
City of Columbia Council Meeting

Grindstone Creek Trail Phase I
Public Hearing
B215-13

Public Hearing

Grindstone Creek Trail Phase I

B215-13

- \$1.57 million budget (appr \$1.3 million balance)
 - Funded by 2010 Park Sales Tax
 - Included in Council Resolution R166-10 & ballot promotions.
 - Proposed 10-ft concrete trail.
- Included in lease with MDC on Waters-Moss Wildlife Area.
- Part of trail system that connects:
 - Hinkson Creek Trail
 - MU Recreational Trail
 - MKT Trail
 - Katy Trail State Park

Public Hearing

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Introduced by McDavid Council Bill No. # 166-10

A RESOLUTION

specifying how the City Council intends to use funds that would be generated by the proposed extension of the one-eighth of one percent local parks sales tax.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF COLUMBIA, MISSOURI, AS FOLLOWS:

SECTION 1. The City Council of the City of Columbia, Missouri states its intent to use the funds that would be generated by the proposed extension of the one-eighth of one percent local parks sales tax as follows:

ACQUISITION/LAND PRESERVATION - \$2,025,000

Acquire land for community parks, greenbelts, green space, wildlife corridors and natural area preservation	\$1,525,000	
Acquire land for new neighborhood parks (an amount up to)	\$ 500,000	\$ 2,025,000

*Priorities to be determined by Council based upon city-wide growth patterns, availability of land, potential for full or partial donation, existing natural features, and master plan and staff recommendations.

IMPROVEMENTS TO EXISTING PARKS: \$4,765,000

<u>Park Improvements (\$3,290,000)</u>	
Albert-Oakland Park - New Restroom	\$125,000
Albert-Oakland Park - Athletic Fields Renovation	\$150,000
Armory Renovation - Activity/Meeting Room Flooring	\$ 75,000
Atkins Park Phase II - Restrooms, Concessions, Ballfield	\$850,000
Cosmo-Bethel Park - Light Tennis Courts, Trail	\$150,000
Cosmo Park - Football/Lacrosse Field Improvements	\$150,000
Cosmo Park - New Restroom Soccer/Football Fields	\$125,000
Cosmo Park - Steinberg Playground Renovation	\$500,000
Douglass Park - Playground Renovation, Fitness Stations	\$100,000
Downtown Optimist Park Renovation	\$ 50,000
Fairview Park - Shelter Replacement, Playground, Parking	\$175,000
Nifong Park - Maplewood Barn, Parking	\$200,000
Shepard Boulevard Tennis Courts Renovation	\$ 75,000
Trail Restroom Improvements - Garth, Grindstone, MLK	\$315,000
Twin Lakes Recreation Area Improvements	\$250,000

Permanent Record
Filed in Clerk's Office

<u>Annual Improvements (\$1,475,000)</u>	
Annual Roads and Parking Improvements	\$750,000
Annual Joint City/School Playground Projects	\$125,000
Annual Park Improvements - Major Maintenance	\$600,000
	\$ 4,765,000
<u>TRAILS AND GREENBELTS: \$2,070,000</u>	
Grindstone Trail Development - Grindstone Nature Area to Confluence	\$1,570,000
Annual Trail Improvements - Major Maintenance	\$ 500,000
	\$ 2,070,000
<u>NEW FACILITY/PARK DEVELOPMENT - \$2,540,000</u>	
<u>Neighborhood Parks (\$375,000)</u>	
Develop three new neighborhood parks:	
Barberry Neighborhood Park	\$125,000
Jay Dix Neighborhood Park	\$125,000
Strawn Road Neighborhood Park	\$125,000
<u>Community Regional Parks (\$2,165,000)</u>	
Gans Creek Rec Area/Philips Park - Phase I Development	\$1,750,000
Norma Sutherland Smith Park - Phase I	\$ 250,000
Waters-Moss Park Phase I	\$ 165,000
	\$ 2,540,000
<u>CONTINGENCY</u>	
Contingency of 5%	\$ 600,000
	\$12,000,000

ADOPTED this 16th day of August, 2010.

ATTEST:

[Signature]
City Clerk

[Signature]
Mayor and Presiding Officer

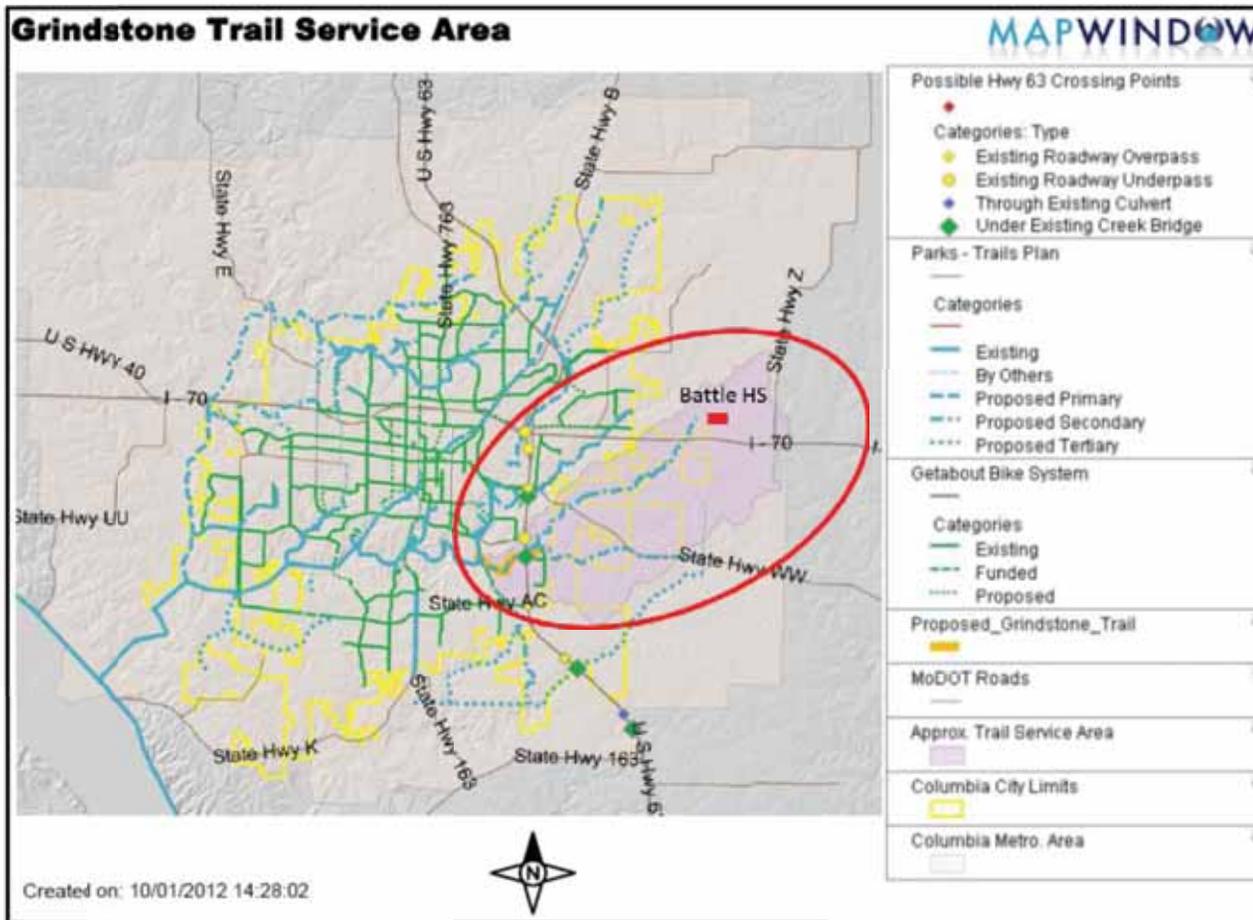
APPROVED AS TO FORM:

[Signature]
City Counselor

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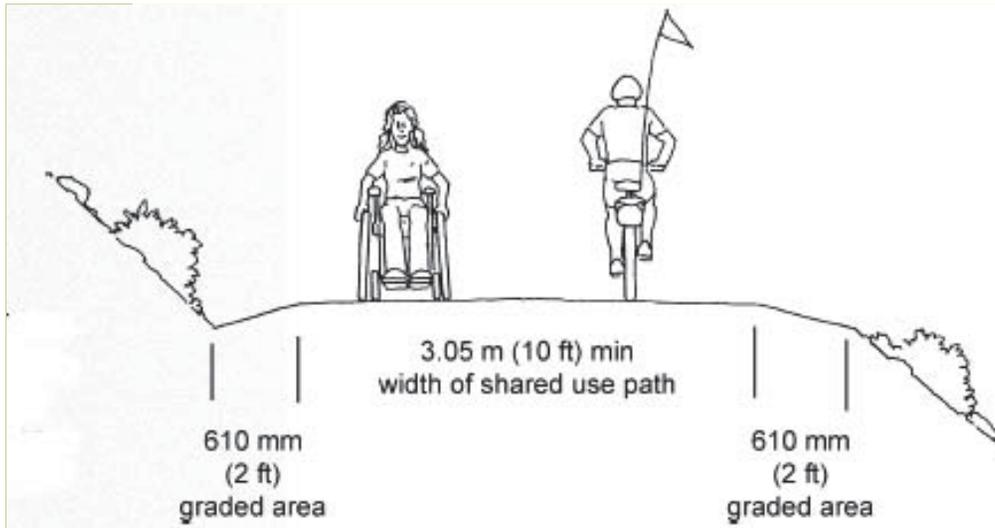


- Key part of the trail system that connects to an estimated:
 - 5,000 residents
 - 3,000 jobs
 - Battle High School

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■ Total Estimated Trail Length: 9,192

- 12' w x 9192 lf = 110,304 sq ft
- 10' w x 9192 lf = 91,920 sq ft
- 8' w x 9192 lf = 73,536 sq ft

■ Stream Buffer Zone

- 1,995 linear ft in inner buffer zone
- 160 linear ft bridges inner buffer zone
(4 x 40 ft long)
- 2,430 linear ft in outer buffer zone

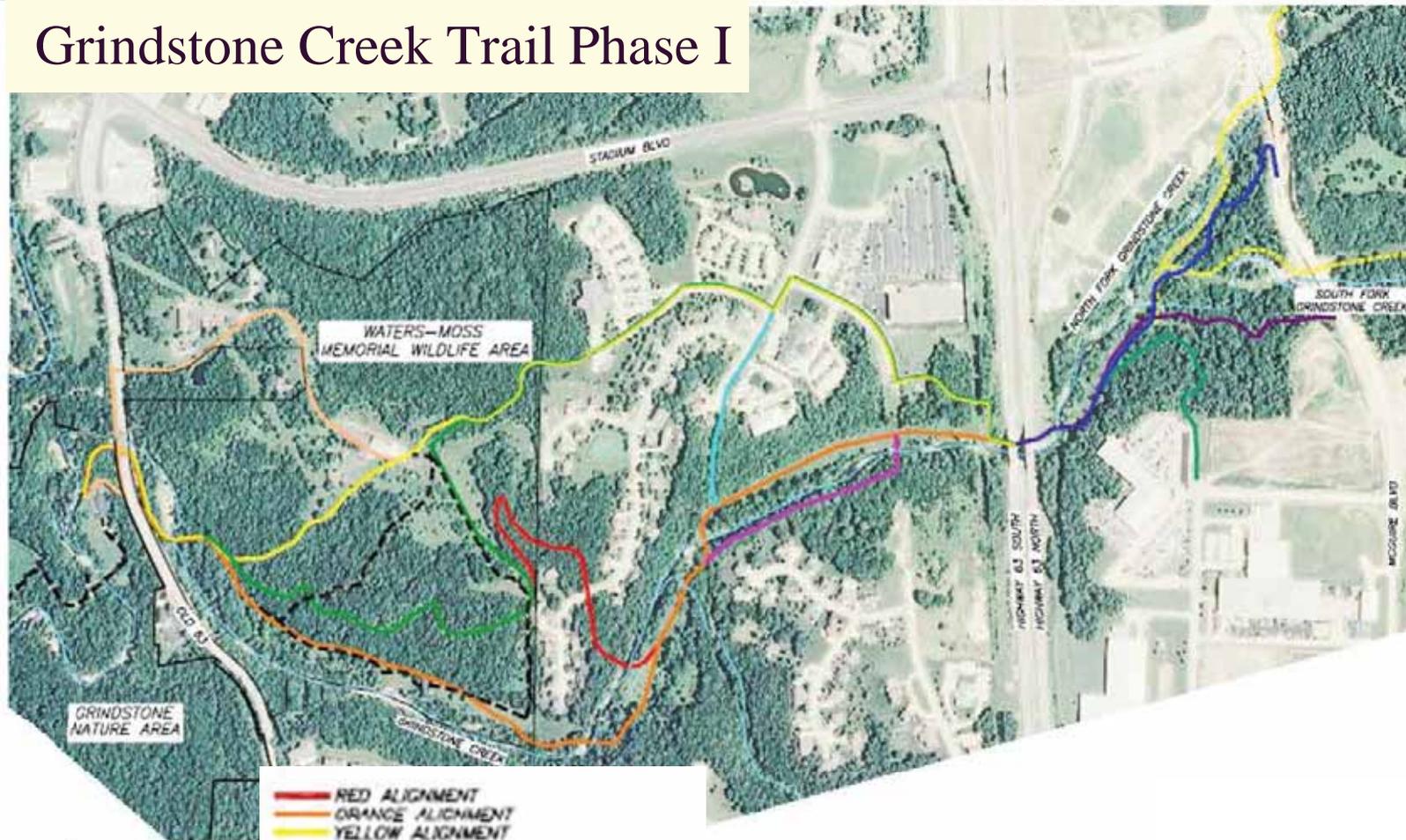
■ AASHTO Trail Width Guideline Shared Use Paths

