

Joseph P. Wilson Jr, Supervisor  
Robert M. Biesemeyer, Deputy Supervisor  
Regular Town Board Meeting  
January 31, 2023  
5:30 pm  
Town Hall

Call to order

Approve Minutes:

Privilege of the Floor:

Adirondack Land Trust Presentation  
Youth Commission East Branch Community Trails Enhancement Fund request

Town Discussion of Old Business:

- Covid Updates:
- Water Districts Projects
  - WD#1;
  - WD#2;
- Annual Audit of the books

New Business:

- July 1 Fireworks at Marcy Field sponsored by AMR
- Short Term Rental Law discussion
- 

Executive Session:

Budget Resolutions

Resolution to transfer funds:

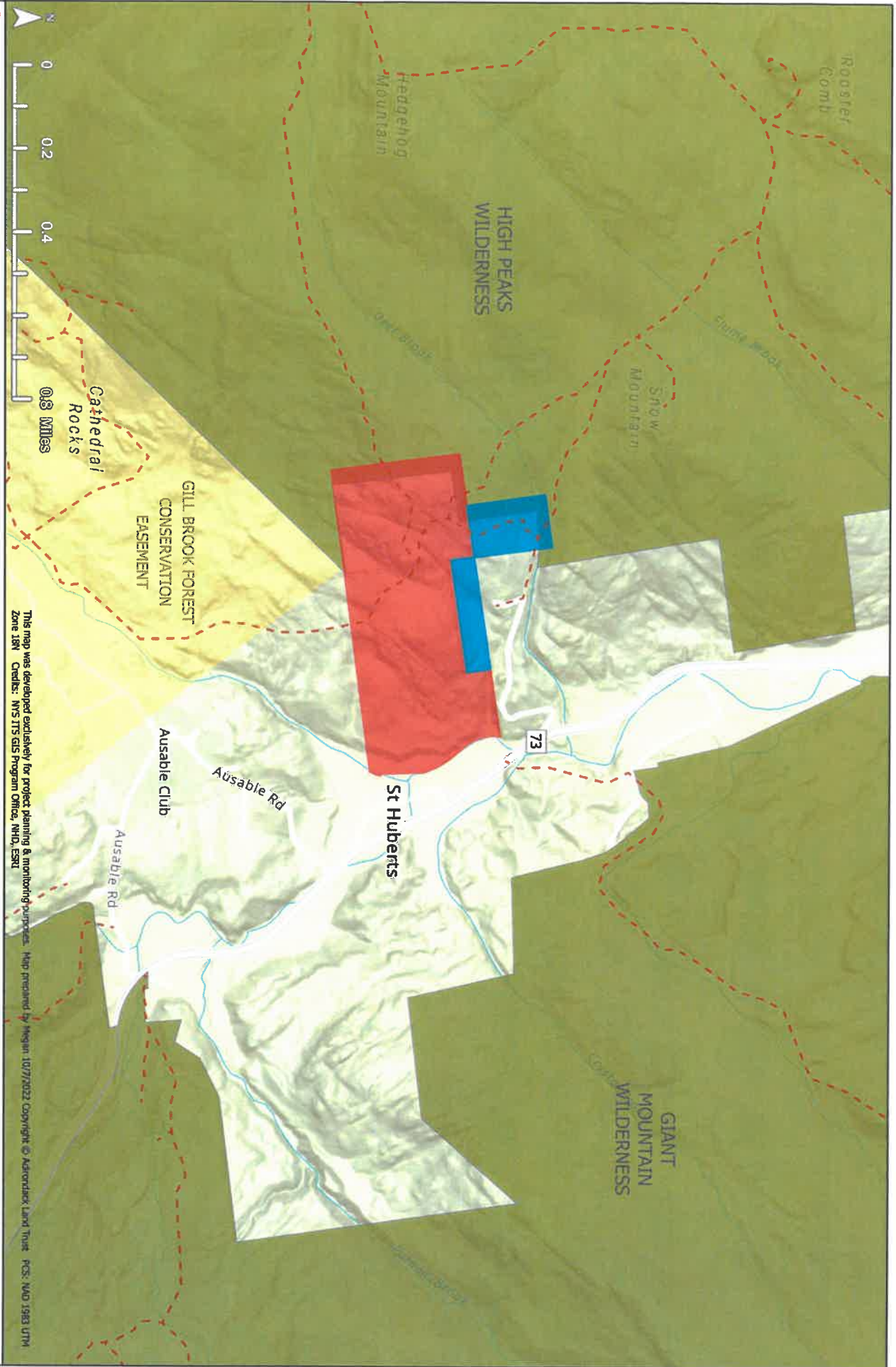
Resolution to amend the 2023 budget:

Supervisor's Report: November 2022

December 2022

Audit Bills:

