

DRAFT



# NEWELL CREEK CANYON ACCESS MASTER PLAN

**February 2016**

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## ACKNOWLEDGEMENTS

Creating this access master plan required the commitment, support and involvement of many people who dedicated time and resources. The project team would like to thank the following individuals for their interest and involvement in developing a vision for Newell Creek Canyon Natural Area.

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# DRAFT

## EXECUTIVE SUMMARY

THIS SECTION TO BE WRITTEN IN FEBRUARY 2016

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## INTRODUCTION AND PLAN OVERVIEW

This access master plan for Newell Creek Canyon Natural Area is consistent with Metro’s Parks and Nature Department’s mission to protect water quality, fish and wildlife habitat while creating opportunities to enjoy nature close to home through a connected system of parks, trails and natural areas. Preservation and enhancement of natural resources is at the heart of Metro’s Parks and Nature program, which also results in unique, nature-based recreation opportunities. When you visit Newell Creek Canyon Natural Area, you will experience one of the most spectacular environmental resources in the greater Portland area.

### 1995 AND 2006 BOND MEASURES

In 1995 and 2006, voters approved general obligation bond measures to protect water quality, wildlife habitat and nature-based recreation opportunities across the region. This investment is responsible for the growth of Metro’s portfolio of natural areas, which today totals roughly 17,000 acres. Recognition of Newell Creek Canyon’s special ecological value made it a high priority for land acquisition funded by both bond measures. This access master plan focuses on 233 acres within a steep forested canyon containing high quality cedar forest, large tracts of deciduous dominated upland forest, and numerous small tributaries all centered around Newell Creek. The creek is home to Pacific lamprey, the red legged frog and federally threatened fish species including Coho salmon and steelhead.

### NATURAL AREAS LEVY

In 2013, voters approved a five-year levy to help care for regional parks and natural areas. As a result, Metro is restoring habitat and expanding opportunities to experience and learn about nature across the region, as well as improving parks for visitors and supporting community-led projects with shared goals. Roughly half of all levy funds go toward land restoration and management, including controlling invasive plants, planting native species, and improving habitat for fish and wildlife. This access master plan is a levy-funded project.



*Newell Creek Canyon*



## ACCESS MASTER PLAN PURPOSE

The purpose of this access master plan is to use Natural Areas Levy funding to provide a long-term collective vision and implementation strategy that will guide future public use and development of Newell Creek Canyon Natural Area. This access master plan establishes project goals and objectives, summarizes the planning process and presents a recommended trail network design and accompanying day-use facility. Consistent with the objectives of the five-year operating levy, this access master plan also identifies those project elements necessary to address safety and access issues that should be developed most immediately.

Newell Creek Canyon's challenging terrain and lack of developed access has encouraged some to regard the site as a well concealed refuge for illegal camping. This unauthorized use of the property has resulted in litter, dumping, "demand" trails and other deleterious impacts that have a negative effect on habitat and water quality. One objective of this access master plan is to attract a steady flow of visitors and, in the process, help discourage illegal camping.

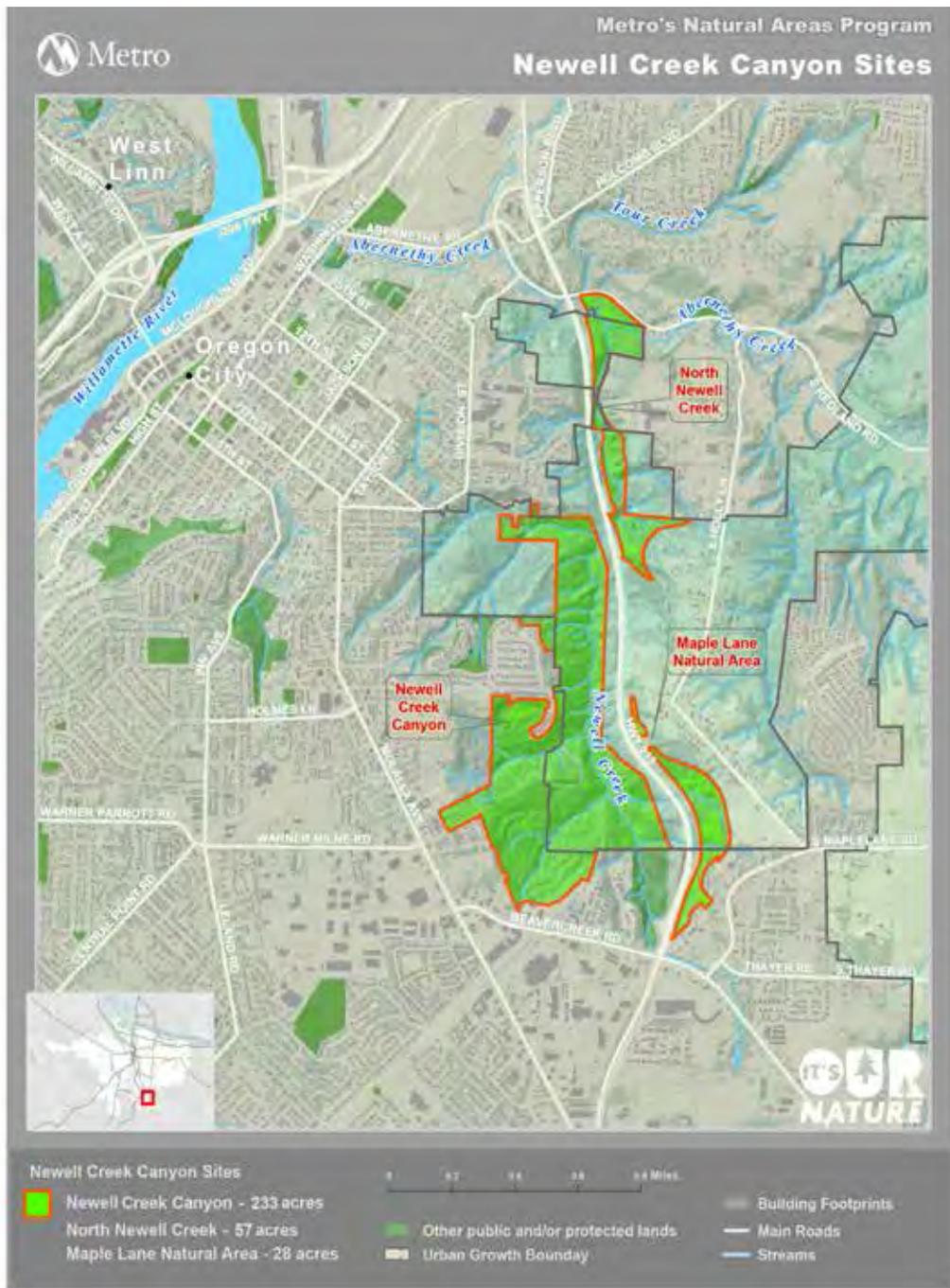
Finally, this access master plan also lays out a framework for addressing future maintenance and operations needs; and for implementing future development by identifying project costs, phasing, and opportunities for partnerships, stewardship and volunteer efforts. Perhaps most importantly, this access master plan is a guiding vision that reflects the community's desires, incorporated from a robust public engagement process during the master plan process. The completed plan should also serve as a useful tool in obtaining future funding.

Project goals, described in greater detail in Chapter 3 are as follows:

- Protect and enhance Newell Creek Canyon's unique natural and scenic resources, to protect water quality, and create a place for wildlife to thrive.
- Encourage community access and recreational uses compatible with natural resource protection.
- Orient visitors within Newell Creek Canyon's trail network and interpret the unique natural, cultural and scenic resources of Newell Creek Canyon.
- Protect the public's safety and welfare and maximize operational efficiencies to protect the public's investment.
- Minimize impacts to surrounding neighborhoods from site development and public use of Newell Creek Canyon.

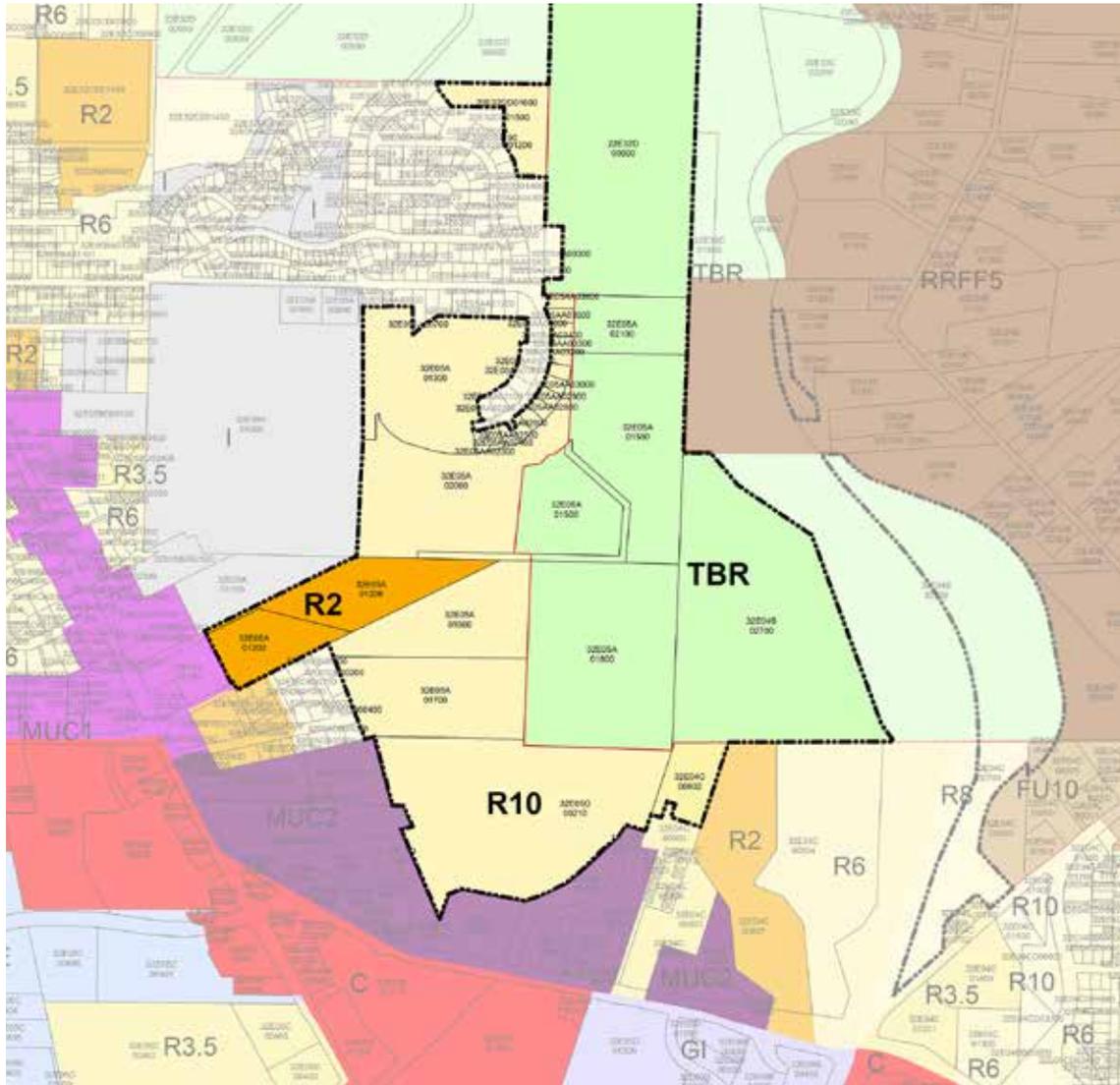
## SETTING AND LOCATION

Newell Creek Canyon is located within the Newell Creek Watershed in Clackamas County, Oregon along the eastern border of Oregon City. The headwaters of the 1,800-acre watershed originate atop the bluffs above Oregon City, winding through steep canyons, connecting with Abernethy Creek, and eventually flowing into the Willamette River below Willamette Falls. Metro's ownership in the drainage totals more than 318 acres divided among three distinct sites: North Newell, Maple Lane and Newell Creek Canyon. This access master plan addresses only the largest area of Metro's ownership, Newell Creek Canyon Natural Area.



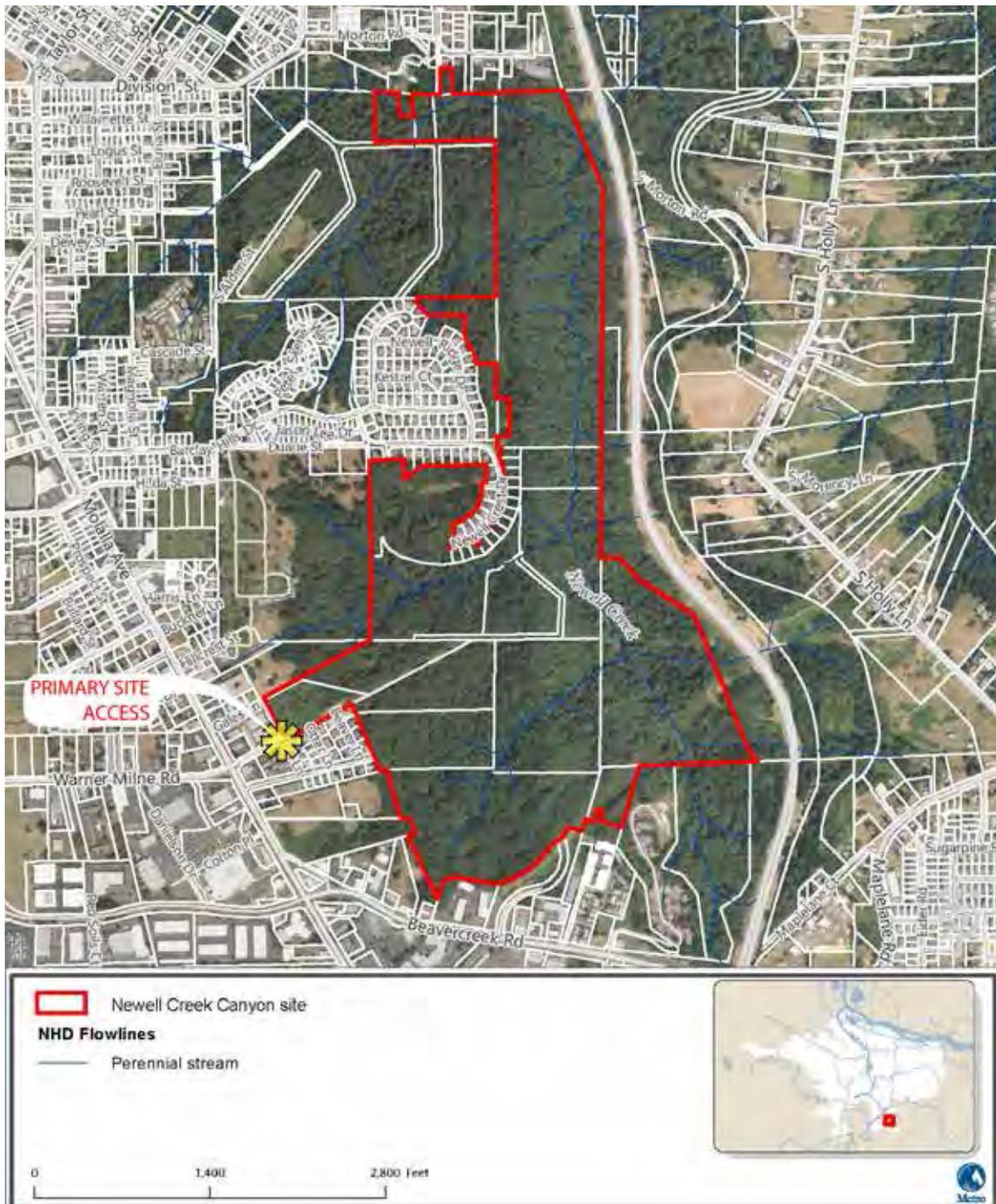
*Newell Creek Canyon*

Newell Creek Canyon is located approximately two miles from downtown Oregon City. Portions of the site are situated within City limits, with additional acreage extending into unincorporated Clackamas County. Approximately 75 acres of the site's western portion is located within the Urban Growth Boundary (UGB) with the remaining acreage located outside the UGB. Lands within the project area are zoned for residential (R2, R10) and timber (TBR) while lands surrounding the site are zoned for single-family, institutional and mixed-use. Parks are a conditional use in lands zoned R2, R10 and TBR.



*Newell Creek Canyon Zoning Map*

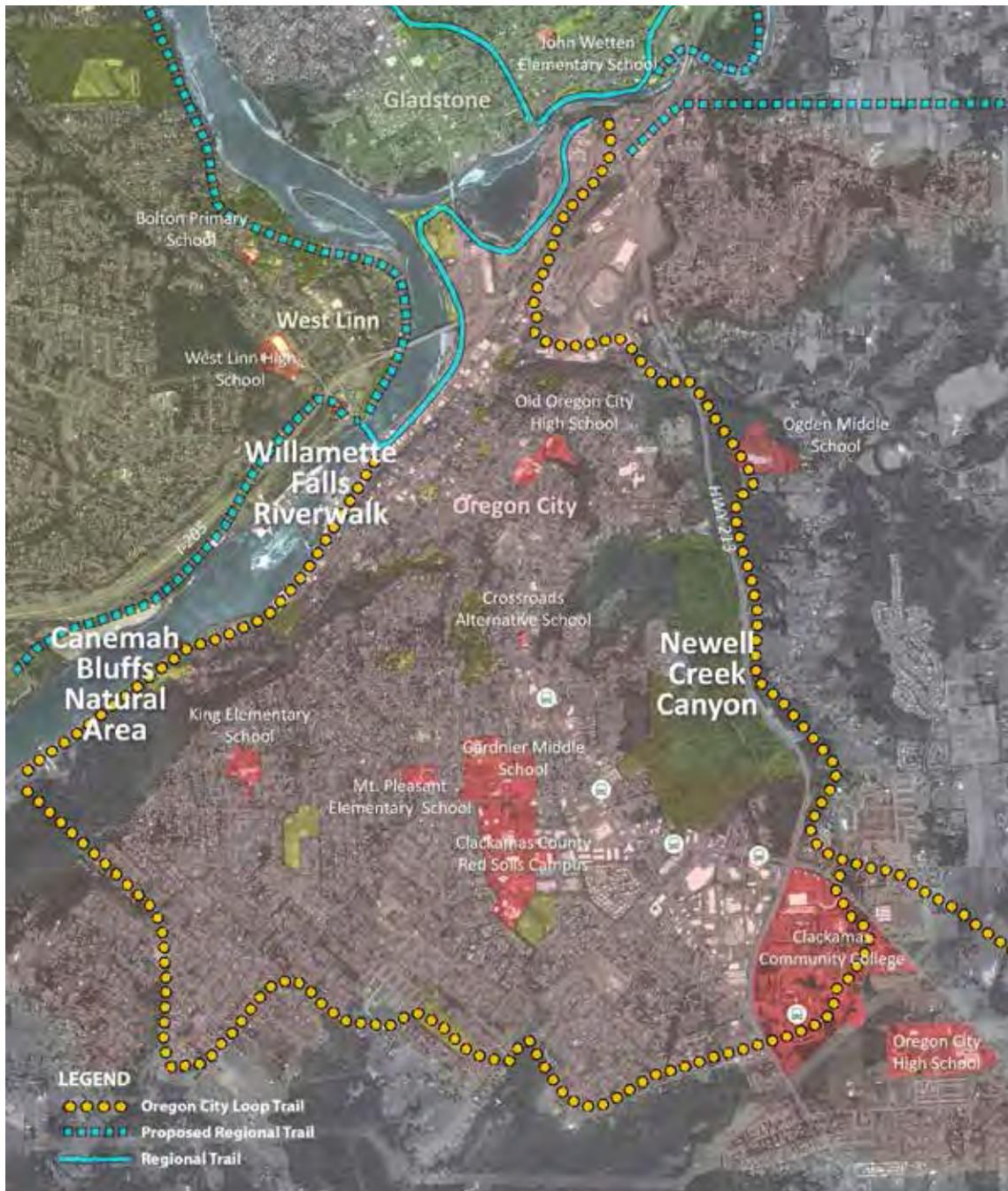
Access to the site is planned at the eastern terminus of Warner Milne Road, one block east of Molalla Avenue. Warner Milne Road is a two-lane road that primarily provides access to adjacent businesses and residences.



Newell Creek Canyon Site Map

## RECREATION CONTEXT

This access master plan's proposal to introduce a formal trail network within Newell Creek Canyon has significance for the future of regional trails in and around Oregon City. As set forth in Metro's Regional Trails and Greenways System Map, Newell Creek Canyon's trail network will be linked to a 16-mile, multi-use loop around Oregon City utilizing the trails of Clackamas Community College, the recently renovated WPA-era McLoughlin Promenade, and the planned Willamette Falls River Walk. In addition, this loop will create critical connections to Willamette Falls, Canemah Bluff Natural Area, the iconic Oregon City Municipal Elevator, the Willamette River Greenway and the Trolley Trail.



Oregon City Loop

## PLANNING PROCESS OVERVIEW

The planning process for the Newell Creek Canyon Access Plan followed a cyclical, four-step planning strategy involving a series of internal and external stakeholder meetings followed by Council Member updates and public open house events. The Stakeholder Advisory Committee was composed of local agency representatives, public figures, recreation advocates, local business owners, environmental activists and residents. Internal coordination involved input and oversight from Metro natural resource scientists, land managers, communications staff, operations supervisors, planners and various senior representatives from departmental and program management.

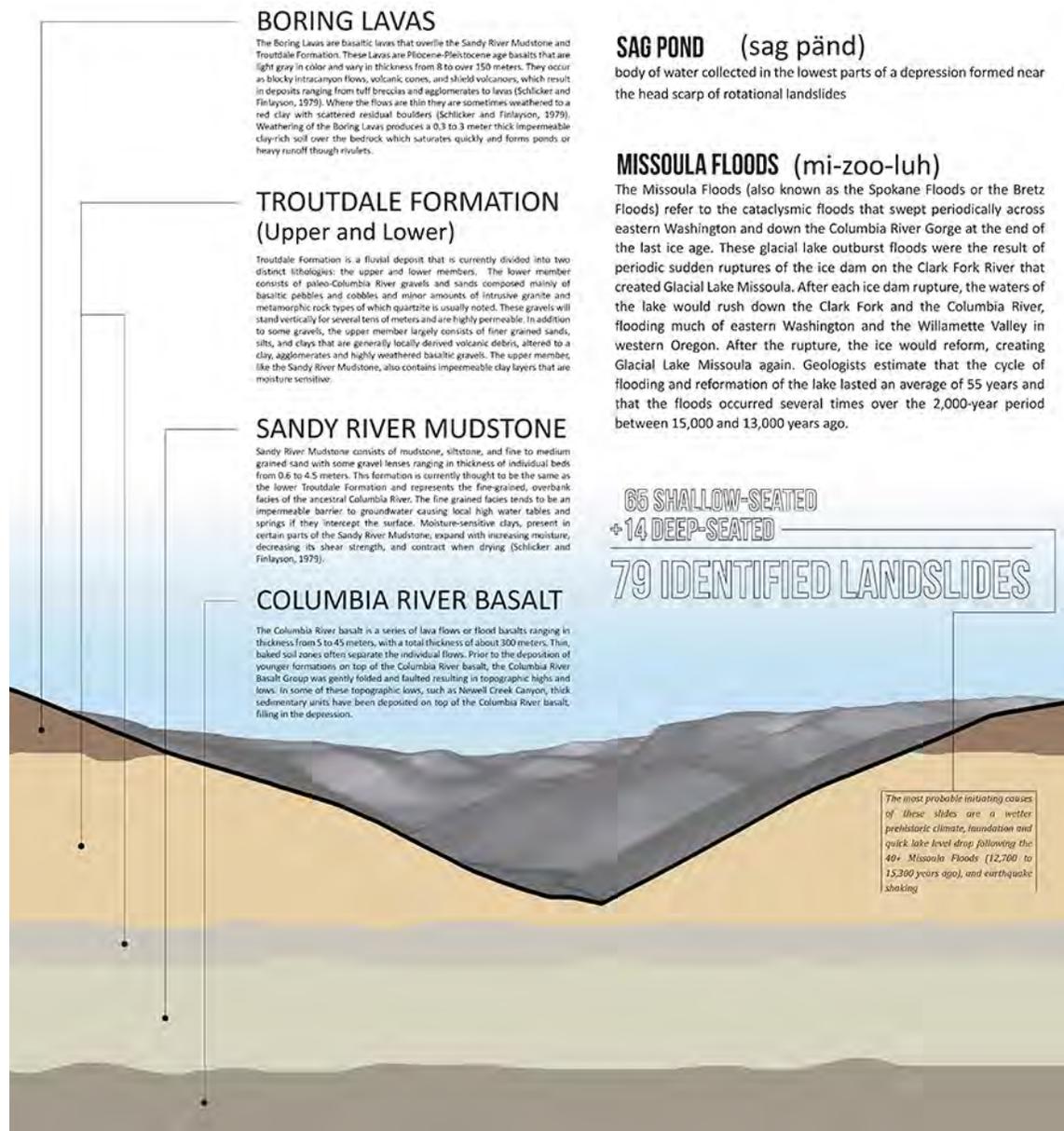
## SITE RESOURCES AND CONDITIONS

A number of site conditions and natural resources affect the use and development of the site and inform the basis for design and site programming. These include geology, soils, landslides, hydrology, habitat types, native fish and wildlife and existing trails and logging roads.

### GEOLOGY

Newell Creek Canyon includes two key geologic formations– the relatively level Boring lavas of the upper terrace, and the cemented sands and gravels that form the architecture of the canyon.

The Boring lavas are characterized by reddish colored soils with large, embedded boulders. Oregon City residents are familiar with red soil exposed along road cuts. The clusters of boulders that decorate nearly every entry drive in the upper watershed have been excavated from this red soil matrix.



Newell Creek Canyon Geology

The sand and gravel layer is composed of the Troutdale and Sandy River Mudstone formations. These lie under the younger Boring lavas and are exposed within Newell Creek Canyon. Both were laid down by the ancestral Columbia River, which once flowed far south of its present course, right through where Oregon City now stands.

In addition, older rocks known as Columbia River basalts are buried under the entire watershed. These are the base rocks for our entire region, having originated from a series of lava flows tens of millions of years ago. As much as 900 feet thick in places, these are the dark, sturdy rocks that form the bluffs along the Willamette River in Oregon City, and much of the Columbia River Gorge.

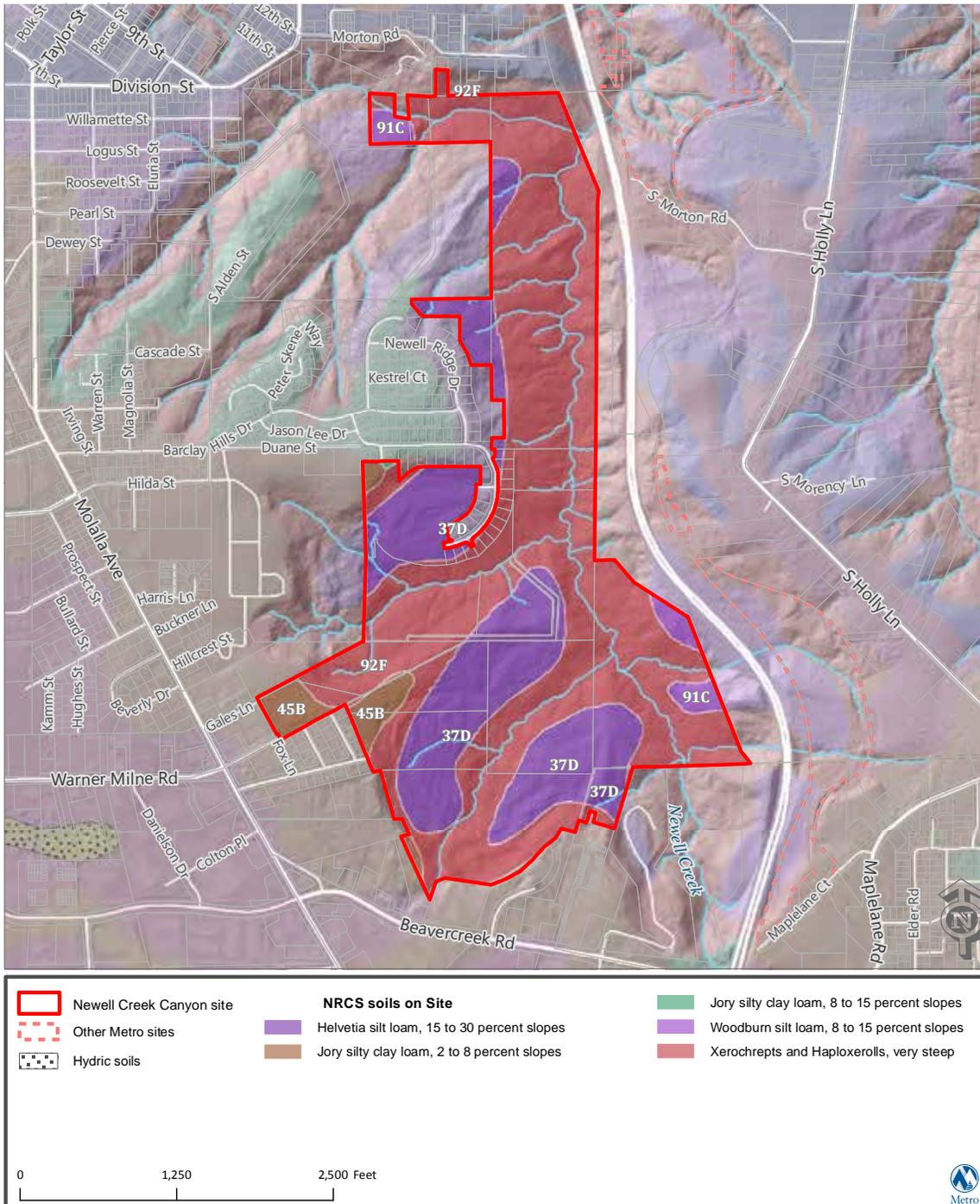
## Soils

Most of the Newell Creek Watershed has residual soils, formed by gradual weathering of the Boring lavas. In parts of the canyon, this soil is mixed with external sources, including deposits from the Missoula Floods dating from over 14,000 years ago. Thus, the red colored soil at the top of the canyon gives way to tan colored, silty clays, which developed directly on the Troutdale and Sandy River Mudstone and formations

Soils covering the majority of the site’s acreage have been defined by the Natural Resources Conservation Service as belonging to three series. All soils are deep and moderately well drained.

