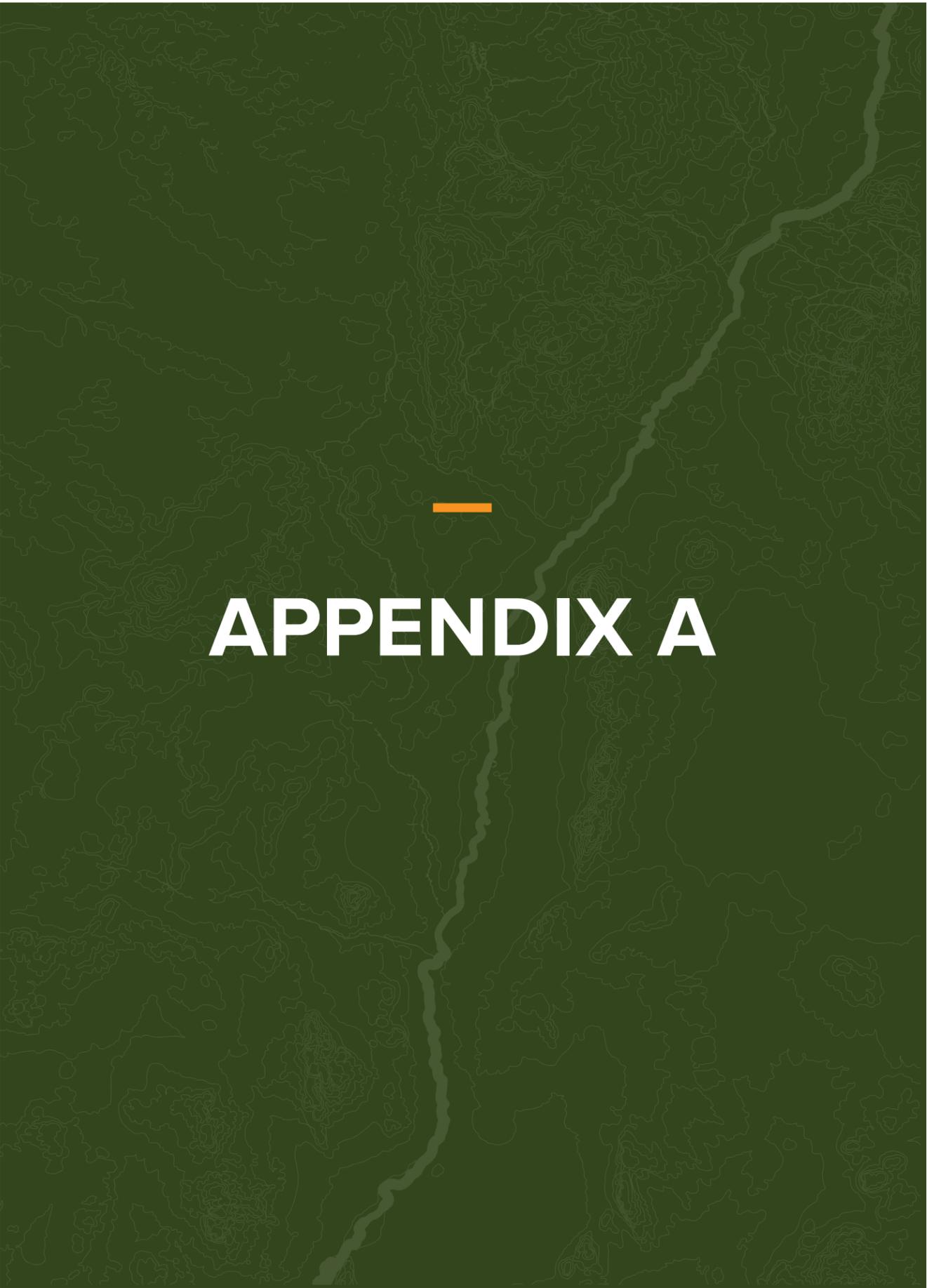




NEW MEXICO

Rio Grande Trail

Master Plan Appendix

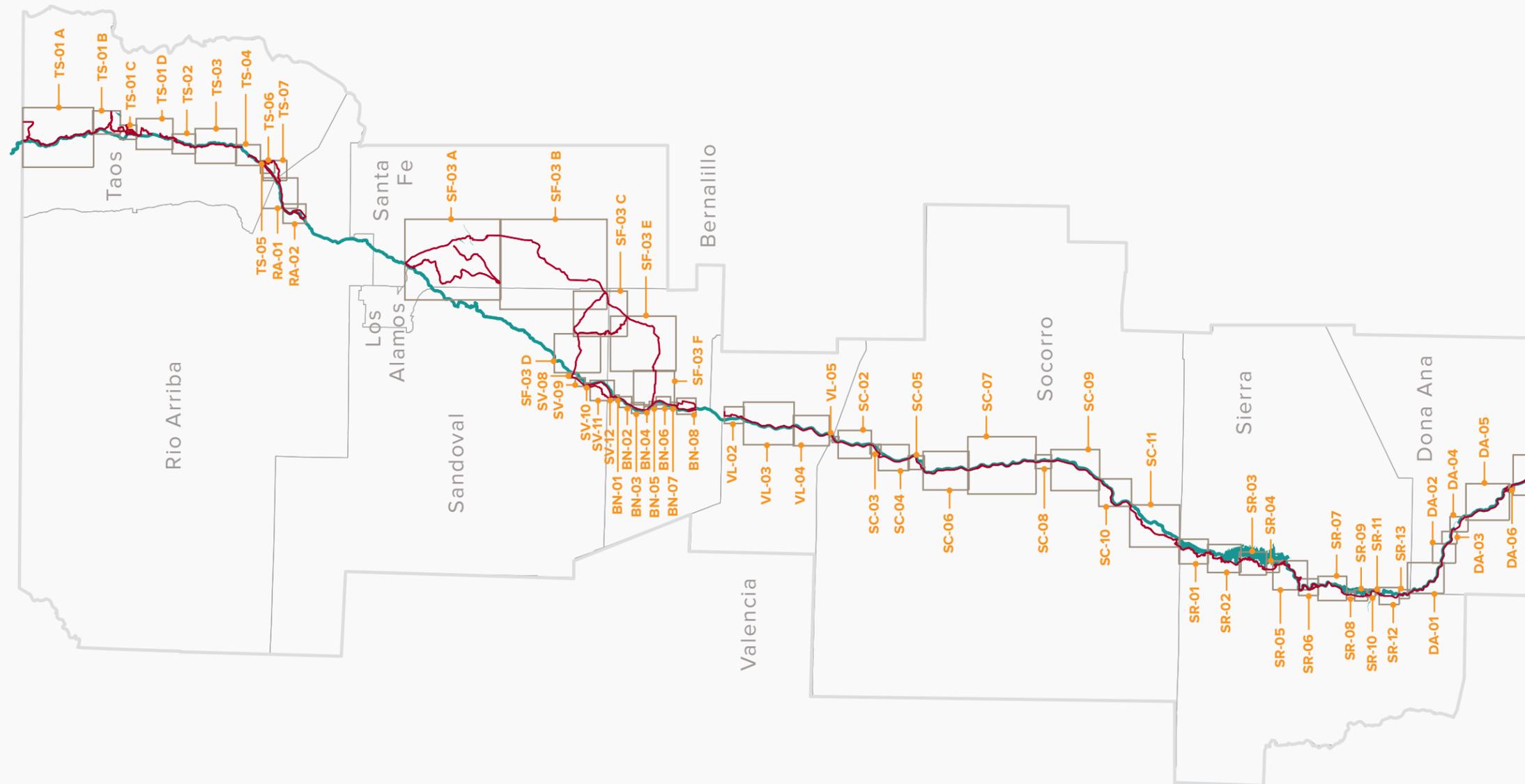


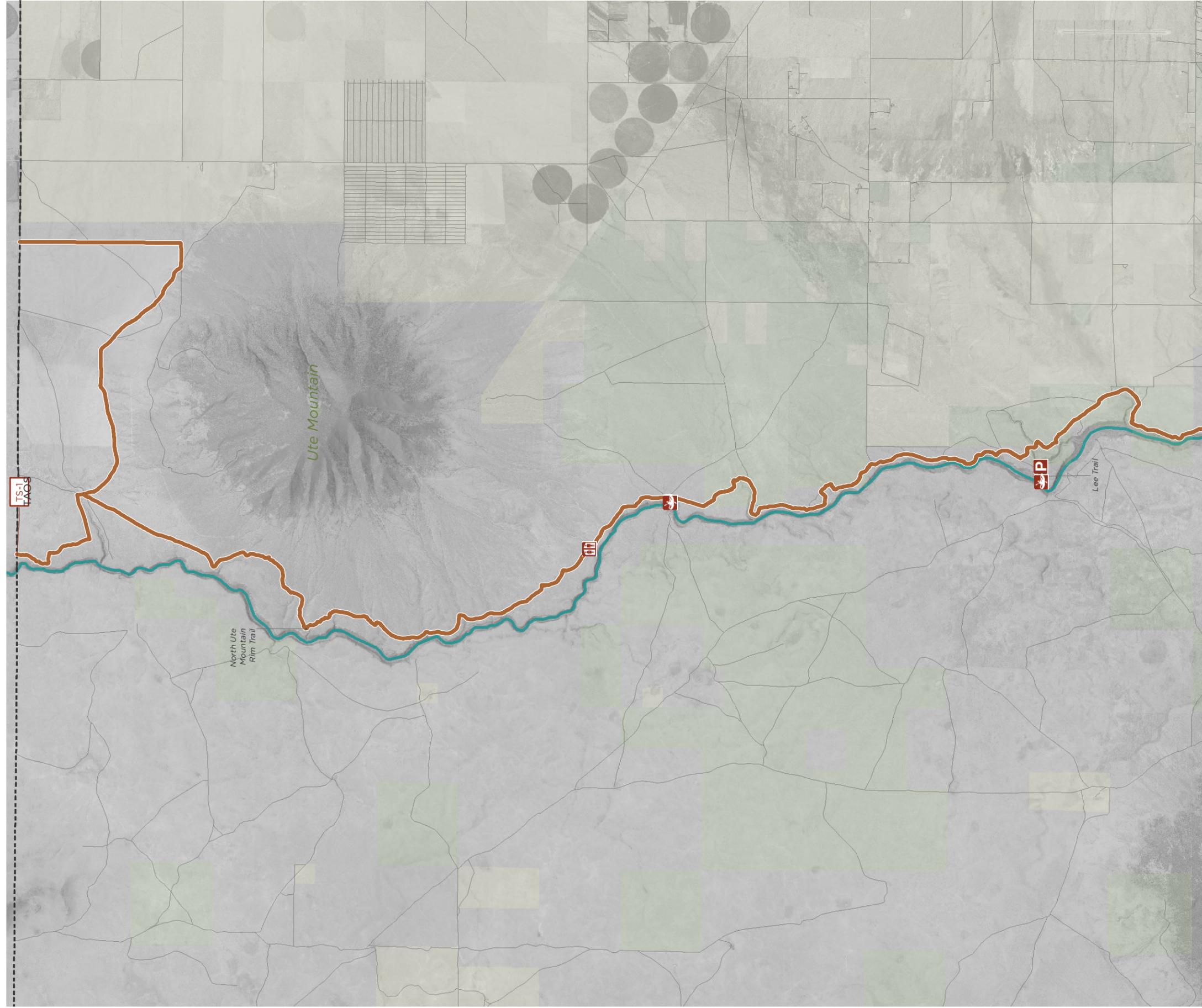
APPENDIX A



Rio Grande Trail Map Segment Key

The Map Segment Key provides a reference point for all individual segments of the proposed Rio Grande Trail alignment. Segment IDs are shown in yellow on this key. Segment IDs include two letters that indicate County (such as TS = Taos County) and a number that is sequential from North to South within each County (such as 01 is the northernmost segment within each County). In some cases, an additional letter is added at the end of the ID, where a segment was further divided for map legibility (such as TS-01A and TS-01B). All segment maps in this map book are ordered from North (Colorado border) to South (Texas border). Rio Grande Trail segment endpoints were determined by factors including geography, natural and political boundaries, and trail typology. Because of this, segment lengths and the scale of each segment map vary.





SEGMENT TS-01 A

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: TAOS

BEGINS: COLORADO/TAOS COUNTY LINE

ENDS: MONTOSO ROAD/JOHN DUNN BRIDGE

TRAIL LENGTH (MILES): 71.7

LENGTH (RIVER MILES): 37

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

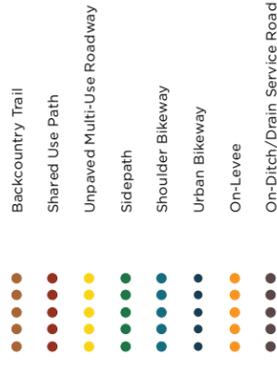
DESIGNATED



EXISTING



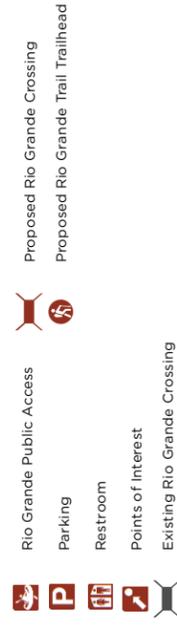
PROPOSED



BOUNDARIES + TRANSPORTATION



AMENITIES (EXISTING + PROPOSED)



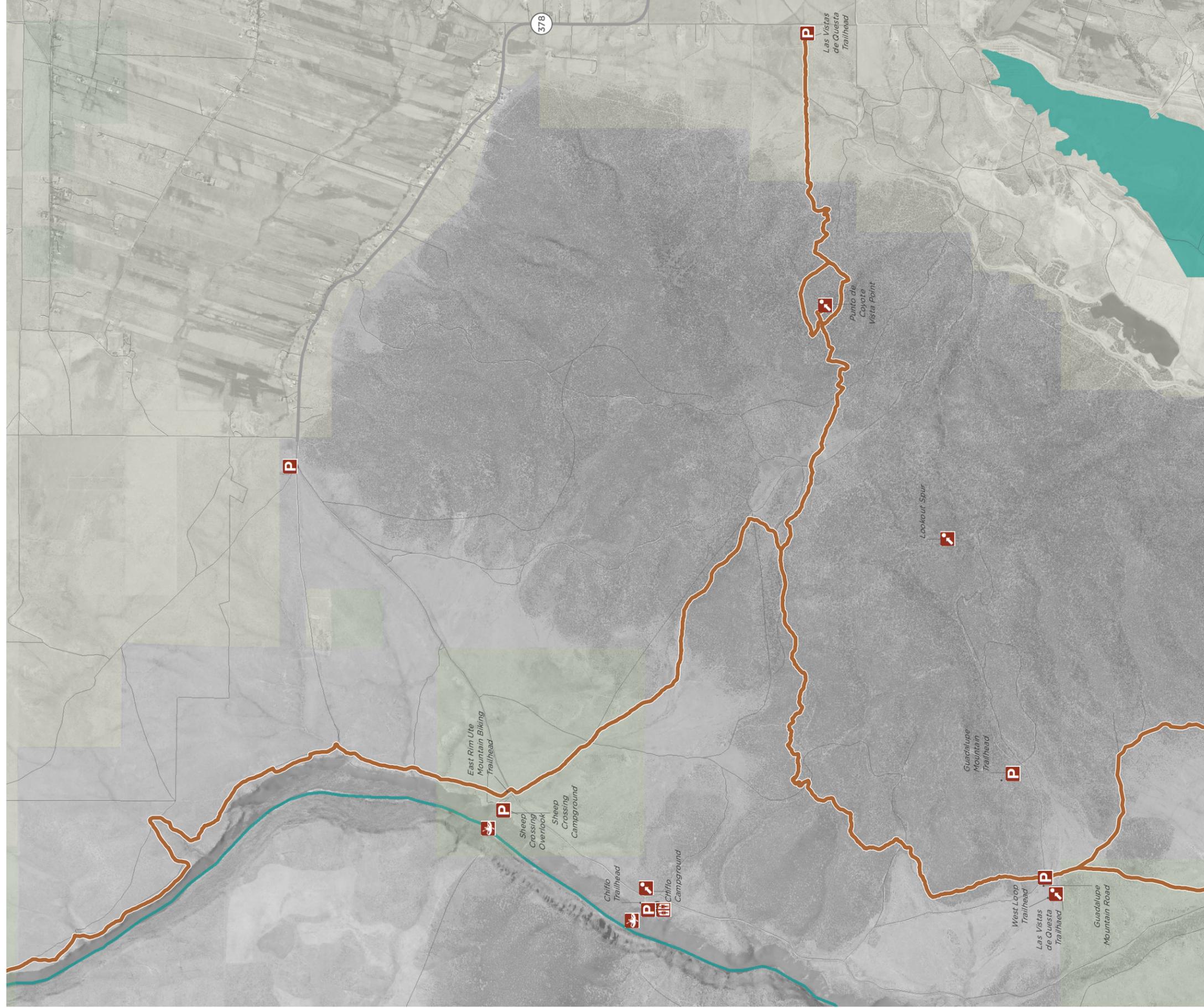
0 2,500 5,000 FEET

Map produced October 2018

SHEET NO

1

1 OF 77



SEGMENT TS-01 B

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: TAOS

BEGINS: COLORADO/TAOS COUNTY LINE

ENDS: MONTOSO ROAD/JOHN DUNN BRIDGE

TRAIL LENGTH (MILES): 71.7

LENGTH (RIVER MILES): 37

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

BOUNDARIES + TRANSPORTATION

- | | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

AMENITIES (EXISTING + PROPOSED)

- | | |
|--|--|
| | |
| | |
| | |
| | |

NEW MEXICO
Rio Grande Trail
MASTER PLAN

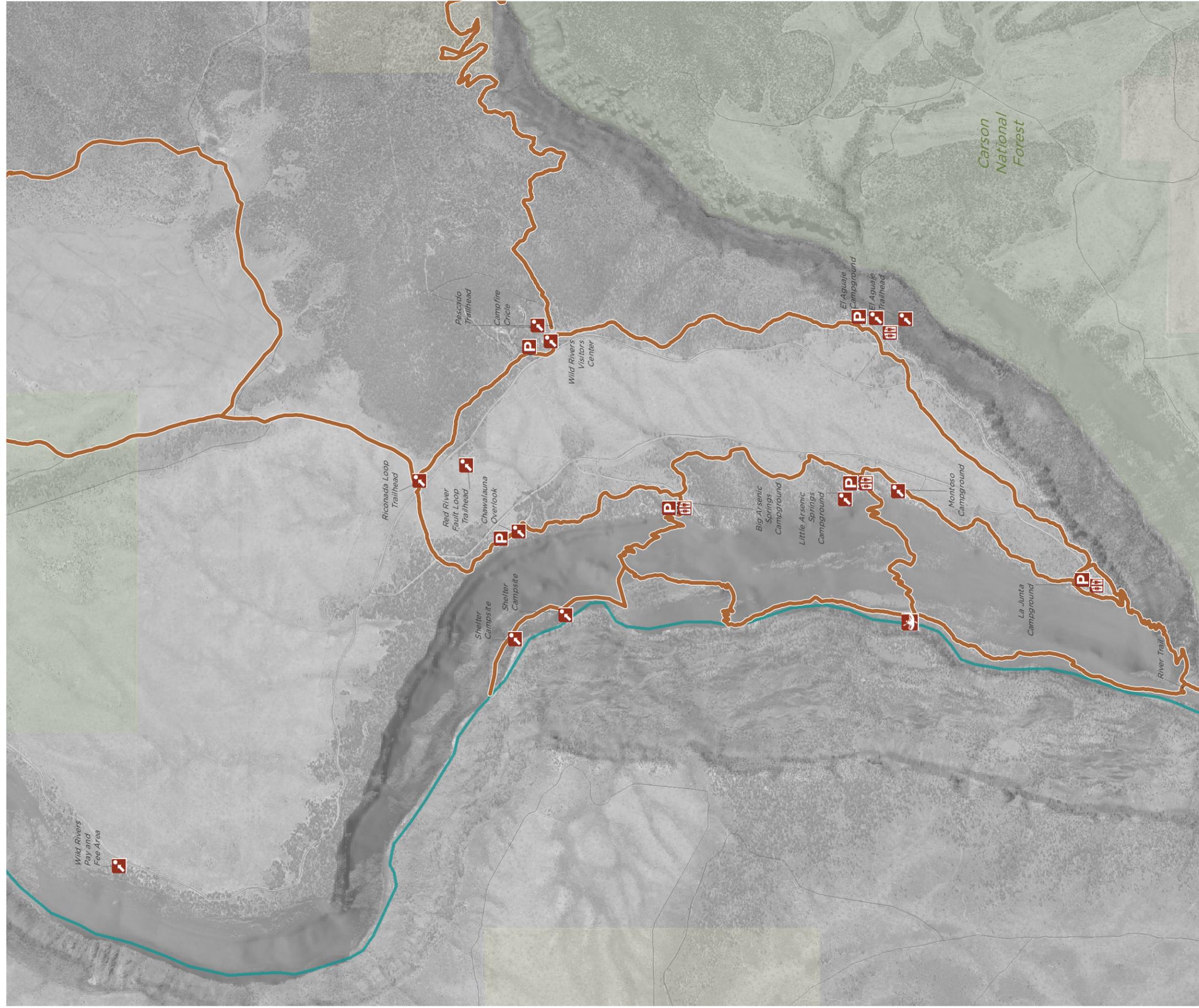


Map produced October 2018

SHEET NO

2

2 OF 77



SEGMENT TS-01 C

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: TAOS

BEGINS: COLORADO/TAOS COUNTY LINE

ENDS: MONTOSO ROAD/JOHN DUNN BRIDGE

TRAIL LENGTH (MILES): 71.7

LENGTH (RIVER MILES): 37

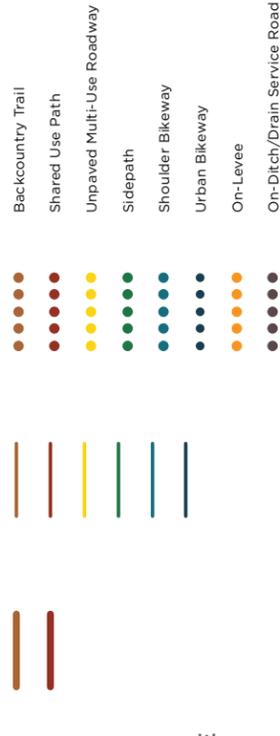
NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED



BOUNDARIES + TRANSPORTATION



AMENITIES (EXISTING + PROPOSED)

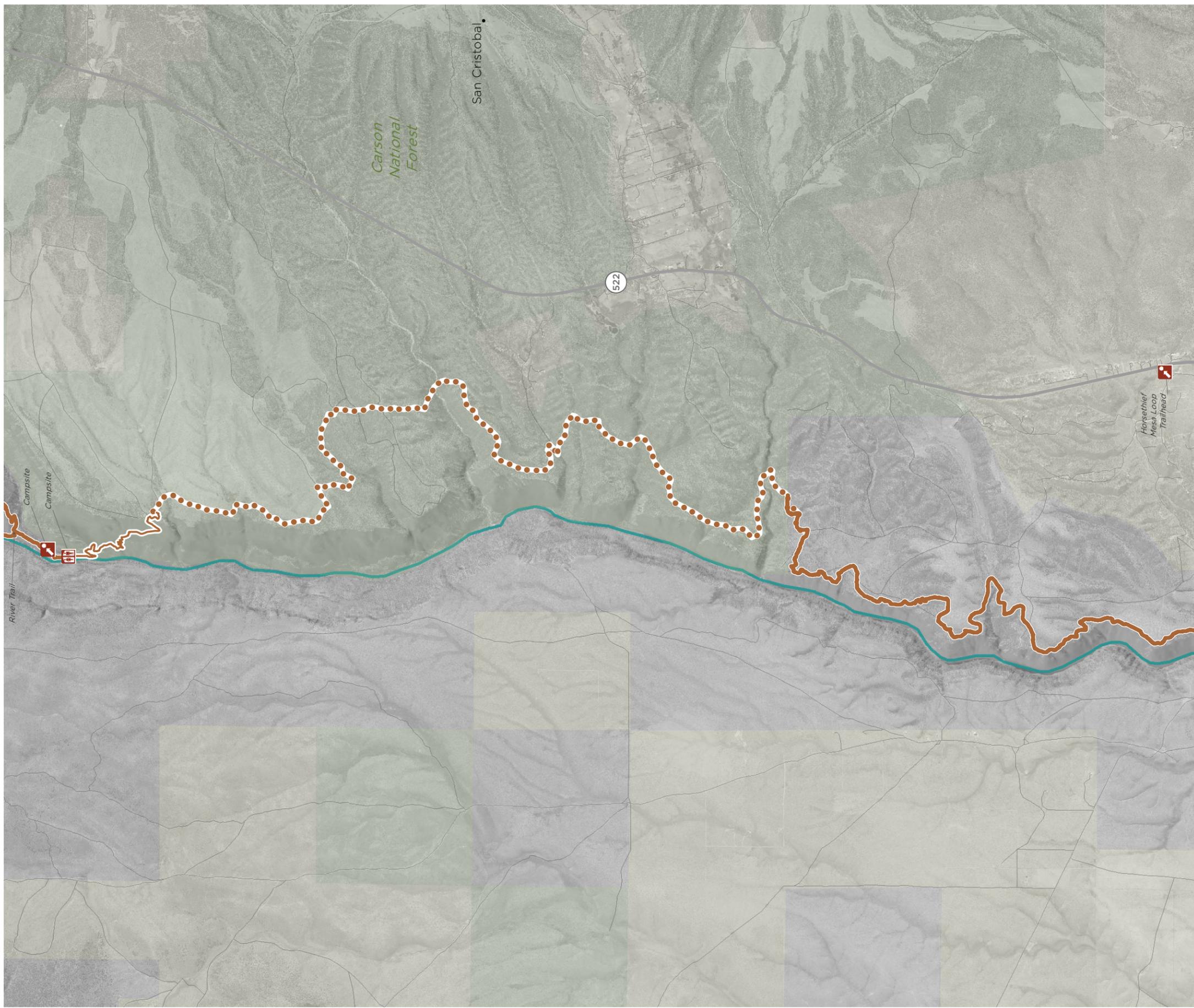


Map produced October 2018

SHEET NO

3

3 OF 77



SEGMENT TS-01 D

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: TAOS
 BEGINS: COLORADO/TAOS COUNTY LINE
 ENDS: MONTOSO ROAD/JOHN DUNN BRIDGE
 TRAIL LENGTH (MILES): 71.7
 LENGTH (RIVER MILES): 37

NEW MEXICO
Rio Grande Trail
 MASTER PLAN

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

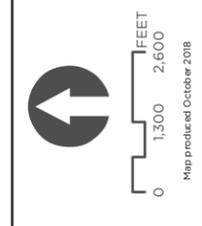
- | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

AMENITIES (EXISTING + PROPOSED)

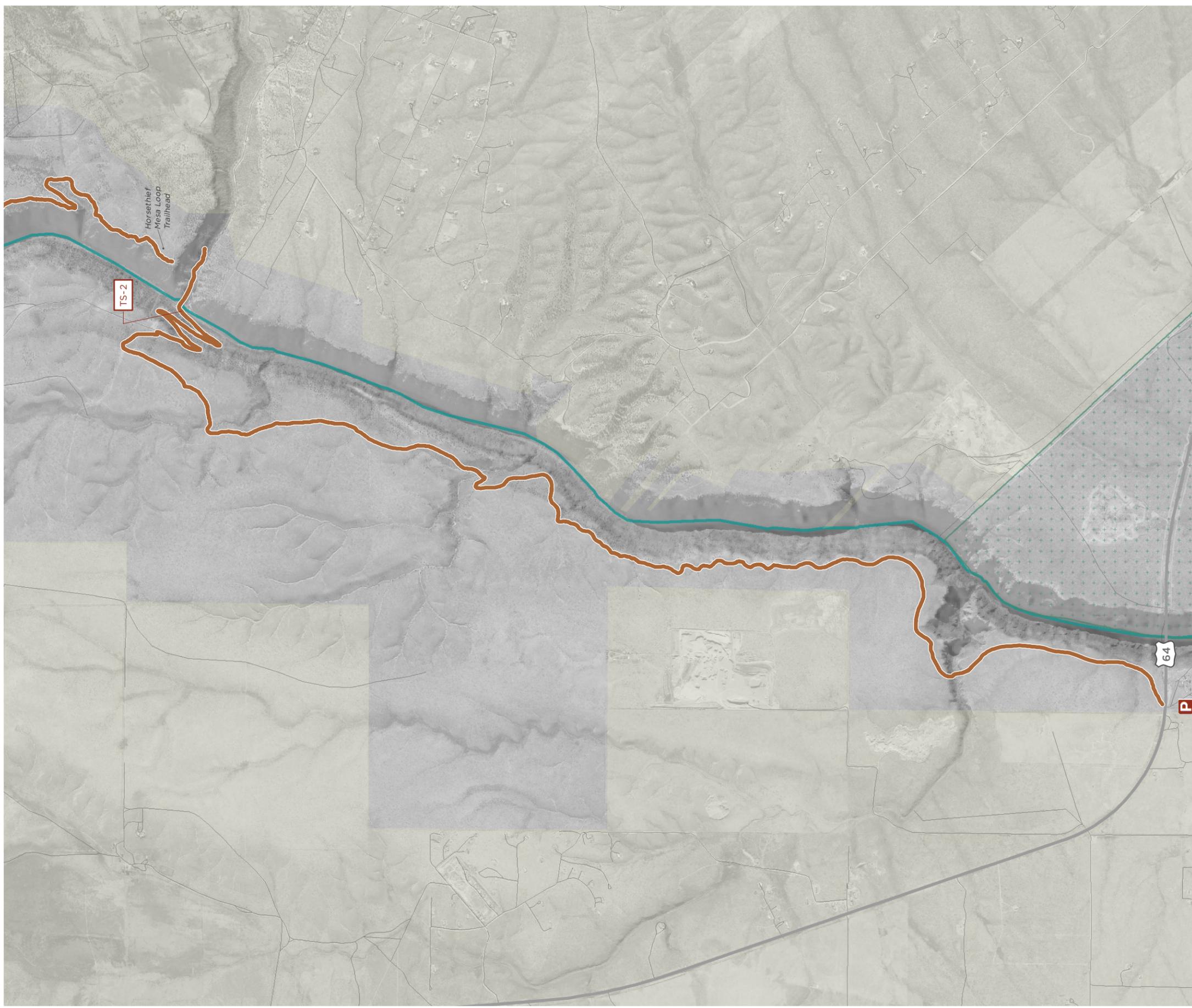
- | | | | | | | |
|--------------------------|---------|----------|--------------------|------------------------------|------------------------------|-------------------------------------|
| | | | | | | |
| Rio Grande Public Access | Parking | Restroom | Points of Interest | Existing Rio Grande Crossing | Proposed Rio Grande Crossing | Proposed Rio Grande Trail Trailhead |

BOUNDARIES + TRANSPORTATION

- | | | | | | | | | | |
|---------------------------------|----------------------|---|----------------------|-----------------|----------------|---------------------|-------------|-------------|----------|
| | | | | | | | | | |
| Rio Grande + Major Water Bodies | Native American Land | National and State Parks, Forests and Monuments | Privately Owned Land | County Boundary | State Boundary | Interstate Highways | State Roads | Local Roads | Railroad |



SHEET NO
4
 4 OF 77



SEGMENT TS-02

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: TAOS

BEGINS: MONTOSO ROAD/JOHN DUNN BRIDGE

ENDS: US 64/RIO GRANDE GORGE ("HIGH") BRIDGE

TRAIL LENGTH (MILES): 6.9

LENGTH (RIVER MILES): 4.4

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
- Backcountry Trail
 - Shared Use Path
 - Unpaved Multi-Use Roadway
 - Sidepath
 - Shoulder Bikeway
 - Urban Bikeway
 - On-Levee
 - On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

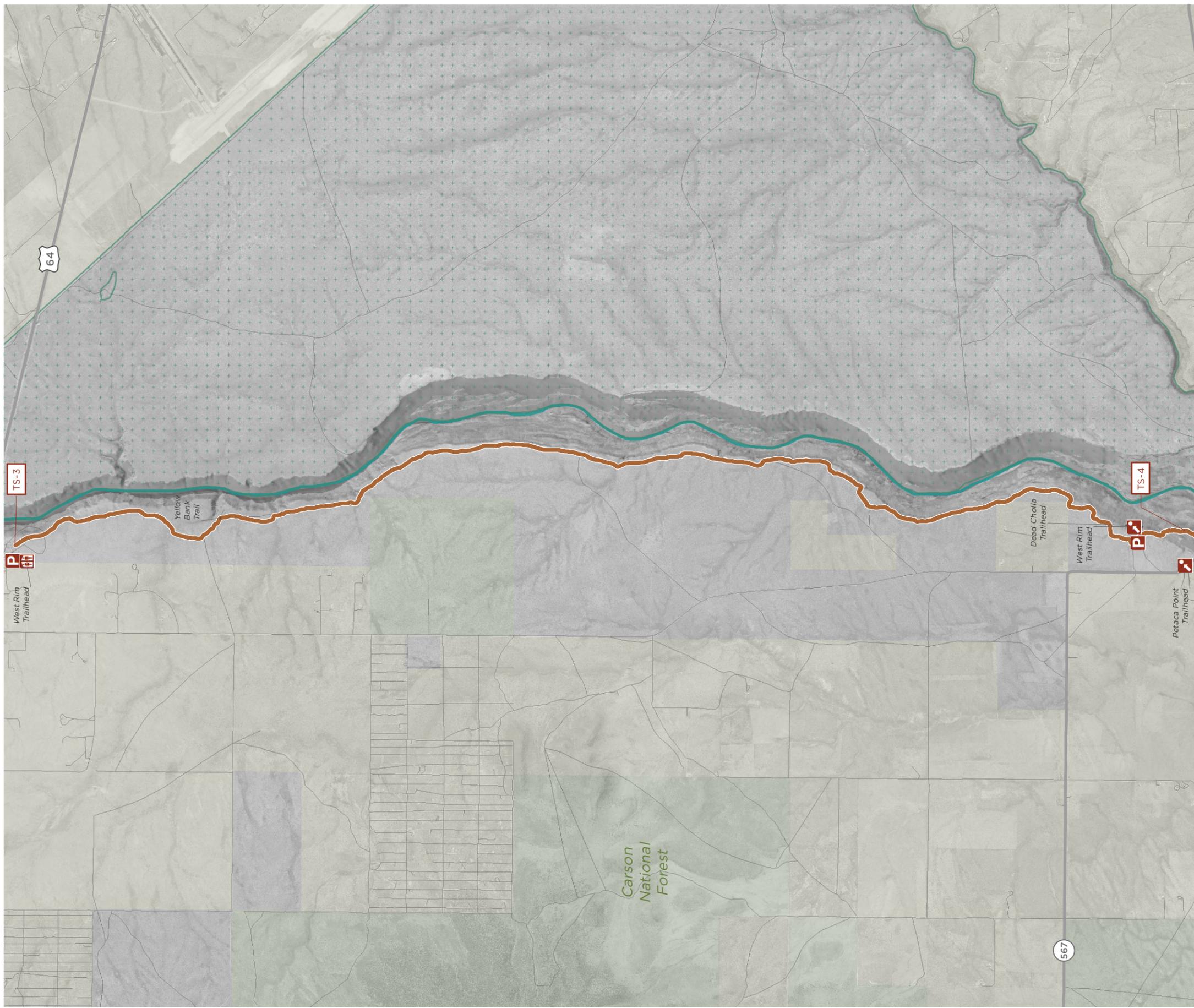
- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead



Map produced October 2018



SEGMENT TS-03

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: TAOS

BEGINS: US 64/RIO GRANDE GORGE BRIDGE

ENDS: NM 567

TRAIL LENGTH (MILES): 9.7

LENGTH (RIVER MILES): 10.6

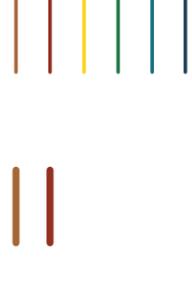
NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

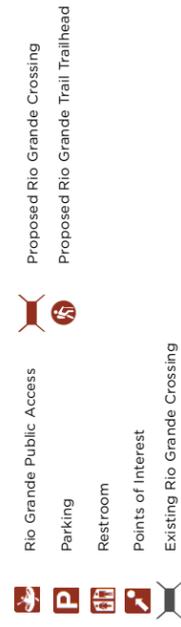
DESIGNATED EXISTING PROPOSED



BOUNDARIES + TRANSPORTATION



AMENITIES (EXISTING + PROPOSED)

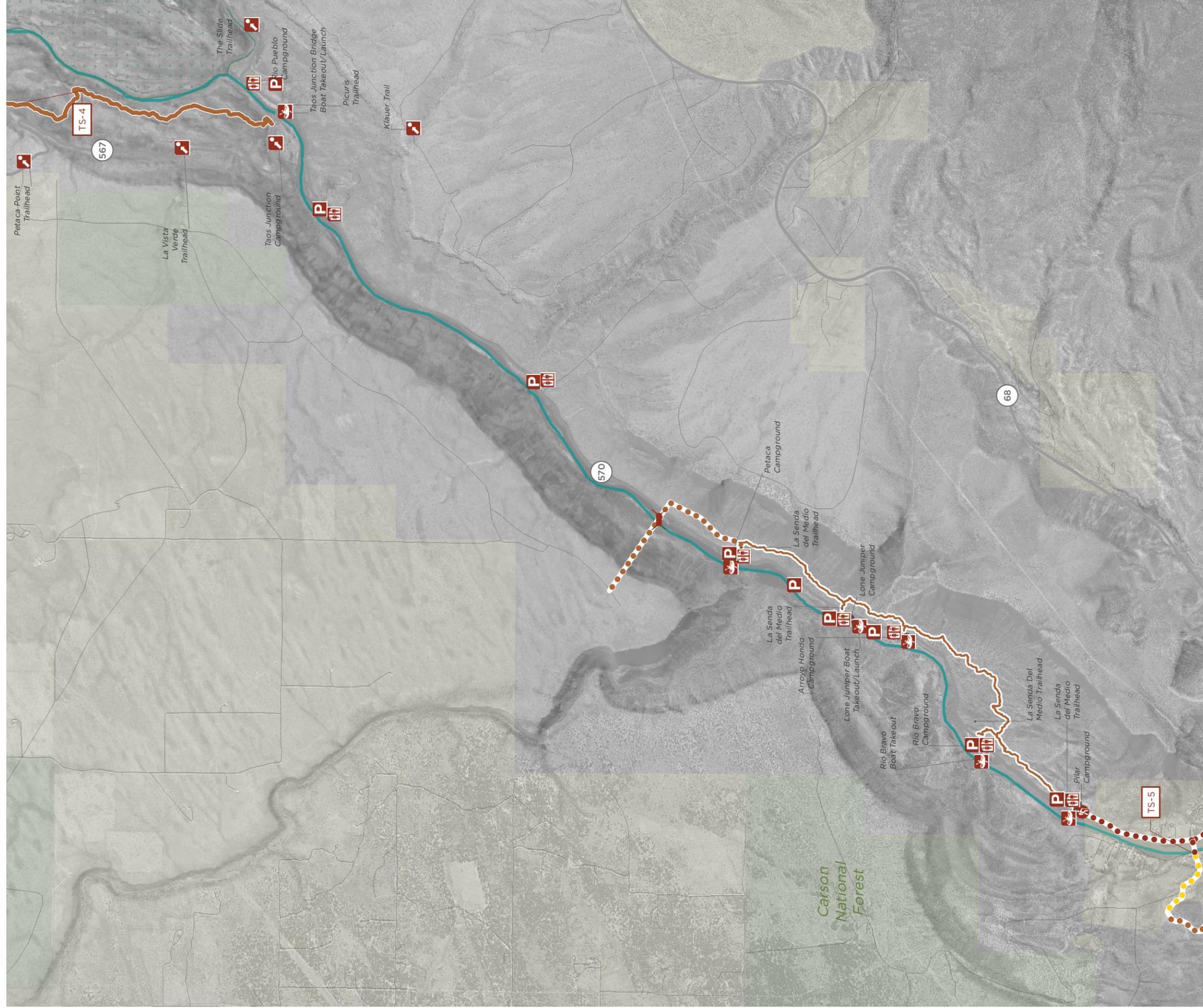


Map produced October 2018

SHEET NO

6

6 OF 77



SEGMENT TS-04

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: TAOS

BEGINS: NM 567

ENDS: AGUAS CALIENTES ROAD

TRAIL LENGTH (MILES): 7.4

LENGTH (RIVER MILES): 5.4

NEW MEXICO

Rio Grande Trail

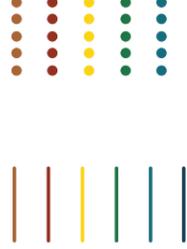
MASTER PLAN

TRAIL SYSTEM

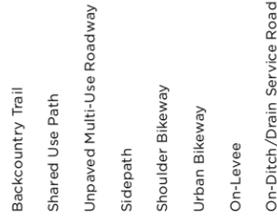
DESIGNATED



EXISTING



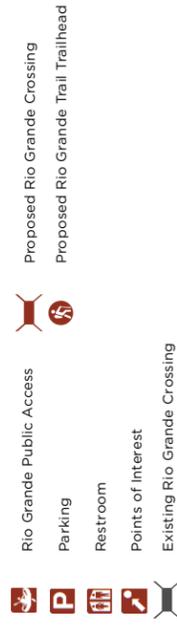
PROPOSED



BOUNDARIES + TRANSPORTATION



AMENITIES (EXISTING + PROPOSED)

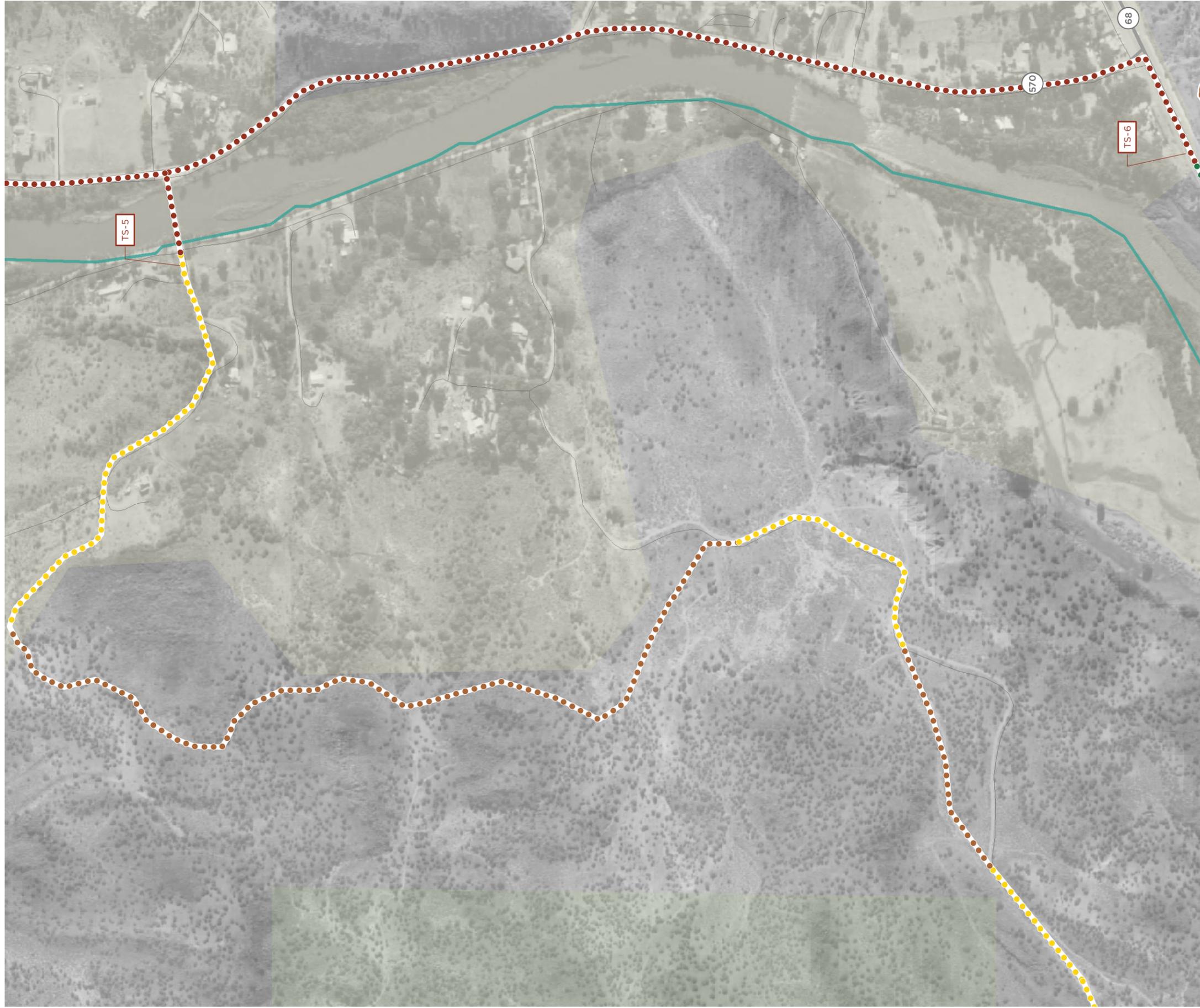


Map produced October 2018

SHEET NO

7

7 OF 77



SEGMENT TS-05

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: TAOS

BEGINS: AGUAS CALIENTES ROAD

ENDS: BLM VISITOR'S CENTER/NM 68 (PILAR)