Resolution to audit Vouchers #2023- 045 through #2023-



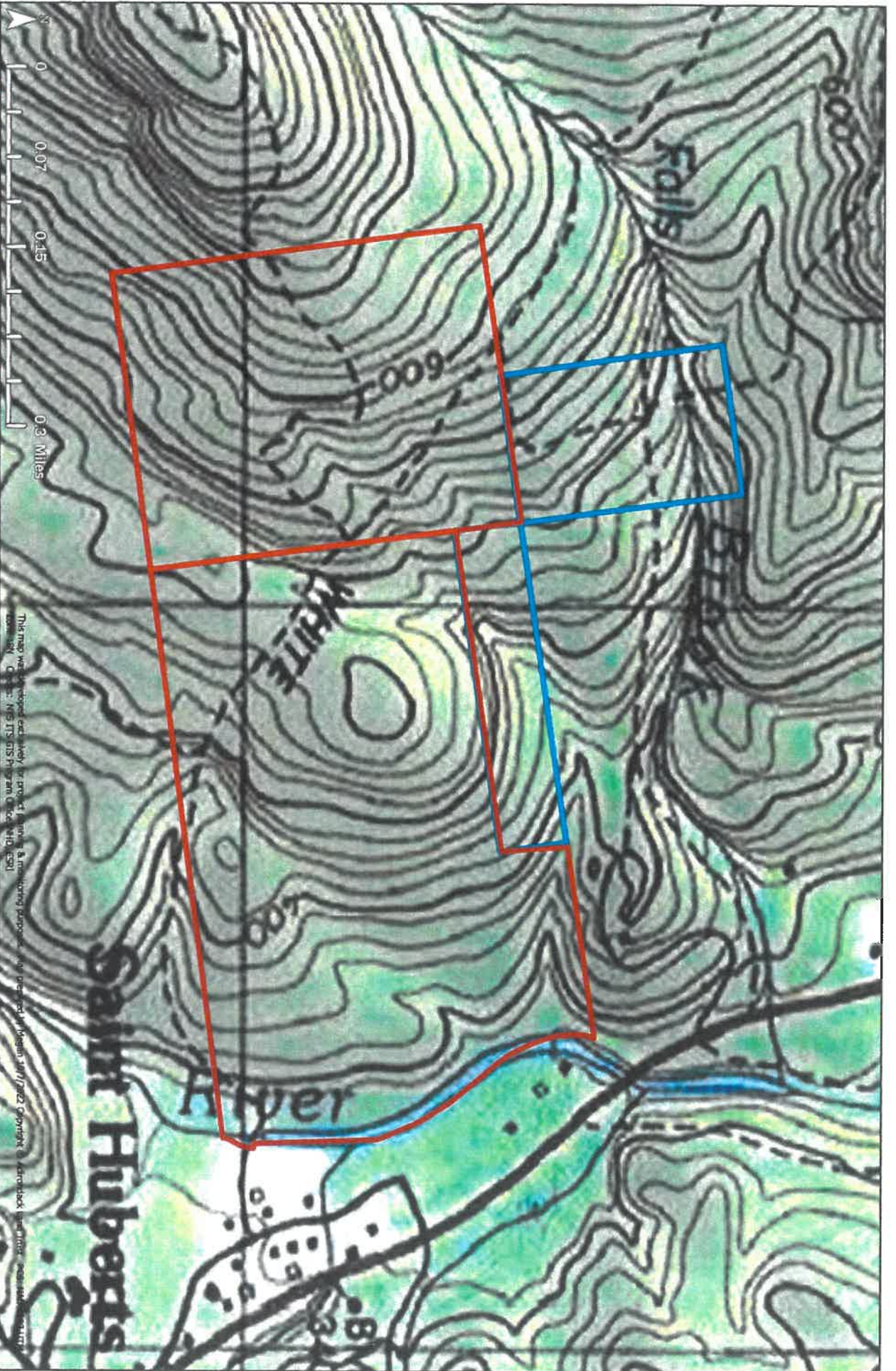
# St. Huberts Property

Keene, Essex County 137 acres



This map was developed exclusively for project planning & monitoring purposes. Map prepared by Meghan 10/7/2022. Copyright © Adirondack Land Trust. P.O.S. MAD 1583 UTM  
 Zone 18N Credits: NYS GIS Program Office, NHD, ESRI

- - - Trails
- ALT Properties
- Forest Preserve
- Property of Interest



# St. Huberts Property

Keene, Essex County 137 acres



- Property of Interest
- ALT Properties



*Local youth pedal away from the ribbon cutting event at the East Branch Community Trails, enjoying the first ride on the new multi-use "Leapoff Loop", a trail designed for people of all ages and abilities. © Eric Teed*

**Request for Community Enhancement Funds to support the East Branch Community Trails  
Keene Town Board  
January 31, 2023**

**The Keene Youth Commission (KYC), in partnership with the Barkeater Trails Alliance (BETA), respectfully submits this funding request to the Town Board of Keene for your consideration.** Since 2021, KYC and BETA have worked with the Town of Keene and Peduzzi Trail Contracting to develop a concept plan for a new trail system, pump track and bike skills park at the county-owned property on Route 9N, following a phased approach to trail development.

**Phase 1 of the new "East Branch Community Trails" was completed in September, 2022,** and included over 2 miles of new multi-use trails that will serve as the backbone of the larger trail system that is planned for the future. These new trails were immediately popular with residents, allowing hikers, mountain bikers, trail runners and non-motorized winter travelers to access key points of the property. The project was "kickstarted" with \$50,000 investment from BETA's *Sterling Watchorn Trail Fund* and a matching grant of \$25,000 from the Stewart's Shops and Dake Family Fund, along with over \$10,000 in grassroots donations raised by BETA and KYC.

**KYC and BETA are now seeking funding for Phase 2** of trail construction on the property, which will expand on the success of the multi-use trails built in 2022, and will feature 0.75 mile of new machine-built trail that provides a downhill-oriented, mountain bike-specific option appropriate for beginner and intermediate riders. See overview map below depicting the trail that is planned for Phase 2, along with the other trails planned for future phases.

**KYC and BETA respectfully request that the Town of Keene make a commitment to provide seed money for the project for the next 3 years from its *Community Enhancement Fund*. We are requesting \$10,000 per year, beginning in 2023.**

This investment in community infrastructure will allow KYC and BETA to leverage additional grant funding, grassroots donations and other fundraising activities to effectively implement Phase 2 in 2023 and future phases of the trail system. In 2023 KYC and BETA will continue working with the Town and Essex County to identify and seek state and federal grant funding that would make it possible to build additional trails and the pump track facility over the next 3-5 years.

## **Phase 2 Budget**

Please see the attached project financial report for more details about the Phase 2 budget and fundraising goals.