Table 1.0: Soils present at Newell Creek Canyon Natural Area

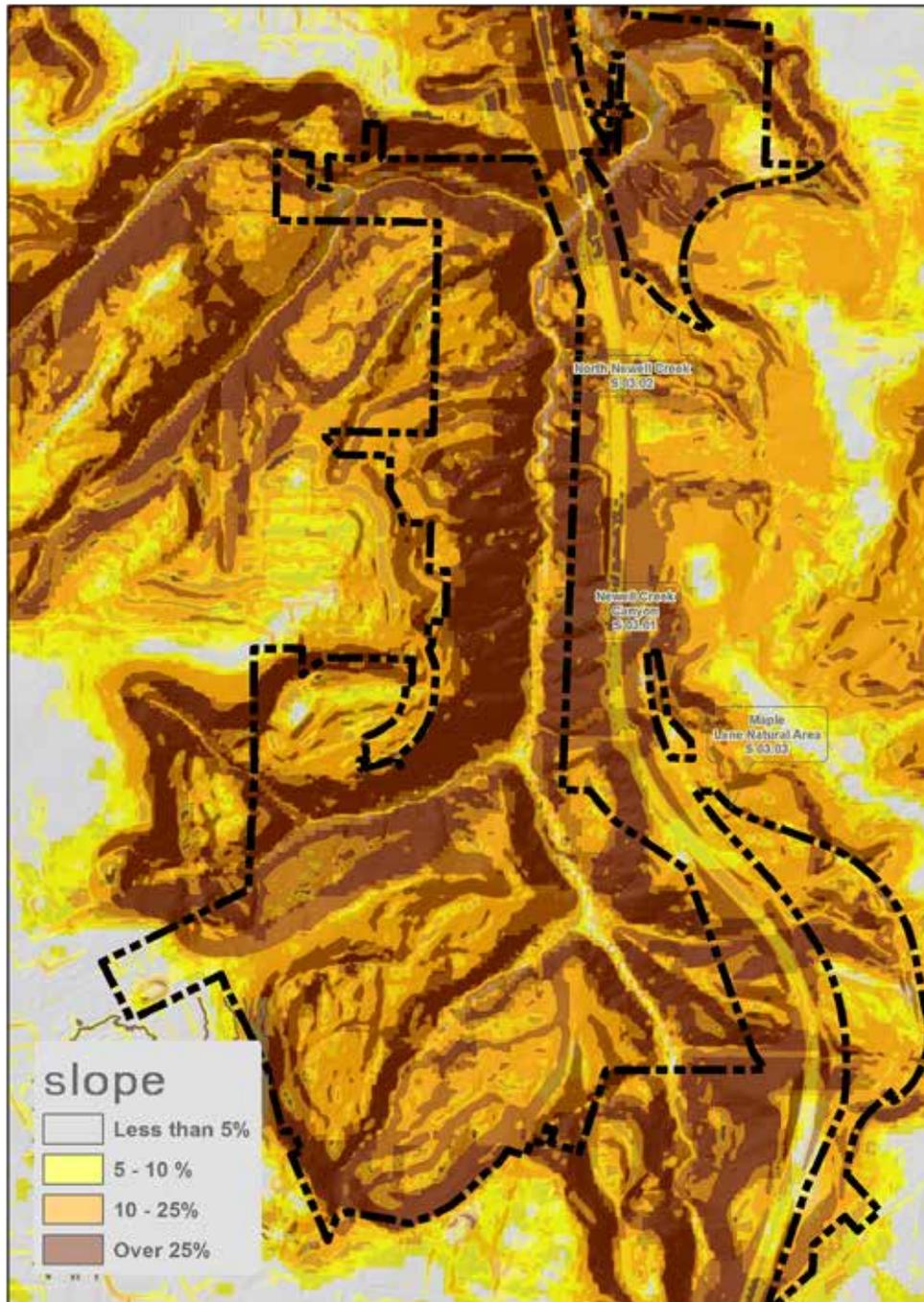
Map soil symbol	Map unit name	Description
92F	Xerochrepts and Haploxerolls	On terrace escarpments. Deep and well-drained, moderate to moderately slow permeability and rooting depths are 40 to 60 inches or more. Runoff is rapid and erosion hazard is severe. Slope is 20-60 percent.
45B	Jory silty clay loam	Deep and well-drained. Permeability is moderately slow. Available water capacity is about 9 to 11 inches. Effective rooting depth is 60 inches or more. Runoff is medium and the hazard of water erosion is moderate.
37D	Helvetia silt loam	This deep, moderately well-drained soil is on high terraces. Permeability of this Helvetia soil is moderately slow. Available water capacity is about 11 to 13 inches. Effective rooting depth is 60 inches or more. Runoff is medium and the hazard of water erosion is severe.



Newell Creek Canyon Soils

## Topography

The dominant aspect of Newell Creek Canyon's landscape character is its topography. Much of the upper rim of the site is steep, where the headcuts of ancient landslides are apparent. In the lower elevations of the site, the topography is less steep, but is still deeply incised right down to the creek edge. Movement throughout the site requires the acknowledgement of the topography and ability to work along faces of slopes in order to travel some of the steeper sections of the canyon. Upper elevations of the site are around 400 feet while the lower portions of the site near the creek are around 150 feet in elevation.

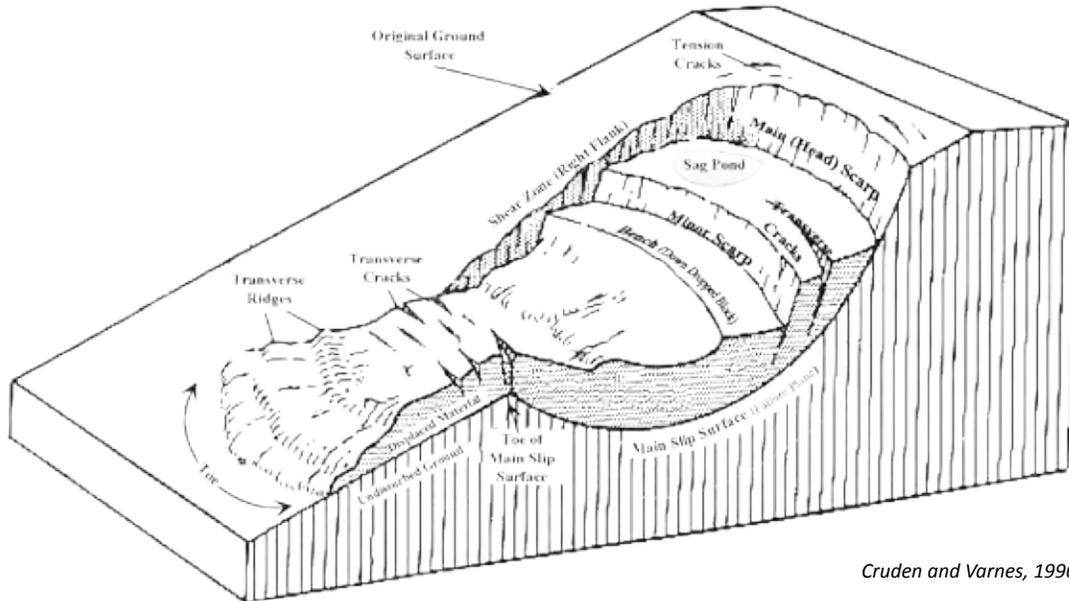


*Newell Creek Canyon Slope Analysis*

## Landslides

Newell Creek Canyon is well known as a place prone to landslides. All of the landform features that are associated with landslides, including scarps, tension cracks, shear zones and toes, are found within Newell Creek Canyon. Scarps are found near the top of a landslide and generally begin at the surface as tension cracks. Overall, 79 landslides have been identified within Newell Creek Canyon; 65 of these are relatively small. There are at least 14 large landslides.

Most of the more significant landslides in the study area are believed to be inactive and range from young to mature. Many of these slides date from long before the time of Euro-American settlement and their causes were likely unrelated to human activity. These older slides can be reactivated at any



*Cruden and Varnes, 1996*

time. Many of the smaller, less significant slides are active and tend to be associated with cut slopes and fills from recent construction. While the nature of Newell Creek Canyon's steep slopes and active geology constitutes its inclusion in a geologic hazard overlay zone, careful planning and design will ensure that the proposed access improvements as set forth in this access master plan are compatible with the site.

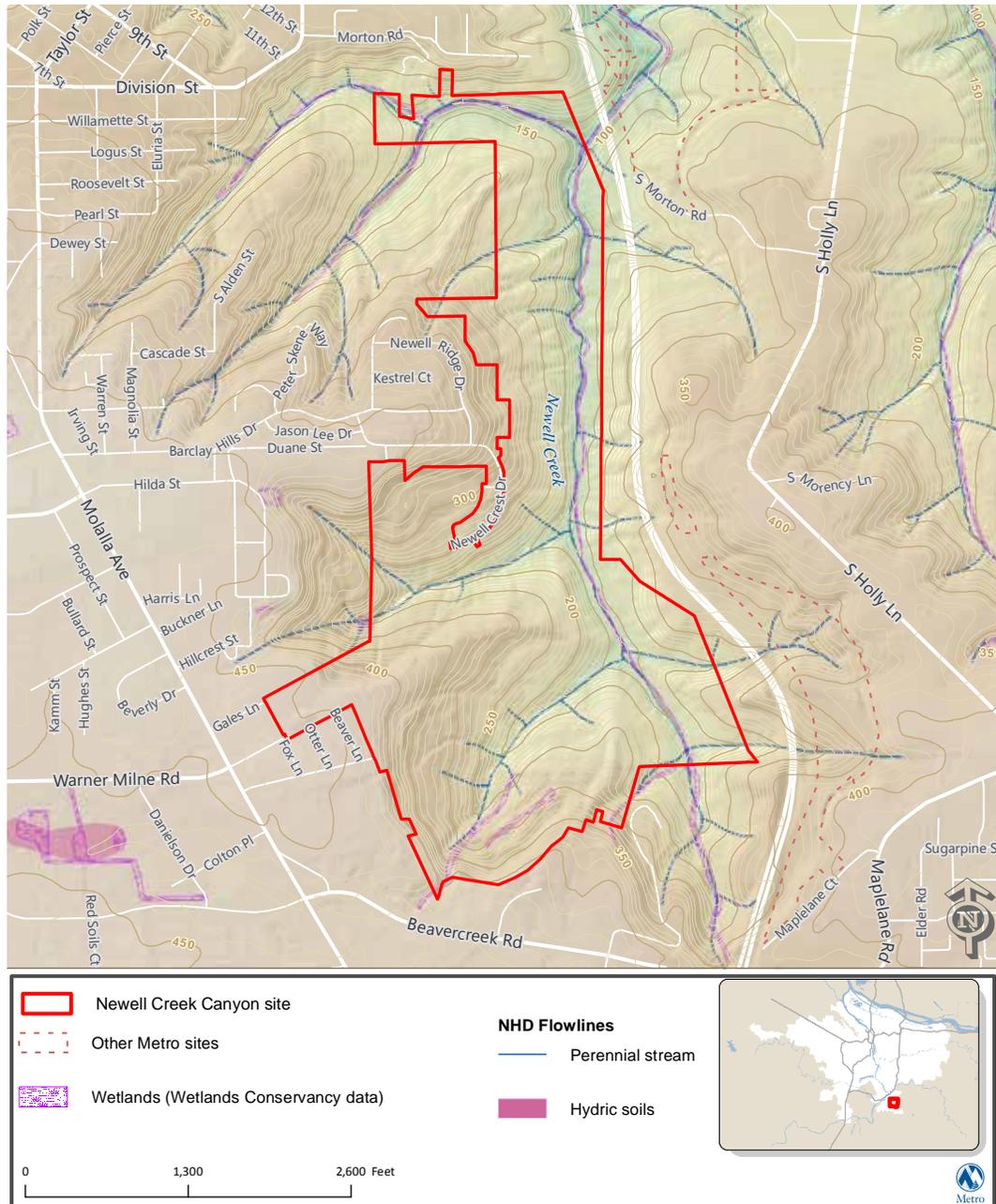
Sag ponds, water bodies formed in the depressions between the head and foot of landslides, are found throughout the canyon. They appear as shallow local depressions and seasonally fill with water, providing important habitat, particularly for amphibians.



*Sag pond*

## HYDROLOGY

Newell Creek Watershed is located in close proximity to the Willamette River where flow concentrations have great potential to shape the landscape. The upper terrace that generally follows Beaver Creek Road and Molalla Avenue has no surface creeks. Only a small amount of rainfall runs off the surface during infrequent, large storms. A network of seven surface creeks emerges at the canyon edge. These have steep gradients until they reach the main stem of Newell Creek in the canyon bottom. The most significant of these officially unnamed creeks originates in the southwest corner of the site. Informally named “Tumble” Creek, it flows south past City Hall, turns east at Danielson Hilltop Mall, disappears into a pipe under Beaver Creek Road and daylights above the canyon behind Nelson’s Nautilus.



Newell Creek Canyon Hydrology

## HABITAT TYPES

Newell Creek Canyon Natural Area currently has two major natural habitat types: riparian forest and upland conifer-hardwood forest. Historically, the canyon appears to have been primarily old growth conifer forest, dominated by Douglas fir and western red cedar. At present, the canyon is still mostly forested, but years of logging, road construction, agriculture, power line location and urban development along the canyon rim have gradually taken a toll on the native forest.

## RIPARIAN FOREST

Riparian forests are forests that border the shores of ponds, lakes, streams, rivers and other water bodies. These forests provide important habitat and prevent sediment, nutrients and upland contaminants from reaching the water. They filter and clean water, reduce erosion and provide structural elements like trees and sinuosity that allow in-stream habitats to function. Riparian forests provide homes to most species of wildlife at some point in each species life cycle. Riparian forests throughout the region have been moderately to severely degraded due to resource extraction, development and land use activity.



The Newell Creek Canyon Natural Area includes approximately 23 acres of forested riparian habitat. Riparian habitats on the site exhibit variations in species composition based primarily on slope and the age of the tree canopy. Primary plant communities include red alder/big leaf maple/salmonberry and western red cedar/salmonberry. Younger forests tend to be dominated by the alder and maple, while older forests tend to have a larger percentage of conifers, particularly cedars. Areas of more moderate to steep slopes tend to show greater variability in species composition.

## UPLAND FOREST

Upland coniferous and mixed conifer/deciduous forests (upland forest) are the dominant natural habitat of the region. Low-elevation Pacific Northwest old-growth forests typically are dominated by conifers like Douglas fir, western red cedar and western hemlock, with grand fir and hardwood species also occurring. Plant and animal use of forests follows the changes in forests over time, with different species dominating depending on forest age, canopy closure and site conditions. Biodiversity is higher in forests where some light reaches the forest floor and where standing and fallen dead wood is ample and of mixed age and size. Forests younger than 60 years dominate western Oregon due to current and historic forestry practices. The decline of plant and wildlife species associated with old-growth and shrub dominated forests reflect these changes in overall



Newell Creek Canyon includes 196 acres of upland conifer forest, with tree age in the range of two to more than 100 years. Some variations of canopy structure in this habitat type include red alder/big leaf maple, Douglas fir/big leaf maple/red alder and cedar/big leaf maple.

## NATIVE FISH AND WILDLIFE

The Newell Creek Watershed offers relatively high quality habitat, given its urban context. With nearly 700 acres of mixed evergreen and deciduous woodland across North Newell, Maple Lane and Newell Creek Canyon, a large number of wildlife species can find food and shelter. These potentially include 18 amphibians, 149 birds, 76 mammals and 21 reptiles associated with urban woodlands. The creek is also home to federally threatened fish species including Coho salmon and steelhead.

It is highly likely that additional wildlife use these sites for breeding, nesting, foraging and migration. The sites have diverse cover, breeding and travel habitats which provide numerous food sources. Small and large mammals and birds also provide food for species such as raptors and large predatory mammals including cougar, which is known to occur on site. Newell Creek, because of its perennial flow and intact riparian habitat, is potentially suitable for river otter.



*Deer on wildlife camera*



*Coyote on wildlife camera*

Anadromous fish occurring in Newell Creek Canyon include coho salmon, steelhead, migratory cutthroat trout and Pacific lamprey. Some spawning activity has been documented but the primary use is by juvenile fish seeking cold water refugia. These juvenile fish likely originate from spawning populations on Abernethy Creek or the Willamette River. Resident native fish occurring in Newell Creek include cutthroat trout, rainbow trout and brook lamprey.

In summer 2000, Adolfson and Associates conducted a survey of fish habitat and species presence within Newell Creek Canyon. A total of 381 fish were detected, including 11 different species, three of which were native salmonids. The greatest numbers of fish were located in the middle reaches of Newell Creek Canyon.

## UTILITIES

Portland General Electric (PGE) currently holds a 50 foot wide utility easement for transmission line infrastructure that runs east/west through Newell Creek Canyon. Past access needs required the removal of vegetation within the easement and this open corridor remains a potential point of access for both pedestrians and off-road vehicles. In order to minimize conflict between levy funded investments and PGE's access needs, proposed trails within this easement have been minimized where possible and a manual gate will be installed to prevent vehicular access .



## TRAILS, ACCESS AND VISITORS

Newell Creek Canyon presently has several trails and access routes. Typically, existing trails in Newell Creek Canyon are poorly located and constructed and can be difficult to negotiate, particularly when soils are slippery after rain. Remnants of homestead access, logging roads, and even an abandoned railroad bed still are still evident under the dense vegetative cover in areas. In some cases, existing



trails use these remnant alignments, are in reasonably good condition, and are appropriate to incorporate into the planned trail network presented in this access master plan.

While access to Newell Creek Canyon is currently allowed, the lack of designated entry locations and the public's general lack of awareness of the site results in few recreational users. In the absence of organized access, visitors have taken it upon themselves to build trails in unsuitable locations and illegal camping has become pervasive.



## CURRENT OPERATIONS

In the absence of formal trails and access locations, current operations within Newell Creek Canyon have focused mainly on site conservation and natural areas land management. Over the course of the last several years the 1995 and 2006 bond measures have funded stabilization activities that include: access control, slash removal, invasive plant removal, native seed collection, prescribed burns to minimize fuel loads, plant monitoring, wildlife tracking, and reforestation of clear cut areas with approximately 60,000 native trees. Periodically, volunteers have assisted these conservation and management efforts. In addition, Metro land management staff has worked closely with Clackamas County Sherriff's office and Oregon City Police to control illegal camping, clean up established campsites and, in some cases, direct campers to the resources of Clackamas County Social Services for support and assistance in relocation.

## PLAN GOALS AND OBJECTIVES

The following goals and objectives for management and design of the Newell Creek Canyon Natural Area were developed by the Metro's Parks and Nature Planning Team with input from the Stakeholder Advisory Committee. These goals reflect broadly shared values about public use and natural resource management. The objectives identify specific short- and long-term actions to carry out each goal.

### GOAL 1: NATURAL RESOURCE PROTECTION AND MANAGEMENT

Protect and enhance Newell Creek Canyon's unique natural and scenic resources and create a place for wildlife to thrive.

Protecting water quality, fish and wildlife habitat is the number one goal for the management of Newell Creek Canyon.

Goal 1 Objectives:

- Locate and design proposed improvements and public uses to avoid significant impacts to important natural resources.
- Restore and maintain upland forest, riparian forests and Newell Creek to improve habitat value and water quality.
- Locate and design proposed improvements and public uses to avoid significant impacts to important natural resources.
- Employ the best practices to decrease non-native invasive species.
- Follow the International Mountain Biking Association's (IMBA) "Sustainable Trails" guidelines for all trail development at Newell Creek Canyon.

### GOAL 2: ACCESS AND USE

Encourage community access and recreational use that is compatible with natural resource protection.

Public natural areas such as Newell Creek Canyon are rare in Clackamas County. A variety of recreational activities and amenities will be provided to encourage greater use and enjoyment by the community and regional residents.

Goal 2 Objectives:

- Provide a system of trails that serve appropriate multiple uses including hiking, off-road cycling and wildlife viewing.
- Provide scenic viewpoints and overlooks.
- Provide safe pedestrian and vehicular access to Newell Creek Canyon Natural Area
- Provide necessary site amenities and infrastructure to serve visitors.
- Provide a family-friendly environment with opportunities for people of all ages and abilities to enjoy the site.

### GOAL 3: WAYFINDING AND INTERPRETATION

Orient visitors within Newell Creek Canyon's trail network and interpret the unique natural, cultural and scenic resources of Newell Creek Canyon.

Primary interpretive themes will highlight water quality in the Newell Creek Canyon watershed. Additional themes will include the geologic history of the site and the valuable habitats, plants and animal species within Newell Creek Canyon.

## Goal 3 Objectives:

- Provide effective, durable maps and interpretive signs at appropriate locations.
- Provide low-cost natural history interpretive programs to the public.
- Encourage environmental education partners to use Newell Creek Canyon in program delivery.

## GOAL 4: OPERATIONS

Protect the public's safety and welfare and maximize operational efficiencies to protect the public's investment.

Metro is committed to ensuring the public's safety and enjoyment of Newell Creek Canyon and strives to manage the public's investment in the most effective and cost-efficient way.

## Goal 4 Objectives:

- Coordinate site operations with Oregon City Police, Clackamas County Sheriff's office and Clackamas Fire District to assure efficient response to illegal site uses, incidents, emergencies and potential wildfires.
- Provide sufficient Park Ranger and land management presence to understand maintenance needs and realize efficiencies.
- Evaluate short- and long-term operational costs and financial risks associated with proposed improvements.
- Leverage limited resources for site operations and maintenance, including the use of key partnerships, volunteers and youth crews.

## GOAL 5: SURROUNDING NEIGHBORHOODS

Minimize impacts to surrounding neighborhoods from site development and public use of Newell Creek Canyon.

Metro strives to be a good neighbor by working closely with communities to plan appropriate types and levels of public use and limit unauthorized activities.

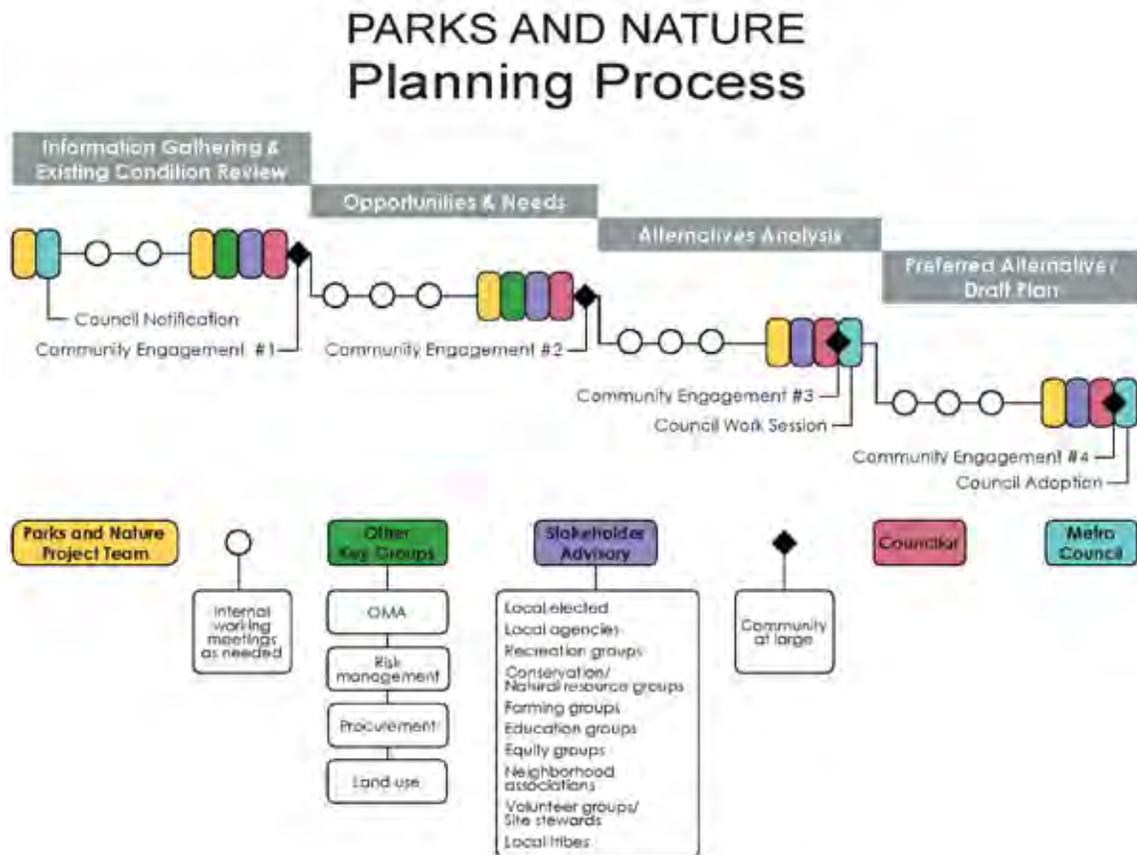
## Goal 5 Objectives:

- Provide controlled access and on-site parking scaled to the site's capacity.
- Work with Oregon City and Clackamas County to address site-related transportation requirements.
- Assure privacy of neighbors by controlling access and providing setbacks and buffers.
- Coordinate with local fire and police service providers to help enforce rules and ensure safety.

## PLANNING PROCESS AND ANALYSIS

The planning process for the Newell Creek Canyon Access Master Plan began in the spring of 2014 and transpired over the course of 20 months. The plan was developed with oversight from Metro Parks and Nature Department staff and the project Stakeholder Advisory Committee, with input from members of the community and Metro Councilors at key times throughout the process. The Metro team of reviewers was comprised of senior managers, scientists, land and property managers, planners, and naturalists. An independent Stakeholder Advisory Committee was established to provide ongoing insight and review into the planning process. The committee included local agency representatives, elected officials (former and present), recreation advocates, local business owners, environmental activists and informed citizens. See the appendix for meeting minutes.

Using a cyclical, four-step planning strategy, Metro met with both internal and external stakeholders and hosted four open house events over the course of the process. The public meetings, typically held at the Pioneer Community Center in Oregon City, were facilitated to elicit input and feedback on the project direction and concept designs from the community and other interested parties.



## COMMUNITY OUTREACH AND ENGAGEMENT

The Newell Creek Canyon master planning process sought to meet the needs and concerns of potential park users, surrounding land owners, and project partners through a balanced public outreach effort. Goals of this effort were to:

- Draw upon local knowledge, interest and experience to provide a variety of perspectives on the use of Newell Creek Canyon;
- Survey community desires and needs to assist in program development
- Build a public understanding of the issues related to natural resource management of publicly-owned land within Newell Creek Canyon;
- Develop final plan recommendations that reflect the community's needs and interests; and
- Produce an access master plan that best serves the entire community.



In addition to the Stakeholder Advisory Committee and four public open house events noted above, Metro relied on the following community outreach and engagement methods to support access master plan development:

- Project information, updates and meeting notices were provided to a mailing list of interested community members.
- Press releases announced important steps in the planning process and meeting times.
- Local media was utilized to share details on the project's progress.
- Questionnaires were circulated and posted online to solicit feedback on the content of public meetings
- Neighborhood association meetings were held upon request.
- Tours of the project site for stakeholders and local residents were provided.
- The draft access master plan was distributed via Metro's web site for public review and comment
- The draft access master plan was presented to the Metro Council for approval and adoption. Community members were invited to provide testimony.
- The adopted access master plan was made available to community members via Metro's web site.

