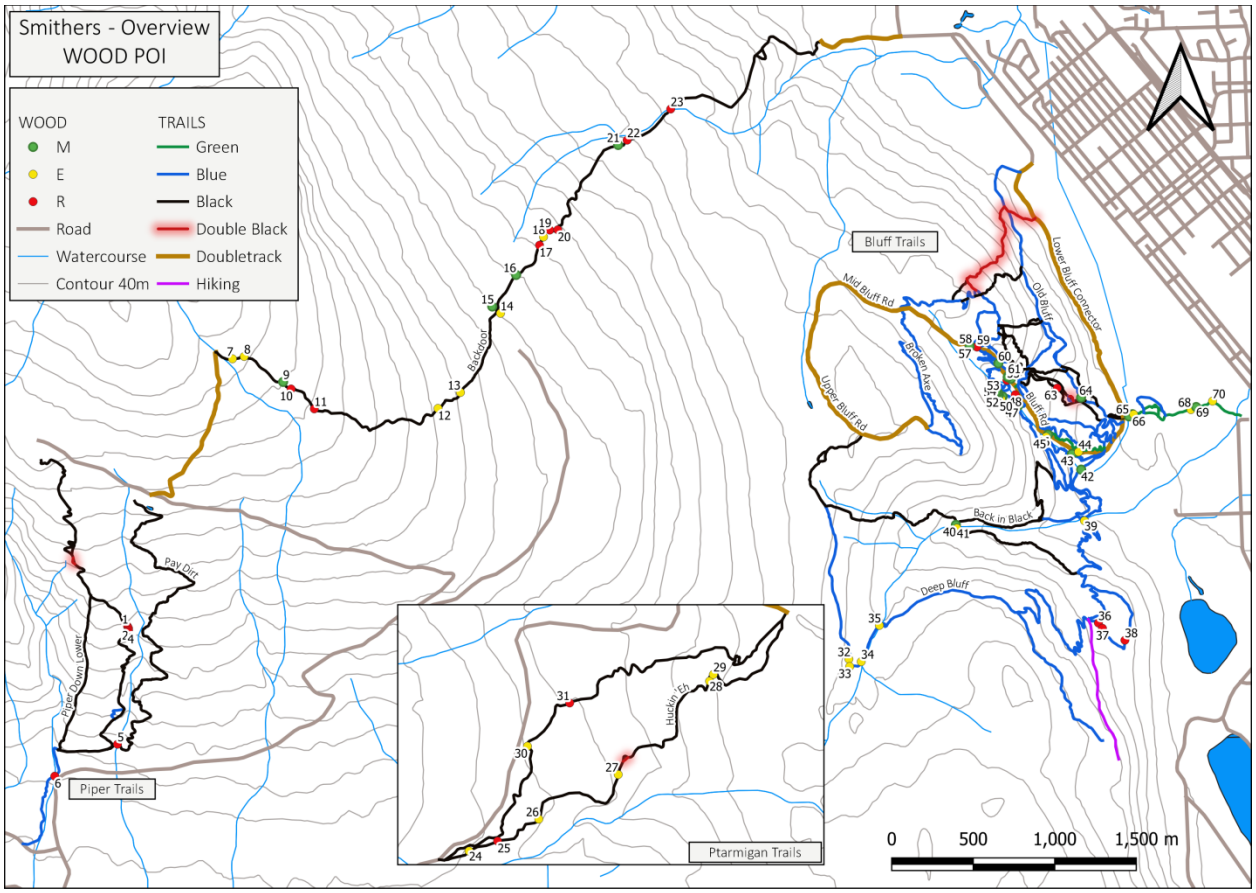
4.5 WOOD STRUCTURE POI

A total of 70 utilitarian wood structures (boardwalks/bridges) were assessed cumulatively in all trail areas. A GIS file (SMITHERS WOOD.kmz) and corresponding excel document (SMITHERS WOOD. xlsx) have been provided with each WOOD STRUCTURE POI being given a unique identifier. Data for each WOOD STRUCTURE POI, including measurements and improvement prescriptions as required, is provided and tabulated by each trail/trail area in SMITHERS WOOD.xlsx. Additionally, a close up map of each trail area containing all WOOD STRUCTURE POI is provided to augment this report.

The following are the total number of WOOD STRUCTURE POI assessed, as categorized:

WOOD STATUS	CAT.	TOTAL	PIPER	BACKDOOR	PTARMIGAN	BLUFF
MONITOR/MAINTAIN	M	24	0	4	0	20
ENHANCE	E	24	0	6	6	12
REPLACE/ REMOVE	R	22	6	7	2	7
TOTAL		70	6	17	8	39

M - Monitor/Maintain E - Enhance - repairs/improvement required R - Remove or replace