### Expenses:

Peduzzi Trail Contracting - trail construction - \$35,000 (contract w/ BETA)

BETA - trail construction, volunteer coordination, project admin - \$3150

Building materials and signage - \$1500

**TOTAL - \$39,650**

### Funding Sources:

Town of Keene Community Enhancement Fund - \$10,000

Cloudsplitter Foundation - \$7900

Adirondack Foundation - \$5000

Grassroots Donations - \$16,800

**TOTAL - \$39,700**

## **Phase 2 and the “Master Plan”**

Phase 2 is focused on the construction of the easiest mountain bike specific trail, “Lower Descend”, which will serve as a baseline that brings riders back to the Leepoff Loop without riding down the multi-use climbing trail. The primary goal of this phase is to provide a safe and fun downhill option for mountain bikers as soon as possible, while the remainder of the trail segments can be developed as time and funding allows.

Peduzzi Trail Contracting, LLC has developed an East Branch Community Trails “Master Plan” for all future trail development and the construction of the pump track and bike skills park, including cost estimates and updated maps depicting all existing and planned trails as well as emergency evacuation routes on the property. Please see attached.

**KYC and BETA request that the Town of Keene officially adopt the Master Plan so it may serve as the primary guidance for future trail construction and fundraising efforts in 2023 and beyond.**

Phase 2 and future phases of trail construction at the East Branch Community Trails will expand on the success of the multi-use trails built in 2022. Peduzzi Trails Contracting has planned approximately 4 miles of new trails, with a focus on mountain bike specific options and additional multi-use trails on the upland areas of the property. As with Phase 1, all trails and features will maintain a natural character by being built sustainably and with an effort to blend with the natural landscape.

The “climbing trail” built in 2022 will eventually provide access to the six new trails segments ranging from a beginner-friendly descending trail to intermediate flowing trails and more technical advanced trails. To continue the “stacked loop” orientation of the trail system, the new trails are designed to be easiest at the bottom and will progress to more challenging trails higher in the trail system. Implementation of one-way, mountain bike only trails will be engaging for mountain bikers while helping to avoid potential user conflict as the trail system continues to get more use.

## **Keene’s Vision for New Trails**

The 2021 Keene Strategic Plan highlighted the need to provide safe, positive and ecologically sound recreation experiences for residents and visitors alike, citing alternative trails as potential improvements to the town’s recreation structure. The Essex County property on 9N between Keene and Upper Jay offers a rare opportunity to implement this vision through the development of the East Branch Community Trails system. The project creates access to multi-use trails designed to be inclusive of people of all ages and abilities, youth-oriented biking opportunities, and it provides an alternative to more rugged backcountry hiking trails on state Forest Preserve land in the community.

Accessible trail systems and adjoining skills parks with pump tracks are the backbone for recreation-based towns that encourage healthy outdoor exercise. The East Branch Community Trails provide a meeting place for local residents and visitors, a venue for after-school activities, and a place for mountain bikers, hikers and skiers to enjoy the outdoors. Safe, accessible community trails provide a healthy outlet for all ages and fosters a sense of community and well-being.

Mountain biking is a growing activity in the High Peaks region. Though there has been a long-standing interest in mountain biking in Keene, there are very few places where bikers are allowed to ride and no specific mountain bike destinations without traveling to Lake Placid, Wilmington or Elizabethtown. With ongoing and increasing interest from Keene students and residents (bike to school day, school owned mountain bikes), there is a strong local demand for creating an outlet for this type of recreation in Keene.

**Impact of the Town’s Investment**

KYC and BETA greatly appreciate your consideration of a 3-year, \$10,000 recurring grant to support this project in 2023-2025. We have a window of opportunity to continue making an impact in the Town of Keene by securing funding for phase 2 of the project so that work can begin with Peduzzi Trail Contracting in the spring of 2023. This project will help enhance the quality of life in the area by providing more recreational and physically active opportunities for the residents and visitors and connecting them with nature. It will specifically benefit the youth mountain bikers of the community, who will benefit greatly from having a local destination for their growing sport.



**Above Left:** Keene Youth Commission kids participate in a trail work day in Keene, led by BETA. There is increasing demand for youth mountain bike initiatives and facilities in our region, as more and more families discover the joy of the sport

**Above Right:** The BETA Trail Crew worked alongside Peduzzi Trail Contracting and dozens of volunteers to complete work on Phase 1 in 2022

**Below Left:** KYC kids join BETA, Peduzzi Trail Contracting, and Keene Supervisor Joe Pete Wilson for a ribbon cutting to officially open the East Branch Community Trails in September, 2022

**Below Right:** Volunteers contributed over 500 hours of labor toward Phase 1 in 2022, which is valued at approximately \$15,000. This included 5 trail work days and many hours of planning and fundraising meetings by KYC and BETA



## Trail User & Donor Testimonials

*"I just returned from walking the Leepoff Loop at the East Branch Community trails and I'm in love!! There are just times where your spirit needs a walk... not a hike! To be honest, when it was opened a few weeks ago, I somehow got the idea that it was only for bikers so I didn't pay much attention. But it is available to everyone! I had no trouble walking this trail with just my sneakers and it was so peaceful and lovely ... just what I needed today. Thank you thank you thank you to all who played a role!"*

*"Look forward to sharing many great rides with my children on this new trail system. Well done for all those who have worked so hard to get it done!"*

*"What an amazing project. I look forward to continuing our support and rolling up our sleeves to help this come to fruition."*

*"So inspired by the community's commitment to this new trail system and happy to support it."*

*"This is a wonderful community resource! Keene had a few "community walking" resources already, such as Marcy Field and the "Valley Loop" but these were limited. These new trails are a valuable addition."*

*"I encourage everyone to get out and explore these trails -- they are wonderful! Great for an easy, beautiful hike. I applaud all involved and will be happy to support the future of this project."*

*"I was able to walk the trails in October. They were amazing! I'm not much of a hiker, but I love walking in the woods, so they were just perfect for me. I will gladly support going forward. Thank you!"*

*"So psyched to have this amazing project happening in our community!!!"*

*"Trails like these benefit local communities. I like the phased approach and well thought out design. Luke builds great trails! Excited for the project!"*

*"It is a nice little trail! My husband and I took the dogs to explore it a few weeks ago. I think we found the perfect place to take our grand babies when they visit!"*



This document has been made for  
the

Town of Keene and

Barkeater Trails Alliance

by

Peduzzi Trail Contracting LLC

January 2023

# EAST BRANCH COMMUNITY TRAILS

## Trail Master Plan





## Trail Overview

Future phases of trail construction at the East Branch Community Trails will expand on the success of the multi-use trails built in 2022. This plan includes approximately 5 miles of new trails, with a focus on mountain bike specific options.