TRAIL LENGTH (MILES): 2.3

LENGTH (RIVER MILES): 0.8

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED



EXISTING



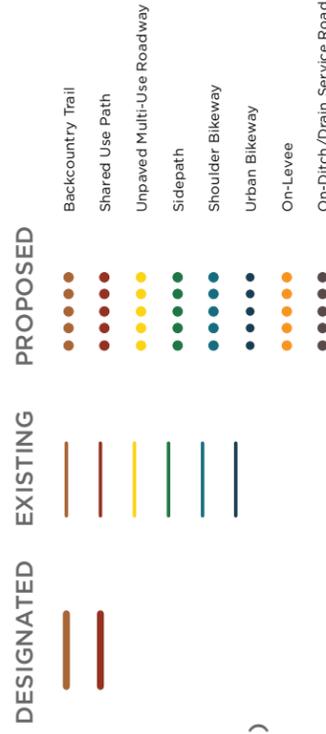
PROPOSED



BOUNDARIES + TRANSPORTATION



AMENITIES (EXISTING + PROPOSED)

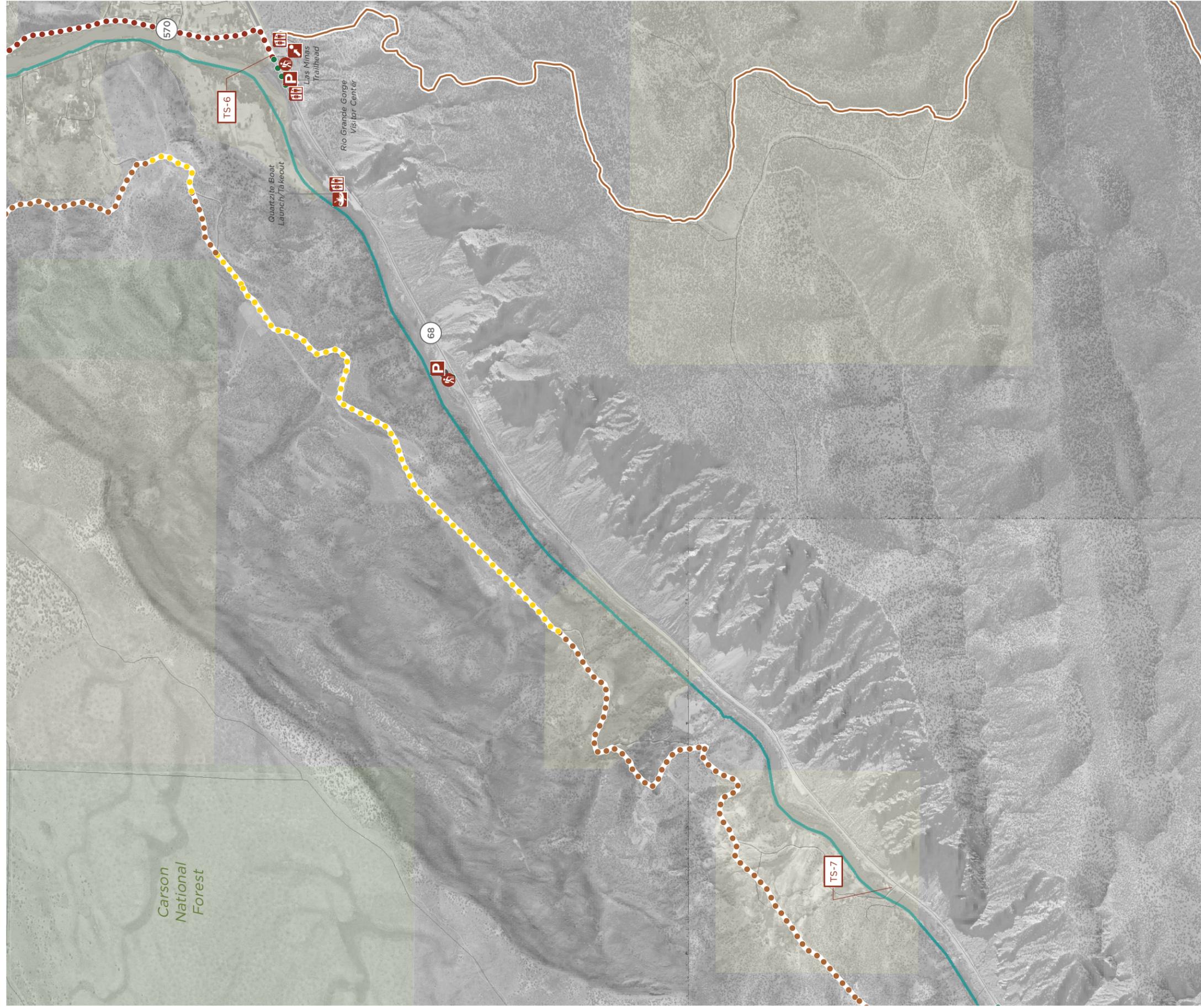


Map produced October 2018

SHEET NO

8

8 OF 77



Carson
National
Forest

TS-6

Quartzite Boat
Launch

Rio Grande Gorge
Visitor Center

68

P

TS-7

Carson
National
Forest

570

Quartzite Boat
Launch

Rio Grande Gorge
Visitor Center

68

P

TS-7

SEGMENT TS-06

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: TAOS

BEGINS: BLM VISITOR'S CENTER/NM 68 (PILAR)

ENDS: GLEN WOODY SUSPENSION BRIDGE (PRIVATE)

TRAIL LENGTH (MILES): 8.1

LENGTH (RIVER MILES): 2.6

TRAIL SYSTEM

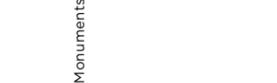
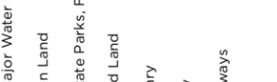
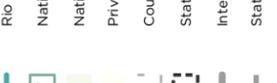
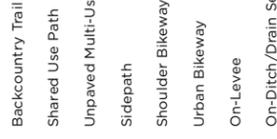
DESIGNATED



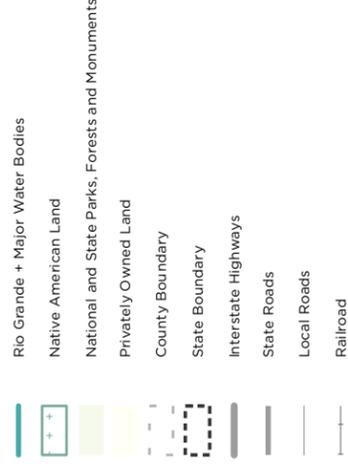
EXISTING



PROPOSED



BOUNDARIES + TRANSPORTATION



AMENITIES (EXISTING + PROPOSED)



NEW MEXICO
Rio Grande Trail
MASTER PLAN



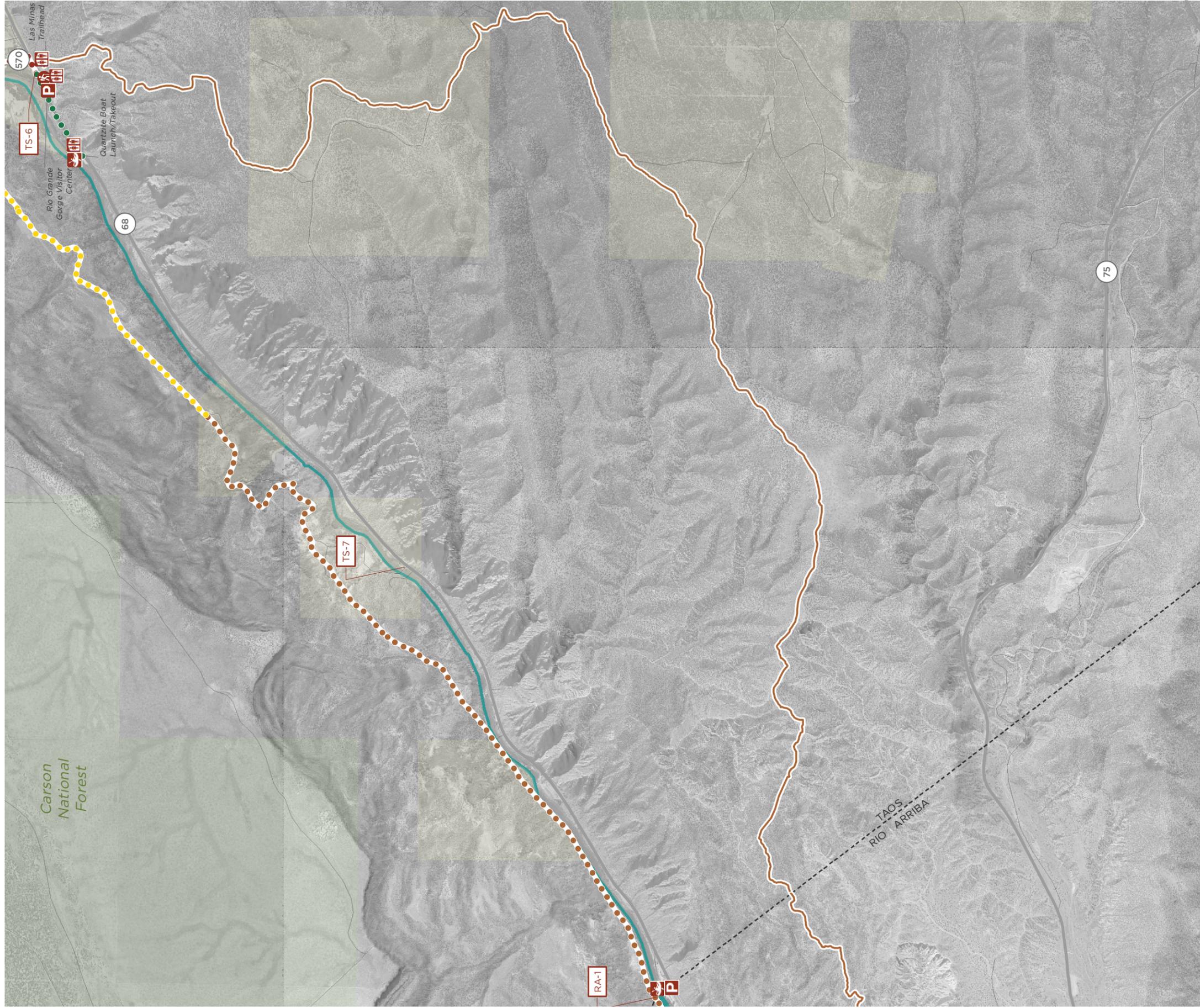
0 500 1,000 FEET

Map produced October 2018

SHEET NO

9

9 OF 77



SEGMENT TS-07

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: TAOS

BEGINS: GLEN WOODY SUSPENSION BRIDGE (PRIVATE)

ENDS: TAOS/RIO ARRIBA COUNTY LINE

TRAIL LENGTH (MILES): 9.2

LENGTH (RIVER MILES): 2.1

NEW MEXICO

Rio Grande Trail

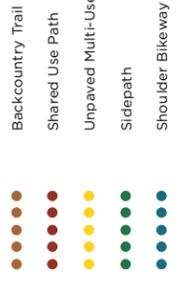
MASTER PLAN

TRAIL SYSTEM

DESIGNATED



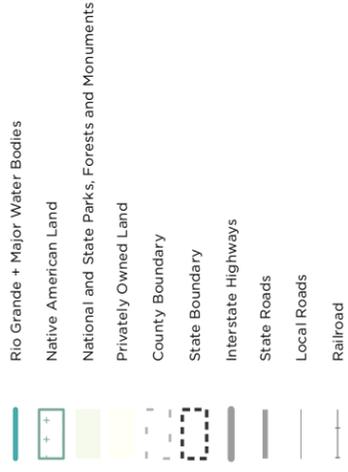
EXISTING



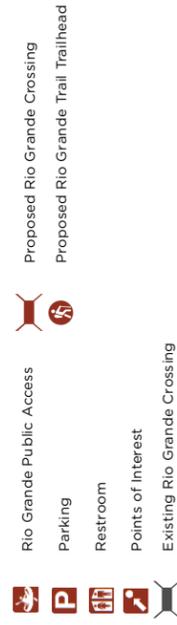
PROPOSED



BOUNDARIES + TRANSPORTATION



AMENITIES (EXISTING + PROPOSED)

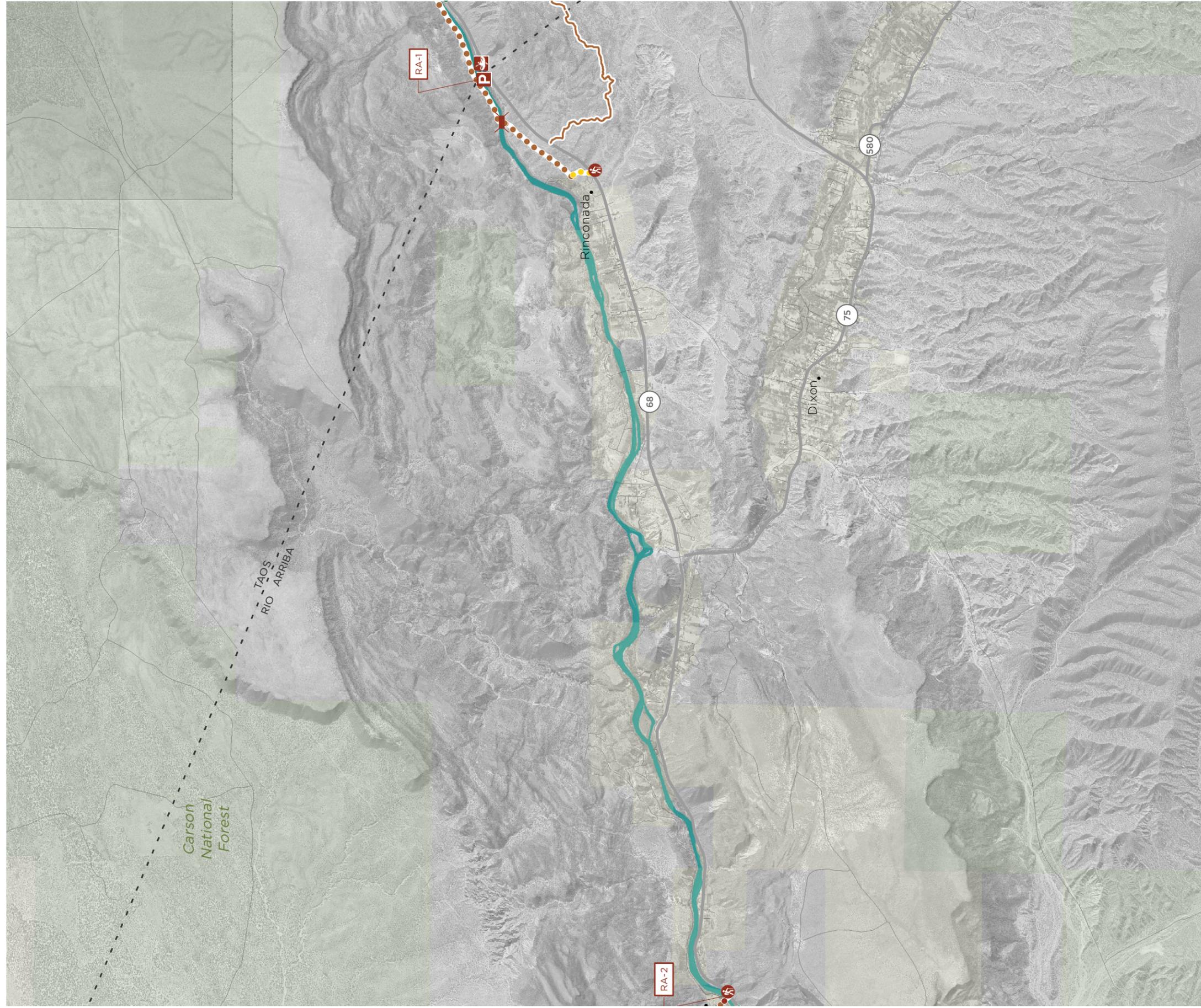


Map produced October 2018

SHEET NO

10

10 OF 77



SEGMENT RA-01
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: RIO ARRIBA

BEGINS: TAOS/RIO ARRIBA COUNTY LINE

ENDS: EMBUDO CROSSING

TRAIL LENGTH (MILES): 8.9

LENGTH (RIVER MILES): 6.7

NEW MEXICO

Rio Grande Trail
 MASTER PLAN

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

| | |
|--|-----------------------------|
| | Backcountry Trail |
| | Shared Use Path |
| | Unpaved Multi-Use Roadway |
| | Sidepath |
| | Shoulder Bikeway |
| | Urban Bikeway |
| | On-Levee |
| | On-Ditch/Drain Service Road |

AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |

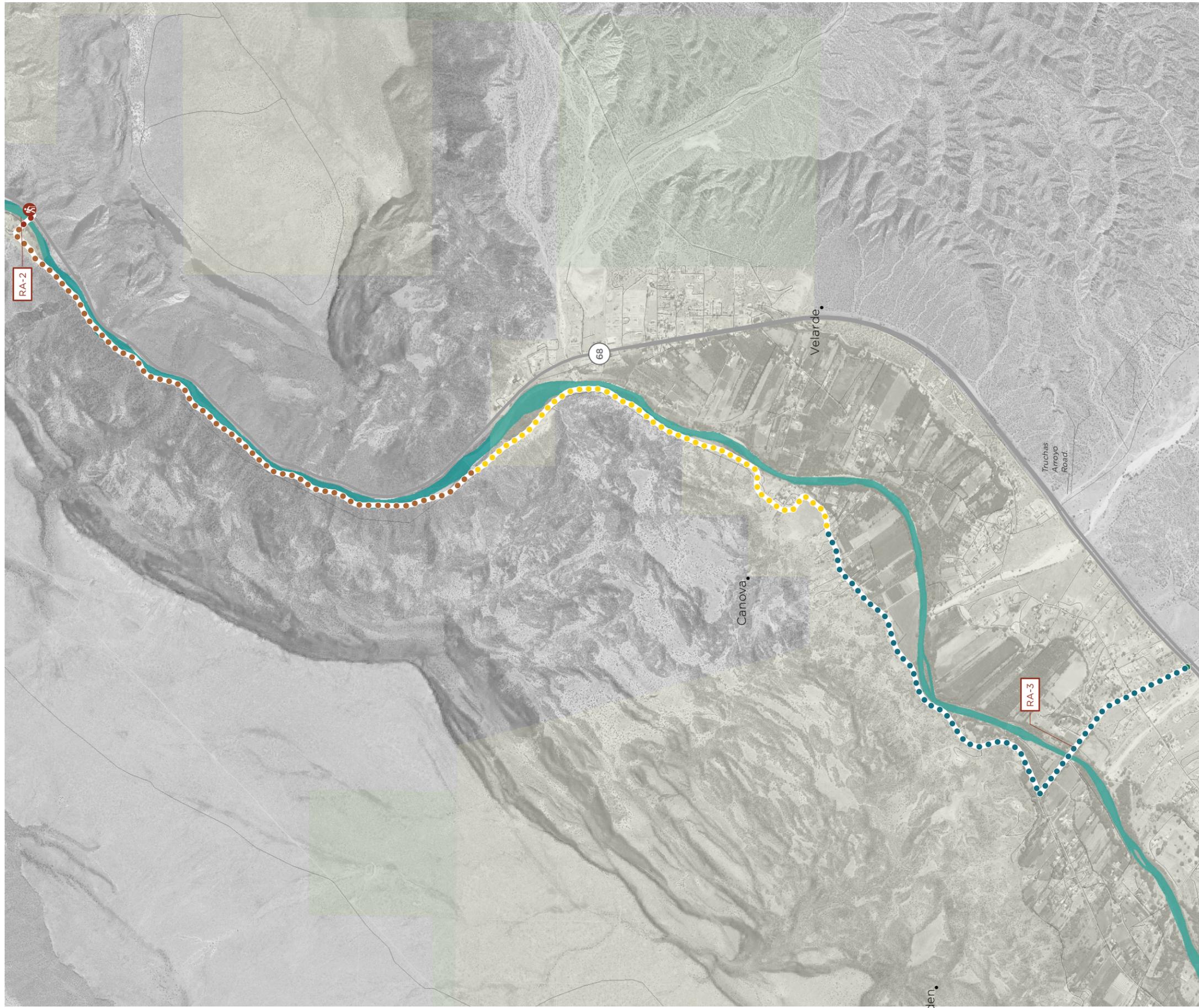


Map produced October 2018

SHEET NO

11

11 OF 77



SEGMENT RA-02

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: RIO ARRIBA

BEGINS: EMBUDO CROSSING

ENDS: NM 582/COUNTY ROAD 57 (LYDEN)

TRAIL LENGTH (MILES): 12.4

LENGTH (RIVER MILES): 5.6

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |

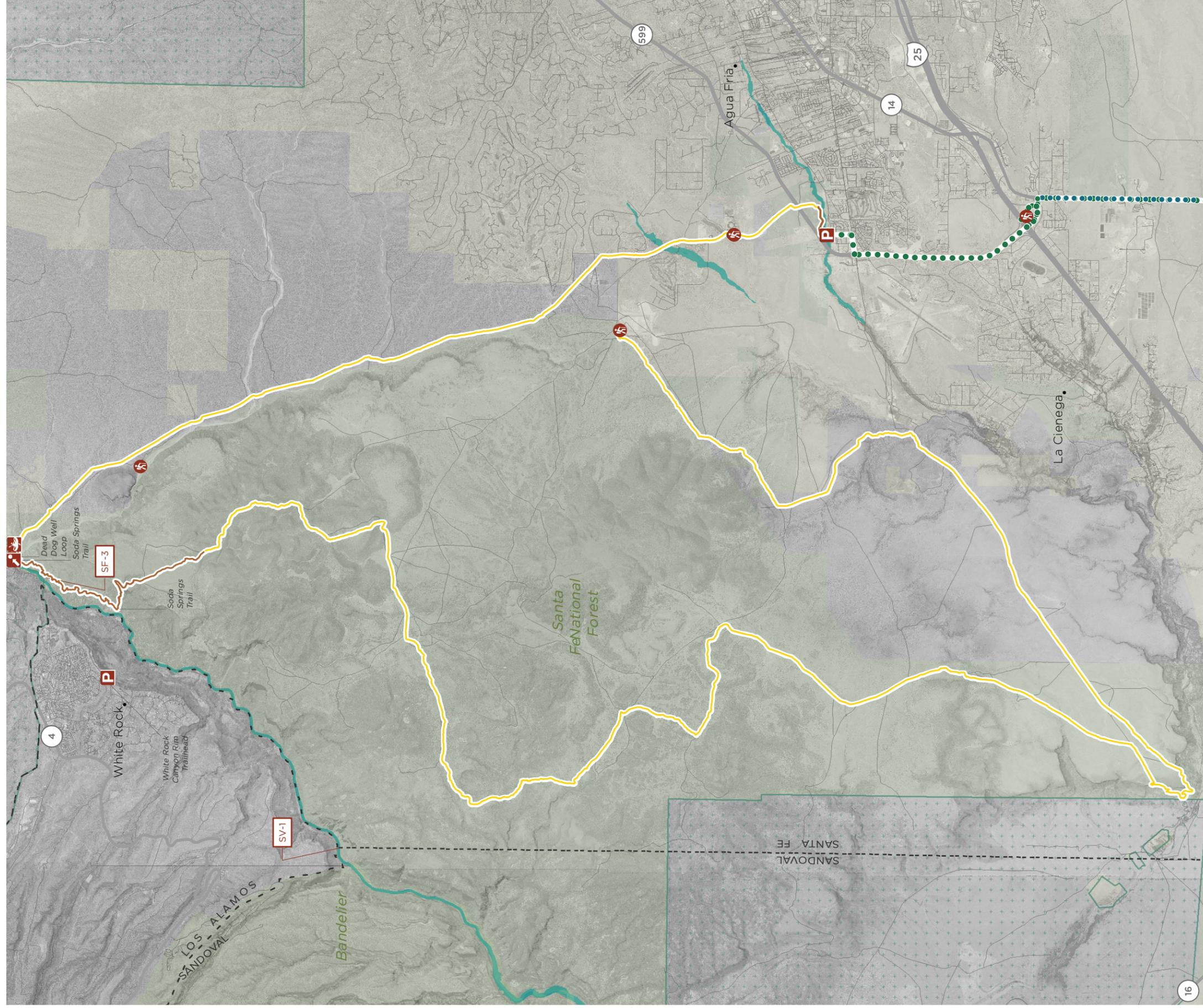


Map produced October 2018

SHEET NO

12

12 OF 77



SEGMENT SF-03 A

PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: SANTA FE

BEGINS: SANTA FE/LOS ALAMOS CO. LINE (WHITE ROCK)

ENDS: BERNALILLO (NORTH) + ALBUQUERQUE (SOUTH)

TRAIL LENGTH (MILES): 166.9

LENGTH (RIVER MILES): 70

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | | | | |
|-----------------------------|-----------------|---------------------------|----------|------------------|---------------|----------|
| | | | | | | |
| Backcountry Trail | Shared Use Path | Unpaved Multi-Use Roadway | Sidepath | Shoulder Bikeway | Urban Bikeway | On-Leave |
| | | | | | | |
| On-Ditch/Drain Service Road | | | | | | |

AMENITIES (EXISTING + PROPOSED)

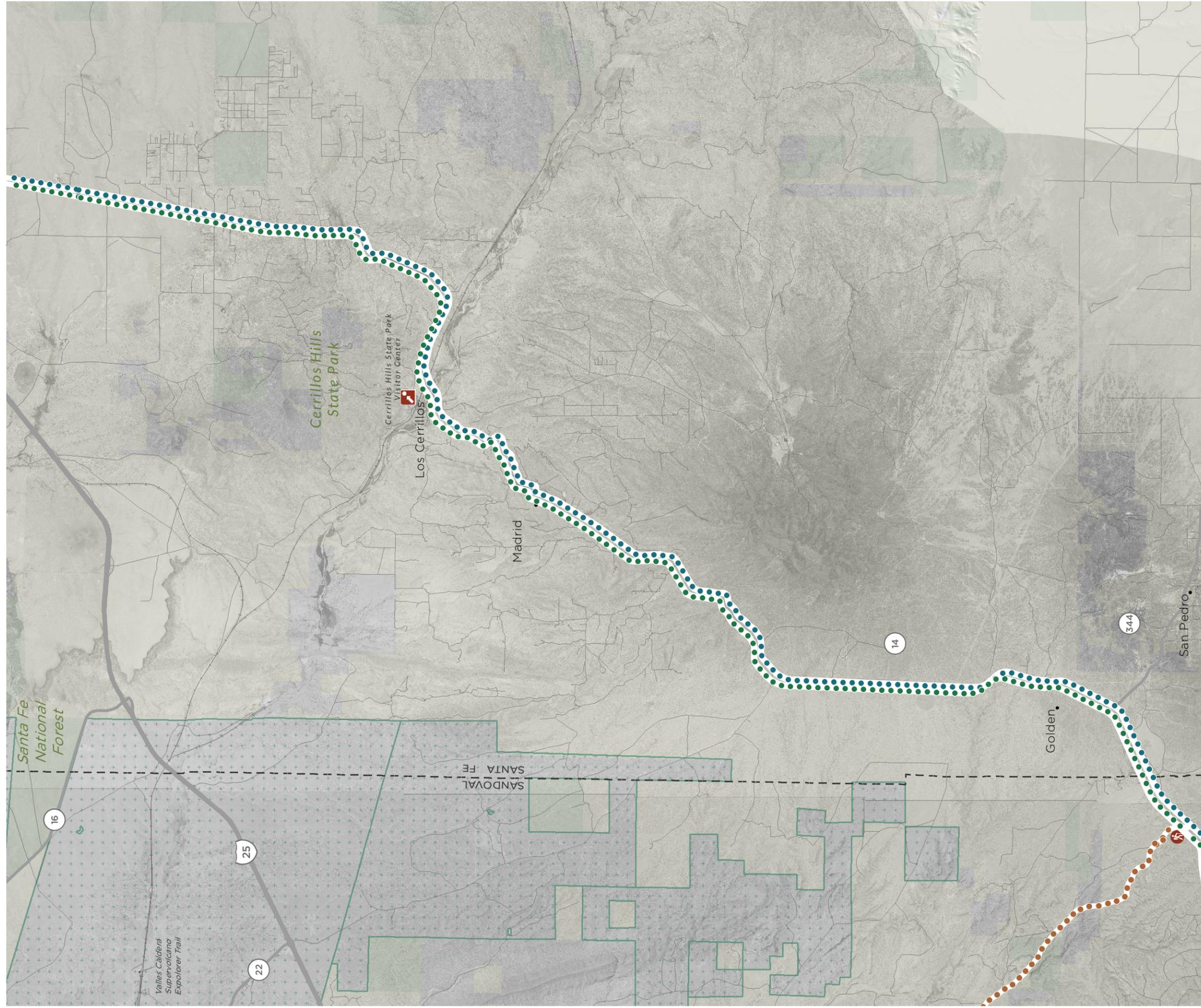
- | | | |
|------------------------------|------------------------------|-------------------------------------|
| | | |
| Rio Grande Public Access | Proposed Rio Grande Crossing | Proposed Rio Grande Trail Trailhead |
| | | |
| Parking | | |
| | | |
| Restroom | | |
| | | |
| Points of Interest | | |
| | | |
| Existing Rio Grande Crossing | | |

BOUNDARIES + TRANSPORTATION

- | | |
|---|--|
| | |
| Rio Grande + Major Water Bodies | |
| | |
| Native American Land | |
| | |
| National and State Parks, Forests and Monuments | |
| | |
| Privately Owned Land | |
| | |
| County Boundary | |
| | |
| State Boundary | |
| | |
| Interstate Highways | |
| | |
| State Roads | |
| | |
| Local Roads | |
| | |
| Railroad | |



Map produced October 2018



SEGMENT SF-03 B

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SANTA FE

BEGINS: SANTA FE/LOS ALAMOS CO. LINE (WHITE ROCK)

ENDS: BERNALILLO (NORTH) + ALBUQUERQUE (SOUTH)

TRAIL LENGTH (MILES): 166.9

LENGTH (RIVER MILES): 70

TRAIL SYSTEM

DESIGNATED

- Designated Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road

EXISTING

- Existing Trail
- Existing Shared Use Path
- Existing Unpaved Multi-Use Roadway
- Existing Sidepath
- Existing Shoulder Bikeway
- Existing Urban Bikeway
- Existing On-Levee
- Existing On-Ditch/Drain Service Road

PROPOSED

- Proposed Trail
- Proposed Shared Use Path
- Proposed Unpaved Multi-Use Roadway
- Proposed Sidepath
- Proposed Shoulder Bikeway
- Proposed Urban Bikeway
- Proposed On-Levee
- Proposed On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing

- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead



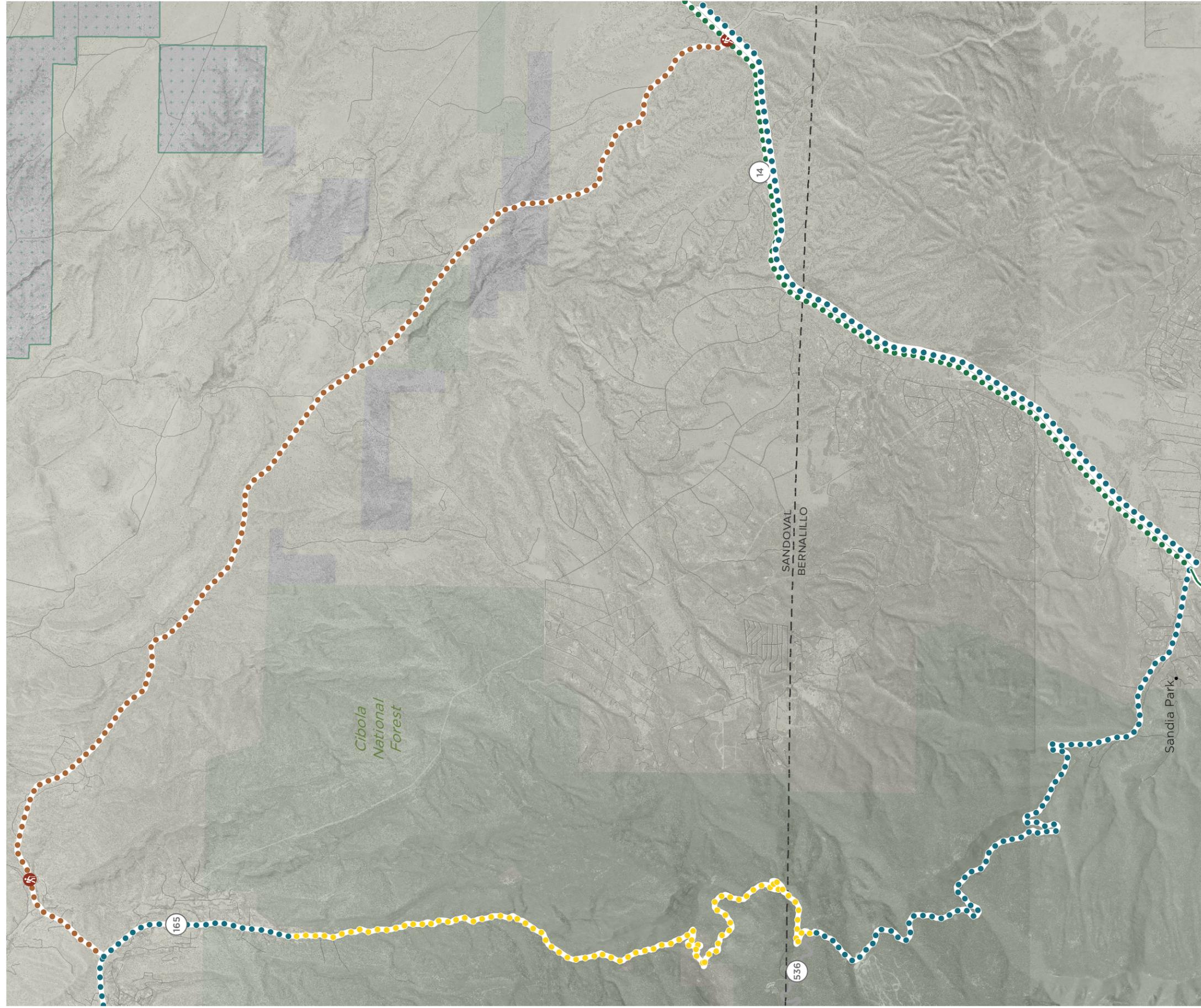
0 3,800 7,600 FEET

Map produced October 2018

SHEET NO

14

14 OF 77



SEGMENT SF-03 C

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SANDOVAL

BEGINS: SANTA FE/LOS ALAMOS CO. LINE (WHITE ROCK)

ENDS: BERNALILLO (NORTH) + ALBUQUERQUE (SOUTH)

TRAIL LENGTH (MILES): 166.9

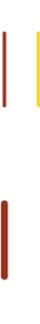
LENGTH (RIVER MILES): 70

TRAIL SYSTEM

DESIGNATED



EXISTING



PROPOSED



BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Leave
- On-Ditch/Drain Service Road

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing

- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead



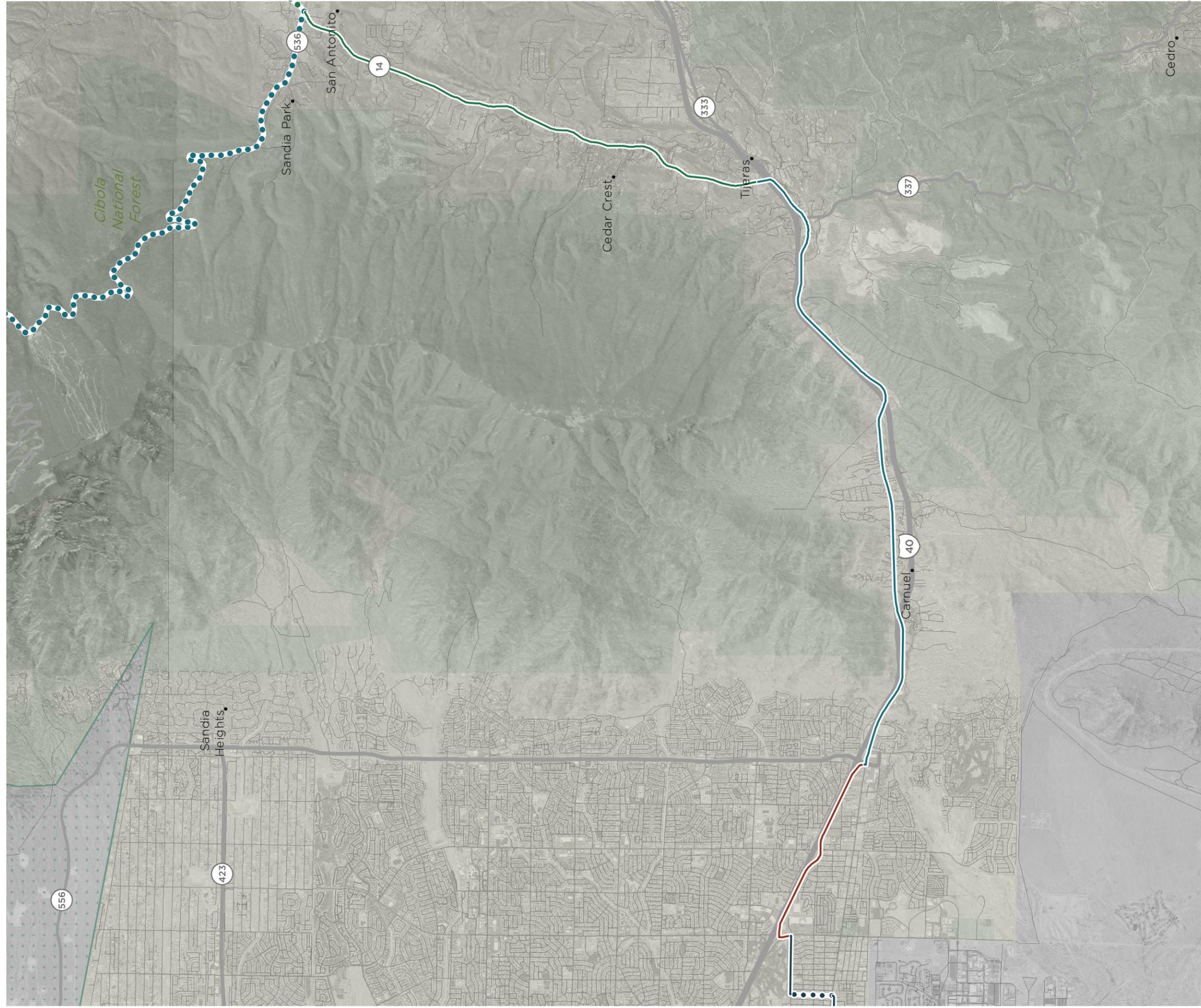
0 1,900 3,800 FEET

Map produced October 2018

SHEET NO

15

15 OF 77



SEGMENT SF-03 E

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: BERNALILLO

BEGINS: SANTA FE/LOS ALAMOS CO. LINE (WHITE ROCK)

ENDS: BERNALILLO (NORTH) + ALBUQUERQUE (SOUTH)

TRAIL LENGTH (MILES): 166.9

LENGTH (RIVER MILES): 70

TRAIL SYSTEM

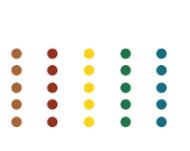
DESIGNATED



EXISTING



PROPOSED



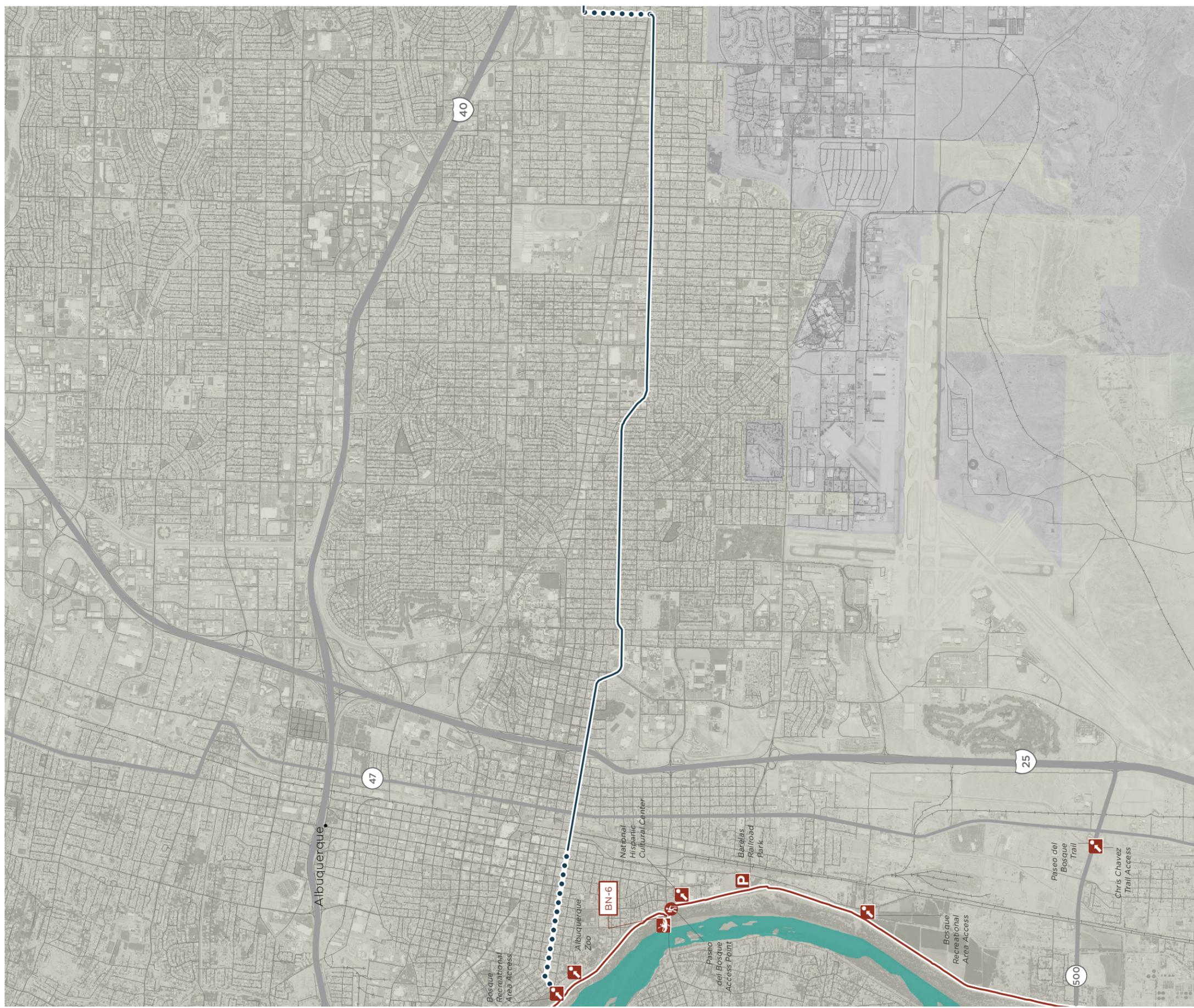
AMENITIES

(EXISTING + PROPOSED)