Metro's web site proved to be an effective tool to engage interested community members in the project planning process. Community members used the web site to learn about the project and engagement opportunities, review documents, receive regular notifications and updates, submit comments, and complete public opinion questionnaires. Over 3,000 visits were made to the Newell Creek Canyon web site throughout the planning process.

The public involvement process resulted in an inventory of community values surrounding Newell Creek Canyon, preferred activities, and desired facilities. This information, along with questionnaire results and public meeting summaries, is provided in the appendix.

**Metro** enter keywords SEARCH

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Home > Public projects

## Newell Creek Canyon

In the heart of Oregon City is a beautiful canyon with majestic trees, tumbling creeks and passionate Oregon City neighbors – along with shopping carts and trash. Can it become the region's next great natural area?

Overview Background Public input

**Newell Creek Canyon**

Metro natural resource technician Adam Stelmscher thinks Newell Creek Canyon is one of the region's best kept secrets – spanning 300 protected acres right in Oregon City. Planning is under way with the community to enhance the visitor experience and transform this place into a restored natural area with safe trail access, education, and recreation opportunities.

Surrounded by Oregon City neighborhoods and Clackamas Community College, the voter-protected natural area has a loyal following in the community. It provides spectacular scenery and wildlife habitat – from its namesake creek to groves of Western red cedar trees, from deer to red-legged frogs.

Community members will work with Metro to define a vision and dreams for Newell Creek Canyon, shaping the landscape for decades to come. Your voice will help answer fundamental questions: What's special about Newell Creek Canyon? What do you want to do in the natural area? How can we protect the forest while allowing people to explore it? As the answers take

**SHARE YOUR THOUGHTS**

Thank you to the hundreds of community members who have weighed in about future public access at Newell Creek Canyon. Learn about the recommendation and comment by Jan. 4, 2016.

Newell Creek Canyon recommended alternative  
10.10 MB Adobe Acrobat PDF | Published Dec. 20, 2015

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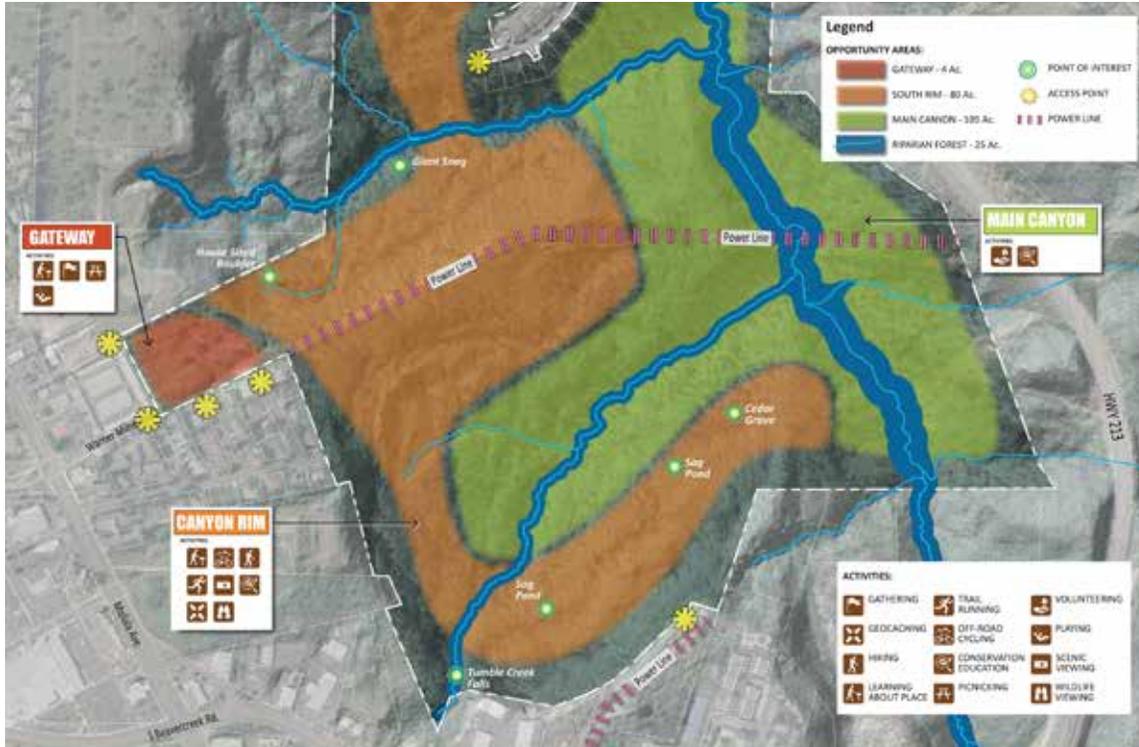
**FEATURED DOCUMENT**

**PROJECT AREA MAP**

View a map of protected natural areas in Newell Creek Canyon.



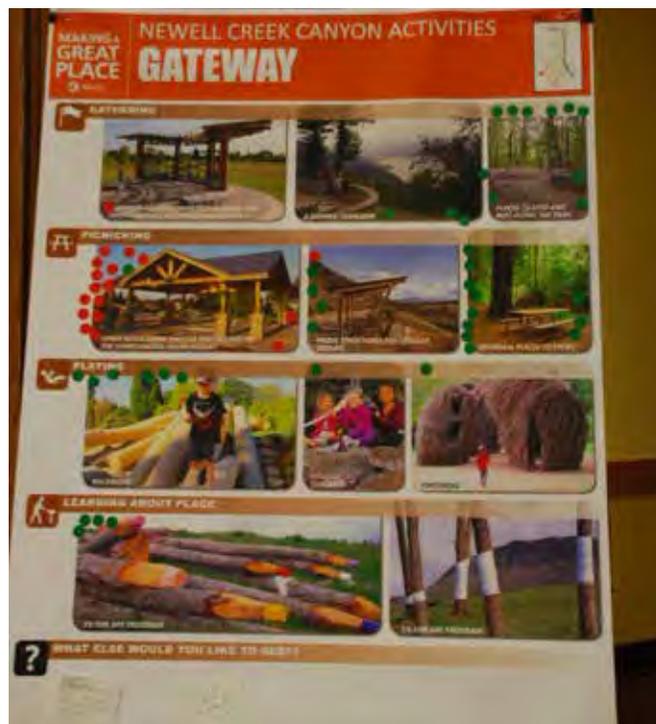




Newell Creek Canyon Activity Zones

## Open House #2

The second open house event took place on October, 28th 2014 at the Pioneer Community Center in Oregon City. The program for this event included a summary of the information collected at the first open house. The needs and interests of the local community were incorporated into an initial site opportunities diagram, which identified three activity zones across the site. Participants were given a questionnaire designed to gauge their preferences for certain facilities and programming options within the identified activity zones. The result of the second open house began to define desirable site programming and informed the design and development for the site entry and trail network concepts.





## Open House #3

The third open house event attracted just over 40 attendees to the Pioneer Community Center on the evening of June 23rd, 2015. Again, time was devoted to a summary of the feedback received after the second open house but the majority of the evening focused on the discussion of possible concepts for the site “gateway” and trail network.

The two “gateway” concepts studied both a formal and informal arrangement of standard

### TOP RANKED ACTIVITIES

**CANYON RIM**

OFF-ROAD CYCLING

HIKING

SCENIC VIEWING

CONSERVATION EDUCATION

**DAY-USE AREA**

PICNICKING

GATHERING/OVERLOOK

PLAYING

INVASIVE REMOVAL

VOLUNTEER WORK

CONSERVATION EDUCATION

**MAIN CANYON**

*At Open House 2 in October we asked attendees to express their preference for certain activities to pursue in Newell Creek Canyon. This is what we heard...*

#### What We Heard

day-use elements including parking, restrooms, kiosks, a picnic shelter and a canyon overlook and interpretive area. Opportunities for nature play and unprogrammed open space were also included in these concepts. The discussion of trail networks centered around a separated network, a shared network and a third, hybrid of the two network types. At the conclusion of the event a questionnaire was circulated requesting feedback and level of preference for the “gateway” and trail network concepts. Over 35 questionnaires were returned to Metro and their contents formed the basis on which Metro began studying a recommended design for both project areas.

See the appendix for the design alternatives shown at Open House #3

## Preferred Design Alternative Open House #4

On the evening of December 10th, 2015 Metro hosted its fourth and final public open house at the Old Oregon City High School, Jackson Campus. The third open house resulted in strong direction on behalf of the community to pursue the “Canyon Approach” gateway design and hybrid trail network (see appendix). This feedback was shared with the meeting’s 50 attendees and the refined concepts were discussed in detail. The focus of the presentation centered on specific changes made to June’s open house concepts in response to concerns of both Metro staff and the community. Reaction to the modified concepts for both the gateway and trail system was positive. In particular, many attendees commented that they felt a reasonable accommodation for both hiking and off-road cycling had been reached while seeking to protect wildlife habitat and water quality.

### TRAIL NETWORKS

LEAST PREFERRED

#### FEEDBACK:

- Hybrid network is most preferred trail network option
- Why no hiking in the south Canyon Rim?
- Provide loop trails
- Trails can be shared if properly designed
- Allow hiking access to special natural features.
- One-way biking trails are safest.
- Do not exclude user groups
- Minimize impacts to streams
- Public access will discourage illegal camping & dumping in the Canyon

#### REFINEMENT STRATEGIES:

- Provide hiking in the south Canyon Rim
- Maintain International Mountain Biking Association's recommended alignment
- Mix cyclists with hikers on one-way, uphill routes only
- Maximize use of existing trails and logging roads
- Minimize impacts to streams and sensitive wildlife habitat areas



HYBRID TRAIL NETWORK

### DAY-USE AREA

LEAST PREFERRED

#### FEEDBACK:

- "Natural" or "angled" arrangement of day-use elements is most preferred
- Keep open space and play area away from residences to the south of the site
- Minimalism and natural materials are best for the site
- Assure adequate on-site parking to reduce impacts to adjacent neighborhoods
- Vehicular ingress/egress should be located at Fox Lane
- Provide interpretive signs, picnic tables and a place to gather

#### REFINEMENT STRATEGIES:

- Provide expansion areas for future facilities
- Create unprogrammed open space for group activities, celebrations and classes
- Simplify vehicular circulation and site entry/exit points
- Provide auxiliary parking area
- Combine facilities where possible to reduce cost



CANYON APPROACH

*“Through the presentation and discussions with Metro staff I feel you have done a nice job of providing robust but limited human use rather than dispersed recreation throughout the entire parcel which would likely have adverse impacts on wildlife including birds and fish and other aquatic organisms.”*

- Open house attendee

### FEASIBILITY

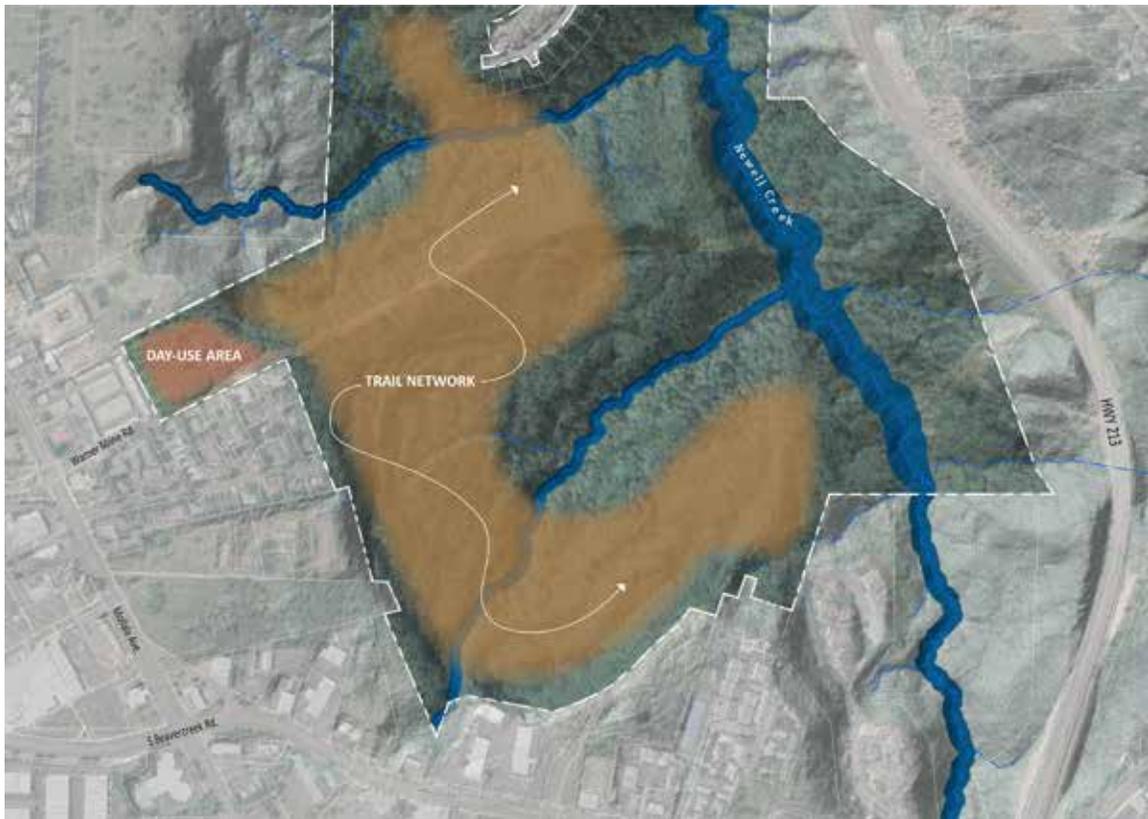
In addition to the process outlined in this section, the International Mountain Biking Association (IMBA) was engaged at key points throughout the planning process to evaluate the areas of Newell Creek Canyon best suited for hiking and off-road cycling uses. (See the IMBA Trail Feasibility Assessment Report in the appendix) As trail layouts within recommended areas began to solidify, further “ground proofing” of the proposed alignments was performed by Metro and IMBA staff. This field work allowed for a detailed look at all proposed trail alignments and generated a memo outlining recommended design changes, construction details, and construction means and methods.

## ACCESS MASTER PLAN RECOMMENDATIONS

This access master plan achieves balance between the protection and restoration of the unique natural resources of Newell Creek Canyon Natural Area with the public's enjoyment of nature-based recreation. The following access master plan concept and recommendations are intended to guide future development and operations of the natural area.

To better understand the recommendations of this access master plan, the main elements can be assigned to one of two major project activity zones:

- Day-Use Area
- Trail Network



*Newell Creek Canyon Activity Zones*

### DAY-USE AREA

It is envisioned that visitors to Newell Creek Canyon Natural Area will arrive at a primary day-use and trailhead location at the eastern terminus of Warner Milne Road. The Warner Milne site entry will be composed of essential day-use amenities and signs designed to orient visitors and highlight the site's unique habitat, wildlife and geologic features. The major components at this location include a gated site entry at Warner Milne Road, parking area, entry plaza, restroom, picnic shelter, interpretive kiosks and a trailhead shelter at the edge of the canyon. Each of these elements is connected by a crushed gravel, multi-use trail that links the site entry to the proposed network of trails within Newell Creek Canyon.

Beginning at the site entry at Warner Milne Road, Newell Creek Canyon Natural Area will be identified on a monument sign. Beyond the sign, visitors will pass a series of landscape elements including vegetative buffers or screens, native grass plantings and storm water infiltration areas. The first major site element visitors will encounter is the entry plaza and parking area. Here, visitors can load or unload vehicles, park or absorb orientation and regulatory information at the entry plaza kiosk. Past the entry plaza and restroom, visitors will arrive at an open meadow of tall grasses flanked to the south by the multi-use trail and to the north by the picnic area and nature playground. Passing the picnic shelter and playground, the multi-use trail delivers visitors to the Canyon Overlook. Conceived as an interpretive trailhead, this project area will share orientation information on the canyon trail network while providing a shelter from which hikers and off-road cyclists may stage their excursions while enjoying views into Newell Creek Canyon.

## Access and Parking

A single parking area will accommodate daily visitor needs at the day-use area. The primary point of entry to this parking area at the terminus of Warner Milne Road will be controlled with an automatic gate that will be closed and locked in the evenings. This parking area will provide parking for approximately 24 vehicles with the addition of a pull-through space for buses and other large vehicles. An auxiliary parking location with 10-12 parking spaces along the gravel access road north of the parking lot will absorb unusually high demand and minimize overflow into the surrounding neighborhood streets.

The Gales Lane gated entrance, which accesses the day-use parking area from the north, will serve maintenance and emergency access only. Day-to-day turnarounds will be possible using the one-way vehicular loop in the parking area.



# DRAFT



Newell Creek Canyon - Recommended Day-Use Area

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The ends of Beaver and Otter Lane will remain barricaded and will serve as secondary pedestrian access to the day-use area from the neighborhood to the south. Landscape improvements along the property line at this portion of the day-use area will serve to create a sense of separation from the more active site elements

More modest site entry opportunities have also been identified at the southern end of Newell Crest Drive and at the power line corridor behind Nelson's Nautilus on Beaver Creek Road. The former site entry is intended to provide local access for the residential areas north of the site while the latter is envisioned as a means of local access to the south while doubling as a secondary entry for maintenance and security vehicles.

## Facilities and Amenities

### Nature Play Area

A "naturalistic" children's play area providing a hands-on, exploratory nature experience for younger children and augmenting education programs is proposed. Such a play area will be designed for



durability and low maintenance, and will be located within the meadow restoration area.

## Shelters

Two shelters are proposed at the day-use area; a small picnic shelter with picnic tables at the meadow restoration area and another of equal size at the canyon edge where hikers and off-road cyclists can prepare to either enter or depart Newell Creek Canyon.



## Support Facilities

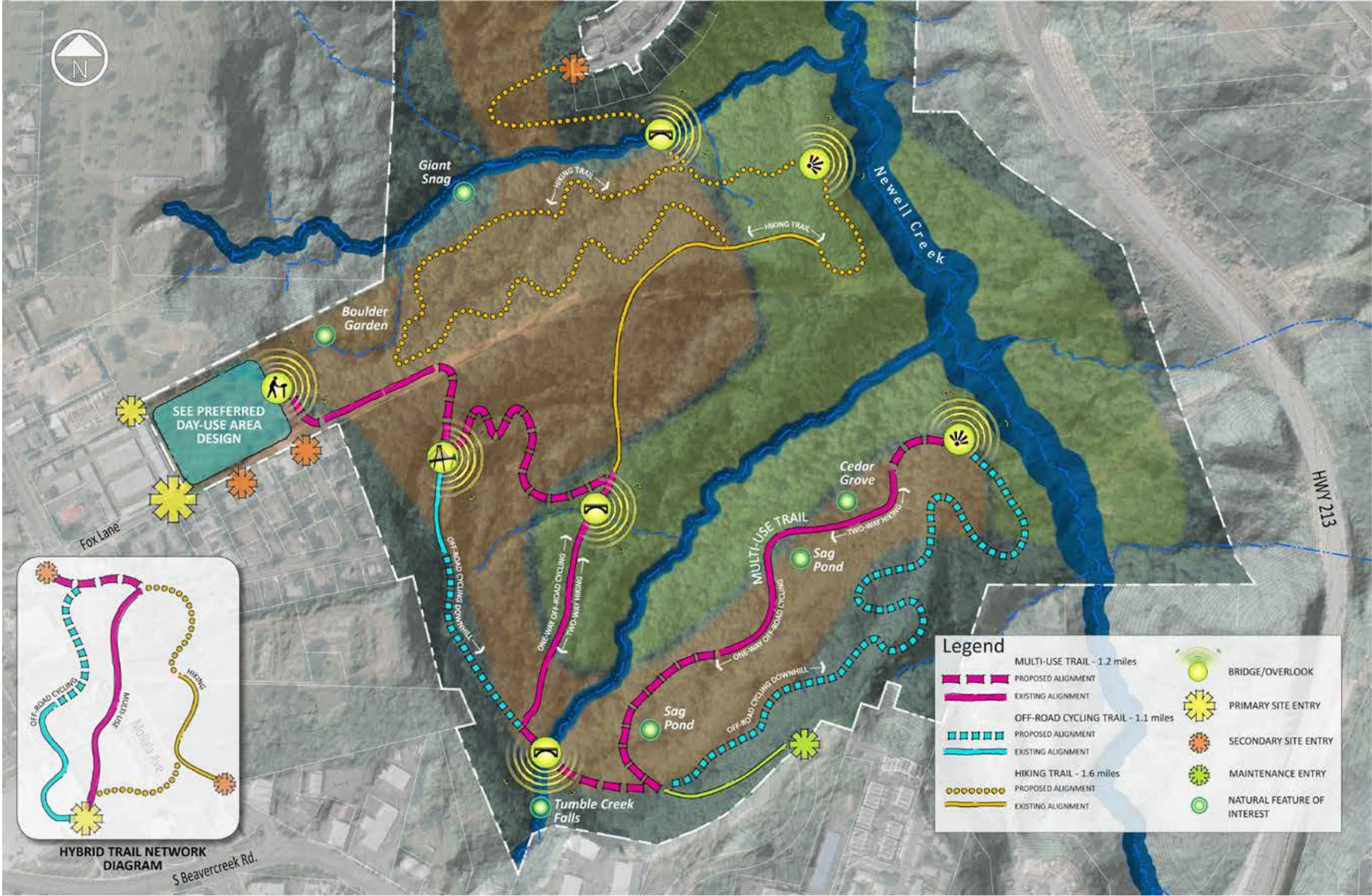
Support facilities are proposed at the day-use area. These include restrooms, benches, picnic tables, trash receptacles, bike racks and signs (interpretive and directional).

## TRAIL NETWORK

Given recreational feedback received from the community and Metro’s mission to protect natural resources, a sustainably designed trail system that connects visitors to nature and wildlife will be the primary focus of the natural area. Habitat protection will be made compatible with trail use by avoiding fragmentation of ecologically sensitive areas within Newell Creek Canyon.

A proposed 3.9-mile trail system will be designed to pass through or by a variety of habitats and natural features while serving a variety of uses, hiking and off-road cycling being emphasized. In addition, IMBA’s “Sustainable Trails” design guidelines will be used to minimize trail impacts on the site’s natural resources (e.g. appropriate paving materials and drainage strategies). Trail layout will include setbacks from private properties, streams, and sensitive habitat, and discourage shortcuts.

# DRAFT



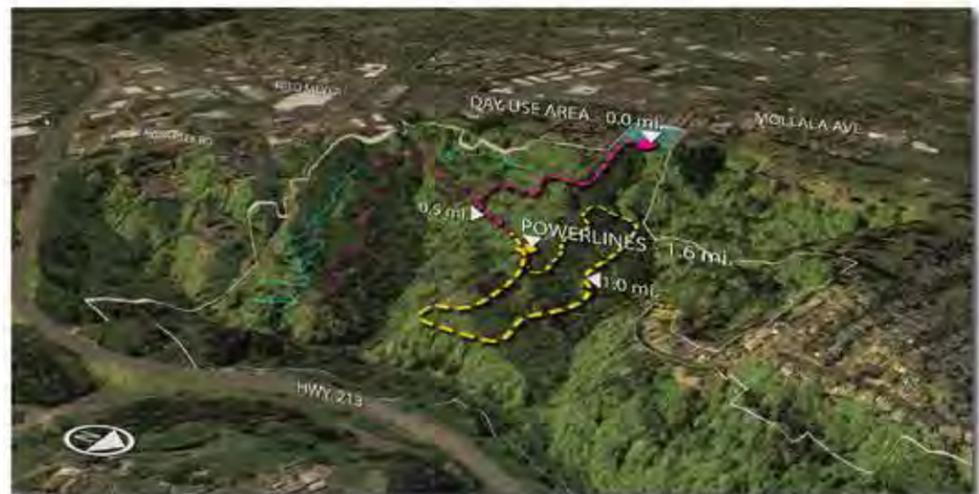
Recommended Trail Network

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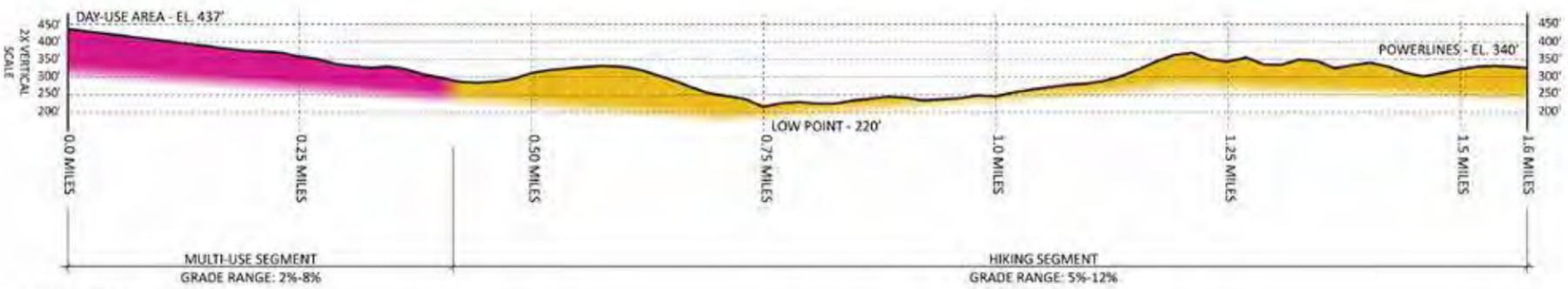
## HIKING/MULTI-USE

The land forms of Newell Creek Canyon have the potential to deliver a dynamic access experience for hikers of varying skill levels. The routes depicted are designed to safely guide visitors to an array of moderately challenging trail segments by way of a more gently graded multi-use trail. Traversing the lushly wooded slopes of the Canyon's North Rim, these trails will access views to Newell Creek and create opportunities to enjoy the many species of plants and animals that populate the Canyon. In addition to providing an immersive experience in nature, this trail will:

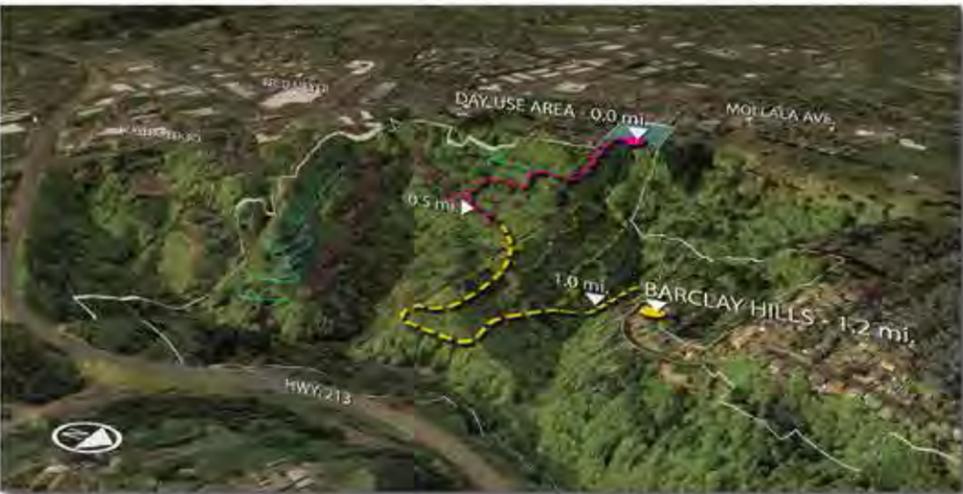
- access areas of the Newell Creek Canyon unavailable to off-road cyclists
- provide resting points and passing opportunities
- enable access to Newell Creek Canyon from Barclay Hills
- explore the potential for a universally accessible route into Newell Creek Canyon



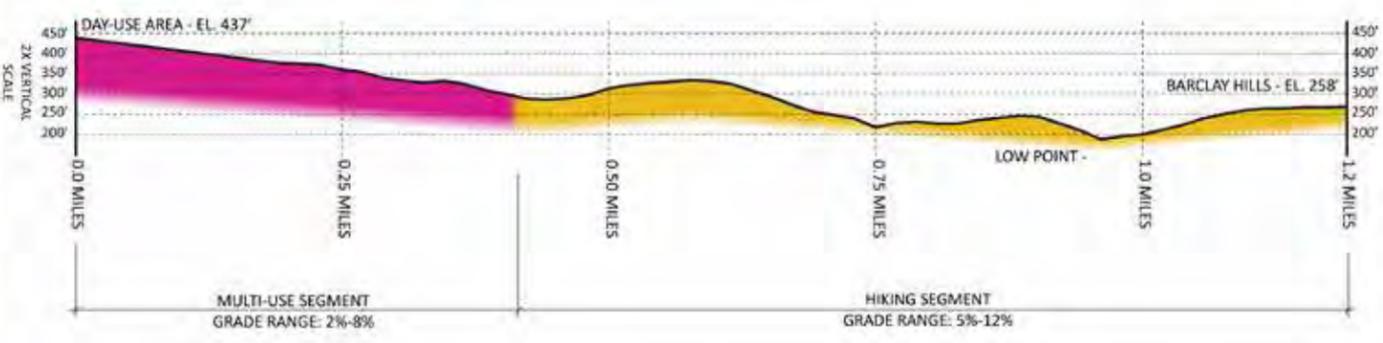
ROUTE PERSPECTIVE



ROUTE PROFILE



ROUTE PERSPECTIVE



ROUTE PROFILE

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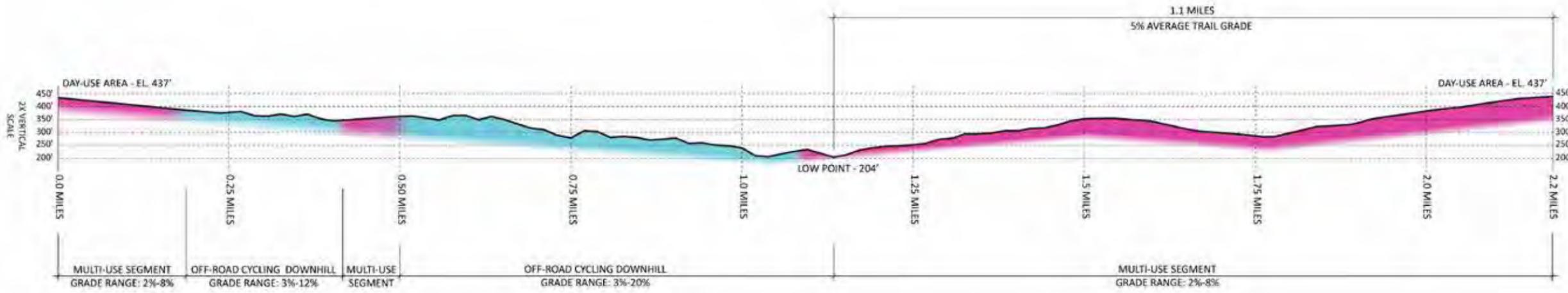
## OFF ROAD CYCLING/MULTI-USE

The route depicted is designed to provide an optimized cycling downhill experience while simultaneously enabling hiking access to Newell Creek Canyon's south rim via multi-use trail. Cyclists embark from the Gateway on a one-way descent of nearly 250 vertical feet before reaching the multi-use trail segment where they begin a climb to either exit the trail system or continue their ride on one of two possible loops. In addition to providing equitable access to the south rim, this portion of the trail system will:

- protect user safety through adequate signage, sight distances and trail widths
- provide a variety of challenge levels for users
- minimize impacts to water quality and sensitive wildlife habitat
- employ sustainable trail design to control erosion



ROUTE PERSPECTIVE



ROUTE PROFILE

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Interpretive points and distance markers will be incorporated throughout the trail system. “You are here” orientation maps and messages to help minimize impacts to the resources will be incorporated into interpretive signage.