The climbing trail built in 2022 will provide access to the six new trails segments below the power line, ranging from a beginner-friendly descending trail to intermediate flowing trails and more technical advanced trails as well as 2 new trails above the power line. To continue the “stacked loop” orientation of the trail system, the new trails are designed to be easiest at the bottom and will progress to more challenging trails higher in the trail system.

Implementation of one-way, mountain bike only trails will be engaging for mountain bikers while helping to avoid potential user conflict as the trail system continues to get more use. The easiest mountain bike specific trail, “Lower Descend”, will serve as base line that bring riders back to the Leepoff Loop without riding down the climbing trail. “Flow Trail” and “Upper Technical” will both merge with “Lower Descend” while “Upper Descend” and “Extra Trail” will direct rider back up the climbing trail for a short section before they reach “Lower Descend”. In addition to directional signage, the design and construction of each intersection should encourage riders in the right direction.

As with the Phase 1 trails, all trails and features will maintain a natural character by being built sustainably and with an effort to blend with the natural landscape.

## Recommended Trail Signage Updates

**“Trail name, MTB Only”** - At the top of mountain bike specific trails

**“DO NOT ENTER, One Way Trail”** – At the bottom of mountain bike specific trails

**“MTB To Parking Lot”** – At the top of “Lower Descend” and at the bottom of “Extra Trail” and “Upper Descend”, directing riders toward “Lower Descend”

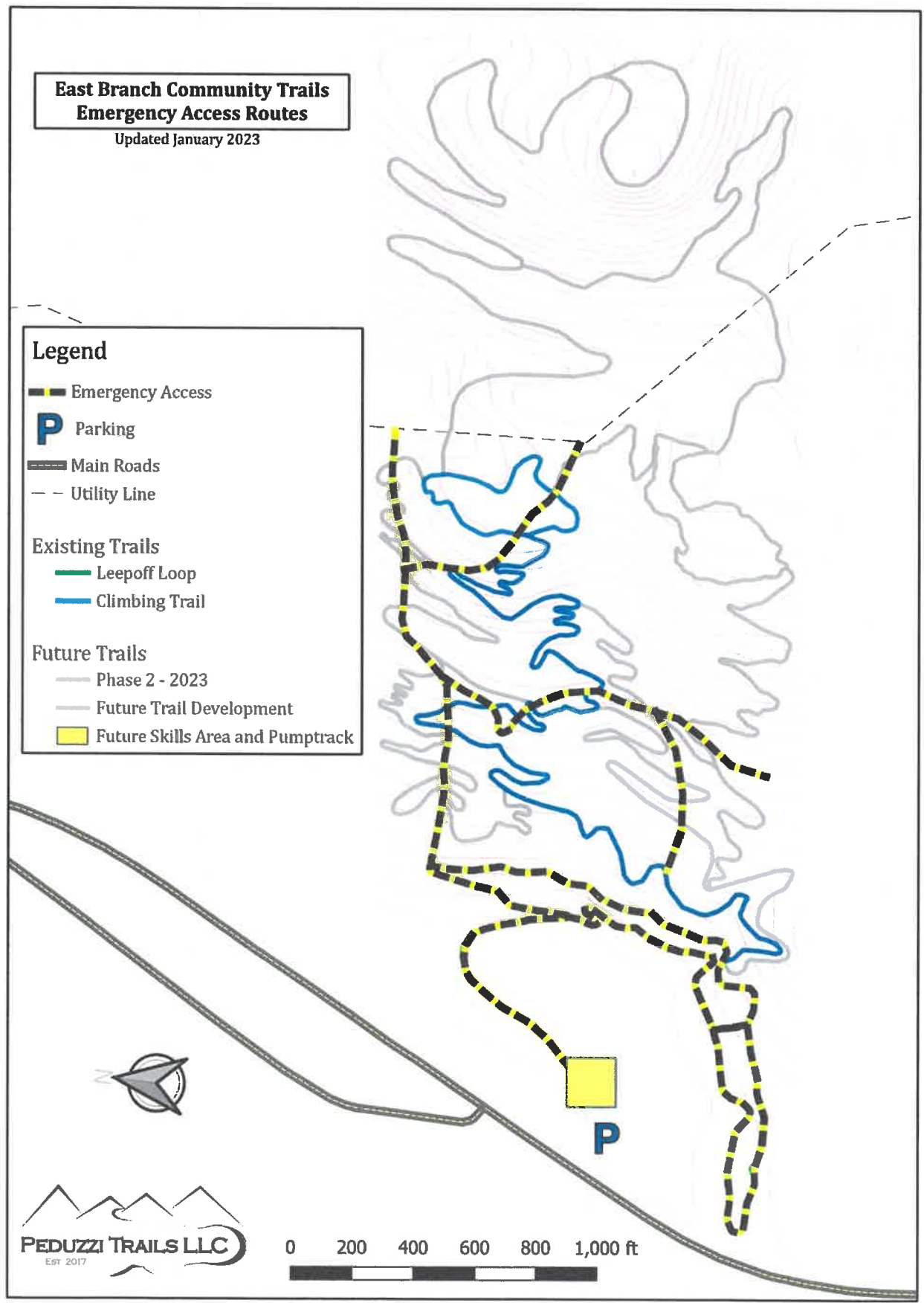
## Pumptrack/ Skills Area Overview

The skills park will include numerous individual features for riders to practice on. The features can include (but not limited to) shaped piles of soil, boardwalk style features and purposely placed natural materials (logs, rocks). These features should offer challenges for riders of all ability levels without presenting unnecessary risk.