BOUNDARIES + TRANSPORTATION





SEGMENT SF-03 F

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: BERNALILLO

BEGINS: SANTA FE/LOS ALAMOS CO. LINE (WHITE ROCK)

ENDS: BERNALILLO (NORTH) + ALBUQUERQUE (SOUTH)

TRAIL LENGTH (MILES): 166.9

LENGTH (RIVER MILES): 70

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Designated Existing
- Designated Proposed
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead



Map produced October 2018



SEGMENT SV-08
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: SANDOVAL
 BEGINS: NM 550
 ENDS: VENADA ARROYO
 TRAIL LENGTH (MILES): 2.1
 LENGTH (RIVER MILES): 1.4



TRAIL SYSTEM

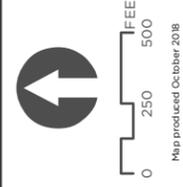
| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

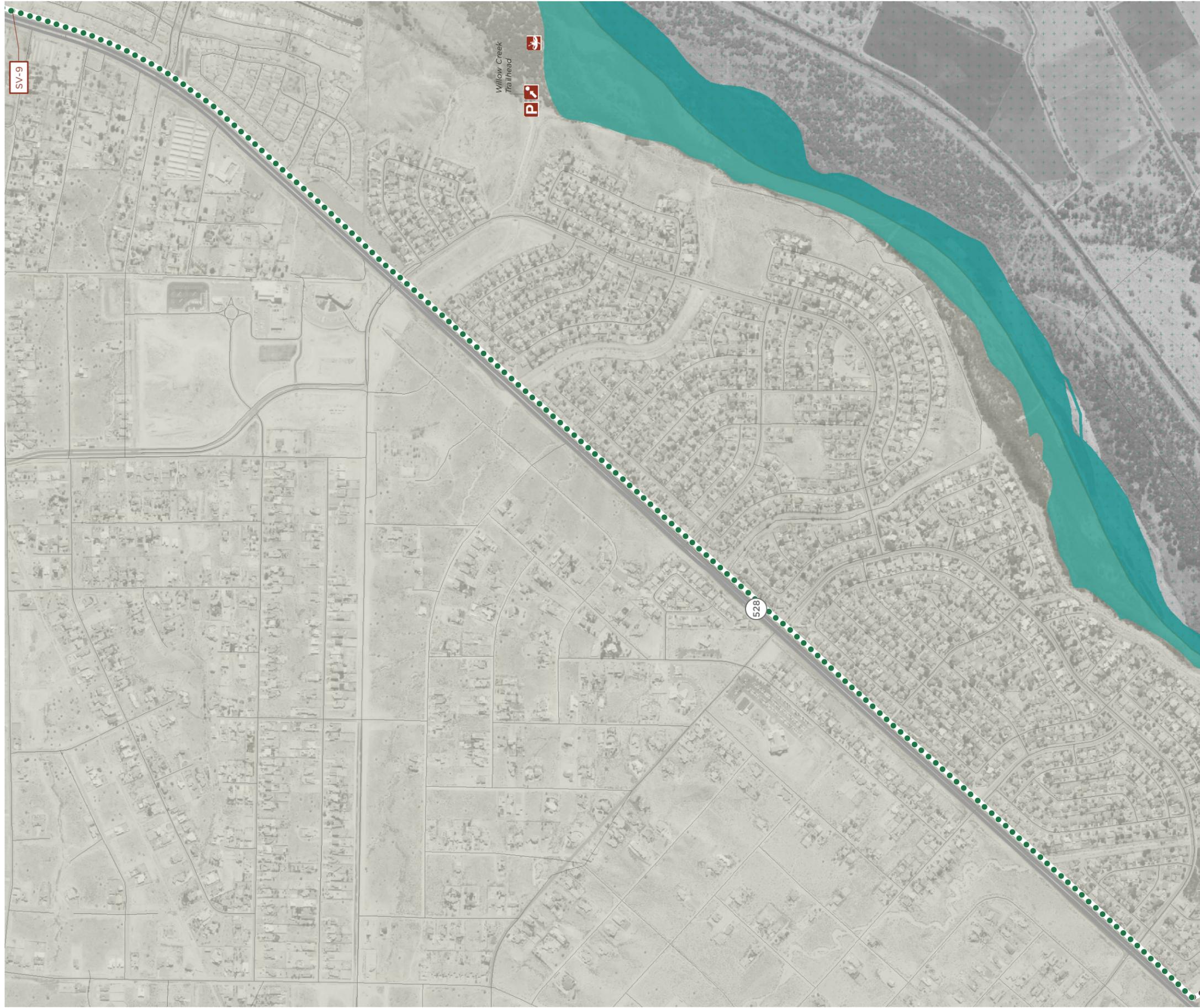
| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



SHEET NO
19
 19 OF 77



SEGMENT SV-9

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SANDOVAL

BEGINS: VENADA ARROYO

ENDS: LA BARRANCA ARROYO/CORRALES MAIN CANAL

TRAIL LENGTH (MILES): 2.7

LENGTH (RIVER MILES): 2.4

AMENITIES

(EXISTING + PROPOSED)

-  Rio Grande Public Access
-  Parking
-  Restroom
-  Points of Interest
-  Existing Rio Grande Crossing
-  Proposed Rio Grande Crossing
-  Proposed Rio Grande Trail Trailhead

BOUNDARIES + TRANSPORTATION

-  Rio Grande + Major Water Bodies
-  Native American Land
-  National and State Parks, Forests and Monuments
-  Privately Owned Land
-  County Boundary
-  State Boundary
-  Interstate Highways
-  State Roads
-  Local Roads
-  Railroad

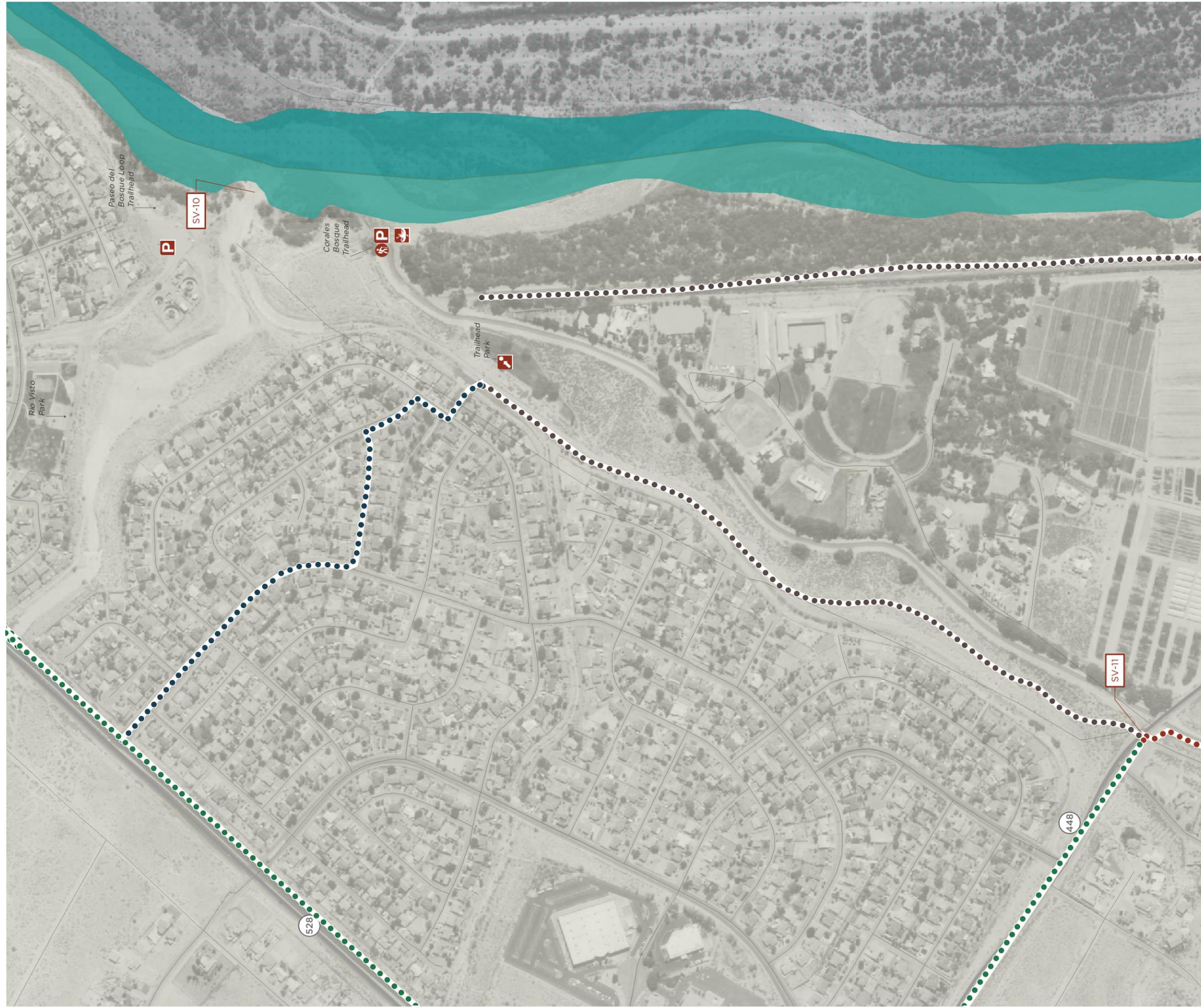
TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

-  Backcountry Trail
-  Shared Use Path
-  Unpaved Multi-Use Roadway
-  Sidepath
-  Shoulder Bikeway
-  Urban Bikeway
-  On-Levee
-  On-Ditch/Drain Service Road



Map produced October 2018



SEGMENT SV-10

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SANDOVAL

BEGINS: LA BARRANCA ARROYO/CORRALES MAIN CANAL

ENDS: CORRALES ROAD

TRAIL LENGTH (MILES): 2

LENGTH (RIVER MILES): 1.1

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing

- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

- | DESIGNATED | EXISTING | PROPOSED | PROPOSED |
|------------|----------|----------|-----------------------------|
| | | | Backcountry Trail |
| | | | Shared Use Path |
| | | | Unpaved Multi-Use Roadway |
| | | | Sidepath |
| | | | Shoulder Bikeway |
| | | | Urban Bikeway |
| | | | On-Levee |
| | | | On-Ditch/Drain Service Road |

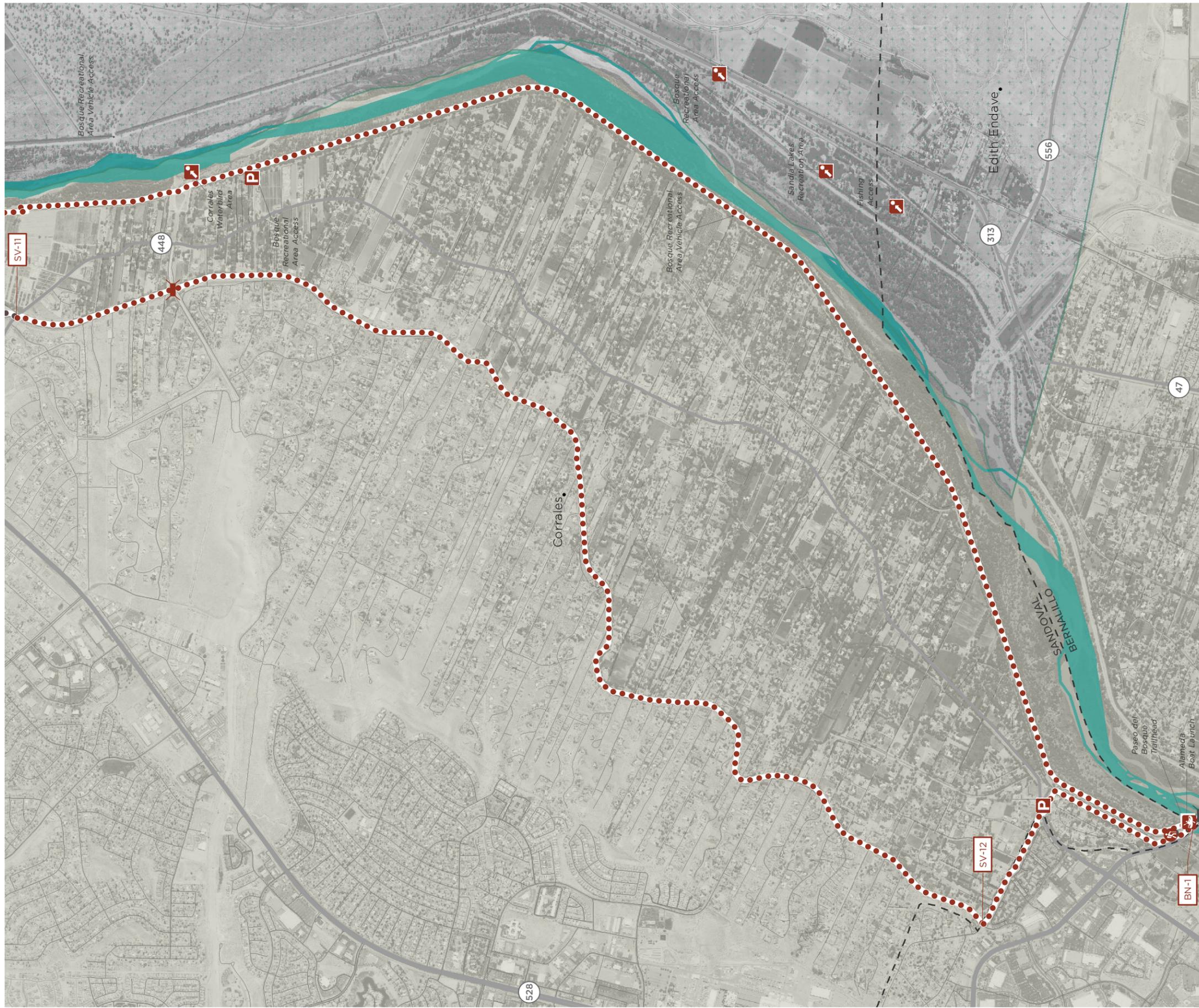


Map produced October 2018

SHEET NO

21

21 OF 77



SEGMENT SV-11

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SANDOVAL

BEGINS: CORRALES ROAD

ENDS: CABEZON ROAD

TRAIL LENGTH (MILES): 12.5

LENGTH (RIVER MILES): 6.1

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | |
|--|--|--|-----------------------------|
| | | | Backcountry Trail |
| | | | Shared Use Path |
| | | | Unpaved Multi-Use Roadway |
| | | | Sidepath |
| | | | Shoulder Bikeway |
| | | | Urban Bikeway |
| | | | On-Levee |
| | | | On-Ditch/Drain Service Road |

AMENITIES (EXISTING + PROPOSED)

- | | | | |
|--|--|--|-------------------------------------|
| | | | Rio Grande Public Access |
| | | | Parking |
| | | | Restroom |
| | | | Points of Interest |
| | | | Existing Rio Grande Crossing |
| | | | Proposed Rio Grande Crossing |
| | | | Proposed Rio Grande Trail Trailhead |

BOUNDARIES + TRANSPORTATION

- | | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |



Map produced October 2018

SHEET NO

22

22 OF 77



SEGMENT SV-12

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SANDOVAL

BEGINS: CABEZON ROAD

ENDS: ALAMEDA BLVD./BERNALILLO COUNTY LINE

TRAIL LENGTH (MILES): 1.3

LENGTH (RIVER MILES): 1.3

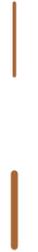
NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED



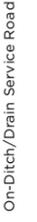
EXISTING



PROPOSED



BOUNDARIES + TRANSPORTATION



0 150 300 FEET

Map produced October 2018

SHEET NO

23

23 OF 77



SEGMENT BN-01
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: BERNALILLO
 BEGINS: SANDOVAL/BERNALILLO COUNTY LINE
 ENDS: PASEO DEL NORTE
 TRAIL LENGTH (MILES): 1.3
 LENGTH (RIVER MILES): 1.3



TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

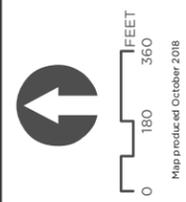
BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

| | |
|--|-----------------------------|
| | Backcountry Trail |
| | Shared Use Path |
| | Unpaved Multi-Use Roadway |
| | Sidepath |
| | Shoulder Bikeway |
| | Urban Bikeway |
| | On-Levee |
| | On-Ditch/Drain Service Road |

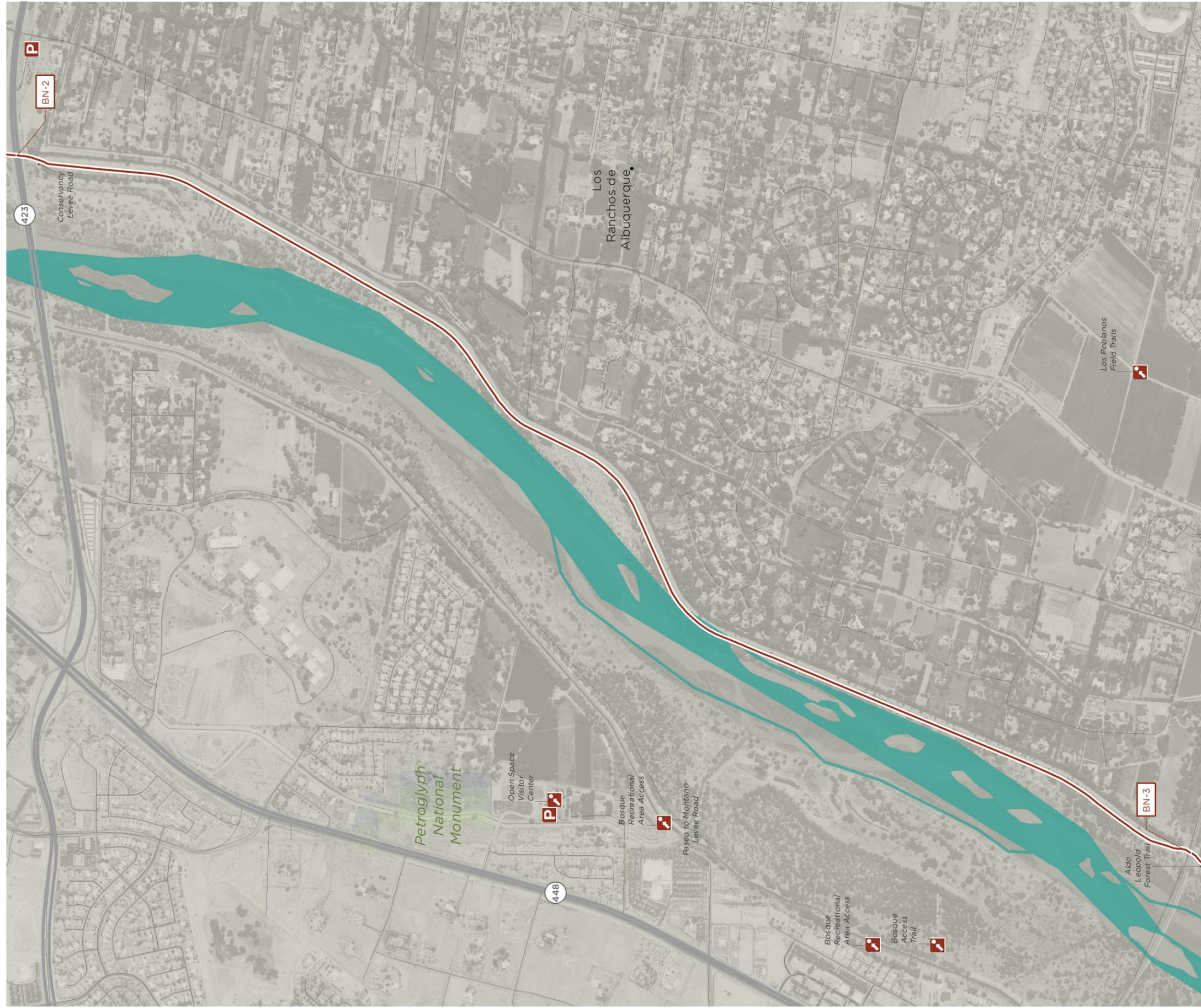
AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



SHEET NO
24
 24 OF 77

Map produced October 2018



SEGMENT BN-02
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: BERNALILLO
 BEGINS: PASEO DEL NORTE
 ENDS: MONTANO ROAD
 TRAIL LENGTH (MILES): 3.1
 LENGTH (RIVER MILES): 3.1

NEW MEXICO
Rio Grande Trail
 MASTER PLAN

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |

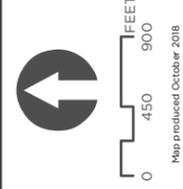
| | |
|--|-----------------------------|
| | Backcountry Trail |
| | Shared Use Path |
| | Unpaved Multi-Use Roadway |
| | Sidepath |
| | Shoulder Bikeway |
| | Urban Bikeway |
| | On-Levee |
| | On-Ditch/Drain Service Road |

BOUNDARIES + TRANSPORTATION

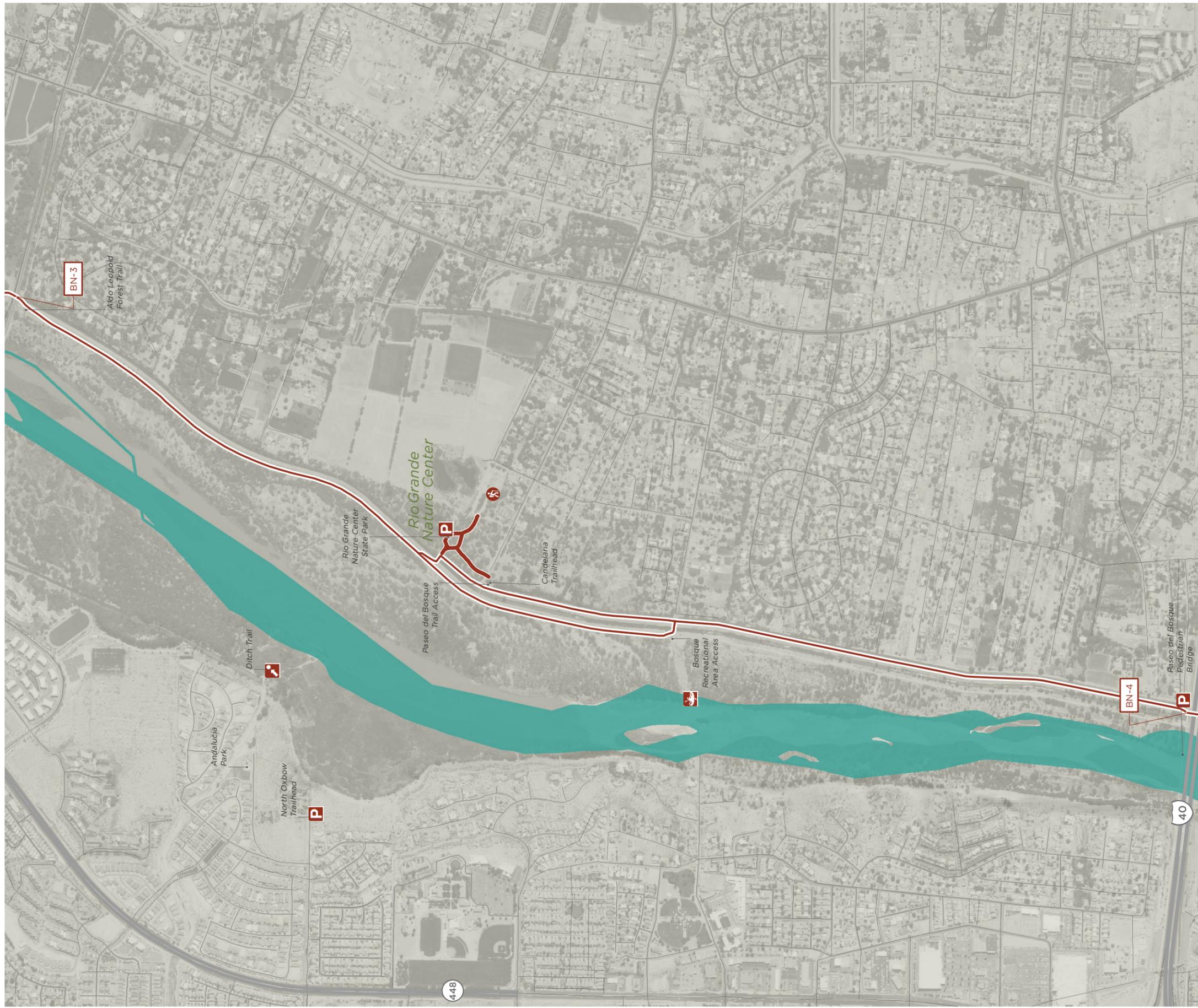
| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



SHEET NO
25
 25 OF 77



SEGMENT BN-03

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: BERNALILLO
 BEGINS: MONTANO ROAD
 ENDS: I-40
 TRAIL LENGTH (MILES): 3.8
 LENGTH (RIVER MILES): 2.9

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead



Map produced October 2018

SHEET NO

26

26 OF 77



SEGMENT BN-04
PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: BERNALILLO
 BEGINS: I-40
 ENDS: CENTRAL AVE.
 TRAIL LENGTH (MILES): 1.4
 LENGTH (RIVER MILES): 1.3



TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

| | |
|--|-----------------------------|
| | Backcountry Trail |
| | Shared Use Path |
| | Unpaved Multi-Use Roadway |
| | Sidepath |
| | Shoulder Bikeway |
| | Urban Bikeway |
| | On-Levee |
| | On-Ditch/Drain Service Road |

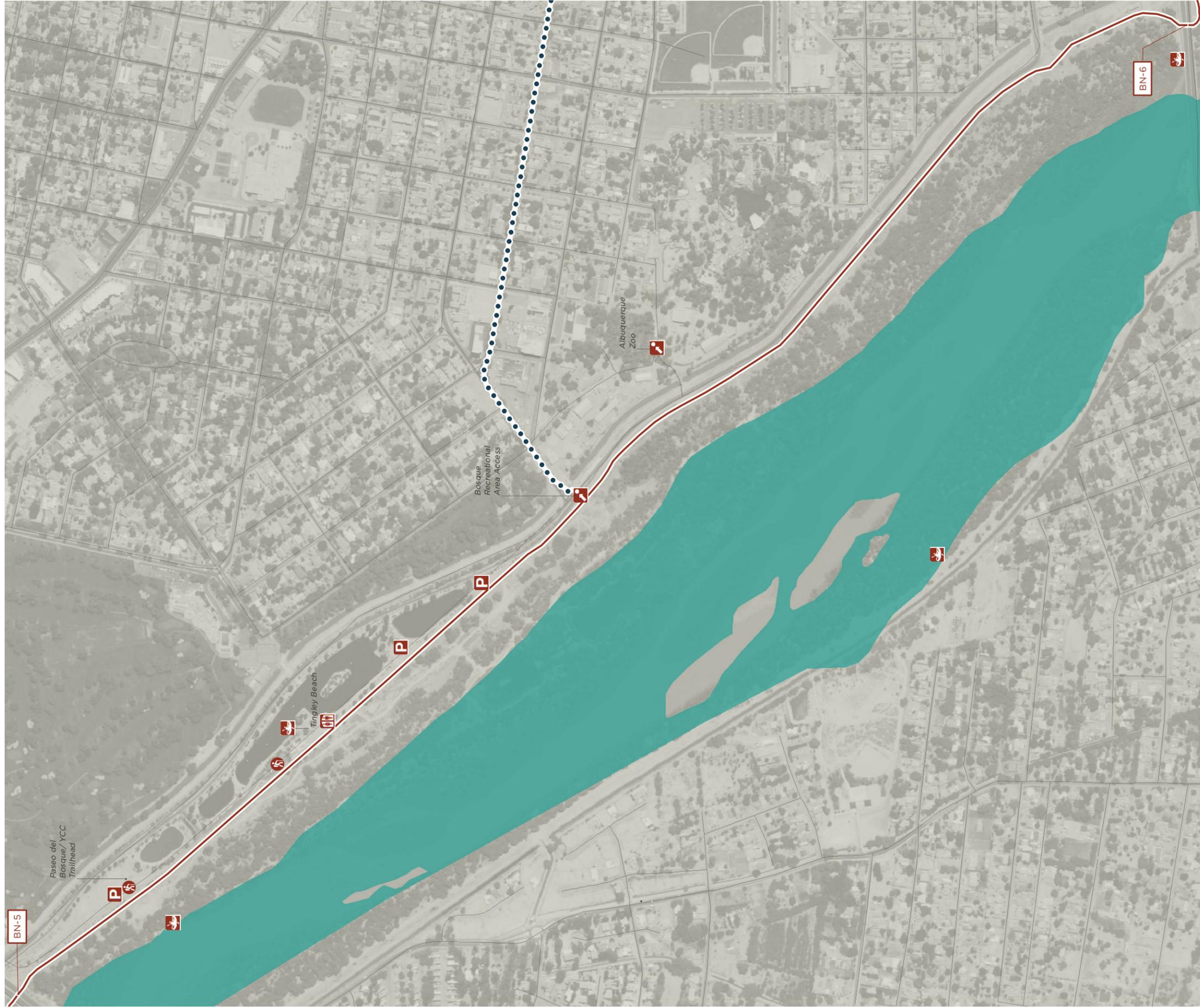
AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



Map produced October 2018

SHEET NO
27
 27 OF 77



SEGMENT BN-05
PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: BERNALILLO
 BEGINS: CENTRAL AVE.
 ENDS: NM 314/BRIDGE BLVD.
 TRAIL LENGTH (MILES): 1.9
 LENGTH (RIVER MILES): 1.9

NEW MEXICO
Rio Grande Trail
 MASTER PLAN

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



Map produced October 2018

SHEET NO

28

28 OF 77



SEGMENT BN-06

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: BERNALILLO

BEGINS: NM 314/BRIDGE BLVD.

ENDS: NM 500/RIO BRAVO BLVD.

TRAIL LENGTH (MILES): 3.2

LENGTH (RIVER MILES): 3.2

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

| | |
|--|-----------------------------|
| | Backcountry Trail |
| | Shared Use Path |
| | Unpaved Multi-Use Roadway |
| | Sidepath |
| | Shoulder Bikeway |
| | Urban Bikeway |
| | On-Leavee |
| | On-Ditch/Drain Service Road |

AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



Map produced October 2018

SHEET NO

29

29 OF 77



SEGMENT BN-07

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: BERNALILLO

BEGINS: NM 500/RIO BRAVO BLVD.

ENDS: AMAFCA SOUTH DIVERSION CHANNEL

TRAIL LENGTH (MILES): 1.5

LENGTH (RIVER MILES): 1.4

AMENITIES (EXISTING + PROPOSED)

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | | | |
|------------------------------|-------------------|-----------------|-----------------------------|----------|------------------|
| | | | | | |
| Rio Grande Public Access | Backcountry Trail | Shared Use Path | Unpaved Multi-Use Roadway | Sidewalk | Shoulder Bikeway |
| Parking | Urban Bikeway | On-Levee | On-Ditch/Drain Service Road | | |
| Restroom | | | | | |
| Points of Interest | | | | | |
| Existing Rio Grande Crossing | | | | | |

BOUNDARIES + TRANSPORTATION

- | | | | | | |
|---------------------------------|---|-----------------|----------------|---------------------|-------------|
| | | | | | |
| Rio Grande + Major Water Bodies | National and State Parks, Forests and Monuments | County Boundary | State Boundary | Interstate Highways | State Roads |
| Native American Land | Privately Owned Land | Local Roads | | | Railroad |

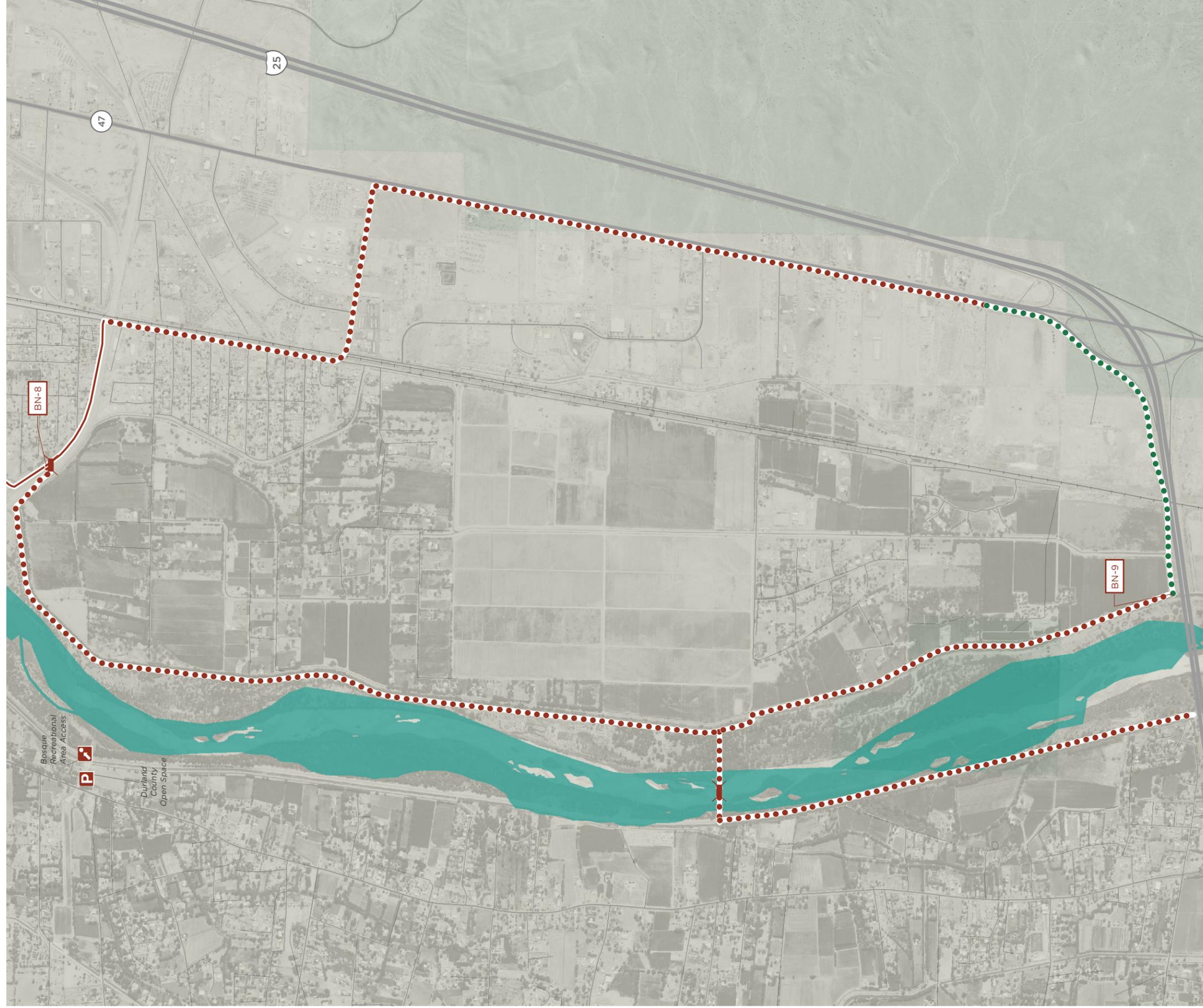


Map produced October 2018

SHEET NO

30

30 OF 77



SEGMENT BN-08

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: BERNALILLO

BEGINS: AMAFCA SOUTH DIVERSION CHANNEL

ENDS: I-25

TRAIL LENGTH (MILES): 11.7

LENGTH (RIVER MILES): 4.3

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | |
|--|--|--|-----------------------------|
| | | | Backcountry Trail |
| | | | Shared Use Path |
| | | | Unpaved Multi-Use Roadway |
| | | | Sidepath |
| | | | Shoulder Bikeway |
| | | | Urban Bikeway |
| | | | On-Levee |
| | | | On-Ditch/Drain Service Road |

BOUNDARIES + TRANSPORTATION

- | | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

AMENITIES (EXISTING + PROPOSED)

- | | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |

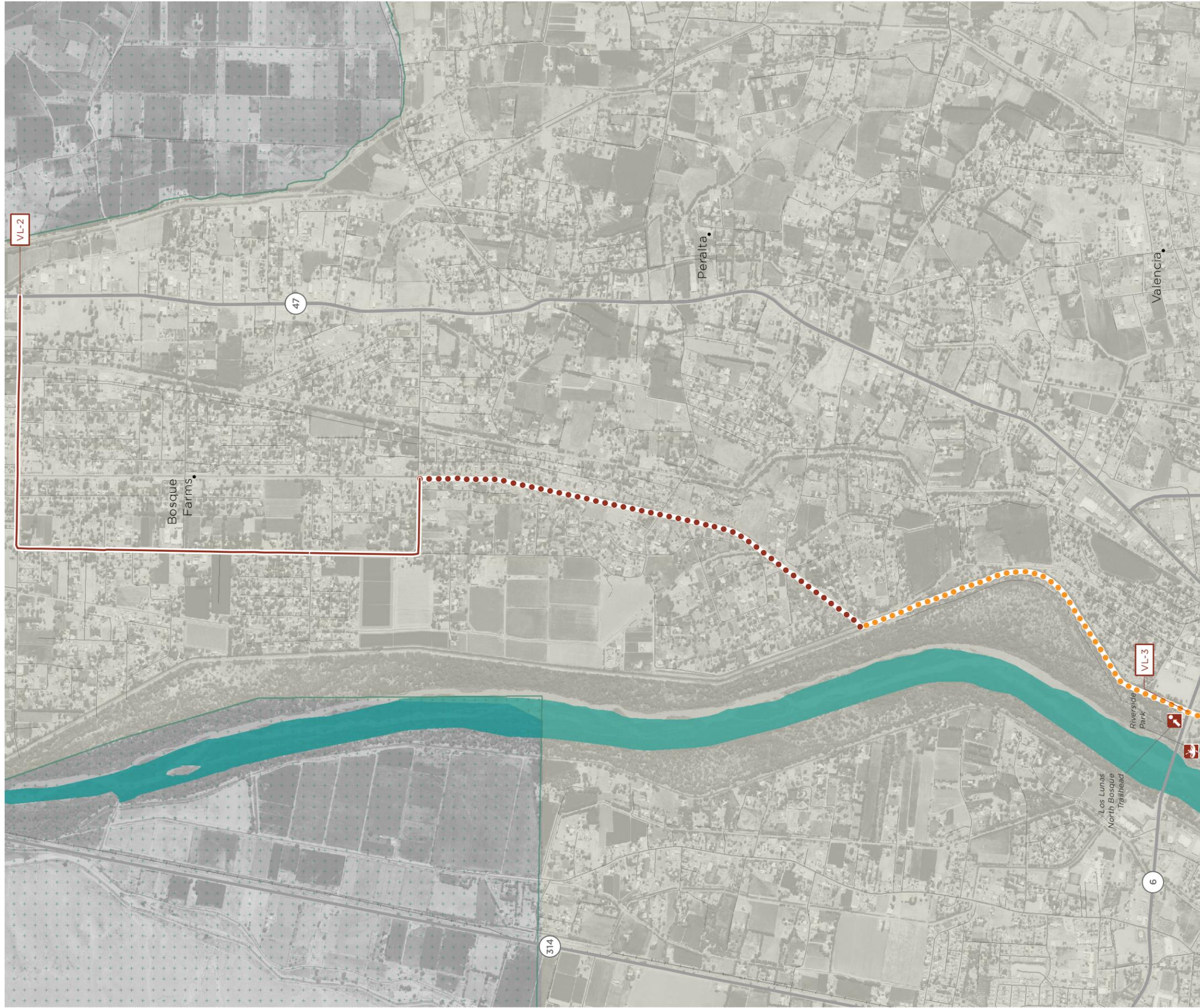


0 680 1,360 FEET
Map produced October 2018

SHEET NO

31

31 OF 77



SEGMENT VL-02

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: VALENCIA

BEGINS: ISLETA PUEBLO SOUTH BOUNDARY

ENDS: NM 6/MAIN ST.

