



Yellowstone Kelly Heritage Trail – Plan for Recreational Trail Amenities & Bike Skills Features

Final Report



Paradise, CA: Paradise Memorial Trail (Yellowstone Kelly Trail)

On March 21, 2023, American Ramp Company contracted with the Paradise Recreation and Park District to complete site reviews and conceptual designs for recreational and skill features along the Yellowstone Kelly Trail. Over the last several months, ARC has worked with the Town of Paradise and Paradise Recreation and Park District to gather community input on the design of these new features.

One of the primary considerations during the design process was to take inventory of the existing conditions along the YKT corridor and to review the opportunities and constraints along the trail. This included considering the proximity to public parking, schools, and existing parks. The design maps out desired features for the YKT corridor bike park trail, identifying potential locations for entry, spectator viewing, and drainage flow, as well as supporting recreational amenities like drinking fountains, trash receptacles, and bike fix-it stations.

The design aims to create a progression of difficulty levels for riders of all skill levels. This involved designing several options ranging from beginner to advanced, with wood features that are wider to accommodate younger children and beginners, as well as wooden features like skinnies to challenge more advanced riders. The design also includes a diversity of zones such as skill building for momentum, balance, and bike handling, as well as jump line tabletop features.

Overall, the design for the recreational trail and skills features along the Paradise Memorial Trail is intended to enhance the community's outdoor recreational offerings while also taking into consideration environmental concerns and the needs of riders of all skill levels. With the input of the community and the expertise of ARC, the final design is an exciting addition to the town of Paradise.

In this report, you will find a breakdown of the tasks ARC performed this year which led to our final design. Having performed in person site walks, community outreach, and design review meetings with district staff and key stakeholders, our team created a conceptual design that meets the needs of the community and benefits Paradise.

Scope of Work

1. Community Engagement
 - a. Host a meeting with local citizens or Trails Advisory Group (TAG) and project team to formulate ideas for concept design
 - b. Review of sample designs with TAG to identify preferred themes
 - c. Summarize meeting findings with the District Board and TAG

 2. Site Review
 - a. Inventory map, photos, and written summary of existing conditions of YKT Corridor.
 - b. Review location of linear park or features for opportunities and constraints.
 - c. Describe and map desired features for YKT Corridor bike park trail including, but not restricted to potential locations for entry, spectator viewing, and drainage flow, and other supporting recreational amenities (such as drinking fountains, trash receptacles, bench or picnic sites, repair or air fill up stations, play or exercise equipment, or potential linkages with other partners or recreational or school related properties),
 - d. Create an architectural rendering (drawings and photos) of trail features.
 - e. Develop a long-term maintenance plan, cost estimates, schedule, and recommendations.
 - f. Summarize data gaps and information needed for construction (i.e., soil and drainage analysis),
 - g. District will help identify potential resource concerns and environmental compliance issues.

 3. Design Revisions
 - a. Revise conceptual design based on feedback from initial input (2-revisions included)
 - b. Verify the design is responsive to the site and budget

 4. Cost Estimate
 - a. Provide cost estimate (separating out tasks, labor, and materials) for construction of approved design.
 - b. Develop recommended phases of construction.
 - c. List potential funding opportunities and recommendations for funding opportunities or revenue mechanisms to create a financially sustainable model for operation.

 5. Material Quantity Take-offs
 - a. Provide breakdown of material types and quantities for various areas of the park.

 6. Final Deliverables
-

601 S. McKinley Ave., Joplin, MO 64801
Toll-free 877-RAMP-778
Local 417-206-6816
sales@americanrampcompany.com



- a. Summary report
- b. Large poster size print of final design
- c. Material Quantity Take-offs
- d. Cost Estimate

1. Community Engagement

- a. Host a meeting with local citizens or Trails Advisory Group (TAG) and project team to formulate ideas for concept design
- b. Review of sample designs with TAG to identify preferred themes
- c. Summarize meeting findings with the District Board and TAG
 - April 3, 2023: ARC hosted kickoff meeting with District to discuss project goals
 - April 17, 2023: ARC performed in person site walk / review with District
 - April 21, 2023: district performs district wide in person trails engagement
 - April 21, 2023 – May 8, 2023: ARC conducted online survey
 - May 18, 2023: ARC hosted virtual meeting with District to review online survey results
 - June 7, 2023: ARC provided master plan diagram for bike zones along trail to District
 - June 29, 2023: ARC hosted virtual meeting with District to review master plan diagram
 - June 30, 2023: ARC provided updated master plan diagram based on feedback from District
 - July 25, 2023: ARC hosted virtual meeting with District to review master plan diagram and discuss goals and next steps
 - August 28, 2023: ARC provided first draft of detailed bike park design to District for review
 - September 8, 2023: ARC hosted virtual cell with District to discuss detailed design and discuss next steps
 - November 14, 2023: ARC hosted virtual meeting with District to discuss virtual community engagement with identified bike focus group
 - November 20, 2023: ARC hosted virtual focus group meeting
 - January 26, 2024: District hosted virtual meeting intended for TAG group, changed meeting to internal review of updated detailed design
 - January 26, 2024: ARC provided updated detailed design to District for further review as well as community engagement flyer for March 8, 2024
 - March 7, 2024: ARC provided presentation materials to District for review
 - March 8, 2024: ARC hosted virtual public meeting
 - March 8, 2024: District posted recording of virtual public meeting on website
 - March 15, 2024: District provided additional community engagement feedback to ARC via email
 - May 10, 2024: ARC provides final detailed bike park design, quote, and project report to District.

Attachment 1a: Online Survey Report

Attachment 1b: Virtual Community Engagement Flyer

2. Site Review

1. Inventory map, photos, and written summary of existing conditions of YKT Corridor.
On April 17, 2023, ARC's lead designer, Megan Bradley, performed an in-person site visit of the existing YKT. During that visit, Megan took photographs and detailed notes of the existing trail conditions. Following that visit, Megan completed a site assessment report with a suggested masterplan outline to assist with design development.

See Attachment 2: Preliminary Masterplan Report

2. Review location of linear park or features for opportunities and constraints.
See Attachment 2: Preliminary Masterplan Report
3. Describe and map desired features for YKT Corridor bike park trail including, but not restricted to potential locations for entry, spectator viewing, and drainage flow, and other supporting recreational amenities (such as drinking fountains, trash receptacles, bench or picnic sites, repair or air fill up stations, play or exercise equipment, or potential linkages with other partners or recreational or school related properties)

See Attachment 5: Final Design Concept

4. Create an architectural rendering (drawings and photos) of trail features.
See Attachment 5: Final Design Concept
5. Develop a long-term maintenance plan, cost estimates, schedule, and recommendations.
See Attachment 3: Maintenance Plan

6. Summarize data gaps and information needed for construction (i.e., soil and drainage analysis),

Customer Provides:

- Survey and Mapping – The Client shall provide ARC with a current survey locating all above and below ground utilities, appurtenances, structures, and easements. The survey shall be in digital format that can easily be used with AutoCAD software.
- Sufficient water and electrical power within 100 feet of work areas
- Unobstructed, safe, and continuous access to work area with heavy equipment. All weather roads for heavy equipment
- All necessary site information including topography, site surveying, and elevations
- Bonding
- Permits
- Demolition of existing facilities
- Fencing of any kind
- Site testing and inspections: standard proctor/density testing, onsite concrete cylinders, engineering, surveying, or testing services
- Utility, mechanical, electrical, plumbing work, relocation, or repairs of any kind
- Any landscaping (unless otherwise stated in scope of work)
- Toxic or hazardous material handling or removal
- Dewatering, silt fence, soil stabilization, erosion control, street cleaning, and traffic control

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- Site clearing and grubbing

7. District will help identify potential resource concerns and environmental compliance issues.

3. Design Revisions

- a. Revise conceptual design based on feedback from initial input (2-revisions included)
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See Attachment 4: Preliminary Design Concept

- b. Verify the design is responsive to the site and budget
See Attachment 5: Final Design Concept

4. Cost Estimate

- a. Provide cost estimate (separating out tasks, labor, and materials) for construction of approved design.

See Attachment 5: Final Design Concept

- b. Develop recommended phases of construction.

See Attachment 5: Final Design Concept

- c. List potential funding opportunities and recommendations for funding opportunities or revenue mechanisms to create a financially sustainable model for operation.

Below is a list of grants that could be considered for the construction of the skills trail. While there are additional grants available, these are the ones ARC is familiar with and have been used to fund other projects we have worked on. In regard to operational funds for the trail, ARC is familiar with action sports parks that request a fee for members to use the facility. However, since the trail is multi use and open to the public, we do not believe charging for operations is viable. ARC recommends seeking grant funding and/or donations to maintain the trail, or involving local mountain bike groups and other nonprofits to assist with ongoing costs.

- California Parks Grants
<https://www.fundingresource.org/parks/>
- Land and Water Conservation Fund
https://www.parks.ca.gov/?page_id=21360
- Recreational Trails Program (RTP) Non-Motorized
https://www.parks.ca.gov/?page_id=24324
- Clean California Grant
<https://cleancalifornia.dot.ca.gov/local-grants/local-grant-program>
- Prop 64 Grant
<https://www.bscc.ca.gov/proposition-64-public-health-safety-grant-program/>
- American Rescue Plan Act (ARPA)
<https://dof.ca.gov/budget/state-fiscal-recovery-fund/#:~:text=California%20has%20received%20over%20%2443,in%20state%20fiscal%20recovery%20funds.>
- Community Development Block Grant (CDBG)
<https://www.hcd.ca.gov/grants-and-funding/programs-active/community-development-block-grant>

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5. Material Quantity Take-Offs

- a. Provide breakdown of material types and quantities for various areas of the park.
See Attachment 5: Final Design Concept

6. Final Deliverables

- a. Summary report
Current Document
- b. Large poster size print of final design
Shipped to District
- c. Material Quantity Take-offs
See Attachment 5: Final Design Concept
- d. Cost Estimate
See Attachment 5: Final Design Concept

ATTACHMENT 1A: ONLINE SURVEY RESULTS





**AMERICAN
RAMP
COMPANY**



**PARADISE MEMORIAL TRAIL (YELLOWSTONE KELLY TRAIL)
BIKE PARK ELEMENTS SURVEY**

PARADISE, CA

34 PARTICIPANTS

INFORMATION RECORD

Would you like to be added to Paradise Recreation & Parks District's (PRPD) parks information?