WOOD STRUCTURE POI

POI	MER	DESCRIPTION
1	R	boardwalk. 3.3m L x 0.8m W. rotten decking/stringers. could be replaced with culvert R
2	R	boardwalk. 1.3 m L x 0.8m W. rot in decking. could be replaced with culvert. R
3	R	boardwalk. 1.6m L x 1.0m W. rotten. could be replaced with culvert. R
4	R	boardwalk. 1.6m L x 1.0m W, rotten. could be replaced with culvert. R
5	R	bridge 5m L x 2.5 m W. decrepit. R
6	R	bridge 21.3m L x 1.1m W x 2.1 H. bark on stringers. rot in bracing and supports. excessive gap in deck. R
7	E	boardwalk 2m L x 75cm W. 11cm overhang 4cm gap. sngl nails. aged decking. trim decking, replace in near future. E
8	E	boardwalk 2m L x 75cm W. 15cm overhang 4cm gap. sngl nails. aged decking. trim decking. replace in near future. E
9	M	boardwalk 1.2m L X 70cm W. 1/3 buried. M
10	R	boardwalk 1.9m L x 67cm W. decrepit. R
11	R	boardwalk 16m L x 60cm W. decrepit. R
12	E	skinny 2.5m L x 25cm W. requires tractioning which has become unaffixed. E
13	E	bridge. 4m L x 90cm W. 4cm gap 6cm overhang. E
14	E	bridge 2.8m L x 1.2m W. gap 6cm overhang 15cm. trim overhang. E
15	M	bridge 4.5m L x 1.2m W. gap 3cm overhang 5 cm. M
16	M	boardwalk 3.5m L x 85cm W. no gap, no overhang. M
17	R	boardwalk. 2.0m L x 0.75m W. rotten stringers and deck. R
18	E	boardwalk. 3.5m L x 0.75m W. cedar. stringers and decking good. consider replacement of decking due to thin planks currently. E
19	R	elevated boardwalk with down ramp. 26m L x 0.75m W x 1.2m H. 45% down ramp. expiring stringers, rotten aged decking/broken boards, rotten supports. R
20	R	boardwalk. 4.1m L x 0.85m W. rotten deck, half log stringers with bark, exposed nails, broken decking. R
21	M	bridge. 4.8m L x 1.2m W x 0.75m H. sound. M
22	R	log bridge. single log 1.2m L x 0.2m W. rotten. consider replacement with boardwalk or culvert - determine during next freshet. R
23	R	bridge. 16m L x 1.5m W x 2.2m H. 45% slope into bridge = high speed. trestles and stringers bark on, rot found in posts & sills. decking exceeds overhang and spacing. requires new decking or added stringers to support overhang. R
24	E	boardwalk 2.4m L x 0.85m W. 20cm deck overhang - trimming would be too narrow, consider rebuild. E
25	R	boardwalk 4.2m L x 1m W. 16cm overhang does not comply. required: trim decking, adjust spacing, dbl nail deck. rotten sills, replace. replace entire structure in future. R
26	E	boardwalk 12m L x 1.1m W. 15cm overhang - trim decking and adjust gaps, dbl nail decking. rot beginning in stringers. replace where rot in decking. replace in future. E
27	E	bridge 14m H x 1.2m W x 2.1m H. sound construction, decking and overhang do not comply. width is appropriate for trail speed and height - add supports for overhang to comply with WTS. requires retainer and backfill at exit due to sloughing. E
28	E	boardwalk 2.45m L x 1.22m W. 16cm overhang does not comply. width reqd because of trail speed. rot in end of stringer. Replace in future. E
29	E	bridge 9.5m L x 1.22m W. overhang exceeds max allowed but is reqd due to rider speed. add stringer to support overhang or widen stance of stringers. E
30	E	boardwalk. 22.5 m L x 1.2m W. spacing and overhang do not comply. crossbracing/post supports reqd to eliminate wobble throughout. rot beginning in stringers/sill interface at bottom end, replace in future. rot in some decking - replace. E

L - length W - width H - height WTS - Whistler Trail Standards

WOOD STRUCTURE POI, con't

POI	MER	DESCRIPTION
31	R	boardwalk x2. rot in stringers, some boards are loose/broken. (1) 2.10m L x 1.3m W between rollers. decking, stringers and overhang don't comply. R. (2) 1.25m L x 1.25m W. decking, stringers and overhang don't comply. R
32	E	boardwalk 19m L x 77cm W. 7cm gap, 8cm overhang. sound. trim decking. E
33	E	boardwalk 21m L x 77cm W. 7cm gap 8 cm overhang. sound. trim decking. E
34	E	boardwalk 25m L x 77cm W. 7cm gap 8cm overhang. replace broken decking board, trim decking. E
35	E	bridge. 5m L x 1.2m W. 7cm gap 7cm overhang. trim decking. E
36	R	plank boardwalk. 4.2m L x 70cm W. rotten. R
37	R	Plank bridge. 7m L x 70cm W. prevalent rot. R
38	R	plank bridge. 2.15m L x 60cm W. aged structure, rot prevalent. R
39	E	1) bridge and 2) boardwalk section. 1) 8m L x 1.2 W. add support posts at creek bank edge to minimize deflection of stringers. E 2) 15m L x 1.3m W. 10cm spacing, 30cm overhang. correct spacing and/or redeck. E
40	M	bridge. 7m L x 88cm W. 5cm gap 5 cm overhang. sound. M
41	E	ramp. 6m L x 95cm W. 15cm overhang 8cm gap. support overhang with additional stringer or trim or redeck to comply where required. E
42	M	boardwalk. 3.2m L x 1.0m W x 0.55m H. sound. M
43	M	bridge. 2.8m L x 1.0m W x 1.0m H. Sound. M
44	E	bridge. 1.85m L x 90 cm W. overhang >10cm. trim overhang. E
45	E	bridge. 5.2m L x 0.9m W x 0.9m H. sound stringers. overhang 10cm, gap 4cm. trim overhang. replace decking where rotted. consider adding dirt to end. E
46	M	boardwalk. 1.85m L x 0.9m W. sound. M
47	M	bridge. 3.16 L x 1m W sound. M
48	R	bridge. 2.0m L x 0.75m W. 8cm overhang. drive in loose nails, trim decking. rot in stringer. R
49	M	bridge. 3.15m L x 1.0m W x 0.65m H. sound. M
50	E	boardwalk. 25m L x 0.75m W. stringers sound except entry. replace aged decking/entry stringers; rebuild 5m entry - rot in stringers. add supports to remove deflection where required. E
51	M	new boardwalk. 3.7.m L x 1m W. high quality build. M
52	M	new bridge. high quality build. 3.63m L x 1m W. M
53	M	new bridge. high quality build. 3.7m L x 1m W x 0.7m H. M
54	M	new bridge. 3.7 m L x 1m W. M
55	R	bridge 14m L x 1.2m W. x 2 m H. rot in entry stringer. tilted decking, gaps 5cm, overhang 17cm. rot in support posts, bark on. hazard in wet. R
56	M	bridge. 1.57m L x 1 m W. M
57	M	bridge. 1.75m L x 1.0m W x 0.4m H. sound. M
58	M	boardwalk. 1.7 L x 1m H. M
59	R	bridge. 1.4m L x 0.9 W x 0.25m H. aged, rot in decking. R
60	M	bridge. 1.7m L x 1.0m W x 0.5m H. sound. M