TRAIL LENGTH (MILES): 5.5

LENGTH (RIVER MILES): 6.1

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing

NEW MEXICO
Rio Grande Trail
MASTER PLAN

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | |
|--|-----------------------------|--|-----------------------------|
| | Backcountry Trail | | Shared Use Path |
| | Shared Use Path | | Unpaved Multi-Use Roadway |
| | Unpaved Multi-Use Roadway | | Sidewalk |
| | Sidewalk | | Shoulder Bikeway |
| | Shoulder Bikeway | | Urban Bikeway |
| | Urban Bikeway | | On-Levee |
| | On-Levee | | On-Ditch/Drain Service Road |
| | On-Ditch/Drain Service Road | | |

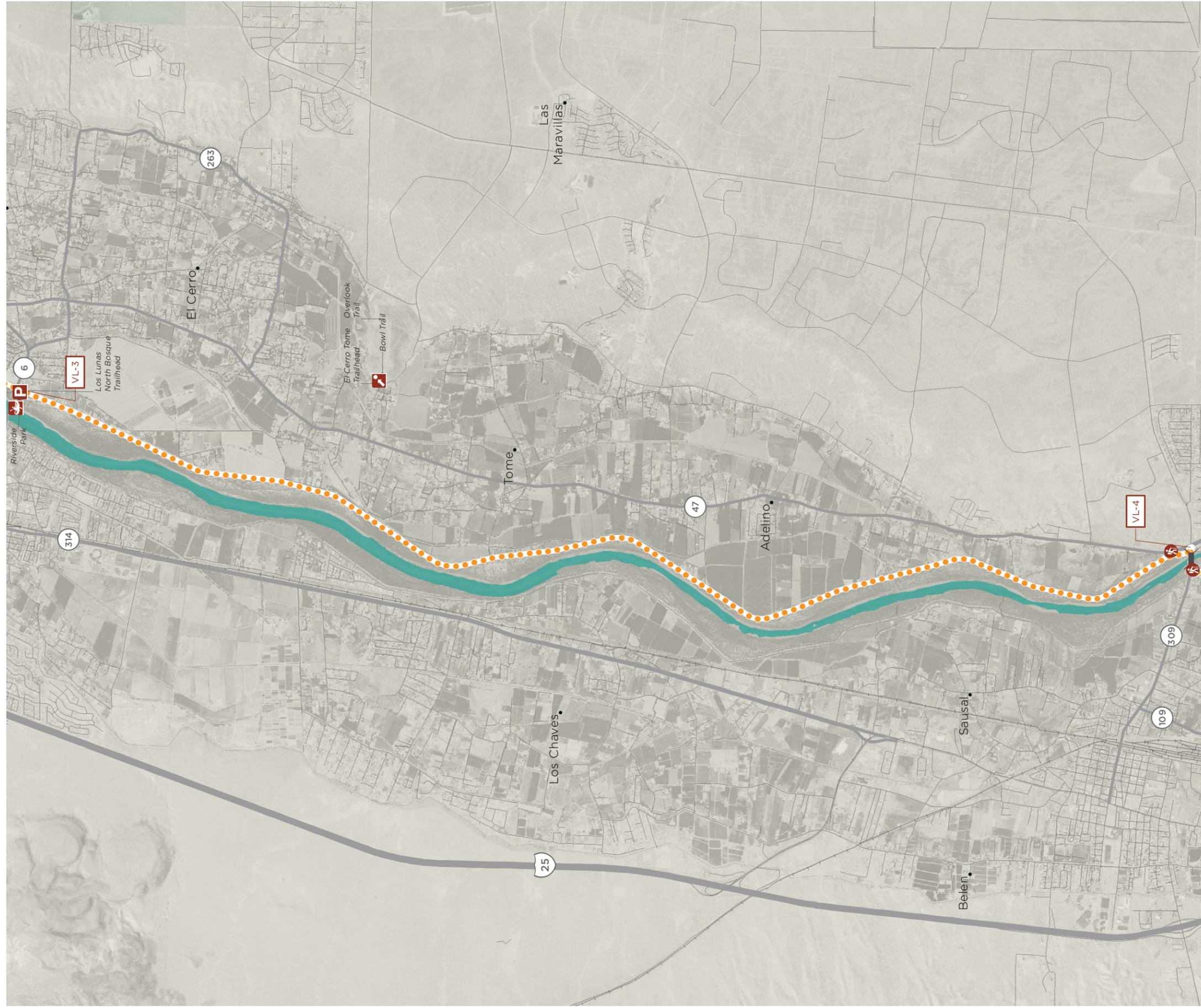
BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad



Map produced October 2018

SHEET NO
32
32 OF 77



SEGMENT VL-03
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: VALENCIA
 BEGINS: NM 6/MAN ST.
 ENDS: NM 309/E. RIVER RD.
 TRAIL LENGTH (MILES): 11.3
 LENGTH (RIVER MILES): 11.2



TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

| | |
|--|-----------------------------|
| | Backcountry Trail |
| | Shared Use Path |
| | Unpaved Multi-Use Roadway |
| | Sidepath |
| | Shoulder Bikeway |
| | Urban Bikeway |
| | On-Levee |
| | On-Ditch/Drain Service Road |

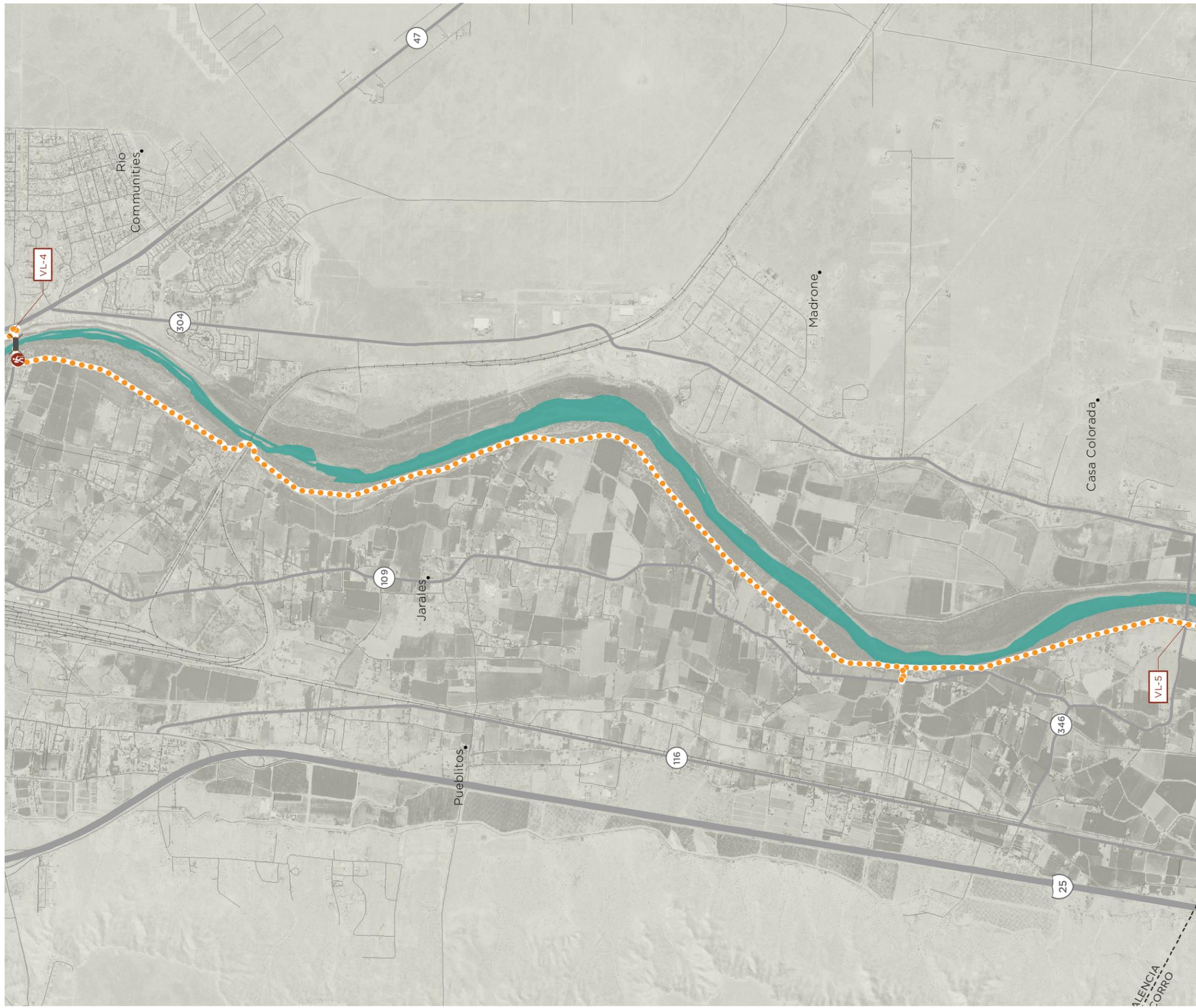
AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



Map produced October 2018

SHEET NO
33
 33 OF 77



SEGMENT VL-04
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: VALENCIA

BEGINS: NM 309/E. RIVER RD./MANZANO EXPWY.

ENDS: NM 346

TRAIL LENGTH (MILES): 8.9

LENGTH (RIVER MILES): 8.3

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

| | |
|--|-----------------------------|
| | Backcountry Trail |
| | Shared Use Path |
| | Unpaved Multi-Use Roadway |
| | Sidepath |
| | Shoulder Bikeway |
| | Urban Bikeway |
| | On-Levee |
| | On-Ditch/Drain Service Road |

AMENITIES (EXISTING + PROPOSED)

| | |
|--|------------------------------|
| | Rio Grande Public Access |
| | Parking |
| | Restroom |
| | Points of Interest |
| | Existing Rio Grande Crossing |

| | |
|--|-------------------------------------|
| | Proposed Rio Grande Crossing |
| | Proposed Rio Grande Trail Trailhead |

NEW MEXICO
Rio Grande Trail
 MASTER PLAN



Map produced October 2018

SHEET NO

34

34 OF 77



SEGMENT VL-05
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: VALENCIA

BEGINS: NM 346

ENDS: VALENCIA/SOCORRO COUNTY LINE

TRAIL LENGTH (MILES): 1

LENGTH (RIVER MILES): 1.1

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



Map produced October 2018



SEGMENT SC-01
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: SOCORRO

BEGINS: VALENCIA/SOCORRO COUNTY LINE

ENDS: VEGUITA (END OF WEST SIDE DRAIN/LEVEE)

TRAIL LENGTH (MILES): 1.9

LENGTH (RIVER MILES): 1.9

NEW MEXICO
Rio Grande Trail
 MASTER PLAN

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

| | |
|--|-----------------------------|
| | Backcountry Trail |
| | Shared Use Path |
| | Unpaved Multi-Use Roadway |
| | Sidepath |
| | Shoulder Bikeway |
| | Urban Bikeway |
| | On-Levee |
| | On-Ditch/Drain Service Road |
| | |

AMENITIES (EXISTING + PROPOSED)

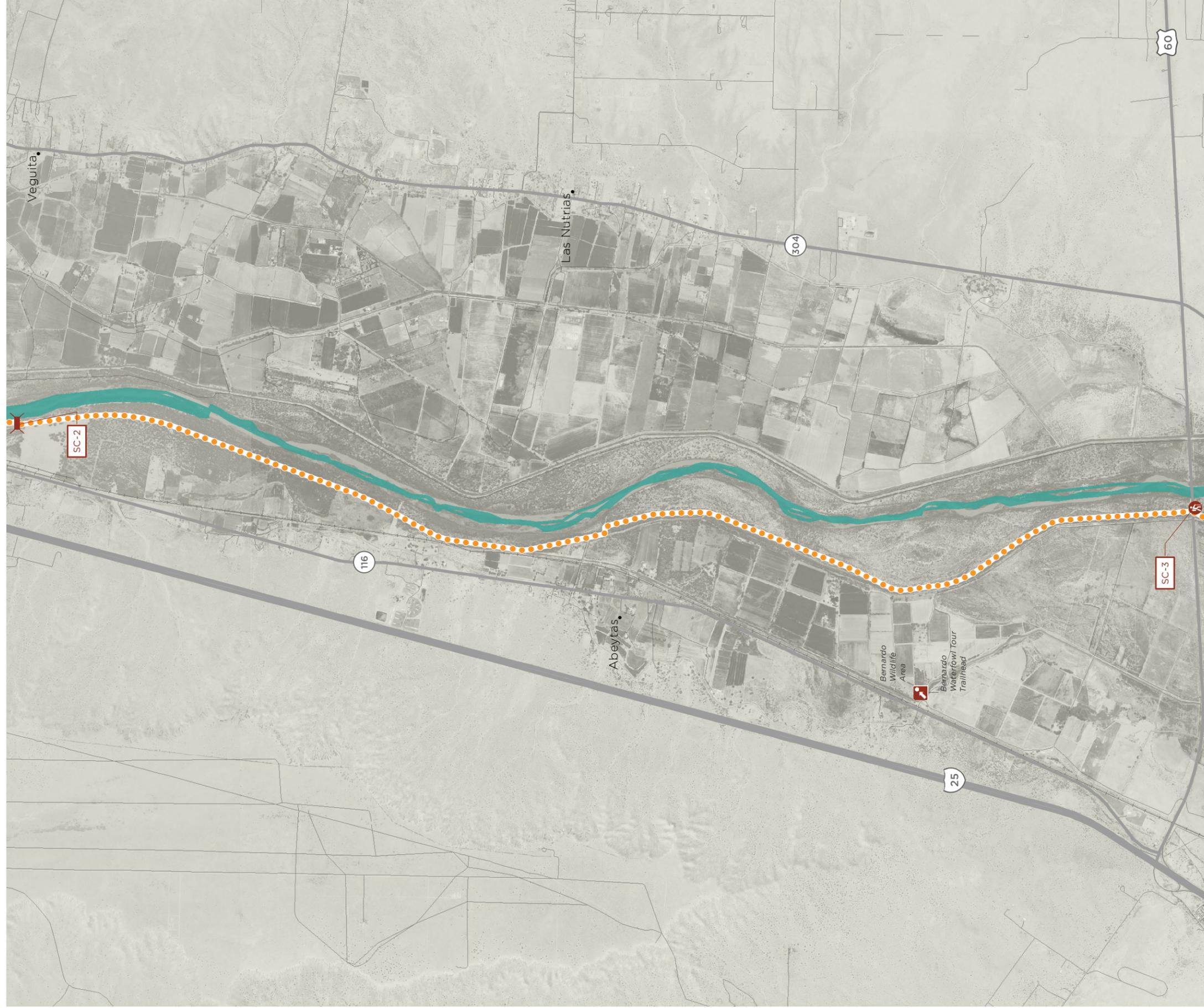
| | |
|--|------------------------------|
| | Rio Grande Public Access |
| | Parking |
| | Restroom |
| | Points of Interest |
| | Existing Rio Grande Crossing |

| | |
|--|-------------------------------------|
| | Proposed Rio Grande Crossing |
| | Proposed Rio Grande Trail Trailhead |



Map produced October 2018

SHEET NO
36
 36 OF 77



SEGMENT SC-02
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: SOCORRO

BEGINS: VEGUITA (END OF WEST SIDE DRAIN/LEVEE)
 ENDS: US 60
 TRAIL LENGTH (MILES): 7.2
 LENGTH (RIVER MILES): 7

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

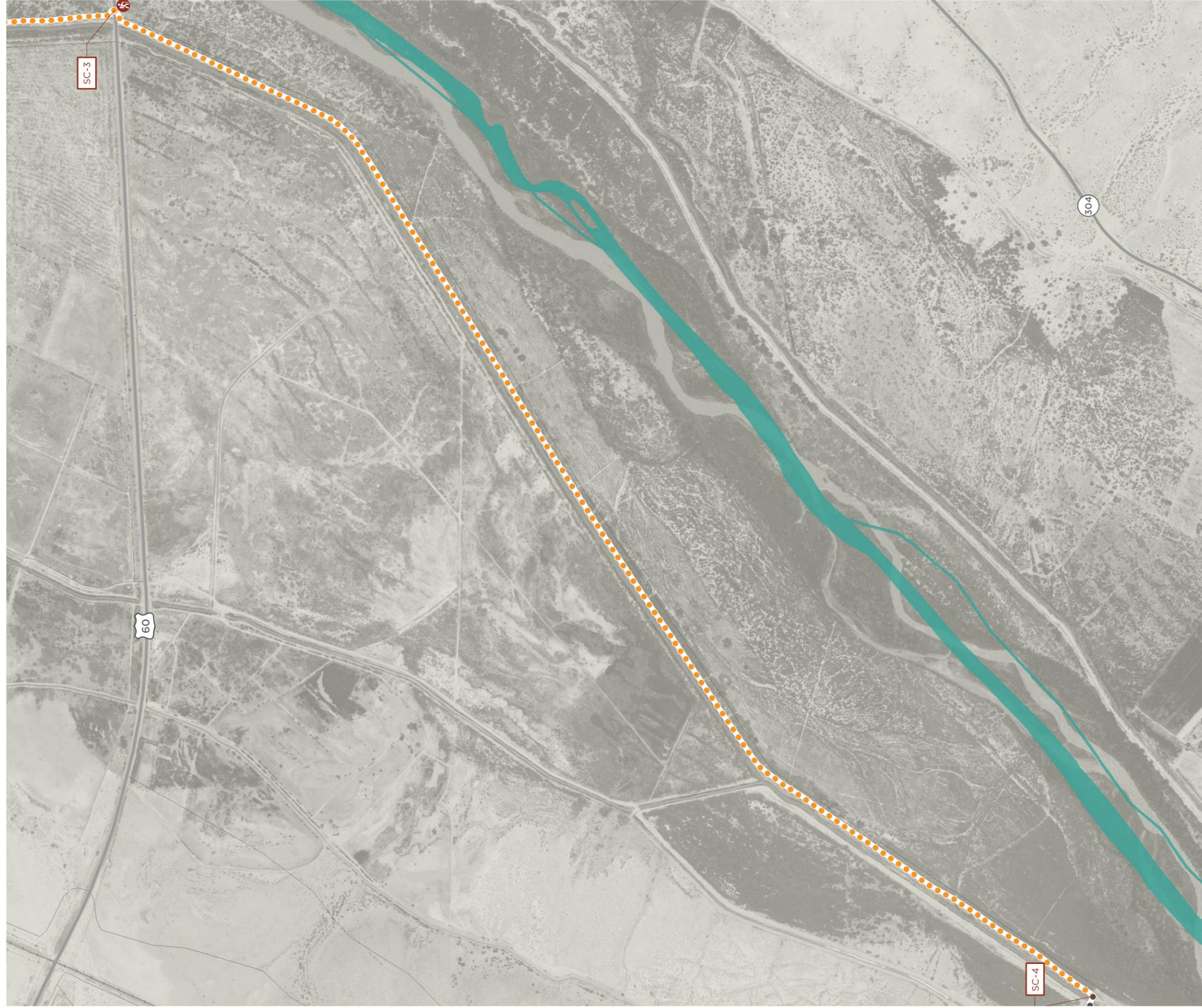
| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



Map produced October 2018



SEGMENT SC-03
PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SOCORRO
 BEGINS: US 60
 ENDS: RIO PUERCO/SAN FRANCISCO DRAIN
 TRAIL LENGTH (MILES): 2.7
 LENGTH (RIVER MILES): 2.7



TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

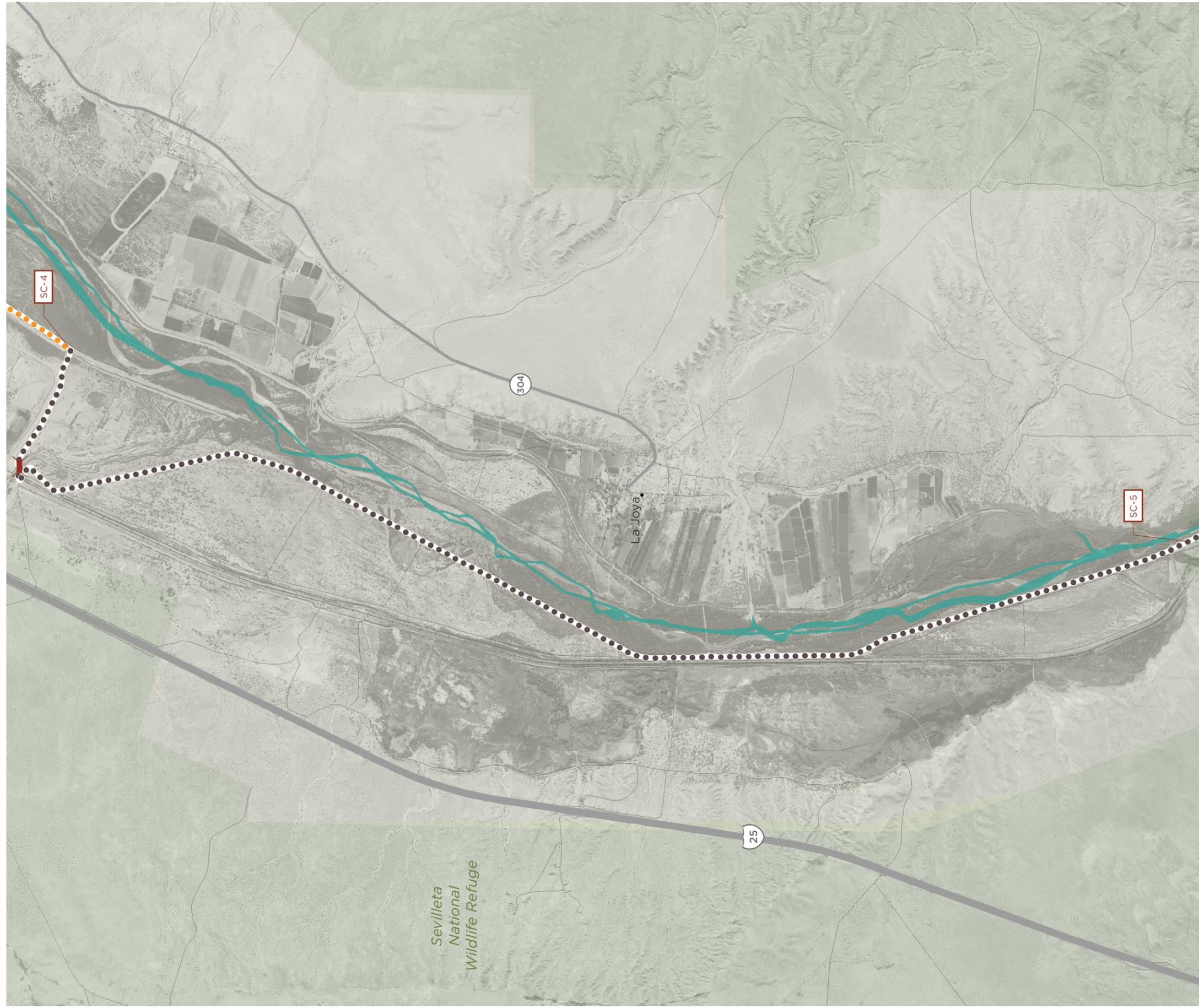
AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



SHEET NO
38
 38 OF 77

Map produced October 2018



SEGMENT SC-04

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SOCORRO

BEGINS: RIO PUERCO/SAN FRANCISCO DRAIN

ENDS: SEVILLETA WILDLIFE REFUGE

TRAIL LENGTH (MILES): 7.6

LENGTH (RIVER MILES): 6.9

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead



0 1,100 2,200 FEET

Map produced October 2018

SHEET NO

39

39 OF 77



SEGMENT SC-05
PREFERRED ALIGNMENT

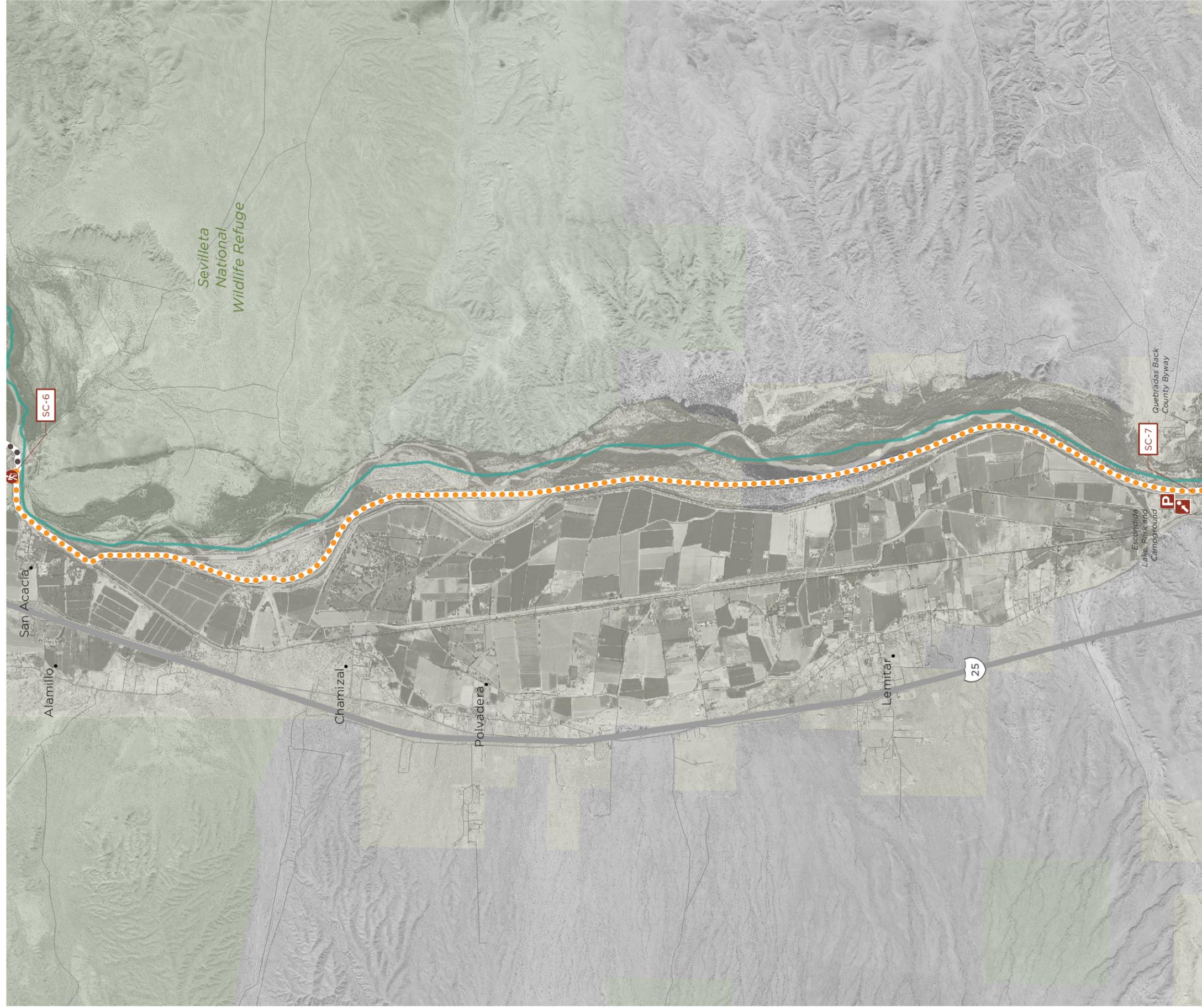
SEGMENT DETAILS
 COUNTY: SOCORRO

BEGINS: SEVILLETA WILDLIFE REFUGE NORTH BOUNDARY
 ENDS: SWR SOUTH BOUNDARY (SAN ACACIA DIVERSION)
 TRAIL LENGTH (MILES): 5.1
 LENGTH (RIVER MILES): 5.7



TRAIL SYSTEM

- | DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |



SEGMENT SC-06

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SOCORRO

BEGINS: SEVILLETA WILDLIFE REFUGE SOUTH BOUNDARY
 ENDS: PUEBLITOS ROAD

TRAIL LENGTH (MILES): 10.3

LENGTH (RIVER MILES): 10.3

NEW MEXICO

Rio Grande Trail
 MASTER PLAN

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

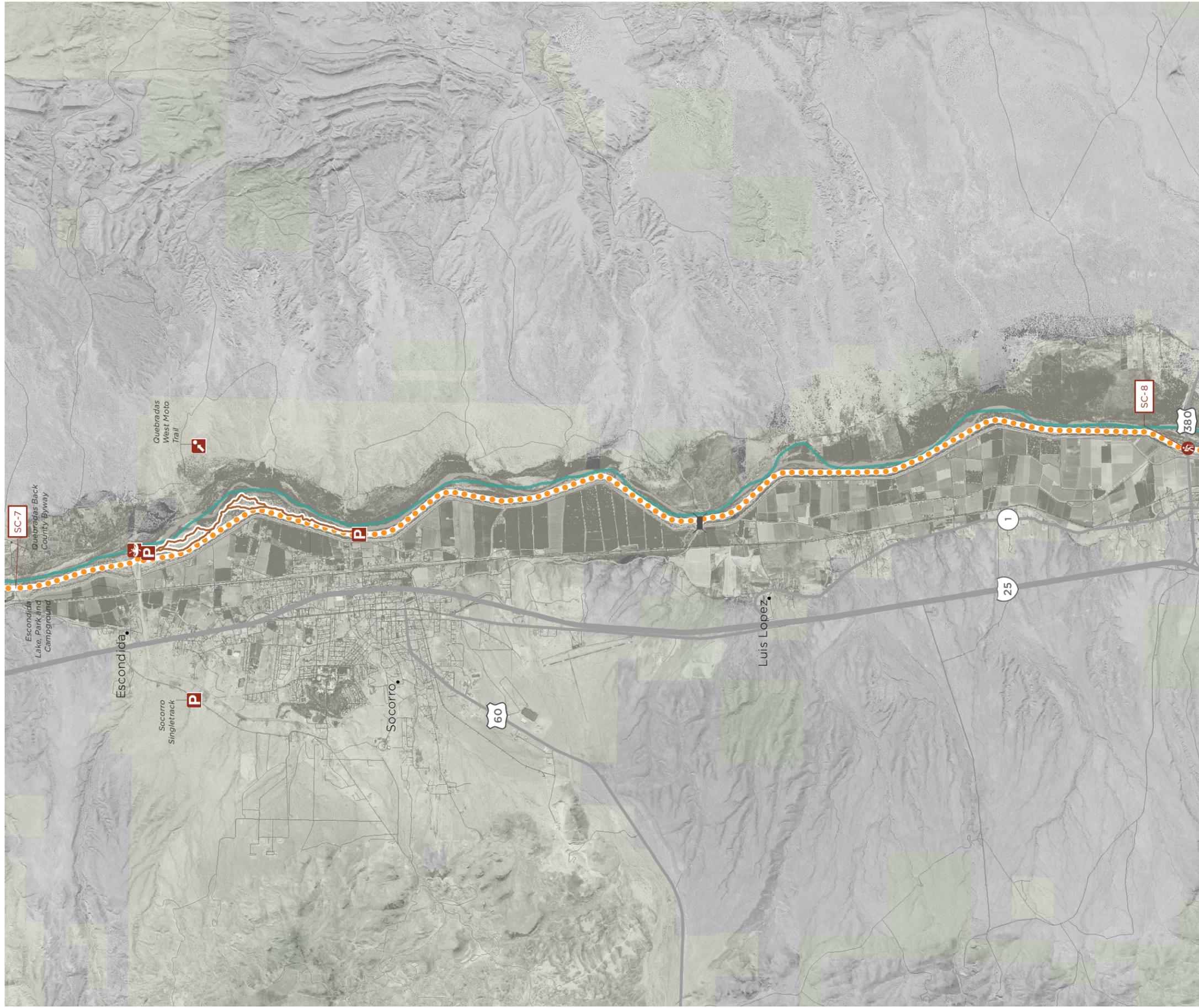


Map produced October 2018

SHEET NO

41

41 OF 77



SEGMENT SC-07
PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SOCORRO

BEGINS: PUEBLITOS ROAD

ENDS: US 380

TRAIL LENGTH (MILES): 19.5

LENGTH (RIVER MILES): 14.9

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



Map produced October 2018

SHEET NO

42

42 OF 77



SEGMENT SC-08

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SOCORRO

BEGINS: US 380

ENDS: BOSQUE DEL APACHE WILDLIFE REFUGE

TRAIL LENGTH (MILES): 3.4

LENGTH (RIVER MILES): 3.5

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead



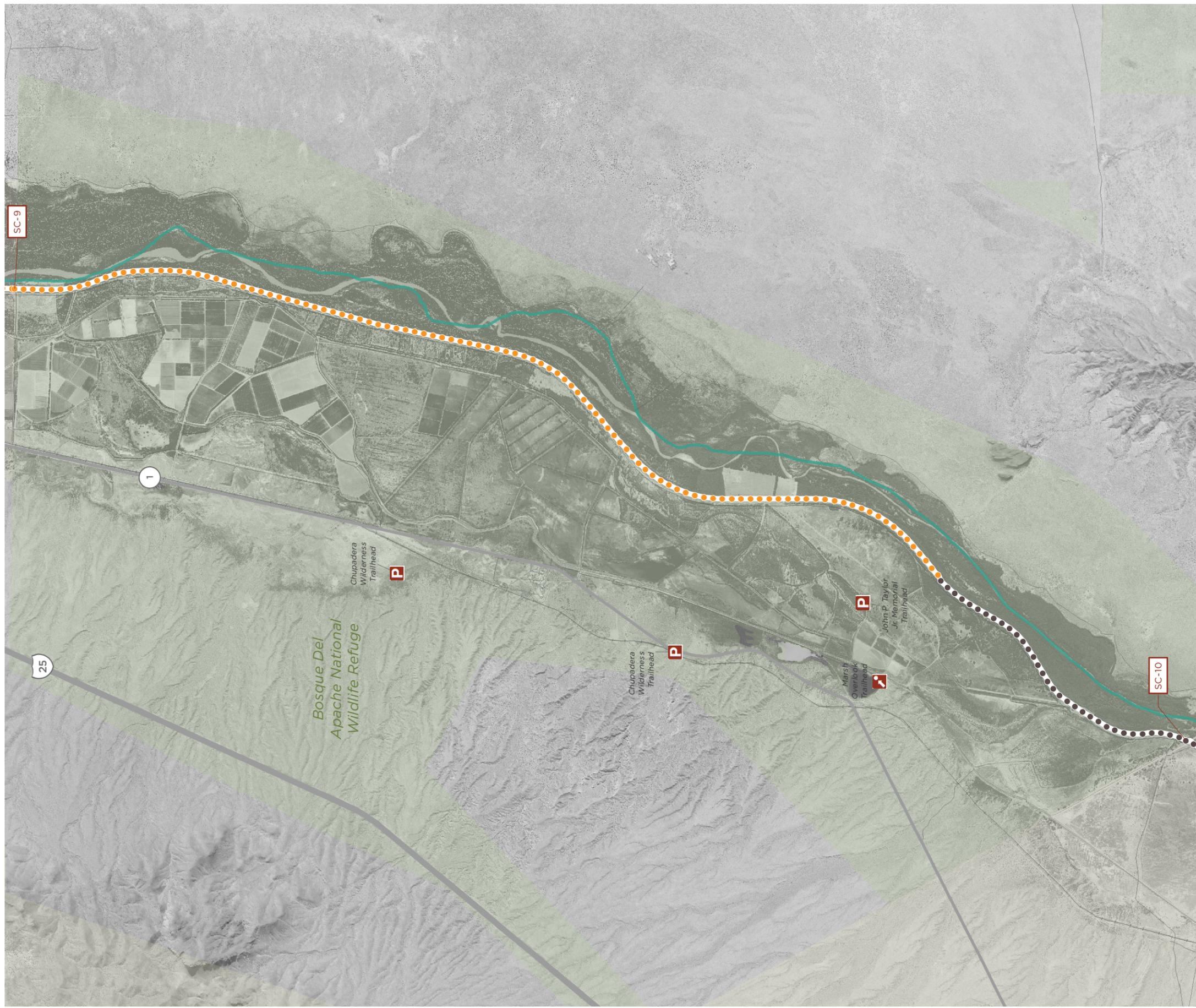
0 580 1160 FEET

Map produced October 2018

SHEET NO

43

43 OF 77



SEGMENT SC-09

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SOCORRO

BEGINS: BOSQUE DEL APACHE NORTH BOUNDARY

ENDS: BOSQUE DEL APACHE SOUTH BOUNDARY

TRAIL LENGTH (MILES): 11.3

LENGTH (RIVER MILES): 11.4

AMENITIES (EXISTING + PROPOSED)

NEW MEXICO

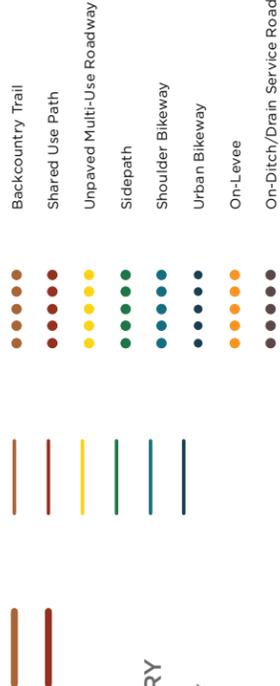
Rio Grande Trail

MASTER PLAN



TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED



BOUNDARIES + TRANSPORTATION



Map produced October 2018

SHEET NO

44

44 OF 77



SEGMENT SC-10

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SOCORRO

BEGINS: BOSQUE DEL APACHE SOUTH BOUNDARY

ENDS: FORT CRAIG ROAD

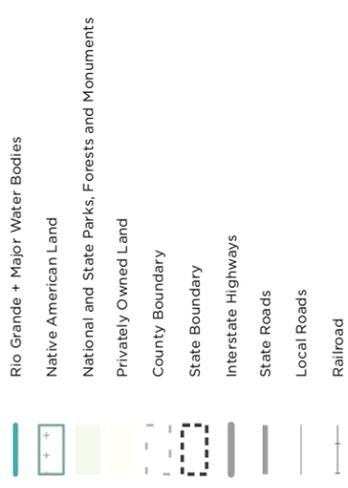
TRAIL LENGTH (MILES): 11

LENGTH (RIVER MILES): 10.6

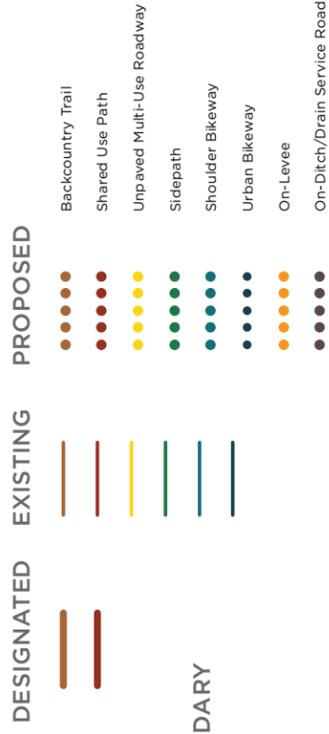
NEW MEXICO

Rio Grande Trail
MASTER PLAN

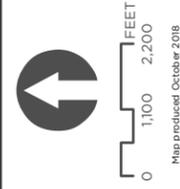
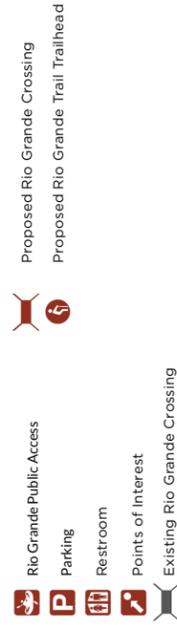
BOUNDARIES + TRANSPORTATION



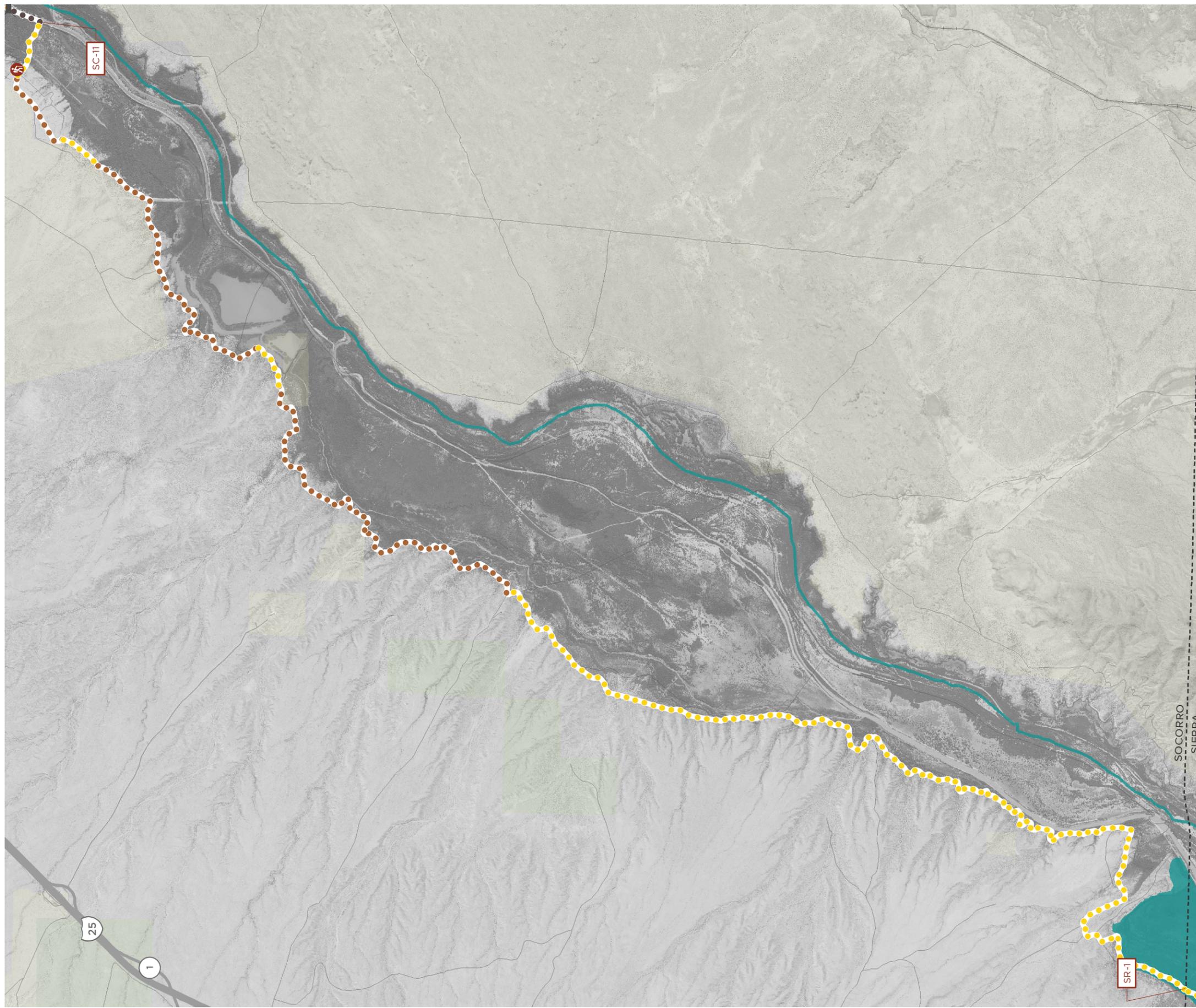
TRAIL SYSTEM



AMENITIES (EXISTING + PROPOSED)



SHEET NO
45
45 OF 77



SEGMENT SC-11

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SOCORRO

BEGINS: FORT CRAIG ROAD

ENDS: SOCORRO/SIERRA COUNTY LINE

TRAIL LENGTH (MILES): 18.3

LENGTH (RIVER MILES): 13.4

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED

Rio Grande Public Access

Parking

Restroom

Points of Interest

Existing Rio Grande Crossing

EXISTING

Backcountry Trail

Shared Use Path

Unpaved Multi-Use Roadway

Sidepath

Shoulder Bikeway

Urban Bikeway

On-Levee

On-Ditch/Drain Service Road

PROPOSED

Backcountry Trail

Shared Use Path

Unpaved Multi-Use Roadway

Sidepath

Shoulder Bikeway

Urban Bikeway

On-Levee

On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

Rio Grande + Major Water Bodies

Native American Land

National and State Parks, Forests and Monuments

Privately Owned Land

County Boundary

State Boundary

Interstate Highways

State Roads

Local Roads

Railroad

AMENITIES (EXISTING + PROPOSED)

Rio Grande Public Access

Parking

Restroom

Points of Interest

Existing Rio Grande Crossing

Proposed Rio Grande Crossing

Proposed Rio Grande Trail Trailhead



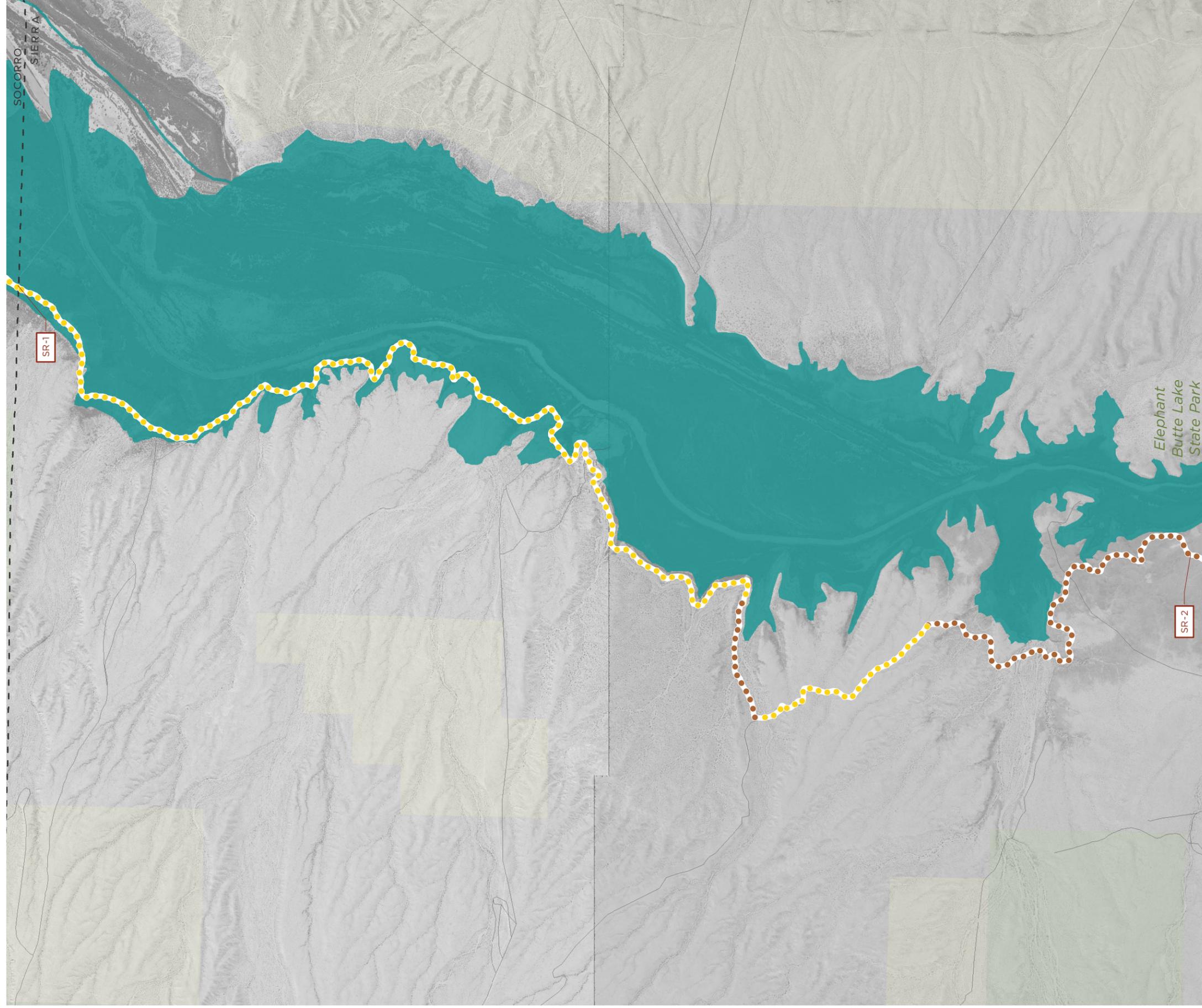
0 1,750 3,500 FEET

Map produced October 2018

SHEET NO

46

46 OF 77



SEGMENT SR-01

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SIERRA

BEGINS: SOCORRO/SIERRA COUNTY LINE

ENDS: ELEPHANT BUTTE STATE PARK NORTH BOUNDARY

TRAIL LENGTH (MILES): 10.2

LENGTH (RIVER MILES): 7.5

TRAIL SYSTEM

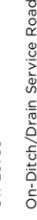
DESIGNATED



PROPOSED

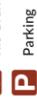
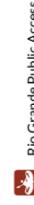