TOP 4 ZIP CODES

11
☐☐
☐☐

95969

6
☐☐
☐☐

95926

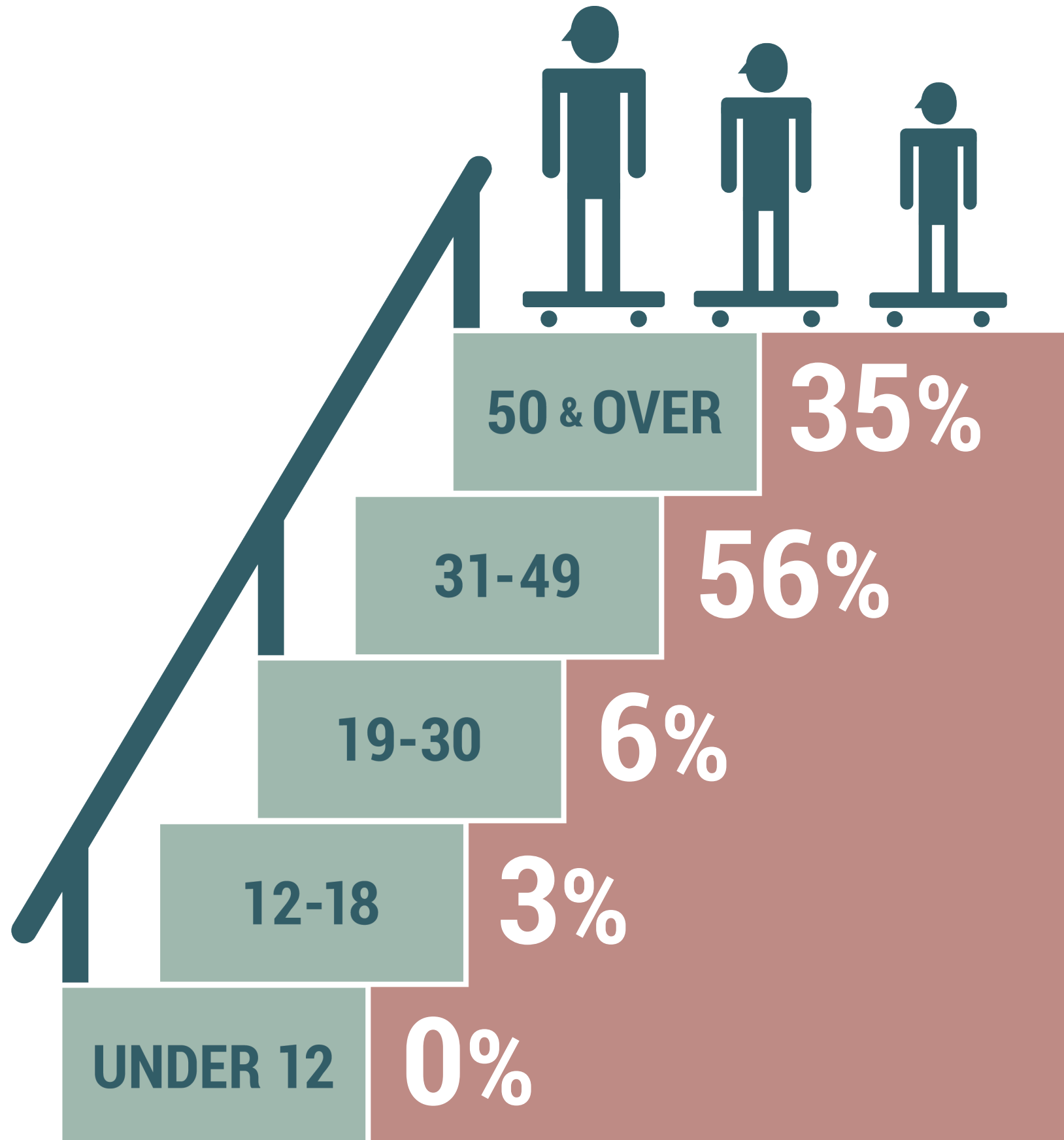
5
☐☐
☐☐

95928

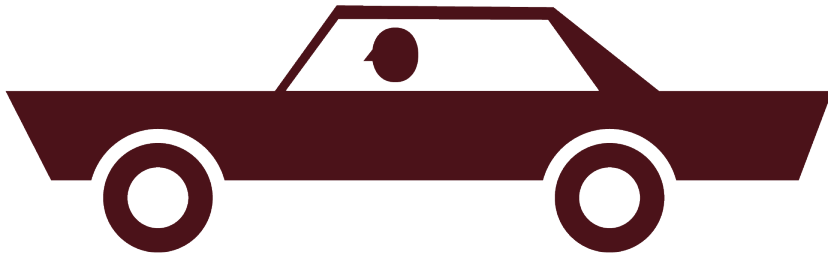
5
☐☐
☐☐

95973

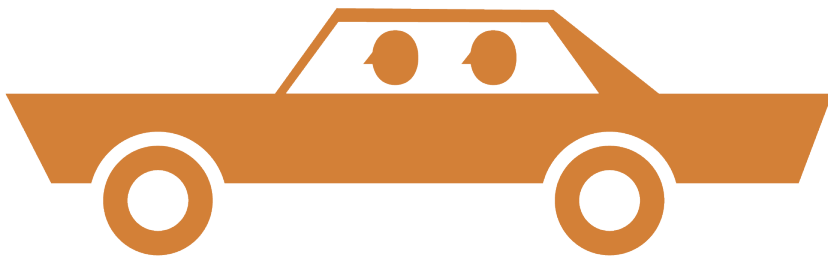
PARTICIPANT AGES



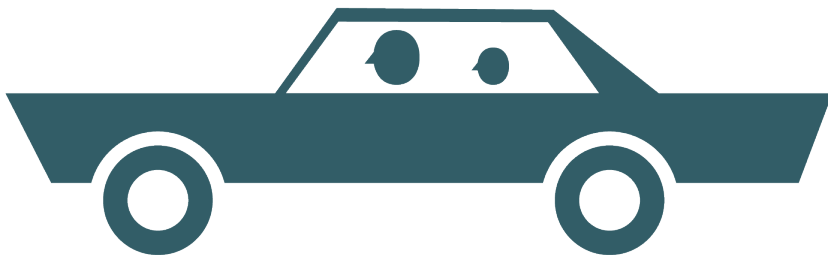
TRANSPORTATION



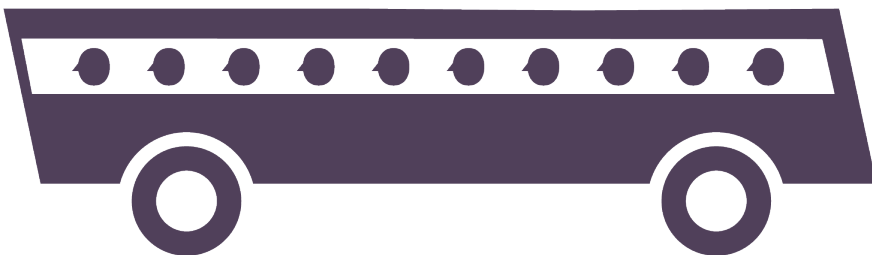
70%
DRIVE



15%
CARPOOL



0%
GUARDIAN



0%
PUBLIC



15%
SKATE / RIDE

PARK CALENDAR USE

DAILY

3%

WEEKLY

9%

MONTHLY

26%

YEARLY

62%

PARK CALENDAR USE (ADDED BIKE PARK ELEMENTS)

DAILY

9%

WEEKLY

23%

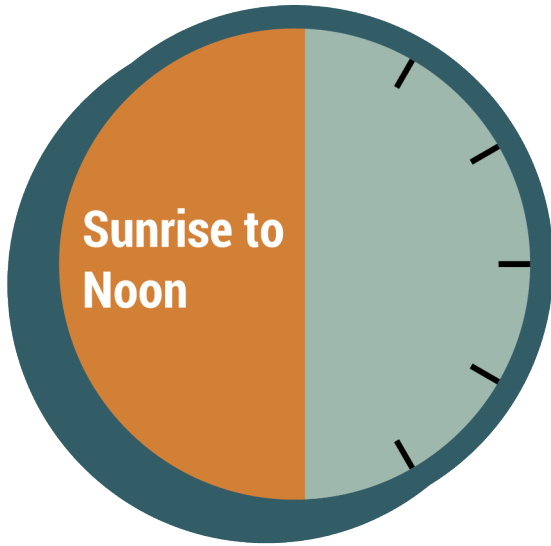
MONTHLY

47%

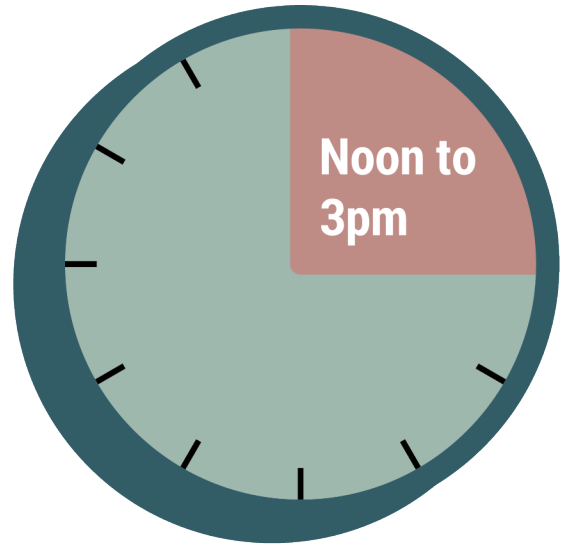
YEARLY

21%

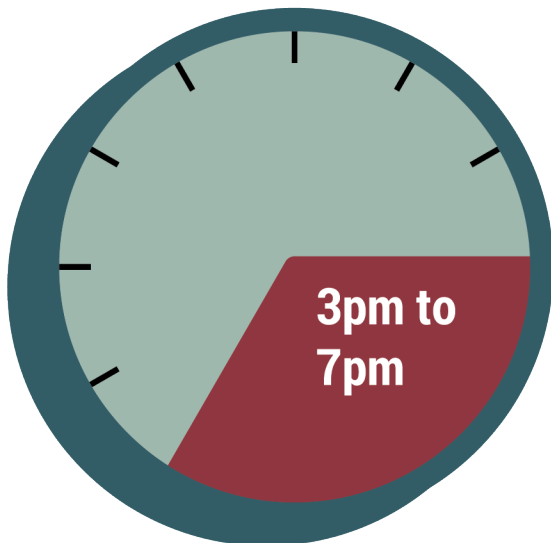
PARK TIME USE (ADDED BIKE PARK ELEMENTS)