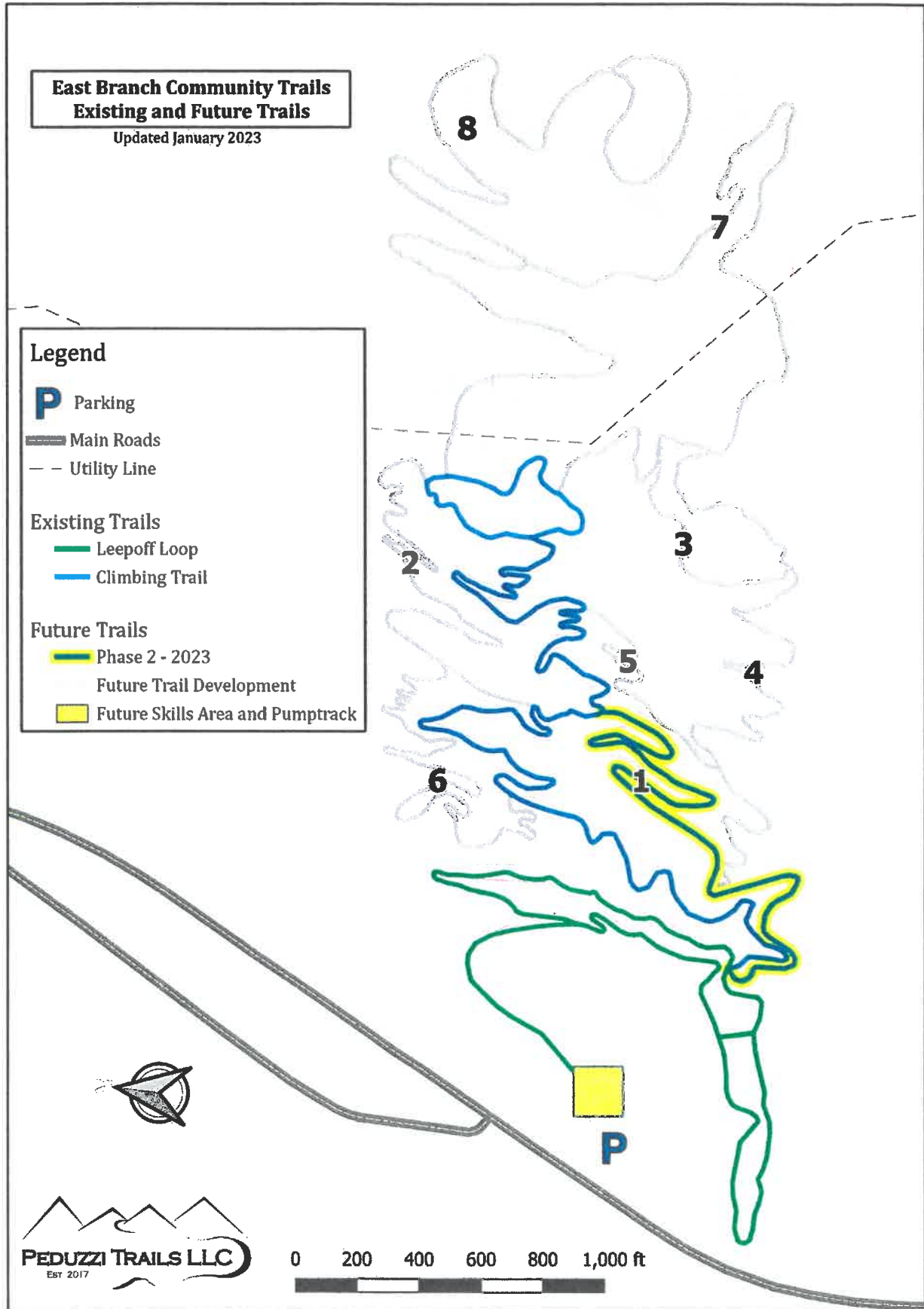
The pumptrack should be constructed with a specific mixture of soil that will provide a firm and fast riding surface and will resist erosion. Ideal soils are mostly clay with some sand to prevent a slippery surface. Like the skills features, the pumptrack should be progressive, offering easy lines for beginners and more challenging lines for the more advanced riders.

The approximate size of the pumptrack and skills area is 120' x 120' and includes space for sitting and shade trees. The size of the pump track and number/ complexity of the skills feature can be adjusted based on fundraising and available materials.

A detailed design of the skills area/ pump track may be appropriate for fundraising and planning purposes.