- 12-ft recommended
- 10-ft minimum



10 Separate Routes were Originally Considered

Grindstone Creek Trail Phase I



- RED ALIGNMENT
- ORANGE ALIGNMENT
- YELLOW ALIGNMENT
- GREEN ALIGNMENT
- BLUE ALIGNMENT
- VIOLET ALIGNMENT
- MAGENTA ALIGNMENT
- CYAN ALIGNMENT
- BLUE GREEN ALIGNMENT
- MANILA ALIGNMENT
- FUTURE TRAILS
- - - EXISTING TRAILS IMPROVED SURFACE
- - - EXISTING MINOR NATURAL SURFACE



FIGURE 1
TRAIL ALTERNATES
GRINDSTONE TRAIL PROJECT
COLUMBIA, MISSOURI

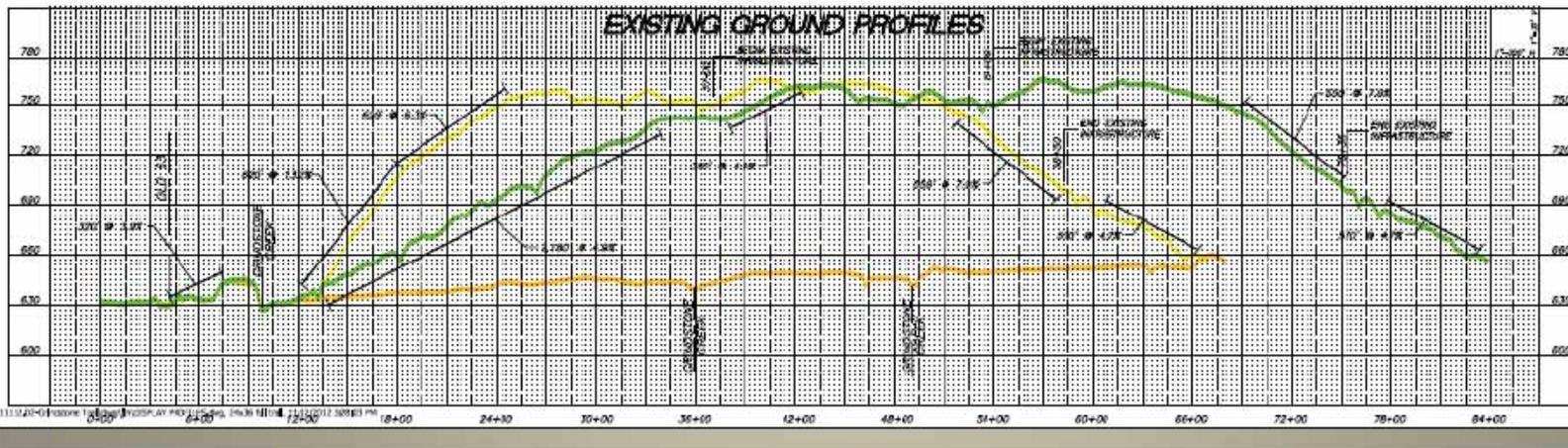


5 Routes Were Carried Forward to Detailed Review (3 Western)

Grindstone Creek Trail Phase I



FIGURE 2
 ALTERNATE TRAIL ALIGNMENT COMPARISON
 WESTERN PORTION (ORANGE, YELLOW & GREEN) GRINDSTONE TRAIL
 COLUMBIA, MD



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Possible Routes Evaluated For:

- Impacts on adjacent properties
- Impacts on specific destinations
- Impacts relative to trail users in adjacent neighborhoods
- Terrain
- Public safety
- Environment and sustainability
- Maintenance and operations
- Initial construction costs

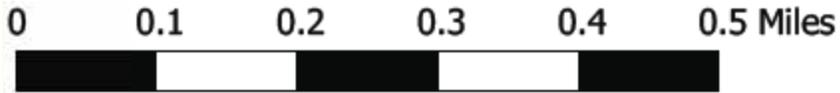
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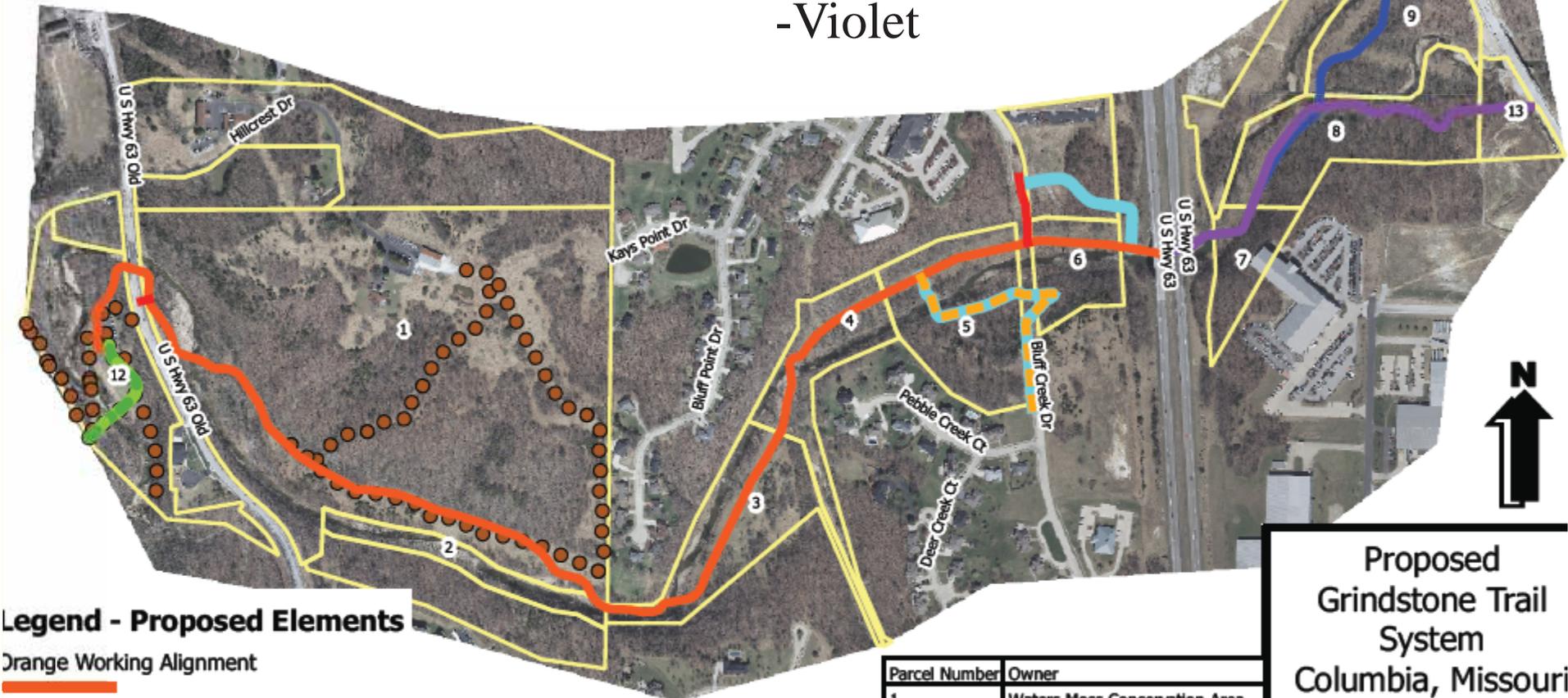
Recommendation is for Council to Accept:

- West Side – Orange Alignment
 - Safest (avoids routing users on streets)
 - Follows existing City easements—less disturbance and includes easy access for trail easements
 - Most accessible to the full range of users
 - Most likely to encourage regular use
- East Side – Violet Alignment
 - Avoids an extra bridge (Blue route)
 - Each provides connection to the North & South Fork of the Grindstone Creek



Recommended Route:

- Orange
- Violet



Legend - Proposed Elements

- Orange Working Alignment
- Violet Working Alignment
- Blue Working Alignment
- Bluff Creek Natural Trail Access
- Maintenance Access
- Possible Future ADA Compliant Access

Legend - Existing Elements

- Hinkson Creek Trail
- Existing Trails
- Property Boundaries

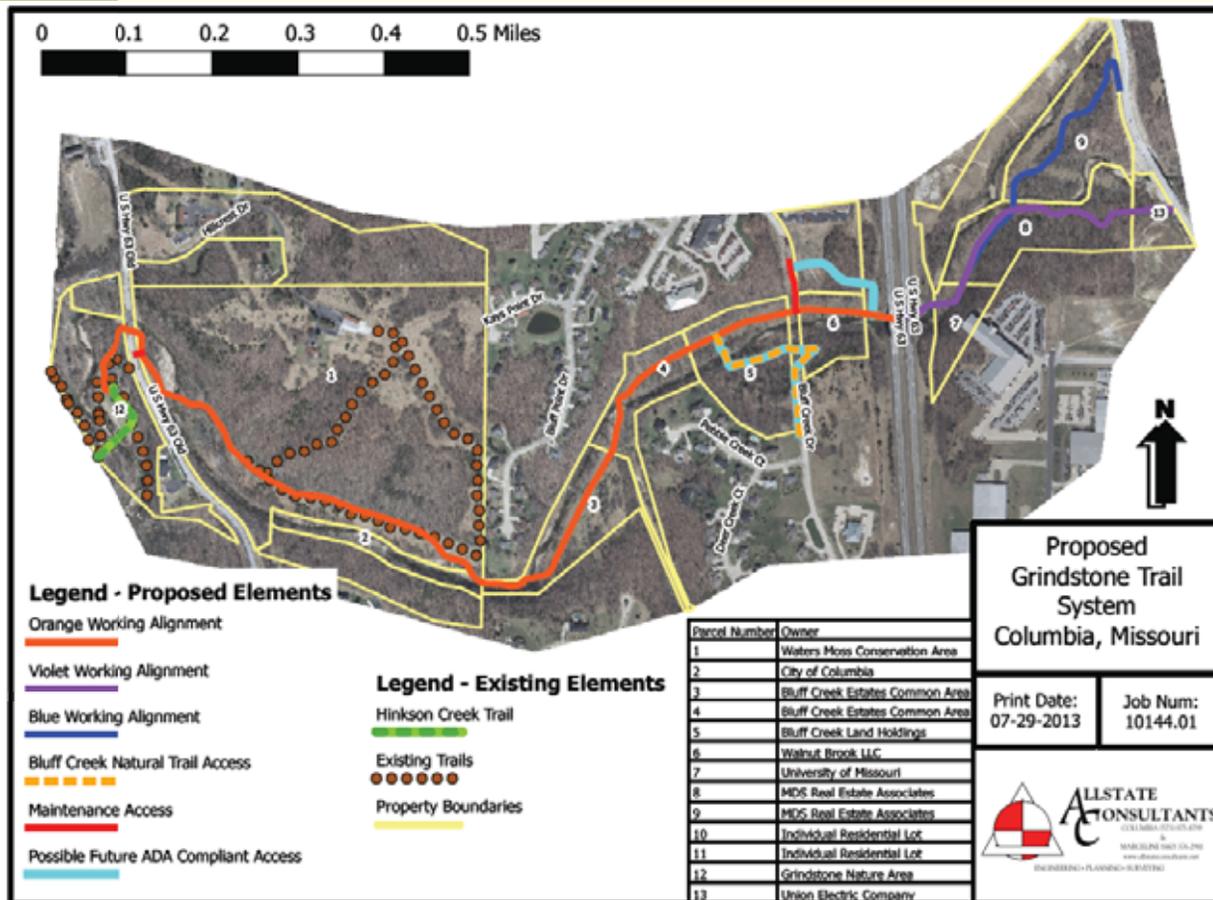
Proposed
Grindstone Trail
System
Columbia, Missouri