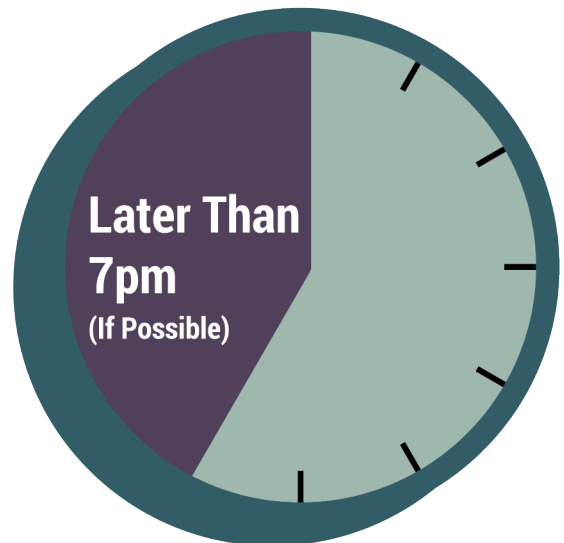
44%



15%



41%



0%

SUGGESTED ACTIVITIES

Mountain Biking

Flow Trail With Features

Bike Jumps

**Downhill Style Rollers
& Tables**

SUGGESTED AMENITIES

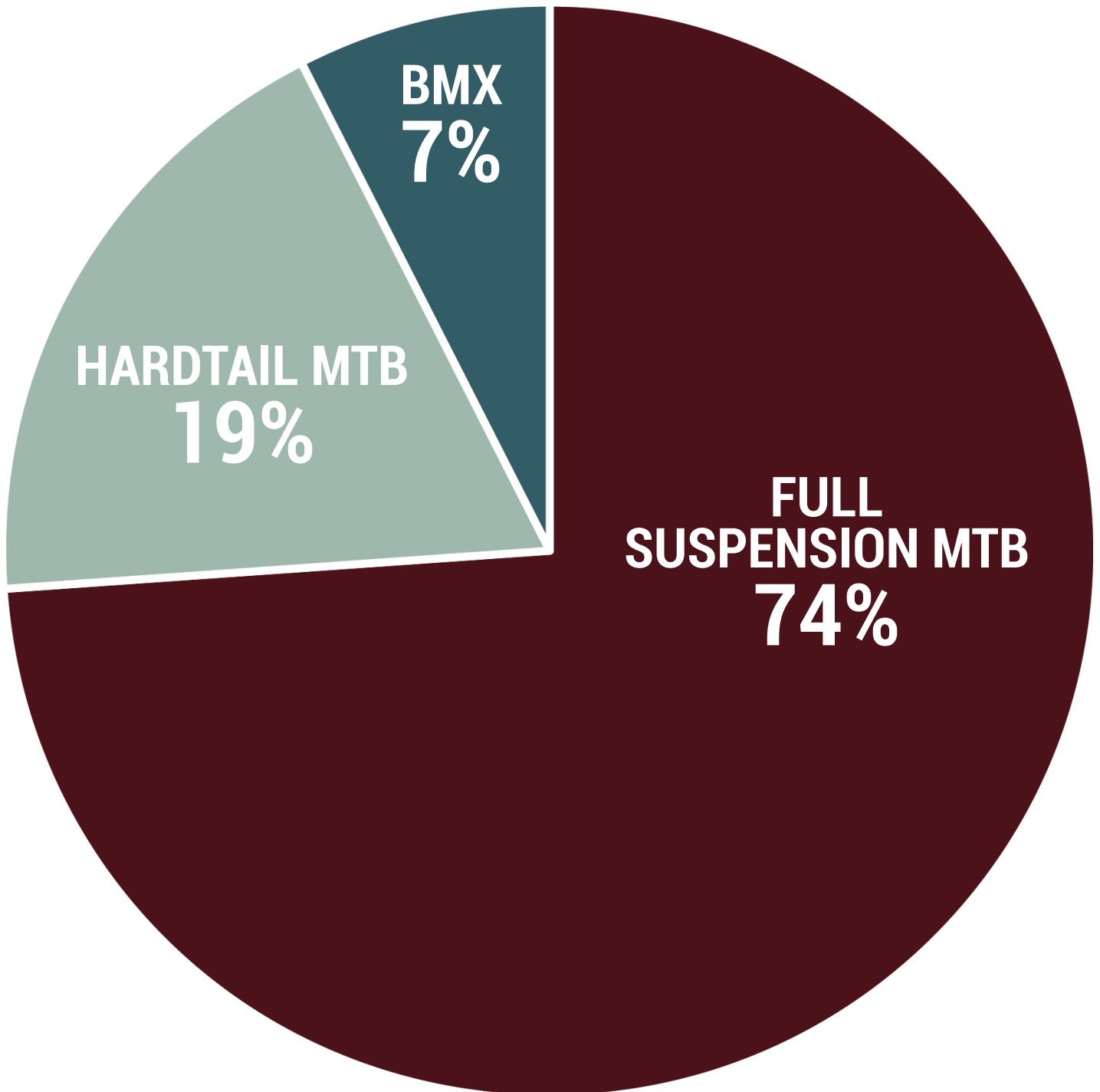
Drinking Fountains

**Shade With Benches &
Picnic Tables**

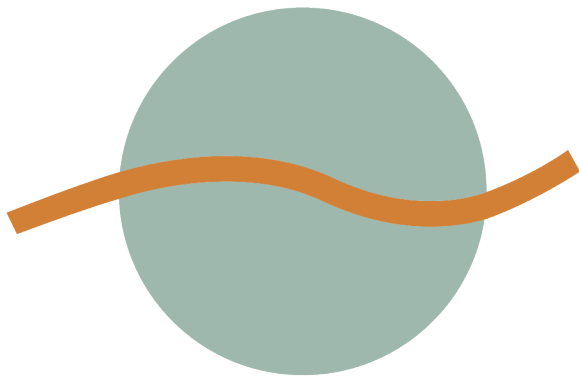
Bike Tool Stands

Restrooms

BIKE TYPE

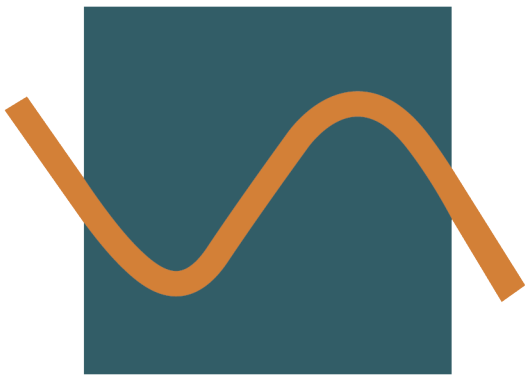


SKILL LEVEL



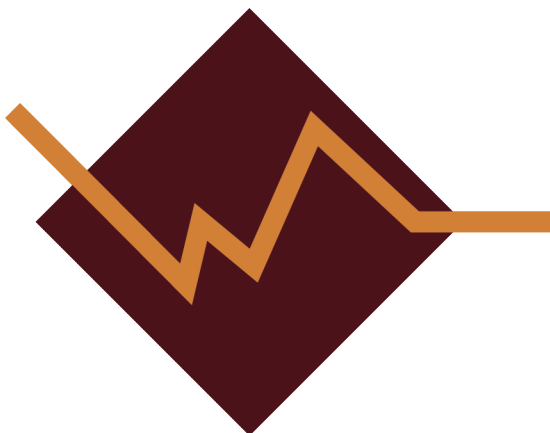
BEGINNER

9%



INTERMEDIATE

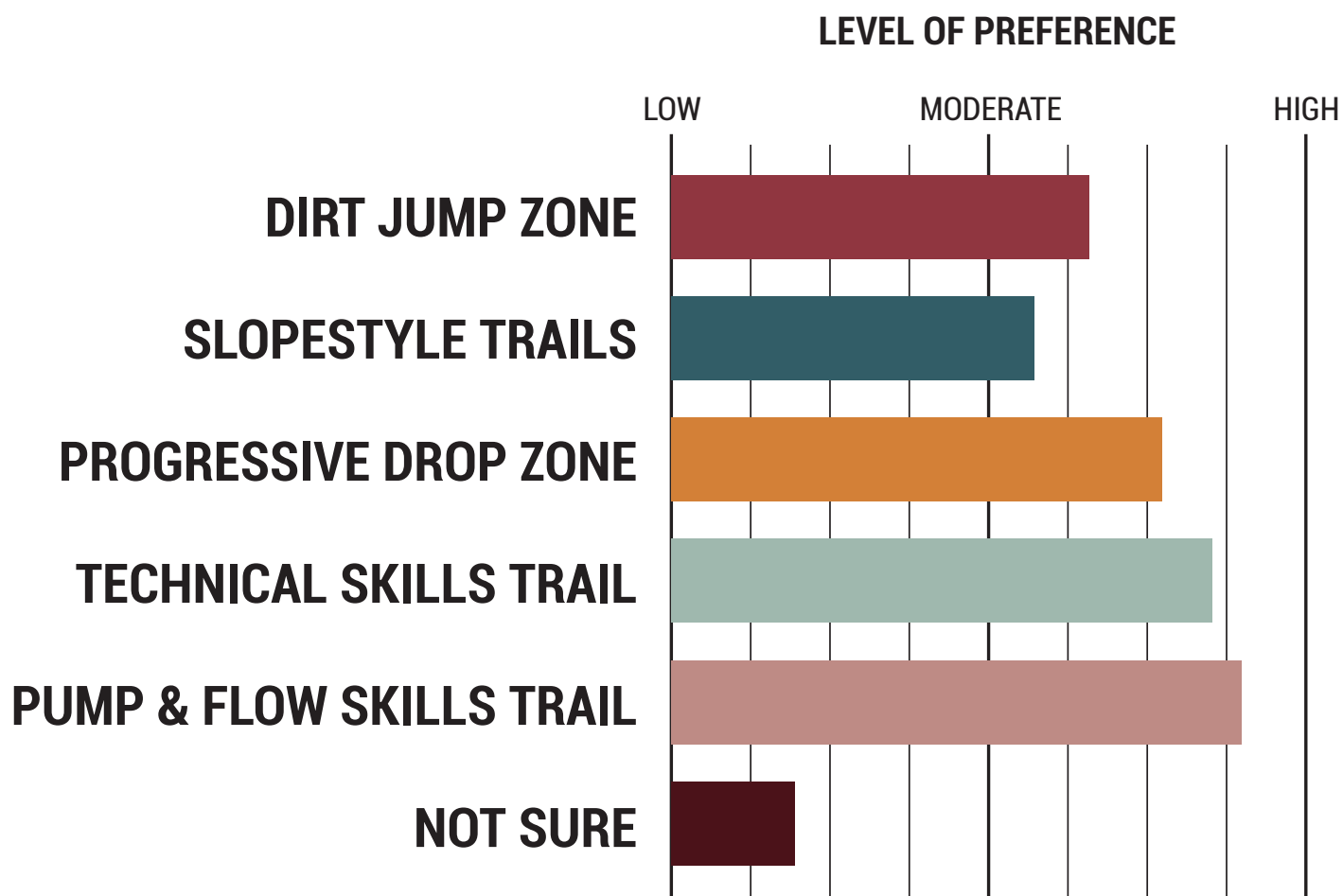
62%



ADVANCED

29%

TRAIL ZONE PREFERENCE



TRAIL SURFACE



NATURAL

73%



HARD

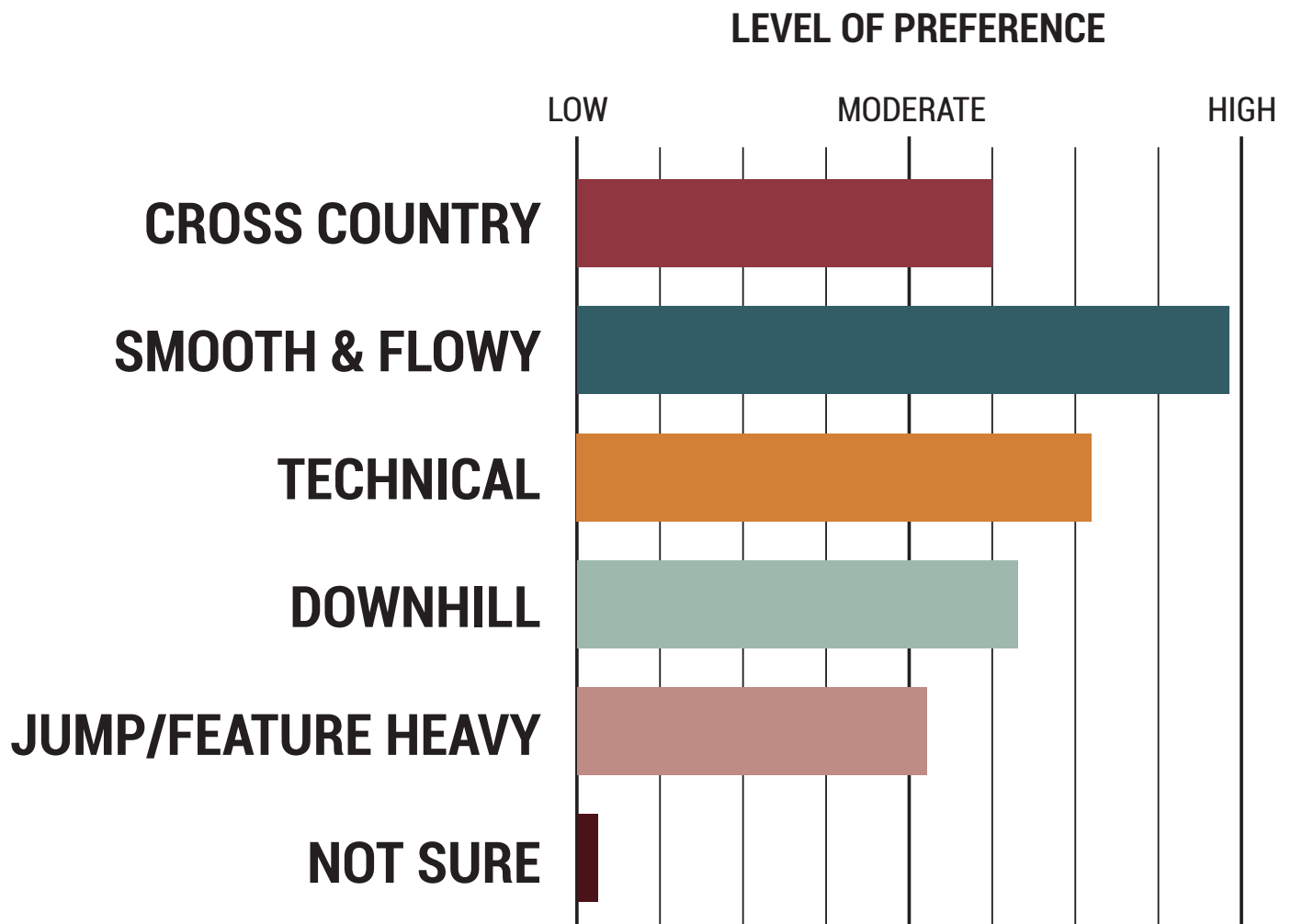
15%



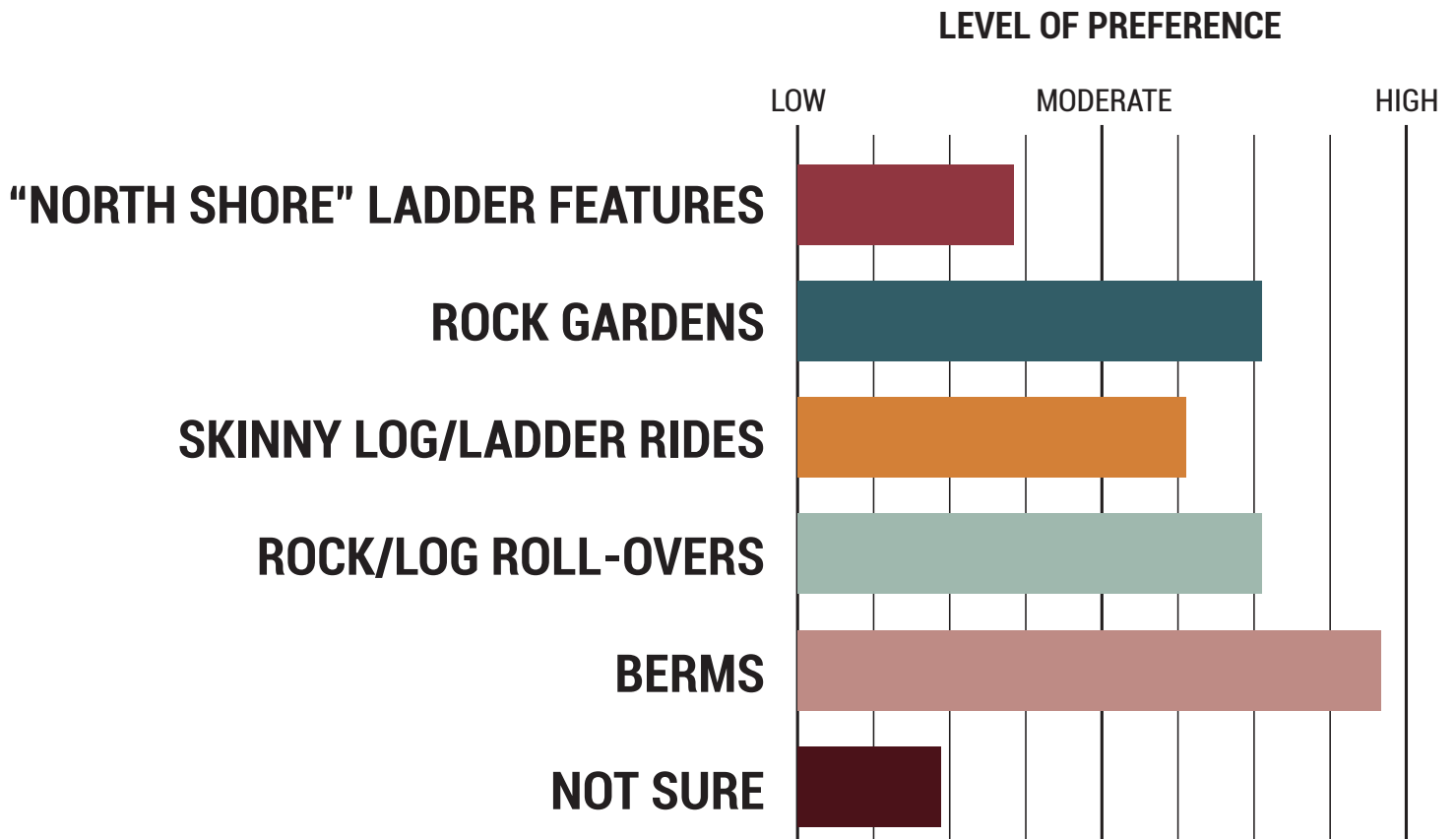
NOT SURE

12%

TRAIL TYPE PREFERENCE



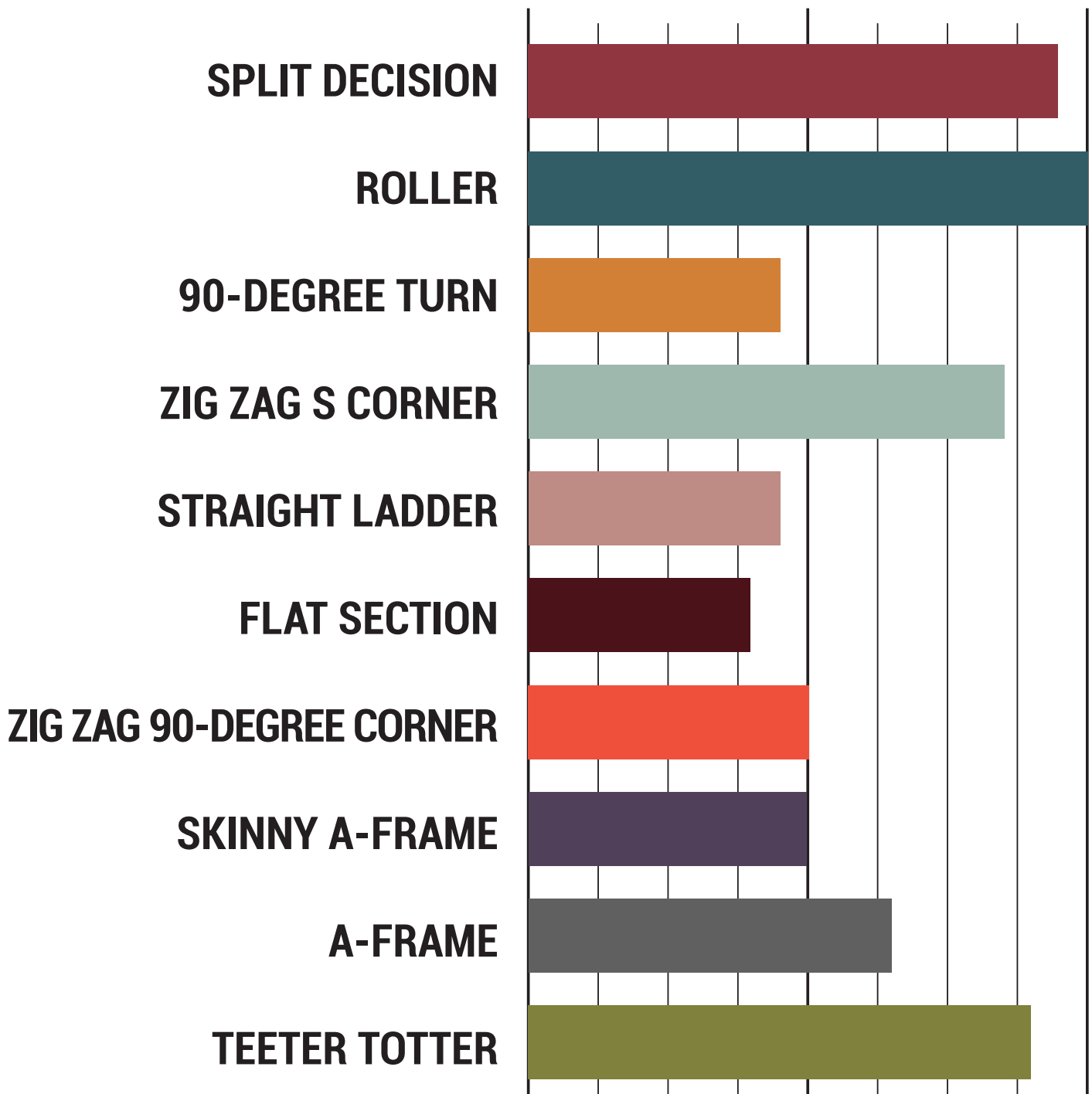
SKILL DEVELOPMENT PREFERENCE



FAVORITE FEATURES

LEVEL OF PREFERENCE

LOW MODERATE HIGH



BIKE PARK ELEMENT LOCATIONS

One near each end and one near the middle, maybe adjacent to the high school. Connect all with dirt trails alongside the paved pathway, with naturalistic design.