# East Branch Community Trails: Trail Master Plan [January 2023]



**Trail Specifications**

| <b>Trail Name</b>    | <b>User Group</b>              | <b>Difficulty</b>       | <b>Mileage</b> | <b>Experience</b>  |
|----------------------|--------------------------------|-------------------------|----------------|--|
| Lower Descending (1) | MTB Only                       | Easy/Intermediate       | 0.7 miles      | This trail will be the easiest descending option from the climbing trail. Mid-wide tread with moderate grades and a generally predictable tread surface. This singletrack style trail will require moderate bike handling skills and fitness.  |
| Upper Descending (2) | MTB Only                       | Intermediate            | 0.5 miles      | An intermediate descending trail from the top of the climbing trail. Mid-wide tread with moderate grades and a mixture of groomed and natural tread surface. This singletrack style trail will require intermediate bike handling skills and fitness to navigate natural terrain, tighter turns, and short sections of steep grade.  |
| Long Loop (3)        | Shared Use: Hike, Winter, Bike | Intermediate            | 0.5 miles      | Narrow tread with moderate grades and a mixture of groomed and natural tread surface. This singletrack style trail will require intermediate bike handling skills and fitness to navigate natural terrain and tight turns.   |
| Upper Technical (4)  | MTB Only                       | Difficult               | 0.3 miles      | Narrow tread with steep grades and a mixture of groomed and natural tread surface. This singletrack style trail will require intermediate- advanced bike handling skills to navigate natural terrain, off- camber trail, tight turns and steep grades.   |
| Flow Trail (5)       | MTB Only                       | Intermediate            | 0.4 miles      | A wide and smooth tread surface with rolling features, banked turns and optional jumps through the entire trail. A moderate overall grade and wide turns with open sightlines will minimize the need for pedaling and braking while descending this trail. This flow style trail will require intermediate bike handling skills to negotiate rollers and banked turns.       |
| Extra Trail (6)      | MTB Only                       | Intermediate            | 0.6 miles      | The many switchbacks on this intermediate descending trail present the opportunity for a berm-oriented trail. Mid-wide tread with moderate grades and a mixture of groomed and natural tread surface. This singletrack style trail will require intermediate bike handling skills and fitness to navigate natural terrain, tighter turns, and short sections of steep grade. |
| Upper Loop (7)       | TBD                            | Intermediate/ Difficult | 1 mile         | Narrow tread with some steep grades and a mixture of groomed and natural tread surface. This singletrack style trail will require intermediate to advanced bike handling skills and fitness to navigate natural terrain and tight turns.   |
| Top Trail (8)        | TBD                            | Difficult               | 0.7 miles      | Narrow tread with steep grades and a mixture of groomed and natural tread surface. This singletrack style trail will require advanced bike handling skills and fitness to navigate natural terrain, steep grades and tight turns.  |

East Branch Community Trails: Trail Master Plan [January 2023]

| Trail Name           | Tread Width | Average Grade | Maximum Grade | Corridor Width x Height | Features in Tread  | Unavoidable Obstacles | Trail Side Features   |
|----------------------|-------------|---------------|---------------|-------------------------|--|-----------------------|---|
| Lower Descending (1) | 36" – 48"   | 5%            | 8%            | 5' x 8'                 | Limited to Drainage Features                                       | <2"                   | Natural and manmade features, optimized for mountain bike use, including jumps, ramps and rock rides. These features should not appear to be the main trail and should not create user conflict or confusing intersections. |
| Upper Descending (2) | 36" – 48"   | 8%            | 12%           | 5' x 8'                 | Some naturally occurring roots and rocks                           | <6"                   | Natural and manmade features, optimized for mountain bike use, including jumps, ramps and rock rides. These features should not appear to be the main trail and should not create user conflict or confusing intersections. |
| Long Loop (3)        | 24" - 36"   | 5%            | 12%           | 4' x 8'                 | Naturally occurring roots and rocks prevalent                      | <6"                   | Natural features with minimal improvements only. These features should not appear to be the main trail and should not create user conflict or confusing intersections.  |
| Upper Technical (4)  | 24" – 36"   | 12%           | >20%          | 4' x 8'                 | Naturally occurring roots and rocks prevalent                      | <12"                  | Natural and manmade features, optimized for mountain bike use, including jumps, ramps and rock rides. These features should not appear to be the main trail and should not create user conflict or confusing intersections. |
| Flow Trail (5)       | 60" – 96"   | 8%            | 10%           | 10' x 12'               | Manmade features including tabletop jumps, doubles and large berms | <2"                   | Natural and manmade features, optimized for mountain bike use, including jumps, ramps and rock rides. These features should not appear to be the main trail and should not create user conflict or confusing intersections. |
| Extra Trail (6)      | 24" - 36"   | 8%            | 12%           | 5' x 8'                 | Some naturally occurring roots and rocks                           | <6"                   | Natural and manmade features, optimized for mountain bike use, including jumps, ramps and rock rides. These features should not appear to be the main trail and should not create user conflict or confusing intersections. |
| Upper Loop (7)       | 24" – 36"   | 10%           | 15%           | 4' x 8'                 | Naturally occurring roots and rocks prevalent                      | <6"                   | Natural and manmade features, optimized for mountain bike use, including jumps, ramps and rock rides. These features should not appear to be the main trail and should not create user conflict or confusing intersections. |
| Top Trail (8)        | 24"- 36"    | 12%           | 20%           | 4' x 8'                 | Naturally occurring roots and rocks prevalent                      | <8"                   | Natural and manmade features, optimized for mountain bike use, including jumps, ramps and rock rides. These features should not appear to be the main trail and should not create user conflict or confusing intersections. |

## Construction Methods

**Sustainable design and construction-** This trail system should be designed and built using the best management practices relevant to the modern trail building industry. Appropriate construction methods, sustainable grades and frequent drainage will prevent trail deterioration and excessive erosion.

**Benching-** Bench cut trails are aligned across hill sides, rather than straight up and down, and are cut into the sideslopes to create a sustainable tread surface. This technique is accommodating to a wider variety of trails users and allows the trail to maintain sustainable grades as it gains elevation.

**Full bench construction-** The full width of the tread should be cut into the hillside whenever possible to prevent erosion of the downhill edge.

**Outslope-** Benched sections of trail should have a 3% - 5% outslope to keep surface water from gathering and running down the trail. Exclusions to this include sections of trail where other drainage solutions apply such as insloped turns, rollers or rock armored sections.

**Grade reversals-** Grade reversals are short sections of trail that descend while the trail is climbing or vice versa. This creates natural drainage points along the trail and prevents water from running down the trail and gathering speed. The natural terrain should be used to create grade reversals whenever possible. These features add natural “flow” to a trail are a highlight of modern multiuse and mountain bike trails.