Parcel Number	Owner
1	Waters Moss Conservation Area
2	City of Columbia
3	Bluff Creek Estates Common Area
4	Bluff Creek Estates Common Area
5	Bluff Creek Land Holdings
6	Walnut Brook LLC
7	University of Missouri
8	MDS Real Estate Associates
9	MDS Real Estate Associates
10	Individual Residential Lot
11	Individual Residential Lot
12	Grindstone Nature Area
13	Union Electric Company

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Recommended route is on:

- City (Grindstone Nature Area)
- Waters-Moss (MDC)
- Bluff Crk Estates HOA
- Bluff Crk Land Holding
- Walnut Brook LLC
- MoDOT (Hwy 63)
- MU
- MDS Real Estate
- Union Electric

Public Hearing

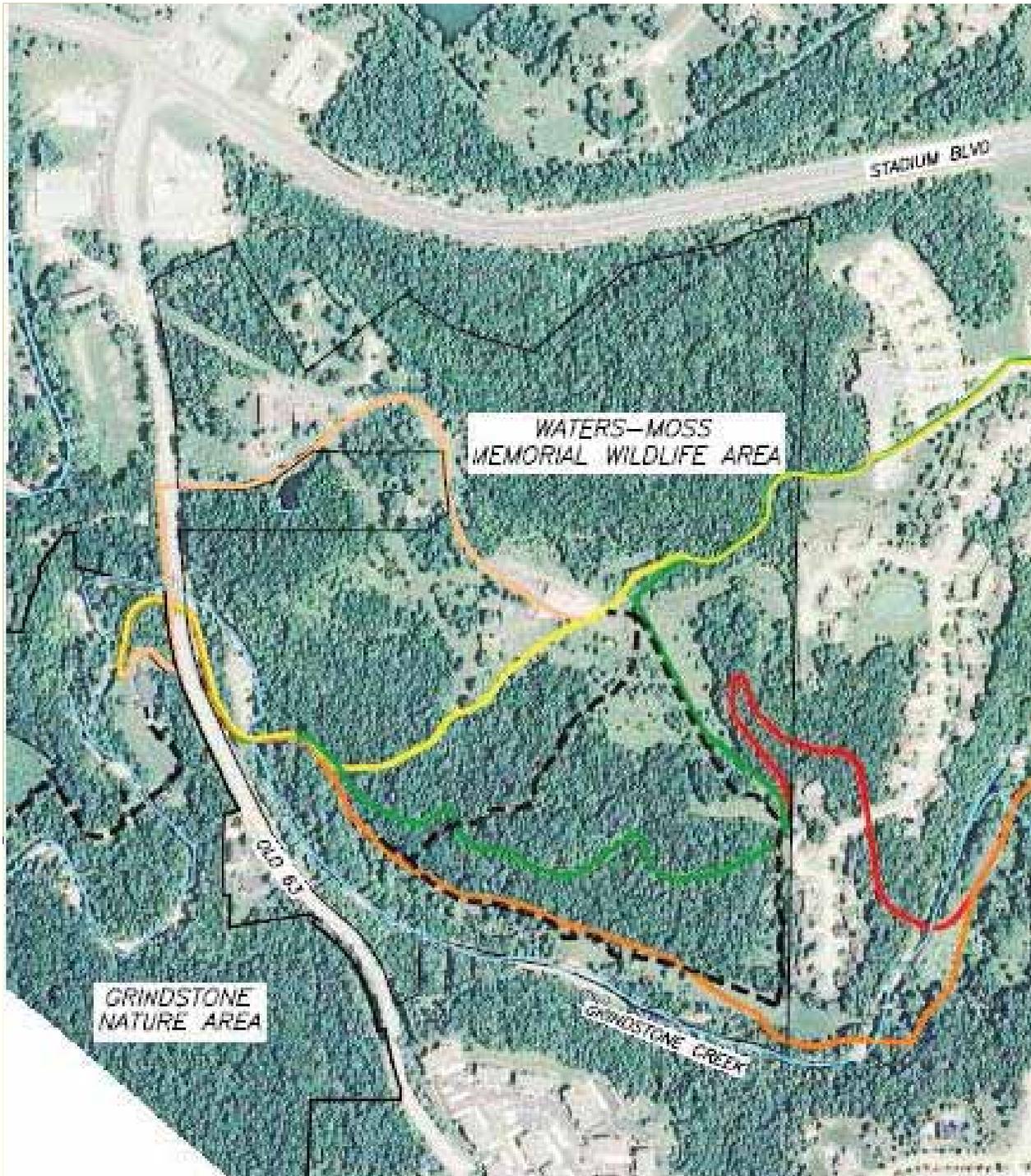
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Trail connects to Hinkson Creek Trail at the Grindstone Nature Area and crosses under Old Highway 63 and onto the Waters-Moss (MDC) property.

Maintenance & construction access is off of Old 63 and is shown by solid red line.



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Waters-Moss Conservation Area

- MDC evaluated five routes & looked at other alternatives.
- In a July 22, 2013 letter from MDC Deputy Director Tim Ripperger, MDC Officially approved Orange route

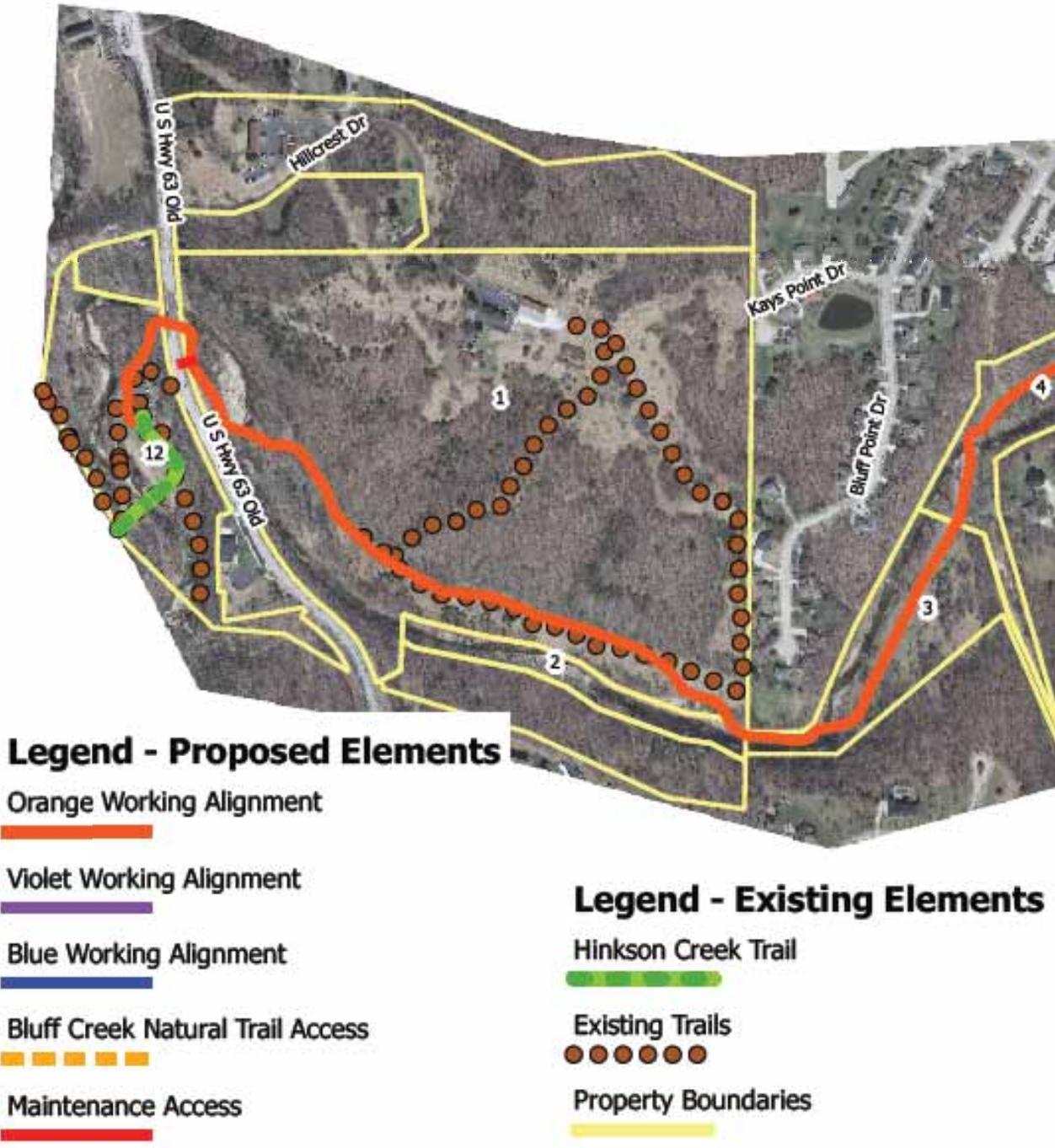
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Waters-Moss Conservation Area

- Orange route primarily follows existing sewer utility easement.



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Grindstone Creek Trail

Diagram 1 of 4 B215-13



- Orange route was redesigned to avoid all private homes.
- --- Old Route
- Does not cross any East Pointe owned property.

Public Hearing

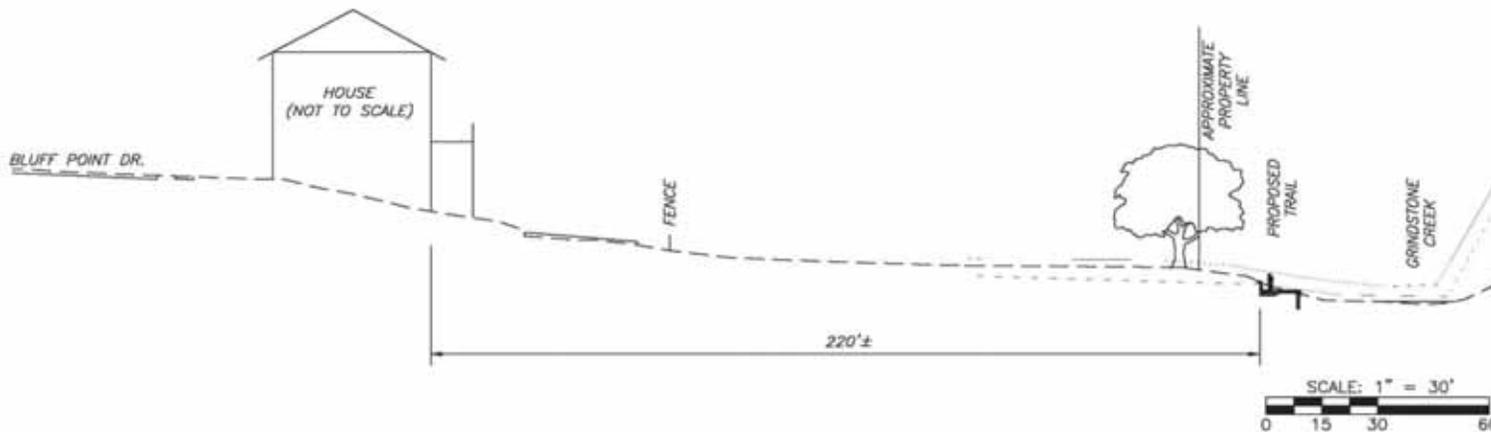
Grindstone Creek Trail Phase I

Diagram 2 of 4

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TYPICAL CROSS SECTION THROUGH CREEK, TRAIL, AND RESIDENTIAL LOT

Trail is approx 200-220 ft from nearest house to the north.