## Multi-Use Trails

The backbone of Newell Creek Canyon’s trail network is 1.2 miles of multi-use trail that links the day-use area to an overlook high above Newell Creek in the southeastern corner of the site. Along the way, the multi-use trail provides points of access to both hiking and off-road cycling optimized trails in addition to a collection of noteworthy natural features including a waterfall on Tumble Creek, a



mature cedar grove and sag ponds formed from ancient landslides. The intent of the multi-use trail is to provide two-way hiking access into some of the most beautiful acreage within Newell Creek Canyon while allowing bicycles to exit the lowest reaches of the off-road cycling loop on a one-way, uphill trail experience shared with hikers.

## Hiking Trails

Public input revealed strong support for hiking trails within Newell Creek Canyon. Stemming from the multi-use trail, hikers will gain designated access to 1.6 miles of hiking trails through the central and northern portions of the “Canyon Rim”. These narrow, earthen trails will offer a more intimate view of habitat areas and will access steeper areas of the site. The layout of hiking trails in Newell Creek Canyon allows for a variety of trail challenge levels through the introduction of less technical

circuits within close proximity to the day-use area and steeper, longer and more difficult trails located in the northern portion of the canyon rim. In addition, hikers choosing to incorporate the multi-use trail into their experience will have access to many of the significant natural features in the southern portion of the canyon rim including “Tumble Creek” falls, the sag ponds and a mature stand of western red cedar.

## Off-Road Cycling Trails

The off-road cycling community conveyed a keen interest in the development of a designated cycling trail within Newell Creek Canyon from the early days of the access planning effort. To support this use, Metro hired the International Mountain Biking Association to produce an off-road cycling feasibility study in the spring of 2014. The report made several recommendations concerning trail



design but also identified the southern portion of the “Canyon Rim” as the area most appropriate for the development of off-road cycling trails. The design of the off-road cycling trails is intended to provide a series of one-way, downhill trail segments that link with the multi-use trail to create an upper, beginner level loop and a lower, intermediate level loop. Depending on a rider’s stamina and skill level, these loops can be combined in a variety of sequences to accommodate a longer and more challenging riding experience.

## Accessible Trails

The relatively gentle grades in the day-use area provide an opportunity to design an accessible route to many of the amenities including the parking area, the entry plaza, the meadow restoration area, picnic facilities and the Canyon Overlook. The entirety of the multi-use trail alignment will be paved with accessible materials, opening opportunities for some visitors who are differently able/mobile. However, topographic conditions within Newell Creek Canyon make it challenging to meet accessible trail standards. Interpretive information about the canyon experience will be available from the accessible day use path.



## Facilities and Amenities

### **Bridges**

Bridges of varying types and sizes will be necessary to complete a successful trail network within Newell Creek Canyon. Three bridges of wood and steel construction will be required in order to get trails across the more substantial of the canyon's streams while an approximately 70 foot long pedestrian suspension bridge is proposed as a means to safely separate hiking and off-road cycling trails at a critical intersection just below the day-use area trailhead. Additionally, small, hand-built drainage crossings will likely be needed to ensure that trails hold intended alignments without unreasonable detours during the wetter months.

### **Overlooks**

Overlooks with supplemental signage are proposed at two key viewpoints above Newell Creek. These overlooks are likely to be of stone and wood construction with materials gathered on-site, where possible. Interpretive signage at these locations will focus on the types of habitat surrounding Newell Creek and the plants and animals that call the canyon home. In addition, these overlooks create the opportunity to discuss the critical importance of water quality in urban streams and the link between Newell Creek Canyon's ecological health and the Nature in Neighborhoods grant funded wetland work upstream at the John Inskeep Environmental Learning Center on the campus of Clackamas Community College. Newell Creek Canyon's ecological health and the Nature in Neighborhoods grant

# DRAFT

## IMPLEMENTATION

Metro has identified dedicated levy funding to develop the Newell Creek Canyon Access Master Plan and implement the features identified in it that are consistent with the objectives of the 2013 Natural Areas Levy. The first phase of construction will direct funding towards those elements required to enable safe, code compliant public access to the site's day-use area and trail network. These elements will likely include:

- Utilities
- Parking lot
- Stormwater treatment landscape areas
- Gates and security elements
- Restrooms
- Multi-use trail (day-use and trail network segments)
- Required bridges
- Signage and interpretive kiosk

While the first phase of construction will be limited in scope, less critical project elements can be constructed as opportunities present themselves and/or funding becomes available. Strategies to fully implement the contents of this access master plan include trail building through key partnerships and support for community based organizations seeking grant funding.

### NATURAL AREAS LEVY

In 2013, voters approved a five-year levy to help care for regional parks and natural areas. Across the region Metro is restoring habitat, improving parks for visitors, opening new sites, supporting community projects, and expanding opportunities to volunteer and learn about nature. Roughly half of all levy funds go toward land restoration and maintenance, including controlling invasive plants, planting native species, and improving habitat for fish and wildlife. Several new levy-funded initiatives are designed to better serve residents who traditionally have missed out on the benefits of nature, including people of color and low-income communities. This Master Plan and resulting construction efforts for Newell Creek Canyon are levy-funded.

### 2013 PARKS AND NATURAL AREAS LEVY



## 1995 AND 2006 BOND MEASURES

All land purchases made through the 1995 and 2006 bond measures are evaluated by Metro science and land management staff through a Stabilization Plan. The purpose of the Stabilization Plan is to evaluate the ecological health of newly acquired sites and determine a realistic list of actions and related budgetary requirements in order to achieve desired ecological outcomes. Stabilization funding for Newell Creek Canyon has been dedicated to ensure ongoing control of invasive species, planting of native vegetation, and clean up and mitigation of site impacts caused by illegal dumping and camping.



*Decommissioned Trail*

## COSTS

A cost estimate was prepared based on elements shown in the concept plans for the day-use area and trail network. The estimate is based on the concept plans and assumptions have been made for materials, quality and construction. The construction estimate is based on 2015 unit costs for each specific work item. Escalation index numbers through 2019 are as follows:

- 2016 - 0.045
- 2017 - 0.045
- 2018 - 0.045
- 2019 - 0.045

The estimate includes a 20% contingency to cover unforeseen costs. As plans are refined, estimates will be updated to reflect the level of completion.

## Newell Creek Canyon Planning Level Cost Estimate

	\$ Total	% of Total
<b>Total Project Budget</b>	<b>\$1,200,000</b>	<b>100%</b>
Planning	\$61,500	5%
Design	\$213,800	18%
Permitting	\$53,500	4%
Construction	\$635,515	53%
Soft Costs	\$235,141	20%

ITEM	QTY.	UNIT	UNIT COST	Total	REMARKS
<b>PLANNING</b>					
Public Meetings	4	LS	\$1,000.00	\$4,000	
Entrance Sight Distance Study	1	LS	\$7,500.00	\$7,500	
Traffic Study	1	LS	\$15,000.00	\$15,000	
Natural Resource Scientist	1	LS	\$10,000.00	\$10,000	
Survey	1	LS	\$25,000.00	\$25,000	
Archeological Investigations	1	LS	\$15,000.00	\$15,000	
Geotechnical Investigation	1	LS	\$15,000.00	\$15,000	
<b>Total</b>				<b>\$61,500</b>	
<i>Total Budget Remaining</i>				<i>\$1,138,500</i>	
<b>DESIGN</b>					
Schematic Design	1	LS	\$32,000.00	\$32,000	15%
Design Development	1	LS	\$42,000.00	\$42,000	20%
Construction Drawings	1	LS	\$75,000.00	\$75,000	35%
Bidding	1	LS	\$4,800.00	\$4,800	2%
Construction Admim	1	LS	\$60,000.00	\$60,000	28%
<b>Total</b>				<b>\$213,800</b>	
<i>Total Budget Remaining</i>				<i>\$924,700</i>	
<b>PERMITTING</b>					
Land Use Application	1	LS	\$16,000.00	\$16,000	
Permit Fees	1	LS	\$37,500.00	\$37,500	
<b>Total</b>				<b>\$53,500</b>	
<i>Total Budget Remaining</i>				<i>\$871,200</i>	
<b>SYS. DEVELOPMENT CHARGES/UTILITIES</b>					
Water Meter	1	LS	\$8,000.00	\$8,000	
Transformer	1	LS	\$5,000.00	\$5,000	
Connection to Auto Gate	1	LS	\$5,000.00	\$5,000	
Security Lighting	1	LS	\$5,000.00	\$5,000	
<b>Total</b>				<b>\$23,000</b>	
<i>Total Budget Remaining</i>				<i>\$848,200</i>	
<b>CONSTRUCTION</b>					
Porta Potty Enclosure	1	LS	\$20,000.00	\$20,000	
Concrete Paving	400	SF	\$6.35	\$2,540	
Asphalt Paving (parking/circulation)	18000	SF	\$3.50	\$63,000	
Planting	7500	SF	\$3.00	\$22,500	
Irrigation	7500	SF	\$2.60	\$19,500	
Soft Surface Hiking Trails	18500	LF	\$5.00	\$92,500	
Off Road Cycling Optimized Trails	3300	LF	\$10.00	\$33,000	
Multi-Use Trails	3300	LF	\$10.00	\$33,000	
Decomposed Granite Trails/Pads	11880	SF	\$2.50	\$29,700	
Foot Bridge (5 @ 6'x30')	755	SF	\$250.00	\$188,750	
Amenities	1	LS	\$131,025.00	\$131,025	
<b>Total</b>				<b>\$635,515</b>	
<i>Total Budget Remaining</i>				<i>\$235,685</i>	
<b>SOFT COSTS</b>					
Design and Construction Contingency			20%	\$127,103	
Contractor Overhead			5%	\$31,776	
Mobilization and General Conditions			12%	\$76,262	
<b>Total</b>				<b>\$235,141</b>	
<i>Total Budget Remaining</i>				<i>\$544</i>	
<i>Total Estimated Project Cost</i>				<i>\$1,199,456</i>	

## VOLUNTEER PARTNERSHIPS

Volunteer partnerships have proven valuable in all aspects of park management throughout the region and are essential in leveraging limited public funds. There are a number of ways that volunteers could become involved at Newell Creek Canyon Natural Area to enhance habitat quality for wildlife and help ensure a quality experience for the public. Key opportunities are described briefly below.



### Site Stewardship Program

Site Stewardship provides “eyes and ears” above and beyond what staff can provide. Through routine walking and monitoring of the trails, Volunteer Site Stewards can alert staff early to issues that need addressing. They can also serve as “ambassadors” for Newell Creek Canyon Natural Area, answer questions and ensure that visitors are abiding by rules and trail etiquette.



## Trail Building, Maintenance and Monitoring

Established trail groups can bring volunteers to help build, maintain, and monitor trails on an ongoing basis. Throughout the planning process, interest in performing this work was expressed on behalf of both Oregon City Trails Alliance and Northwest Trails Alliance. Both organizations could become valuable partners in helping construct, monitor and/or maintain the cycling and hiking trail segments. Northwest Trails Alliance, in particular, has pledged to organize volunteer trail building events supported by their collection of mechanized trail building equipment.



## Grant Funding

Grant funding for projects related to the implementation of this access master plan is a possible strategy to help local government agencies and community based organizations build recreational enhancements within Newell Creek Canyon Natural Area. Possible sources of grant funding include an Oregon City-Metro Enhancement Grant and an OPRD Local Government Grant. With support and guidance from Metro staff, applicants could pursue either of these funding sources to improve Newell Creek Canyon Natural Area and build stronger bonds between place and community.

## Education and Interpretation

Volunteer naturalists help expand program offerings beyond what staff alone offer. Metro has a well-established volunteer naturalist program in place and relies on these very dedicated and highly trained volunteers to lead nature walks for the general public and civic groups, and to deliver outdoor education programs, such as school field trips.



## Vegetation Restoration

Currently, Metro uses volunteers to assist in restoration efforts. Many of these volunteers perform ongoing monitoring to help assess and evaluate the success of restoration and other management activities. Other volunteer activities could include invasive plant removal and native seed collection.

## OPERATIONS AND MAINTENANCE/SAFETY AND SECURITY

### Park Regulations

All rules and regulations at Newell Creek Canyon Natural Area will be consistent with Metro's Title 10, which outlines regulations "governing the use of Metro owned and operated regional parks and greenspaces facilities by members of the public in order to

provide for protection of wildlife, plants and property, and to protect the safety and enjoyment of persons visiting these facilities."

For public security and safety, hours of operation and regulatory signs will be installed at each access point. An orientation map of the natural area will be installed at the parking area to assist visitors and emergency and police response teams with way-finding. Regulatory signs will include public use restrictions on dogs, fires, camping, motorized vehicles, hunting, smoking, intrusive noise, plant collecting and other uses outlined in Metro's Title 10. Due to conflicts with wildlife, a "no dogs" policy will be enforced consistent with all other Metro-managed natural areas.

### Access Control

Vehicle access will be controlled to prevent after hours use. Each of the vehicular entrances to Newell Creek Canyon Natural Area will be controlled with gates. These will be locked daily at park closure times by either ranger staff or the site's contracted security service provider. Boundary markers will be installed along the perimeter of the natural area to clearly delineate the public/private edge. Fencing will be considered and installed only on an as-needed basis to control access in problem locations where other measures are not sufficient.



### Maintenance of Park Facilities and Amenities

Daily maintenance of the park will include opening and closing entry gates, cleaning the restrooms, litter pick-up and general monitoring. Routine seasonal maintenance of the natural area facilities will include upkeep of the restroom building, benches and picnic tables, signs, trails, overlooks, mowing of grass areas and similar tasks.

Also, Park Ranger staff will interact regularly with users to help answer questions and provide information about Newell and other Metro properties and programs.

## Trail Monitoring and Maintenance

Routine trail maintenance on a year-round basis will not only improve trail safety, but will also prolong the longevity of Newell Creek Canyon Natural Area's trails. The key to trail maintenance will be to institute regularly scheduled monitoring to identify trail problems early, and to catch and address "social" or "demand" trails. Monitoring can be a time consuming task. Trail volunteer groups may provide vital assistance in monitoring the site above and beyond what staff can provide.

Both gravel paved and soft surface trails will be developed on-site. Soft surface trails will require greater attention than paved trails. During the first year after construction, and after the first heavy rains, close attention should be paid to drainage and erosion patterns. Ongoing trail maintenance activities will typically include vegetation clearing and pruning along trails to keep passages and selected views open, erosion control measures, trail pavement surfacing and stabilization, bridge and culvert clearing and upkeep, litter and illegal dumping clean up, signage replacement, and closing "social trails" through the use of natural barriers and vegetation. Fifteen foot wide vegetation clearance will be maintained on the trail sections that must accommodate emergency vehicles.



## Staffing

As the Newell Creek Canyon Natural Area opens, staff will be required in three distinct areas to ensure successful maintenance and operation of the site:

### Rangers

- Manage day-to-day operations of the site
- Maintain soft surface, gravel and paved trails
- Provide security and manage illegal camping
- Establish ongoing interaction with users to help answer questions and provide assistance

### Land Managers

- Oversee and/or perform monitoring, restoration and enhancement projects
- Maintain natural areas
- Maintain soft surface trails and all trail clearance corridors
- Manage and clean up illegal camping

### Scientists

- Coordinate monitoring, restoration and enhancement projects

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## APPENDIX

**Things I would like to do in Newell Creek Canyon are...**

- Big Ideas
  1. Name a tree or have a plaque named after Sha Spady
  2. See the trolley track restored; connect the train station to Clackamas Community College through the canyon!
  
- Conservation
  1. Purchase upland corridors for animal connect to woods by County Village Park and other woodland area
  2. Conservation efforts
  3. Keep it wild
  4. Clean out the invasive plants
  5. Habitat restoration
  6. Species surveys/counts
  7. Count fish
  8. Identify birds
  9. Protect the animals and scenery there!!! No bikes! No camping!
  10. A beautiful natural area that will still be there for generations
  11. Assist in stream and habitat restoration
  12. Protect wildlife and flora
  13. Due to many landslides in the canyon, do not allow beaver dams. Soaking the soils at the toe of the slides may reactivate old slides
  14. A great forested area adjacent to my city
  15. Keep it Natural!
  16. Plant native shrubs and remove invasives
  17. Develop, fund and follow through with an invasive species control program
  18. Keep it natural!
  19. Enjoy watching and listening to the clear running streams away from the city yet a walk from home!
  20. Plant trees enjoy the last peaceful in OC that mean a lot to me keep on working with the right People to work to gather as a team
  21. It is a jewel in our back yard that doesn't need much polishing, but could definitely use maintenance and you should feel safe to use it.
  22. It is part of the headwaters of Abernathy Creek
  23. Hydrological stabilization critical water-stream habitat
  24. Natural area! Near the urban area. Keep it as natural as you can. No mountain biking. Nature trails.
  25. Preserving natural beauty, native geology and plant communities, native wildlife
  26. It's a beautiful natural area that isn't being used or managed to its potential
  27. It's a unique place and should be protected
  28. I've lived in that area for years and enjoy seeing the wildlife and nature at its finest
  29. Natural area in our own backyard. Potential to bring native fish back, preserve area for future
  30. I grew up playing in the canyon and would like the wilderness preserved
  31. Its great and absolutely wild habitat, full of interesting plants and birds
  32. It is a relatively wild area within the urban setting and can provide a laboratory for Oregon City schools and CCC
  33. PHOTO from BOARD NO. 1: It has great potential to bring visitors to Oregon City and will help create a community that (something something something) their health and environment
  34. Its green space and habitat
  35. No matter what you do, it will be better than it is now. You can't go wrong.

36. It is alive
  37. Urban forest, beautiful ecosystem, I live close
  38. The canyon is a natural and quiet area, a very nice area amid so much commercial and residential development. Great for wildlife, trees and plants and all of us people. Hiking, birding and botany will be available
  39. It is an important place of natural beauty that should be preserved and open for the community to enjoy
  40. Maintaining stability of slopes for housing
  41. Newell Creek is an important watershed in this area, because extensive development has obliterated most of the natural areas around here. The trees in the watershed contribute to good air quality and need to be protected
  42. It is a natural area that is unique and worth preserving – we don't have many left in O.C.!
  43. I don't want to see it developed!
  44. I want to see this natural area kept natural and not developed. The steep slopes are an issue also
  45. I'd like to see the fish runs protected and the area set aside for the community, not development
  46. I am a neighbor
  47. It provides protection for Newell Creek and the surrounding habitat corridor for plants and wildlife. As a Portland Audubon member, I recognize it as a treasure in the midst of urban Clackamas County. As a Metro voter, I highly value Metro purchases in my Oregon City/Clackamas County neighborhood. I frequently visit Canemah, which is no less than three miles from my home. Recently I observed two pileated woodpeckers working on the trees. Priceless! Thanks for listening! jeannemyhre@hotmail.com
  48. Nature is being preserved within an area of busy roads and housing.
  49. It is a super cool unused area in my home town
  50. It has space for animals
  51. It is home to many wild animals and it is their home
  52. Nice natural area animals; deer, fox, 'coon
  53. It is the largest natural area within Oregon City
  54. Open it up but keep it tranquil – gates that close at night. Park hosts?
  55. It is a gift that everyone should be able to enjoy
  56. I like the trees!
  57. It is a beautiful natural setting right in Oregon city. I have been able to enjoy this area for some time now as a resident of Oregon city and would like to see better access to the entire area instead of just the spontaneous trails created by local residents and homeless camps. This area is important as a shelter for the creeks, fish habitat and other wildlife necessary to a health ecosystem.
  58. It is part of my community here in Oregon City and would be great to have a natural area here in town to escape the city to get back to nature. This is something that Oregon City is lacking and would be a great destination area for others communities around Oregon City to explore.
  59. It would be a lovely place to escape and enjoy nature.
  60. It is undeveloped forest land.
- Recreation
    1. Bike ride
    2. Hike
    3. Hiking around the edges
    4. Take a nice hike
    5. Hiking
    6. Bird watching

7. Some part of NCC should be set aside for a quiet area
8. Platform viewing area overlooking stream from above
9. Walk, hike in a quiet natural area away from noise
10. Take my family walking on trails and learning about nature in our backyard
11. Have benches at rest points
12. Hiking trails
13. Biking trails
14. Handicap access (and stroller friendly) trails
15. Ride mountain bikes
16. Hike
17. Hiking, nature viewing
18. No bikes
19. No motorized vehicles
20. Nature sounds for peacefulness
21. Hiking, enjoying the birds, the plants, the quiet
22. Horseback riding on trails
23. Listen to the birds
24. Walk with the dog, smell the trees, listen to the quiet!
25. Picnic, music (in a designated area?)
26. Mountain bike and hike with friends and family
27. Mixed use hiking and mountain biking trails
28. Listen to the birds and the water
29. Sit on a bench and enjoy nature
30. Paved path for bicycles and walking following the old RR line
31. Explore the great outdoors
32. Hike – enjoy wildlife
33. I would like to see it connected to and part of an Oregon City circuit walking trail, including Canemah and waterfront trails
34. Hike and enjoy an area near to our home that is natural and undeveloped
35. Walking trails w bird/flower/plant info signage
36. Clean out illegal camps/activity so we feel safe going there
37. Hike on trails (separate areas for walkers)
38. Play disc golf or other recreational activities in a natural setting
39. Mountain bike with family and friends. Help keep my boys busy and out of trouble
40. Have it for nature trails for all
41. Walk from the cemetery to CCC
42. Walk my dog!
43. Take a hike
44. Access to the canyon from Barley Hills Street
45. Walk and sight see and enjoy nature
46. Important to have bathrooms at trailheads!
47. Hike and watch birds!
48. Go on walks!
49. As a card carrying, active Audubon member who spent today birding in Washington County, I look forward to access for hiking and birding an extensive network of high quality trails that don't become muddy, close to home. Ideally, crushed rock trails 8 feet wide such as at Cooper Mt. would traverse areas of Newell Creek Canyon with high quality opportunities to enjoy solitude in nature. The east side of the Willamette is underserved as far as access to nature – especially in winter. Thanks for listening! [jeannemyhre@hotmail.com](mailto:jeannemyhre@hotmail.com)
50. Hiking

51. Picnicking
52. Pesticide-free foraging
53. Skateboard (stick drawing)
54. Walk – during all four seasons
55. Animal and bird watch
56. Walk w/my dog (on leash of course)
57. Separate mountain bike and hiking trails
58. Have fun and run
59. Hiking/family friendly walks
60. Observe wildlife
61. Would like easy walking access from surrounding neighborhoods
62. Mountain biking separately from nature/walking/hiking trail
63. Geocache
64. Hike
65. Bike
66. Look at plants
67. Access through Barclay Hills would be ideal. I have seen a lot of kids access the area through the park and it should have better signage about where access is allowed and where it intrudes on private land.
68. Go hiking and see if I can spot some deer
69. Eventually, in the future years, tie-in community equestrian center, not in canyon, but possibly in Redland corridor. Reason: Clackamas Co. is #1 in the nation for horse ownership and stable would give needed recreation.
70. Hike
71. Watch birds and wildlife
72. Keep hiking trails separate from bikes or horses
73. Have some accessible areas
74. Bike, run and play
75. Separate, sustainable hiking and walking and mountain bike trails!
76. Geo cache with signs to stay on the structured marked path way .
77. I am a mountain biker, injuries preclude me from being able to hike distances in rough terrain. The mountain bike allows me access to areas that I would not be able to enjoy. I believe that segregated mountain bike and hiking trails would be an appropriate use of this area. Mountain bike trails have been shown to be no more or less destructive to an area than hiking trails, and mountain bike tourism is shown to be an excellent boost to the local economy. I believe that allowing a mountain bike trail system will increase use of this area sufficiently to help reduce the likelihood of homeless camp intrusion into the canyon as well.
78. I am primarily interested in a local place to ride my mtn bike. But it would be nice to have mixed use trails so many others can enjoy.
79. Build trails for mountain biking and hiking
80. I would like to see nice pathways like around Trillium Lake, which are very accessible and easy to traverse. Good parking area to help access be easy. Plaques which give information on the nature of the area. Seating throughout the area with covers for in case of rain. Plenty of trash cans so none is thrown down in the area. I would so enjoy relaxing hikes in the area.
81. I had no idea it encompassed such a large area. There are some undeveloped trails that my kids play on but I would love to have trails that were family friendly and allowed actual glimpses of the creek:) I would love to help in any way possible- thanks metro!
82. I would love more trails! I am new to the area and newell creek runs through my neighborhood (the Barclay hills area)
83. Oregon City needs more recreation areas, like hiking and biking with my family

84. Mountain bike trails will help open up the space to caring stewards
  85. It could be a wonderful place to hike near my home
  86. I'm very interested in trail access with controlled mountain bike access. Bike access!
  87. Natural resources but with reasonable public access
  88. Oregon City needs hiking and mountain biking trails for adults and kids
  89. A significant natural area so accessible to urban development
  90. I want access to natural areas without driving a long distance.
  91. Horse riding opportunity
  92. A vibrant area that size with trails will bring people with money to spend in Oregon City
  93. Bike
  94. Mtn. bike only trails
  95. Trails offer healthy recreation opportunities
  96. Walking trails close to home
  97. This trail has been important to me for A very long time this has been a riding spot I have trail riding for 20 years it's been home to me as long as I can remember please don't take this away from me I need a spot to go and ride for the good and teach ather to ride like I can
  98. A network of hiking trails could further connect the area and open up opportunities to view the creek, bird watch and observe wildlife in a setting away from cycling trails.
  99. I think it's important to have forms of active and passive recreation so the area can become an integral and well used part of the City. From a cycling and even a hiking perspective, it would be nice to ride through Canemah, connect to Newell Creek for a mix road and trail ride. Or you could do a similar urban hike connecting the areas. Please consider the varying uses-we want Oregon City to have great recreation/education opportunities within the canyon.
  - 100.Thanks, Joseph Marek, racerjoe97045@yahoo.com
  - 101.Connected network of mtn bike trails that connects into the main spine trail and accesses different streets. If hikers/bikers could have separate trails where it works out, this will help to keep users happy and conflict free.
  - 102.It is a tremendous jewel in Oregon City and has the potential to draw recational tourists to Oregon City, providing economic benefits.
- Education
    1. Nature workshops
    2. Public schoolchildren – educational opportunity
    3. ID birds, plants and bugs
    4. How about connecting with Oregon City High School. Students need community service projects for credit. Get them involved!
    5. Educational history/nature walks
    6. Have informational tours conducted seasonally
    7. Educational opportunities for families/kids (day camps)
    8. See interpretive signs
    9. It would be nice to have occasional guides to show the plant life, animal and birds. Picnic tables would be great for family outings. Maybe get the schools around the area to create nature related "art" for the area to enjoy and be proud to see.
    10. Because it allows opportunities for people that may not have the chance to see “wilderness” up close, without the need to travel a distance
    11. Natural area available to schools
    12. My kids will grow up exploring it
    13. My grandchildren need wild spaces to understand their connection to earth
    14. Newell Creek and Abernathy Creek could provide great environmental education opportunities for Oregon City residents and school students

# DRAFT

Thanks for the open house. Here are some of my thoughts-

1. A main graded gravel trail using the old RR row from Maple Lane to Redland rd or behind county shops to 15<sup>th</sup> street along the RR row.