**Rolling Dip Drain-** When grade reversals cannot be used to break up the flow of water along the trail (ie: a long, straight climb), rolling grade dips can be used to force water off the trail. These drainage features work much like waterbars but have the added benefit of accommodating mountain bikes.

**Frequency of tread drainage-** In general, the steeper the running grade of the trail, the more frequent drains should be. As a baseline, the following intervals are used. Sections of trail with a running grade between 0% and 8% grades should have a grade reversal or dip drain every 100'. 8% - 10% should have reversals every 75' and 10% - 12% should have them on 50' intervals. Specific soil types may require more or less frequent drainage.

**Backslope-** Backslopes should be free of loose materials and be cut back to the angle of repose for the specific soils. This will prevent erosion of the backslope into the tread.

**Spoils-** Excess soils from bench cuts may be used to elevate other sections of trail, create features, fill in borrow pits or be dispersed where it will not be prone to erosion. Spoils that are not used in construction of the tread should be covered in native, organic material (such as duff/ detritus, topsoil, leaves and limbs). This helps to stabilize the spoils and promote revegetation.

**Natural anchors-** Anchors, especially natural anchors; on the downhill side of the trail, help to support the tread and define grade reversals. Generally, these anchors are trees with undisturbed root system or large rocks that are well bedded in the ground.

**Elevated Tread-** Some sections of low or flat terrain may require the tread to be elevated with additional soil to stay dry and achieve the desired tread quality.

**Native materials-** Material for elevated tread should be found on site whenever possible and can come from nearby bench cuts, drainage features or borrow pits.

**Crowned tread-** Elevated tread surface should be crowned, allowing water to sheet off to either side of the trail.

**Swales/ interceptor drains-** These can be installed in areas with perpetual ground water or where the trail tread is vulnerable to large amounts of sheet flow (ie: when crossing logging roads). Often parallel to and uphill of an elevated tread these swales protect the tread by redirecting water to a reinforced drain such as a culvert or armored drain. The bottom of the swales should be at least 1' below the height of the adjacent tread. These features should be at least 3' wide as terrain permits. Wide swales with low angle backslopes are less prone to erosion and look more natural over time.

**Frequency of drainage-** Swales should not extend 100' in length before allowing water to cross the trail to prevent changes in downslope hydrology.

**Support edges-** The edges of elevated tread should be supported by additional material and covered in organic material to prevent the elevated tread from eroding to the sides of the trail.

**Compaction-** All exposed soils in the tread and on backslopes should be compacted by hand or machine to prevent erosion.

**Mechanized impact-** Every effort should be taken to limit the impact of mechanized trail building to construction of the desired tread and associated features.

**Trees-** Trees that are not being removed in the trail building process should not be struck with any equipment during the construction process.

**Access roads-** Any roads or routes that are used to access the construction site should be returned to their original condition when they are done being used. This may include rebuilding berms, check dams or swales that were deformed while accessing the construction sites.

**Borrow pits-** Borrow pits may be used to generate native soils for the purpose of elevating tread or creating features along the trail. Sites for these should be selected in areas that will not cause erosion or seeps into the trail. All pits should be filled in to a reasonable extent and graded to an angle of repose. The end product should not visibly detract from the trail experience or present a new hazard to trail users.

**Corridor-** Corridor should be cut to the dimensions listed in the Trail Specifications table. Removal of living trees should be limited to those necessary for the construction of the trails and associated features. Standing dead trees within or near the trail corridor may be removed for the safety of workers and trail users. Branches protruding into the tread corridor should be cut at the trunk of the tree and the bark of the surviving tree should not be damaged unnecessarily. Stumps that are not removed during the construction process should be cut flush with the ground.

**Crossing wet areas-** Numerous structures may be used to harden or bridge wet areas.

**Stone armoring-** Flat stones found on site can be used in confined areas of wet soil. These armoring sections should take the shape of a drain that allows water to flow across and away from the trail. Stones should be large enough that they will not be moved from their position by trail traffic or freeze thaw cycles.

**Culverts-** There are many culverts on the property (not in use) that are left over from past activities. These may be used to drain swales, insloped turns, or small seasonal drainages. Culverts should be outsloped at 3%, have stone headwalls on both sides and be covered in at least 6" of soil.

**Bridges-** Trail bridges should be used to cross drainages that hold water through more than half of the year. These are generally 10' – 16' in length and should have a width that matches the specified width of the trail. Bridges should be as close to the ground as possible to reduce exposure while allowing the bottom of a bridge to be at least 12" above any water. Deck boards should be spaced between ½" and ¾".

**Boardwalk-** Longer areas of wet ground may require a boardwalk. These should be the same width as the specified trail width and may be as long as necessary. On multi direction trails, boardwalks should not exceed 100' without passing areas. Boardwalks should be elevated just enough to allow airflow under stringers. Deck boards should be spaced between ½" and ¾".

**Berms/ Banked Turns-** Berms may be appropriate on mountain bike optimized trails to help riders negotiate tight corners and increase the "flow" of the trail.

**Size of Berm-** The height, duration and steepness of a berm is dependent on the approach speed and the radius of the turn. A tight radius turn with a high approach speed will be steeper and taller than a berm on a wide turn with a lower approach speed.

**Complete Turns-** Berms should direct riders into the following section of trail and not taper off before the turn is complete.

**Drainage-** There should be adequate space at the inside of the berms to allow for water to gather and flow without eroding the inside riding line. Water may flow to a down-trail grade reversal if applicable or be crossed under the trail with a culvert. A swale above the berm may be used to protect the feature from sheet flow or ground water if necessary.

**Riding Surface-** The riding surface should be wide enough to allow for different approach speeds and increase in steepness toward the outside of the turn. The riding surface should be compacted in layers, or lifts, to help with the longevity of the feature.