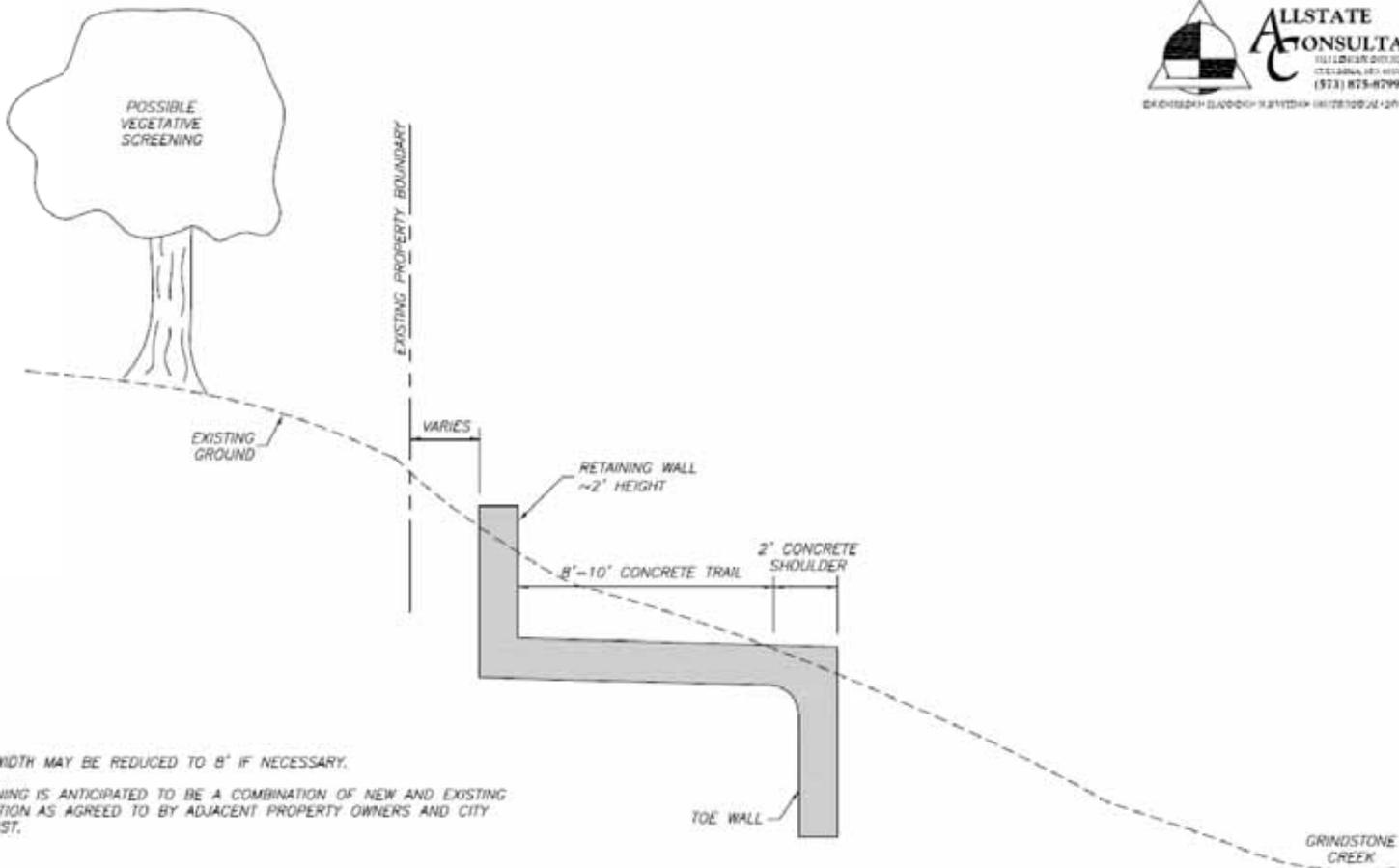


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Grindstone Creek Trail Phase I

Diagram 3 of 4 B215-13

PROPOSED DESIGN ALIGNMENT CLARIFICATION GRINDSTONE TRAIL



TRAIL WIDTH MAY BE REDUCED TO 8' IF NECESSARY.

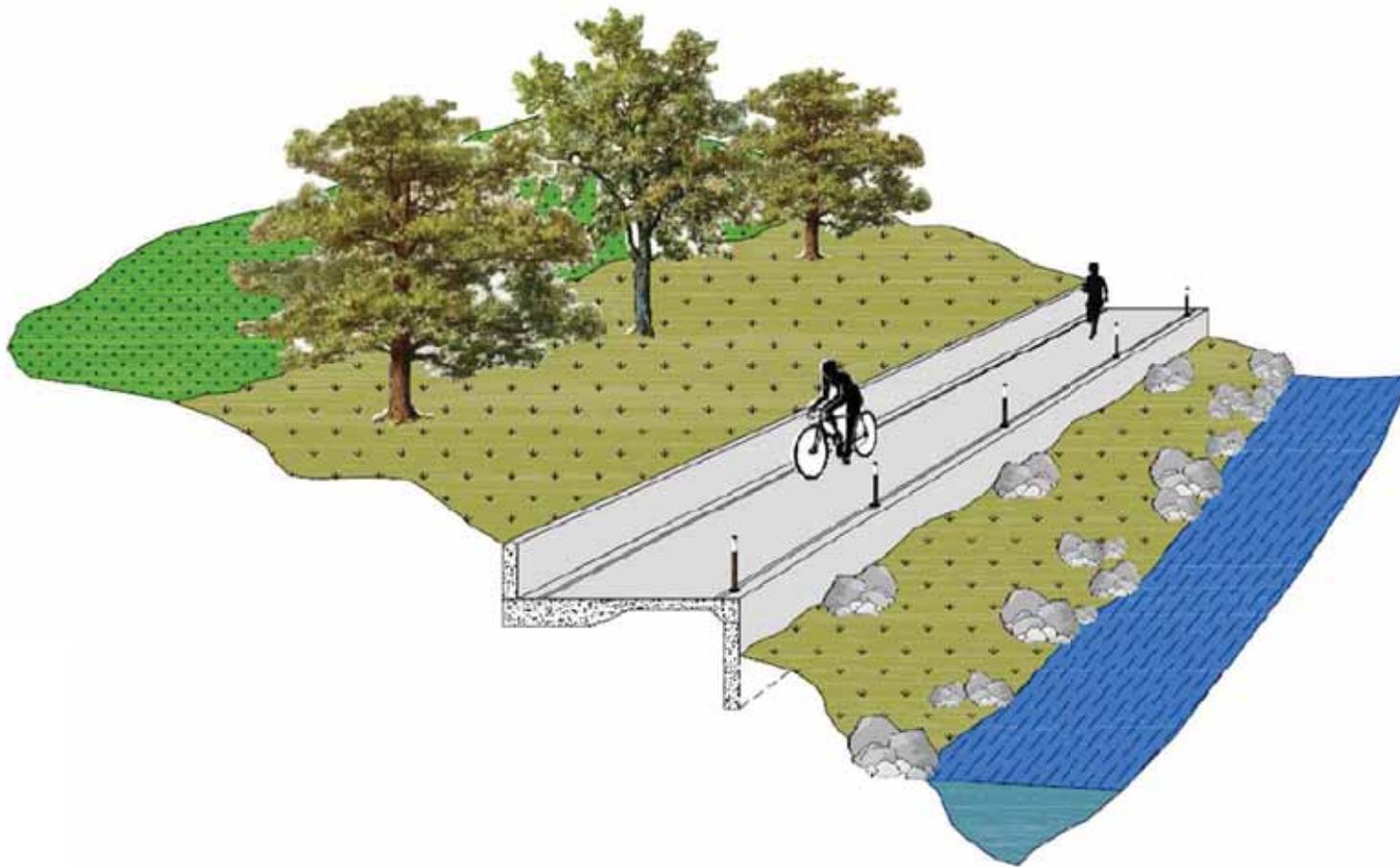
SCREENING IS ANTICIPATED TO BE A COMBINATION OF NEW AND EXISTING VEGETATION AS AGREED TO BY ADJACENT PROPERTY OWNERS AND CITY ARBORIST.

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Diagram 4 of 4

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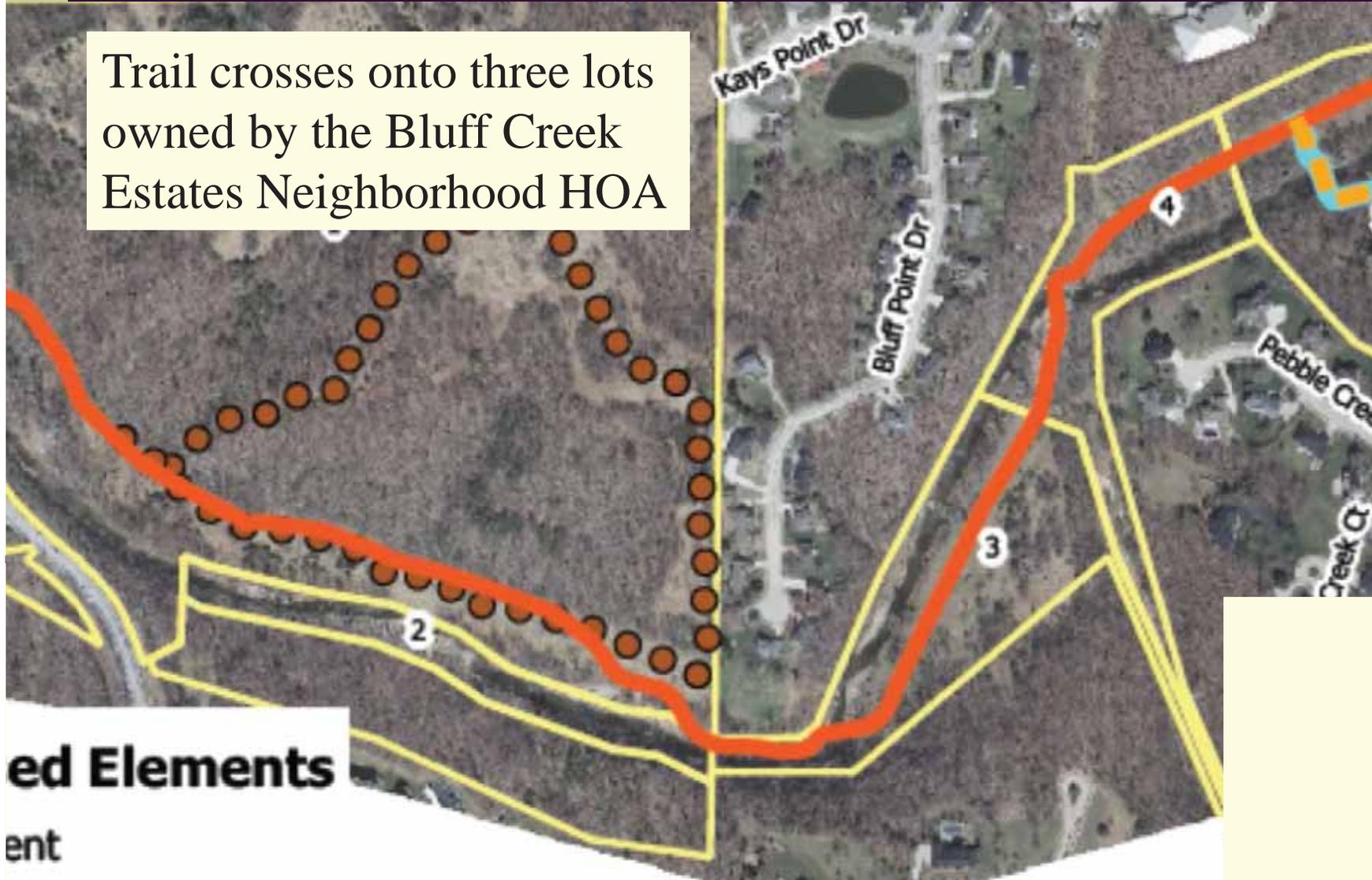
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Diagram 1 of 4