 **Metro** | *Meeting minutes*

Meeting: Newell Creek Canyon Stakeholder Committee  
 Date/time: Thursday, July 10<sup>th</sup>, 2014 / 5:30 – 7:00 PM  
 Place: Oregon City Council Chambers  
 Purpose: First Meeting

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**Attendees**

Alice Norris	Former Mayor
Blane Meier	Oregon City Trail Alliance
Scott Archer	Oregon City
William Gifford	Hillendale Neighborhood Assoc.
Joyce Gifford	Oregon City Parks Advisory Committee
Sha Spady	Neighbor
Scott Burns	Geologist
Chris Kosinski	Hamlet of Beaver Creek
Greg Fitzgerald	Clackamas Community College
Sarah Miller	Greater Oregon City Watershed Council
Brian Vaughn	Metro
Carrie Belding	Metro
Dave Elkin	Metro

**Notes**

- Greg mentioned that Clackamas Community College was just awarded an \$868k grant from Metro’s Nature in Neighborhood program for restoration of the Newell Creek headwaters.
- Dave commented that we want this group to be the “brain trust for Newell Creek Canyon”. This group will be used to ensure that the future plan for this site will meet the needs of the public while balancing the natural resource goals.
- The summary of comments from the first public meeting were reviewed and discussed. The three Values that the comments were categorized under were: Conservation, Education, and Recreation.
- William said that the Willamette Falls project identified four core values and work(ed) around those. He suggests we identify core values for this project as well.
- Chris asked if this is going to be a unique project to Newell Creek Canyon itself, or are we comparing it to/modeling it after other areas. Dave said he does not have a model because the site is so unique. The intent is to develop access into the site with a “light touch”.

- A question was asked about Metro's conversation about mountain biking within the canyon. Dave stated that Metro hired International Mountain Biking Association (IMBA) to do a feasibility study for the possibility of mountain bike trails within the canyon. A shared use trail network (one that allows hikers and mountain bikers on the same trail) is a possibility for the canyon trail network. The trails need to be designed to keep rider speeds slow while providing a technical riding experience. It was discussed that the canyon has multiple landslide locations and the soil is very slick and wet throughout the year in some locations. Trails will need to be well constructed and located in proper areas to avoid long term maintenance issues. The committee discussed keeping the trail network to the southern end of the canyon along the rim to connect the existing access points at Nelsons Nautilus and the Barclay Hills neighborhood.
- Scott brought a copy of the original Newell Creek Watershed restoration and conservation strategy plan developed by students at the John Inskeep Learning Center at CCC. Attendees agreed that this was a good document and should be incorporated into our project as we move forward.
- Brian Vaughn discussed Metro's Site Conservation Plans and that the work done by the students was the basis for his conservation plan for the canyon. The canyon includes three major habitat areas (Newell Creek, Riparian Forest, and Upland Forest) which the SCP identifies for conservation and restoration activities. It was asked whether the SCP was a prescriptive document. Brian stated that it is intended to provide prescriptive actions for the removal of invasives and restoration of the habitat areas. The SCP is in draft form right now and will be available for the project soon.
- William said he wants to make sure we're talking about deterring homeless encampments and considering this project as part of the larger economic draw for Oregon City and Clackamas County. It was acknowledged that Newell Creek Canyon will be a unique asset within the heart of the city.
- Dave asked what the essence of Newell Creek Canyon is. Folks responded with: nature, natural beauty, solitude, wildness, escape, urban oasis, proximity, different than Canemah, topography, diversity (flora/fauna), water, sound, sight, touch, children. It was discussed that the word "experience" is a good way to describe what we are trying to do with the access planning project... "to experience is to want to protect/preserve". "Connect human beings back to the landscape that supports us". This is an opportunity to go into a landscape that doesn't exist anymore.
- The unique geology of the canyon was discussed. The geologic timeline of the canyon could somehow be recognized within the access project. The multiple colors of soils, the transition from the red Boring Lava soils, down to the tan Troutdale Formation is just one of the unique aspects of traversing down into the canyon. Scott Burns stated that this is a great location for geology students to study and has potential to connect to the whole range of education levels.
- Sha has the original development plans for Newell Creek Canyon. The story Sha tells is a compelling one – one that must be told. "... a ragtag group of people who loved the canyon so much that they fought to protect it. They educated themselves on public process and land use regulations and worked their way through the process to prevent further

development of the canyon. The protection of the canyon is one of Metro's greatest stories for the greenspaces program."

**Other Comments**

- Project should consider connection to / from CCC campus and headwaters of Newell Creek.
- Trail network should consider transportation plans. It was acknowledged that the Regional Trails Plan included the Oregon City Loop Trail that includes the planned trail along the east side of Hwy 213.
- Question was asked about the Tribes involvement. Dave stated that Michael Karnosh will be point of contact for the project. Suggestion that Sha help out due to her connections on a current committee.
- Suggestion made that we also include "Sustainability" or "Sustainable Management" as a value for the project. Everyone agreed that was a good idea.
- Question asked if it was planned to allow horses into the canyon. Dave stated that the small scale of the trail network will not accommodate equestrian needs.
- It was suggested that Metro follow up on this project afterward to determine what worked, what didn't.
- Scott Burns noted there are five levels of education here and an incredible opportunity to connect these various education levels to the canyon.
  - Elementary School
  - Middle School
  - High School
  - College (CCC, PSU)
  - Public

**Meeting was adjourned at 7:30PM**

## APPENDIX C - 10/28/14 OPEN HOUSE AGENDA

Newell Creek Canyon  
Community Event – #2  
Pioneer Community Center  
October 28<sup>th</sup>, 2014

### 1. ADVERTISEMENT

- a. Scott Archer – Oregon City can send to all local neighborhood organizations
- b. Metro Website
- c. Direct Emails to Stakeholder Committee
- d. Direct emails to interested parties list
- e. Newsfeed article

### 2. PRESENTATIONS (30 Min)

- |  |            |        |
|--|------------|--------|
| <b>a. Introductions</b>  | (Carlotta) | 5 min  |
| <br>   |            |        |
| <b>b. What we heard at the last public meeting</b>               | (Dave)     | 5 min  |
| i. Values / Activities   |            |        |
| ii. Additional outreach  |            |        |
| iii. What is a comprehensive plan for Metro?                     |            |        |
| iv. Where are we in the planning process?                        |            |        |
| <br>   |            |        |
| <b>c. Site Opportunities</b>                                     |            | 10 min |
| i. Site Conservation Plan  | (Brian V.) |        |
| ii. Access Points / New Property                                 | (Dave)     |        |
| iii. Geology   |            |        |
| iv. Topography   |            |        |
| <br>   |            |        |
| <b>d. Activities / Programming</b>                               | (Alex)     | 10 min |
| i. Activity Zones  |            |        |
| ii. Facilities   |            |        |
| iii. Engagement process  |            |        |
| 1. Green / Red Dots  |            |        |
| 2. Comment Box   |            |        |
| 3. Volunteer / Tour Sign Up                                      |            |        |
| <br>   |            |        |
| <b>e. Next Steps</b>   | (Dave)     | 2 min  |
| i. Next meeting in early November                                |            |        |
| ii. Draft options to be provided at next meeting for discussion. |            |        |
| iii. Future outreach / meetings                                  |            |        |

### 3. GRAPHICS

- a. Topography / Hazards
- b. Natural Resource Values Composite Map (Topo + Natural Resources)
- c. Community Resource Goals (community access, regional trail, neighborhood connectivity)
- d. Site specific Recreational, Interpretive, Operational Opportunities
- e. Visitor Experience Board (colored zones matched up with photos of VE concepts)
- f. Example Annual activities / programming timeline
- g. Values Board (generated from last community event)
- h. Precedent board to show examples of creek restoration, habitat restoration etc...

## APPENDIX D - 10/28/14 OPEN HOUSE MEETING MINUTES

# Metro | *Meeting minutes*

Meeting: Newell Creek Canyon  
Date/time: October 28<sup>th</sup>, 2014  
Place: Pioneer Community Center  
Purpose: Second public engagement event for the Newell Planning Process

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Over 40 attendees at the event

Votes Summary is as follows, organized by Opportunity Zone:

- GATEWAY
  - A defined arrival/orientation kiosk (similar in scale to Graham Oaks) was not preferred by the public. However, a defined overlook, as well as, providing several places to stop and rest along the trail were favored.
  - Provide both picnic structures for smaller groups and informal places to picnic.
  - Endorsed the idea of including nature play into the design.
  - In general, the public endorsed the idea of incorporating the 1% for art program into the design process.
  - What else would you like to see?
    - Safer access (non-auto) from housing areas on east side across Hwy 213
    - Trails are a favorite of mine!
- SOUTH RIM
  - Mountain biking on soft-surface trails in Newell Canyon.
  - Provide opportunities to build outdoor skills (i.e. geocaching).
  - Asphalt or concrete accessible multi-use trails are not a preferred material/aesthetic, but accessible multi-use trails (crushed gravel) and soft-surface hiking trails are favored.
  - Providing a variety of scenic viewing opportunities with a suspension bridge, canopy walk, or a sag pond rim trail would be well-received design improvements.
  - There was a split decision to provide a wildlife viewing blind on-site.
  - Important to the public to provide opportunities to learn about place through geology.
  - What else would you like to see?
    - Biking and walking trails for transportation will reduce vandalism and unlawful use
    - Pedestrian and bike connectivity to link Park Place/Holly Lane to canyon, across to Molalla Ave/Willamette Falls. Spine corridor between 213/Beaver Rd and Redland Rd/Abernathy using old RR grade. Help connect Oregon City to its local communities.
    - Dog park
    - A play area/interactive place for kids focusing on nature (in trees...new park at Westmoreland is fantastic!)
- MAIN CANYON
  - In general, the activities that could occur in the main canyon were well-received by the community. Cleanup groups, maintenance, removal of invasive species, collecting native seed, restoration planting, educational classes, camps, and outdoor programs were all favored and should occur in the main canyon opportunity zone.

- What else would you like to see?
  - Would like to see accessible north-south trail through main canyon
  -

APPENDIX E - 10/28/14 OPEN  
HOUSE COMMENT SUMMARY

## CANYON RIM

	Yes	No
<b>Mountain Biking</b>		
<i>Mountain biking on soft-surface trails</i>	25	11
<b>Geocaching</b>		
<i>Building outdoor skills</i>	4	-
<b>Conservation Education</b>		
<i>NW Trackers camps and outdoor programs</i>	5	-
<b>Hiking/Trail Running</b>		
<i>Accessible multi-use trails (asphalt or concrete)</i>	3	17
<i>Accessible multi-use trails (crushed gravel)</i>	19	-
<i>Soft-surface hiking trails</i>	22	-
<b>Scenic Viewing</b>		
<i>Suspension bridge viewpoint</i>	5	3
<i>Canopy walk</i>	3	3
<i>Sag pond rim trail</i>	11	-
<b>Wildlife Viewing</b>		
<i>Wildlife viewing blind</i>	1	1
<b>Learning About Place</b>		
<i>Learning about place through geology</i>	4	-

**Comments**

- 1. Biking and walking trails for transportation will reduce vandalism and unlawful use*
- 2. Ped and bike connectivity to link Park Place/Holly Lane to canyon, across to Mollalla Ave/Willamette Falls. Spine corridor between 213/Beaver Rd and Redland Rd/Abernathy using old RR grade. Help connect Oregon City to its local communities.*
- 3. Dog park*
- 4. A play area/interactive place for kids focusing on nature (in trees...new park @ Westmoreland is fantastic!)*
- 5. Disc golf*

GATEWAY		
	Yes	No
<b>Gathering</b>		
<i>Defined arrival/ orientation kiosk and open space for gathering and events</i>	-	1
<i>Defined overlook</i>	3.5	-
<i>Places to stop and rest along the trail</i>	9.5	-
<b>Picnicking</b>		
<i>Large-scale picnic shelter that relates to the surrounding environment</i>	1	16
<i>Picnic structures for smaller groups</i>	4	1
<i>Informal places to picnic</i>	12	-
<b>Playing</b>		
<i>Balancing</i>	7	-
<i>Climbing</i>	2	-
<i>Exploring</i>	2	-
<b>Learning About Place</b>		
<i>1% for art program</i>	4	-
<b>Comments</b>		

1. Safer Access (non-auto) from housing areas on east side across Hwy 213
2. Trails are a favorite of mine!

MAIN CANYON

	Yes	No
<b>Volunteering</b>		
<i>Cleanup groups</i>	-	-
<i>Maintenance</i>	1	-
<i>Removal of invasive species</i>	3	-
<i>Collecting native seed</i>	-	-
<i>Restoration planting</i>	1	-
<b>Conservation Education</b>		
<i>Educational nature walks for birding/wildlife</i>	7	-
<i>NW Trackers camps and outdoor programs</i>	-	-
<i>Educational classes on geology</i>	1	-
<i>Educational classes on wildlife</i>	2	-

**Comments**

- 1. I assume all of these activities will happen, so I'm saving my dot for some other activity*
- 2. Would like to see accessible north-south trail through main canyon*
- 3. Like all of the conservation education ideas*

**APPENDIX F - 5/26/15 STAKEHOLDER MEETING MINUTES**

Meeting: Newell Creek Canyon Stakeholder Committee  
Date/time: Tuesday May 26<sup>th</sup>, 2015 / 6:00 – 8:00 PM  
Place: Oregon City Council Chambers  
Purpose: Concept Presentation/Project Update

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**Attendees**

Alice Norris	Former Mayor
Roy Harris	Hillendale Neighborhood Assoc.
Scott Archer	Oregon City
Sha Spady	Neighbor
Sarah Miller	Greater Oregon City Watershed Council
Joe Marek	Oregon City Trail Alliance
Tannen Printz	Metro
Dave Elkin	Metro

**General Notes:**

- Dave provided a brief update on the status of the access project, recent acquisition of the “Otterwood” property and a summary of the activities the public would like to pursue in the Canyon.
- On the topic of the Main Canyon and riparian corridor, a question was raised about protection measures for these conservation areas. Metro will consider protection measures.
- Joe raised concerns that the geographic focal area of the project is not broad enough to address community connectivity issues currently at stake. It was suggested we concentrate energy on the consideration of the bigger picture and future connections to the east side of Hwy 213. It was stated that conservation objectives, logistics and budget seriously challenged connections to the east side of Hwy 213.

**Gateway Options:**

- During the review of “Gateway” options, it was suggested that the overlook could be scaled back to a low walled seating area instead of a shelter. Further, to address security, a more structured interpretive or entry area should be associated more closely with the parking lot instead of down near the canyon rim.
- On the topic of security, Roy questioned the “Gateway’s” hours of operation. Dave responded that Metro’s nature parks are open from dawn to dusk.
- Further commentary on the “Gateway” options:
  1. Alice asked for an explanation of “nature play” and Dave/Tannen responded that it was a revolution in thought about outdoor play environments that use natural materials and structures to provide varying degrees of risk while encouraging interaction with nature.
  2. The idea of shelters overlooking the cemetery got a positive response from Alice Norris and others
  3. It was suggested that benches and picnic tables be provided in the nature play area

4. Generally, the group found the less formal layout of the “Canyon Approach” option to suit the site best.

**Trail Network Options:**

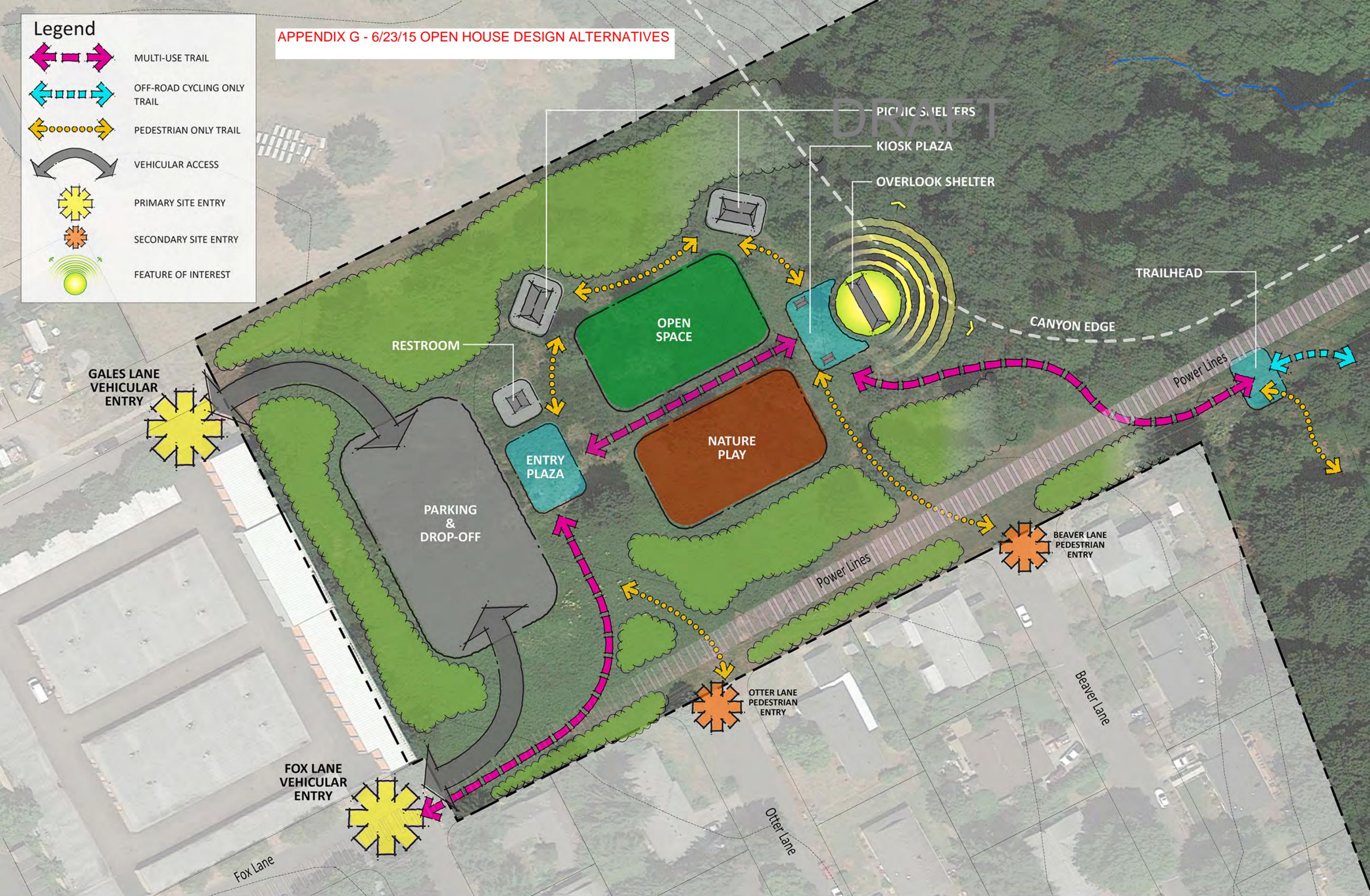
- Metro’s policy on both dogs and horses came up. Dave responded that it is Metro’s stated policy not to allow dogs on Metro natural areas or nature parks. With regard to horses, there is no stated policy banning horses from Metro properties but in the case of Newell Creek Canyon there simply has not been a level of interest from the equine community to justify significant expenditures on horse facilities.
- Sha expressed a desire to see the maintenance access at the southern edge of the site double as an access point for neighbors.
- Sha stated that an accessible route from the Barclay Hills neighborhood into the canyon should be considered. Dave stated that a recent landslide may make this challenging and that consideration for such a route from the Gateway should remain the focus.
- Sha raised a conversation focused on equitable trail systems. That conversation yielded the following:
  1. The best natural features in the canyon (sag ponds, tumble creek falls) should be available to hikers and cyclists alike
  2. Metro should consult with Scott Burns to determine feasibility of cycling in the canyon. Dave stated that he had discussed the construction of trails in the Canyon with Scott.
  3. A desire for a scaled back version of the two proposed trail networks was voiced.
  4. Sha suggested we produce a less extensive trail network option that was entirely shared use. This option should remove trail development in the central areas of the site and move shared use trails to the perimeter.
  5. Joe suggested we merge fire access needs with the trail system to better optimize our design.
  6. Scott Archer recommended that from a park planning standpoint, biking should remain part of the program. The community needs a nature based cycling experience and this project could provide that opportunity for kids and parents to get out in nature through cycling.

**Meeting was adjourned at 7:45 PM**

APPENDIX G - 6/23/15 OPEN HOUSE DESIGN ALTERNATIVES

**Legend**

- MULTI-USE TRAIL
- OFF-ROAD CYCLING ONLY TRAIL
- PEDESTRIAN ONLY TRAIL
- VEHICULAR ACCESS
- PRIMARY SITE ENTRY
- SECONDARY SITE ENTRY
- FEATURE OF INTEREST



**NEWELL  
CREEK  
CANYON**

# CANYON GATEWAY



**Legend**

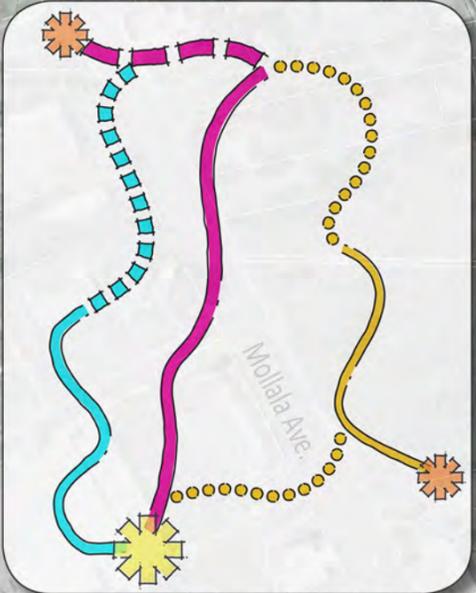
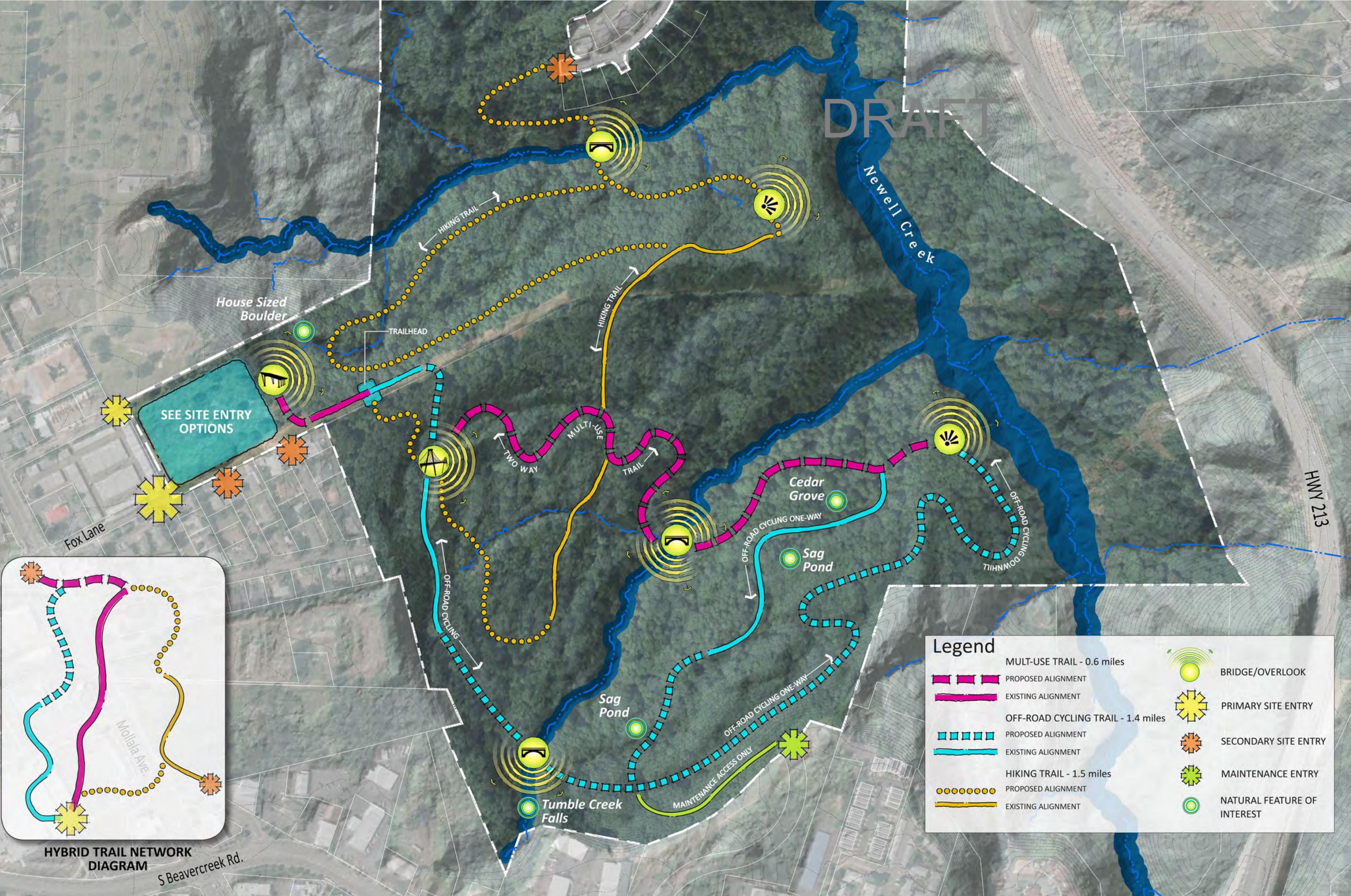
- MULTI-USE TRAIL
- OFF-ROAD CYCLING ONLY TRAIL
- PEDESTRIAN ONLY TRAIL
- VEHICULAR ACCESS
- PRIMARY SITE ENTRY
- SECONDARY SITE ENTRY
- FEATURE OF INTEREST



**NEWELL  
CREEK  
CANYON**

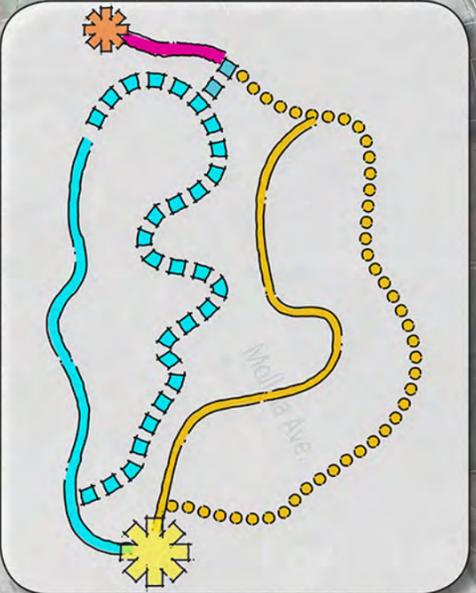
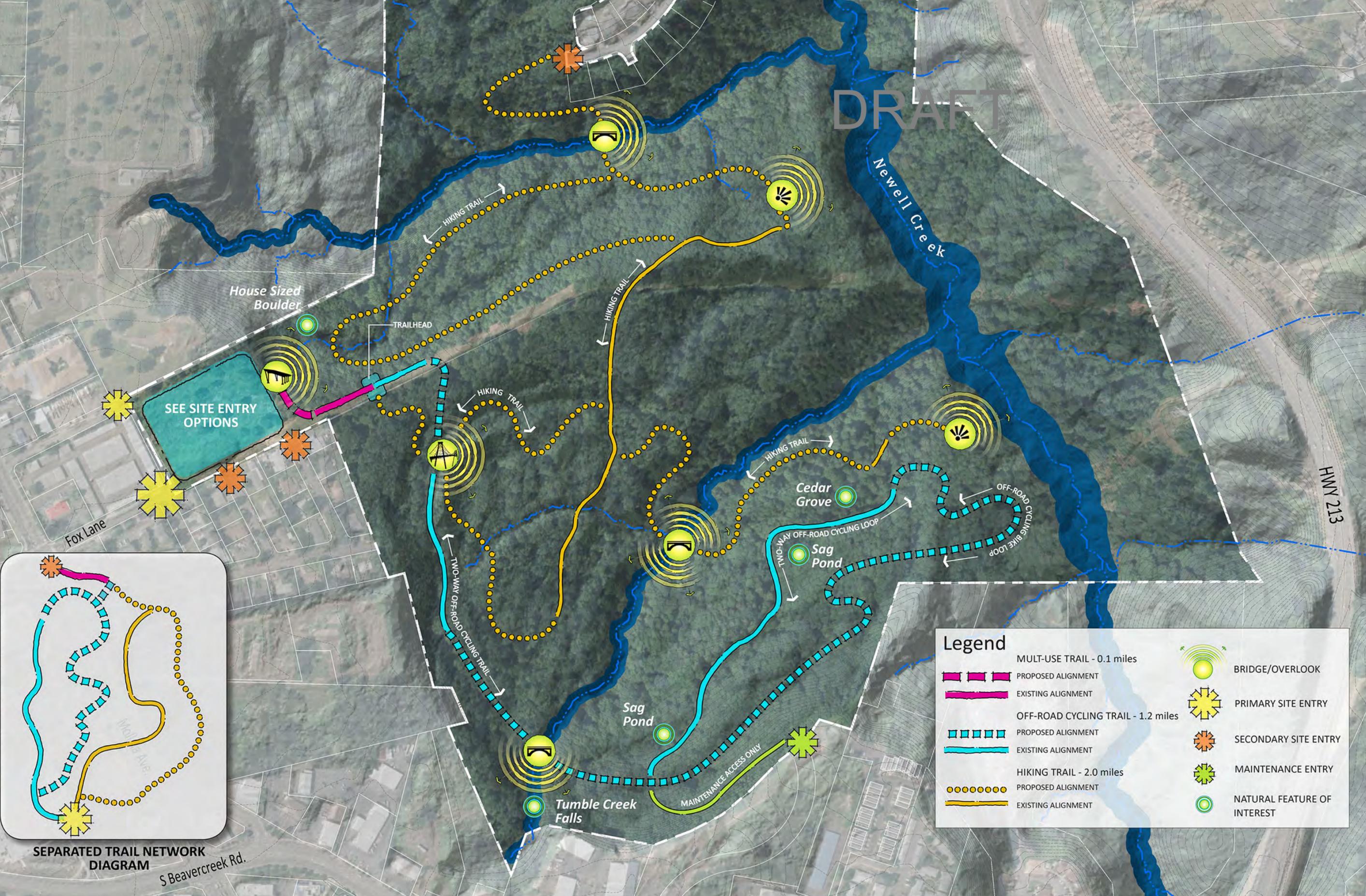
# CANYON APPROACH