Close to High School.

Close to downtown.

SUGGESTED ADDITIONAL FEATURES

Anything that creates a fun ride & flows nicely, from beginner to expert. Berms, skinny, rollers, drops, rock garden, wallride, etc. And more skills, balance type stuff in the bigger areas to not clog up the flow on the trail.

Toddler level bike course.

Trail maps and trail head signs.

**ATTACHMENT 1B:
VIRTUAL
COMMUNITY
ENGAGEMENT FLYER**



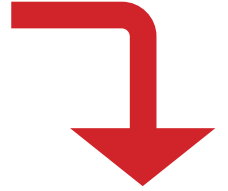
COMMUNITY INPUT MEETING

MARCH 8

1:05pm – 2:00pm

YELLOWSTONE KELLY HERITAGE TRAIL DESIGN REVIEW

**SCAN THE QR CODE
TO JOIN THE MEETING**



PASSCODE: 6626



URL LINK: <https://us02web.zoom.us/j/88531335819?pwd=ZEcwaXRoMjRENVBhejJzclNISXhmUT09>



ATTACHMENT 2: PRELIMINARY MASTER PLAN REPORT



Site Analysis

ARC is thrilled to lead the upcoming transformation of the Paradise Memorial Trail, also known as the Yellowstone Kelly Trail, into a dynamic recreational hub. This project aims to introduce a range of recreational elements, including mountain biking, skating, and hiking features along the multi-use trail. In collaboration with the Town of Paradise and Paradise Recreation and Park District, ARC is committed to engaging the community in the design process and incorporating their valuable input into the development of these exciting new features.

Site Analysis: A crucial step in the design process is conducting a thorough analysis of the existing conditions along the Yellowstone Kelly Trail corridor. This took place on April 17, 2023. The analysis encompassed an evaluation of the opportunities and constraints presented by the trail, considering factors such as proximity to public parking, schools, and existing parks. For example, we designed tabletop jump features near places like schools, whereas the slower, more technical zones will be near residential zones. By carefully assessing these elements, we strategically mapped out the desired features for the bike park trail along the Yellowstone Kelly Trail. This includes identifying suitable locations for entry points, spectator viewing areas, and ensuring proper drainage flow. The spectator viewing areas will be tied to the zones that lay adjacent to existing parks or schools, such as Moore Baseball Field. Proper trail drainage will be site specific for each zone and will follow trail building standards. Additionally, we integrated essential recreational amenities like drinking fountains, trash receptacles, and bike fix-it stations to enhance the overall user experience. These were grouped where there are existing bulb-outs for trash receptacles and benches.

Design Objectives: The primary design objective for the Yellowstone Kelly Trail corridor was to create a progressive range of difficulty levels that cater to riders of all skill levels. To achieve this, the design offers various options, ranging from beginner-friendly features to advanced challenges. The inclusion of wider wooden features accommodates younger children and beginners, fostering a supportive and inclusive environment. Advanced riders will be challenged with skill-building zones that focus on momentum, balance, and bike handling. Additionally, the design incorporates jump line tabletop features, adding an element of excitement and adventure to the trail.

Environmental Considerations: While designing the recreational trail and skills features, we are deeply committed to upholding environmental considerations. The proposed design aligns with sustainable practices to minimize the project's ecological impact. We carefully assessed the trail's surroundings and developed measures to protect and preserve the natural environment. We intend to recycle the local columnar basalt rock, which rests in piles along the trail. These can act as fill material where the trail will undulate and more specifically as natural trail features for people to ride bikes on.

Community Involvement: ARC placed great emphasis on community engagement throughout the design process. We recognize the importance of gathering input from residents, local organizations, and trail users to ensure that the final design reflected the desires and needs of

the community. Through surveys and public input, we gathered feedback to shape the initial design development of the recreational trail and skills features. This collaborative approach resulted in a design that truly resonates with the community, fostering a sense of ownership and pride. The community survey results are included in this package.

Conclusion: The addition of recreational features along the Paradise Memorial Trail is set to elevate the outdoor recreational offerings of the Town of Paradise. With careful consideration of the site's unique characteristics, the design blends seamlessly with the natural surroundings while offering an array of engaging activities for residents and visitors alike. Through community involvement and the expertise of ARC, the final design creates an unforgettable recreational experience, enhancing the vitality and appeal of the Paradise Memorial Trail for years to come.

Proposed Design

We present this proposal for the development of the Greenway Trail, a bike park, and trail system aimed at providing an exciting and inclusive riding experience for the local community. With a centralized starting/ending location at the community park where the Depot Museum is located (on Pearson Road), the Greenway Trail will offer various features and sections tailored to different skill levels and preferences. Our proposal outlines the specific design elements and zones to be incorporated along the trail, ensuring an enjoyable and diverse riding experience for all users.

- 1. Centralized Bike Park Features (Community Park at Pearson):** At the community park, we will establish a centralized location for locals to access the majority of the bike park features. Utilizing the existing topography, we will create a unique riding experience within this zone. This area will serve as a starting point and hub for riders to access different sections of the Greenway Trail.
- 2. Flow Trails near the High School (Elliot to Maxwell):** Adjacent to the high school, this section of the trail will consist of flow trails designed for riders of varying skill levels. Flow trails are characterized by smooth, berm turns and rolling features that allow riders to maintain momentum. By incorporating these trails, we aim to create an enjoyable riding experience for all users. We also intend to locate a skills zone about a half mile north on the trail where the future charter school will be.
- 3. Slower, Technical Skills Features (Maxwell to Billie):** Considering the residential nature of this section, we will develop slower, more technical skills features. Riders will encounter tight turns, rock gardens, and technical obstacles that require precision and advanced riding skills. This section will cater to experienced riders seeking a challenge while ensuring a safe and engaging experience for all.
- 4. Steeper Area (Billie to Wagstaff):** Given the steeper slopes and residential surroundings, we propose leaving this section as an open space. However, we suggest repurposing the existing seating/trash receptacle area into a fix-it station. This facility will provide

maintenance facilities for riders, allowing them to address any bike-related issues and ensure a smooth riding experience.

5. **Columnar Basalt and Wide Turnouts (Wagstaff to Rocky):** Incorporating the presence of columnar basalt, this section of the trail will offer technical riding experiences. Riders can enjoy the unique terrain while navigating wide turnouts that allow for wider features such as jumps. By capitalizing on the natural features, we will create an exciting and challenging section for riders to explore.
6. **Scenic Area (Rocky to before Paradise Dog Park):** With its picturesque view, this area will be developed to maximize the scenic experience for riders. We will incorporate features that enable riders to enjoy the surrounding beauty while traversing the trail. This section will provide a tranquil and captivating riding experience.
7. **Wide, Wooded Area near Moore Baseball Field:** The wide and wooded area near Moore Baseball Field will be transformed into a mountain bike haven. Designed specifically for mountain biking, this section will include wooden structures and features that enhance the overall riding experience. Riders will feel immersed in nature while enjoying the thrill of the trail.
8. **Table Top Jumps:** Heading south on the trail from the northern tip, near the Fastrip gas station, we propose incorporating table top jumps. These jumps will have a flat section at the top, allowing riders to maintain speed and catch air without the need for steep takeoffs or landings. The trail leading to this section will gradually descend, providing riders with an ideal setup for table top jumps just before Clark Rd.

Conclusion: The proposed development of the Greenway Trail will create an engaging and inclusive bike park and trail system for the local community. By incorporating various sections with distinct features and design elements, we ensure that riders of all skill levels can enjoy the trail. The centralized location at the community park, along with the carefully curated zones, will provide a unique and exhilarating riding experience.

Zone Types

Our greenway stations are purpose-built bike amenities designed with beginners in mind. They are meant to provide new riders with an alternative form of recreation that challenges, builds skills, inspires confidence, fosters independence, and offers a whole lot of fun. The Greenway Stations are small areas, 2k-5k square feet; with a variety of different elevated riding features to learn or practice slow technical skills and balance skills. These skills are crucial to the sport of mountain biking and help to build confidence in a controlled environment. The Greenway Stations are designed to be added to greenway or gateway style hike and bike trails. These stations allow the whole family to get out and ride by offering something for everyone.

Skills and Flow Trails: A Mountain Bike Skills Trail is a purpose-built trail with dirt, rock and prefabricated features that replicates features found on most mountain bike trails. Mountain Bike



Skills Trails are designed for riders who want to practice essential mountain bike skills in a safe and fun environment. A Flow Trail is a gravity assisted mountain bike skills trail. The typical Flow Trail will last between 1-3 minutes and will generally have more jumps since it goes downhill. A properly built Flow Trail will incorporate features which manage the rider's speed. The trail surface is 6' wide and can be built to fit virtually anywhere.

Jump Lines: Jump lines are mounds of dirt sculpted specifically for getting riders airborne. To increase sustainability our Jump lines are typically built using our PBR "kicker" ramps and are between 3'-6' tall. When designing jump lines, we always provide a beginner friendly option by making the features "rollable" or by providing a ride around option.

Pump Track: A pump track is a progressive kind of feature that uses an up and down 'pumping' motion to propel the bicycle forward instead of pedaling. A pump track is a series of banked turns and undulating rollers configured into a closed circuit, in which the user generates momentum by "pumping". Pump tracks are a perfect structure for practicing balance, learning skills, and improving confidence on the bike. Pump tracks are suitable for bicycles, skateboards, scooters, rollerblades and quads.



SKILLS COURSE EXAMPLE



FLOW TRAIL EXAMPLE



MAXWELL

PARADISE HIGH SCHOOL

ELLIOT DR



1000 ft

PARADISE, CA - 8228



SKILLS ZONE EXAMPLE



VIEW FROM SKILLS ZONE



BASALT ROCK AREA WITH PLENTY OF SHOULDER



FLOW TRAIL EXAMPLE



ROCKY LN

WAGSTAFF RD



1000 ft

NORTH END OF TRAIL

CLARK RD



TABLETOP JUMPS EXAMPLE



TABLE TOP JUMPS AREA



SKILLS ZONE EXAMPLE



SKILLS ZONE AREA



FLOW TRAIL EXAMPLE



FLOW TRAIL AREA

MOORE
BASEBALL FIELD



1000 ft

ATTACHMENT 3: MAINTENANCE PLAN





Bike Park Operations and Maintenance Plan



Bike Park Operations and Maintenance Plan

Action Sports Construction

CONTENTS:

SECTION I: OPERATIONS

1. Operations Plan Overview
2. Bike Park Operations and Rules

SECTION II: RISK MANAGEMENT

3. Risk Management Plan

SECTION III: MAINTENANCE

4. Maintenance Plan
5. General Park Maintenance Activities
6. Bike Park Specific Maintenance Activities
7. Routine Maintenance Procedures Bike Park Riding Areas & Features
8. Routine Maintenance of Dirt Riding Features
9. Routine Maintenance of Steel And Wood Riding Features
10. Routine Seasonal and Annual Maintenance

Bike Park Operations and Maintenance Plan

Action Sports Construction



SECTION I: OPERATIONS

1. Operations Plan Overview
 - 1.1 Purpose
 - 1.2 Reference Document
 - 1.3 Adaptive Management and Annual Review

2. Bike Park Operations and Rules
 - 2.1 Park Closures
 - 2.2 Weather Based Closures
 - 2.3 Precipitation Based Closures

Bike Park Operations and Maintenance Plan

Action Sports Construction

1. OPERATIONS PLAN OVERVIEW

1.1 Purpose

The purpose of this Operations Plan (PLAN) is to ensure the highest quality construction, maintenance, operation and management of the park facility (PARK) and to ensure comprehensive integrated risk management practices and protocols are established and maintained by all parties for the lifetime of the project.

1.2 Reference and Recording Document

The PLAN should be used as both as a reference tool for ensuring best practices and as an archive tool for logging and recording operations. The PLAN should be readily accessible by all staff, outside contractors, and volunteers in order to ensure best management practices are being followed.

1.3 Adaptive Management and Annual Review

The PLAN should be reviewed by and updated on an annual basis to identify, analyze and mitigate any potential issues related to the successful operation of the PARK. Operations and programming should be adapted, based on the annual review process, to best manage for risk and positive user experience. The review process should include representatives and input from but not limited to; Operations staff and supervisors, risk management, Fire, EMS, PRNS Management, and a professional bike park consultant.