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Trail crosses onto three lots owned by the Bluff Creek Estates Neighborhood HOA

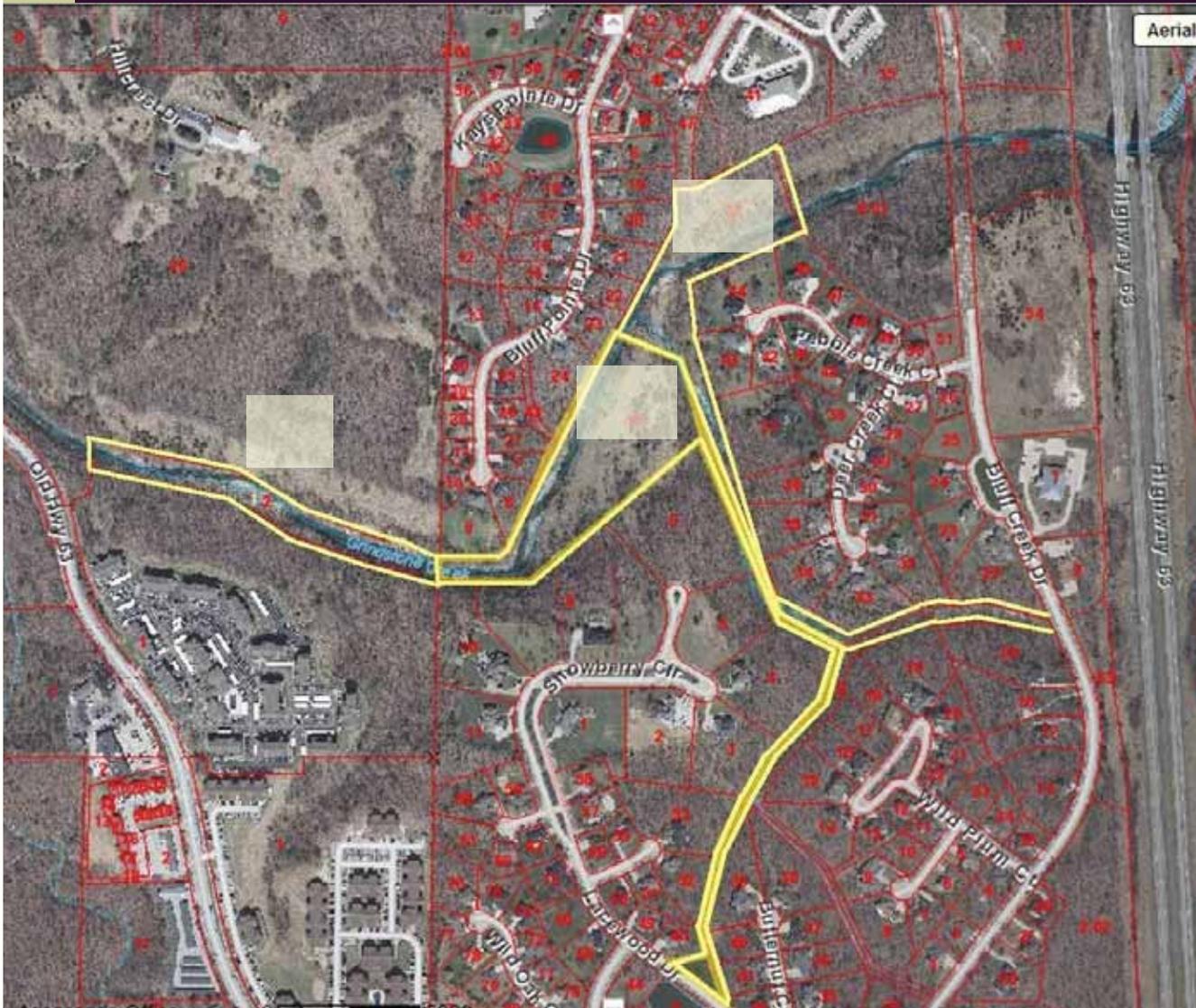


Public Hearing

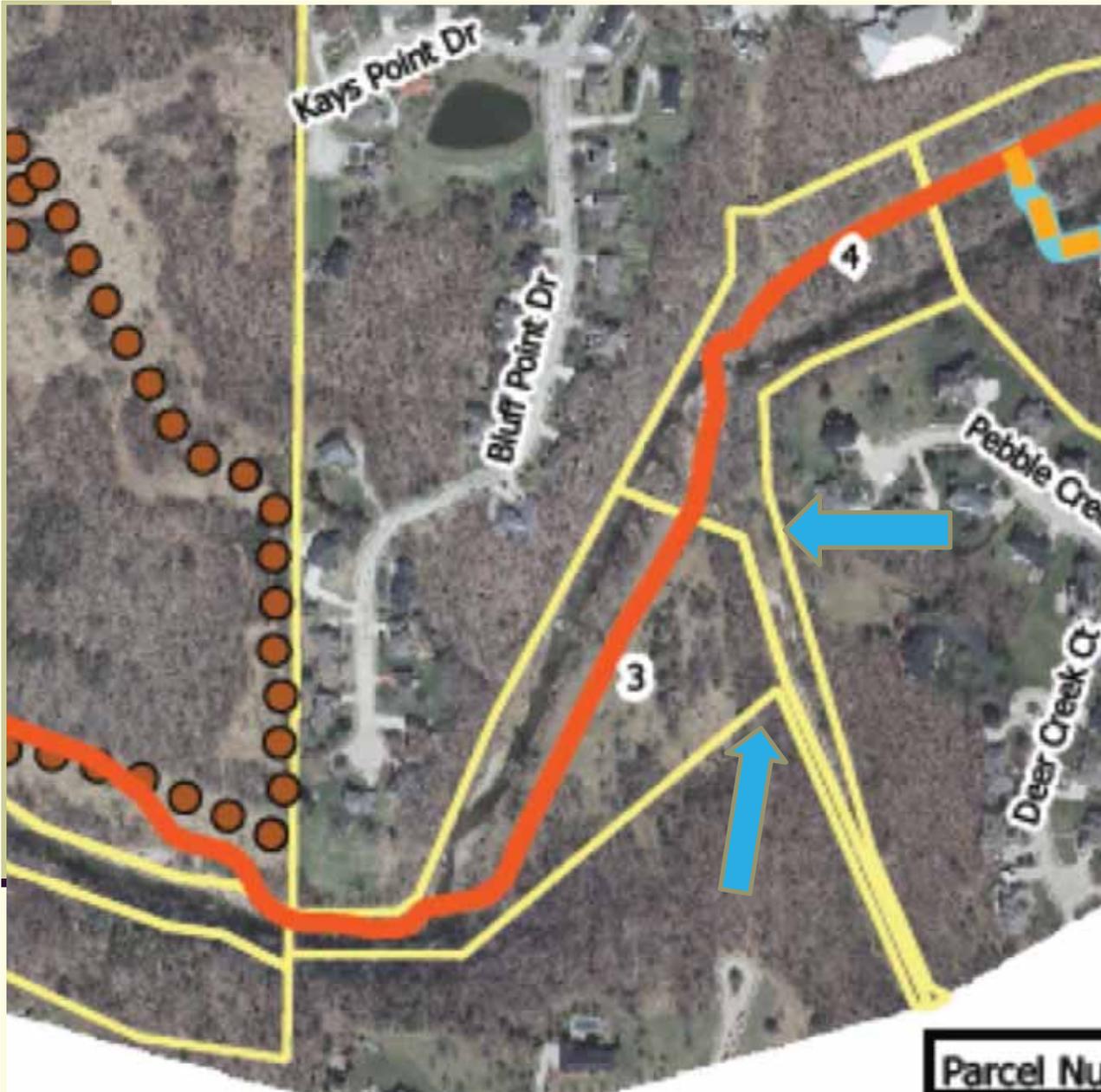
Grindstone Creek Trail Phase I

Diagram 2 of 4

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- Two lots, #3 & #4, provide access to the neighborhood.



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Grindstone Creek Trail

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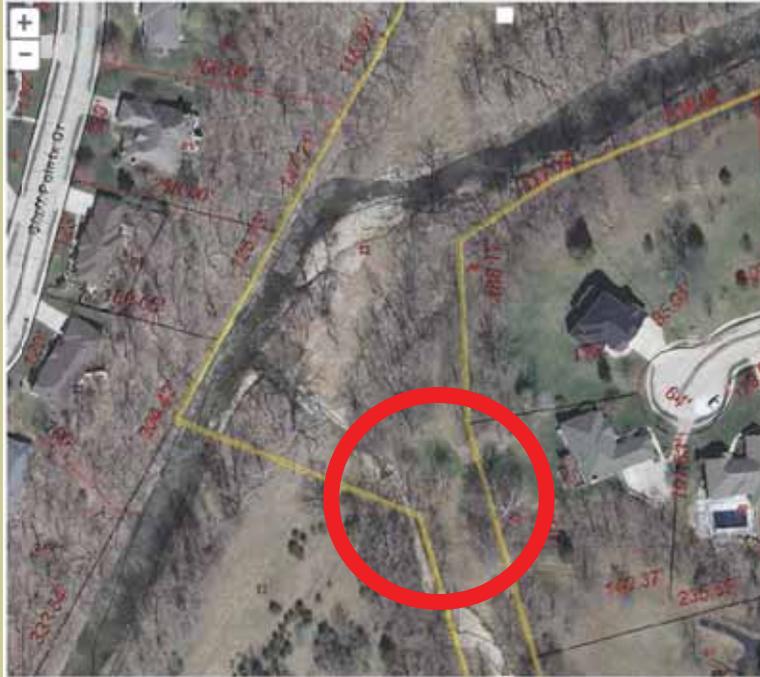
- Bluff Creek Estates tentatively agreed to donate 3 lots or easements for the trail.
- If donate, resurvey lots #3 & #4.
- Landscape & sign.