BOUNDARIES + TRANSPORTATION

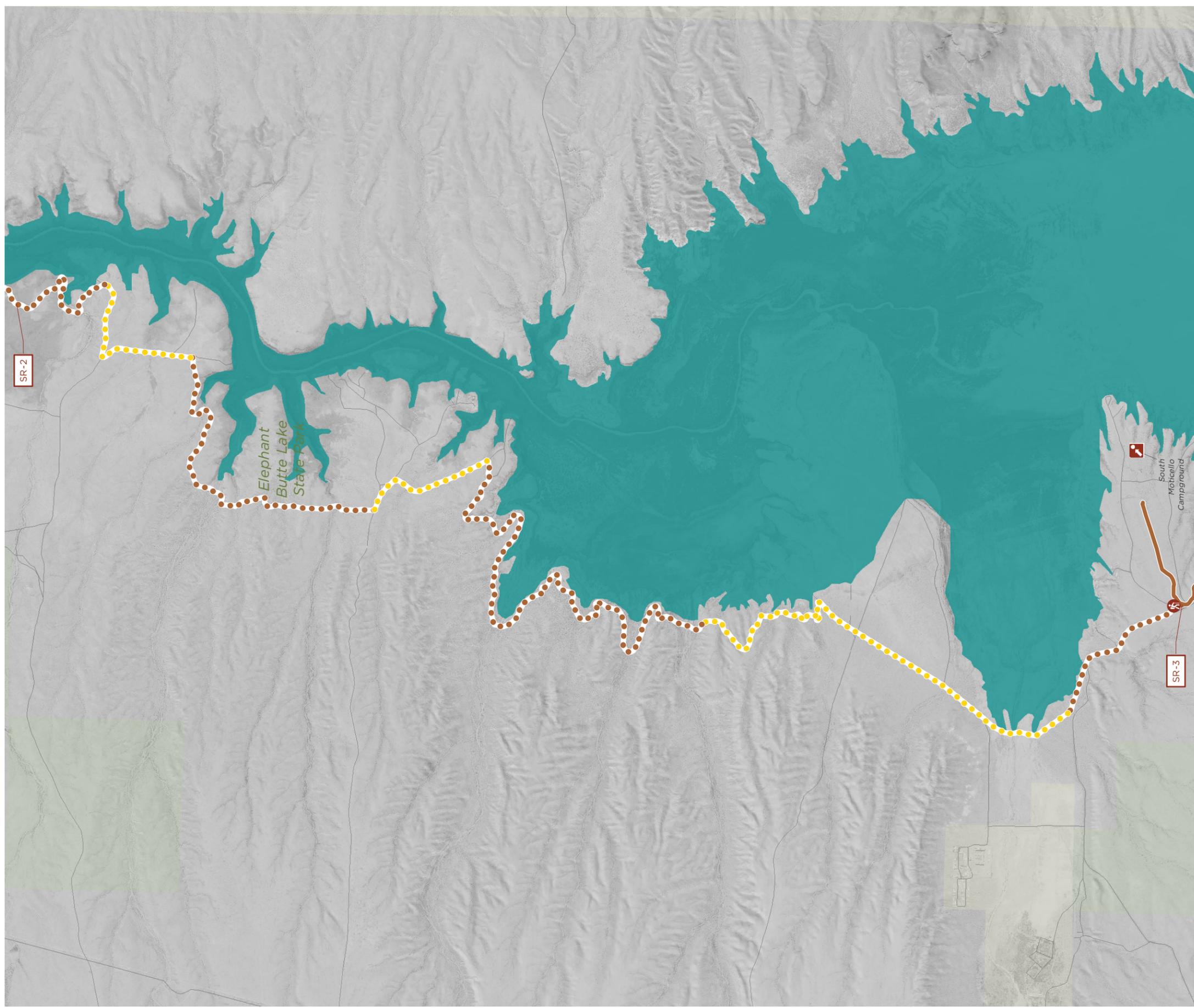


AMENITIES

(EXISTING + PROPOSED)



Map produced October 2018



SEGMENT SR-02
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: SIERRA

BEGINS: EBLSP NORTH BOUNDARY

ENDS: MONTICELLO RD./S. MONTICELLO CAMPGROUND

TRAIL LENGTH (MILES): 12.5

LENGTH (RIVER MILES): 9.1

NEW MEXICO

Rio Grande Trail
 MASTER PLAN

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

**AMENITIES
 (EXISTING + PROPOSED)**

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

**BOUNDARIES +
 TRANSPORTATION**

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road

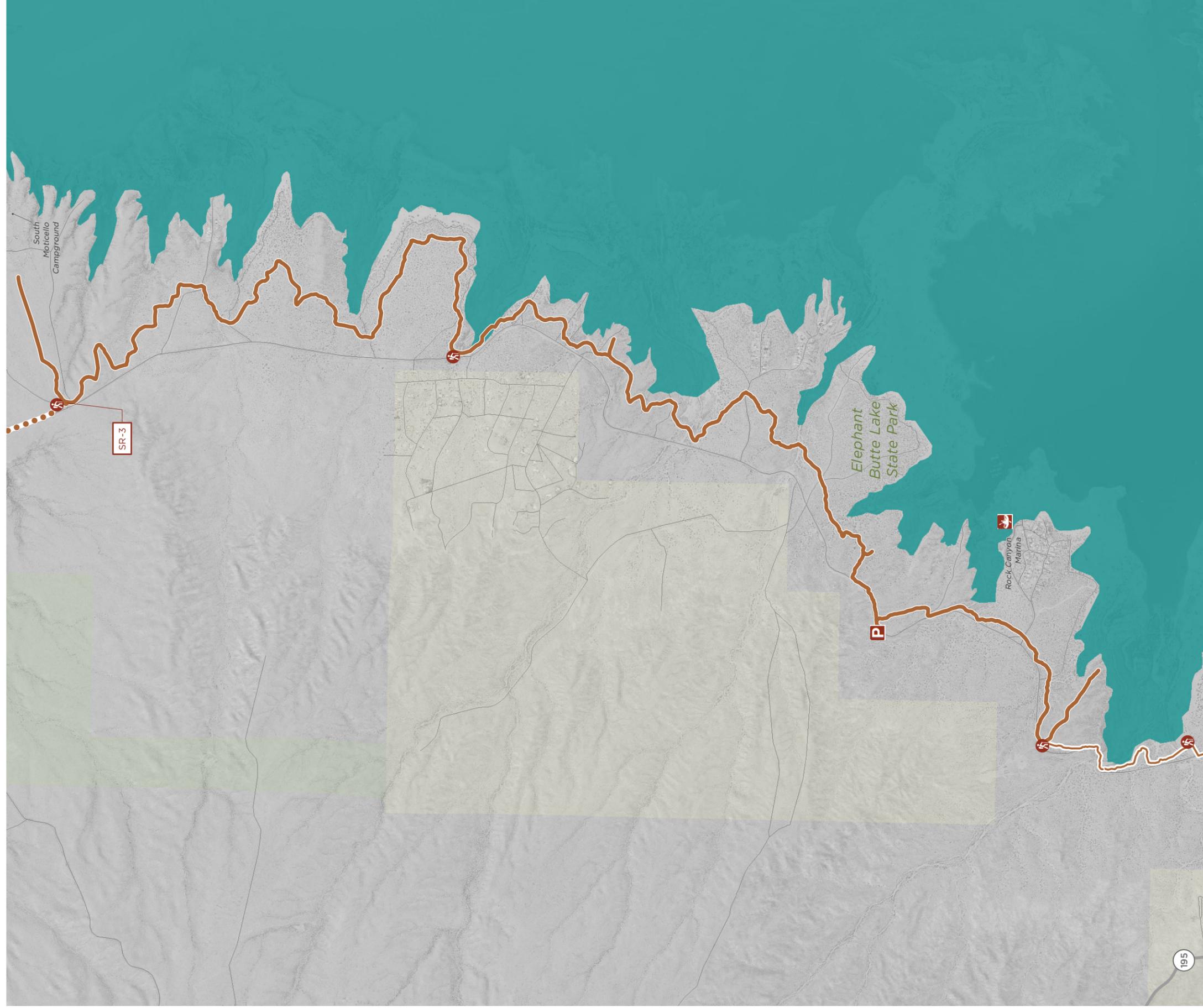


Map produced October 2018

SHEET NO

48

48 OF 77



SEGMENT SR-03

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SIERRA

BEGINS: MONTICELLO RD./S. MONTICELLO CAMPGROUND

ENDS: SPRINGLAND BLVD./HOT SPRINGS LANDING RD.

TRAIL LENGTH (MILES): 11.5

LENGTH (RIVER MILES): 7.2

AMENITIES (EXISTING + PROPOSED)

NEW MEXICO

Rio Grande Trail

MASTER PLAN

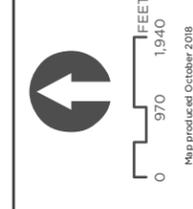
TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Designated Existing
- Designated Proposed
- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidewalk
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

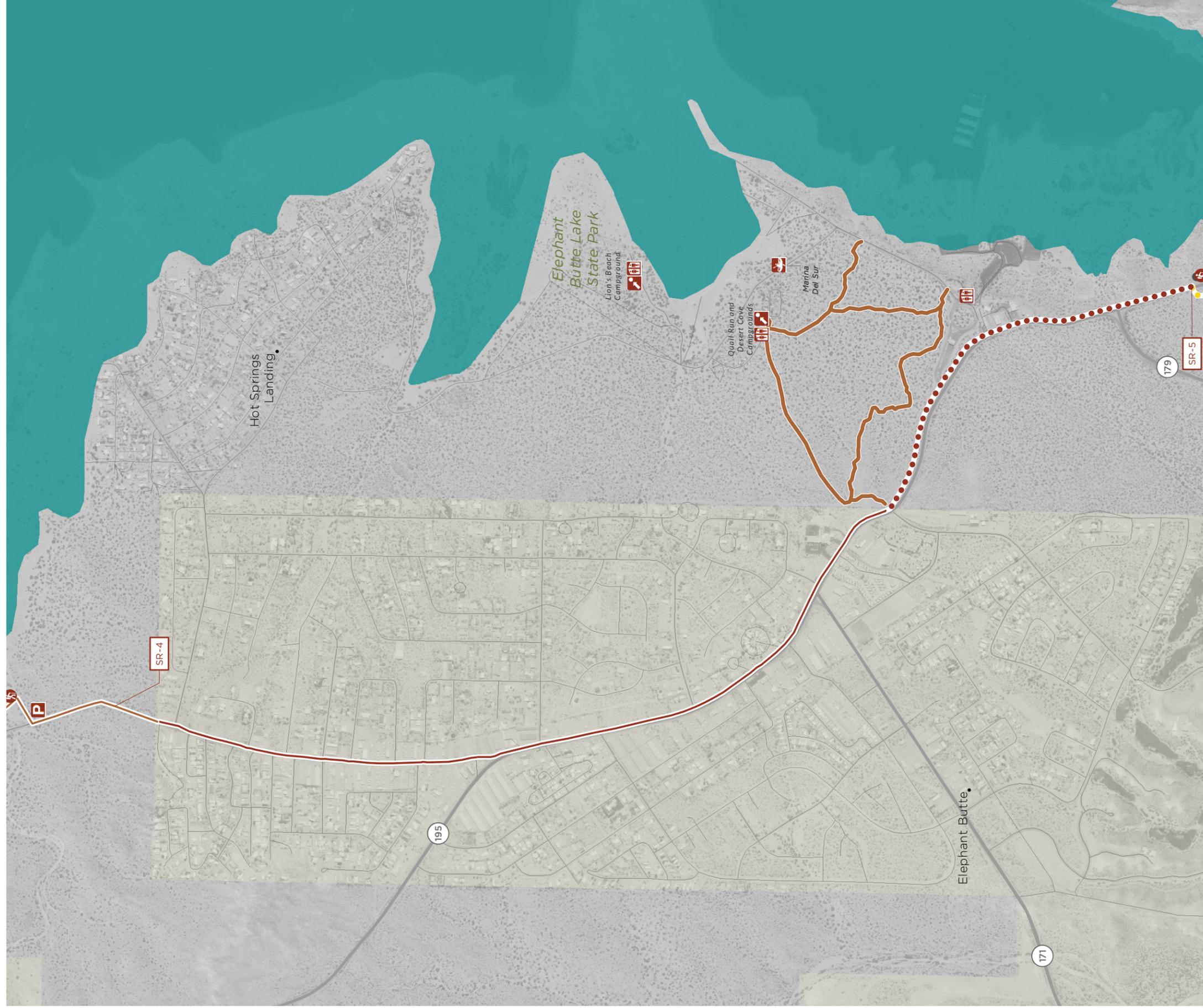
- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad



SHEET NO

49

49 OF 77



SEGMENT SR-04

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SIERRA

BEGINS: SPRINGLAND BLVD./HOT SPRINGS LANDING RD.

ENDS: ELEPHANT BUTTE STATE PARK SOUTH BOUNDARY

TRAIL LENGTH (MILES): 5.2

LENGTH (RIVER MILES): 5.1

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing

NEW MEXICO
Rio Grande Trail
MASTER PLAN

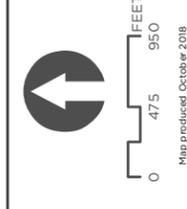
TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

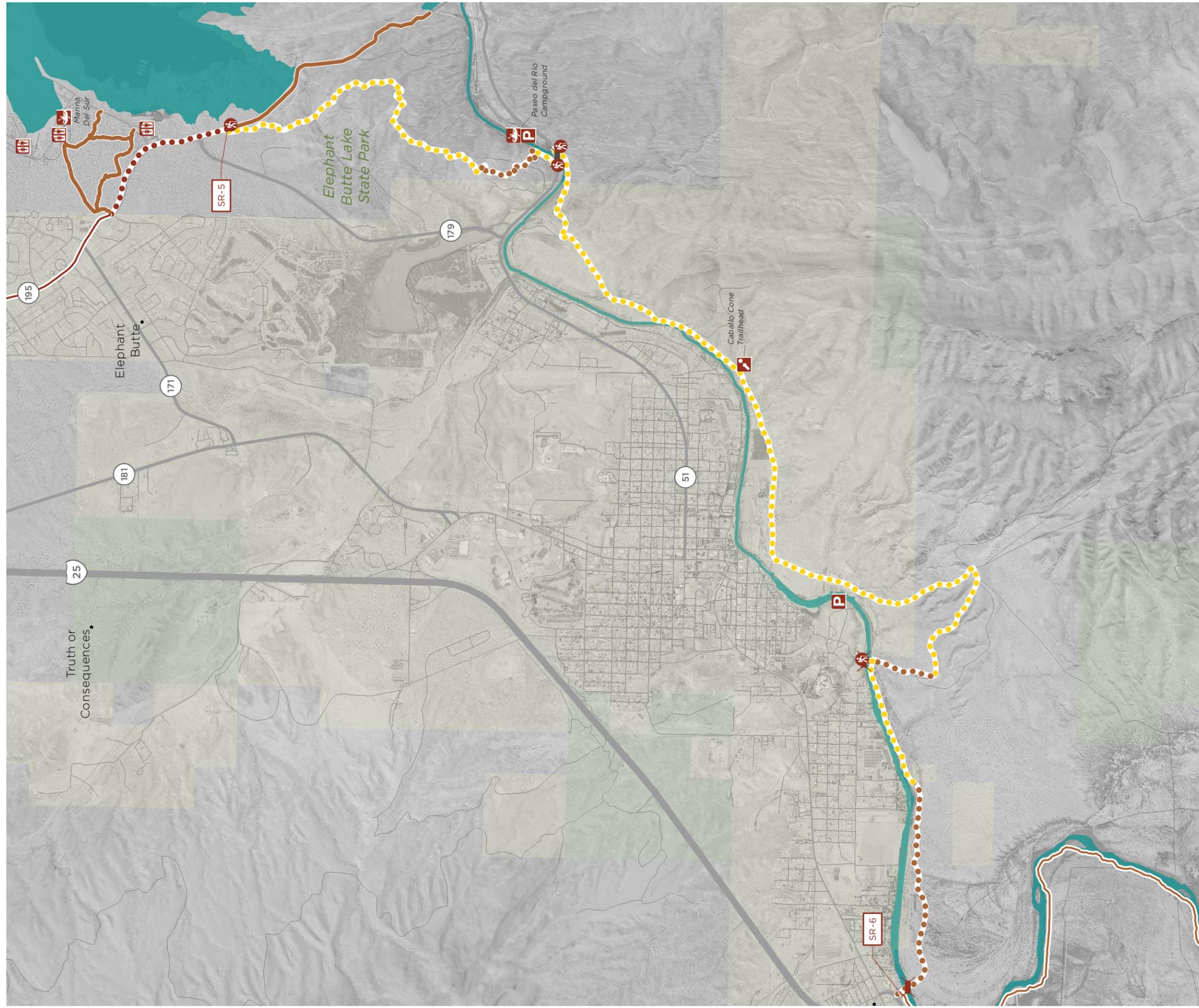
- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad



SHEET NO
50
50 OF 77



SEGMENT SR-05

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SIERRA

BEGINS: EBLSP SOUTH BOUNDARY

ENDS: NM 187/1ST AVE (WILLIAMSBURG)

TRAIL LENGTH (MILES): 12.6

LENGTH (RIVER MILES): 8.2

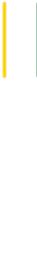
NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED



EXISTING



PROPOSED

Backcountry Trail

Shared Use Path

Unpaved Multi-Use Roadway

Sidewalk

Shoulder Bikeway

Urban Bikeway

On-Levee

On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

Rio Grande + Major Water Bodies

Native American Land

National and State Parks, Forests and Monuments

Privately Owned Land

County Boundary

State Boundary

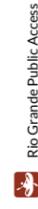
Interstate Highways

State Roads

Local Roads

Railroad

AMENITIES (EXISTING + PROPOSED)



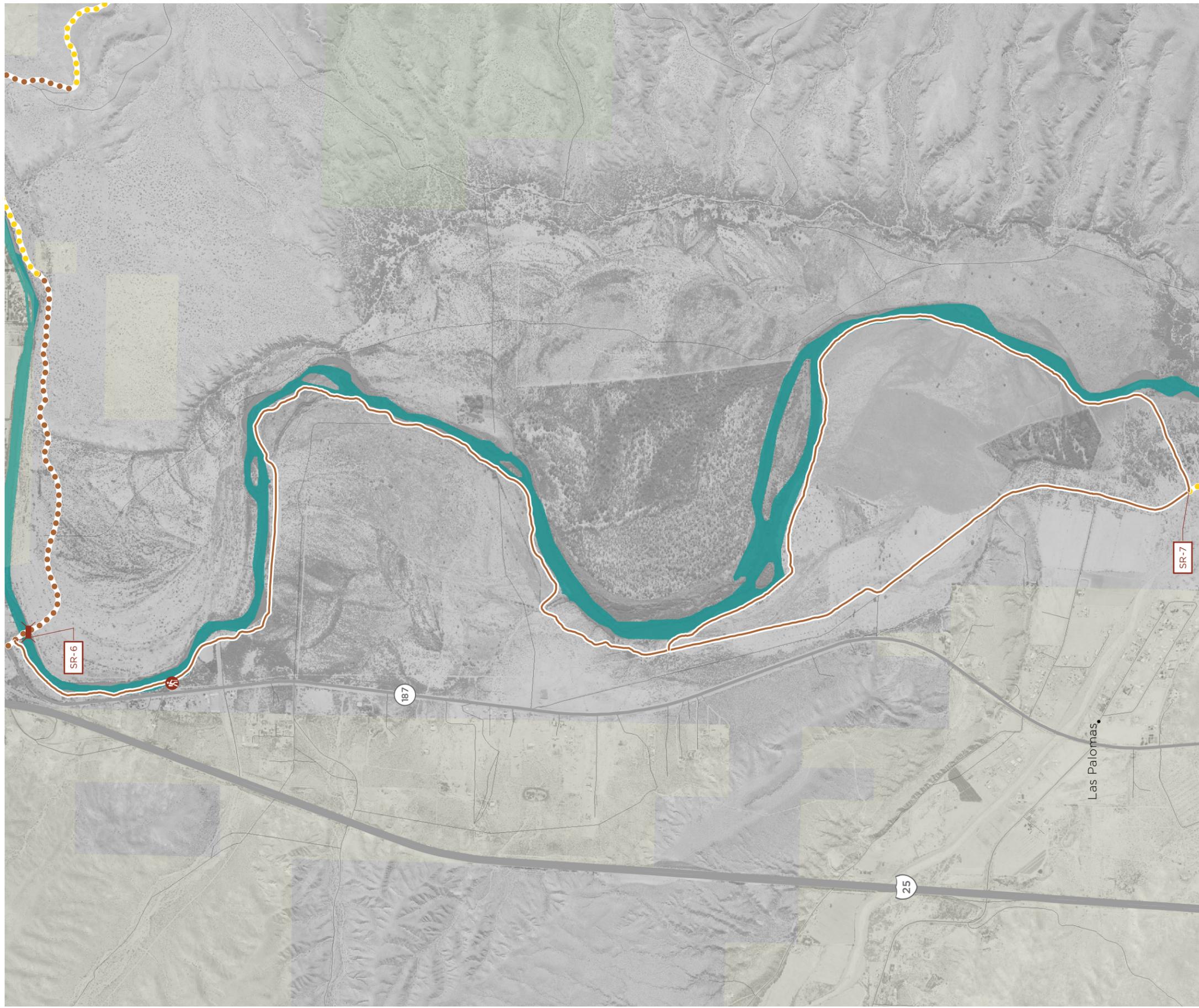
0 1,200 2,400 FEET

Map produced October 2018

SHEET NO

51

51 OF 77



SEGMENT SR-06
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: SIERRA

BEGINS: NM 187/1ST AVE (WILLIAMSBURG)

ENDS: PALOMA BLANCA RD./PALOMAS CREEK

TRAIL LENGTH (MILES): 8.7

LENGTH (RIVER MILES): 6.3

NEW MEXICO
Rio Grande Trail
 MASTER PLAN

TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

| | |
|--|---|
| | Rio Grande + Major Water Bodies |
| | Native American Land |
| | National and State Parks, Forests and Monuments |
| | Privately Owned Land |
| | County Boundary |
| | State Boundary |
| | Interstate Highways |
| | State Roads |
| | Local Roads |
| | Railroad |

| | |
|--|-----------------------------|
| | Backcountry Trail |
| | Shared Use Path |
| | Unpaved Multi-Use Roadway |
| | Sidepath |
| | Shoulder Bikeway |
| | Urban Bikeway |
| | On-Levee |
| | On-Ditch/Drain Service Road |

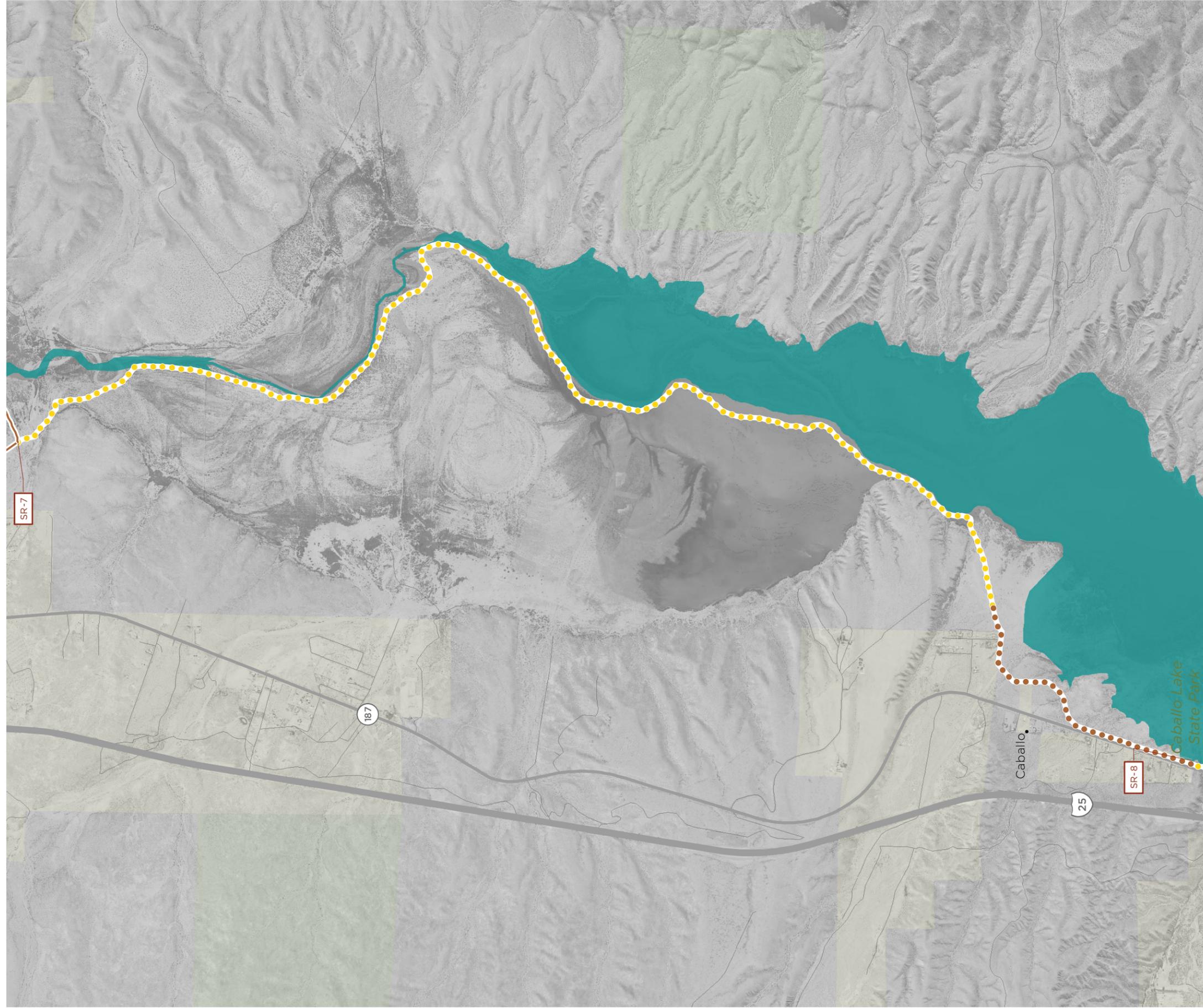
AMENITIES (EXISTING + PROPOSED)

| | | | |
|--|------------------------------|--|-------------------------------------|
| | Rio Grande Public Access | | Proposed Rio Grande Crossing |
| | Parking | | Proposed Rio Grande Trail Trailhead |
| | Restroom | | |
| | Points of Interest | | |
| | Existing Rio Grande Crossing | | |



SHEET NO
52
 52 OF 77

Map produced October 2018



SEGMENT SR-07

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SIERRA

BEGINS: PALOMA BLANCA RD./PALOMAS CREEK

ENDS: CABALLO LAKE STATE PARK NORTH BOUNDARY

TRAIL LENGTH (MILES): 8.1

LENGTH (RIVER MILES): 6.8

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | | | | |
|---------------------------|----------|------------------|--------------------|------------------------------|-----------------------------|-----------------|
| | | | | | | |
| Rio Grande Public Access | Parking | Restroom | Points of Interest | Existing Rio Grande Crossing | Backcountry Trail | Shared Use Path |
| | | | | | | |
| Unpaved Multi-Use Roadway | Sidepath | Shoulder Bikeway | Urban Bikeway | On-Levee | On-Ditch/Drain Service Road | |

BOUNDARIES + TRANSPORTATION

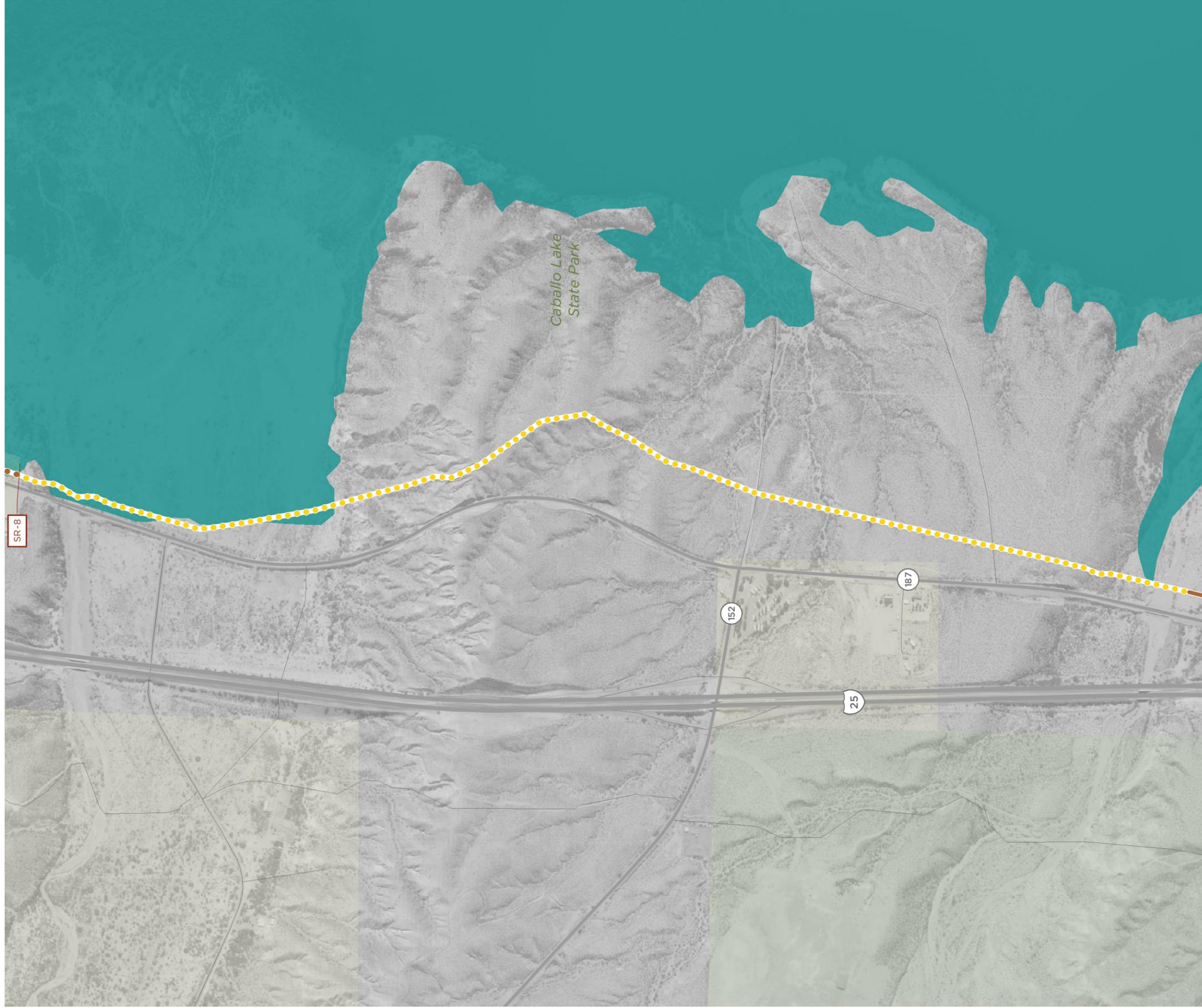
- | | | | | | | |
|---------------------------------|----------------------|---|----------------------|-----------------|----------------|---------------------|
| | | | | | | |
| Rio Grande + Major Water Bodies | Native American Land | National and State Parks, Forests and Monuments | Privately Owned Land | County Boundary | State Boundary | Interstate Highways |
| | | | | | | |
| State Roads | Local Roads | Railroad | | | | |

AMENITIES (EXISTING + PROPOSED)

- | | | | |
|------------------------------|-------------------------------------|--|--|
| | | | |
| Proposed Rio Grande Crossing | Proposed Rio Grande Trail Trailhead | | |



Map produced October 2018



SEGMENT SR-08

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SIERRA

BEGINS: CABALLO LAKE STATE PARK NORTH BOUNDARY

ENDS: GREENHORN ARROYO (SOUTH OF NM 152)

TRAIL LENGTH (MILES): 1.8

LENGTH (RIVER MILES): 1.8

AMENITIES (EXISTING + PROPOSED)

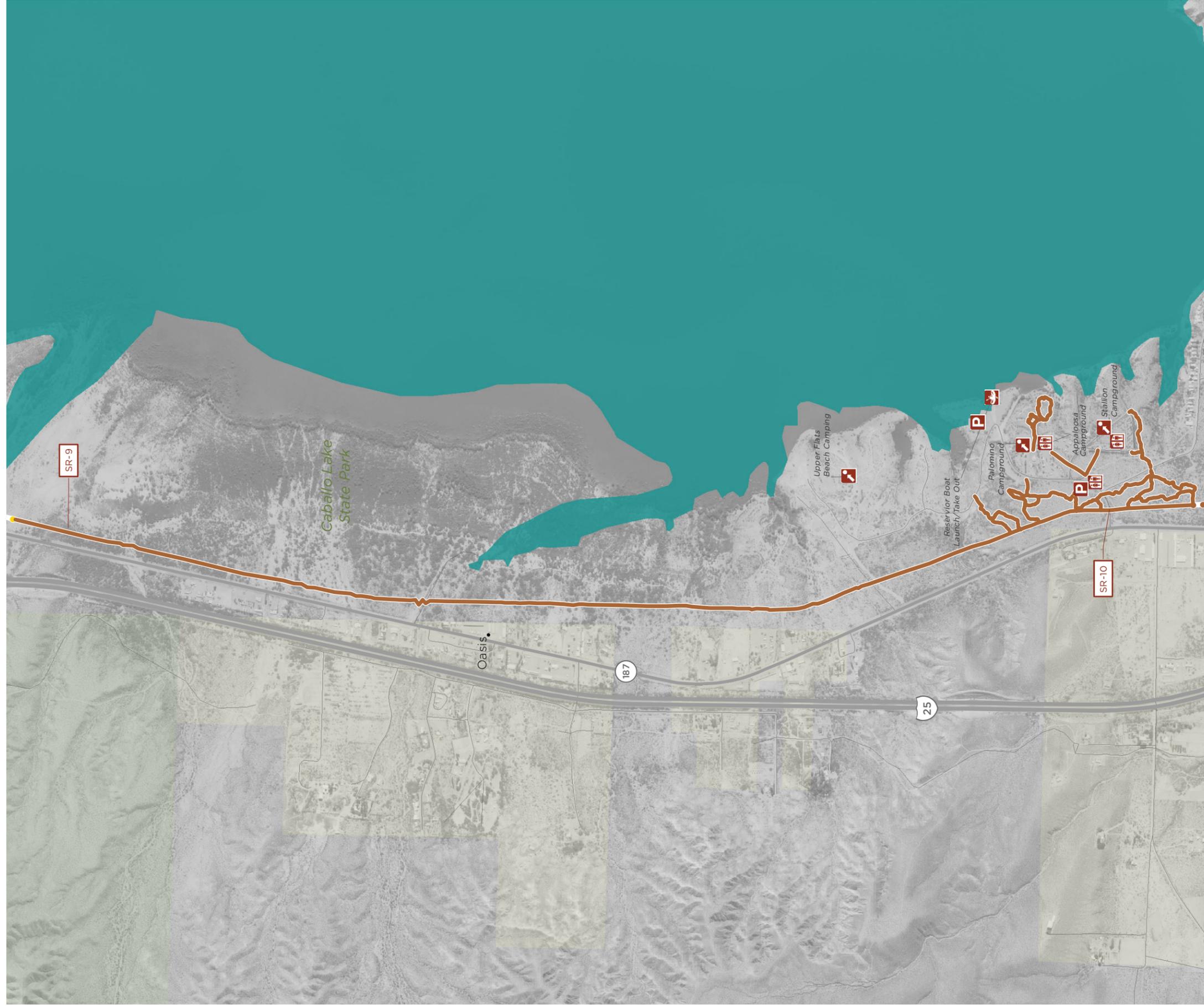
-  Rio Grande Public Access
-  Parking
-  Restroom
-  Points of Interest
-  Existing Rio Grande Crossing
-  Proposed Rio Grande Crossing
-  Proposed Rio Grande Trail Trailhead

BOUNDARIES + TRANSPORTATION

- | | | | |
|---|---|---|-----------------------------|
|  | Rio Grande + Major Water Bodies |  | Backcountry Trail |
|  | Native American Land |  | Shared Use Path |
|  | National and State Parks, Forests and Monuments |  | Unpaved Multi-Use Roadway |
|  | Privately Owned Land |  | Sidepath |
|  | County Boundary |  | Shoulder Bikeway |
|  | State Boundary |  | Urban Bikeway |
|  | Interstate Highways |  | On-Levee |
|  | State Roads |  | On-Ditch/Drain Service Road |
|  | Local Roads | | |
|  | Railroad | | |



Map produced October 2018



SEGMENT SR-09

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SIERRA

BEGINS: GREENHORN ARROYO

ENDS: PALOMINO ROAD (BOAT RAMP ACCESS)

TRAIL LENGTH (MILES): 4.6

LENGTH (RIVER MILES): 2.8

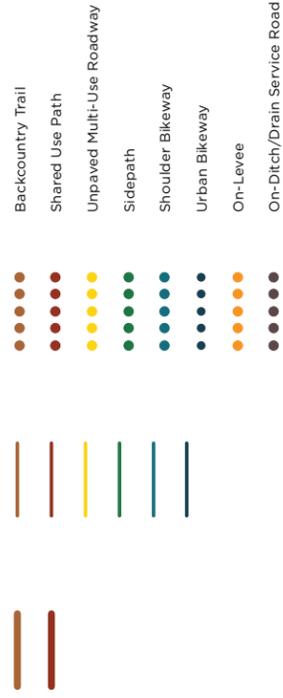
NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

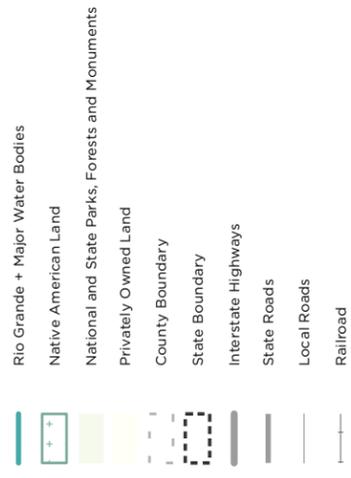
DESIGNATED EXISTING PROPOSED



AMENITIES

(EXISTING + PROPOSED)

BOUNDARIES + TRANSPORTATION

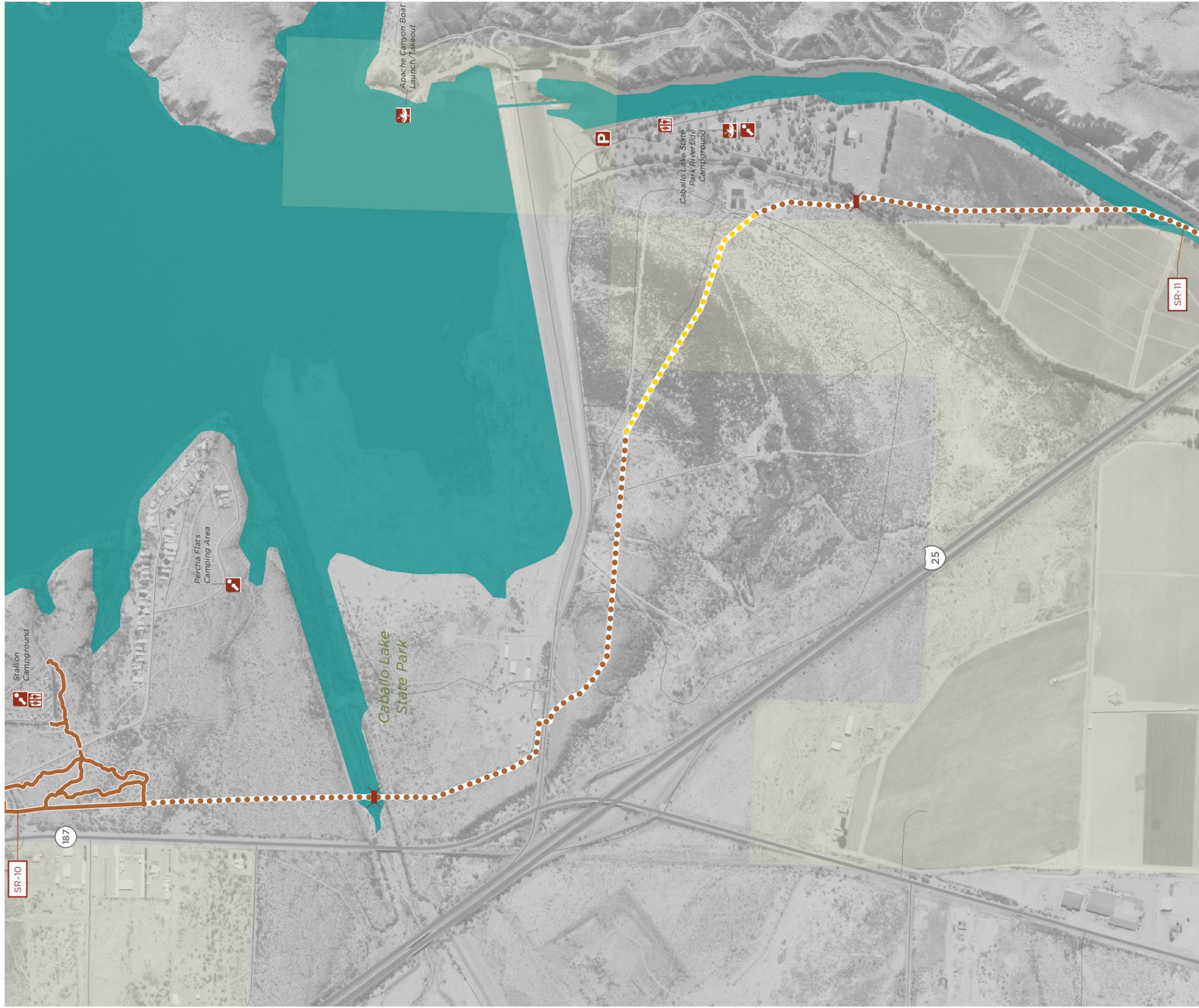


Map produced October 2018

SHEET NO

55

55 OF 77



SEGMENT SR-10

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SIERRA

BEGINS: PALOMINO ROAD

ENDS: CABALLO LAKE STATE PARK SOUTH BOUNDARY

TRAIL LENGTH (MILES): 2.4

LENGTH (RIVER MILES): 2.5

AMENITIES (EXISTING + PROPOSED)