L - length W - width H - height

WOOD STRUCTURE POI, con't

POI	MER	DESCRIPTION
61	M	bridge. 1.5m L x 1.0m W x 0.5m H. sound. M
62	M	bridge 3.1 m L x 1m W. M
63	R	boardwalk. 2.4m L x 1.2m W. decking and overhang does not comply. covered in tractioning. aged, significant deflection/not anchored. remove and fill with dirt and rock or rebuild. R
64	M	boardwalk 2.5m L x 65cm W. gap 5cm. M
65	M	bridge. 3.55m L x 1.0m W x 0.4m H. sound. M
66	M	bridge 2.95m L x 1.0m W x 0.6m H. sound. M
67	E	boardwalk. 5.6m L x 0.78m W x 0.25m H. 15cm overhang x 7cm spacing. decking needs 2 nails per side and some pieces are not secure. recommend adjust spacing and decking to meet standard or redeck or rebuild. E
68	E	bridge. 4.1 m L x 1.47m W x 0.9m H. requires 2 nails per side. E
69	M	bridge. 3.75 m L x 1.5 m W x 0.8m H. M
70	E	bridge. 7.5m L x 1.5m W x 1.2m H. overhang >15cm gap 5cm. trim decking. middle supports not effective but no deflection on high quality stringers. single nails, requires two per side. E

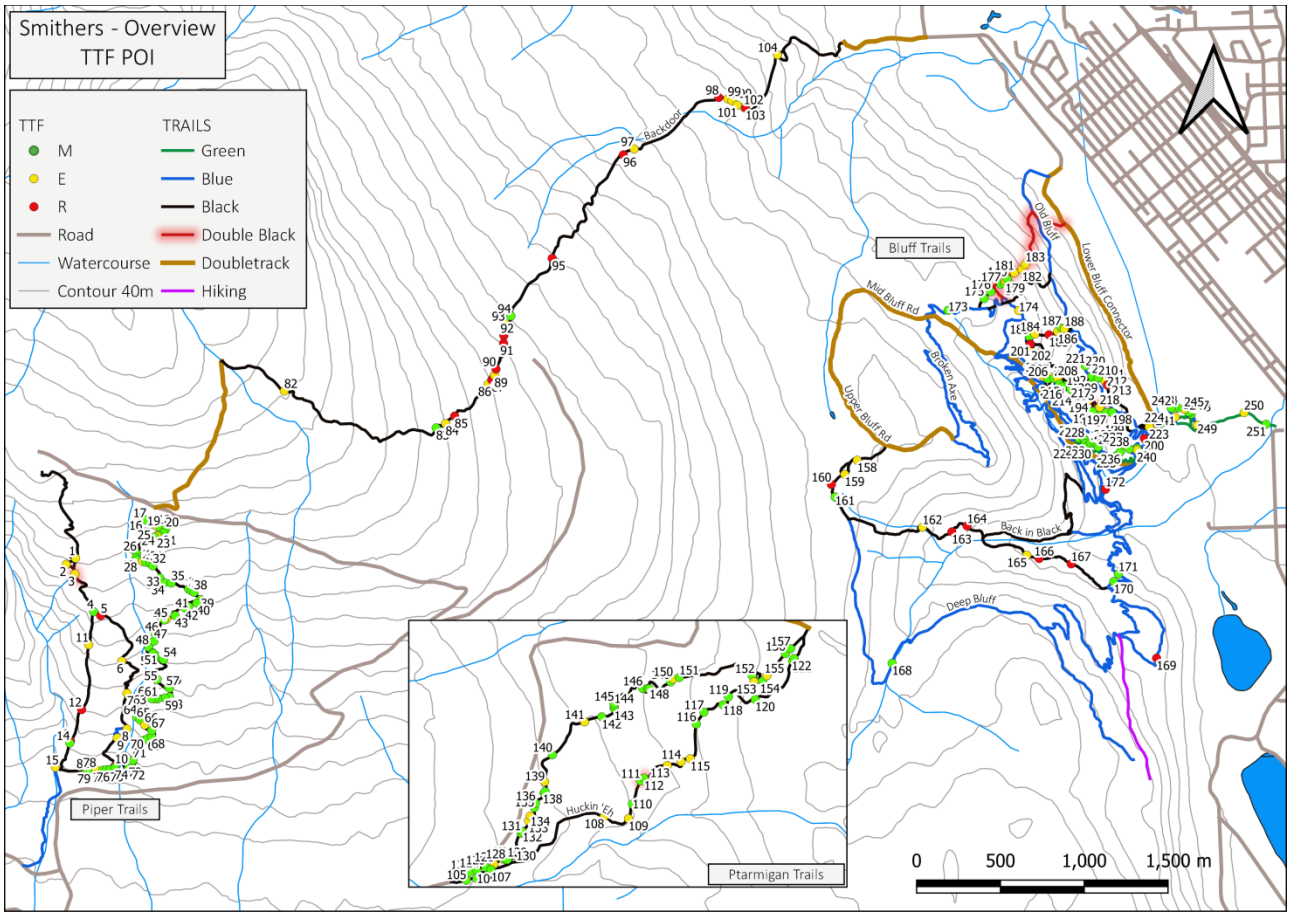
L - length W - width H - height

4.6 TTF POI

A total of 251 TTFs were assessed cumulatively in all trail areas. A GIS file (SMITHERS TTF.kmz), along with detailed GEOPDF maps of each riding area and an excel document (SMITHERS TTF. xlsx) have been provided with each TTF being given a unique corresponding identifier. Data for each TTF POI, including measurements, classification, observations and improvement prescriptions as required, including signage if needed, is provided and tabulated by each trail/trail area in SMITHERS TTF.xlsx along with cost estimates to implement improvements, repairs or rebuilds.