Bike Park Operations and Maintenance Plan

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2. BIKE PARK OPERATIONS AND RULES

2.1 Park Closures

Park closures will occur periodically throughout the year for a variety of weather conditions and routine maintenance.

2.2 Weather Condition Based Closures

Weather condition based closures from extreme weather conditions from heavy precipitation, high winds, extreme heat and or cold should be expected throughout the year. Planning for these closures and communicating the reasons for the closures to park staff and the public is critical to reducing and minimizing maintenance and maintaining optimal riding conditions in the park.

2.3 Precipitation Based Closures

Rain, sleet, hail and snow will most likely occur during the winter season and may require park closure for days to weeks or even months at a time. The length of the closure is dependent upon a variety of factors including the forecasted weather conditions for the season, the weather conditions prior to the precipitation event, the drainage capacity of the soils, and the condition of the vegetation and landscaping within the park itself. Closures due to precipitation are done both to ensure safe user experiences and to minimize erosion and degradation of features due to usage.

TESTING GUIDELINES: When determining if the park should be closed due to precipitation park staff will be relied upon to perform a 3-Step visually and physically inspection process of the park and riding features.

Step 1 - Visual Inspection: If there are visible puddles, running water or standing water, the park should be closed until these areas have fully drained.

Step 2 - Physical Inspection (Walking the site): If there are no visible puddles or standing water park staff should walk the site. If while walking the site their shoes displace soil, soil sticks to the soles of their shoes or their shoe print is visible the park should remain closed until the ground has fully drained and dried.

Step 3 - Physical Inspection (Riding the site): If park staff are able to walk the site without displacing soil or leave shoe prints behind, then they should ride the park on their bike. When riding each of areas of the park the tires should not displace excessive soil ($\frac{1}{8}$ " deep) and tracks should not be left behind that are more than ($\frac{1}{8}$ " deep). If these conditions are not met the park should remain closed until the soils have fully drained and dried.

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SECTION II: RISK MANAGEMENT

3. Risk Management Plan
 - 3.1 Signage
 - 3.2 Routine Inspection

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3. Risk Management Plan

The PARK was designed to promote safe, fun and progressive riding experiences for riders of all ages and skill levels. The following steps shall be employed to ensure a safe environment is maintained, over time, at the bike park:

3.1 Signage

(1a) The bike park shall maintain clear and visible signage at all bike park entrances. (1b) Entrance signage will clearly inform users of bike park rules, riding etiquette, hours of operation, and required use of basic safety equipment (helmets), and emergency contact information. (1c) Signage will be routinely inspected and maintained in compliance with the bike park maintenance plan.

SIGNAGE INSPECTION AND MAINTENANCE STANDARD: All signage shall be routinely inspected to ensure that signage is in place, secured properly and legible. Signage must be maintained and cleaned of graffiti, stickers, etc. Signage that has been removed or otherwise vandalized must be replaced as soon as possible.

3.2 Routine Inspection and Maintenance

(2a) The bike park boundary fencing, gates, riding features and site furnishings shall be routinely inspected and maintained.

Bike Park Operations and Maintenance Plan

Action Sports Construction



SECTION III: MAINTENANCE

4. Maintenance Plan
5. General Park Maintenance Activities
6. Bike Park Specific Maintenance Activities
7. Routine Maintenance Procedures Bike Park Riding Areas & Features
8. Routine Maintenance of Dirt Riding Features
9. Routine Maintenance of Steel and Wood Riding Features
10. Routine Seasonal and Annual Maintenance

Bike Park Operations and Maintenance Plan

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4. Maintenance Plan

4.1 The maintenance plan includes a routine of general maintenance and bike park specific tasks to be performed by staff, outside contractors and volunteers.

4.2 General Maintenance Activities

These activities include but are not limited to; opening and closing of access gates, general inspection of park signage, boundary fencing and access gates, emptying of trash and recycling containers, emptying and cleaning of restroom facilities, general landscape maintenance, maintenance of PARK infrastructure and site amenities and periodic seasonal closure of the park due to weather conditions, etc. These activities can be performed by untrained staff and general volunteers.

4.3 Bike Park Specific Maintenance Activities

These activities include but are not limited to; routine inspection and maintenance of park signage, inspection and maintenance of riding features and site infrastructure. These activities should be performed by trained staff, volunteers, or outside contractors.

5. General Maintenance Activities

5.1 General Maintenance activities can be performed by general Staff and/or Outside Contractors and do not require specialized training. These activities include but are not limited to:

5.2 *Monthly maintenance activities include:*

1. General landscape maintenance and weed control around the site.

5.3 *Seasonal maintenance activities include:*

1. Periodic closure of the park due to weather conditions.

5.4 *Annual maintenance activities include:*

1. Annual inspection by a qualified contractor, of the landscape maintenance and weed control around the site.

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6. Bike Park Specific Maintenance Activities

6.1 Bike Park specific maintenance activities need to be performed by specialized trained Staff, Outside Contractors and/or Volunteers and include but are not limited to:

6.2 *Routine maintenance activities include:*

1. Inspection and maintenance of all signage at bike park entries and bike park features.
2. Inspection and maintenance of all trails, riding features and elements.
3. Closure of riding areas or elements that require additional maintenance.
4. Removal of all hazardous debris, trash, rocks, etc. throughout the park on riding surfaces, and within fall zones (bailout lines) of riding features.
5. Irrigation of dirt features to reduce erosion and dust and to maintain proper soil compaction.

6.3 *Weekly maintenance activities include:*

1. Inspection and maintenance: resurfacing of dirt features by filling, packing and smoothing pits, holes and gouges, brake bumps, erosion, etc. in all riding surfaces.

6.4 *Monthly and Seasonal maintenance activities include:*

1. General landscape maintenance and weed control within the site.
2. Inspection, maintenance of site drainage.
3. Periodic closure of the park due to weather conditions.

6.5 Annual maintenance activities include:

1. A post winter inspection by a qualified contractor is recommended prior to the resurface and stabilize riding surfaces.

Bike Park Operations and Maintenance Plan

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7. Routine Maintenance Procedures of Bike Park Riding Areas and Features

7.1 Maintenance Assessment of Dirt Features

All dirt features should be maintained consistently with hard compacted, smooth and consistent surfaces. All dirt features over time will erode due to rider usage, and weathering forces including drying out in the hot sun, drying out and weathering through wind erosion, and becoming saturated by rain.

7.2 Maintaining Compacted Dirt Surfaces

In order to maintain compacted surfaces it is important to properly moisturize condition and then compact dirt surfaces. If areas consistently become loose and uncompacted it might be necessary to excavate the soil in the area and add new soil with a higher clay content to achieve better compaction. In areas that consistently become saturated adding a higher sand content soils will help with drainage. The hazard that uncompacted surfaces create is that riders wheel can rapidly slow causing riders to fall or slip. Uncompacted surfaces also slow riders momentum and create non-optimal riding conditions.

DIRT FEATURES COMPACTION GUIDELINE: When an area becomes larger than (8" long by 8" wide) of loose or uncompacted soil, performing spot maintenance is required to bring the area up to standard. Uncompacted soil is soil that is loose and can be displaced with a broom. Properly compacted soil is firm and stable and does not subside when a rider rolls over it. If you are using a compaction testing tool it is typical to achieve an 85% compaction rate at minimum.

7.3 Maintaining Smooth and Consistent Dirt Surfaces

In order to maintain smooth and consistent surfaces it will require spot maintenance in areas where erosion pits, holes, cracks and fissures develop. These inconsistencies can occur because the underlying soil was not compacted properly, because of rider use and because of animals such as squirrels, etc. that dig underground tunnels. In order to maintain the proper surfacing adding additional fill dirt to the areas, moisture conditioning and compaction will be required.

DIRT FEATURES SURFACING GUIDELINE: When a hole, pit or crack becomes large enough for a riders tire to become effected it is time to perform spot maintenance and repair the area. The proper standard is to repair any hole, pit or crack more than (2" wide or 2" deep).

CLOSING DIRT FEATURES GUIDELINE: When a hole, pit or crack in the main line of riding feature becomes larger than (3" wide or 3" deep) the feature should be closed and maintained to proper grades. When an area larger than (12" wide by 12"long) becomes loose or uncompacted the feature should be closed until maintenance has been performed.

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8. Routine Maintenance of Dirt Riding Features

8.1 The following routine maintenance procedure for the routine maintenance of dirt riding features is outlined in a 5-Step process that includes: moisture and soil conditioning, filling, shaping, and compacting.

STEP 1: MOISTURE CONDITIONING

Moisture/water should be applied at all stages of the maintenance process to make the soil mix as workable as possible. It is often helpful to condition the soil hours or even days prior to working, especially in very dry conditions. Properly conditioned soil is not so wet that it is puddling or muddy and also not so dry that it is dusty and chunky. Properly conditioned soil is a consistent color and a consistent feel that is plastic easy to shape and compacted.



Using the quick couple network onsite moisture condition soil prior to beginning work.



Workers processing materials mixing soil and water together and continue to moisture condition throughout the process to ensure good compaction.

STEP 2: SOIL CONDITIONING

Prepare the soil for working by excavating the area that requires maintenance with shovel, rake, pick, power tiller, machine or auto sifter. When conditioning soil the most important thing is to chop up and pulverize all of the compacted soil, dirt clods etc. while removing any organic

Bike Park Operations and Maintenance Plan

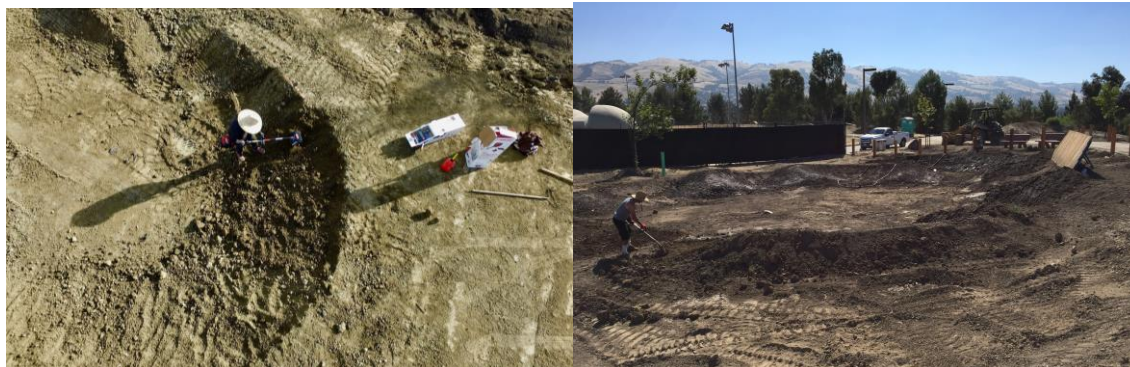
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material, trash, debris or rock. Work this material into a fine granular soil mix and moisture condition. When filling cracks, holes or jump lips make sure to rough up the area being repaired and moisture condition to ensure adhesion of the new soil with the existing.

SOIL MIX GUIDELINE: All of the soil onsite was either excavated on site or imported from one of 4 different sources. Overall the existing site soil is a good mix with a fairly high clay content, however as different areas of the park had different types of soil imported, there are areas that have more sandy and/or more clay based soils. As the park becomes actively used it will be necessary to amend the drier sandy soils with higher clay content soils to achieve better compaction in areas that become dry, loose and uncompacted. To a lesser extent it might be necessary to amend some of the higher clay content soil with a more sandy mix to enhance drainage in areas that retain water and remain wet after irrigation and or rain events.

IDEAL SOIL MIX GUIDELINE: The ideal soil mix for dirt features at bike parks is a high clay content soil approach (40% Clay / 60% Sand). Imported soil should be free of rocks, pebbles, trash and debris and samples should be provided and approved prior to delivery to the site.

ONSITE SOIL STOCKPILE: It is recommended to keep an onsite soil stockpile that is easily accessible for loading machines and equipment and consists of a high quality soil mix.



Aerial view showing worker prep a berm tum using a tiller. Prepping a larger area with a tiller.



Condition soil with rake or shovel, chop up clods, then smooth, shape and compact.

Bike Park Operations and Maintenance Plan

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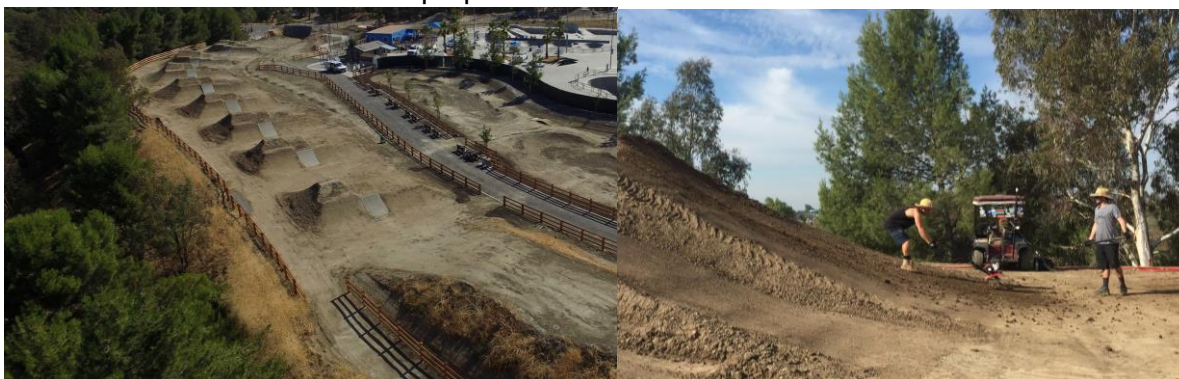


Conditioning a larger work area with a skid steer. Conditioning a soil stockpile with an auto sifter.

STEP 3: FILLING AND SHAPING

Once the work area has been moisture conditioned, the soil has been conditioned use the prepared soil to fill any cracks, pits, holes, etc. that might exist in lifts of a few inches at a time. Use shovel, hand tamper, vibrating plate compactor or machine bucket to compact each lift then add more prepared soil as needed to repair the work area to the surrounding grades.