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing

- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead



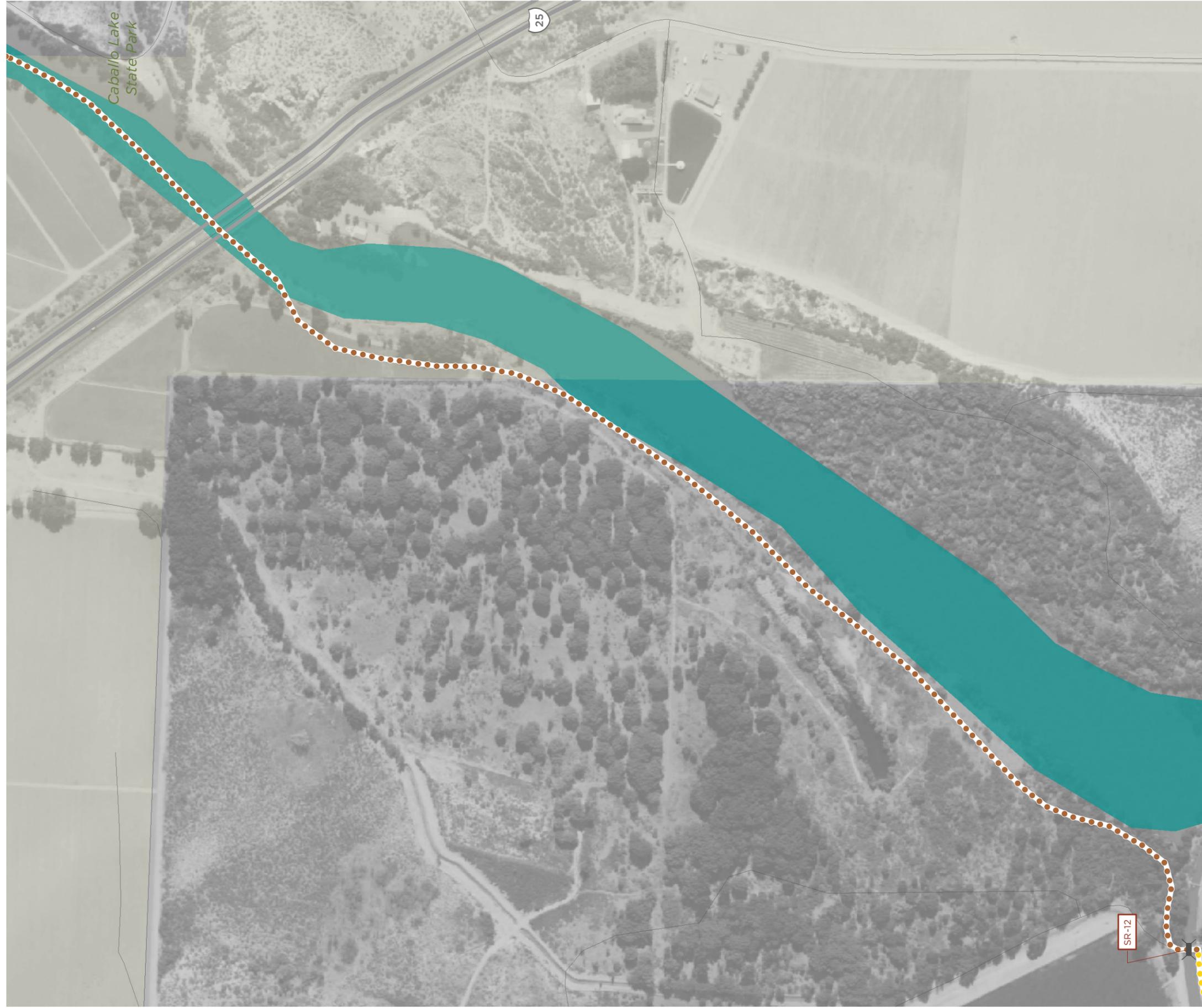
0 310 620 FEET

Map produced October 2018

SHEET NO

56

56 OF 77



SEGMENT SR-11

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SIERRA

BEGINS: CABALLO LAKE STATE PARK SOUTH BOUNDARY

ENDS: PERCHA DAM CANAL RD./COUNTY RD. B097

TRAIL LENGTH (MILES): 1.1

LENGTH (RIVER MILES): 1.2

TRAIL SYSTEM

DESIGNATED



EXISTING



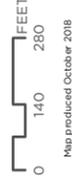
PROPOSED



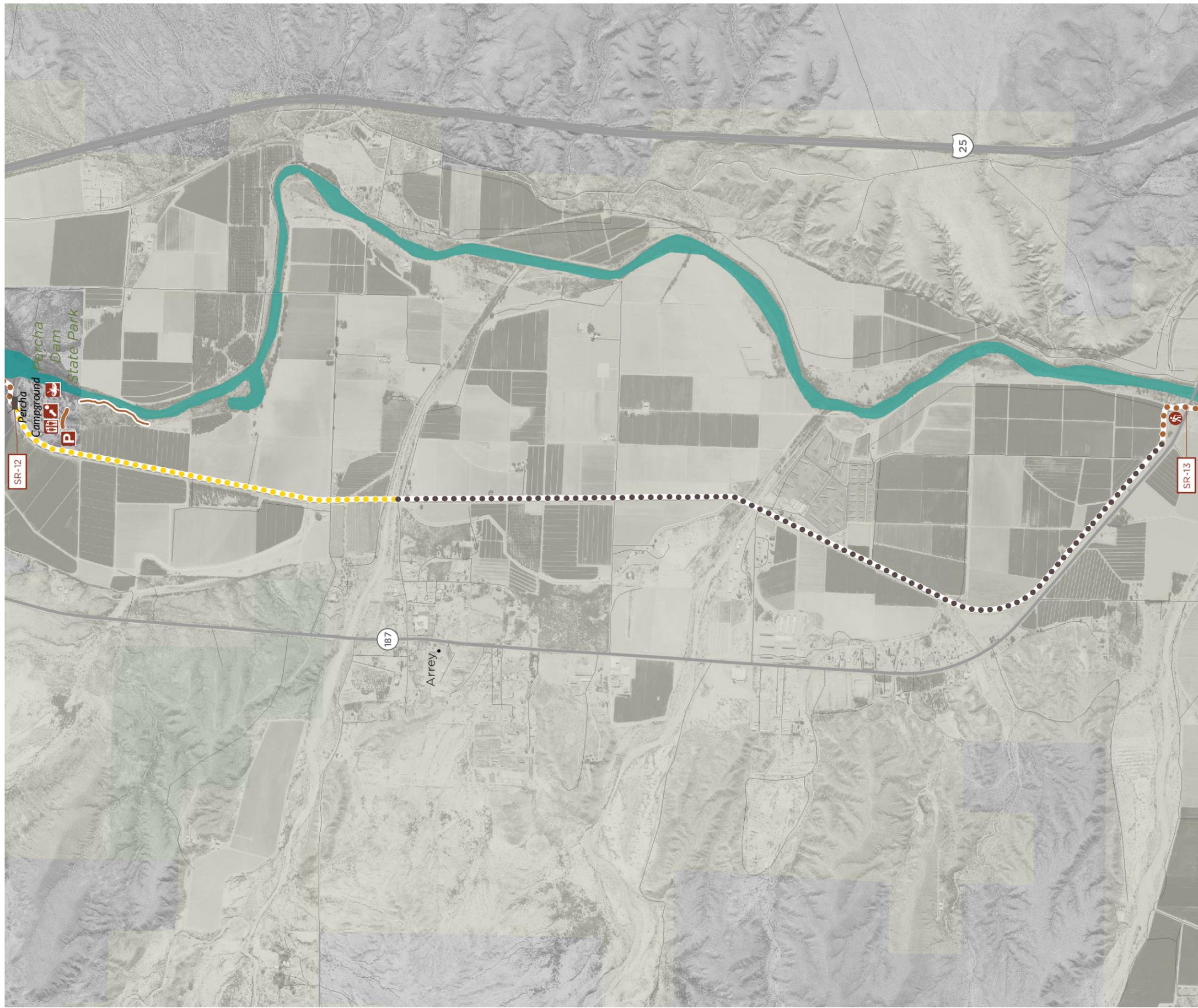
BOUNDARIES + TRANSPORTATION



AMENITIES (EXISTING + PROPOSED)



Map produced October 2018



SEGMENT SR-12
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: SIERRA

BEGINS: PERCHA DAM CANAL RD./COUNTY RD. B097
 ENDS: NM 187 RIO GRANDE CROSSING
 TRAIL LENGTH (MILES): 5
 LENGTH (RIVER MILES): 4.7



TRAIL SYSTEM

| DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

AMENITIES
(EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road



Map produced October 2018

SHEET NO
58
 58 OF 77



SEGMENT SR-13

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: SIERRA

BEGINS: NM 187 RIO GRANDE CROSSING

ENDS: SIERRA COUNTY/DONA ANA COUNTY LINE

TRAIL LENGTH (MILES): 2.7

LENGTH (RIVER MILES): 2.5

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

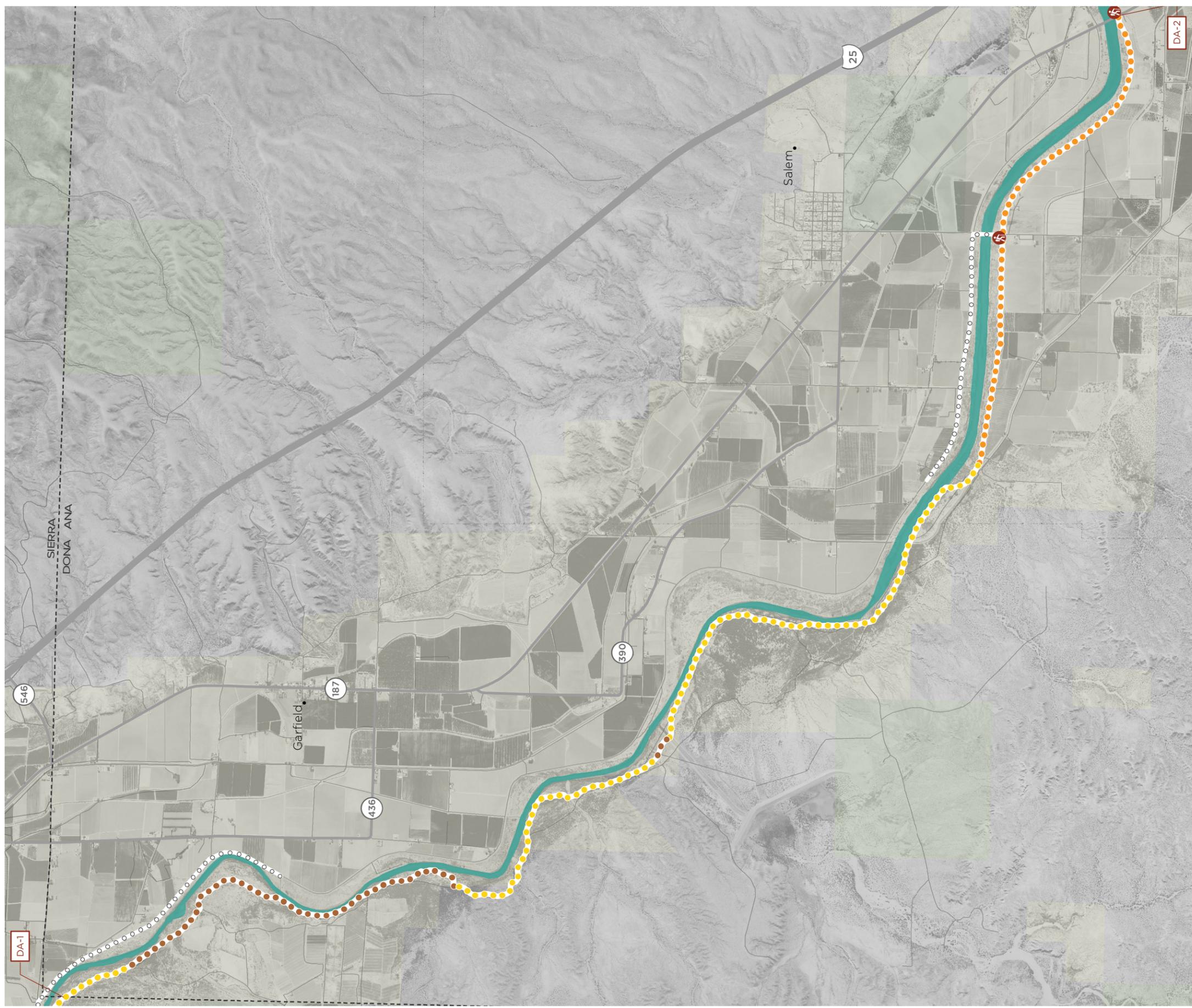


Map produced October 2018

SHEET NO

59

59 OF 77



SEGMENT DA-01
PREFERRED ALIGNMENT

SEGMENT DETAILS
 COUNTY: DONA ANA
 BEGINS: SIERRA COUNTY/DONA ANA COUNTY LINE
 ENDS: NM 187 RIO GRANDE CROSSING (NEAR HATCH)
 TRAIL LENGTH (MILES): 11.4
 LENGTH (RIVER MILES): 11

TRAIL SYSTEM

- | DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |
| | | |
| | | |
| | | |
| | | |

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Leave
- On-Ditch/Drain Service Road
- Proposed Alternative

AMENITIES (EXISTING + PROPOSED)

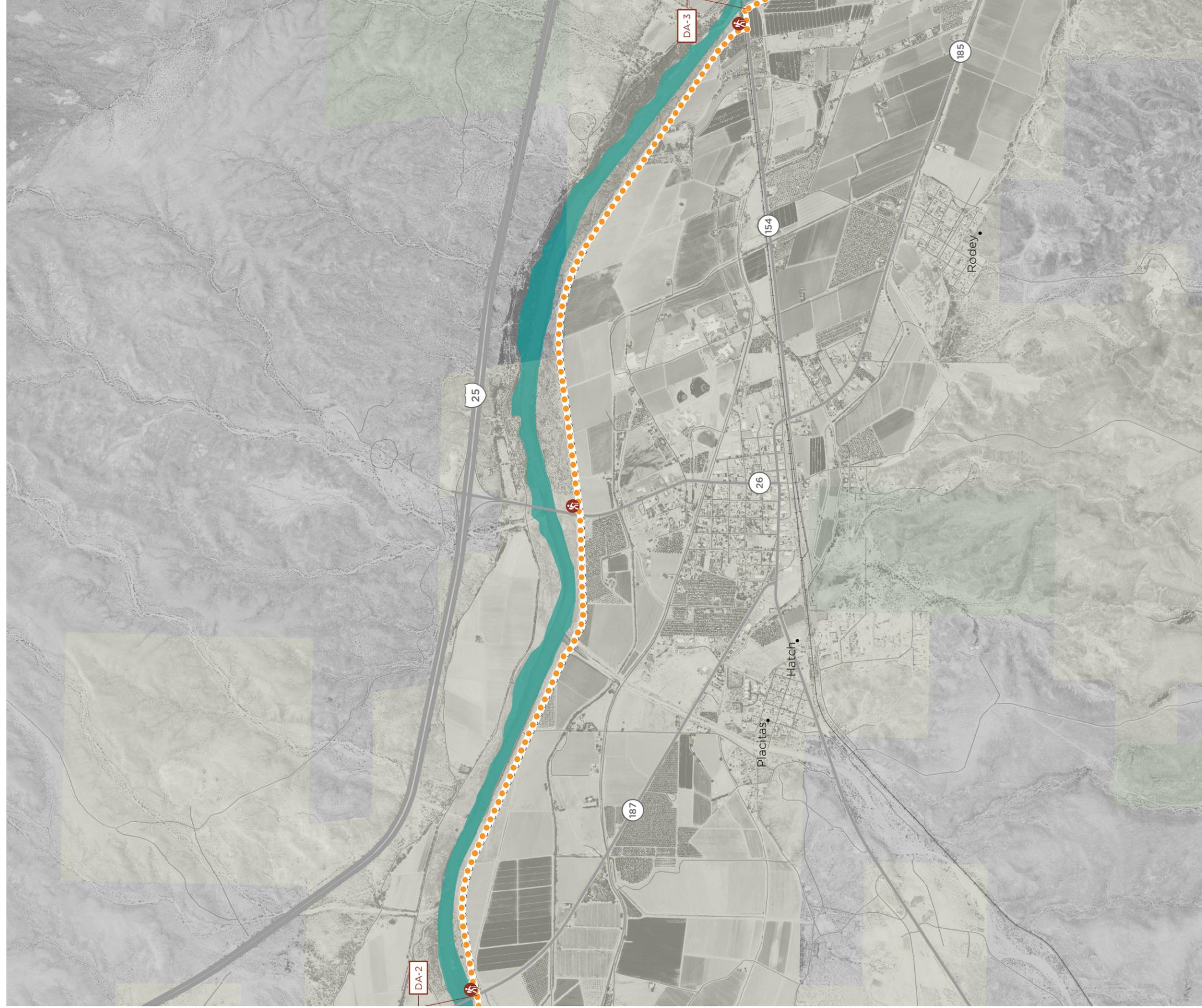
- Rio Grande Public Access
- Proposed Rio Grande Crossing
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

NEW MEXICO
Rio Grande Trail
 MASTER PLAN

0 1,300 2,600 FEET

Map produced October 2018

SHEET NO
60
 60 OF 77



SEGMENT DA-02

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: NM 187 RIO GRANDE CROSSING (NEAR HATCH)

ENDS: NM 154/RAILROAD ROAD

TRAIL LENGTH (MILES): 4.3

LENGTH (RIVER MILES): 4.3

TRAIL SYSTEM

DESIGNATED

EXISTING

PROPOSED

Rio Grande Public Access

Parking

Restroom

Points of Interest

Existing Rio Grande Crossing

NEW MEXICO

Rio Grande Trail

MASTER PLAN

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road
- Proposed Alternative

PROPOSED

PROPOSED

PROPOSED

PROPOSED

PROPOSED

PROPOSED

PROPOSED

PROPOSED

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

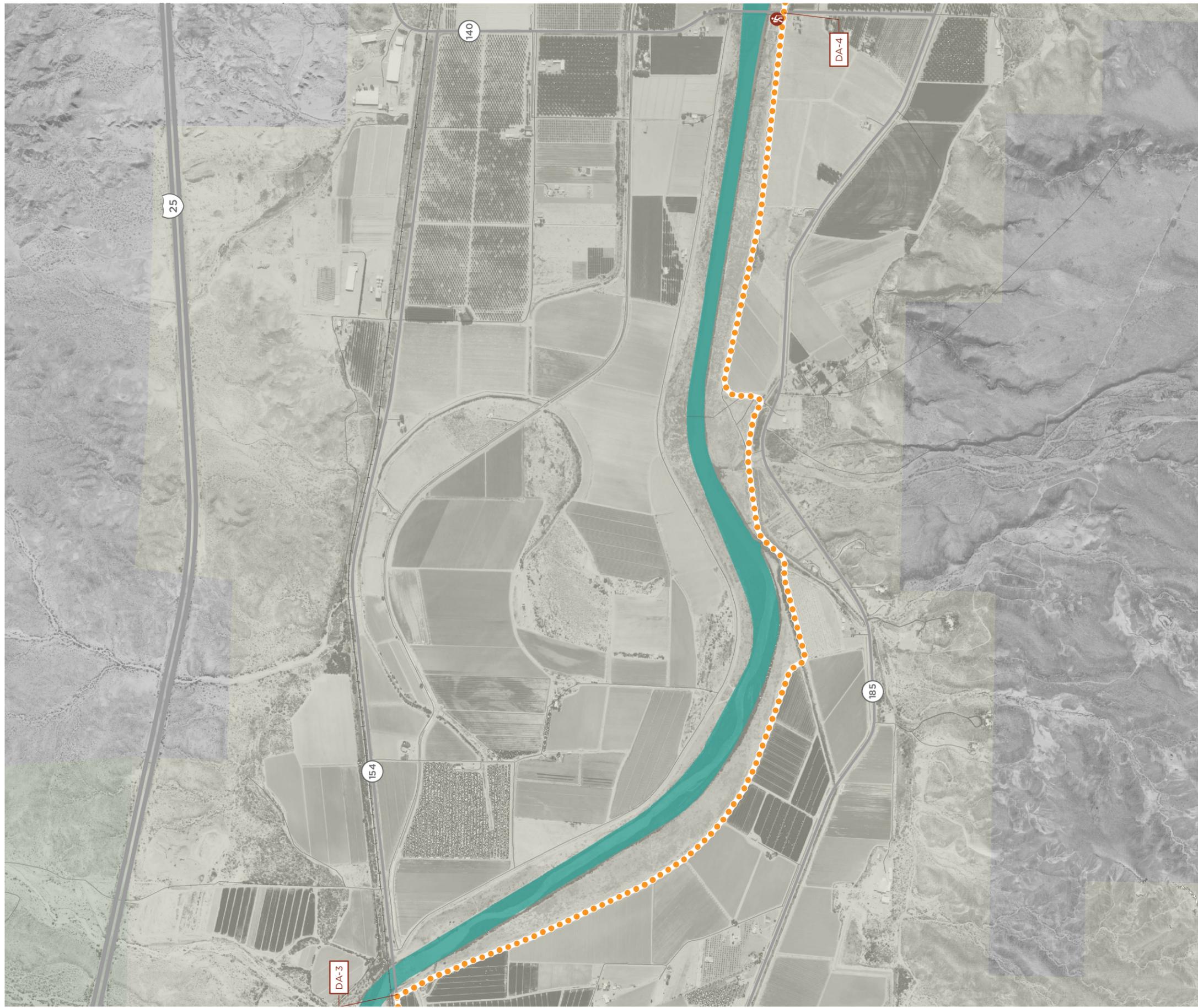


Map produced October 2018

SHEET NO

61

61 OF 77

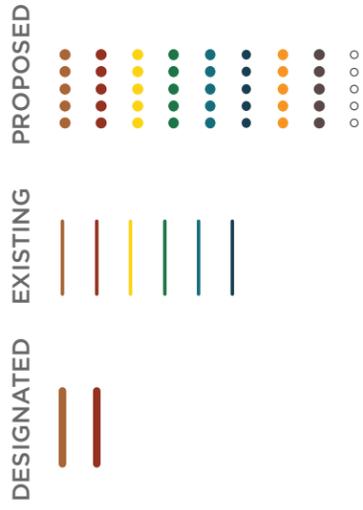


SEGMENT DA-03
PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA
 BEGINS: NM 154/RAILROAD ROAD
 ENDS: NM 140/RINCON ROAD
 TRAIL LENGTH (MILES): 3.3
 LENGTH (RIVER MILES): 3.1

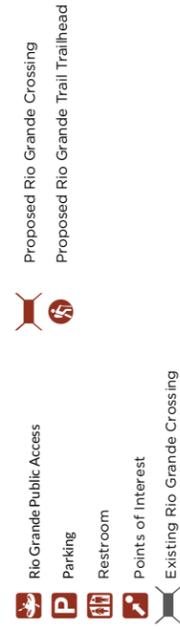
TRAIL SYSTEM



BOUNDARIES + TRANSPORTATION



AMENITIES (EXISTING + PROPOSED)



NEW MEXICO
Rio Grande Trail
 MASTER PLAN

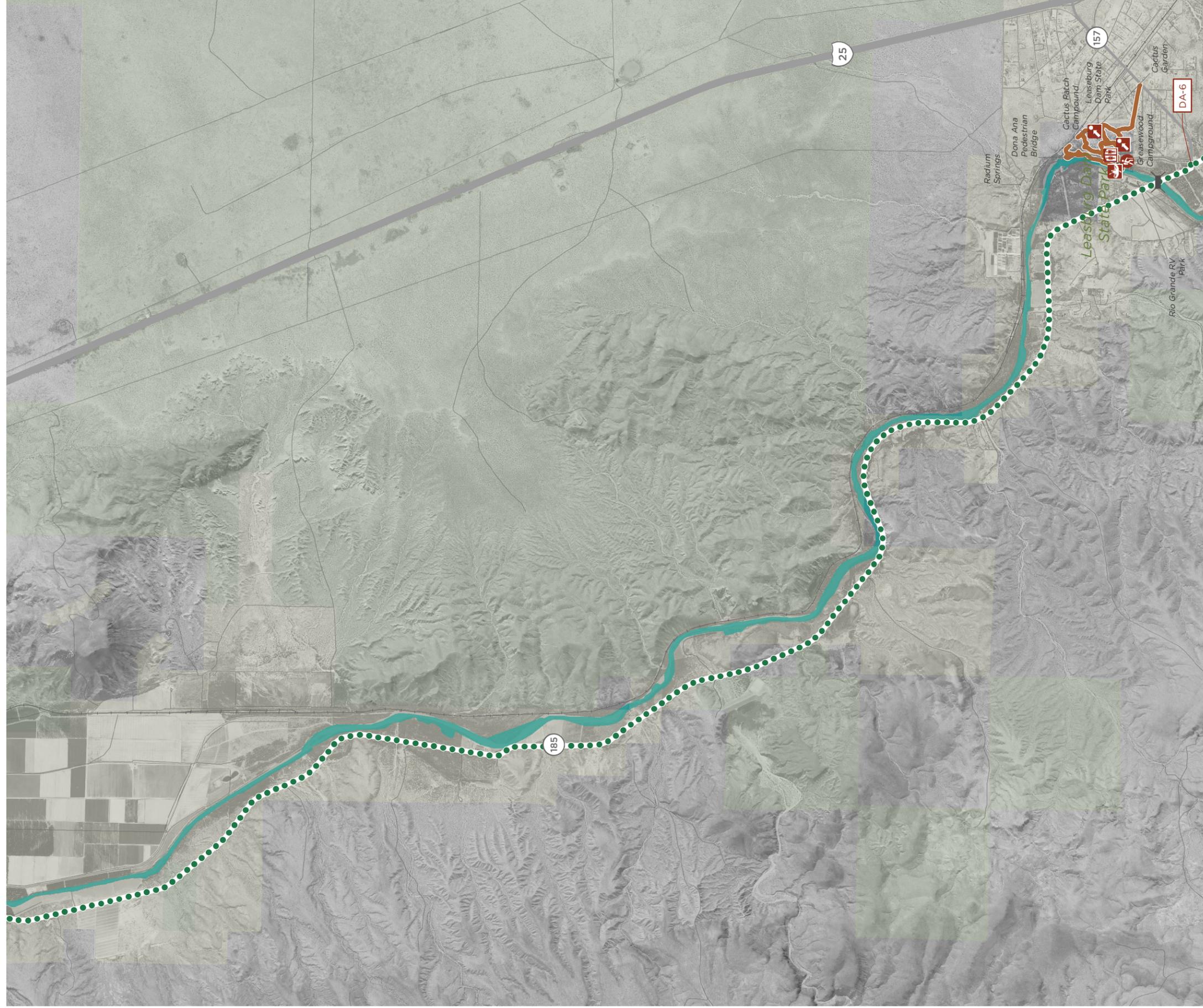


Map produced October 2018

SHEET NO

62

62 OF 77



SEGMENT DA-05

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: TONUOCO PEDESTRIAN BRIDGE/KIT CARSON RD.

ENDS: FORT SELDEN ROAD (RADIUM SPRINGS)

TRAIL LENGTH (MILES): 14.8

LENGTH (RIVER MILES): 12.6

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

BOUNDARIES + TRANSPORTATION

- | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

AMENITIES (EXISTING + PROPOSED)

- | | |
|--|--|
| | |
| | |
| | |
| | |
| | |

NEW MEXICO
Rio Grande Trail
MASTER PLAN



Map produced October 2018

SHEET NO

64

64 OF 77



SEGMENT DA-06

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: FORT SELDEN ROAD

ENDS: HAYRIDE ROAD

TRAIL LENGTH (MILES): 1.6

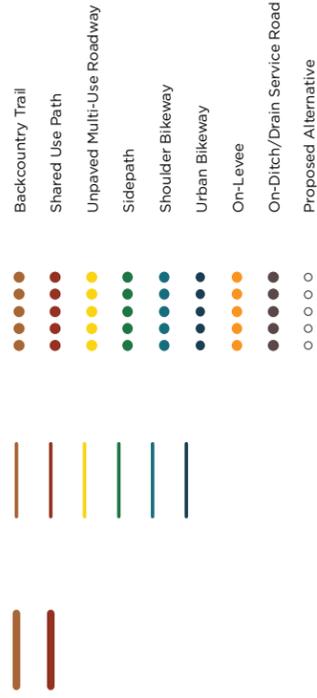
LENGTH (RIVER MILES): 1.5

BOUNDARIES + TRANSPORTATION

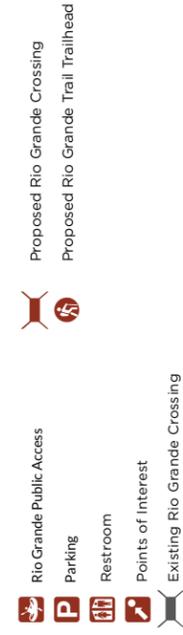


TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED



AMENITIES (EXISTING + PROPOSED)



NEW MEXICO

Rio Grande Trail

MASTER PLAN

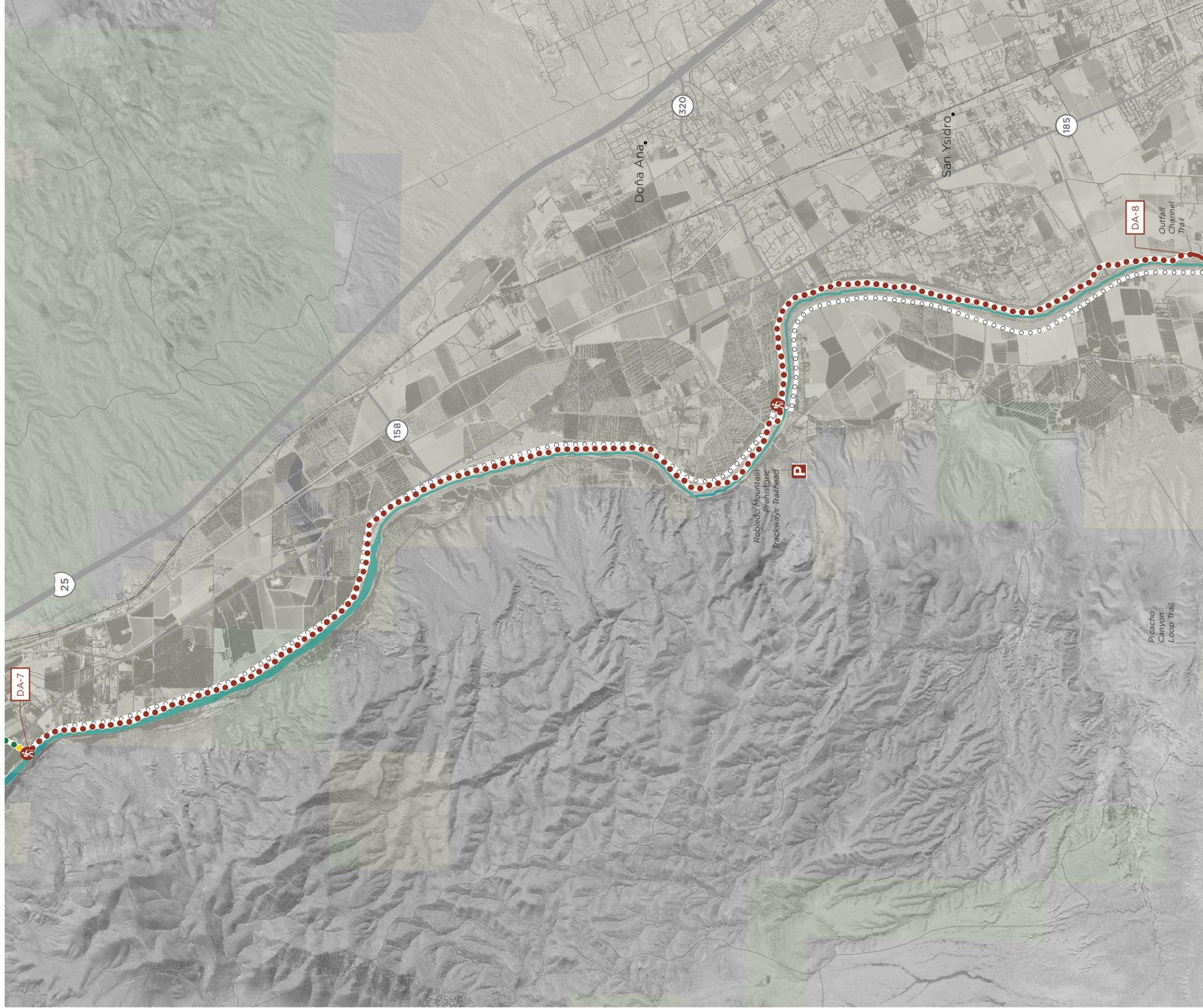


Map produced October 2018

SHEET NO

65

65 OF 77



SEGMENT DA-07

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: HAYRIDE ROAD

ENDS: ALAMEDA ARROYO/LA LLORONA TRAIL NORTH END

TRAIL LENGTH (MILES): 12.5

LENGTH (RIVER MILES): 12.1

NEW MEXICO

Rio Grande Trail

MASTER PLAN

TRAIL SYSTEM

DESIGNATED



EXISTING



PROPOSED



AMENITIES

(EXISTING + PROPOSED)



BOUNDARIES + TRANSPORTATION

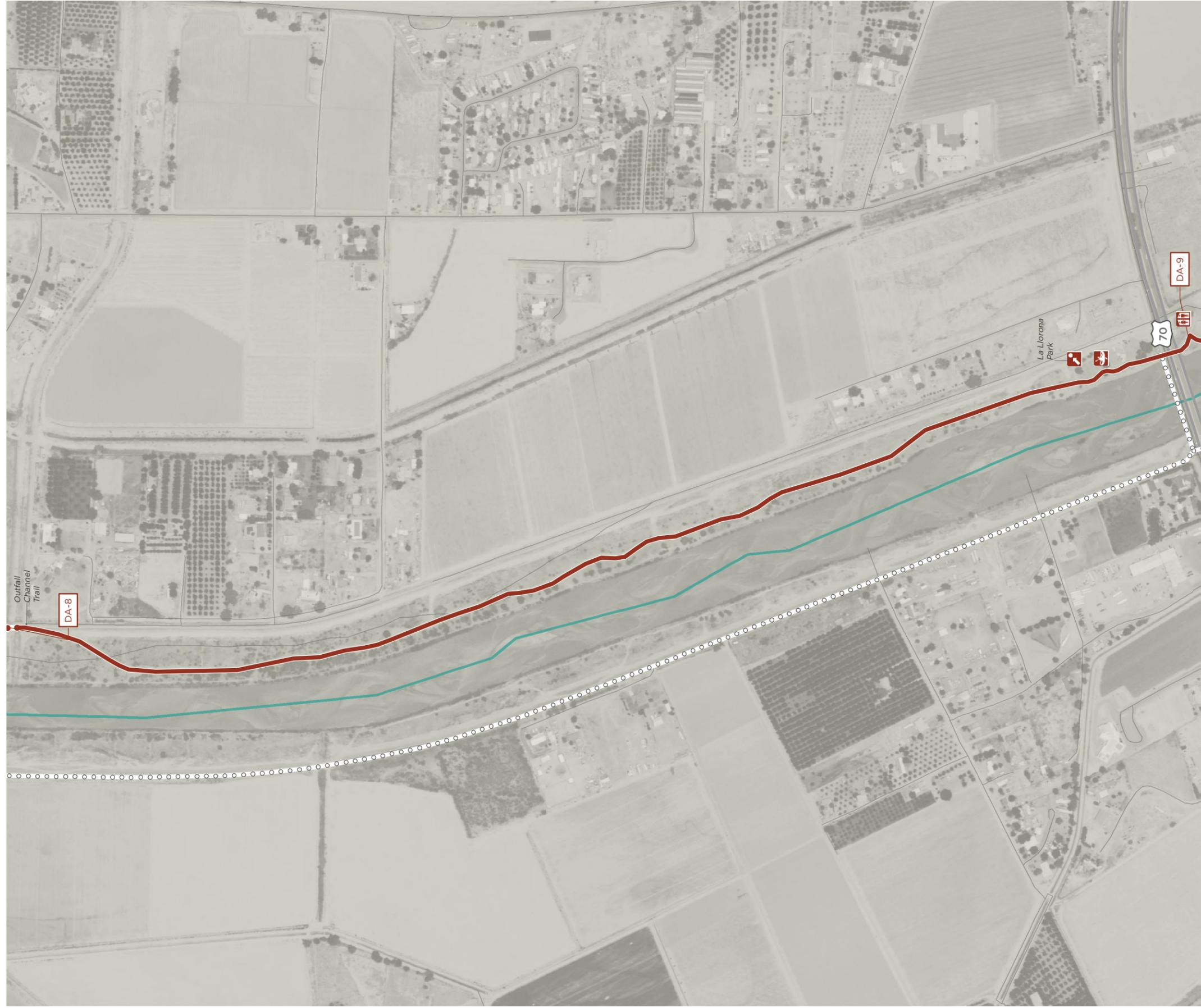


Map produced October 2018

SHEET NO

66

66 OF 77



SEGMENT DA-08
PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: ALAMEDA ARROYO/LA LLORONA TRAIL N. END

ENDS: US 70/LA LLORONA PARK

TRAIL LENGTH (MILES): 1.3

LENGTH (RIVER MILES): 1.2

**AMENITIES
 (EXISTING + PROPOSED)**

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing

- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

**BOUNDARIES +
 TRANSPORTATION**

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidewalk
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road
- Proposed Alternative

TRAIL SYSTEM

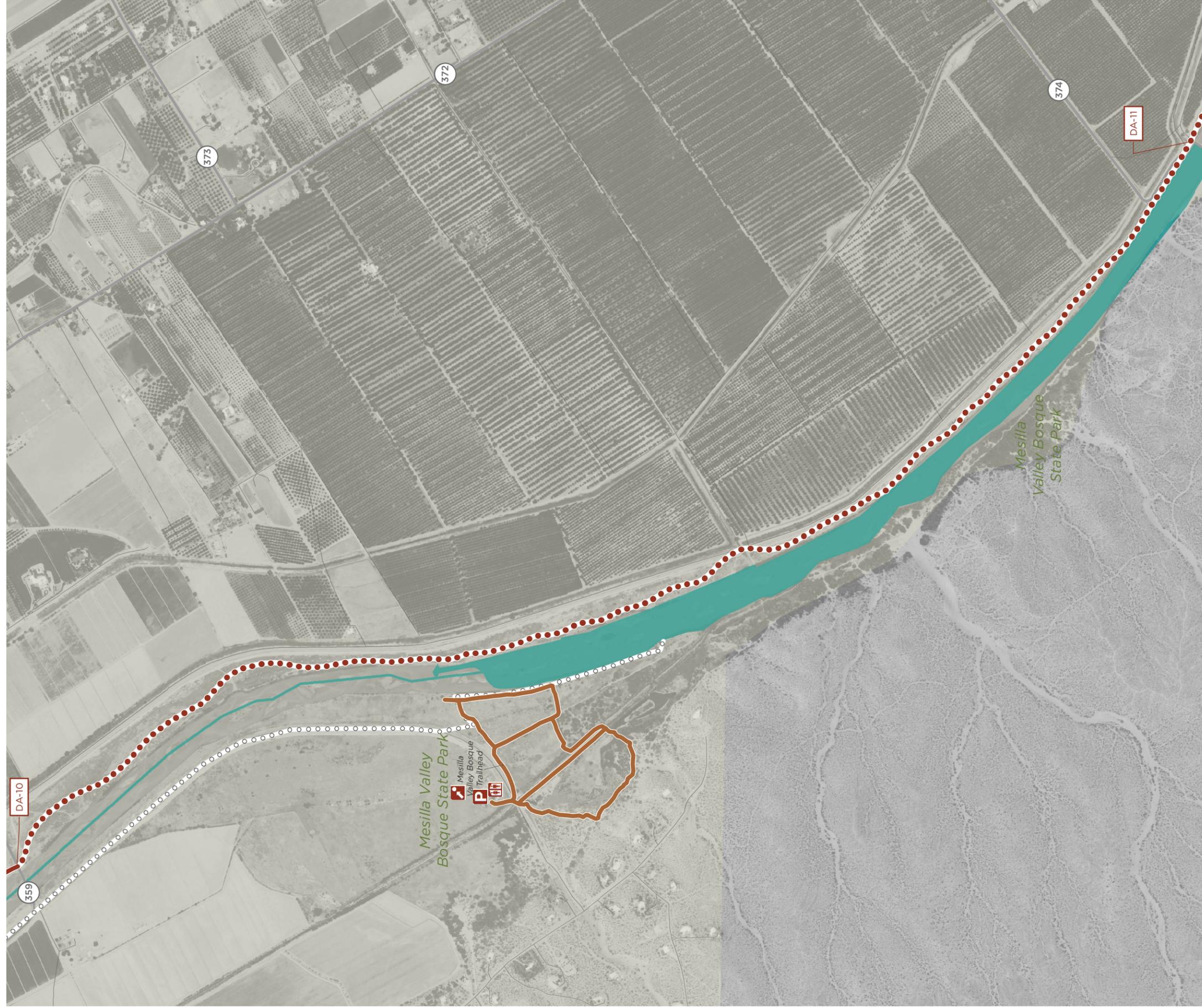
- | DESIGNATED | EXISTING | PROPOSED |
|------------|----------|----------|
| | | |

NEW MEXICO
Rio Grande Trail
 MASTER PLAN



Map produced October 2018

SHEET NO
67
 67 OF 77



SEGMENT DA-10

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: CALLE DEL NORTE/LA LLORONA TRAIL S. END

ENDS: COUNTY ROAD B006/MESILLA DIVERSION DAM

TRAIL LENGTH (MILES): 4.7

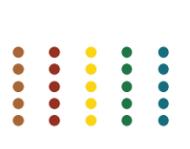
LENGTH (RIVER MILES): 3.2

TRAIL SYSTEM

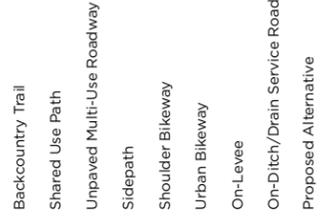
DESIGNATED



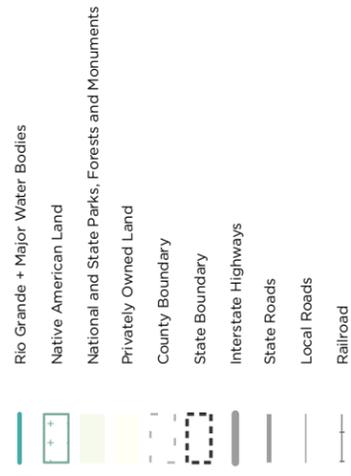
EXISTING



PROPOSED

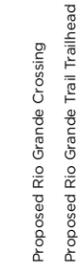


BOUNDARIES + TRANSPORTATION



AMENITIES

(EXISTING + PROPOSED)