Public Hearing

Grindstone Creek Trail Phase I

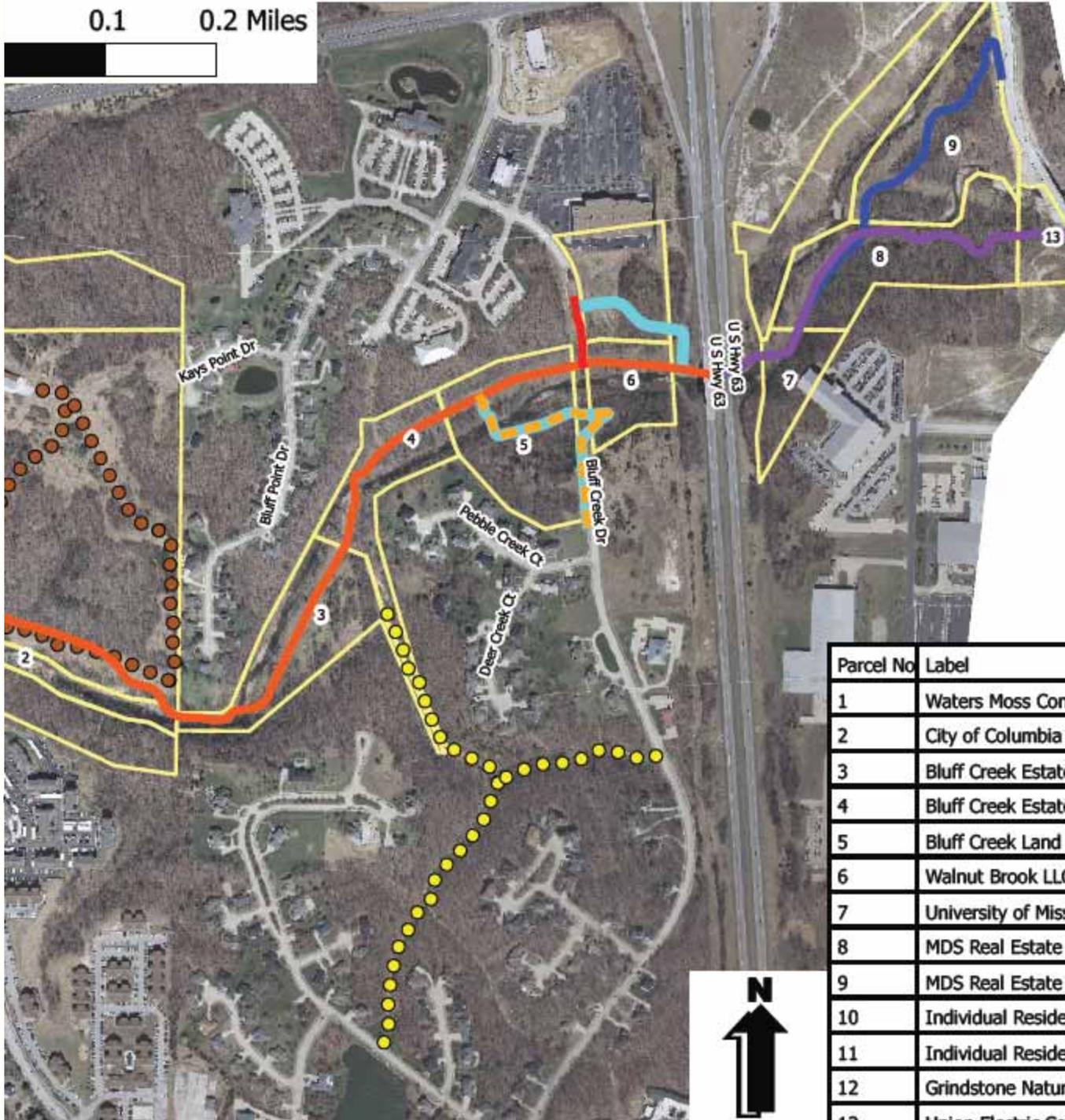
Diagram 4 of 4

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- Resurvey these 2 lots.
- Clearly identify the neighborhood connector as private lots.
- Landscape & sign.

0.1 0.2 Miles



Legend - Proposed Elements

- Orange Working Alignment
- Violet Working Alignment
- Blue Working Alignment
- Bluff Creek Natural Trail Access
- Maintenance Access
- Possible Future ADA Compliant Access
- Bluff Creek Trail System (Private)
- Existing Trails
- Existing Property Boundaries

Parcel No	Label
1	Waters Moss Conservation Area
2	City of Columbia
3	Bluff Creek Estates Common Area
4	Bluff Creek Estates Common Area
5	Bluff Creek Land Holdings
6	Walnut Brook LLC
7	University of Missouri
8	MDS Real Estate Associates
9	MDS Real Estate Associates
10	Individual Residential Lot
11	Individual Residential Lot
12	Grindstone Nature Area
13	Union Electric Company

Neighborhood Connectivity Proposed Grindstone Trail

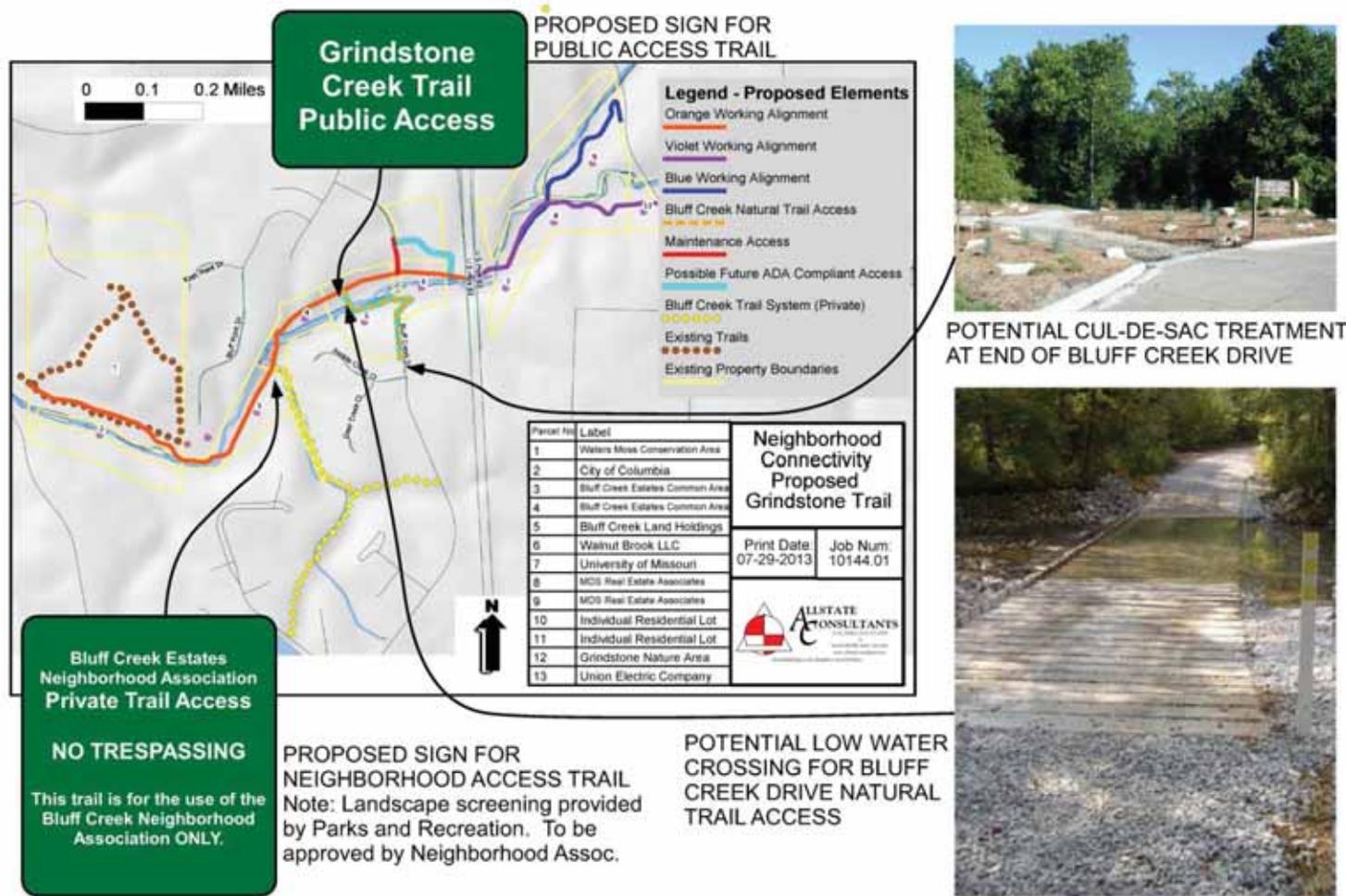
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Bluff Creek Estates HOA Plan

Diagram 1 of 2

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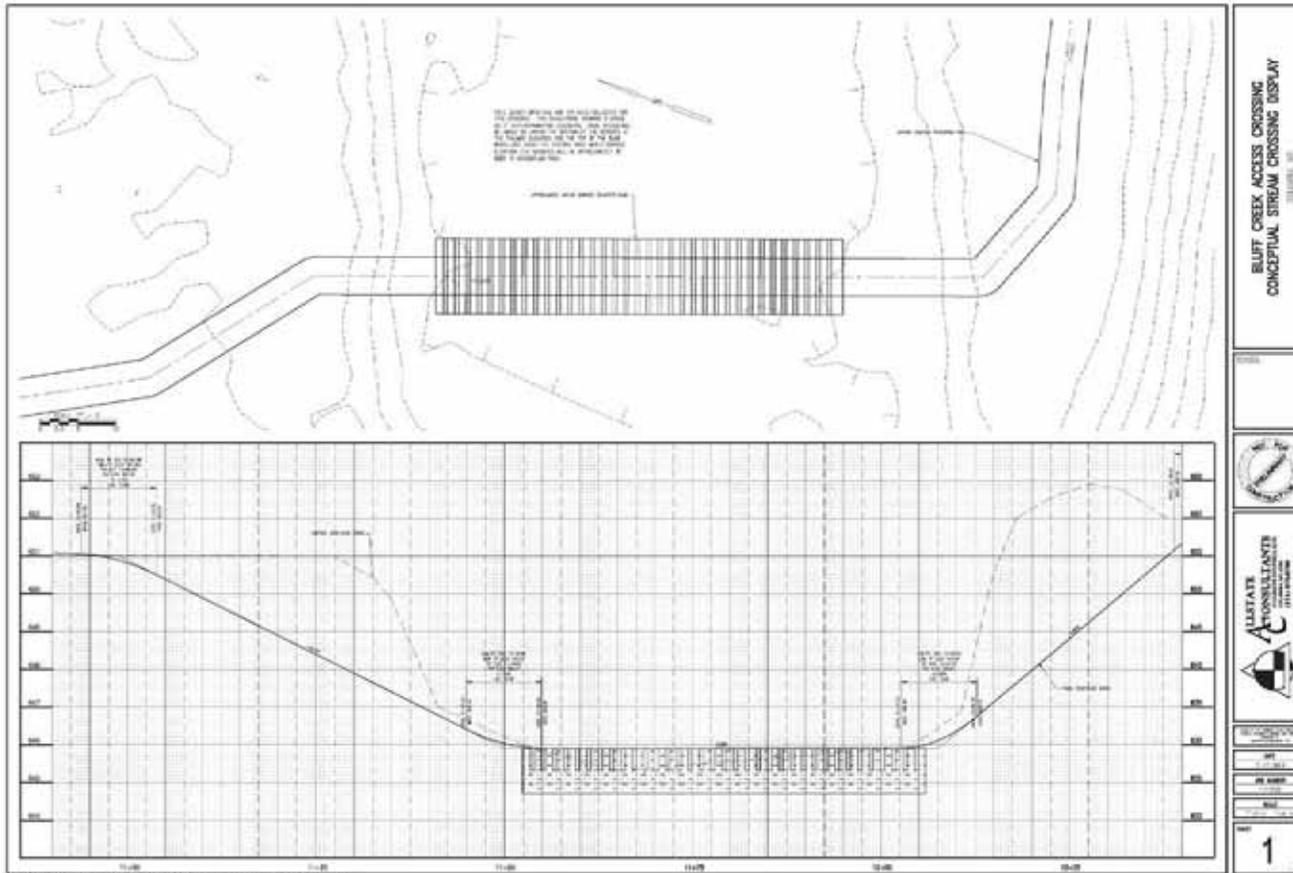


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Diagram 2 of 2

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Bluff Creek Estates connector.

Proposed low profile bridge.