TTF STATUS	CAT.	TOTAL	PIPER	BACKDOOR	PTARMIGAN	BLUFF
MONITOR/MAINTAIN	M	156	62	2	39	53
ENHANCE	E	69	15	11	14	29
REPLACE/ REMOVE	R	26	4	10	0	12
TOTAL		251	81	23	53	94

M - Monitor/Maintain E - Enhance - repairs/improvement and/or signage required R - Remove or replace



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TTF POI

POI	MER	DESCRIPTION
1	E	Rock slab/garden (1) main option - 40m of 55% rock slab with 0.4m rollable drops into 75% technical rocky exit. replace rotten crib log at trail merge. Blk. E (2) Alt option. 75% x 8m into fall line straightaway x 75m. Blk. M
2	E	cribbing log, drop 35cm. aged, replace in future. remove stump in outrun, currently an exposed pedal grabber. crib retainer in outrun is rotten, replace. blue. E
3	E	wood ramp gap to wood landing over plane. (1) wood ramp 8.5m L x 0.9m W x 2.5m H. backfill entry with dirt. (2) 3.3m gap to wood landing 3.6m L x 1.5m W. dbl blk. see signage POI for Alt Route. Unify signage at site - potential confusion. E
4	M	rock slab 70% for 6m. blk. M
5	R	skinny 25cm w x 2.5m l. located at high speed exit from rock slab. recommend removal and backfill with dirt or wider boardwalk/wood slab if slope drainage needs accommodated - too narrow for trail speed. R
6	E	skinny. off main line - main flow bypasses. 15.5m L x 0.25m W x 1.5m H. aged entry has rot, replace. deflection in log ride - consider post support to stabilize. consider tractioning. H to W is dbl blk - requires TTF warning sign. E
7	E	tabletop. on main flow of trail. 1.0 m. H x 2.5m L. add TTF warning sign with alternate route L arrow. black. E
8	E	off camber rock slab. 45% to 60% for 30m. add TTF warning sign and Alt Route R arrow. improve fencing, for length of slab and right turn run out. catch berm needs rebuilt at bottom. Black. E
9	E	short rock slab at end of easier way. 50% for 3 m. black. consider sign Trail Merge! post on tree. E
10	R	wood down ramp. 6.0m L x 1.25m W x 2.5m H, 80% slope. stringers decking and spacing do not comply. wonky ramp. add TTF warning signage. black. R NOTE: no easy ride around. potential for new bypass, flagged.
11	E	75% slab. trenching occurring at exit. monitor, rr to riders left if trenching becomes egregious. Backfill trench as required, consider armouring. clear butt end logs in fall zone at exit. E
12	R	jump 40cm h. log frame falling apart. rebuild or remove. blue. R
13	R	teeter 16' l. rot in support beam, nailed into tree. remove or rebuild to standard. R
14	M	drop 85cm h. milled wood entry. consider tractioning/resurfacing. M
15	E	wallride. 16m l x 3.5m h 50°. bracing and decking needs reaffixed in spots. overhang needs trimmed. recommend thicker boards for cross bracing in places. tractioning recommended. aged, consider rebuild in future. E
16	M	table top. 0.35m H x 3.5m L. blue. M
17	M	table top. 0.7m H x 4.0m L. black. M
18	E	tabletop. 0.45m H x 3.5m L. remove large pile of dirt in run-out. blue. E
19	M	hip jump. 0.7m H x 3.0m L. black. M
20	M	double, rollable. 25cm H x 4.0m L. Blue. M
21	M	tabletop. 0.5m H x 4m L. blue. M
22	M	tabletop. 0.6m H x 3.5m L. blue. M
23	E	double, rollable but somewhat abrupt at trail speed. 0.3m H x 4.0m L. recommend fill to keep consistent with other tabletop jumps or remove or make less abrupt. blue. E
24	M	tabletop. 0.70m H x 4.0m L. black. M
25	M	tabletop. 0.5m H x 4.0m L. blue. M
26	M	tabletop. 0.45m H x 4.5m L. blue. M
27	M	tabletop. 0.45m H x 4.5m L. blue. M
28	M	tabletop. 0.45m H x 5.0m L. blue. M
29	E	tabletop. 0.6m H x 4.5m L. needs widened and lengthened to be consistent with other jumps. blue. E
30	M	tabletop. 0.6m H x 5.0m L. blue. M
31	M	tabletop. 0.75m H x 6.0m L. blk. M
32	M	tabletop. 0.6m H x 3.0m L. blue. M
33	M	tabletop. 0.5m H x 6.0m L. blue. M
34	M	jump. 0.3m H. blue. M