Map produced October 2018

NEW MEXICO

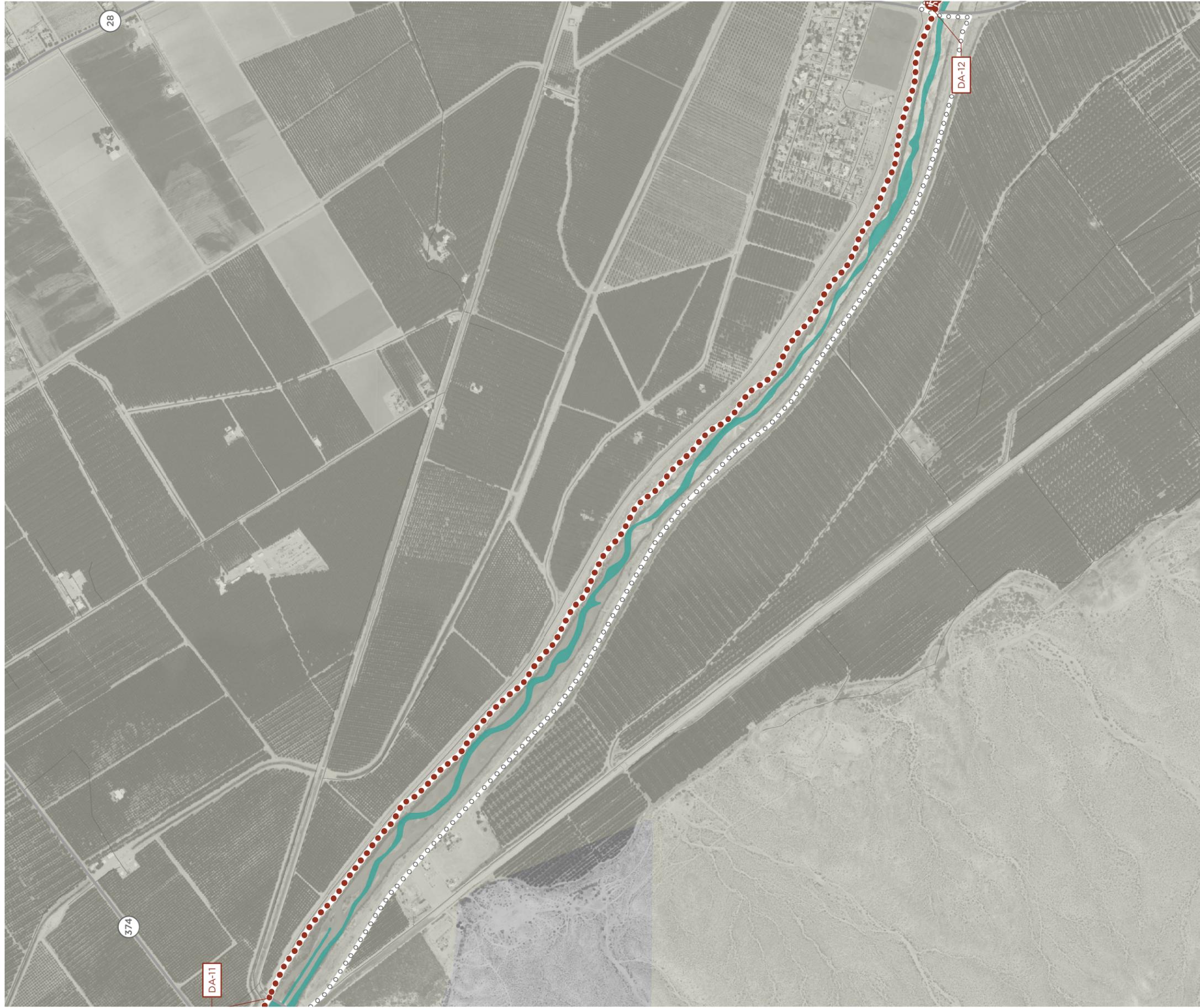
Rio Grande Trail

MASTER PLAN

SHEET NO

69

69 OF 77



SEGMENT DA-11

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: COUNTY ROAD B006/MESILLA DIVERSION DAM

ENDS: NM 28/LOU HENSON HIGHWAY

TRAIL LENGTH (MILES): 2.7

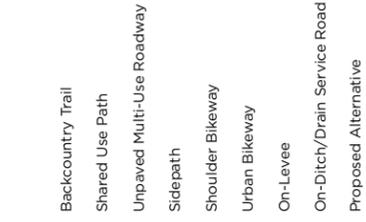
LENGTH (RIVER MILES): 2.7

TRAIL SYSTEM

DESIGNATED



EXISTING



BOUNDARIES + TRANSPORTATION



AMENITIES (EXISTING + PROPOSED)



NEW MEXICO
Rio Grande Trail
MASTER PLAN

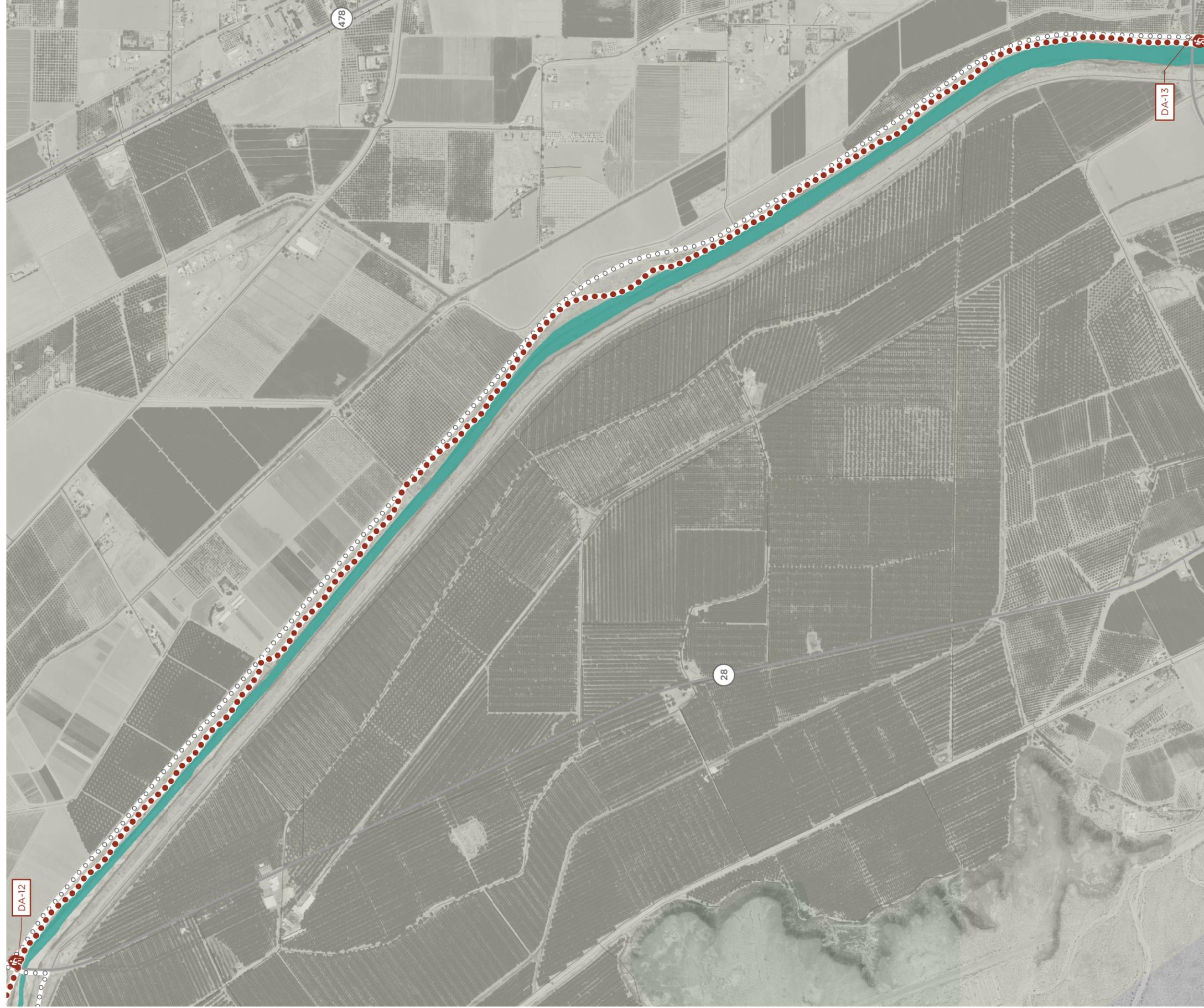


Map produced October 2018

SHEET NO

70

70 OF 77



SEGMENT DA-12

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: NM 28/LOU HENSON HIGHWAY

ENDS: NM 192/MESQUITE DRIVE

TRAIL LENGTH (MILES): 4.2

LENGTH (RIVER MILES): 4.2

TRAIL SYSTEM

DESIGNATED



EXISTING



PROPOSED



Backcountry Trail



Shared Use Path



Unpaved Multi-Use Roadway



Sidepath



Shoulder Bikeway



Urban Bikeway



On-Levee



On-Ditch/Drain Service Road

Proposed Alternative

BOUNDARIES + TRANSPORTATION

Rio Grande + Major Water Bodies



Native American Land



National and State Parks, Forests and Monuments



Privately Owned Land



County Boundary



State Boundary



Interstate Highways

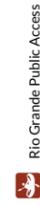


State Roads

Local Roads

Railroad

AMENITIES (EXISTING + PROPOSED)



Map produced October 2018

SHEET NO

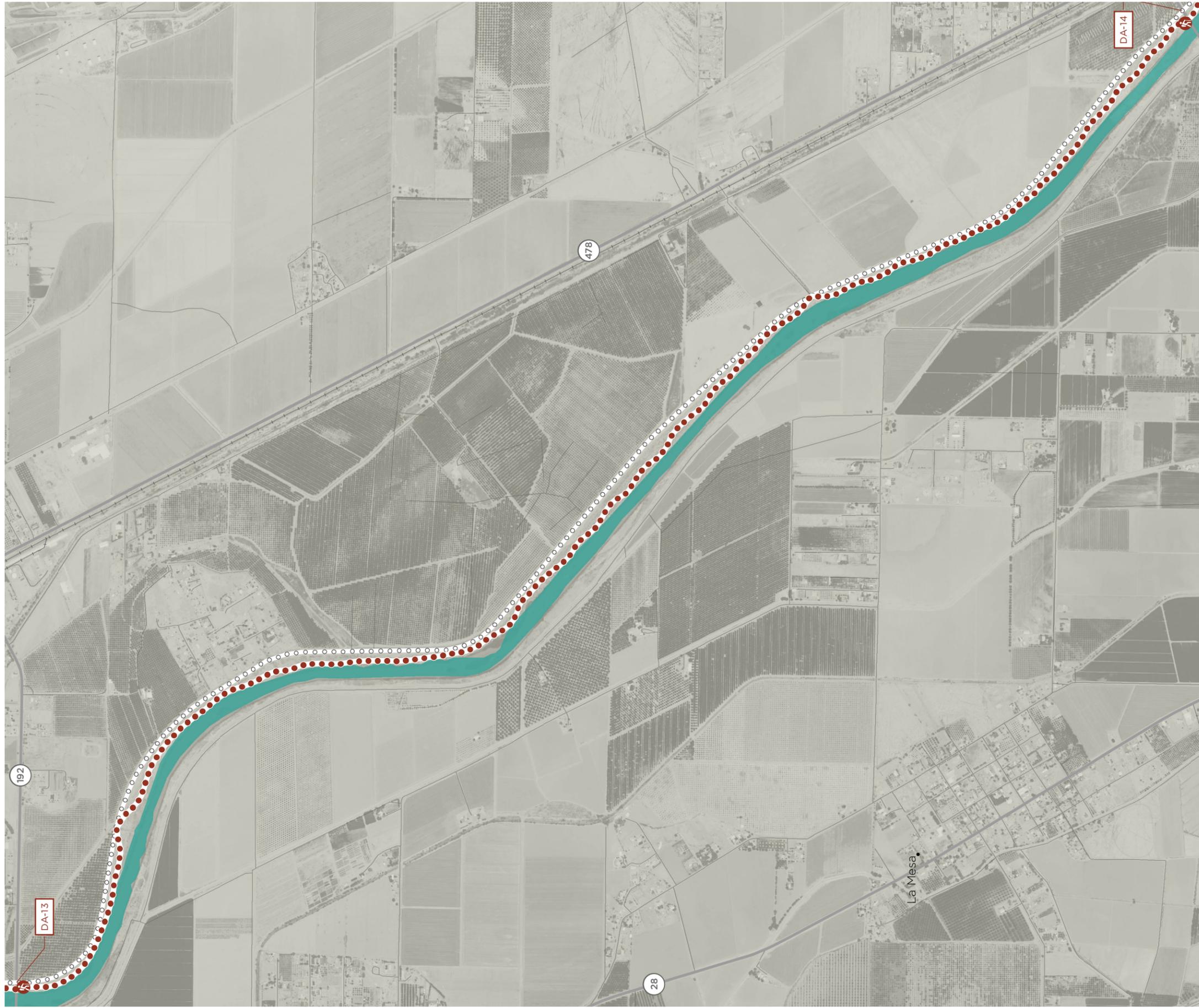
71

71 OF 77

NEW MEXICO

Rio Grande Trail

MASTER PLAN



SEGMENT DA-13

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA
 BEGINS: NM 192/MESQUITE DRIVE
 ENDS: NM 189/ESSLINGER ROAD
 TRAIL LENGTH (MILES): 4.7
 LENGTH (RIVER MILES): 4.6

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | | | | | | | | | | | |
|--------------------------|---------|----------|--------------------|------------------------------|-------------------|-----------------|---------------------------|----------|------------------|---------------|----------|-----------------------------|----------------------|
| | | | | | | | | | | | | | |
| Rio Grande Public Access | Parking | Restroom | Points of Interest | Existing Rio Grande Crossing | Backcountry Trail | Shared Use Path | Unpaved Multi-Use Roadway | Sidewalk | Shoulder Bikeway | Urban Bikeway | On-Levee | On-Ditch/Drain Service Road | Proposed Alternative |

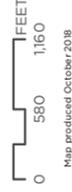
BOUNDARIES + TRANSPORTATION

- | | | | | | | | | | |
|---------------------------------|----------------------|---|----------------------|-----------------|----------------|---------------------|-------------|-------------|----------|
| | | | | | | | | | |
| Rio Grande + Major Water Bodies | Native American Land | National and State Parks, Forests and Monuments | Privately Owned Land | County Boundary | State Boundary | Interstate Highways | State Roads | Local Roads | Railroad |

AMENITIES (EXISTING + PROPOSED)

- | | | | |
|------------------------------|-------------------------------------|------------------------------|------------------------------|
| | | | |
| Rio Grande Public Access | Parking | Restroom | Points of Interest |
| | | | |
| Proposed Rio Grande Crossing | Proposed Rio Grande Trail Trailhead | Existing Rio Grande Crossing | Existing Rio Grande Crossing |

NEW MEXICO Rio Grande Trail MASTER PLAN

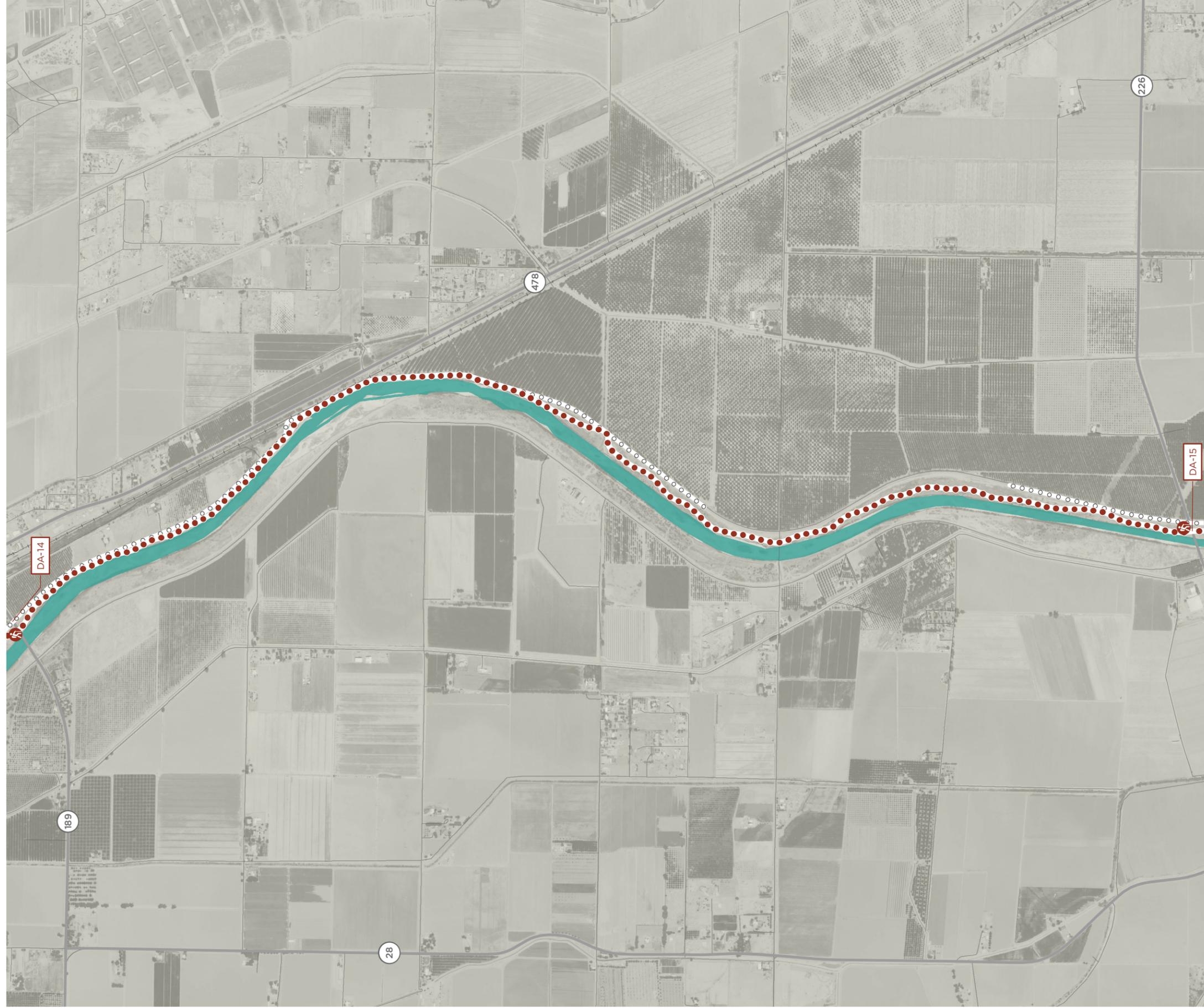


Map produced October 2018

SHEET NO

72

72 OF 77



SEGMENT DA-14

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: NM 189/ESSLINGER ROAD

ENDS: NM 226/WEST BERINO ROAD

TRAIL LENGTH (MILES): 3.8

LENGTH (RIVER MILES): 3.7

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road
- Proposed Alternative

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

NEW MEXICO

Rio Grande Trail

MASTER PLAN



SHEET NO

73

73 OF 77

Map produced October 2018



SEGMENT DA-15

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: NM 226/WEST BERINO ROAD

ENDS: NM 186/WEST OHARA ROAD

TRAIL LENGTH (MILES): 3.2

LENGTH (RIVER MILES): 3.1

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- | | | | | | | | | | |
|-------------------|-----------------|---------------------------|----------|------------------|---------------|----------|-----------------------------|----------------------|--|
| | | | | | | | | | |
| Backcountry Trail | Shared Use Path | Unpaved Multi-Use Roadway | Sidewalk | Shoulder Bikeway | Urban Bikeway | On-Levee | On-Ditch/Drain Service Road | Proposed Alternative | |

BOUNDARIES + TRANSPORTATION

- | | | | | | | | |
|---------------------------------|----------------------|---|----------------------|-----------------|----------------|---------------------|-------------|
| | | | | | | | |
| Rio Grande + Major Water Bodies | Native American Land | National and State Parks, Forests and Monuments | Privately Owned Land | County Boundary | State Boundary | Interstate Highways | State Roads |
| | | | | | | | Local Roads |
| | | | | | | | Railroad |

AMENITIES (EXISTING + PROPOSED)

- | | | | |
|------------------------------|------------------------------|------------------------------|-------------------------------------|
| | | | |
| Rio Grande Public Access | Parking | Restroom | Points of Interest |
| | | | |
| Existing Rio Grande Crossing | Existing Rio Grande Crossing | Proposed Rio Grande Crossing | Proposed Rio Grande Trail Trailhead |

NEW MEXICO

Rio Grande Trail

MASTER PLAN



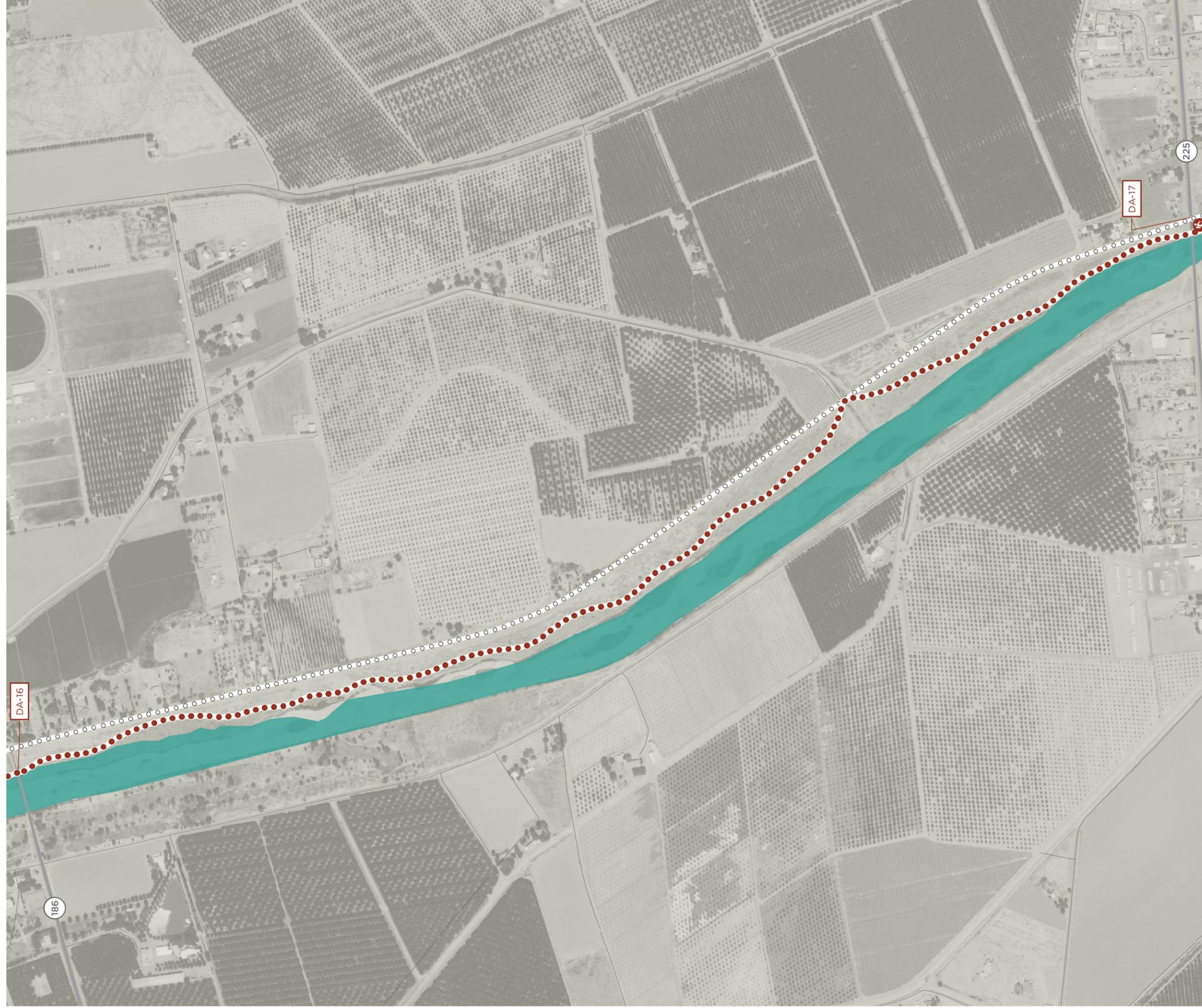
0 510 1,020 FEET

Map produced October 2018

SHEET NO

74

74 OF 77



SEGMENT DA-16

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: NM 186/WEST OHARA ROAD

ENDS: NM 225/WASHINGTON STREET

TRAIL LENGTH (MILES): 1.9

LENGTH (RIVER MILES): 1.9

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road
- Proposed Alternative

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

NEW MEXICO

Rio Grande Trail

MASTER PLAN



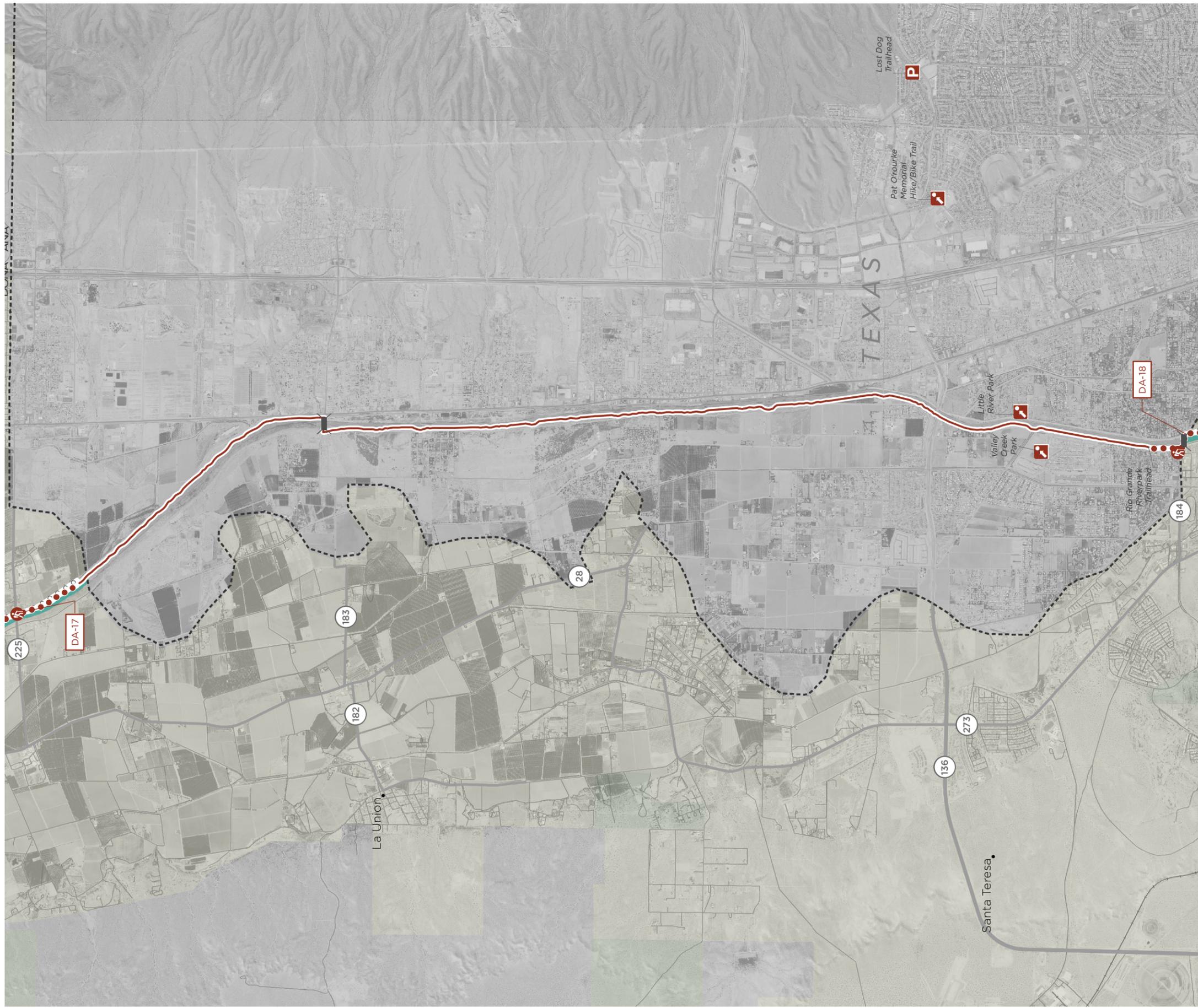
0 280 560 FEET

Map produced October 2018

SHEET NO

75

75 OF 77



SEGMENT DA-17

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: NM 225/WASHINGTON STREET

ENDS: DONA ANA COUNTY/EL PASO COUNTY LINE

TRAIL LENGTH (MILES): 11.7

LENGTH (RIVER MILES): 10.8

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidewalk
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road
- Proposed Alternative

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

NEW MEXICO

Rio Grande Trail

MASTER PLAN



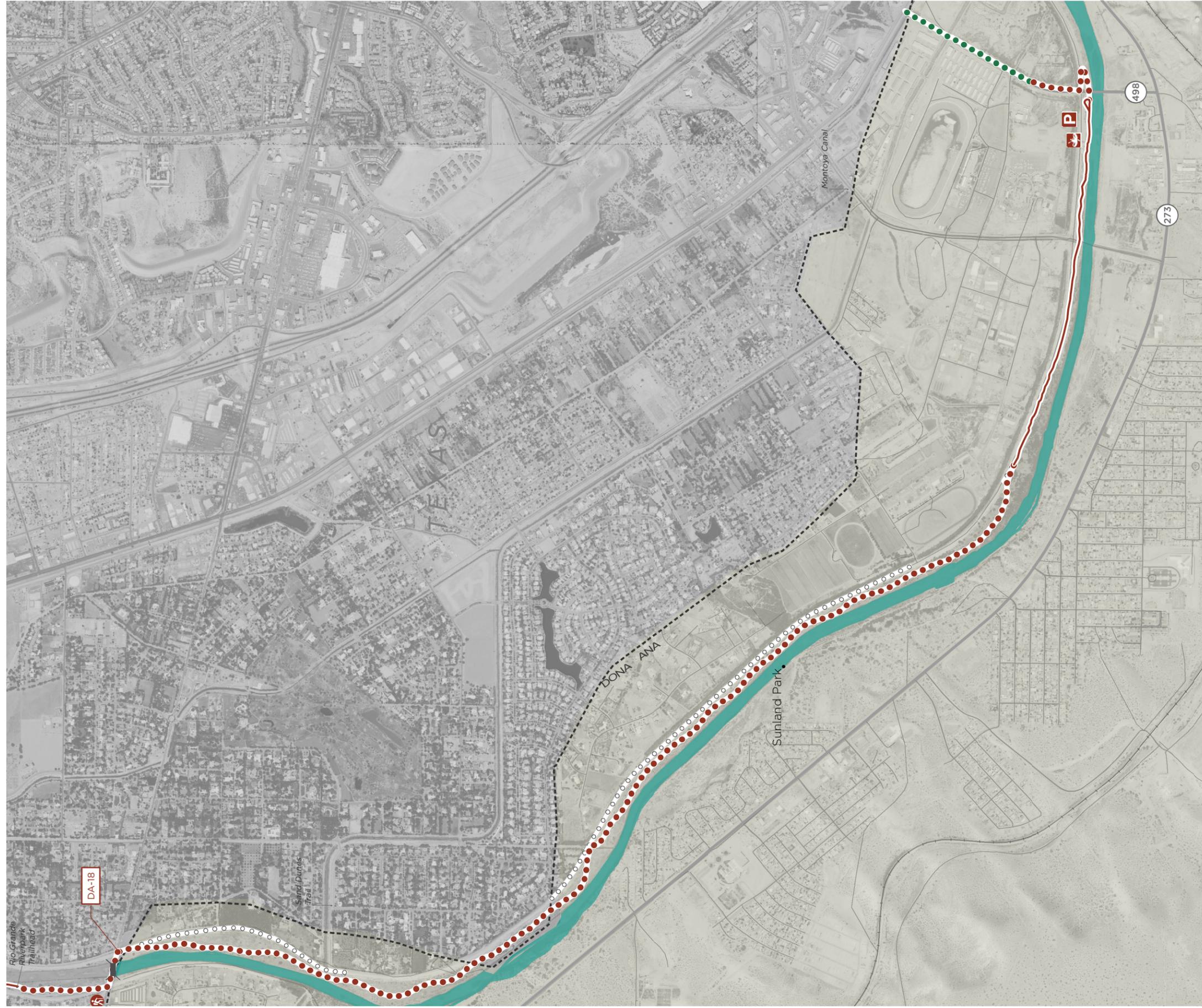
0 1,800 3,600 FEET

Map produced October 2018

SHEET NO

76

76 OF 77



SEGMENT DA-18

PREFERRED ALIGNMENT

SEGMENT DETAILS

COUNTY: DONA ANA

BEGINS: NM 260/COUNTRY CLUB ROAD

ENDS: RACETRACK DRIVE

TRAIL LENGTH (MILES): 6

LENGTH (RIVER MILES): 5.2

TRAIL SYSTEM

DESIGNATED EXISTING PROPOSED

- Backcountry Trail
- Shared Use Path
- Unpaved Multi-Use Roadway
- Sidepath
- Shoulder Bikeway
- Urban Bikeway
- On-Levee
- On-Ditch/Drain Service Road
- Proposed Alternative

BOUNDARIES + TRANSPORTATION

- Rio Grande + Major Water Bodies
- Native American Land
- National and State Parks, Forests and Monuments
- Privately Owned Land
- County Boundary
- State Boundary
- Interstate Highways
- State Roads
- Local Roads
- Railroad

AMENITIES (EXISTING + PROPOSED)

- Rio Grande Public Access
- Parking
- Restroom
- Points of Interest
- Existing Rio Grande Crossing
- Proposed Rio Grande Crossing
- Proposed Rio Grande Trail Trailhead

NEW MEXICO

Rio Grande Trail

MASTER PLAN

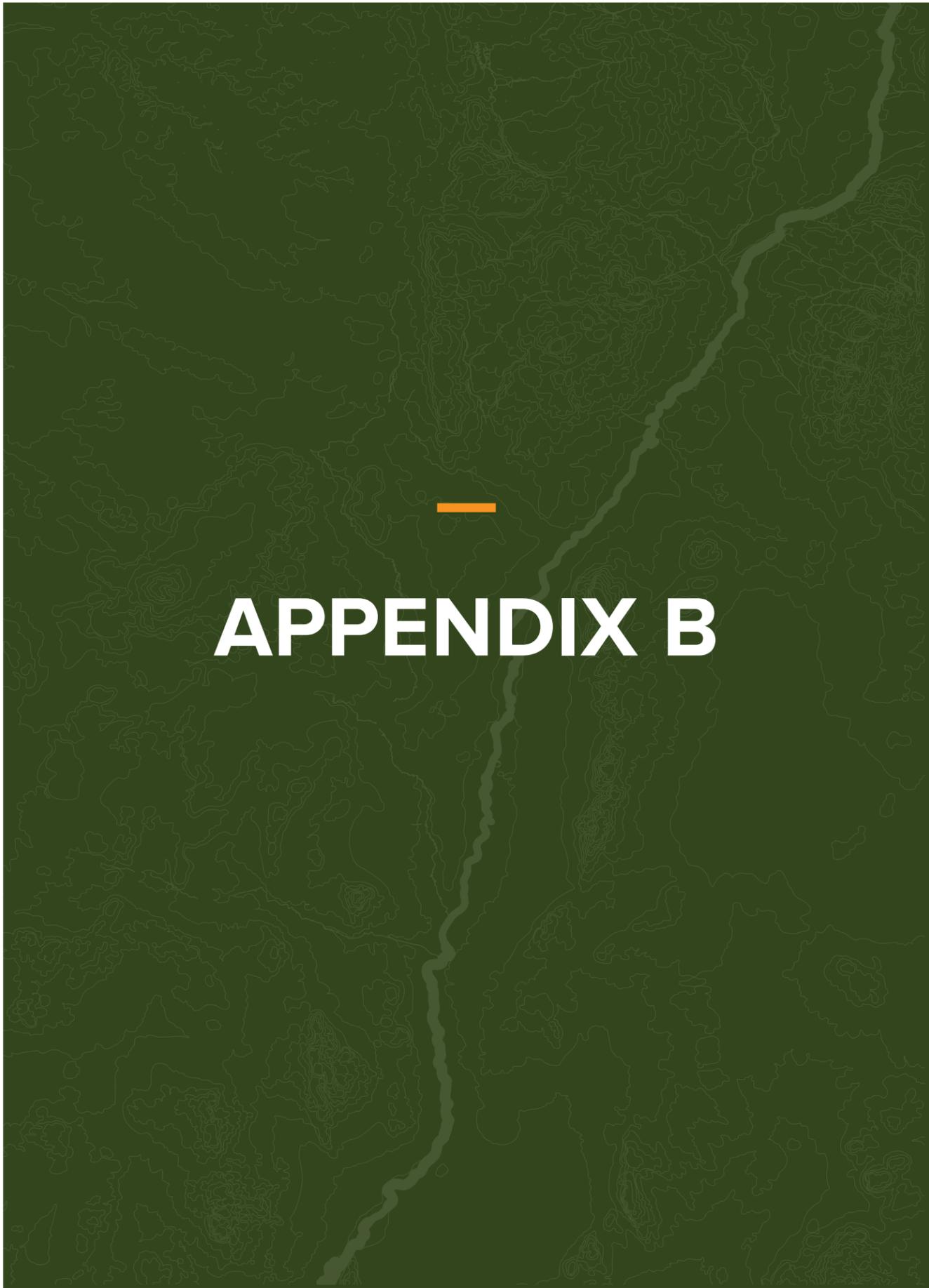


SHEET NO

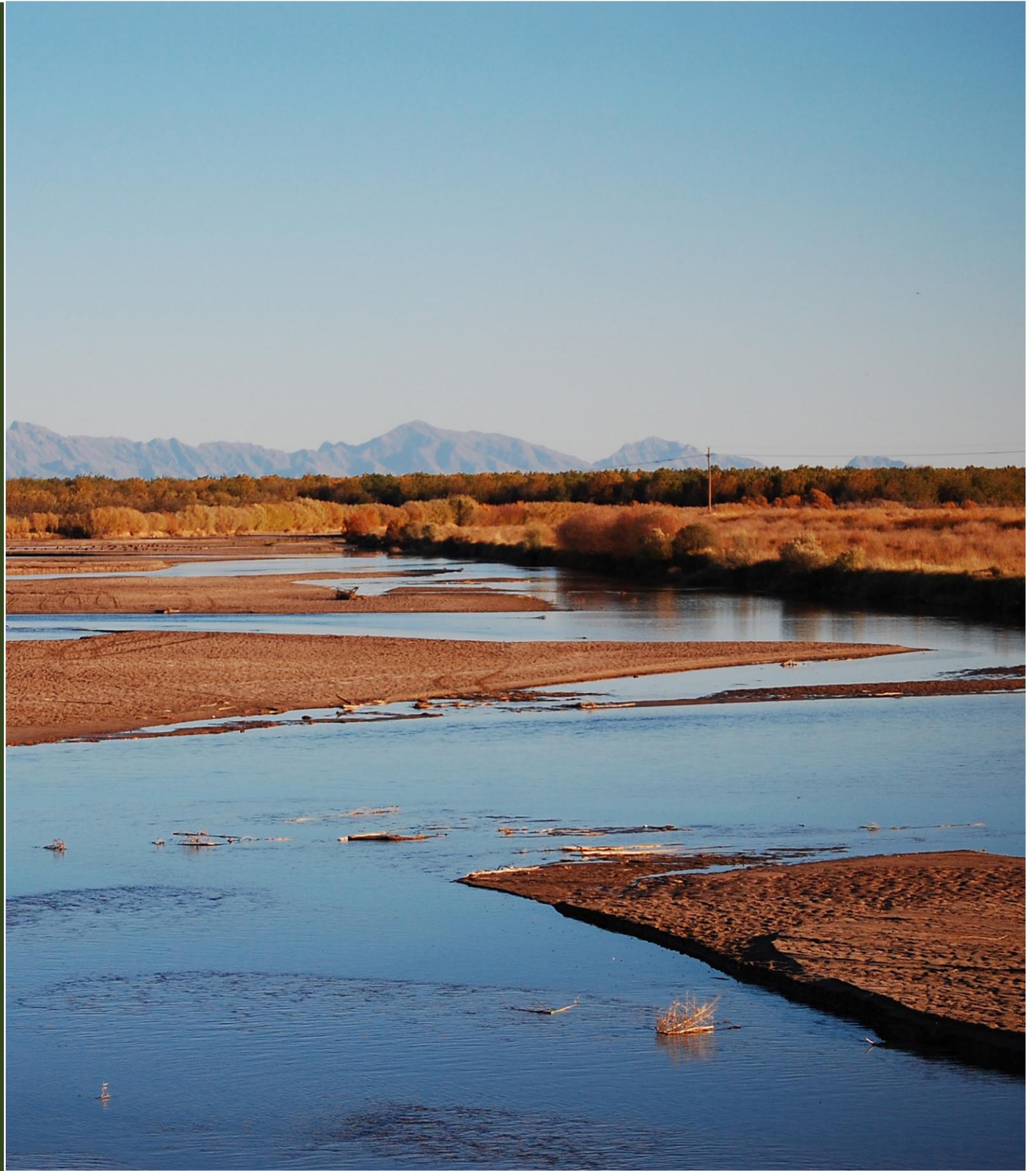
77

77 OF 77

Map produced October 2018



APPENDIX B

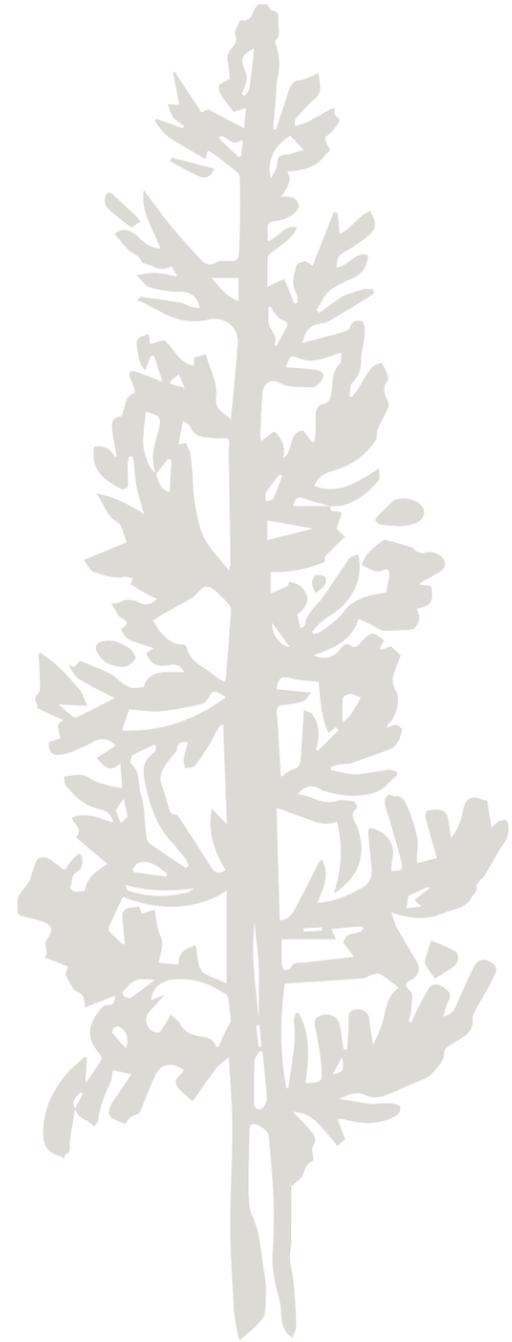




NEW MEXICO

Rio Grande Trail

Guidelines



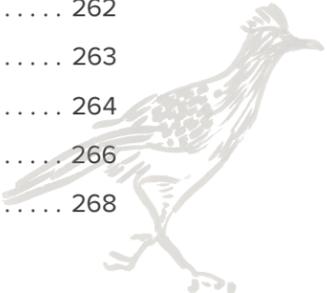
PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