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Environmental Assessment

- Table 9 of the alignment report qualitatively compared impacts of various alternatives in terms of
 - Amount of area disturbed
 - Utilization of existing infrastructure
 - Minimizing the future system footprint
 - Surface water impacts – wetland and stream
 - Vegetative impacts
 - Forested area impacts
 - Erosion impacts
 - Wildlife corridors
 - Greenhouse gas production
 - The human environment
 - Endangered species

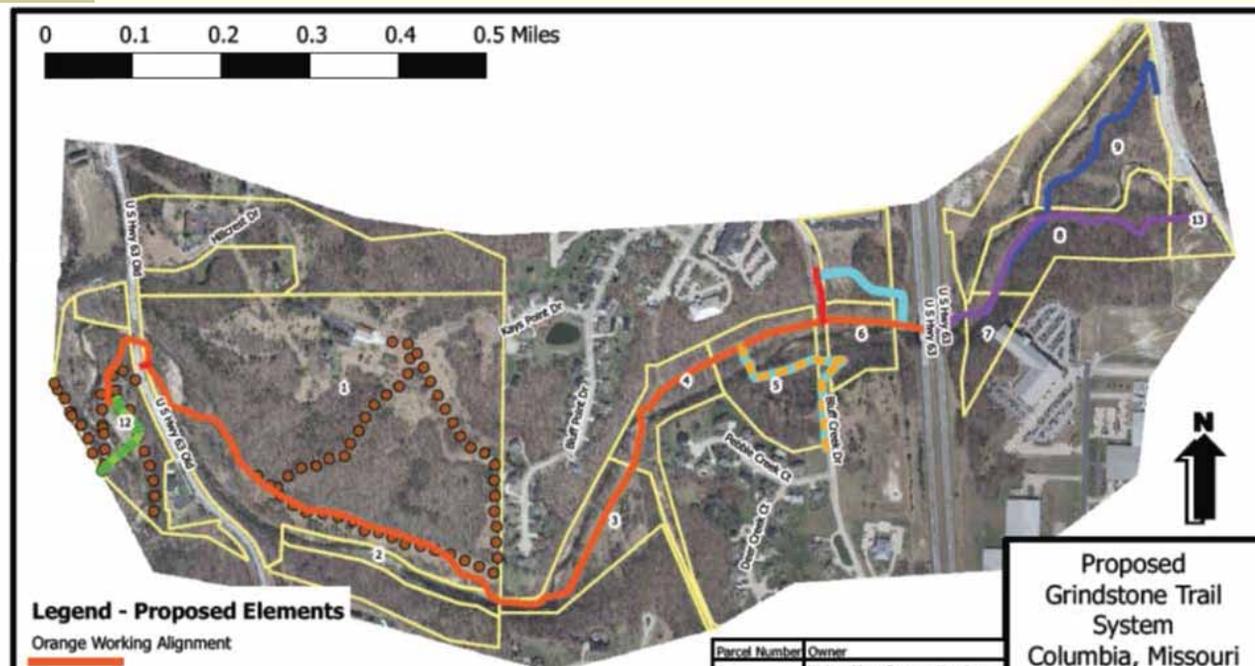
Public Hearing

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- 70% of the proposed orange alignment will be along existing sewer easement or other infrastructure.
- 50% of the proposed violet alignment or 81% of the alternate blue alignment will be along existing sewer easement or other infrastructure



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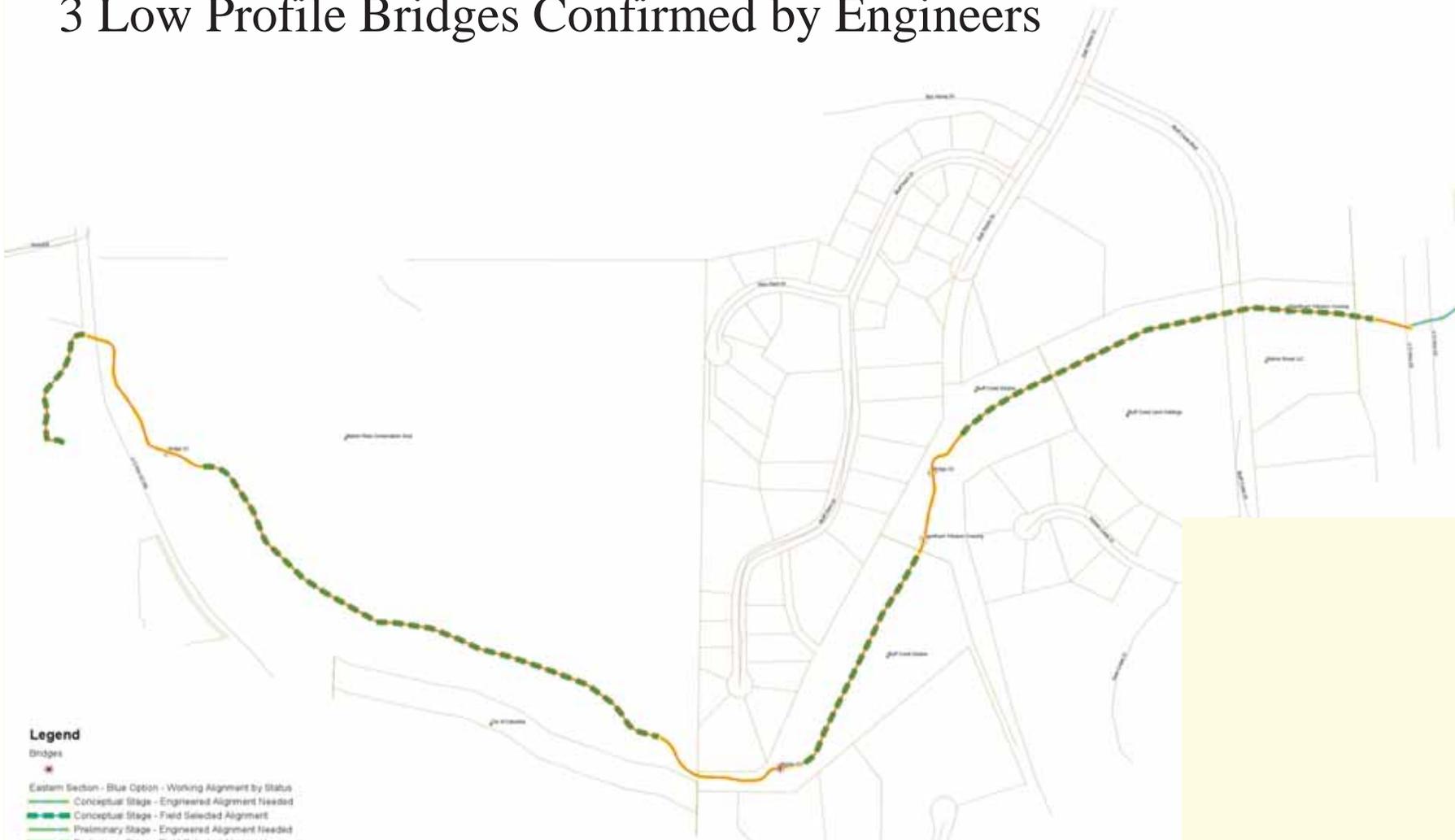
- The alignments that are selected for final design will be required to comply with:
 - The Clean Water Act (sections 404 and 401)
 - Jurisdictional streams and wetlands are required to be identified and impacts to be avoided, minimized & mitigated
 - The Endangered Species Act
 - National Flood Insurance Program
 - Columbia storm water ordinance
 - State and local land disturbance regulations

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3 Low Profile Bridges Confirmed by Engineers



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Grindstone Creek Trail Phase I

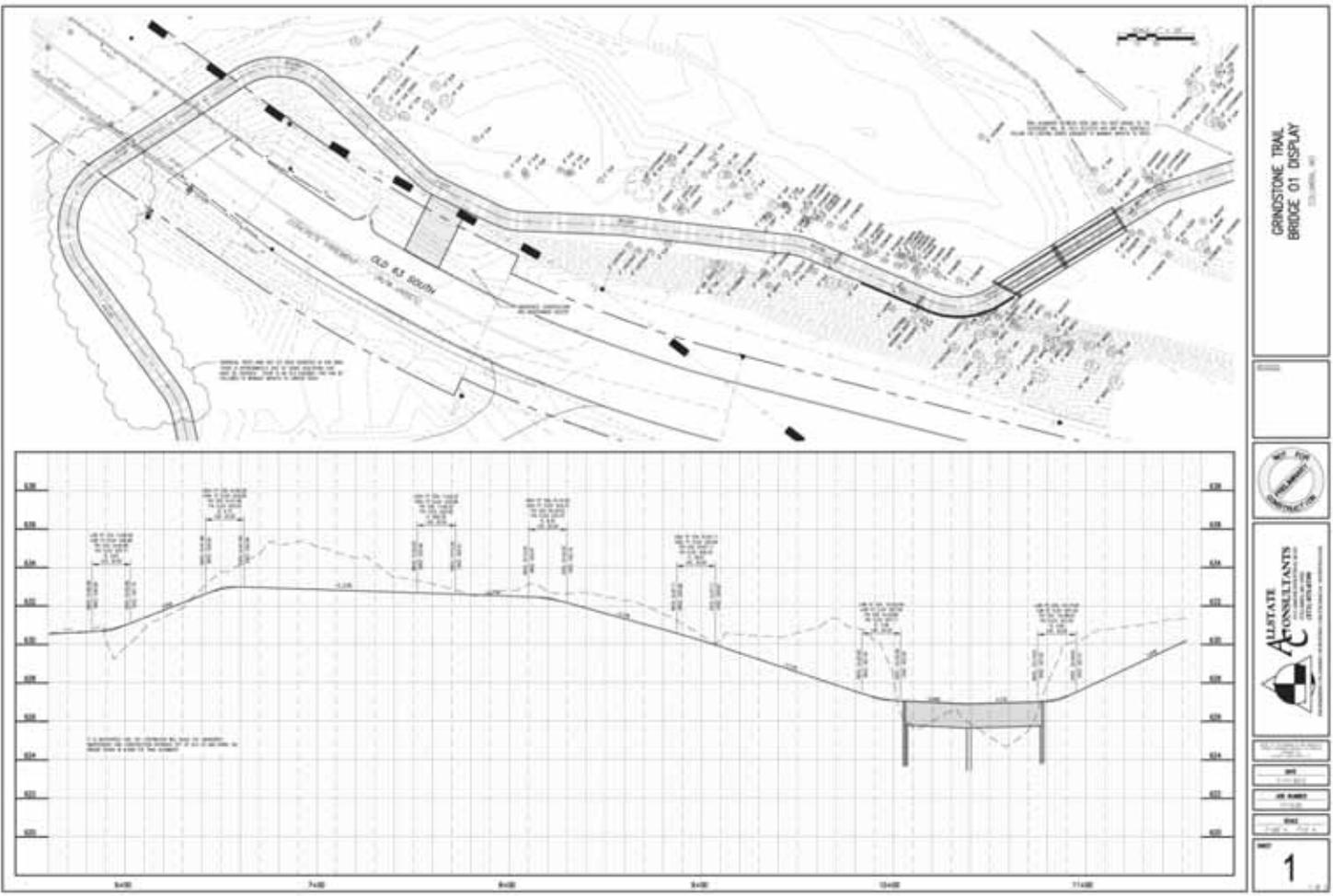
Sample of Proposed Low Profile Bridge

B215-13



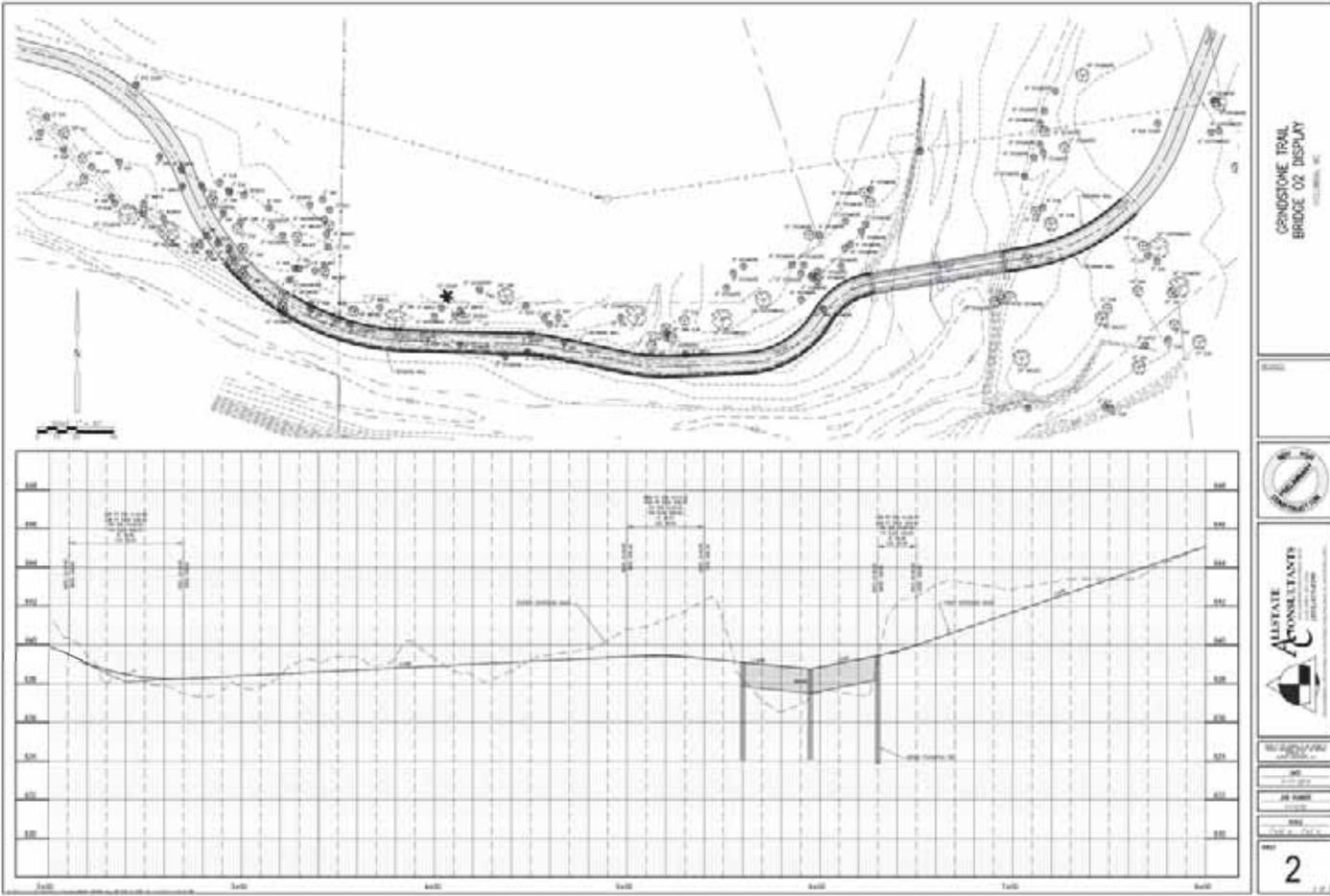
Low profile bridges as used on MDC property.
Proposed bridges will be lower than shown.