FILLING AND SHAPING GUIDELINE: When filling and shaping dirt features shape to constant radiuses, match and blend grades to the existing feature. When shaping the dirt jumps match jump take of grades to the concrete kicker ramps which are 12.5' radius. All features in the park will require finish grading and shaping that are not possible to easily or efficeintly measure or check as they are composed of compund curves, etc. therefore the proper technique is to finish grade and then ride test to ensure proper flow.



Finished jump set. Using a tiller to condition soil and fine tune landing.

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Using shovels to pack and shape dirt jump lip. Using the concrete kicker to shape to.



Continue to moisture condition, soil condition, shape and compact throughout the process.



Final shape jump set with kicker lip on the front end and a lander transition on the back end.

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STEP 4: COMPACTING

Once the work area has been filled and shaped a final round of compaction will ensure the highest quality end product. Using shovel, hand tamper, vibrating plate compactor, machine bucket, water roller or vehicle moisture condition soil and the repeatedly compact area until a high level of compaction is achieved.



COMPACTION GUIDELINE: When compacting an area the final condition should be such that if you walk or ride over the surface you are not leaving shoe prints or tracks deeper than (1/16" deep). Soil should not be displaced. If you are using a compaction testing tool (85%) compaction or higher is recommended.



Using a push broom to smooth out the jump lip and prep for final compaction. Final compaction with golf cart.



Compacting a berm turn with a vibrating plate compactor. Compacting the large dual slalom features with a roller compactor.

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STEP 5: RIDE TESTING

Ride testing at each stage of the process to ensure proper flow and good geometries is critical.



Ride testing the dirt jumps after a long build day.

9. Routine Maintenance of Prefab Steel Framed and Wood Riding Features

STEP 1: CREATE ACCESS TO EQUIPMENT

In order to gain access to the framework, anchors, fasteners, screws, bolt heads, etc. of the prefab riding features it might be necessary to excavate soil near the feature or even to remove pieces of the feature itself or parts of the framework, or materials. This might require the usage of tools such as pry bars, rock bars, automotive straps, and equipment such as skid steers with forks, etc. Refer to PBR documentation for all feature maintenance.

STEP 2: REMOVE FASTENING HARDWARE

In order to replace broken or damaged boards, parts or components the first step is to remove the fastening hardware. While most of the fastening hardware is stainless steel, galvanized or powder coated, hardware becomes weatherized and corroded over time. In addition fastening hardware can become marred, stripped, or broken at time of installation. In order to remove hardware it is useful to apply lubricant prior to the physical remove of the fastener. Make sure to use the properly sized tool for the job and to ensure that you are working in a safe manner as fasteners can quickly loosen or give way unexpectedly. Be prepared with a cutting tool such as a grinder in case fastener have become fixed in position due to weatherization or corrosion. Note which pieces have been removed and in what order to be able to replace.

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STEP 3: MATCH REPLACEMENT MATERIALS, HARDWARE AND FASTENERS

Once the damaged materials and hardware have been removed, it must be matched with new materials and hardware. This might involve cutting boards down to size or ordering replacement parts from the manufacturer.

STEP 4: INSTALL REPLACEMENT MATERIALS, HARDWARE AND FASTENERS

Once matched materials have been sourced install the new items using the notes from the removal process to ensure all of the critical fasteners have been reinstalled properly.

STEP 5: FIELD AND RIDE TESTING

Once the installation of the replacement materials has been completed make sure to field and ride test by slowly putting weight on the repaired piece. If the repaired area seems to be structurally sound and is holding weight, make sure to ride test to ensure it is functioning properly.

10. Routine Seasonal and Annual Maintenance

Seasonal maintenance includes; end-of-season maintenance, drainage maintenance, start-of-season maintenance, weed control, and soil stabilization.

10.1 End-of Season Annual Maintenance

End of season maintenance is critical for the operation of the park. End of season maintenance should coincide with the forecasted rainy season when the bulk of the rain is expected. During this period the park and or specific riding features should be closed for general operations and be prepared for seasonal protection, drainage maintenance and larger scale seasonal maintenance.

10.2 Drainage maintenance and protection

Maintenance of drainage features and ensure proper grading away from features and into drainage systems - inlets, basins etc. should be performed prior to close of season and before the seasonal rains come. This is a critical step to minimize pre-season maintenance and ensuring the minimal erosion of features, infiltration of dirt in storm water systems, etc. Drainage inlets, basins, etc. should be protected in areas where there is minimal vegetative growth that holds the soil together. In these areas additional straw waddles, filter fabric, etc should be strategically deployed to slow the movement of water and sediment into drainage systems.

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Winterizing drainage inlets with straw waddles and filter fabric will ensure they don't clog or release sediment into the storm water system.

10.3 Start-of-Season Maintenance

At the start of the riding season, post winter, routine maintenance will be required. This maintenance will include resurfacing of features to repair any damage or erosion caused by rain or other weathering. The grading will include fill any holes, cracks or erosion ruts that have formed. Clearing, cleaning out and enhancing and areas that might have sedimented in with heavy rainfall. In addition to this routine maintenance at the start of each season larger scale grading and regrading of features might be required to address any risk management and/or riding quality issues identified in the previous season of operations. In addition to these maintenance activities soil stabilization and weed control activities will be a major priority at the start-of-season.

10.4 Grading and Resurfacing of features

Start-of-season maintenance will include substantial grading and resurfacing of riding features. Each of the riding zones should be worked and maintained from top to bottom fix any issues, making any necessary maintenance repairs and modifying any features that have been identified in the annual review process.



Applying soil stabilizer at the beginning of the season to extended the functional of a pump track.

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10.5 Weed Control

Weed control will have to be performed at the start of season and should include aggressive trimming and cutting of vegetation on non-riding surfaces that will limit growth, while leaving roots and minimal growth intact to ensure good soil stabilization. All riding surfaces should be cleaned of all vegetative growth using a combination of weed whacker, propane torch. In addition pesticide and pre emergent should be applied to kill and prevent vegetative growth over the season.



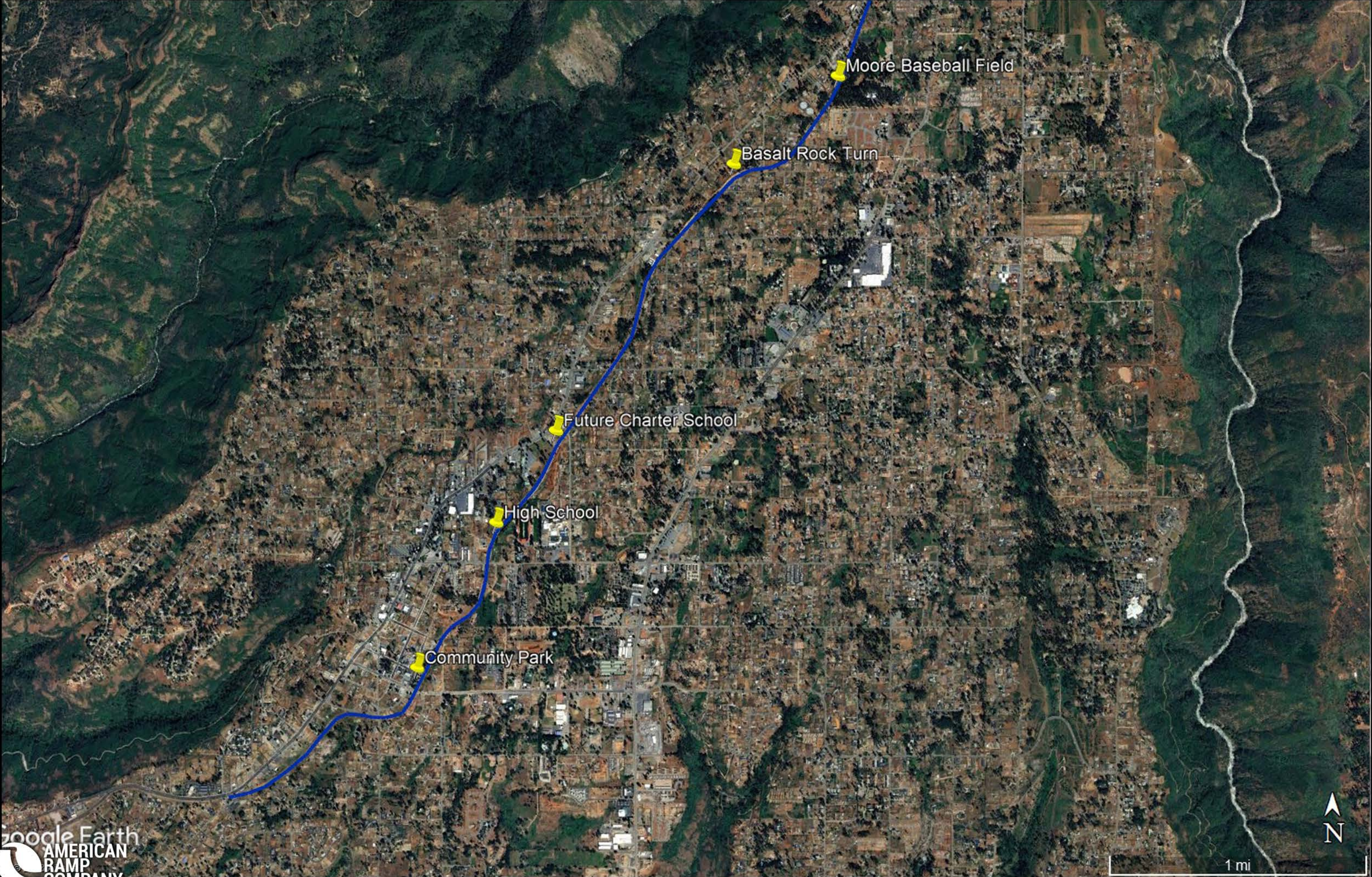
Annual weed growth to be expected shown in the skills trail and dirt jumps. Applying pesticide and pre-emergent seasonally is recommended to minimize weed growth.



Burning weeds with a propane torch and weed whip or brush cutter.