L - length W - width H - height

TTF POI, con't

POI	MER	DESCRIPTION
35	M	tabletop. 0.6m H x 5.0m L. blue. M
36	M	tabletop. 0.75m H x 3.0m L. blk. M
37	M	tabletop. 0.75m H x 4.0m L. blk. M
38	M	tabletop. 0.75m H x 4.0m L. blk. M
39	M	tabletop. 0.5m H x 4.5m L. blue. M
40	M	tabletop. 0.45m H x 3.0m L. blue. M
41	M	jump - fall away landing. 0.3m H. Blue. M
42	M	tabletop. 0.6m H x 5.0m L. blue. M
43	M	tabletop. 0.60m H x 3.0m L. blue. M
44	E	hip jump. 1.2m H x 2.0m L. dbl blk. requires dbl blk warning sign or reduce height to 1m. E
45	M	TT. 0.5m H x 2.0m L. blue. M
46	M	TT. 0.5m H x 3.0m L. blue. M
47	M	TT. 0.6m H x 3.0m L. blue. M
48	M	hip jump. 0.7m H x 3m L. Blk. M
49	M	TT. 0.6m H x 4.0m L. blue. M
50	M	TT. 0.6m H x 4.0m L. blue. M
51	M	TT. 0.6m H x 4.0m L. blue. M
52	M	TT. 0.6m H x 4.0m L. blue. M
53	M	TT. 0.6m H x 4.0m L. blue. M
54	M	TT. 0.6m H x 4.0m L. blue. M
55	M	TT. 0.6m H x 4.0m L. blue. M
56	M	TT. 0.6m H x 4.0m L. blue. M
57	M	TT. 0.6m H x 4.0m L. blue. M
58	M	TT. 0.7m H x 4.0m L. blk. M
59	M	TT. 0.6m H x 4.0m L. brush to improve sightlines. blue. M
60	M	TT. 0.6m H x 3.5m L. blue. M
61	M	TT. 0.7m H x 4.0m L. blk. M
62	M	TT. 0.45m H x 4.0m L. blue. M
63	M	hip jump. 0.8m H x 2.0m L. blk. M
64	M	TT. 0.7m H x 5.0m L. blk. M
65	M	TT. 1.2m H x 3.0m L. blk. M
66	E	jump into berm. 0.45m H. improve takeoff - hand sculpt. blue. E
67	M	jump. 0.6m h. black. M
68	M	hip 0.7m h x 1.5m l. black. M
69	M	TT 0.7m h x 2m l. black. M
70	M	TT 0.5m h x 3m l. blue. M
71	M	TT 0.4 m h x 1m l. blue. M
72	M	TT 0.4m h x 2.5m l. blue.M
73	M	TT 0.5m x 2m l. blue. M
74	M	TT0.5m l x 2.5m l. blue. M
75	M	TT 0.6m h x 3m l. blue. M
76	M	TT 0.6m h x 3m l. blue. M
77	M	TT 0.7m h x 3m l. black. M
78	E	hip 1.5m h x 2m l. dbl black. requires dbl blk TTF signage or reduce height to 1m. E
79	M	TT 0.6m h x 1.5m l. blue. M
80	M	TT. 0.5 m h x 2.5 m l. blue M

L - length W - width H - height TT – Tabletop jump

TTF POI, con't

POI	MER	DESCRIPTION
81	M	TT. 0.6m h x 2m l. blue. M
82	E	wallride 8m l x 1.2m w 56°. >20cm overhang at apex. aged structure, additional traction required in second half, trim excess overhang but without endangering rider dynamic - add support if height retained. consider future rebuild. black. E
83	M	jump 60cm h. black. M
84	E	skinny. 6m l x 26cm w. requires tractioning which has become unaffixed. aged, consider replacement. blue. E
85	R	2 skinnies. 5m l and 2m l x 25cm w.recommend to replace with 15m boardwalk to span saturated soils across ski run. blk. R
86	E	skinnies. 22m l x 25cm w. tractioning has become unaffixed, broken skinny at end is a hazard. rebar poking up in places. install tractioning and replace final skinny 3.5m l. pound down rebar. aged, replace in future. blk. E
87	R	skinny 4.5m l x 25cm w. rotten entry stringer. replace entirety due to age/condition. blk. R
88	R	skinny 3.5m l x 25cm w. aged. chunk appears to be missing and small shelf of wood may break off with rider weight at edge. replace upper skinny asap, replace entirety in future. blk. R
89	E	skinnies 7m l x 15cm w at exit. consider tractioning. aged, replace in future. blk. E
90	R	skinnies 18m l x 20cm w. twisted section is off camber, rot in sections. replace rotten sections and traction. replace entirety in near future due to age/condition/ride dynamics. blk. R
91	R	skinnies 9m l x 15cm w. decrepit. riders bypass has large stump which should be cut down. blk. R
92	R	skinnies 20m l x 20cm w. due to age, spots of rot, deflection, off camber sections and overall ride dynamics, replace or reroute trail. Completed by Tanner. blk. R
93	E	"Waterfall". New build. 6 x 6m sections, each section has gap drop to next section. max drop 77cm h. gap at entry. entry section is free floating on supports - trim height of posts, should rest on trestle and remove deflection. dbl blk. E
94	M	gap jump step down 2.5m gap1) entry 1.5m l x 80cm w. 2) transition 3.5m l x 2m w. dbl blk. M
95	R	boardwalk and skinny. (1) boardwalk. 25m L x 0.75m W x 0.4m H. off camber, rot in stringers, broken/ rotten deck, no traction. R. (2) Skinny 25m L x 0.3m W x 0.4m H half log. severely damaged, discontinuous. R
96	R	jump. 0.45 m H. blue. recommend rebuild using improved construction methods. R
97	E	skinny. 28m L x 0.4m W x 1.5m H. 0.25m W. showing rot indicators - replace entry, replace aged decking/stringers at exit, level riding surface of log. log is aged and beginning to rot. dbl black due to height: width. E
98	R	elevated wood feature. 43 m L x 3.6m H, variety of stunts and widths. decrepit, nailed into trees. expired, remove. dbl blk. R
99	E	jump. 0.45m H. crib and backfill. blue. E
100	E	jump. 0.45m H. crib and backfill, re-sculpt take off. blue. E
101	E	stump jump/drop. 50cm h. stump is becoming unstable. remove stump, build solid log retainer. black. E
102	E	jump/drop. 0.55 m H. wood cribbing aged and rotting, replace. blk. E
103	R	jump/drop. 0.75 m H. wood retainer is aged and rotting, held in place by dead tree. rebuild. blk. R
104	E	rock roll/drop off mainline. 75% grade with <1m drop. recommend signing easier route to riders R. rake loose scree - area will require ongoing maintenance. black. E
105	M	jump 30cm h. blue. M.
106	M	jump 40cm h. blue. M
107	M	double 23cm H x 330cm long, rollable. ensure feature remains rollable. blue. M
108	E	jump 25cm h eroded dirt around stump - requires dirt fill or remove stump. blue. E
109	E	jump 30cm H. clear fallzone of logs for 1.5m outside of high speed turn following jump. blue. E
110	M	jump 30cm H. M