Public Hearing Grindstone Creek Trail Phase I Preliminary Low-Profile Bridge Plan -- Bridge #1 B215-13



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Grindstone Creek Trail Phase I
Preliminary Low-Profile Bridge Plan -- Bridge #2

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GRINDSTONE TRAIL
BRIDGE #2 DISPLAY

ALSTATE CONSULTANTS

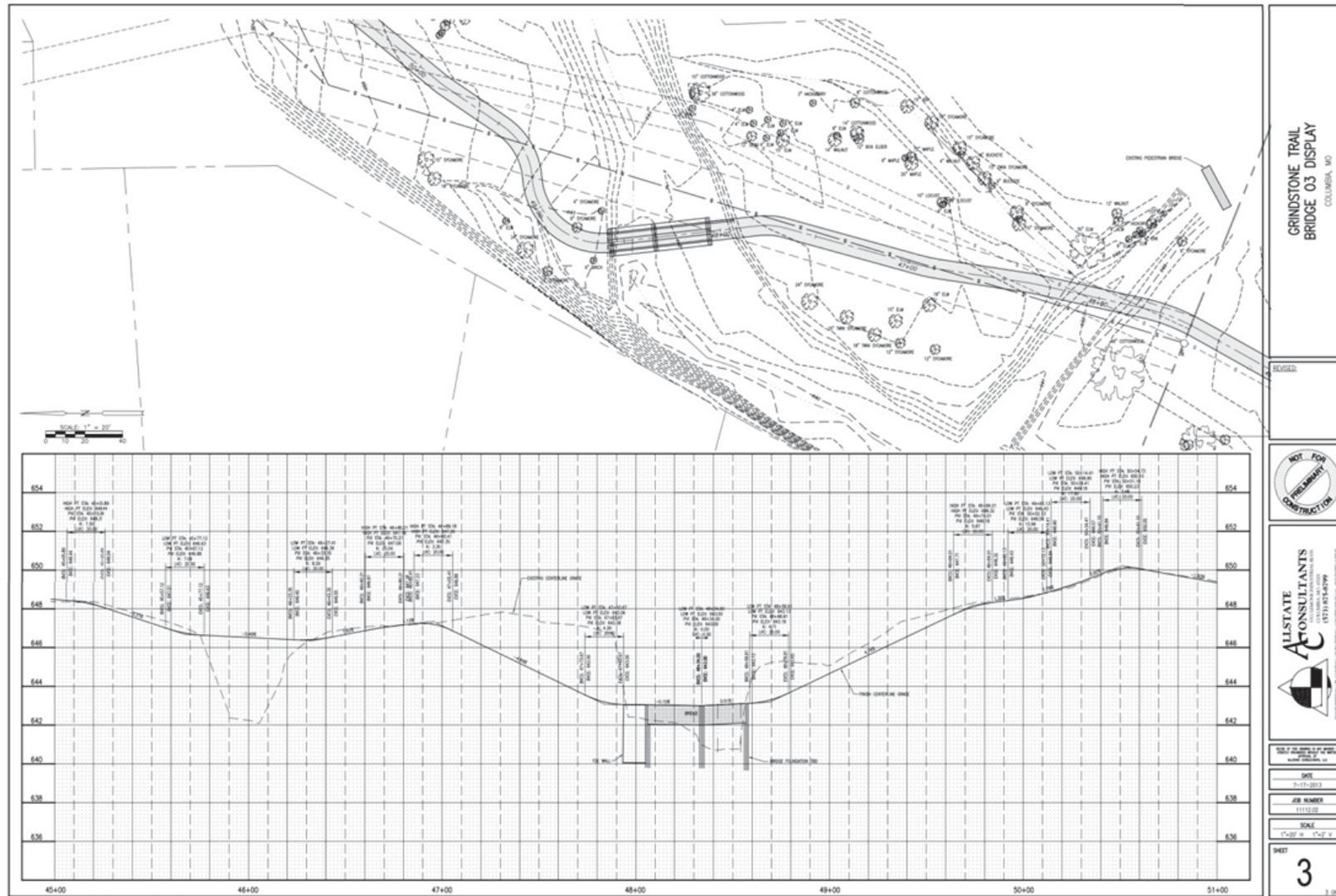
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Preliminary Low-Profile Bridge Plan -- Bridge #3

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Tree Count for Bridge Construction & Installation

Approximate Tree Count - Grindstone Trail Engineered Sections

Species	Within 7' of centerline or otherwise directly impacted			Between 7' and 17' from centerline		
	4"-10"	10"-20"	20"+	4"-10"	10"-20"	20"+
Ash	4	0	0	2	3	0
Birch	1	0	0	0	0	0
Box Elder	4	0	0	3	1	0
Buckeye	0	0	0	1	0	0
Cherry	0	0	0	1	0	0
Chestnut	1	0	0	7	1	0
Cottonwood	1	2	0	1	2	0
Eastern Red Cedar	0	0	0	0	0	0
Elm	3	4	0	7	7	0
Hackberry	0	2	0	4	2	0
Hickory	0	0	0	1	0	0
Hophornbeam	0	0	0	0	0	0
Locust	2	0	0	0	0	0
Maple	5	1	0	2	1	0
Oak	2	6	0	8	1	2
Persimmon	0	0	0	1	0	0
Redbud	3	0	0	2	0	0
Sycamore	17	5	0	32	7	0
Walnut	0	0	0	1	1	0
Willow	1	0	0	0	0	0
Total	44	20	0	73	26	2

Bridge Construction and Installation will require the removal of the following trees:

7-ft of Trail Centerline:

64 trees: 4-20 inches DBH

7-ft to 17-ft from Trail Center:

101 trees (these may or may not have to be removed)

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Tree Count for Violet and Blue Route



Total number of trees that are in a 40-ft buffer from centerline of trail (20-ft each side of trail)

Staff will route trail around larger trees where possible.

Violet Route

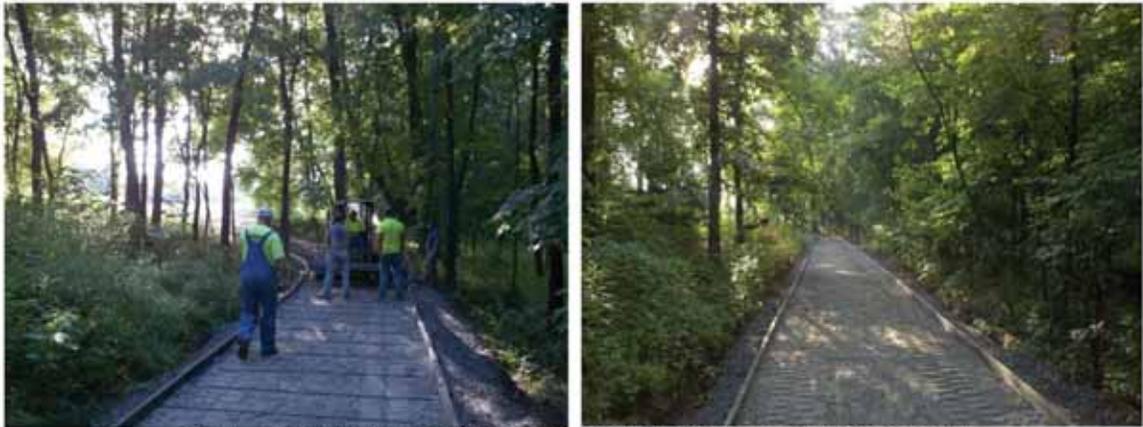
85 trees: 4-30 inches DBH

Blue Route

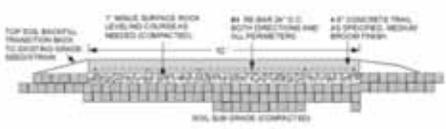
130 trees: 4-30 inches DBH

Note: Most trees in this area will be preserved. This shows max number if 40-ft swath was cleared.

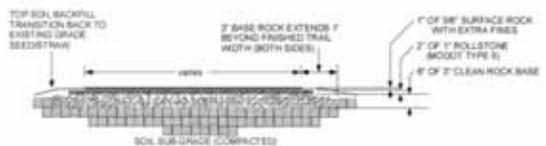
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TRAIL GRADING AND CONSTRUCTION FOR SCOTT'S BRANCH TRAIL



TYPICAL CONCRETE TRAIL DETAIL



TYPICAL GRAVEL TRAIL DETAIL



CONCRETE TRAIL CONSTRUCTION AROUND TREES

Bridge construction and installation will be done by contract labor.

P&R staff will work with consultants on exact route to avoid desired trees.

Work will be done by existing contractors under P&R direction.

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Interested Parties Meeting: August 30, 2012

- Meeting held at Waters-Moss: 63 responses
- Online Survey: 8/31- 9/17: 20 responses
- Approve of Grindstone Trail: 55
 - Orange alignment preferred
 - Other alignments due to eminent domain
- Oppose Grindstone Trail: 28
 - Due to eminent domain
 - Generally opposed to trail
 - Opposed to trail citing abundance of trails or too expensive

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City Commissions Input

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Commissions were asked to consider deferring funding from Grindstone Trail to other GetAbout trail projects.

- Bike and Ped Commission: No
- Disability Commission: No Action
- Energy & Environment: No
- Parks and Recreation: No

Commissions that voted “no” supported funding the Grindstone Creek Trail as proposed.

Parks & Recreation Commission voted to support Orange and either the Blue or Violet routes.

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After bridge designs were completed, a second Interested Party Meeting was held on July 17, 2013. 87 Total Responses.

Meeting held at ARC: 73 responses

Online Survey: 7/17-7/24: 14 responses

- Approve of Grindstone Trail: 73 approve Grindstone Trail Support Alt Orange and either Blue or Violet Route.
- Oppose Grindstone Trail: 11
 - Trail not needed, too many trails
 - Too expensive
 - Environment damage
- 3 comments on GetAbout Trails

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Item	Low Range	High Range	Budget:
Acquisition: Easements	\$66,000	\$66,000	\$1,570,000
10-ft Concrete Trail	\$285,000	\$285,000	If needed, \$320k available in Hominy Creek Trail project.
Grading/Culverts	\$70,000	\$70,000	
Bridges - Four (4)	\$500,000	\$720,000	Annual maint estimate: \$5,215
Retaining Walls	\$40,000	\$80,000	
ADA Connector: Bluff Creek Blvd	\$0	\$20,000	
Natural Trail Connector: Bluff Creek Dr	\$0	\$20,000	
Landscape/Native Flower Restoration	\$8,000	\$8,000	
Tree Plantings	\$10,000	\$10,000	
Misc (Signs, Silt Fence, BMP's...)	\$22,500	\$22,500	
Engineering & Permits	\$250,000	\$250,000	
Contingency	\$125,000	\$153,500	
TOTAL	\$1,376,500	\$1,705,000	

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- Concludes Presentation
- Staff is available for questions.