DRAFT



Legend	
	MULTI-USE TRAIL - 0.6 miles
	PROPOSED ALIGNMENT
	EXISTING ALIGNMENT
	OFF-ROAD CYCLING TRAIL - 1.4 miles
	PROPOSED ALIGNMENT
	EXISTING ALIGNMENT
	HIKING TRAIL - 1.5 miles
	PROPOSED ALIGNMENT
	EXISTING ALIGNMENT
	BRIDGE/OVERLOOK
	PRIMARY SITE ENTRY
	SECONDARY SITE ENTRY
	MAINTENANCE ENTRY
	NATURAL FEATURE OF INTEREST

DRAFT



SEPARATED TRAIL NETWORK DIAGRAM

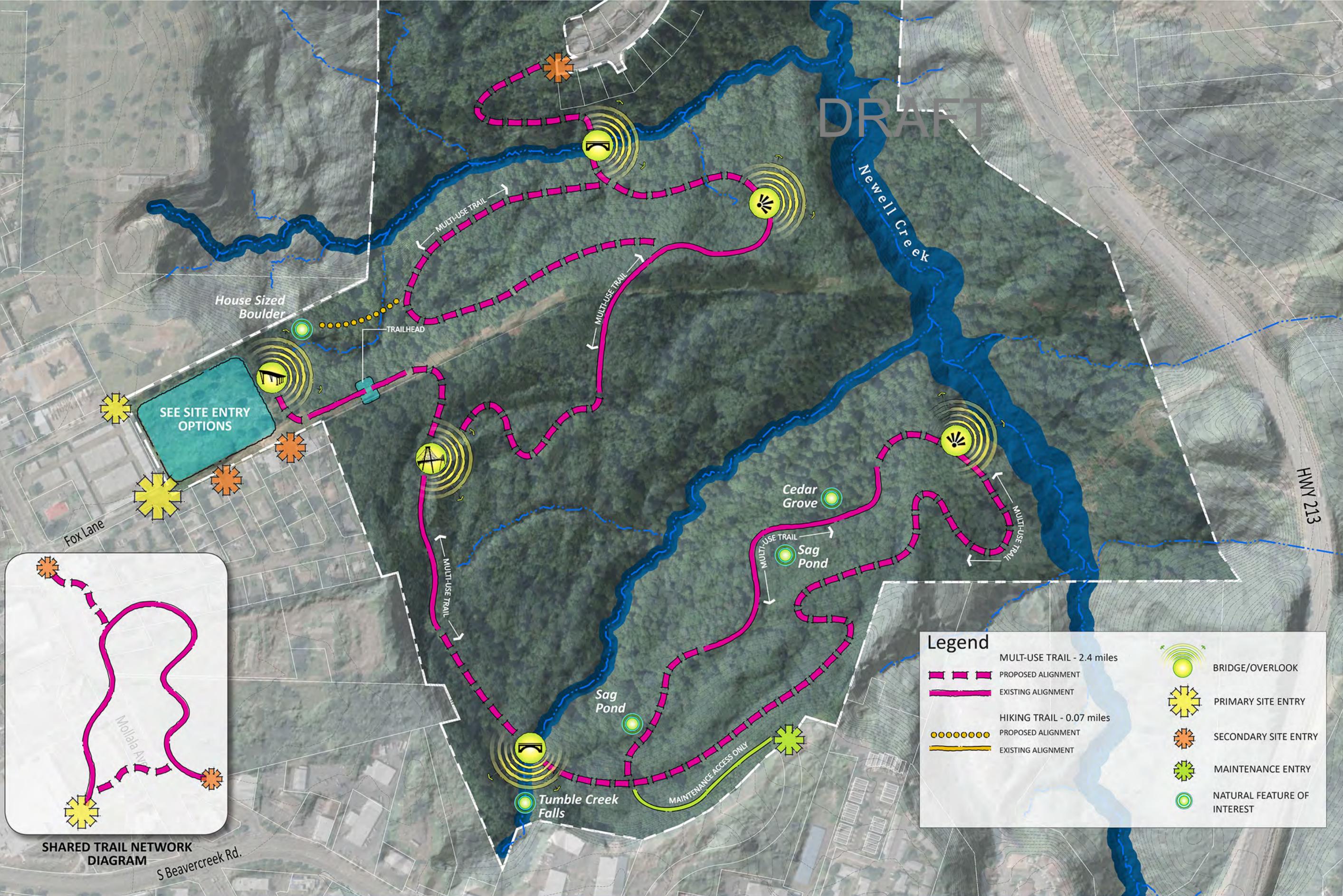
Legend	
MULTI-USE TRAIL - 0.1 miles	BRIDGE/OVERLOOK
PROPOSED ALIGNMENT	PRIMARY SITE ENTRY
EXISTING ALIGNMENT	SECONDARY SITE ENTRY
OFF-ROAD CYCLING TRAIL - 1.2 miles	MAINTENANCE ENTRY
PROPOSED ALIGNMENT	NATURAL FEATURE OF INTEREST
EXISTING ALIGNMENT	
HIKING TRAIL - 2.0 miles	
PROPOSED ALIGNMENT	
EXISTING ALIGNMENT	

NEWELL CREEK CANYON

# SEPARATED TRAIL NETWORK



DRAFT



Legend	
	MULTI-USE TRAIL - 2.4 miles
	PROPOSED ALIGNMENT
	EXISTING ALIGNMENT
	HIKING TRAIL - 0.07 miles
	PROPOSED ALIGNMENT
	EXISTING ALIGNMENT
	BRIDGE/OVERLOOK
	PRIMARY SITE ENTRY
	SECONDARY SITE ENTRY
	MAINTENANCE ENTRY
	NATURAL FEATURE OF INTEREST

NEWELL CREEK CANYON

# SHARED TRAIL NETWORK



APPENDIX H - 6/23/15 OPEN HOUSE - DESIGN ALTERNATIVES QUESTIONNAIRE RESULTS

DRAFT

Entry Id	Shared Trails	Hybrid of shared and separated trails	Separated trails	Comments related to trail system alternatives	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.			
1	Preferred	2	Least preferred	1	Most preferred	3						Loop trails			
2	Least preferred	1	Preferred	2	Most preferred	3		Hiking-only trails	Off-road cycling-only trails			Loop trails	Out and back trails		Trails not on road alignment
3	Least preferred	1	Most preferred	3	Preferred	2	I believe that mountain biking is underserved by Metro. Mountain bikes and bikes are as interested in preserving nature as anyone - we will assist with trail maintenance and building - ask and we will come.	Hiking-only trails	Off-road cycling-only trails	One-way trails		Loop trails			Trails not on road alignment
4	Least preferred	1	Most preferred	3	Preferred	2		Hiking-only trails				Loop trails			Trails not on road alignment
5		0		0		0		Hiking-only trails							
6	Least preferred	1	Preferred	2	Most preferred	3	Absolutely separate - anybody walking along Clackamas River Walk is put in a position of danger with speeding bikes going by with no warning!	Hiking-only trails	Off-road cycling-only trails	One-way trails		Loop trails			
7	Least preferred	1	Preferred	2	Most preferred	3		Hiking-only trails				Loop trails	Out and back trails		Trails not on road alignment
8	Least preferred	1	Preferred	2	Most preferred	3		Hiking-only trails				Loop trails			
9	Least preferred	1	Preferred	2	Most preferred	3	Keeping in mind really steep slopes, it would be quite hard to make any shared trails safe. Also, clay soil would be not so comfortable to walk after even a couple of bikers passed that trail in humid weather.	Hiking-only trails				Loop trails			Trails not on road alignment
10	Least preferred	1	Most preferred	3	Preferred	2	Please design trails that have interesting features and are curvy to eliminate fast speed riding - unless bicycle only, then create with help of bike groups to give better ideas. We need places that are safe for small children to mt. bike - a small looping and curving riding area of level to moderately level trails for children would be positive. Please add some skills features. Kids need this - we lack a place for them.	Hiking-only trails	Off-road cycling-only trails			Loop trails			Other
11	Most preferred	3	Preferred	2	Least preferred	1				One-way trails					
12	Least preferred	1	Preferred	2	Most preferred	3	Need to police trails to keep cyclists off hiking trails. If you share trails, you need to aggressively ensure cyclists use warnings to hikers.	Hiking-only trails				Loop trails			Trails not on road alignment
13	Least preferred	1	Preferred	2	Most preferred	3	Separated trails with shared egress back to parking. Safety related to bicycles wanting to go fast means shared trail sare BAD!		Off-road cycling-only trails	One-way trails					
14	Most preferred	3	Preferred	2	Least preferred	1	See below	Hiking-only trails	Off-road cycling-only trails	One-way trails		Loop trails			
15	Most preferred	3		0		0	Geocaching					Loop trails			

Entry Id	Shared Trails	Hybrid of shared and separated trails	Separated trails	Comments related to trail system alternatives	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.	Which types of trails do you prefer? Check all that apply.		
16		0	0	0	No way to control access to prevent mountain bike, horses, motocross riders from using and damaging the trails proposed.									
17	Preferred	2	Most preferred	3	Least preferred	1	Hiking-only trails	Off-road cycling-only trails		Loop trails		Trails not on road alignment		
18	Least preferred	1	Most preferred	3	Preferred	2	Keep people and bikes separate	Off-road cycling-only trails	One-way trails	Loop trails	Out and back trails	Trails on existing gravel road	Trails not on road alignment	Other
19		0	Most preferred	3	Most preferred	3	Hiking-only trails	Off-road cycling-only trails	One-way trails	Loop trails	Out and back trails	Trails on existing gravel road	Trails not on road alignment	Other
20		0	Most preferred	3		0	Hiking-only trails			Loop trails	Out and back trails	Trails on existing gravel road		
21		0		0		0	Hiking-only trails			Loop trails	Out and back trails		Trails not on road alignment	
22		0		0	Most preferred	3	I'm interested in botanizing an observing nature.	Hiking-only trails	Off-road cycling-only trails		Loop trails	Trails on existing gravel road	Trails not on road alignment	Other
23	Preferred	2	Most preferred	3	Least preferred	1	Totally separated trails will mean that one portion at the user group will not be able to see all the views the canyon has to offer. At above highlights the us. Then attitude we heard tonight from their bikers		Off-road cycling-only trails		Loop trails	Trails on existing gravel road	Trails not on road alignment	
24		0	Most preferred	3		0	Key to success of trail impact minimization is partnerships with local riders who volunteers for work parties with neighbors. Site is too small to have a lot of shared use with conflicts so the hybrid plan makes good sense.				Loop trails		Trails not on road alignment	
25	Least preferred	1	Most preferred	3	Preferred	2	From a tourism stand point. I'd like to be able to take small groups of people into canyon... do some in doing, the hike to points of interest that aren't accessible by bike, then able to stop at point of interest to talk about wildlife, plant life, and geology.			One-way trails	Loop trails	Out and back trails	Trails on existing gravel road	Trails not on road alignment
26	Least preferred	1	Most preferred	3	Preferred	2	Reverse the current trail plane. Move cyclists to the north and let the hikers enjoy the more prevalent special features of the south trail. Definitely implement the diagonal entrance area option.	Hiking-only trails		One-way trails	Loop trails		Trails not on road alignment	
27	Preferred	2	Most preferred	3	Least preferred	1	I would permit any trails that would maximize bike trails while allowing accessibility to all and limiting trail conflict.				Loop trails			
28	Most preferred	3	Preferred	2	Least preferred	1	Shared trail area should go to all features so that both hikers & bikers can view . waterfall. I'm not sure how metro is going to make sure bikes, hikers use correct trail system.	Hiking-only trails		One-way trails	Loop trails	Out and back trails	Trails on existing gravel road	Trails not on road alignment
29	Least preferred	1	Most preferred	3	Preferred	2	I'm conflicted. I like the idea of separated trails so we don't have to wavy about bikes when hiking with family. However, I think its important for hiker to experience to facets sag ponds! Maybe something domination to ahead concepts with hiking only on south side and biking only trail added on? Shared trail design doesn't take advantage of middle like the other 2 designs.	Hiking-only trails	Off-road cycling-only trails		Loop trails	Out and back trails		
30	Least preferred	1	Preferred	2	Most preferred	3	Do not exclude user groups. Cyclists and walkers have equal rights to recreated on public lands.		Off-road cycling-only trails		Loop trails			
31	Most preferred	3	Least preferred	1	Preferred	2	Separated trails would be my preference if they were reversed in the court proposal hikers are excluded from the falls and there is no bike access from Barclay Hills. This is just the reverse of my preference.				Loop trails			
32	Most preferred	3		0		0	Provides access to most beautiful special places for pedestrians as well as bicyclists and limits trails cutting through the central part of the canyon. Put they bicyclists under the power lines on paused trails.	Hiking-only trails		One-way trails	Loop trails			
33		0	Most preferred	3		0	Need access from Beavercreek Rd near Falls @service entrance. Shared use by Tumble falls? Shared use an rim and separated down in ? rough loop can be sheet for bikes.	Hiking-only trails	Off-road cycling-only trails		Loop trails	Trails on existing gravel road		
34	Most preferred	3	Preferred	2	Least preferred	1	There can easily be a good bit of shared trail with the shared section dictated by topography and existing industrstructure... Bike trails will impose behave maintenance burden than hikers- its wet in the canyon in the winter. The amount of trail should be limited to protect the habitat value of the canyon.				Loop trails	Out and back trails	Trails on existing gravel road	

# DRAFT

Entry Id	Comments	Protecting habitat, streams and biodiversity corridors at Newell Creek Canyon is Metro's first priority. Metro intends to develop access to this site in a sensitive and balanced way that ensures healthy habitats and provides meaningful experiences in nature. Given our plans to develop a day-use or "Gateway" area for the site, please provide some feedback on the following: What do you like most about each of the "Gateway" concepts?	What do you like least about each of the "Gateway" concepts?	What, if anything, would you add or remove from each of the "Gateway" concepts?	Additional feedback?
1					Please see my comment regarding trail system alternatives. I believe that I have come up with a cost-effective solution that will meet everyone's concerns!
2	Hiking-only trails (75%) Off-road cycling-only trails (25%) Loop trails (67%) Out and back trails (33%)	Not much. I think for this area we need to concentrate more on the trail system and less on the trailhead. Some open space and explanatory signage re. history of the area, geology and flora and fauna is fine, but don't make the areas an "attractive nuisance" - especially the main Fox/Warner-Milne entrance. And make sure there will be plenty of parking - or at least room for it to be expanded. The nearby neighborhoods would be badly impacted if planning for parking is faulty.			I'm just glad that we're finally getting some movement on this. I would help with trail cutting for removing invasive plants from time-to-time. Will anything be done with the parcel Metro owns on the other (east) side of HWY 213? Down the road will these two parcels ever link together? Question: How much money is available for the park's development, and for what period of time?
3					
4		Interpretive information re: conservation/protection, invasives, plants/animals in the area			Trails should access more of streams.
5	Don't think bikes are a good idea. I live on the canyon and it is vulnerable to a log of use and erosion, etc.	Not sure yet	Just keep it small		
6	Off-road cycling-only trails - separate from walking trails Please allow walking trails into the more desirable areas - not just bikes	I like the second option lined up with the canyon and keeping walking areas towards the road and away from the play/open areas.		I like both renditions.	Safety issues, both regarding trails, and discouraging transients - it's why I don't go down into the canyon as it is.
7		Parking areas			I have taken numerous tours with Metro and always impressed. Keep up the great work.
8		Prefer the angled arrangement.			
9		I like that variant, which moves open space and playground away from residential area.			For the next event, please make some kind of 3D model of canyon (sliced Styrofoam should work perfectly), because pretty much people haven't been there and they don't know how steep are slopes, how deep is the canyon and so on. So, they can't make any reasonable judgment.
10	Hiking-only trails - some please Off-road cycling-only trails - some please that are designed for fun play for riding Other - dirt trails A trail system from the major bike/walking paths such as Trolley Trail to the Newell Creek trails will contribute to less auto use and create opportunities for families to ride/recreate together or bicycles and visit Newell Creek.	Picnic tables A place to gather and see nature - please have plaques to explain some of the plants and information The gateway area would be a great area for the children's mountain biking trail area			Powell Butte created trails using gravel and wide enough for vehicles - this place no longer feels natural - a nature park seems to live up better to its purpose when trails and features use natural material i.e., dirt trails, logs, stones...also local mountain bike groups will help out with trail maintenance.
11		Allows for quiet areas which are better for wildlife.		It would be great if you could put camera in the nesting sites or other interesting wildlife areas then put this online, as well as the gateway area for viewing.	
12		This is Oregon - two shelters rather than one.			
13	One way trails are safest Also, you have to offer enough distance in bike trails to make it worth it - meaning traveling to site.	Places to stage bike rides, safe parking			Please do not dumb down bicycle access and use. Portland Metro is road bike friendly and mountain bike deficient.
14	I am a mountain biker, but like to have a mixed-use trail system where both off-road cycling and hiking can exist. This helps to educate both parties to exist. Proper signage and education is important.	I like the way the gateway areas are incorporated with the rest of the property.			
15					

# DRAFT

Entry Id	Comments	Protecting habitat, streams and biodiversity corridors at Newell Creek Canyon is Metro's first priority. Metro intends to develop access to this site in a sensitive and balanced way that ensures healthy habitats and provides meaningful experiences in nature. Given our plans to develop a day-use or "Gateway" area for the site, please provide some feedback on the following: What do you like most about each of the "Gateway" concepts?	What do you like least about each of the "Gateway" concepts?	What, if anything, would you add or remove from each of the "Gateway" concepts?	Additional feedback?
16					All parking lot vehicular access and egress must come and go from Fox Lane. Gales lane intersection at Molalla is not to standard to handle this additional traffic.
17					
18					
19					
20		Needs access from south of Beaver Creek Rd (By Nelson Nautilus). Need enough access points to limit needing to drive and park but come from home.			
21		Hybrid trail provides more opportunity.			
22				I preferred the more irregular design for the structures.	
23					All access points should be multi-use having "hiker or biker" only access points will guarantee conflict, miss use by the excluded group.
24	Hybrid trail will be wider so greater impact- NROD impacts will trigger greater mitigation	Like the natural alignment best. Buffering from residential use vehicle entry points will there be a "ranger-station" or fee station to control access at any points?	Assure adequate on-site parking to reduce neighborhood impacts. Use good native landscaping enhance experience and blend into the canyon area.		Beaver Lane & Fox Lane are dead end roads requiring lots of turn-avers. Consider a 1-way road on Metro property to allow better traffic flow from NBHD.
25		Peking, shelters, play areas and open space. I like the canyon approach with the trail not going through the center of the play and green areas.		It would be great to have a quiet area for contemplation with nice vegetation, plant, tunes, etc. Some of our parks in OC have place markers with the names of plants and trees, that would be great. Also a walking path around the entire space. This would be good for seniors or kids that don't want to or can't hike in the canyon.	I prefer the "Canyon approach design". However I would suggest flipping the play area and green space area. Put the play area closer to the parking lot easier for parents with stroller and keep play noise away from view point area.
26	If cycling is going to be allowed, please note that gravel must be small and tightly packed. Otherwise, it's very dangerous for cyclists. Its very easy to lose control.				
27	I believe user can share trails if properly designed.				The metro area could use more access the mountain bicycle. Please help us make this happen.
28		The play space & generally all of it.		make sure parking lot is at correct scale to avoid neighborhood parking.	
29		I prefer the Canyon approach I think having the spaces all set in more natural than coned up allow for a blow through the area. Very excited to see a nature paly area.			Wish there was easier access @ the 213 Beavercreek intersection. We live on the other side waned like a walk area & not take up parking space at this time we would drive as the 213 Buck intersection seems likely with lads.
30				Include information signs, use the gateway to educate the public. Include basics of courteous trail usage for all user groups.	Legititiate public access will discourage dumping, homeless camps and other "harmless" uses
31	Trails should be able to accommodate small children and all levels of ability.	I prefer the Canyon Gateway option with the symmetrically open and play areas.		Water fountains along with a picnic area would be good additions. I would add a smaller gateway off a Beavercreek.	An entry point at the end of Duane ST would be very helpful for residents of Barclay Hills instead of having to walk all the way down the slope of Barclay Hills Drive and then back up again.
32		Picnic areas along the periphery on the north have the basic alignment with the landscape version with vision.			Newell Creek Canyon Sanctuary.
33	All access points and shared use.	Both are fire over look placed @ best viewpoints		How many parking spaces? 24 is there possibility of expansion if called for in the future?	Limit partying on Otter Ln. Beaver LN. Allows dogs in Fox Ln Gateway. Not in the canyon but only in entrance area. Lots of neighbors currently use it self regulate keeping it clean. Meter has other areas with limited dog use allowed.
34	This site is really too small for biking trails amazing it will be about 12 minutes to cover it all.	I like the alignment isn't square to the property lines. And minimal formality in the improvments		I might remove the bikes but I like the overbook structure if it has in minimalize, nature architecture.	

**APPENDIX I - 10/19/15 STAKEHOLDER MEETING MINUTES**

Meeting: Newell Creek Canyon Stakeholder Committee  
Date/time: October 19th, 2015 / 6:00 – 8:00 PM  
Place: Oregon City Council Chambers  
Purpose: Preferred Alternative Presentation/Project Update

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**Attendees**

Alice Norris	Former Mayor
Roy Harris	Hillendale Neighborhood Association
Blane Meier	Oregon City Trail Alliance
Scott Archer	Oregon City
Sha Spady	Neighbor
Nicole Ahr	Clackamas Soil & Water Conservation District
Tannen Printz	Metro
Ellen Wyoming	Metro

**General Notes:**

- Tannen updated the Committee on project schedule and provided a brief look into the feedback that guided Metro to the preferred trail network and day-use area design.
- Masterplan and Phase 1 construction were discussed. Metro explained that the Masterplan document would be a grand vision for what NCC could be as a nature park while Phase 1 construction would draw from those ideas to build elements most essential to a quality user experience.
- Preferred design concepts for both the trail network and day-use area were presented.

**Preferred Alternative Discussion:**

- Sha stated that the trail network was representative of a good compromise – hikers will be glad to have some peace and quiet along with access to sag ponds, tumble creek falls and cedar grove.
- Sha asked that Metro consider moving the restroom and kiosk north towards the cemetery to avoid sightlines to power lines. Alice agreed. Roy stated that the visual impact of the power lines was of minimal significance.
- Sha reminded the committee that the purpose of the land purchase 20 years ago was for open space – not park spaces. In addition, Sha stated that NCC is special and, because words can mean so much with how people respond behaviorally, the park’s name should involve the word “sanctuary” – people will approach it with a different frame of mind. (Conversation ensued about Metro, parks typologies, naming process etc...) Sha to write Carlotta Collette a note about this.
- Scott stated that the preferred alternative designs looked like a great compromise between the comments of the general public and those who have been involved and offering feedback through the planning process.
- Alice suggested that when Metro presents at the final community event, show visually what you heard from the public and how it influenced the final preferred alternative.

- Big question around illegal camping displacement and local property owners. Tannen suggested that the authorities be called if trespassing becomes a problem with displaced campers. Ellen proposed the idea of inviting social services and police to jointly run a table at the next community event (December 10<sup>th</sup>, Old Oregon City H.S.)
- Tannen reminded the group that the Phase 1 trail and day-use concepts would be massaged as budget comes into focus, permitting is better understood and the consultant team begins to assemble design development level drawings.