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TTF POI, con't

POI	MER	DESCRIPTION
111	M	log roll - gatekeeper to dbl blk drop. 3.2m L x 25cm W x 55cm H. sound but aged. gatekeeper should span width of entrance, this is easily bypassed. consider new gatekeeper. Black. M
112	M	4m high drop dbl blk. (1) entry. 3.75 m L x 0.9m W. monitor underside of retainer to ensure integrity of overhang. M (2) landing 5.5m L x 1.8m W. M 3) alternate rock line bypass directly beside drop >120%. dbl blk. M
113	E	double 40cm h x 1.5m l. requires backfill to make rollable. Blue. E
114	E	rock drop 85cm H. add black TTF sign (see SIGNAGE POI). Blk. E
115	E	wood to rock roll to wood (1) entry 10m L x 2.2m W. overhang exceeds standard, trim to 5cm over hang, drive in proud nails. (2) rock roll 180%. (3) exit 4.8m L x 1.22m W. sound. dbl blk. E
116	M	jump 25cm H. Blue M
117	M	jump 45cm H. Blue. M
118	M	table top 60cm H. Blue. M
119	M	tabletop 60cm H. blue. M
120	M	Jump 15cm H. Blue. M
121	M	double 25cm H x 2.6m L, rollable. ensure feature remains rollable. blue. M
122	M	double 30cm H x 2.4m L, rollable. ensure feature remains rollable. blue. M
123	M	double rollable. 0.3m H x 3.5m L. Blue. M
124	M	table top. 0.60m H x 2.8m L. Blue. M
125	M	table top 0.4m H x 4.4 m L. Blue. M
126	E	table top. 0.6m H x 3.8m L. Blue. Brush take off and tree above landing for safety. E
127	E	double, rollable, hip landing. 0.6m H x 3.2m L. Brush exit. Black. E
128	M	table top. 0.4m H x 1.5m L. Blue. M
129	M	table top. 0.95m H x 3.0m L. Black. M
130	M	double, rollable. 0.5m H x 3.3m L. black. M
131	M	table top. 0.6m H x 3.4m L. Blue. M
132	M	table top. 0.6m H x 3.5m L. Blue. M
133	E	table top. 1.1m H x 3.8m L. large lip/steep landing inconsistent with other jumps, consider reshaping. Black. E
134	E	table top. 1.10m H x 2.4m L. large lip inconsistent with other jumps, consider reshaping. black. E
135	M	double, rollable. 0.35m H x 4.3m L. Blue. M
136	M	double, rollable. 0.35m H x 4.2m L. blue. M
137	M	step-up table top, rollable. 0.6m H x 4.8m L. blue. M
138	M	table top. 0.35m H x 3.5m L. blue. M
139	E	table top. 0.35m H x 3.6m L. clear fall zone adjacent to landing to 1.5m. blue. E
140	M	table top. 0.35m H x 4.8m L. blue. M
141	E	double, rollable. 0.2m H x 4.0m L. replace wood between rollers (decrepit), or backfill with dirt. Blue. E
142	M	jump. 0.4m H. blue M
143	M	table top. 0.35m H x 4.8m L. Blue. M
144	M	double. rollable. 0.3m H x 4.5m L. Blue. M
145	M	table top. 0.35m H x 3.5m L. blue. M.
146	M	step-up, rollable. 0.70m H x 4.3m L. black. M
147	M	dirt step-up to wood platform, drop to dirt. (1) step-up 0.8m H, 2.4m to wood platform, with ramp. (2) wood platform 5.6m L x 2.4m W x 2.5m H. (3) drop, 2.2m out distance to landing, 2.4m h, 3.5m edge to dirt. Dbl Blk. M
148	M	table top. 0.35m H x 2.1m L. blue. M
149	M	table top. 0.3m H x 3.5m L. blue. M
150	E	jump. 2.0m H. dbl black jump with by-pass. add dbl blk TTF warning signage, alt route L arrow, with signpost (see SIGNAGE POI). dbl blk. E