ATTACHMENT 4: PRELIMINARY DESIGN CONCEPTS







FLOW TRAIL AND SKILLS TRAIL



FLOW TRAIL UNDER EXISTING TREES



FEATURE-RICH TRAIL EXAMPLE

SPLIT DECISION

A-FRAME

FUTURE CHARTER SCHOOL LOCATION

ZIG ZAG S CORNER

STEP DOWN ROLLER

NESSY 2 BUMP

PROGRESSIVE SKILLS ZONE



SKILLS FEATURES



SKILLS FEATURES



SKILLS FEATURES





**FLOW LINE ZONE
WITH OPTIONAL PROGRESSIVE LINE**



FLOW TRAIL EXAMPLE



**WOOD AND ROCK FEATURE
OR ALL BASALT FEATURE**



BASALT ROCK AREA WITH PLENTY OF SHOULDER

TABLE TOP JUMP ZONE

HIGH SCHOOL



SKILLS FEATURE ZONE



ZIG ZAG SHORT



A-FRAME



ROLLER



SNAKE LADDER SHORT



NESSY 2 BUMP



MOUNTAIN TOP



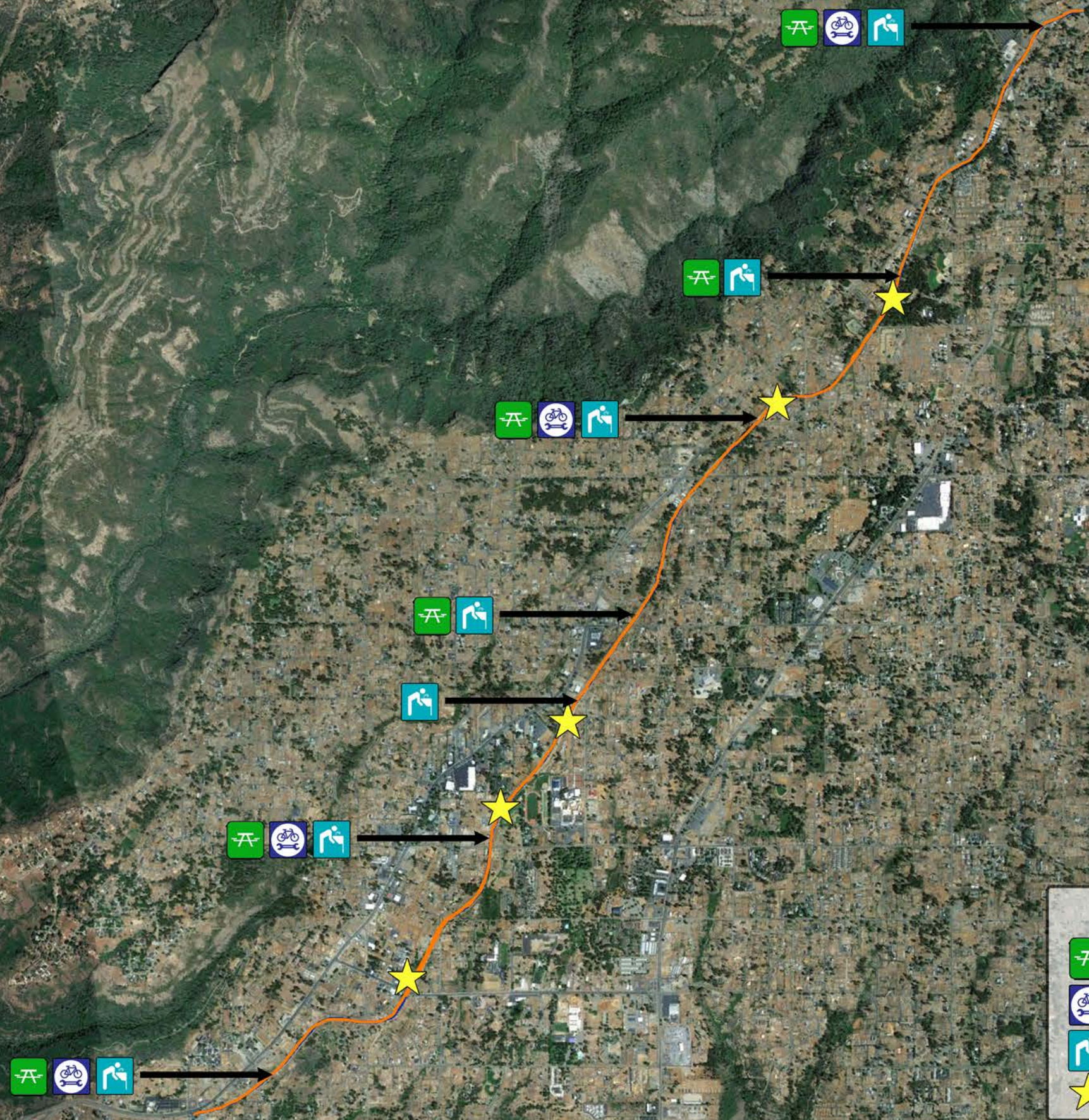
PROGRESSIVE DROPS



CROSS COUNTRY SKILLS FEATURES



CROSS COUNTRY FLOW FEATURES



KEY

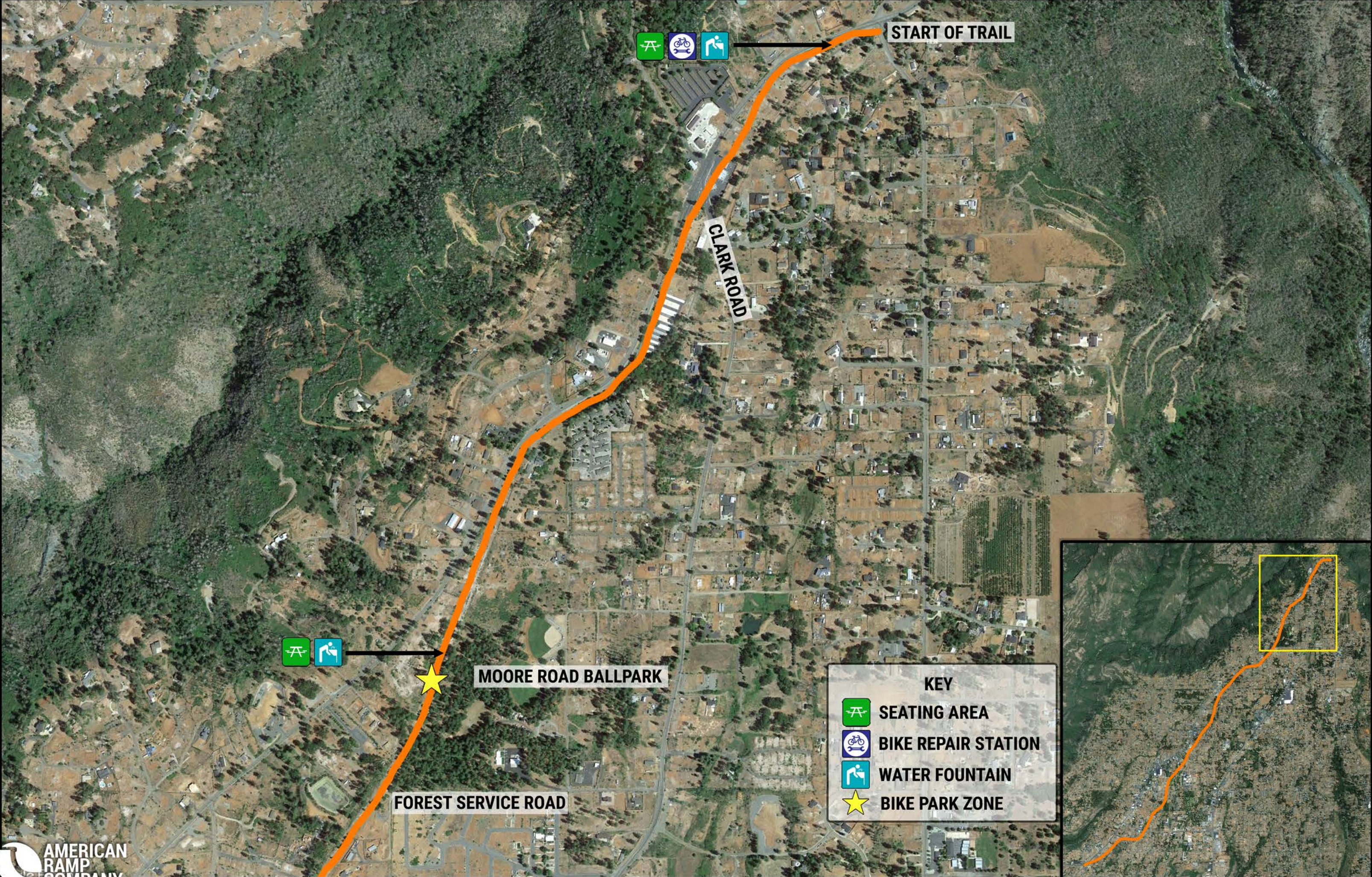
-  SEATING AREA
-  BIKE REPAIR STATION
-  WATER FOUNTAIN
-  BIKE PARK ZONE

5.15 MILE MULTIUSE TRAIL

BIKE REPAIR STATION EVERY 2.5-3.5 MILES

REST AREA AND WATER EVERY 0.25-1.25 MILES





START OF TRAIL

CLARK ROAD

MOORE ROAD BALLPARK

FOREST SERVICE ROAD

KEY

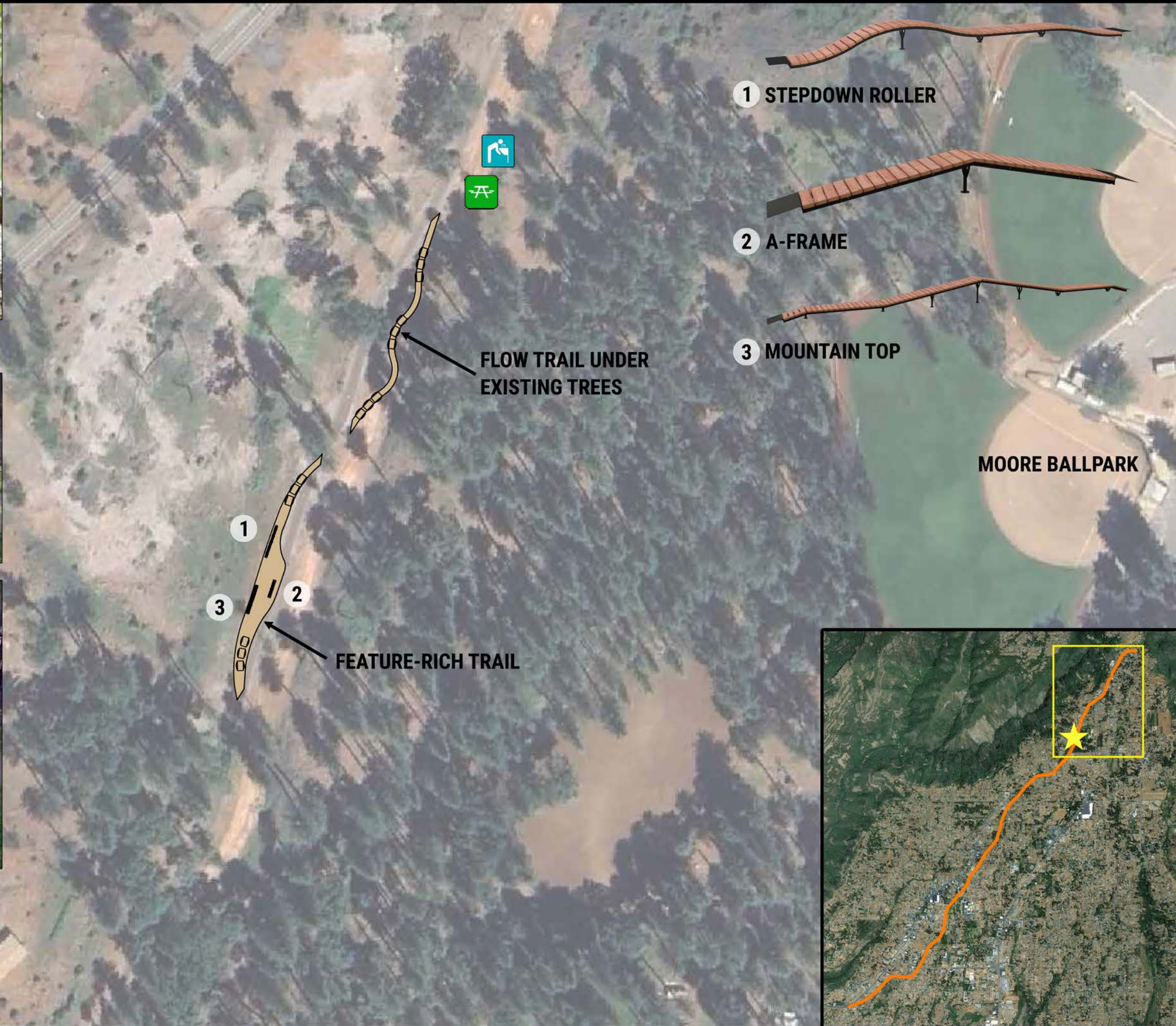
-  SEATING AREA
-  BIKE REPAIR STATION
-  WATER FOUNTAIN
-  BIKE PARK ZONE



FLOW TRAIL UNDER EXISTING TREES



FEATURE-RICH TRAIL EXAMPLE



1 STEPDOWN ROLLER

2 A-FRAME

3 MOUNTAIN TOP

FLOW TRAIL UNDER EXISTING TREES

FEATURE-RICH TRAIL

MOORE BALLPARK





FOREST SERVICE ROAD

ROCKY LANE

WAGSTAFF ROAD

BILLE ROAD

KEY

-  SEATING AREA
-  BIKE REPAIR STATION
-  WATER FOUNTAIN
-  BIKE PARK ZONE

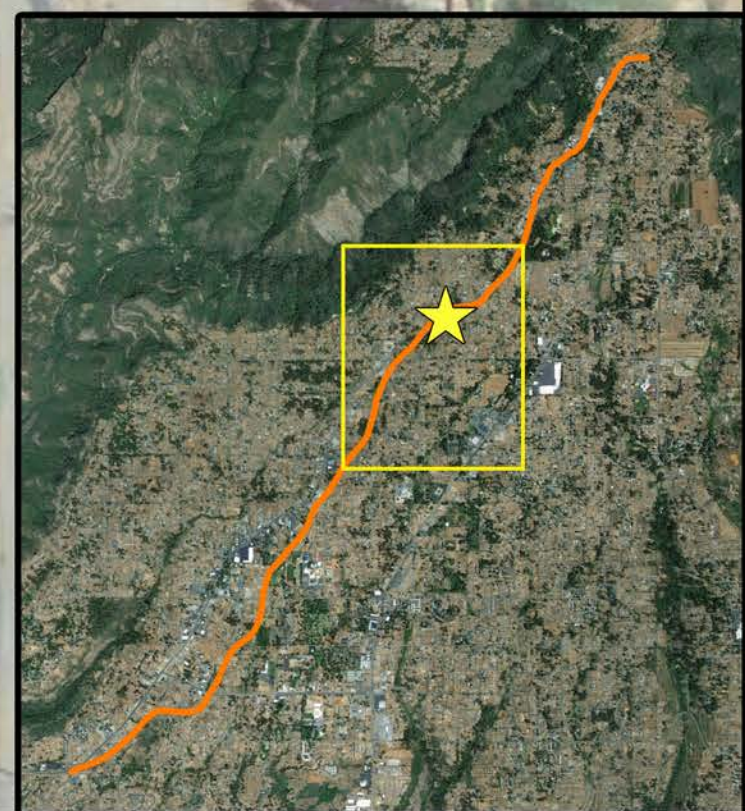
4 WOOD AND ROCK FEATURE
OR ALL BASALT FEATURE