**Meeting was adjourned at 7:15 PM**

**DRAFT**

# DRAFT

## APPENDIX J - 12/10/15 OPEN HOUSE - RECOMMENDED DESIGN QUESTIONNAIRE RESULTS

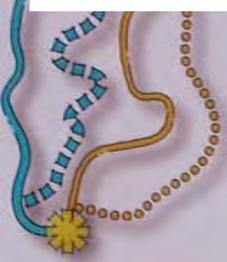
Entry Id	Is this the first time you've participated with the effort for Newell Creek Canyon natural area?	Is this the first time you've participated with the effort for Newell Creek Canyon natural area?	How did you hear about the project?	I'm interested in the Newell Creek Canyon planning process because...	From the beginning of this project, Metro has worked hard to fulfill the following values: The Newell Creek Canyon natural area preserves valuable habitat, streams and biodiversity corridors for Newell and Abernathy Creeks. Access to nature supports healthy, active outdoor lifestyles and people depend on nature for peace, quiet, and renewal. Newell Creek Canyon presents an opportunity for all to share in these benefits. It is possible to protect these resources while giving people opportunities to connect with nature. Metro intends to develop access to these sites in a way that ensures healthy habitats, water quality and meaningful experiences of nature. Does the final recommendation align with your understanding of the values of this project?	From the beginning of this project, Metro has worked hard to fulfill the following values: The Newell Creek Canyon natural area preserves valuable habitat, streams and biodiversity corridors for Newell and Abernathy Creeks. Access to nature supports healthy, active outdoor lifestyles and people depend on nature for peace, quiet, and renewal. Newell Creek Canyon presents an opportunity for all to share in these benefits. It is possible to protect these resources while giving people opportunities to connect with nature. Metro intends to develop access to these sites in a way that ensures healthy habitats, water quality and meaningful experiences of nature. Does the final recommendation align with your understanding of the values of this project?	Is there anything missing in the final recommendation that would support the values?	How can we improve the planning process next time?
1		No	I've been involved in this project pretty much from the beginning.	I am an Oregon City resident, business owner and cyclist. As a former Search and Rescue volunteer, I have some less than pleasant memories of Newell Creek Canyon, and would like to see the area become something positive, something that benefits the community.	Yes		Without a concrete plan to address the homeless camps I fear that the current plan is simply going to concentrate the camps in to more sensitive areas of the canyon.	Metro needs to do a better job of informing the public about the public meetings. You basically needed to already be involved in the process to stay informed.
2	Yes		bike shop	I ride mountain bikes and live in Oregon City.	Yes	No	yes. Could you cut parallel paths for the mountain bike trail, one for beginners and one for intermediates. Pictures on the website show a mountain bike trail that is super, super easy... like a walking trail. It wouldn't take much space to cut a similar path very close to the easy one, that would satisfy a not-beginner mountain biker. Your advisor can show you where. This way, it will appeal to more riders, have more subscribership, and make it safer for the very slow riders who could be overtaken quickly by a not-beginner mountain biker.	more bike trails. There are lots of cyclists out there.
3	Yes		I heard of this as a member of the Oregon City Natural Resource Committee. I apologize for being late to the game.	Such a gorgeous natural area in the midst of metropolitan development deserves special attention from us all. Through the presentation and discussions with Metro staff I feel you have done a nice job of providing robust but limited human use rather than dispersed recreation throughout the entire parcel which would likely have adverse impacts on wildlife including birds and fish and other aquatic organisms. I mostly want to stress that this area should not link up with urban bicycle commuter paths. It is my experience cyclists will use trails 24/7/365 for commuting if left unregulated. It is my professional opinion this would have adverse consequences for natural resources.	Yes		Cyclists are hoping to connect to other urban trails through this property. This, in my opinion, could pose substantial risk to the natural values for which the property was acquired. It has been previously shown and well documented that trails paralleling streams are particularly disruptive.	Metro does a great job with public involvement.
4	Yes		neighborhood email	I want to say to make trails easy for those who have disabilities, not too steep and level and able to accommodate wheelchairs, canes, etc. wide enough so a photographer may stop and not be in the way for someone to pass. Hope bird nesting will be developed	Yes		Remember the disabled.	
5		No		I am an avid mountain biker seeking trails closer to home.	Yes			
6		No	I have been participating with this project since the first open house.	I live nearby and plan to frequent the Canyon for recreation.	Yes		The final recommendation document lists the same paragraph for both illegal camping and weed management. I'm guessing that the inferred relationship between illegal camping and weed management was unintentional.	Incorporate more outdoor activities within the planning process. I participated in both the tree planting and the initial tours of Newell Creek. Being able to visualize the plan from viewing the site makes for a much better plan.
7	Yes		I have been following the progress on line and by talking with friends	Newell Creek Canyon is important to the over all health of Oregon City. The open space that Newell Creek is needs to be preserved as a nature in the city aresa	Yes		No	All views were heard and taken into account. It was good.
8		No	email and Oregon City News	Save the Canyon from development and restore the water head	Yes			

# DRAFT

Entry Id	Is this the first time you've participated with the effort for Newell Creek Canyon natural area?	Is this the first time you've participated with the effort for Newell Creek Canyon natural area?	How did you hear about the project?	I'm interested in the Newell Creek Canyon planning process because...	From the beginning of this project, Metro has worked hard to fulfill the following values: The Newell Creek Canyon natural area preserves valuable habitat, streams and biodiversity corridors for Newell and Abernathy Creeks. Access to nature supports healthy, active outdoor lifestyles and people depend on nature for peace, quiet, and renewal. Newell Creek Canyon presents an opportunity for all to share in these benefits. It is possible to protect these resources while giving people opportunities to connect with nature. Metro intends to develop access to these sites in a way that ensures healthy habitats, water quality and meaningful experiences of nature. Does the final recommendation align with your understanding of the values of this project?	From the beginning of this project, Metro has worked hard to fulfill the following values: The Newell Creek Canyon natural area preserves valuable habitat, streams and biodiversity corridors for Newell and Abernathy Creeks. Access to nature supports healthy, active outdoor lifestyles and people depend on nature for peace, quiet, and renewal. Newell Creek Canyon presents an opportunity for all to share in these benefits. It is possible to protect these resources while giving people opportunities to connect with nature. Metro intends to develop access to these sites in a way that ensures healthy habitats, water quality and meaningful experiences of nature. Does the final recommendation align with your understanding of the values of this project?	Is there anything missing in the final recommendation that would support the values?	How can we improve the planning process next time?
9		No	Through Work	Because it's the last little bit of land that wildlife live and we are going to put hiking and biking trails on it. Because you say youre going to put signs up enforcing what can and cant occur and then have NO enforcement. No dogs allowed at Canemah, thats a joke. I love metro and I think you have the right ideas. Only problem, people suck. You dont see deer there anymore and every time I am there people are walking there dogs. So when you state that there will be signs to keep bikers on one side and hikers on another I just laugh. Those bikers are going to be all over the place and destroy that canyon. Good luck	Yes		Peace and quiet?? A little bit concerned with the proximity to a Cemetery	You all have worked hard and your information and vision has been good. Make sure to take a step back and look at the whole picture here. There will be impacts.
10	Yes		Through North West Trail Alliance.	Looking for more mt bike opportunities closer to Portland and where I work, down in Molalla.	Yes		No.	Although I came in late, it seems that Metro did a good job of communication and listening to the community.
11		No	I have been interested in the future of this area for a long time. Now that it is in development I felt the need to make my interest in having mountain bike access become part of the discussion.	I believe that allowing mountain bikes into this area will have a positive impact on my ability to enjoy this space as well as to the overall quality of the trails and surrounding habitat. Mountain bikes have been proven to do no more and possibly less damage than pedestrian travel. Mountain bike users tend to take a more active role in cleaning and maintaining the trails that we use as well.	Yes		While I believe that the core values are valid and important, I feel that the environmental protection aspect of this is being carried too far. With the goal of allowing access, but protecting just about everything, that leaves very little opportunity to actually explore the area without going off trail. I believe the hikers who access this area are currently wandering off trail and will continue to do so. The presence of homeless camps throughout the area would be discouraged by addition of trails to allow access to more of this area by removing their feeling of seclusion.	I feel that priority was given to the hiking community to at every step of the process. The mountain bike trail users were given very little consideration and should be allowed equal access and consideration. Trails dedicated to mountain bike access without any shared use was minimized in order to allow hikers access to "prime viewing opportunities" without consideration of the effect on the mountain bike experience. Currently there is no (zero) dedicated mountain bike terrain anyplace in the Portland metro area. I feel that this is discriminatory against a fairly large part of the population. With the inclusion of the 1.1 miles of dedicated mountain bike trails in NCC, we have a start, but I believe this user group should be given a more equitable portion of the trail system in the future.
12	Yes		Metro facebook	Off road cycling	Yes			
13	Yes		Social media	I live in NW Hills neighborhood. There are inadequate mountain bike opportunities in Forest Park. Why increase the carbon footprint by making folks drive 60 miles to Mount Hood to ride mtn bikes when there are infinite environmentally benign opportunities in forest Park?	Yes		I appreciate the recognition of growing mtn biking needs in Portland... Don't get sucked into overblown environmental concerns by the NIMBIs... Please expand mtn biking opportunities in Portland... It's the environmentally right approach!	Reach out to broad communities... Don't get railroaded by the vocal NIMBIs false agenda...
14		No	City of Oregon City notifications	I am interested in more dedicated Mt Biking areas in the Metro area.			Yes, the amount of dedicated Mt Bike trails is not nearly enough and is not in keeping with the input from the community. You did NOT listen. One trail for bikes is a joke. All this process, money... and one trail? I'm so happy to see my taxes being wasted on bureaucratic pork. Why should Metro be in the business of making more playgrounds. The City of Oregon City should be doing that. Put the playground money into more trails. It's disgusting to see how "happy" the Metro staff is on this project. I give you a D-grade. You had such an opportunity. Yet, after months of wasted money, you could have accomplished what you suggested in a matter of 6 months. Keep justifying your jobs.	Listen to the community and not be focused on special interest groups. It's sad to see that cycling is so prevalent in the metro area and yet, its Mt Biking facilities are terrible. If the alternative transportation groups were true to their stated goals, they would support this. Instead, most Mt Bikers have to get in fossil fueled vehicles and drive to other parts of our region for recreation. So much for tourism and cycling directly in our community.
15		No	I can't remember.. I live in the area and have heard about it for awhile. I attended all of the sessions except for this one, unfortunately.	I would like to give feedback into a space that I will be utilizing as a hiking/exploring area with my kids.	Yes		I appreciate that you changed the design so that hiking trails access the falls and other areas that wouldn't been accessible to hikers in other plans.	

# DRAFT

Entry Id	Is this the first time you've participated with the effort for Newell Creek Canyon natural area?	Is this the first time you've participated with the effort for Newell Creek Canyon natural area?	How did you hear about the project?	I'm interested in the Newell Creek Canyon planning process because...	From the beginning of this project, Metro has worked hard to fulfill the following values: The Newell Creek Canyon natural area preserves valuable habitat, streams and biodiversity corridors for Newell and Abernathy Creeks. Access to nature supports healthy, active outdoor lifestyles and people depend on nature for peace, quiet, and renewal. Newell Creek Canyon presents an opportunity for all to share in these benefits. It is possible to protect these resources while giving people opportunities to connect with nature. Metro intends to develop access to these sites in a way that ensures healthy habitats, water quality and meaningful experiences of nature. Does the final recommendation align with your understanding of the values of this project?	From the beginning of this project, Metro has worked hard to fulfill the following values: The Newell Creek Canyon natural area preserves valuable habitat, streams and biodiversity corridors for Newell and Abernathy Creeks. Access to nature supports healthy, active outdoor lifestyles and people depend on nature for peace, quiet, and renewal. Newell Creek Canyon presents an opportunity for all to share in these benefits. It is possible to protect these resources while giving people opportunities to connect with nature. Metro intends to develop access to these sites in a way that ensures healthy habitats, water quality and meaningful experiences of nature. Does the final recommendation align with your understanding of the values of this project?	Is there anything missing in the final recommendation that would support the values?	How can we improve the planning process next time?
16		No	I'm a NCC Stakeholder and on the OC Trail Alliance Board of Directors.	Newell Creek Canyon is a beautiful natural place for our community to enjoy. It provides opportunities for recreation and fitness (hiking & biking), outdoor education, bird watching, and personal contemplation. It will also be a place that tourists can add to their itinerary when visiting Willamette Falls and the Oregon City historic heritage homes and museums.	Yes		I would like to see a commuter path on the east side of Highway 213 that follows the old rail line. This would be a great way to connect lower and upper Oregon City-- especially after the Abernethy Green (near Home Depot) and the Cove area become more developed. It will be a great way for hikers, runners, and bikers to get to Clackamas Community College and beyond.	These kinds of projects are always challenging--especially given the wide range of values, beliefs, and expectations regarding the use of natural areas like Newell Creek Canyon. I thought the Metro leadership team did a good job of listening to the community and balancing the varying needs and goals. Thank you Carlotta, Dave, Tannen and the rest of the Metro staff. We appreciate all you've done to bring Newell Creek Canyon to life for everyone to enjoy.
17	Yes		Northwest Trail Alliance	I'd like to see more mountain biking trails in the portland metro area.		No	I think there is a way to continue to protect resources and add in more recreation opportunities for mountain biking/trails.	
18	Yes		Facebook post from the Northwest Trail Alliance.	I think that we should be able to recreate in our local natural areas as opposed to burning fuel and adding emissions simply to experience them outside of our metropolitan areas. I also feel that off-road cycling is an important recreational activity for kids that teaches them to appreciate nature, and have a safe place to recreate without endangering their lives by errant drivers is an extremely important priority for our public areas.	Yes		no.	
19	Yes		Through the Oregon City Parks and Rec Advisory Committee (PRAC)	Of my involvement with PRAC.	Yes			
20		No	Postcard	I live nearby and care about preserving natural areas	Yes		I would. Like to see a more extensive (longer) trail for walkers only. More pedestrian access points and more of it opened up. It's a big canyon.	More walks with rangers like you did at the beginning. The one I attended was popular and well executed. It kept me following the rest of the process.
21	Yes		Newspaper Government notices	Beautiful site that should be preserved for generations Too fragile to build around edges	Yes			
22	Yes		HOA meeting	I am a landowner that backs to Newell Creek		No	What does this mean for home owners?	Please send out mailings to homeowners in the area.



ion's

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fe

Brett Tucker  
O.C. H.S.  
could be possible  
per time to build  
structures talk  
Scott Architects



# HYBRID TRAIL NETWORK

IS there  
really a view?  
@ overlook

activities,

st



Can park develop  
help w/ transit  
trucks to  
turn around?

# DRAFT



**Legend**

	MULTI-USE TRAIL
	PROPOSED ALIGNMENT
	EXISTING ALIGNMENT
	EXISTING ALIGNMENT
	PROPOSED ALIGNMENT
	EXISTING ALIGNMENT
	EXISTING ALIGNMENT
	PROPOSED ALIGNMENT

*Handwritten note on pink sticky note:*  
Cedar Grove  
Sag Pond

*Handwritten note on teal sticky note:*  
Circles - Hike  
Trail leads to fields  
Loop on trail

*Handwritten note on pink sticky note:*  
Connect  
Hiking trail  
to street path  
close to entrance

*Handwritten note on pink sticky note:*  
MAYBE  
SUIVE  
IT IS  
TOO MANY  
TO LIST SEVERAL

Newell Creek

Cedar Grove

Sag Pond

Sag Pond

Giant Snag

Boulder Garden

MULTI-USE TRAIL

HIKING TRAIL

OFF-ROAD CYCLING DOWNHILL

ONE-WAY OFF-ROAD CYCLING

ONE-WAY OFF-ROAD CYCLING

OFF-ROAD CYCLING DOWNHILL

THRU-WAY HIKING

DRAFT

# CYCLING TRAILS

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Beginner and  
intermediate  
legs in the same  
direction →

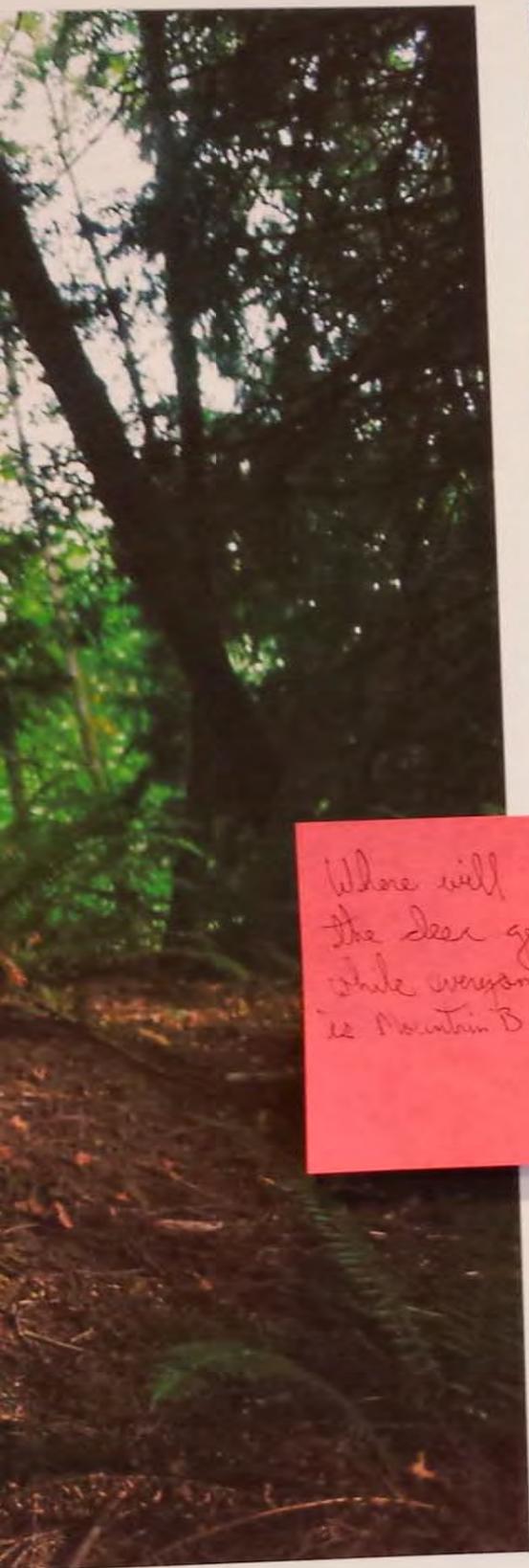
Would love to  
see mountain  
bike trails that  
are longer.  
~~please~~



# TRAIL HEADS

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- Upland forest is composed of shrubs such as Douglas fir, salal and sword fern.
- Especially important to many woodpeckers, mammals, deer, and seasonal habitats.

Where will the deer go while everyone is Mountain Biking?

DEER ARE AFRAID OF HIKERS - HIKERS TEND TO SHOOT DEER. I HAVE HAD DEER RUN NEXT TO MY BIKE ...

...tion has fragmented habitat. Patches the increasingly uncommon.

UP



Newell Ck Canyon

Joseph Marek - racerjoe97045@  
yahoo.com

- Schedule meeting w/  
METRO, Oregon City, Clackamas  
County to talk about connections  
for bikes/peds through the canyon,

- Commuter Route from bottom of hill  
to top of Hill

- Cross Canyon opportunities to  
connect Park Place area of OC  
to Beavercreek. Master plan for  
rest of OC.

- Connect from Holly Ln to connection  
points to Molalla Avenue

DRAFT

Provide  
Connection  
UP/DOWN rd  
Rail Line to  
to the East

# NORTH NEWELL

Would love to  
see Committee  
trail on east side  
of campus  
fall season  
Trail use for  
Campus DC

# COMMUNITY INVOLVEMENT

relationships, develop conservation leaders across our region.

se:

creating a healthy, sustainable region;

backgrounds, experiences, skills and perspectives

of place and ownership bring exceptional care

work, our mission and our agency among  
ies.

So many groups  
are ready to  
pitch in and  
help.  
- OC Trail Alliance  
- NW Trail Alliance  
- OC Lions Club



professors at Clark Atlanta Community College are  
 higher education institutions to do research pr  
 varying length and complexity.

I want to know  
 about the  
 school  
 history  
 of the  
 school  
 of the  
 school

## AND THE PUBLIC

ms could include

I'm curious  
 about the  
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 of the  
 school  
 of the  
 school



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COM/KIOSK

BIAN ACCESS

SPACE (MEADOW)

AREA/TRAILHEAD

Impacts on  
Mt. View Cemetery  
Kids play diving  
Gravid service?

3

5

LANE

DRAFT

So far so good  
Huge residential  
No Canyon Park  
Brazos River  
of Office  
and we  
is a  
Unpublished

MULTI-USE T

7

8

Love the  
openness of  
transition from  
city to canyon  
area!



# Newell Creek Canyon Trail Feasibility Assessment

Oregon City, OR

May 2014



**PREPARED FOR:** Metro

**PREPARED BY:** The International Mountain Bicycling Association  
Trail Solutions Program  
PO Box 7578  
Boulder, CO 80306



## 1 Overview

This document provides guidance and suggestions for the creation of a shared-use natural surface trail system in the Newell Creek Canyon Natural Area near Oregon City, OR. This trail system would capitalize on the growing demand for urban recreational trails that are optimized for mountain bicycling. Metro has asked the International Mountain Bicycling Association's Trail Solutions program to assess the area and study the feasibility of developing trails that are optimized for mountain bicyclists. To that end, the purpose of this document is to explore the opportunities and constraints for the development of a shared-use trail system and associated support facilities compatible with the environment and with other trail users. This document will have three components: A summary of existing conditions, a trail construction feasibility analysis, and a comparison between Newell Creek Canyon Natural Area and other regional mountain bicycle trail precedents.

### About IMBA

The International Mountain Bicycling Association (IMBA) is a 501(c)(3) non-profit educational association whose mission is to create, enhance, and preserve great mountain bicycling experiences. Since 1988, IMBA has been bringing out the best in conservation-minded mountain bicyclists by encouraging low-impact riding, volunteer trailwork participation, cooperation among different trail user groups, grassroots advocacy, and innovative trail management solutions.

Based in Boulder, CO, and with staff distributed across the country and the world, IMBA meets its goals through programs, notably the Trail Care Crew (TCC) and Trail Solutions (TS) consulting teams. IMBA has a strong history of working with the BLM, with notable projects in the King Range National Conservation Area, CA; the Sandy Ridge Trails outside of Portland, OR; and The Black Canyon Trail outside of Phoenix, AZ. In 2003, the IMBA TCC and TS teams won Nevada State's "Best Trail Project" award with a shared-use collaboration and makeover construction of the Evans Creek Canyon Trail in Reno.

## 2 Existing Conditions

### Area Description

The Newell Creek Canyon Natural Area is an amalgamation of parcels encompassing 219 acres of land, near Oregon City. These parcels were purchased as part of two bond measures passed in 1995 and 2006 to protect critical habitats space around the Metro area. It is bounded to the east by Highway 213, and to the south by retail businesses along South Beavercreek Road. To the west and north is a mix of housing developments, utility rights-of-way, and undeveloped private properties. The natural area is owned and managed by Metro and, thanks to a partnership with the Greater Oregon City Watershed Council, has been the subject of restoration efforts. These projects began in 2012 and have focused on controlling invasive plant species and replanting with natives.



Newell Creek Canyon Natural Area

### Previous Analysis by IMBA TS

In 2010 staff from IMBA Trail Solutions along with Metro personnel took part in a brief survey of existing uses on the southernmost parcel of the Newell Creek Canyon Natural Area. This survey analyzed existing uses of the zone. The primary observations were:

1. Saturated soils, heavily eroded drainages, and steep sideslopes leave very few areas suitable for extensive trail development without costly trail hardening.

2. There were only a limited number of access points for the property. These access points were inadequate for construction of a large trailhead facility.
3. The site only had “top down” access, meaning that trail users had to access the terrain from the highest elevations, descend to the bottom and then climb back to the top. Trails built in this type of terrain are not optimal for mountain bicycle (MTB) trails. It is generally less rewarding to finish a bike ride with a climb. Indeed, trail users of all types often prefer to ascend first and end with a descent.
4. Transient camps have heavily impacted the site. It appeared that the majority of the trail formation and use was by transients. These trails serve as access routes between the limited number of access points and campsites.

### Current Use

Based on observations by TS of trail user patterns and impacts and by comments from Metro staff, current recreational use of the area is low. Use is primarily by nature viewers, walkers, and runners. There were no visible signs of regular mountain bicycle use. The most active trail use observed on natural surface trails in the area was by transients. Metro has undertaken a concerted effort to reduce the number of homeless camps on the site to minimize impacts to natural resources.

### Existing Trails

Current access for the site is via an access road on the south end of the property, adjacent to Nelson’s Nautilus. This road is in acceptable condition for management of the site but doesn’t provide suitable access for recreational users. Some of the existing trails follow old logging or other access roads. None of the existing trails were planned, nor were they built in a manner that is compatible with recreational use or natural resource impacts. With the exception of the access road on the south end, all trails suffer from one or more major sustainability issues. These issues include, but are not limited to:

- Located in low lying or wet area
- Located in steep, eroded, or erosion-prone area
- Constructed on fall-line route which focuses water drainage and accelerates erosion
- Does not access or interpret the site in a manner that provides recreation while minimizing impacts on the environment



## Topography and Soils

The canyon is comprised of steep slopes, creek drainages, and low-lying flat areas, with an extensive network of landslide slip zones and scarps. Elevation ranges from 40 to 440 ft. Slopes in excess of 50% are common along the upper elevations. Numerous creeks and small drainages flow through the canyon, with seasonal and persistent wet areas along low-lying terrain.

Soils on the site are primarily xerochrepts and haploxerolls, colluvium resulting from landslides (20-70% slopes); Helvetia and Chehalis silt loam comprise the remainder on slopes ranging from 0-30%. The soil in the Newell Creek Canyon Natural Area is frequently saturated, with seeps along slopes, numerous drainages, and ponding occurring in low-lying areas. While soil conditions vary depending on the location within the canyon, season, and weather conditions, many existing trail areas were reported as wet year-round.

The entire property is considered to have moderate to high deep landslide susceptibility, and about 80% as moderate to high shallow landslide susceptibility. As most of the area has steep slopes combined with silt loam soils, it is rated as severe erosion risk and high susceptibility to compaction; with areas on slopes <30% rated as moderate erosion risk. (NRCS, 2013)

Steep, slide prone slopes are generally very poor locations for the siting of trails, although it is not impossible. Some of the low rounded hills that mark the locations of older landslides represent terrain that could be useable for trail development. The steeper slopes which lie mostly along the rim are generally less compatible with trail development. Techniques for building trails in these steep slopes do exist but they represent a higher cost. Also less compatible with trail development are the many low lying, flat and wet areas. These areas usually harbor more sensitive species and require more expensive trail construction techniques. There are numerous creeks and drainages in the project area. Crossings of any drainages will be sited at appropriate locations outside of critical habitat zones and using techniques such as bridging or stone armored fords to minimize impacts to watercourses. Trail alignment will likely be constrained due to limitations in siting of creek and drainage crossings. Each creek and/or drainage crossing will result in a significant increase in costs, however most trail users are drawn to trails that take them near water. This leaves a relatively small area of the site that is readily developable for a trail network.

Soil and slope conditions could require seasonal or temporary closures to prevent trail damage by users. Many key indicators for unstable ground that is prone to landslides can be observed onsite. These include hummocky ground, scarps, bent trees, and standing water. In 2006 the ground in an area adjacent to the natural area moved enough to damage or destroy several units of an apartment complex. This type of land movement is ongoing and indicative of the challenging soil conditions that exist within the natural area. To develop sustainable trails, construction techniques that counter these soils related issues are necessary. All of these techniques represent a higher cost for development, as they require increased labor, machinery, and materials such as stone and rot resistant wood or composites.

### Vegetation

The site is forested area typical of Douglas fir – big leaf maple forest communities, with groves of Western red cedar. Understory is typical of this forest type, with sword fern dominating the herbaceous layer under closed canopy. Inundated areas host skunk cabbage and clusters of stinging nettles. Several invasive species were observed on the site, including Himalayan blackberry (*Rubus discolor*) and English holly (*Ilex aquifolium*). Metro is actively managing the site to control invasive species and has undertaken removal efforts concurrent with native replanting.

### Access Points

Access is a constraint to recreational development at the site: there are currently no developable access points that can be utilized as trail heads with designated parking. Users must park on neighborhood streets or in local business parking lots. There are two access points that are currently useable, yet lack a clearly defined legal right of way. The most southern of these lies in the area just off of Beaver Creek Road. This location provides the best access point for users visiting the site from other parts of the Metro area. Its location just off of Hwy 213 and in close proximity to a major shopping area suggests it will likely be the best access point for developing a major trailhead access point. Other access points should be developed as entry points for neighborhood users. This will minimize any impacts on residential areas due to traffic and noise.



### 3 Trail Construction Feasibility

#### Trail System Concept

The trail system concept provides a conceptual framework for trail planning within the Newell Creek Canyon Natural Area. These recommendations are made based upon TS's current understanding of site constraints, restoration and resource protection goals, stakeholder input, and latent demand for mountain bicycling opportunities within the metro region.

Newell Creek Canyon is envisioned as supporting a natural surface, single-track trail system that minimizes impacts to the natural area while providing high quality user experiences. At 219 acres, with many acres being unsuitable for trail development, the site is most suited to having a small, primarily shared-use trail system. Site constraints and resource protection goals limit the areas for trail development. Based on the available terrain, the Newell Creek Canyon trail system could sustainably host a small system of trails, providing anywhere from 10 minutes to 2 hours of trail activity for users. It is recommended that trails be divided into some combination of single and shared use, to accommodate diverse uses within the relatively small trail system.

Based upon the potential for trail mileage and user experiences, it is presumed that the majority of users who will enjoy this system will likely live within a 30-minute drive of the primary access point. It is expected that many users will be local, visiting the trails from neighborhoods and schools within a 10-minute walking or bicycling distance.

#### Experience Zones

To better guide the site planning process for trail development and management, Experience Zones are used to divide areas within the site. The system of trails should be divided into three Experience Zones, to provide a range of experiences within the relatively small planning area: purpose-built trails for mountain biking only ("bike-optimized trails"), shared-use trails, and hiking-only. Most of the trail length should be split roughly evenly between bike-optimized and shared-use trails, with short hiking only loops near trailheads. In this scenario, most of the trails would be open to mountain bicyclists, in part because they cover greater distances more efficiently and need a larger number of trail miles to enjoy their activity than most hikers. Shared-use trails could accommodate a wide range of active uses: hiking, mountain bicycling, trail running, bird watching. Hiking-only trails would provide excellent opportunities for hiking as well as more passive uses, such as site interpretation and education.

While zones are shown dividing the entire planning area for simplicity, it is recognized that many locations may be unsuitable and/or unsustainable for trail construction within each zone, particularly in areas of high resource value and/or due to other environmental constraints.

### Foot Use Trail Zone

These trails will be built using sustainable trail construction techniques. They may be steeper in grade than shared-use trails but will require surface hardening techniques to provide a durable 4-season trail. These trails should provide foot users with an opportunity to find a sense of solitude in an urban environment. Scenic vistas, wildlife viewing, interpretive signs, and resting points should be integrated where possible.

This zone is planned to be located for neighborhood access from small trailhead access points towards the center of the natural area (see *Newell Creek Canyon Natural Area Conceptual Plan Map*, page 11). The foot use zone is expected to see frequent use by area residents for short walks or as a starting point for longer hikes and runs. This small area has suitable terrain for short loop trails and interpretive sites that can connect to shared-use trails. Slopes less than 30% dominate the area, good for contour trail alignment, flatter areas (<10%) and those near streams will require additional hardening and/or raised tread.

- *Approximate Construction Costs*  
\$40,000-60,000/mile



Single use foot trail

### Mountain Bicycle (MTB) Trail Zone

These trails will be built using sustainable trail construction techniques. They should be purpose-built for MTB users only. This type of MTB-optimized trail is constructed with features such as rock gardens, berms, larger grade reversals, wider cambered turns, and modest jumps. These trails should make use of gravity and, where possible, be managed to enhance trail flow for descending riders. These trails will need surface hardening techniques to provide a durable 4-season trail. They should be designed for users in the intermediate to advanced skill levels. Hybrid trail construction can accommodate intermediate and advanced riders within the same trail corridor by providing optional

advanced features. This allows many skill levels to experience the full trail mileage, while providing for skill progression, within a smaller trail footprint.