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TTF POI, con't

POI	MER	DESCRIPTION
151	M	step-up, rollable. 0.85m H x 3.5m L. black. M
152	M	rock drop with by-pass. 0.90m H. black. M
153	E	exposed rock ramp with elevated wood ramp along cliff. (1) 14m L narrow rocky entry with significant fall exposure with insufficient wire fence protection, loose posts and loose wire, approx 10m vertical drop. replace fencing with improved methods. (2) wood ramp 11.0m L x 1.0m w. 60%. replace aged/rotten decking as required. posts are aged - logs, bark left on - add improved support posts. roofing traction dishevelled, replace. exit is eroded, needs backfill. black. E
154	M	wallride. 4.75m L x 2.20m H, 75° slope. sound. M
155	E	Double/gap. 1.80 x 0.45 cm H. backfill gap or improve rollability (reshape) due to speed and abruptness of take off. extend landing and take off. dbl blk. E
156	M	table top. 0.4m H x 5.7m L. blue. M
157	M	double rollable. 0.2m H x 2.0m L. blue. M
158	E	skinny 15m l x 25cm w. second half needs replaced due to prevalent rot at junction - nail down in the interim as there is movement. adze or chainsaw surface annually. Replace in future. E
159	E	skinny 35m l x 20cm w. needs resurfaced. replace footings where rotted and stabilize logs at turn, currently wobbly. rebuild in near future due to age and condition. E
160	R	skinny. 8m l x 40cm w. entry and exit: replace due to rot/splits in wood. replace entirety in near future due to age and signs of rot. R
161	M	skinny 8m l x 30cm w. resurface with chainsaw/adze for traction. M
162	E	skinny x 2 1) 5m l x 35cm w. Rot at east end. replace in near future. 2) 9m l x 35cm w. footing at east is rotted, replace. Replace entirety in future due to age. black. E
163	R	skinny 3.8m l x 45cm w. rot at west end. east footing rotted. blue. R
164	R	skinny 4m l x 40cm w. significant rot. black. R
165	E	skinny. 13m l x 40cm w. replace entry skinny due to rot. recommend near future replacement due to age. black. E
166	R	4m l x 40cm w. rot at entry. replace due to condition/age. black. R
167	R	skinny. 4m l x 45cm w. rot beginning, replace in near future. black. R
168	M	jump 45cm h. blue. M
169	R	skinny x 2 1) 9m l x 40cm w 2) 23m l x 40cm w 1) decrepit R 2) replace pieces with rot or remove/replace entirety due to age/condition. R
170	M	jump. 50cm h. blue. M
171	M	jump. 40cm h. blue. M
172	R	skinny. 20m L X 0.3m W x 0.75m H. Off camber and broken in middle. remove entry ramp. retain log in place for trail cribbing. decrepit. black. R
173	M	skinny 3.9m l x 40cm w. blue. M
174	E	skinny. 10m l x 30cm w x 45cm h. repair broken entry wedge, traction or resurface. blue. E
175	M	rock roll 45%. blue. M
176	M	technical rock section/roll down. 60%. black. has bypass. M
177	M	technical rock section. 55%. black M
178	M	series of rock steps in succession up to 120%. black. M
179	E	drop 1.15m h. dbl blk. if black classification is desired, add dirt to raise transition or construct wood ramp. drop is on mainline. walking bypass exists. warning TTF sign required if remains dbl blk. E
180	M	drop 75 cm h. black. M
181	E	drop 1.4m h. has bypass. Dbl Blk TTF signage required and Alt Route L arrow. dbl blk. E
182	E	chute. 75% x 25m. recommend warning sign: CAUTION! STEEP due to sustained, technical nature of chute. black. E
183	E	drop 1.9m h, natural. has bypass, requires Dbl Blk TTF signage, Alt Route L arrow. dbl blk. E
184	E	1.5m rock drop to wood. wood landing 3.4m l x 1.8 m w 45cm overhang. trimming overhang may endanger riders, requires additional stringer to support overhang to comply with standards. sign rqd: dbl blk ttf, alt route R arrow. dbl blk. E
185	R	drop. 40cm h. log is rotten, replace asap. black. R

TTF POI, con't

POI	MER	DESCRIPTION
186	E	wood drop. 1.5 h x 3.4m l x 90cm w. requires dbl blk TTF & Alt Route sign. rake bypass to left. log cribbing in approach requires larger log staked in place. SMBA to determine if alt line left or right (steep loam line) of TTF. dbl blk. E
187	M	step down, rollable. 50cm h x 3m l. black. M
188	E	1.9m rock drop to wood transition 3.7m l x 1.2m w. 10cm overhang. trim overhang to 5cm, requires dbl blk TTF warning & Alt Route sign R arrow. dbl blk. E
189	M	rock slabs. (1) 70% for 3m black (2) 45% for 4m blue. mandatory. M
190	R	skinny. 4.8m L x 0.22m W x 0.6m H. aged wood with minor rot. support is an old stump that is rotting. high speed exit from AF, narrow skinny. black. R
191	M	drop. 0.3m. grade reversal built up over root into 35% grade x 10m. blue. M
192	M	root drop. 0.45m H. can be ridden around. blk. M
193	M	wood drop. 1.0m L x 0.9m W x 0.3m H. aged feature, monitor and replace in future. blue. M
194	E	wooden table top. 8.3m L x 1.2m W x 1.3m H. 20% up, 40% down. sound. 22cm overhang does not comply, however trimming will create too narrow a landing - add additional stringers to support overhang. blue. E
195	M	jump. 0.25m. blue. M
196	M	Tabletop. 0.6m H x 3.0m L. blue. M
197	M	jump. 0.3m H. blue. M
198	M	small hip jump 30cm h. blue. M
199	M	double. rollable. 0.3m H x 3.0m L. blue. M
200	R	wood TTF drop with downramp. 3.4m L x 1.2m W x 0.3m H. short 60% ramp off drop. remove tar paper and inspect decking. consider removal due to age and visible rot. makes trail class blue. blue. R
201	R	Elevated Wood TTF. 11m l x 1.1 m w x 1.6m h. platform to ramp, can double to ramp but not a gap, can roll. aged structure, prevalent rot in decking, bark on posts and stringers. cross beam using shear strength of nails vs post and beam. first crossbeam missing post support. left stringer floating off beam. black. R
202	E	elevated skinny to drop. 6m l x 31 cm w x 1.2m h. requires posts to support main beam. tractioning recommended. requires TTF warning sign. address: no structure member 'would increase the degree of injury' as per WTS. black. E
203	E	drop 65cm h. very steep landing. not mandatory but on mainline. recommend TTF warning sign. black. E
204	M	step up 50cm h rollable. black. M
205	E	drop 70cm h. steep landing. not mandatory but on mainline. recommend TTF warning sign. black. E
206	M	step up 50cm h. rollable. black. M
207	M	elevated wood feature that can be doubled. 10.5m l x 1.5m w x 1.6m h. high quality build. blue. M
208	E	skinny. 18cm w x 75cm h x 8m l. 54cm drop. small piece broken off in critical corner, repair. dbl blk (H to W ratio), requires dbl blk TTF sign and Alt Route L arrow. E
209	M	skinny 19cm w x 70cm h x 14m l. black. M
210	M	jump 45cm. blue. M
211	E	skinny 18m l x 30cm w x 65cm h. some decking requires additional nail - 2 per side. black. E
212	R	old decrepit skinny. remove entry ramp. R
213	M	jump 50cm h. black. M
214	E	drop 4.8m l x 76cm w x 90cm h. requires signage: Alt Route L arrow. black. E
215	M	shark fin 45 cm h. blue. M
216	M	jump 25cm h. blue. M
217	M	jump 25cm h. blue. M
218	E	drop 3.6m l x 90cm w x 95cm h. requires TTF warning signage. black. E
219	E	drop. 3.5m l x 99cm w x 1.75 h. dbl blk. Requires TTF warning signage dbl blk. E
220	M	jump 30cm h. blue. M