FLOW TRAIL

5 6 ROLLABLE SENDER



FLOW TRAIL EXAMPLE





BILLE ROAD

MAXWELL DRIVE

PARADISE HIGH SCHOOL

ELLIOTT ROAD

PEARSON ROAD

KEY

-  SEATING AREA
-  BIKE REPAIR STATION
-  WATER FOUNTAIN
-  BIKE PARK ZONE



SKILLS FEATURES



FUTURE CHARTER SCHOOL LOCATION



7 SPLIT DECISION



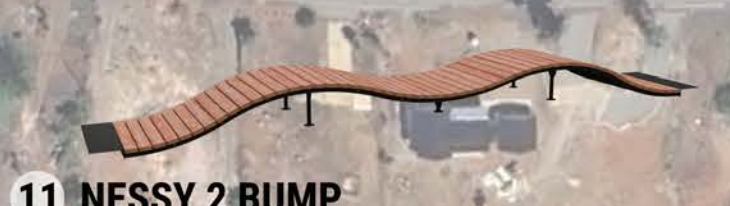
8 A-FRAME



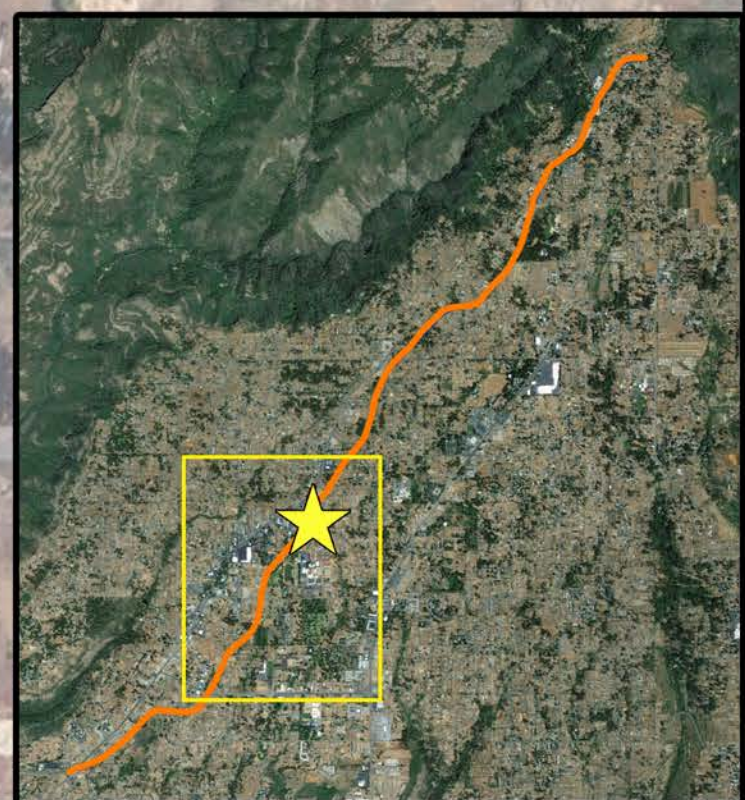
9 ZIG ZAG S CORNER



10 STEP DOWN ROLLER



11 NESSY 2 BUMP



12 NESSY 2 BUMP

13 A-FRAME

14 ZIG ZAG SHORT

15 SNAKE LADDER SHORT

16 MOUNTAIN TOP

17 ROLLER

TABLE TOP JUMP ZONE

SKILLS FEATURE LINE

PARADISE HIGH SCHOOL

JUMP EXAMPLE



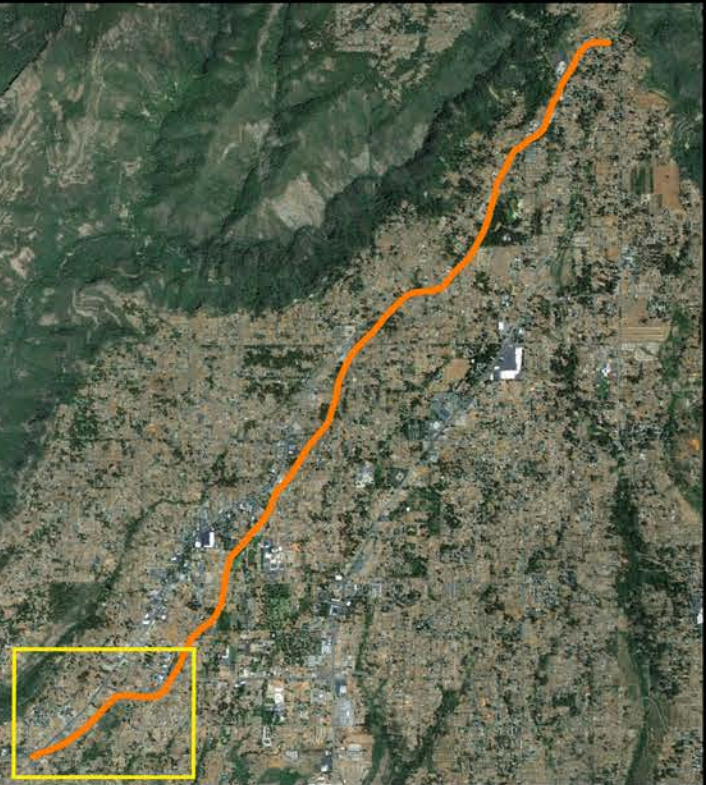


SKYWAY SPLIT

PEARSON ROAD

KEY

-  SEATING AREA
-  BIKE REPAIR STATION
-  WATER FOUNTAIN
-  BIKE PARK ZONE





PROGRESSIVE DROPS



CROSS COUNTRY SKILLS FEATURES



CROSS COUNTRY FLOW FEATURES



ATTACHMENT 5: FINAL DESIGN CONCEPT





ROCK GARDEN 1 4



A-FRAME 2



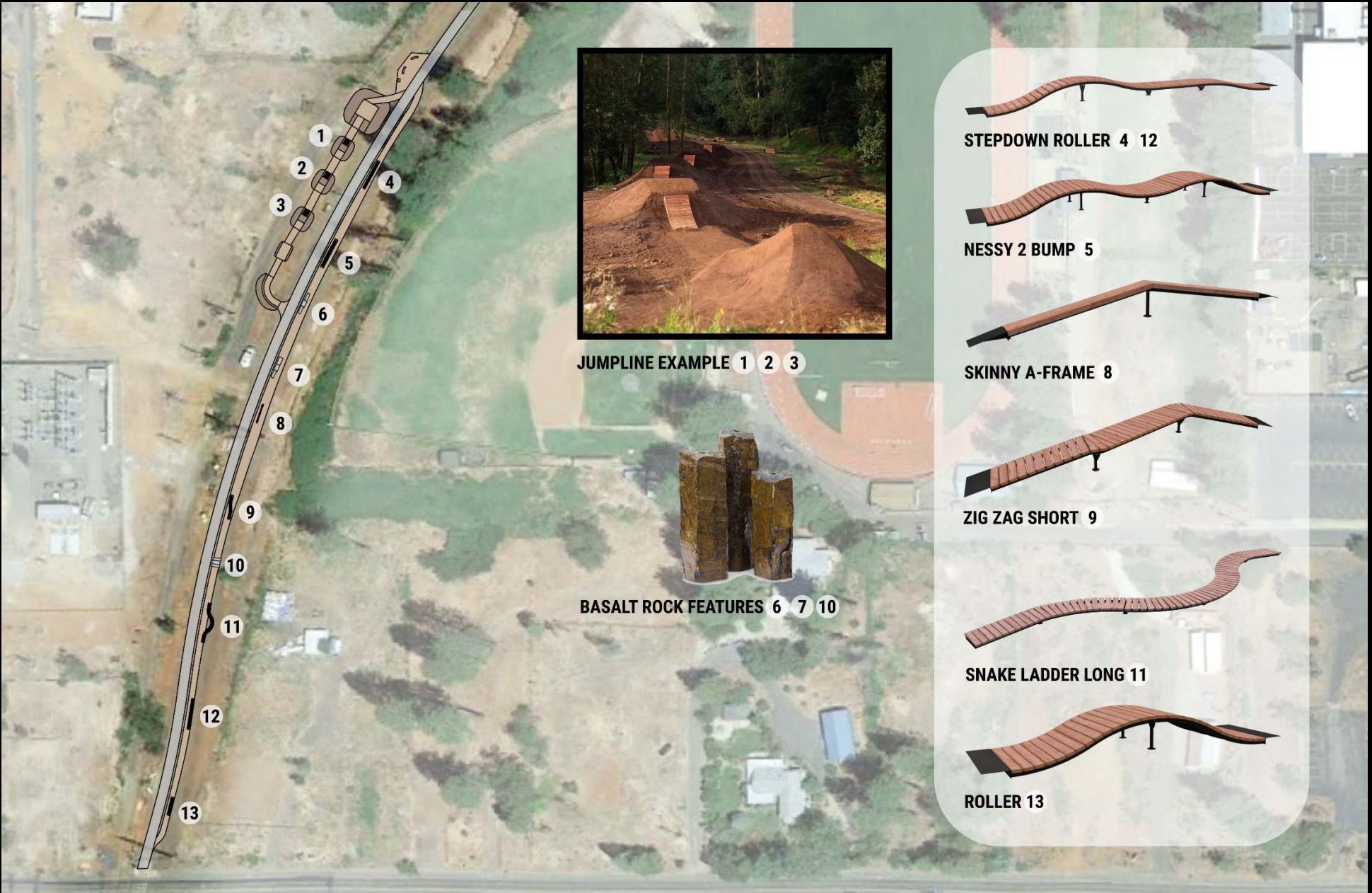
SKINNY A-FRAME 3



ROLLER 5



SNAKE LADDER LONG 6



JUMPLINE EXAMPLE 1 2 3



BASALT ROCK FEATURES 6 7 10



STEPCDOWN ROLLER 4 12



NESSY 2 BUMP 5



SKINNY A-FRAME 8



ZIG ZAG SHORT 9



SNAKE LADDER LONG 11



ROLLER 13



SPLIT DECISION 1



A-FRAME 2



STEPDOWN ROLLER 3



ROCK GARDEN 4



ZIG ZAG CENTER 5



MOUNTAIN TOP 6



NESSY 2 BUMP 1



ROLLABLE SENDER 2 3



ROCK LADDER SHORT 4



BASALT ROCK FEATURES 5 6



SNAKE LADDER LONG 1



ZIG ZAG CENTER 2



MOUNTAIN TOP 3



STEPDOWN ROLLER 4



BASALT ROCK FEATURES 1 5



MOUNTAIN TOP 2



A-FRAME 3



STEPDOWN ROLLER 4

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 Joplin, MO 64801
 Toll-free: 800-RAMP-778
 Local: 417-206-6816
 Fax: 417-206-6888
 sales@americanrampcompany.com



Quote #	Design #	Customer	Date	Designer
Q27756.0	8228	Town of Paradise	04-24-24	Megan B.

Section 1:

Asphalt Trail and Bike Features Engineer's Estimate: \$141,238.50
 Stabilized Dirt Trail and Bike Features Engineer's Estimate: \$130,070.50

<u>Item</u>	<u>Obstacle</u>	<u>Height</u>	<u>Width</u>	<u>Length</u>
1	Flat Snake Ladder Long	0.5'	3.0'	43.3'
2	A-Frame (11 Deg)	2.0'	3.0'	19.0'
3	A-Frame (11 Deg) - Skinny	2.0'	1.0'	19.7'
4	Roller	2.0'	3.0'	18.7'

Section 2:

Asphalt Trail and Bike Features Engineer's Estimate: \$283,265.08
 Stabilized Dirt Trail and Bike Features Engineer's Estimate: \$188,363.08

<u>Item</u>	<u>Obstacle</u>	<u>Height</u>	<u>Width</u>	<u>Length</u>
1	Kicker Ramp	3.0'	4.0'	8.3'
2	Kicker Ramp	3.0'	4.0'	8.3'
3	Kicker Ramp	3.0'	4.0'	8.3'
4	Step Down Roller	2.0'	3.0'	31.2'
5	Nessy 2 Bumps (2'P, 1'V)	2.0'	3.0'	31.7'
6	A-Frame (11 Deg) - Skinny	2.0'	1.0'	19.7'
7	Zig Zag Short (15 Deg)	2.0'	3.0'	24.2'
8	Flat Snake Ladder Long	0.5'	3.0'	43.3'
9	Step Down Roller	2.0'	3.0'	31.2'
10	Roller	2.0'	3.0'	18.7'

Section 3:

Asphalt Trail and Bike Features Engineer's Estimate: \$149,683.57
 Stabilized Dirt Trail and Bike Features Engineer's Estimate: \$121,777.57

<u>Item</u>	<u>Obstacle</u>	<u>Height</u>	<u>Width</u>	<u>Length</u>
1	Split Decision - Right	2.0'	3.0'	48.8'
2	A-Frame (11 Deg)	2.0'	3.0'	19.0'
3	Step Down Roller	2.0'	3.0'	31.2'
4	Zig Zag Center	2.0'	3.0'	50.8'
5	Mountain Top 2' Peak	2.0'	3.0'	34.8'

Section 4:

Asphalt Trail and Bike Features Engineer's Estimate: \$128,013.68
 Stabilized Dirt Trail and Bike Features Engineer's Estimate: \$104,062.68

<u>Item</u>	<u>Obstacle</u>	<u>Height</u>	<u>Width</u>	<u>Length</u>
1	Nessy 2 Bumps (2'P, 1'V)	2.0'	3.0'	31.7'
2	Rollable Sender	2.0'	4.0'	17.1'
3	Rollable Sender	2.0'	4.0'	17.1'
4	Custom Rock Bridge	2.0'	3.0'	15.0'

Section 5:

Asphalt Trail and Bike Features Engineer's Estimate: \$114,046.02

Stabilized Dirt Trail and Bike Features Engineer's Estimate: \$80,226.02

<u>Item</u>	<u>Obstacle</u>	<u>Height</u>	<u>Width</u>	<u>Length</u>
1	Flat Snake Ladder Long	0.5'	3.0'	43.3'
2	Zig Zag Center	2.0'	3.0'	50.8'
3	Mountain Top 2' Peak	2.0'	3.0'	34.8'
4	Step Down Roller	2.0'	3.0'	31.2'

Section 6:

Asphalt Trail and Bike Features Engineer's Estimate: \$149,480.60

Stabilized Dirt Trail and Bike Features Engineer's Estimate: \$127,285.60

<u>Item</u>	<u>Obstacle</u>	<u>Height</u>	<u>Width</u>	<u>Length</u>
1	Mountain Top 2' Peak	2.0'	3.0'	34.8'
2	A-Frame (11 Deg)	2.0'	3.0'	19.0'
3	Step Down Roller	2.0'	3.0'	31.2'

Notes:

- This turnkey quote includes Equipment, Shipping, and Installation.
- This quote does not include sales tax. If applicable, call for revised quote.
- Quote is good for 30 days.

SCOPE OF WORK**1.1 INCLUDES:**

- All labor, construction project management, supplies, tools, materials, and equipment required per scope of work
- Site staking and layout
- Cutting and shaping grades within bike park footprint
- Place and install asphalt bike park and pump track tread
- Supply and installation of pre-engineered bike features
- Materials, supplies, and labor for custom bike features
- Topsoil and reseedling of disturbed areas
- Prevailing wage

1.2 EXCLUDES*:

- Sales tax
- Erosion and sediment control
- Stabilized construction entrance
- Landscaping, site and turf restoration post skatepark construction
- Sidewalks/walkways and site amenities of any kind
- Mass excavation or import
- Construction drawings
- Permits, fees and/or engineering and stamping.
- Utility, mechanical, electrical, plumbing work, relocation, or repairs of any kind.
- Toxic or hazardous material handling or removal.
- Removal and/or replanting of any trees or shrubs or protection of trees and shrubs.

1.3 CUSTOMER PROVIDES*:

- Geotechnical Report—If this requirement is waived, assumption is that the site is suitable to build as-is. A change order will be issues for any unforeseen costs that may occur if this is not the case at a cost plus 25%

- Survey and Mapping – The Client shall provide ARC with a current survey locating all above and belowground utilities, appurtenances, structures, and easements. The survey shall be in digital format that can easily be used with AutoCAD software.
- Sufficient water and electrical power within 100 feet of work areas.
- Unobstructed, safe, and continuous access to work area with heavy equipment. All weather roads for heavy equipment.
- All necessary site information including topography, site surveying, and elevations.

***All items above can be provided for an additional fee.**

Purchase through our competitively bid government Sourcewell contract.