The area highlighted for the MTB Trail Zone consists of a large area at the south end of the Natural Area, where several existing informal trails and legacy access routes exist. This zone is also located to provide access from the two possible trailhead access points, as identified on the Conceptual Plan Map, via shared-use trails from the west and MTB-only trails from the south. Seasonally inundated areas along the lower creek drainage are outside this zone, due to cost of construction and potential impacts to natural resources. As most of this area is consider high risk for landslides and erosion-prone, construction will likely require additional tread stabilization in the form of retaining walls, tread hardening, and frequent drainage structures.

- *Approximate Construction Costs*  
\$50,000-60,000/mile

**Shared Use Trails Zone**

These trails will be built using sustainable trail construction techniques. Routes will be constructed and maintained using techniques that will minimize user conflict. These trails will need surface hardening techniques to provide a durable 4-season trail. They should be designed for users in the beginner to intermediate skill levels.

The Shared-Use Trails Zone is the largest trail zone, spanning the south and central areas to provide connections to other trail zones and trailhead access points, while allowing exploration of the natural area and some separation from higher density trails in the other zones. There are some steep slopes in this zone, but most areas in excess of 50% have been excluded. Trails on steeper slopes may require retaining walls or other structures to minimize side-hill erosion and tread failure.

- *Approximate Construction Costs*  
\$50,000-60,000/mile



Purpose-built MTB Trail



Shared-Use Trail

### **Highly Constrained Trails Zone**

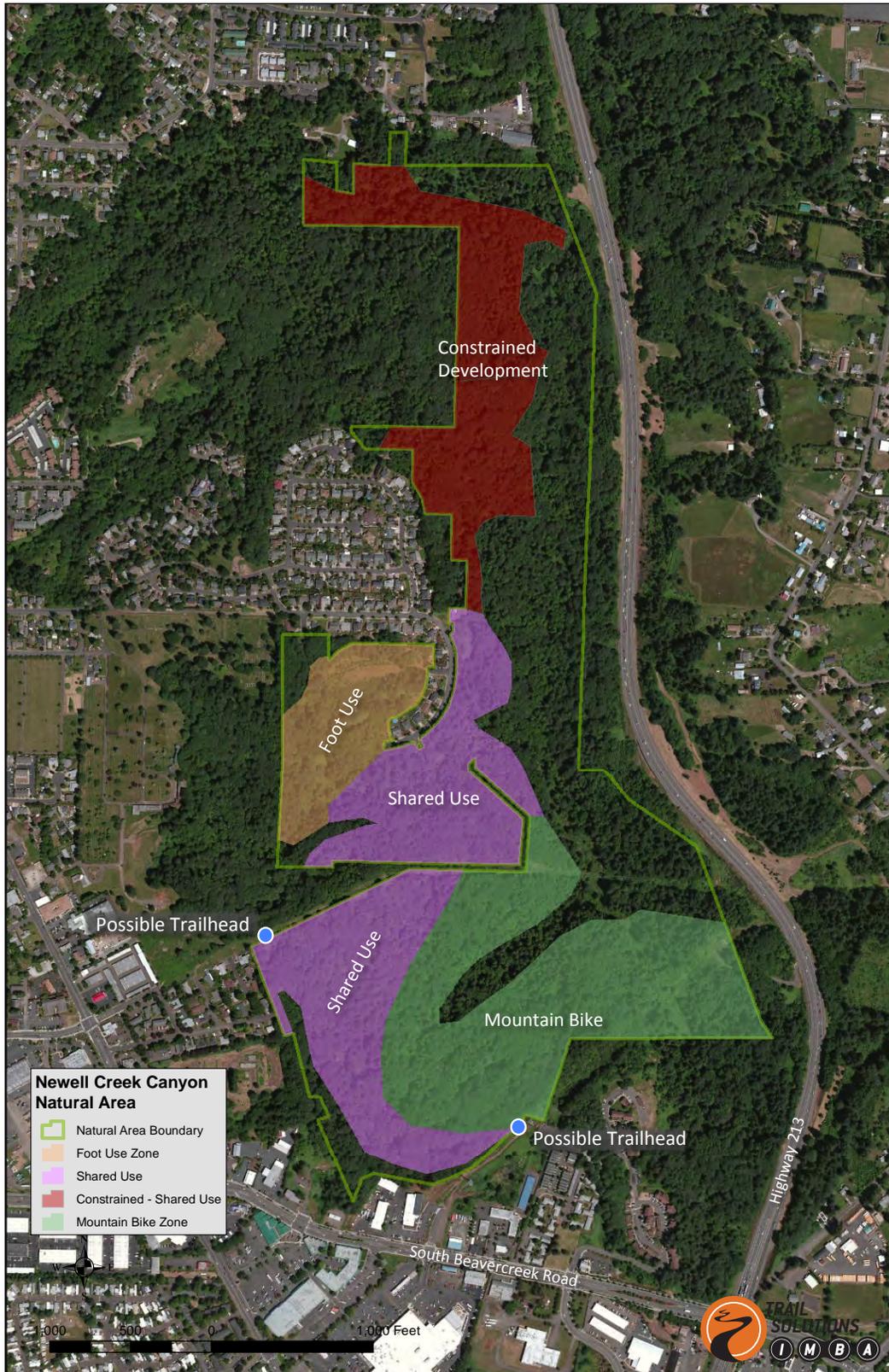
While environmental constraints severely limit trail construction, an additional possible shared-use zone is shown in the northern area (shown in red). This area has numerous small creeks and steep slopes, with Newell Creek running its length from north to south. Any trails on slopes greater than 50% will likely require armoring and tread hardening for stability. Creek and drainage crossings will require bridges and/or armoring, and some low-lying areas may require boardwalks or raised tread. However, this central and northern area is slightly less landslide-prone than much of the rest of the property. Construction of trails in this area will be much more expensive and require greater maintenance.

### **Costs**

Construction costs are broad estimates based upon initial site visits and development constraints and assume all design and construction by a professional trailbuilder. Costs do not include design and permitting, typically estimated at 10-20% of construction costs. Engaging a professional in trail planning, design, and construction will generate the best trail system conditions for the long term. Trails and facilities development can be undertaken in phases. Volunteers can offset small costs for construction and maintenance, and, more importantly, engaging volunteers builds a community of support and sense of ownership for the trails and natural area.

### **Phased Construction**

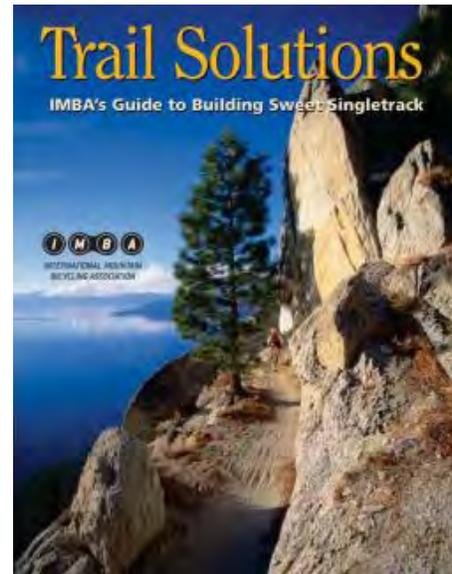
If construction is to be undertaken in phases, it is recommended that at least some bike-optimized trails be constructed in Phase 1, in addition to shared-use trails. Phase 1 trails should also include beginner and intermediate options in loops from primary access points.



Newell Creek Canyon Natural Area Conceptual Plan Map

### Trail Construction Guidelines

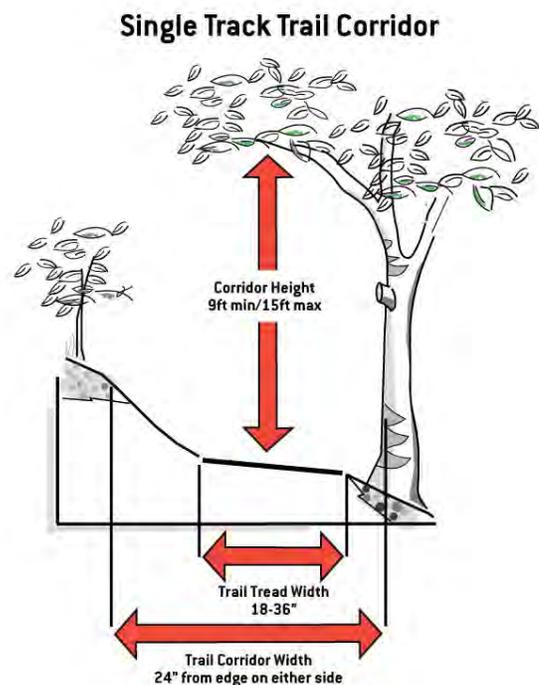
The natural environment is dynamic and unpredictable. The nature of recreational trails, the desired user experience, and the constant forces acting on natural surface trails and roads make strict standards untenable and undesirable. As such, the guidelines below are simply that: best management practices that should be followed within the site-specific environmental constraints of Newell Creek Canyon.



#### *Use Sustainable Trail Construction Guidelines -*

Sustainable trails balance many elements. They have little impact on the environment, resist erosion through proper design, construction, and maintenance, and blend with the surrounding area. A sustainable trail also appeals to and serves a variety of users, adding an important element of recreation to the community. It is designed to provide enjoyable and challenging experiences for visitors by managing their expectations and their use effectively. Following trail design and construction guidelines allows for high-quality trail and education experiences for its users while protecting the sensitive resources. An eye to sustainability and creating a trail system that blends with its landscape is particularly important for trails within the Newell Creek Canyon Natural Area.

*Construct Narrow Singletrack Trails -* Sustainable trail design can minimize user conflicts. The faster speed of mountain bikers compared to other trail users can cause conflict. While there are always a few renegades, most mountain bikers are responsible, conscientious trail users who seek an enjoyable experience, not excessive speed. Narrow (18" to 36") singletrack trails that have twists and turns, rougher surfaces, and natural obstacles will provide challenges and thrills for mountain bikers while keeping speed down, which in turn may reduce user conflict.



This concept, known as “traffic calming,” has long been used on city streets to slow cars. Wider trails commonly called doubletrack (4’ to 12’) encourage wheeled users to go faster and increase the likelihood of conflict.

*Maintain Good Clear Sightlines on MTB and Shared Use Trails* - A crowded trail with a mix of foot users and MTB users requires greater visibility. Vegetation within 2’ of the trail edges should be trimmed back regularly. Keep vegetation below waist level to control trail width and anchor turns but still allow for clear sightlines. Don’t remove trees near the trail tread; just trim their branches for improved visibility. Clear sightlines equal good communication between user types and fewer conflicts.

*Avoid the Fall Line* – Fall-line trails usually follow the shortest route down a hill – the same path that water flows. The problem with fall-line trails is that they focus water down their length. The speeding water strips the trail of soil; exposing roots, creating gullies and scarring the environment. This is a particular concern at Newell Creek Canyon, where unstable topography and saturated soils can make trails more vulnerable to rill erosion and even slope failure.

*Avoid Flat Areas* – Trails that are not located on a slope have the potential for the trail to become a collection basin for water leading to chronically muddy conditions. The trail tread must always be slightly higher than the ground on at least one side of it so that water can drain properly. For Newell Creek Canyon, flat areas will need to be raised and/or hardened to prevent ponding.

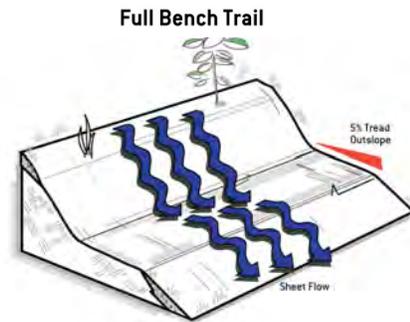
*Follow the Half Rule* - The trail grade should not exceed half the grade of the hillside or sideslope that the trail traverses to prevent it from becoming a fall line trail. Additionally, average trail grade should not exceed 10% for the majority of the trails to reduce user-based erosion.

*Establish and don’t exceed the Maximum Sustainable Trail Grades* - Except for very short distances and other special sustainable conditions (typically 15-25%).

*Implement Rolling Contour Trails with Grade Reversals* – Grade reversals force water to exit the trail at the low point before it can gain more volume and momentum and erosive power.

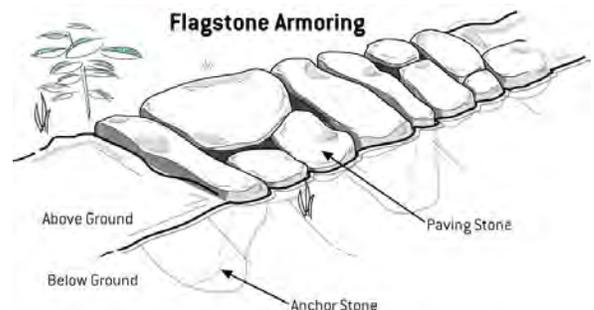
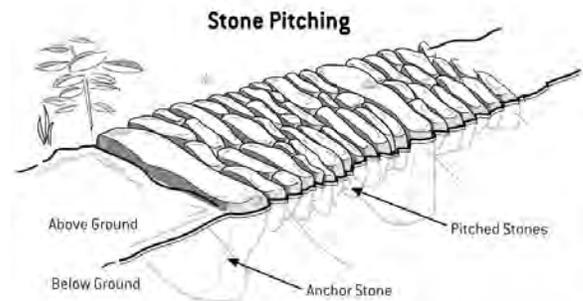
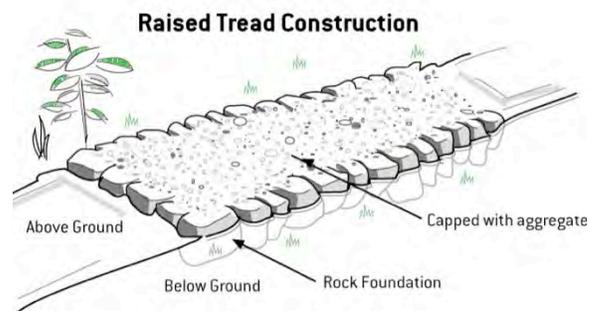


*Slope the trail tread* - Outslope encourages water to sheet across and off the trail instead of funneling down its center. Insloping the trail tread to sump areas also keeps water from funneling down the center of the trail. However, too much outslope (>10%, except at drainage dips) can cause the tread to be undefined for users, degrade user experience, and lead to tread creep. Due to highly compactible silt loam soils found at Newell Creek Canyon, newly constructed tread will require maintenance to maintain 5-8% outslope.



*Trail Surface -*

- The trail tread should be full bench when constructed on slopes.
- Constructed tread should average 24-30” in width, with a minimum width of 18” and a maximum width of 42”.
- Surface should be firm and stable.
- The tread should be slightly wider in curves, climbs, and alongside trail features.
- The trail should not include mud holes, puddles, or any muddy segments whatsoever.
- Imported surfacing material should be used to achieve the intended surface character if necessary.
- All trail subgrades, trail treads, and trail-surfacing materials should be compacted according to commonly accepted best





practices and in a manner that will support the intended use.

- All tread should be constructed using techniques and materials that will allow for 4-season use. This will require importing stone, wood and aggregate materials to armor or raise the tread when conditions require.

For additional trail design, construction, and maintenance techniques, refer to *Trail Solutions: IMBA's Guide to Building Sweet Singletrack*. These guidelines are appropriate for any hike, bike, or equestrian trail.

## 4 Comparison to Regional Precedents

Location		Sandy Ridge Trail System	Forest Park	Powell Butte	Newell Creek Natural Area (Conceptual Plan)
Land Manager		Bureau of Land Management	Portland Parks & Recreation	Portland Parks & Recreation	Metro
Annual Visitors	Estimated	60,000+	475,000	No Data	
% MTB Visitors	Estimated	>95%	10%	No Data	Anticipated: 20-50%
Regional Access	Driving distance from Metro center	Less Convenient	Very Convenient	Moderately Convenient	Moderately Convenient
Local Access	Access from neighborhoods	Less Convenient	Very Convenient	Very Convenient	Very Convenient
Total Acreage	Approximate	6,000	5,172	612	219
Miles of singletack trail	Approximate	15	50	9	
% Singletrack Open To MTB	Approximate	100%	0.6%	67%	
Trail Types		Bike Optimized Singletrack	Doubletrack & Traditional Singletrack	Doubletrack & Traditional Singletrack	Traditional and Bike Optimized Singletrack
Trail Users	hike/bike/horse	Bike, hike	Hike, bike, horse	Hike, bike, horse	Hike, bike
Designated Use	single-use/preferred use/ shared-use	Preferred Use: Bike	Hike only and shared-use	Hike only and shared-use	Hike only, bike only, and shared-use
Purpose-Built MTB Trail?	Yes/No	Yes	No	No	Yes
Rider Skill Level	Beginner/Intermediate/Advanced/Expert	Beginner/Intermediate/Advanced/Expert	Beginner/Intermediate	Beginner/Intermediate	Beginner/Intermediate
Parking Units	Dedicated+Adjacent	40+100	60+	40+25	
Key - Visitor Expectations	Exceeds	Meets	Below	To be determined/ No Data	Recommendation

Sources: BLM (TRAFx user data for Sandy Ridge Trail System, 2013); Portland Parks and Recreation



## Trail Maintenance

All trails require maintenance in order to ensure that they continue to meet the desired experience they were designed for and minimize any ecological impacts. Trails that are designed and built using sustainable trail guidelines require a minimum of maintenance. It is estimated that trails at Newell Creek Canyon will require the majority of maintenance in the fall just after leaves have dropped from deciduous trees and again in early spring. The majority of the work will be maintenance of drains, clearing downed trees and trimming vegetation in the corridor. These activities require minimal training for effective results.

Newly constructed trails “cure” as tread compacts, adjacent vegetation fills in, and users define the active tread. It is difficult to anticipate all resource-related issues during the initial construction: seeps may appear that were not evident during dry season construction, holes and dips in the tread may appear due to excessive soil compaction. As such, in the first year following construction, additional maintenance is often needed to address tread compaction, muddiness, and other tread fine-tuning to ensure the trail tread and corridor meet sustainable guidelines.

Costs for maintenance will be highest during the initial year as the tread compacts. Successive years will require less effort and reduce costs. Maintenance at Newell Creek Canyon trails should be in the \$2,000-\$2,500 per mile per year range. Building trails that meet sustainability guidelines will minimize maintenance costs. This is demonstrated at Sandy Ridge Trails, which sees relatively high use, but sees minimal maintenance costs because of the attention to sustainable construction techniques.

## Visitors

Use of trails at Newell Creek Canyon is expected to be strong throughout the year. More use can be expected during the warmer months with peak visitation occurring on weekday afternoons and weekends. This is similar to visitation at the other regional precedents.

The majority of mountain bicyclists visiting the Newell Creek Canyon trails will be intermediate skill level riders, so the majority of trails should reflect this demand. A smaller percent will be beginner and advanced skill level riders. The split should be approximately 20% beginner trails, 60% intermediate trails, 20% advanced trails. A full range of skill levels is required so that the trail system retains its relevance as users skill levels rise. This is especially true for children and families looking to ride together. Trails that encourage progression keep kids on their bikes and lead to healthy habits.

Currently mountain bicyclists of the Metro area drastically underserved in regards to quality trail experiences within the region. The Sandy Ridge Trail System, which is purpose built for MTB use, has seen its visitor numbers double each year since opening in 2008 (trail miles have been added each year: opening with 3.5 miles the system now hosts 15 miles). Surveys of users at regional parks, such as Forest Park, indicate that singletrack trails open to MTB use are in high demand. Among regional precedents, only Sandy Ridge Trail System is providing the trail facilities that users are seeking. The construction of a purpose-built, high quality trail system at Newell Creek Canyon will help to satiate some of this demand and allow mountain bicyclists to recreate closer to home.

## Traffic and Parking Considerations

Based on other metropolitan trail systems, users will access the trail system in a variety of ways. Residents within 10-minute walk or bicycling distance from trail access points will likely use those modes to access the trails. Visitors from outside this radius will likely drive to trailheads. A 2011 survey of Forest Park trail users showed that 79% accessed the park by vehicle (Forest Park Recreation Survey, PP&R, 2011). However, this may not represent an accurate picture of park access for Newell Creek Canyon, as the park is much smaller. Powell Butte offers a better regional comparison, but no user data are available. This implies that a small increase in automobile traffic should be anticipated over current levels in order for people to access the trails. In addition, given the existing limited availability of trails for mountain bicycling in the metro area, this facility is predicted to have some regional draw. Therefore, dedicated parking facilities will be necessary to minimize impacts on the community. The primary access point will be more likely to be accessed via automobile, and utilized by visitors from the greater Metro area because of its proximity to Highway 213 and South Beaver Creek Road. The majority of traffic will be focused here,



which will minimize impacts on the residential areas near the secondary access point. Many users will commute to and from the trails by foot or bicycle and never utilize a car. This will be especially true for the residents of Oregon City.

Limited space for parking and trail development constraints reduce its potential to serve as a high volume destination trail system. Parking facilities should be constructed at the primary access point. Based on comparisons to several regional facilities it is estimated that approximately 25 parking stalls are recommended at the primary access. This point should be established as a trailhead facility with amenities such as a map kiosk, restrooms, and trash receptacles. A further 10 parking stalls should be constructed at the secondary access. This location should be minimally developed, needing only a map kiosk and trash receptacles. Without sufficient designated parking, some overflow parking along business and residential curbside spaces could be experienced during peak usage.

## 5 Shared Use trails Vs. Single Use

There are many reasons users and land managers may want to have single-use trails. Many land managers think separate trails will eliminate user conflict. It's commonplace in recreational land management to separate incompatible uses. Responsible bicycle use is compatible in most cases. When users know that a trail is shared use, they expect to encounter others. When users follow trail protocol, they can safely negotiate their trail encounters. There are also cases where single-use trails make more sense.

- **Crowded Trails:** Popular trail systems with very crowded trails can have a blend of shared and single-use routes. Separating visitors helps ensure that they won't have to endure traffic jams every time they go to the trails seeking relaxation and a connection with nature.
- **Crowded Trailheads:** Trail systems can have separate access points that cater to specific users. One entrance can be designated for equestrians and include horse-trailer parking. Another parking area can be designated for hikers and bikers. The trail network can blend shared and single use.
- **Extraordinary Mountain Biking Trails:** The experience of riding a narrow, roller-coaster trail where twists and turns unfold under your wheels in a rocking rhythm

is highly valued by mountain biking diehards. These types of trails envelope riders in a zone of exhilaration and are most successful when they are specifically designated for mountain bikers.

- **High-Speed Trails:** A designated trail can allow advanced runners and riders to race-train at higher speeds without bothering other visitors. These trails are still shared-use, but they are designed to separate visitors by skill level and the experience sought.
- **Nature Trails:** A single-use trail can be created to provide hikers or birdwatchers with the seclusion they desire. Likewise, trails for disabled visitors may benefit from restricted use.
- **Shared use trails** can accommodate the needs of the most users. A generally open system disperses users across all trails.
- **Sharing trails** help build a trail community by increasing the need for all users to cooperate to preserve and protect a common resource. Encountering other users on a trail offers the opportunity to meet and talk. Without that opportunity, it's difficult to establish mutual respect and courtesy.
- **Shared trails** are most cost effective for land managers. They require fewer signs and less staff.
- **Shared trails** enable responsible, experienced users to educate outlaws and novices. Because they share the same trail system, the opportunity for peer regulation is enhanced.
- There are cases where separate trails make good sense. Trails designed with dynamic features that are purpose built for MTB users allow for riders to let loose without worrying about conflict with other user types.

### Experience Zones and Preferred-Use Trails

Experience zones and preferred-use trails are cropping up in trail systems around the world. And they are great for mountain bikers. Experience Zones divide management areas into special-use zones designed around specific activities: one zone may be preferred for mountain biking or interpretive and accessible trails. Such zones can provide a variety of



visitor experiences and recreational opportunities that reduce conflict between differing user groups and provide sustainable, long-lasting trails.

Single use challenges the notion that all trails must be all things to all people. In this case, land managers designate certain trails as “preferred” for certain activities. For example, a trail that is single use for mountain bikers might be designed to be fast and flowing through open terrain, with swooping turns and dips. Hiking-preferred trails, meanwhile, might have stairs, sharp switchbacks, short distances, or other qualities that would be less attractive to bikers and equestrians. Visitors will be drawn to routes that match their desired experience.

Each trail system should, of course, include a variety of trails. One way to include numerous types of trails is to have shared-use trails at the beginning of the network near parking lots, with preferred-use trails branching off further along. The number of trails designated for each mode of travel should be based on the habits and needs of the user groups being managed.

## 6 Conclusion

This document presents the opportunities and constraints in developing a shared-use trail system with bike-optimized elements for the Newell Creek Canyon Natural Area. It is hoped that this trail feasibility assessment will facilitate trail development that meets natural resource goals while addressing local and regional recreational needs.

Many unsustainable trails and roads already exist in the Natural Area. Unplanned and unmanaged use of the site can lead to illegal and illicit use, dumping, trampling native plants, spreading invasive species, and contribute to soil compaction and erosion. Residents desire trail access and enhanced trail experiences for mountain bicycling. Adding a planned trail system allows for a sustainable and managed system, to reduce impacts to the environment and provide better user experiences.



**MEMO**

To: Tannen Printz, Parks Planner, Parks & Nature Department, Metro  
Rodney Wojtanik, Principal Parks Designer, Parks & Nature Department, Metro

From: Chris Bernhardt, Director of Consulting Services, IMBA

Date: 14 November 2015

Re: Newell Creek Canyon Design Review

On 26 October 2015, staff from IMBA's Trail Solutions program visited the Newell Creek Canyon site with Metro staff with the purpose of reviewing the proposed trail design. The comments herein are derived from that site visit, a review of the plans, and conversations with the above-noted Metro staff.

- 1) The trail design should generally conform to the sustainable trail development guidelines developed by the International Mountain Bicycling Association. In particular, trails should follow a rolling contour alignment, be aligned to conform to the Half Rule, be excavated to mineral soil, and have regular and frequent grade reversals.
- 2) Structures, particularly bridges, should be designed by a qualified engineering professional with the consultation of a professional trail builder/designer.
- 3) The trail corridor, once finalized, will need to be flagged and GPS'ed for inclusion into construction and specification documents ahead of the bidding process. "Flagging mortality" will likely be a concern on the site so the budget should assume the trail alignment will need to be flagged once for the construction and specification documents, and then once again immediately prior to construction. The second round of flagging may need to occur in phases just ahead of each constructed segment.
- 4) Given the predicted year-round use, wet conditions, and generally steep sideslopes and unstable soils it is recommended that much of the trail tread will need to be amended with crushed rock (1/2" minus). The rock should be added during construction and while the soil is moist so that it can be compacted into the tread, not just placed on top.
- 5) Considering the steep sideslopes, constrained access, need for site security for equipment, and soil amendments the construction is estimated to cost \$10/LF.
- 6) Additional comments are in the attached document.

DRAFT

Unstable slope, avoid.

Wide, unstable slopes on both sides, avoid

Potentially meander access to provide a better experience.

Short steep sections are acceptable.

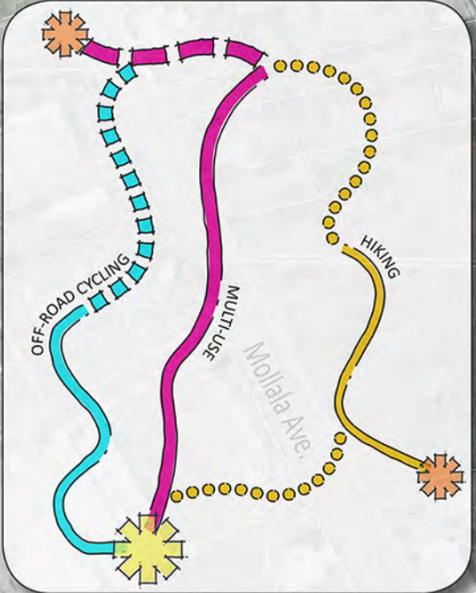
Can use other old road bed and reconnect with switchback climb.

Create separate loop with distinct characteristics.

Good terrain for meandering climbing trail.

Meander trail through rocks and trees.

A detailed design solution will be needed in here once optimal bridge location is determined.



Legend	
MULTI-USE TRAIL - 1.2 miles	BRIDGE/OVERLOOK
PROPOSED ALIGNMENT	PRIMARY SITE ENTRY
EXISTING ALIGNMENT	SECONDARY SITE ENTRY
OFF-ROAD CYCLING TRAIL - 1.1 miles	MAINTENANCE ENTRY
PROPOSED ALIGNMENT	NATURAL FEATURE OF INTEREST
EXISTING ALIGNMENT	
HIKING TRAIL - 1.6 miles	
PROPOSED ALIGNMENT	
EXISTING ALIGNMENT	

NEWELL CREEK CANYON

# PREFERRED TRAIL NETWORK

MASTERPLAN ACCESS



DRAFT



## ABOUT METRO

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

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## AUDITOR

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