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TTF POI, con't

POI	MER	DESCRIPTION
221	M	jump 40cm h. blue. M
222	M	hip jump 85cm h. black. M
223	E	drop 3.27 m l x 76cm w x 1.2cm h. dbl blk. requires RST signage Dbl Blk TTF ahead, Alt Route L arrow. E
224	E	wood roll down. 6.9m l x 93cm w x 175h x140% downramp. traction downramp. sign as per RST requirements. alt route L arrow. dbl blk. E
225	E	Technical rock to down ramp. (1) technical entry up rock, 1.5 m h (2) down ramp 2.6 m L x 0.65m W x 1.5m H. 105%. thin, aged decking - replace and add traction. off main flow - add sign for black TTF and alternate route L arrow. blk. E
226	M	jump. 45cm h. rollable. blue. M
227	M	TT 50cm h x 2m l. blue. M
228	M	jump 20cm h. rollable. blue. M
229	M	double. 40cm h x 2. rollable. blue. M
230	M	TT. 35cm h x 2m l. blue. M
231	M	jump 30cm h. blue. M
232	M	jump. 30cm h. blue. M
233	M	jump 45cm h. blue. M
234	M	TT 60cm h x 2m l. blue. M
235	M	jump 30cm h x 2. rollable. blue. M
236	M	TT. 60cm h x 2 m l. blue. M
237	M	jump (rollers) 30cm h x 2, rollable. blue. M
238	M	jump. 30cm h. rollable. blue. M
239	M	double 45 cm h x 3m l. rollable. blue. M
240	E	jump 50cm h. backfill to make rollable or to lessen jump height to 45cm. black. E
241	E	skills park. child's play. 7 features. (1) down-flat-down. 13m L x 1.2m W x 0.85m H. ramps 45% and 120%. traction reqd on exit ramp. blk. E (2) ramp from platform to trail 2.45m L x 1.2m W x 1.2m H. 25%. Blue. E. (3) down ramp to log ride. 2.15m L x 1.2m W x 0.75m H. 45%. blue. E. (4) down ramp 1.6m L x 1.2m W x 0.70m H. 40%. blue. E. (5) up ramp to platform. 2.95m L x 0.9m W x 0.6m H. 10%. blue. E (6) pyramid ramp. 6.4m L x 1.2m W x 0.65m H. 10% up, 25% down. blue. E. (7) log ride. 4.8m L x 0.4m W x 0.4 m H. blue. E. sound construction. replace rotten decking, overhang exceeds 5cm, trim to standard throughout. all blue/black features should be clearly signed or indicate as a blue skills area and sign black feature only. traction all downramps including log downramp. some boards beginning to show rot, replace as required, monitor. E
242	M	roller. 0.6m H. blue M
243	M	TT. 0.3m H x 3.0m L. blue. M
244	M	step-up jump, rollable. 0.45m H x 3.0m L. blue. M
245	E	rainbow ramp and jump. 1) ramp 2.75m L x 1.2m W x 1.25 H. 100% downramp, requires tractioning on downramp and TTF signage with Alt Route R arrow. black. E 2) jump 0.3m H. blue. M
246	M	TT. 0.2m H x 1.0m L. blue. M
247	M	TT. 0.3m H x 2.0m L. blue. M
248	M	TT. 0.2m H x 2.0m L. blue. M
249	E	double. 0.15m H x 1.0m L. fill with dirt to eliminate gap or remove. blue. E
250	E	skinny x 2 optional at side of trail. (1) ride on-ride off. 12.4m L x 0.3m W x 0.55m H. 10° ramp. Blue. E (2) ride on-drop-off 8.6m L x 0.15m W x 0.7 m H. 0.35m drop. exceeds 4:1 = dbl blk. add signage per RST for both directions. remove (2) to preserve green class or raise trail surface surrounding feature (mulch) and dirt at end to measure 30cm drop and 2:1 H to W ratio to make blue ttf. E
251	M	grade reversal /jump 25 cm H. blue. M

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