**Outer Edge-** Soil on the outsides of berms should be compacted and covered in native, organic material (such as duff/ detritus, topsoil, leaves and limbs). This helps to stabilize the spoils and promote revegetation.

**Rollers-** Rollers may be added to trails to increase the flow of the trail and help riders maintain speed through flat sections through the motion of pumping. Rollers should have a length to height ratio of 10:1 at the minimum, with larger ratios in higher speed sections of trail. Similar to grade reversals and rolling dip drains, rollers help promote drainage and direct water off the trail.



**Jumps-** Jumps may be appropriate on mountain bike specific trails to add a fun and challenging element to the trail. The size, shape and style of a jump should be appropriate for the type of trail, surrounding terrain and speed that an average rider would carry on that section of trail.

**Tabletops and Doubles-** Tabletop and double jumps provide options for riders to roll over the feature without jumping. These jumps are commonly found in intermediate, mountain bike specific trails as they allow riders room to progress their jumping abilities.

**Gaps-** Gap jumps challenge more advanced riders to clear a distance between the take off and landing. On an intermediate trail, these jumps may be appropriate as an alternative to a tabletop or double jump if they are on the side of the main trail and do not appear to be the main riding line. Trails that have mandatory gaps in the main riding line should have signs indicating the location of these features and generally be designated as advanced trails.

**Safety-** Common safety considerations related to jumps include; removing debris from the sides of the landing/ runout; matching the angle of the landing to the angle of the takeoff; provide an open corridor with good sightlines and no overhanging branches; sustainable slopes supporting both the landing and take off to prevent the feature from deforming over time.

**Sensitive areas-** The sustainable methods of design and construction that are outlined in this plan will produce long-lasting trails that have minimal impact to the surrounding environment and inherently deter erosion. Additional measures that may be taken when working near sensitive areas (ie: wetlands) include:

**Vegetation buffer-** Natural vegetation buffers between the trail corridor and sensitive areas should be left undisturbed by the construction process. This will help anchor the tread surface and prevent erosion.

**Slope stabilization-** Erosion prone slopes adjacent to sensitive areas must be stabilized with measures appropriate to the situation. These measures may include compaction, grading to angle of repose, mulching and seeding slopes with native materials, installation of erosion control netting, installation of rip rap and/ or other retaining structures.

**Spoils-** Excess soils that are generated during construction near sensitive areas should be moved along the trail to improve the tread surface or hauled away from the sensitive area to be dispersed where they will not erode.

**Bridge placement-** Bridges or boardwalks built near sensitive areas should not impact the natural flow of water. The bottom of the bridges should be 12" or more above moving water. Deck boards should be spaced at  $\frac{3}{4}$ " to allow airflow and sunlight through the bridge without making an unpleasant surface for bikers. Stone cribbing should be used as necessary to support bridge sills and retain earthen access ramps.

**Silt fence-** Silt fence may be placed between the work site and sensitive areas during the construction window if required.

**Keene East Branch Project\_Financial Report**

|                                 | 2021 Notes  | 2022 Notes                                     | Short Term - 2023 | Notes   |
|---------------------------------|---|--|-------------------|---|
| <b>INCOME</b>                   |   |  |                   |   |
| Grants/Budget Items             | Adk Foundation (\$2500) +<br>5000 ACRA (\$2500)   | Stewart's (\$25k) + BETA<br>Trail Fund (\$50k) |                   | 12900 Cloudsplitter (\$7900) + Adk Foundation (\$5k)  |
| Town of Keene                   |   | 0  |                   | 10000 KYC - Cmty Enhancement Fund request 2022-23   |
| <b>Grassroots Donations</b>     |   |  |                   |   |
| \$5000 and up                   |   | 5000 x1 donor                                  |                   | 2500 x1 donors @ \$2500   |
| \$2500 - \$4999                 |   | 0  |                   | 4000 x4 donors @ \$1k   |
| \$1000 - \$2499                 |   | 2000 x2 donors                                 |                   | 3000 x6 donors @ \$500  |
| \$500 - \$999                   |   | 1000 x2 donors                                 |                   | 2000 x8 donors @ \$250  |
| \$250 - \$499                   |   | 500 x2 donors                                  |                   | 2800 x10 donors @ \$100   x20 donors @ \$50   x20 donors @ \$25   |
| \$25 - \$249                    |   | 2450 x30 donors                                |                   | 2500 x3 @ \$500   x4 @ \$250  |
| Community Partners              |   | 0  |                   |   |
| Fundraiser                      |   | 0  |                   |   |
| <b>TOTAL INCOME</b>             | <b>5000</b>                                       | <b>64950</b>                                   |                   | <b>39760</b>  |
| <b>EXPENSES</b>                 |   |  |                   |   |
| Planning & Design - Contractor  | Site Analysis & Concept<br>Plan by Peduzzi Trails | 0  |                   |   |
| Trail Construction - Contractor |   | 74500  |                   | 35000 Phase 2 final budget from Peduzzi Trails - Lower DH Trail (\$35k)   |
| Trail Construction - BETA       |   | 6294   |                   | 1400 BETA Trails Coordinator - 7 days FT @ \$25/hour<br>Admin - 5% of contractor budget - overhead (insurance, office expenses) |
| Admin - BETA                    |   | 0  |                   | 1750 + staff time (fundraising, donor mgmt, communications)   |
| Bridge Lumber + Fasteners       |   | 3317   |                   | 500 Bridging  |
| Kiosk & Sign Lumber + Fasteners |   | 921  |                   |   |
| Signage                         |   | 201  |                   | 1000 Permanent trail signs, markers and information signage   |
| <b>TOTAL EXPENSES</b>           | <b>5000</b>                                       | <b>85233</b>                                   |                   | <b>39650</b>  |
| <b>SURPLUS/DEFICIT</b>          | <b>0</b>  | <b>717</b>                                     |                   | <b>50</b>   |