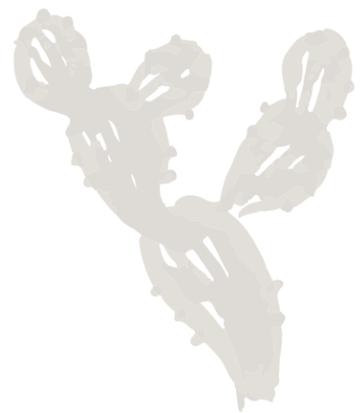


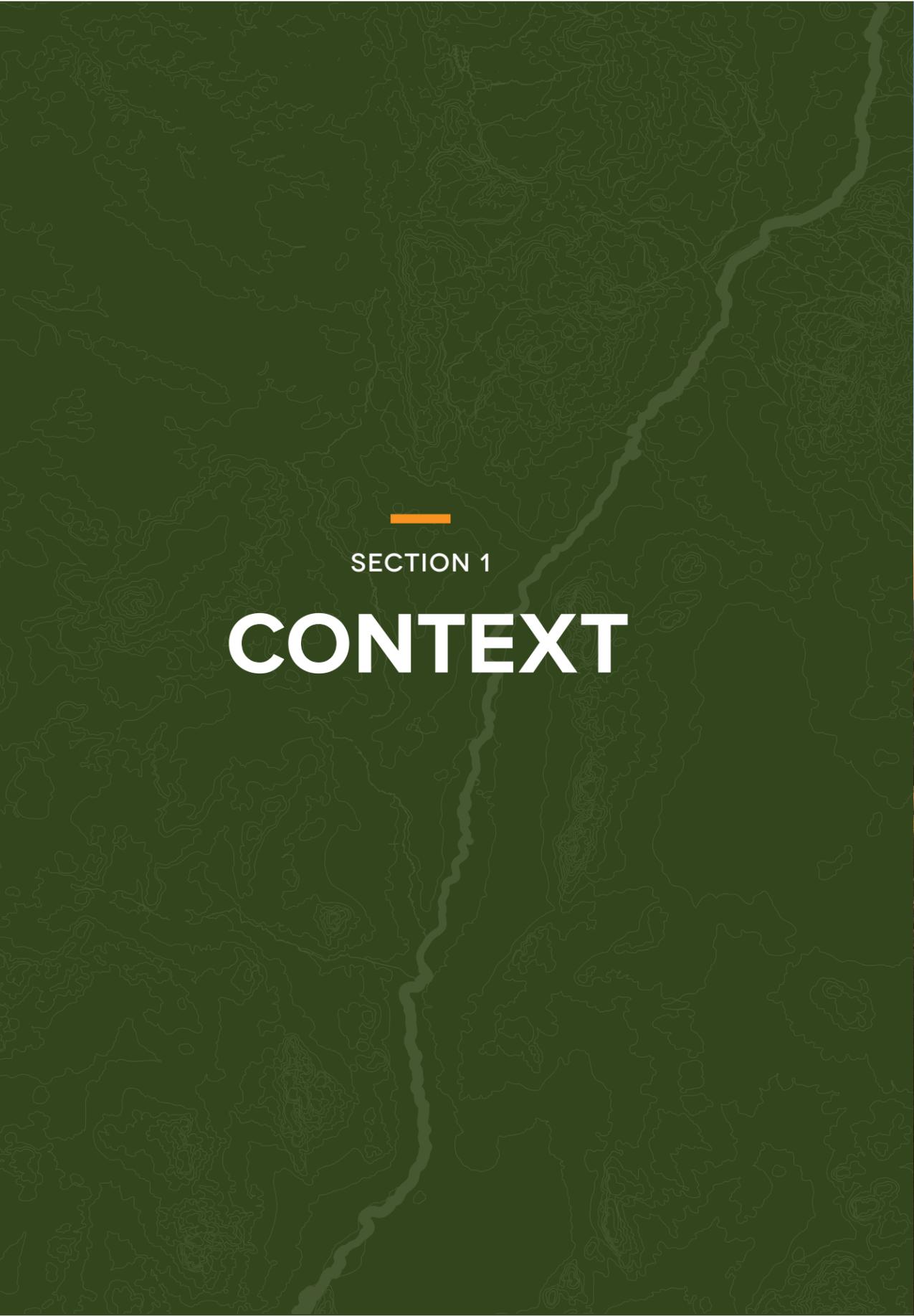
- CONTEXT**183-188
 - Trail Context184
 - Guidance Basis188
- FACILITY CONTINUUM** 189-191
- USER TYPES** 193-207
 - Trail Users194
 - Pedestrians.....196
 - Bicyclists197
 - Mountain Bikers.....198
 - Equestrians.....199
 - Through Hikers 200
 - Section Hikers201
 - Through Touring Cyclists 202
 - Bikepackers 203
 - Trail User Spatial Considerations 204
- SHARED USE FACILITIES** 209-219
 - Shared Use Path210
 - On-Levee Path.....212
 - On-Ditch Road Path214
 - Sidepath216
 - Sidepath Crossings.....218
- BACKCOUNTRY TRAIL** 221-223

- SHARED USE PATH CROSSINGS** 225-239
 - Shared Use Path Crossing Selection 227
 - Marked & Signed Crosswalks 228
 - Median Refuge Island..... 230
 - Rectangular Rapid Flashing Beacon..... 232
 - Pedestrian Hybrid Beacon..... 234
 - Full Traffic Signal 236
 - Grade Separated Crossings 238
- ON-ROAD FACILITIES** 241-247
 - Rural Unpaved Walk/Bikeway 242
 - Urban Bikeway..... 244
- TRAILHEADS** 249-253
 - Major Trailheads 250
 - Minor Trailheads 252
 - Access Points..... 253
- WAYFINDING** 255-268
 - Wayfinding / Signage 256
 - Wayfinding Family of Elements 258
 - Trailhead Identification 260
 - Trailhead Kiosks.....261
 - Secondary Access Signage..... 262
 - Trail Destination Signage 263
 - Decision Signage 264
 - Turn / Confirmation / Trail Blaze..... 266
 - Mile Marker..... 268



PAGE INTENTIONALLY LEFT BLANK





SECTION 1

CONTEXT



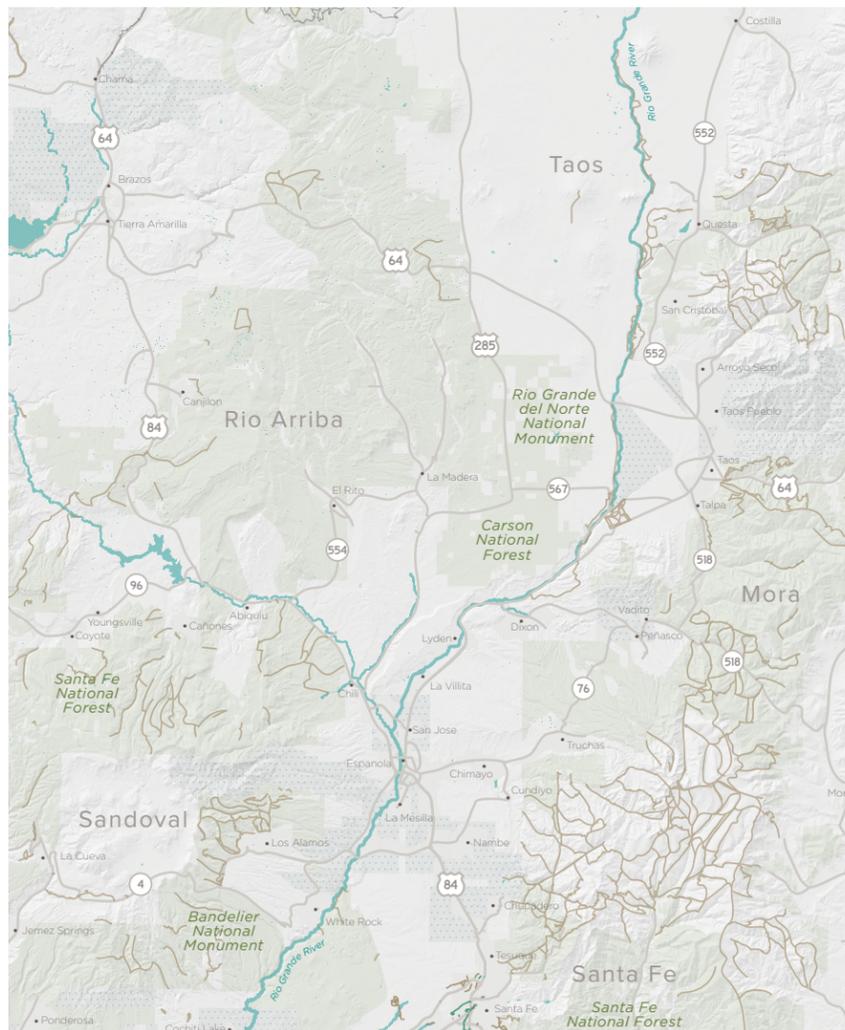
TRAIL CONTEXT

The Rio Grande emerges as a snow-fed stream at about 12,000 feet in the San Juan Mountains of Colorado, and flows through mountains, steep canyons, arid high mesas, plateaus, semi-arid scrublands, and lowland subtropics for approximately 1,900 miles before emptying into the Gulf of Mexico. As such, land types and potential trail user groups vary between regions of New Mexico, where the Rio Grande runs the full length of the state, north to south for 470 miles. The trail facilities will be designed to accommodate these varying regional contexts, which are outlined in the following pages.



NORTHERN NEW MEXICO

Starting in the arid plains of the Cerra De La Olla near the Colorado border, the river quickly cuts into the Rio Grande Gorge. This protected area of 1,000-foot cliffs, river rapids, hot springs, and mesas forms one of two sections of the Rio Grande that fall within the National Wild and Scenic Rivers System.

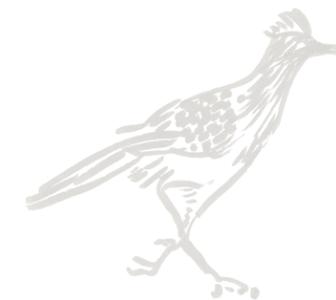


Key Cultural/Recreational Highlights

- Rio Grande Gorge
- White Rock Canyon
- Bandelier National Monument
- Kasha-Kitwe Tent Rocks National Monument
- Key Landscape Notes
- Southern Rocky Mountain Region
- Deep Canyons
- Variable Vegetation Coverage

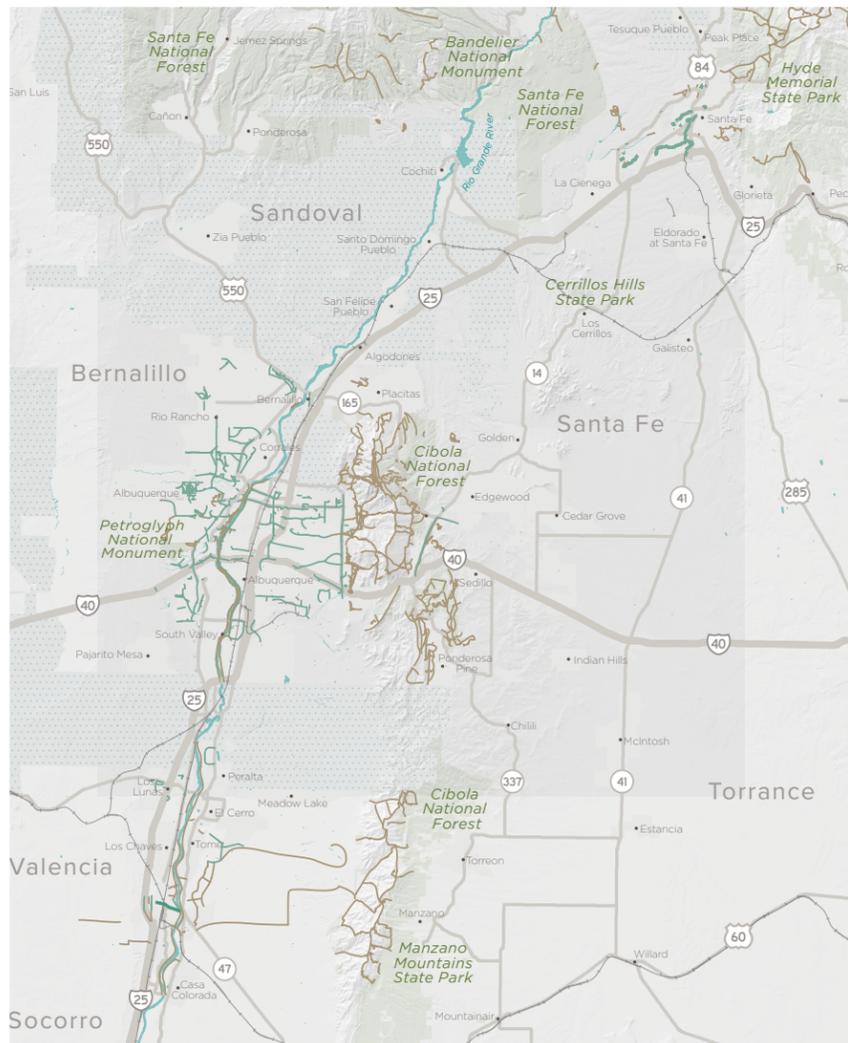
Key Trail Facilities

- Backcountry Trail
- Unpaved Walk/Bike
- Shoulder Bikeway



CENTRAL NEW MEXICO

South of the Bandelier National Monument, the Cochiti reservoir forms the transition to a more urban, agricultural zone. In central New Mexico the river courses through the arid high desert and many pueblos that surround Albuquerque. This region is typified by the traditional ditch irrigation systems used by Native American and Spanish farmers.



Key Cultural/Recreational Highlights

- Paseo del Bosque Trail
- Valle de Oro Urban Wildlife Refuge
- Bosque del Apache Wildlife Refuge
- Strong cultural influence of pueblo settlements

Key Landscape Notes

- Mixed Urban/Agricultural context

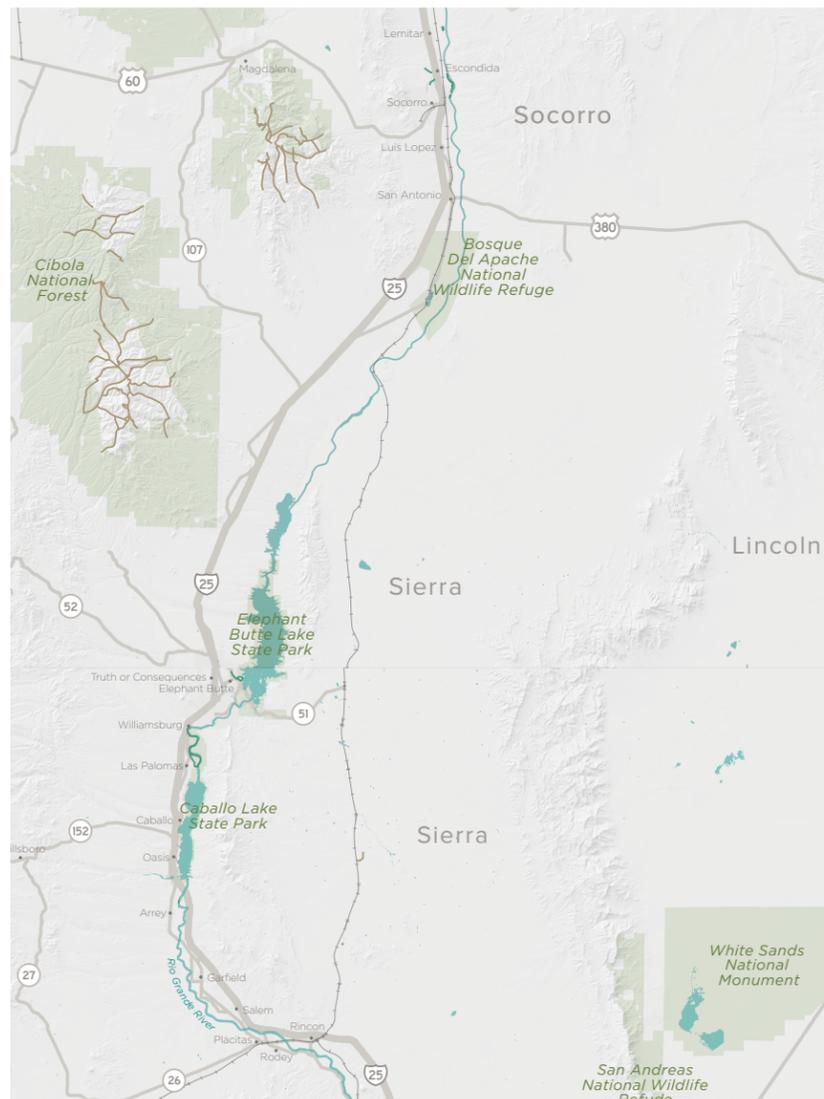
- Ditch and levee network
- Desert highlands, mesas and basins

Key Trail Facilities

- Urban bikeway
- On-Levee
- On-Ditch/Drain Service Road
- Shared Use Path

SOUTHERN NEW MEXICO

Although the differences are more sociocultural than physical, the Elephant Butte Reservoir roughly marks the transition between central and southern New Mexico. The shallow Rio Grande is a ribbon of green in the arid Chihuahuan Desert of Southern New Mexico. Although it sometimes runs dry in certain stretches, the river remains the lifeblood of many communities that rely on tourism as well as major agricultural production of crops including chile, cotton, grapes, and pecans.



Key Landscape Notes

- Ditch and levee network
- Desert highlands, mesas and basins

Key Cultural/Recreational Highlights:

- Elephant Butte and Caballo Reservoirs
- The White Sands and Organ Mountains
- Town of Hatch (center of chile production in the state)

National Monuments

- La Llorona Trail (one of the first designated segments of the Rio Grande Trail)
- Strong cultural influence along Mexican border

Key Trail Facilities:

- On-Levee
- On-Ditch/Drain Service Road
- Unpaved Walk/Bike
- Shoulder Bikeway
- Shared Use Path



GUIDANCE BASIS

The sections that follow serve as an inventory of recommended shared use path and trail design treatments for the Rio Grande Trail, and provide guidelines for their development. These treatments and design guidelines are important because they are the tools for creating a safe and accessible trail. The guidelines are not, however, a substitute for a more thorough evaluation by a landscape architect or engineer, upon implementation of facility improvements.

National Guidance

The following standards and guidelines are referred to in this guide:

- The Federal Highway Administration's (FHWA) **Manual on Uniform Traffic Control Devices (MUTCD)** defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic.
- American Association of State Highway and Transportation Officials' (AASHTO) **Guide for the Development of Bicycle Facilities (2012)** provides guidance on dimensions, use, and layout of specific bicycle facilities. The AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities (2004) provides guidance for pedestrian facilities.

- The National Association of City Transportation Officials' (NACTO) **Urban Bikeway Design Guide (2012)** is the newest publication of nationally recognized bikeway design standards, and offers guidance on the current state of the practice designs.
- The **AASHTO A Policy on Geometric Design of Highways and Streets (2011)** commonly referred to as the "Green Book," contains the current design research and practices for highway and street geometric design.
- **FHWA's Small Town and Rural Multimodal Networks (2016)** document is a design resource and idea book to help small towns and rural communities support safe, accessible, comfortable, and active travel for people of all ages and abilities.

State Guidance

Statewide guidance is provided by the New Mexico Department of Transportation (NMDOT).

- The **NMDOT Design Manual (2016)** provides guidance on bike and pedestrian facilities, including shared use paths.
- The **NMDOT Road Diet Guide (2016)** provides guidance on the reallocation of roadway space for multimodal transportation.
- The **NMDOT Signing and Striping Manual (2008)** provides guidance on a uniform system for traffic control devices.
- The **New Mexico State Bicycle Plan** (forthcoming) provides guidance on bike facilities and statewide priorities.

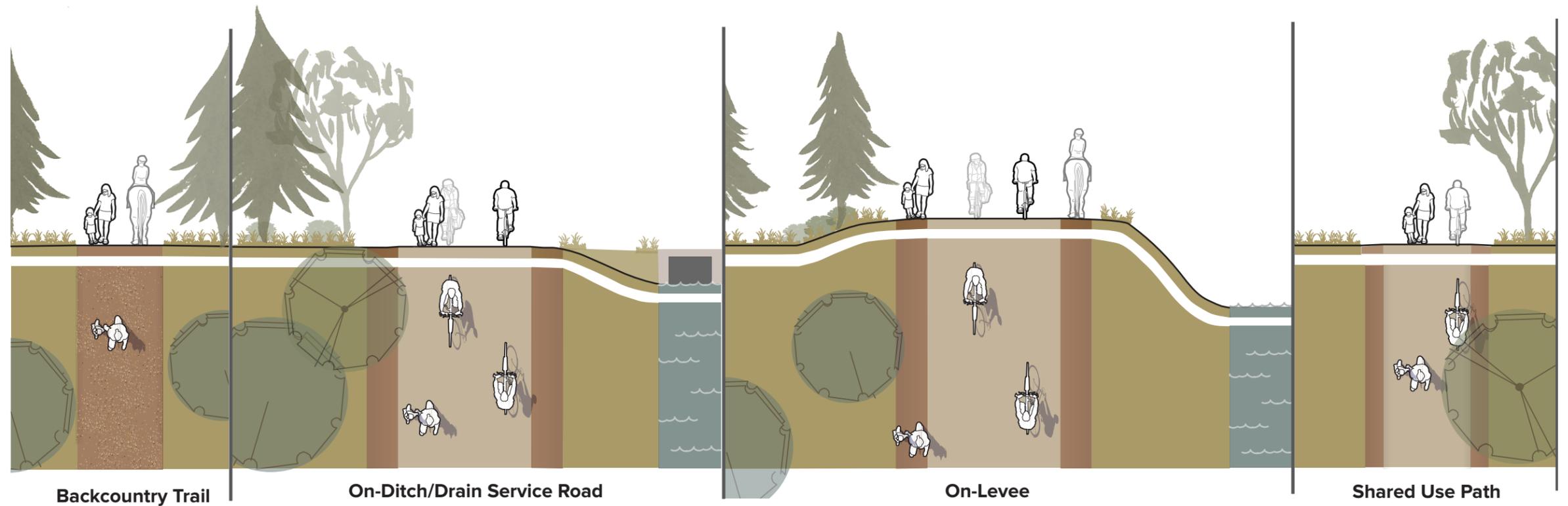


SECTION 2

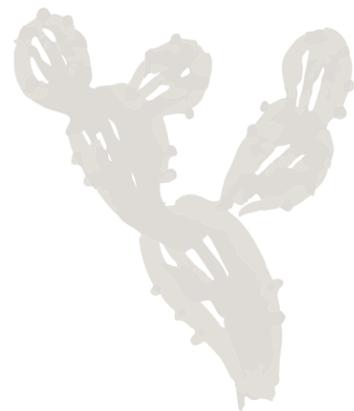
FACILITY CONTINUUM

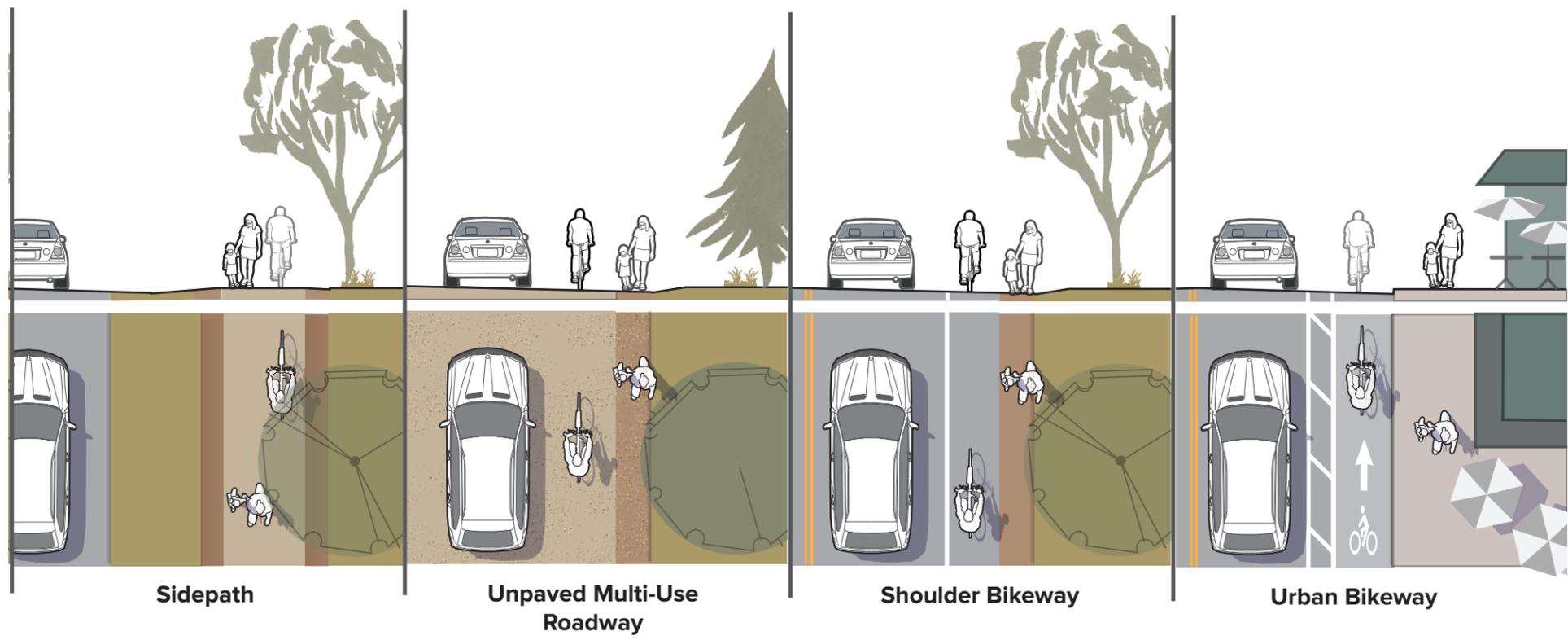


FACILITY CONTINUUM



PREFERRED FACILITIES





USE WHEN NECESSARY

PAGE INTENTIONALLY LEFT BLANK



SECTION 3

USER TYPES



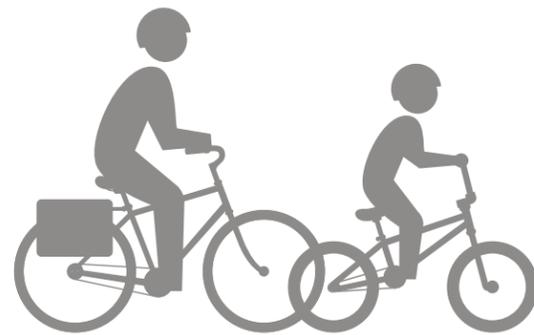
TRAIL USERS

Trail users include pedestrians (including those using mobility devices and pushing strollers, cyclists, and equestrians). By understanding the unique characteristics and needs of all trail users, a facility designer can provide quality facilities and minimize user risk.

LOCAL USERS



Pedestrians



Bicyclists



Mountain Bikers

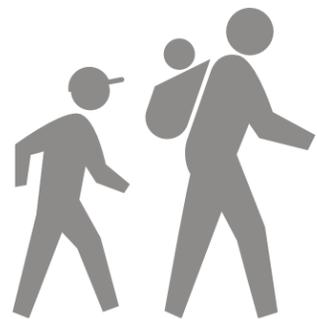


Equestrians

TOURING USERS



Through Hikers



Section Hikers



Through Touring Cyclists



Bikepackers



PEDESTRIANS

Pedestrians include walkers, joggers, dog walkers, people pushing strollers, and people with physical or cognitive impairments. Pedestrians have a variety of characteristics and as such, the trail network should accommodate a variety of needs and abilities.

Age and ability are major factors that affects pedestrians' physical characteristics, walking speed, and environmental perception. Children have low eye height and walk at slower speeds than adults; they may also be in strollers. Older adults and people with disabilities may walk more slowly or use a wheelchair, and may require assistive devices for walking, stability, sight, and hearing. In areas where these user types are expected, trails should be sufficiently wide (at least 10 feet) and maintain a cross slope of less than two percent.

Average Trip Distance:

- 0.5-3 miles

Preferred Facility Characteristics:

- Paved or ADA-accessible soft-surface trail

Alignment Needs:

- Connections to local neighborhoods and destinations such as schools, parks, and employment centers

Amenity Needs:

- Benches, wayfinding, shade, dog-bags, trash receptacles, restrooms



BICYCLISTS

Bicyclists are typically commuter or sport cyclists traveling (for a single day) on road bikes or touring bikes with narrower tires. This category can also include beginner cyclists, biking families, or sports cyclists.

Average Trip Distance:

- 3 miles (commute), 10-50 (recreation)

Preferred Facility Characteristics:

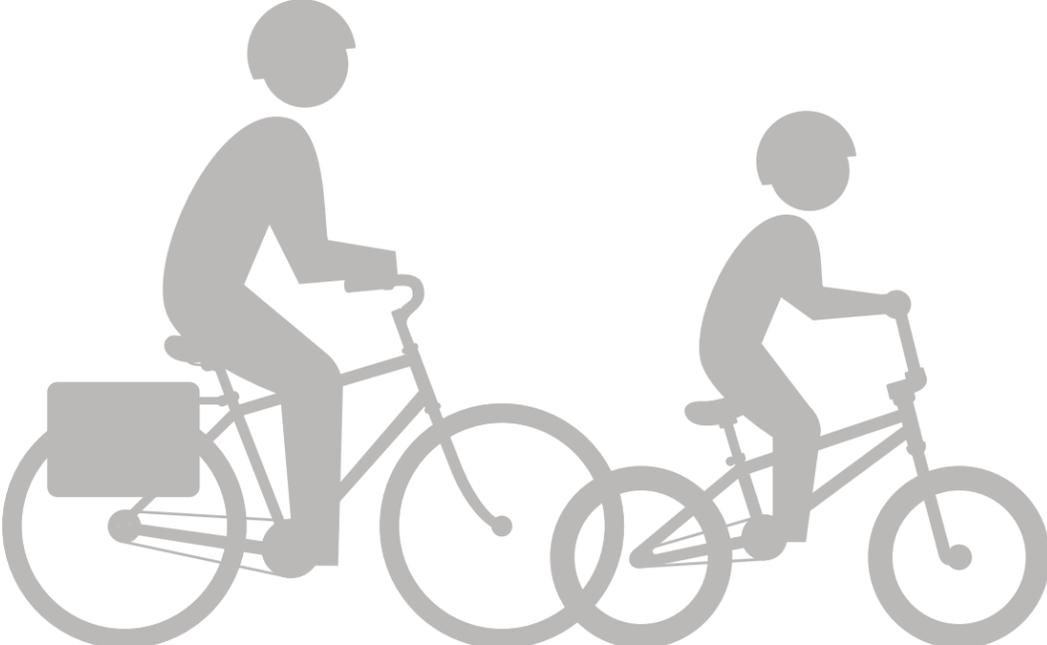
- Paved routes (typically on streets but sometimes on trails)

Alignment Needs:

- Connections to local neighborhoods and destinations such as schools, parks, and employment centers, preference for higher comfort routes (low volumes, low speeds, or high degree of separation from traffic)

Amenity Needs:

- Wayfinding



MOUNTAIN BIKERS

Mountain Bikers are recreational cyclists that typically travel on mountain bikes, fat bikes, or touring bikes specifically designed for soft-surface trails for a single day.

Average Trip Distance:

- 3-25 miles

Preferred Facility Characteristics:

- Soft surface, single-track preferred

Alignment Needs:

- Connections to mountain bike trail networks and loops; natural setting

Amenity Needs:

- Wayfinding, trailhead facilities near mountain biking trails



EQUESTRIANS

Equestrians travel by horseback. The needs of equestrian trail users are unique due to the natural flight instinct of horses when startled. Multi-use paths can serve both pedestrians and equestrians, as they both travel easily on unpaved surfaces and move at relatively slow speeds. However, equestrians and bicyclists are not typically compatible on the same tread. For instance a quiet, fast-moving cyclist can startle a horse. In areas where trail user conflicts seem likely, efforts should be made to physically separate non-compatible user groups.

Average Trip Distance:

- 3-15 miles

Preferred Facility Characteristics:

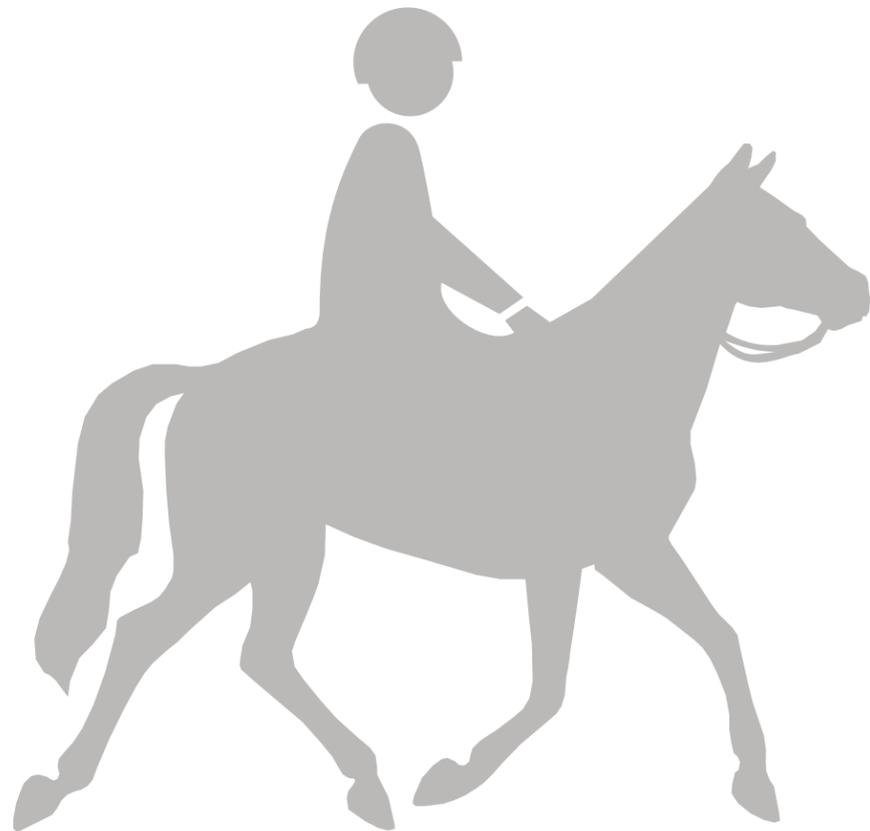
- Soft surface

Alignment Needs:

- Separation from motorized users preferred, water crossings preferred over bridge crossings; natural setting

Amenity Needs:

- Parking/trailhead facilities to accommodate horse trailers, water for horses, and hitching posts at rest areas



THROUGH HIKERS

Through hikers travel end-to-end on a long-distance trail.

Average Trip Distance:

- 8-16 miles per day depending on terrain

Preferred Facility Characteristics:

- Soft surface preferred; will tolerate some sections of paved trail

Alignment Needs:

- Routes should provide access to unique natural, cultural, or historic features; proximity to drinking water and/or streams that can be used in conjunction with a water purifier system; access to post-offices or mail drops; periodic interfaces with goods and services; access to transportation options at ends of trail sections

Amenity Needs:

- Wayfinding, accessible trail conditions information, Camping (dispersed, primitive, or improved) or lodging opportunities



SECTION HIKERS

Section hikers travel along a partial segment of a long-distance trail (duration may vary from a couple of days to a week).

Average Trip Distance:

- 8-16 miles per day depending on terrain

Preferred Facility Characteristics:

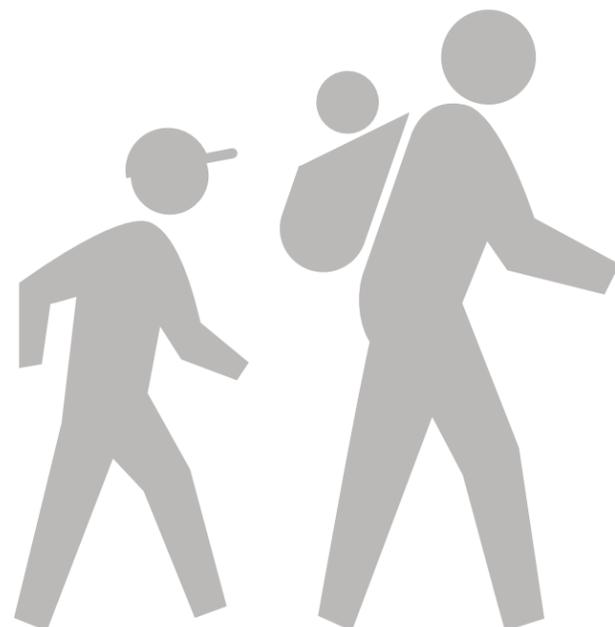
- Soft surface preferred; will tolerate some sections of paved trail

Alignment Needs:

- Routes should provide access to unique natural, cultural, or historic features; proximity to drinking water and/or streams that can be used in conjunction with a water purifier system; periodic interfaces with goods and services preferred; access to transportation options at ends of trail sections

Amenity Needs:

- Wayfinding, accessible trail conditions information, camping (dispersed, primitive, or improved) or lodging opportunities (hotels, motels, Airbnb, VRBO, WarmShowers, CouchSurfing), water, food (restaurants and markets), electricity, ATMs, laundry services or laundromat, bike shops, showers, secure nighttime bicycle parking or storage



THROUGH TOURING CYCLISTS

Through touring cyclists travel long distances on road bikes or touring bikes carrying varying amounts of gear and supplies to support their trip.

Average Trip Distance:

- 40 - 80 miles per day depending on terrain and fitness

Preferred Facility Characteristics:

- Paved routes (Typically on streets and highways, but sometimes on trails)

Alignment Needs:

- Routes should provide access to unique natural, cultural, or historic features; routes with low traffic speeds or volumes and high degrees of separation from traffic preferred; proximity to drinking water and/or streams that can be used in conjunction with a water purifier system; periodic interfaces with goods and services; access to transportation options (i.e. roadways, trains) at ends of trail sections

Amenity Needs:

- Wayfinding, camping (dispersed, primitive, or improved) or other lodging opportunities (hotels, motels, Airbnb, VRBO, WarmShowers, CouchSurfing), water, food (restaurants and markets), electricity, ATMs, laundry services or laundromat, bike shops, showers, secure nighttime bicycle parking or storage



BIKEPACKERS

Bikepackers travel long distances on mountain bikes or touring bikes equipped for soft-surface trails carrying varying amounts of gear and supplies to support their trip.

Average Trip Distance:

- 30 - 60 miles per day depending on terrain and fitness

Preferred Facility Characteristics:

- Soft surface preferred; will tolerate some sections of paved trail

Alignment Needs:

- Routes should provide access to unique natural, cultural, or historic features; Proximity to drinking water and/or streams that can be used in conjunction with a water purifier system; periodic interfaces with goods and services; access to transportation options (i.e. roadways, trains) at ends of trail sections

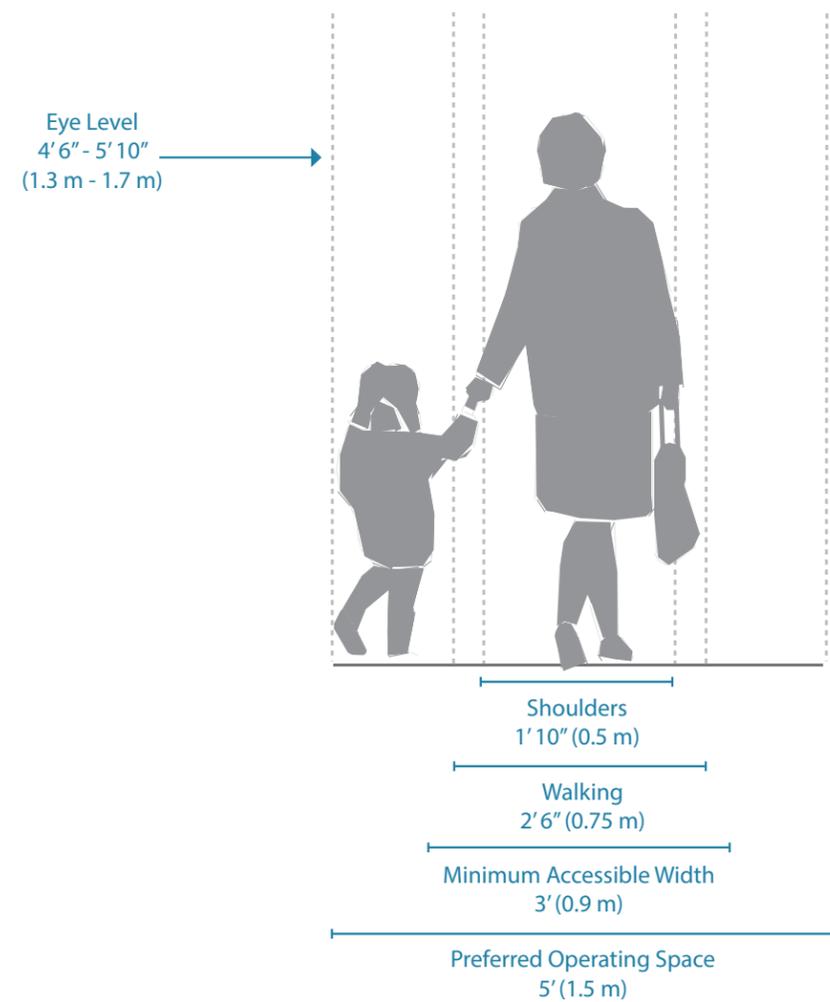
Amenity Needs:

- Wayfinding, accessible trail conditions information, camping (dispersed, primitive, or improved) or lodging opportunities (hotels, motels, Airbnb, VRBO, WarmShowers, CouchSurfing), water, food (restaurants and markets), electricity, ATMs, laundry services or laundromat, bike shops, showers, secure nighttime bicycle parking or storage

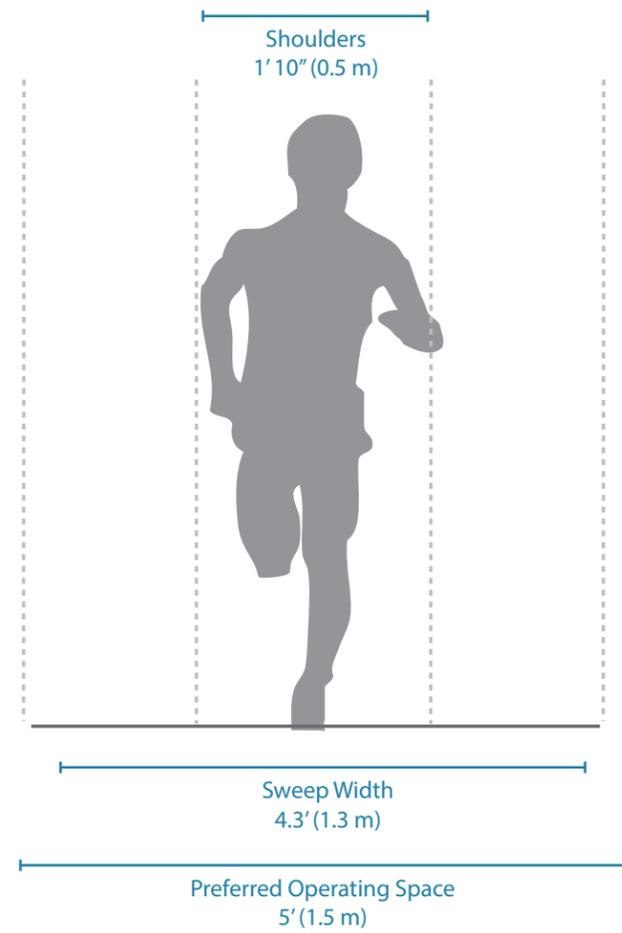


TRAIL USER SPATIAL CONSIDERATIONS

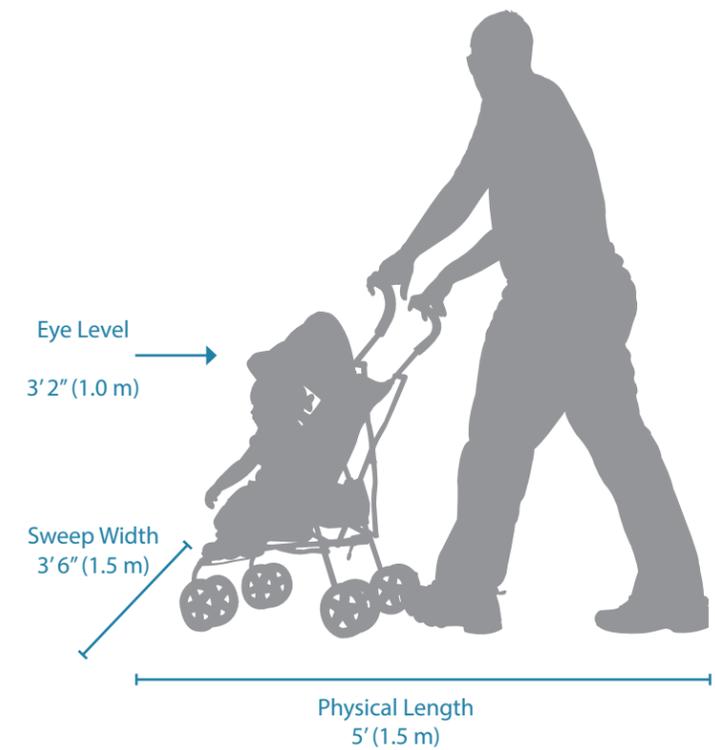
Pedestrian Dimensions



Runner Dimensions

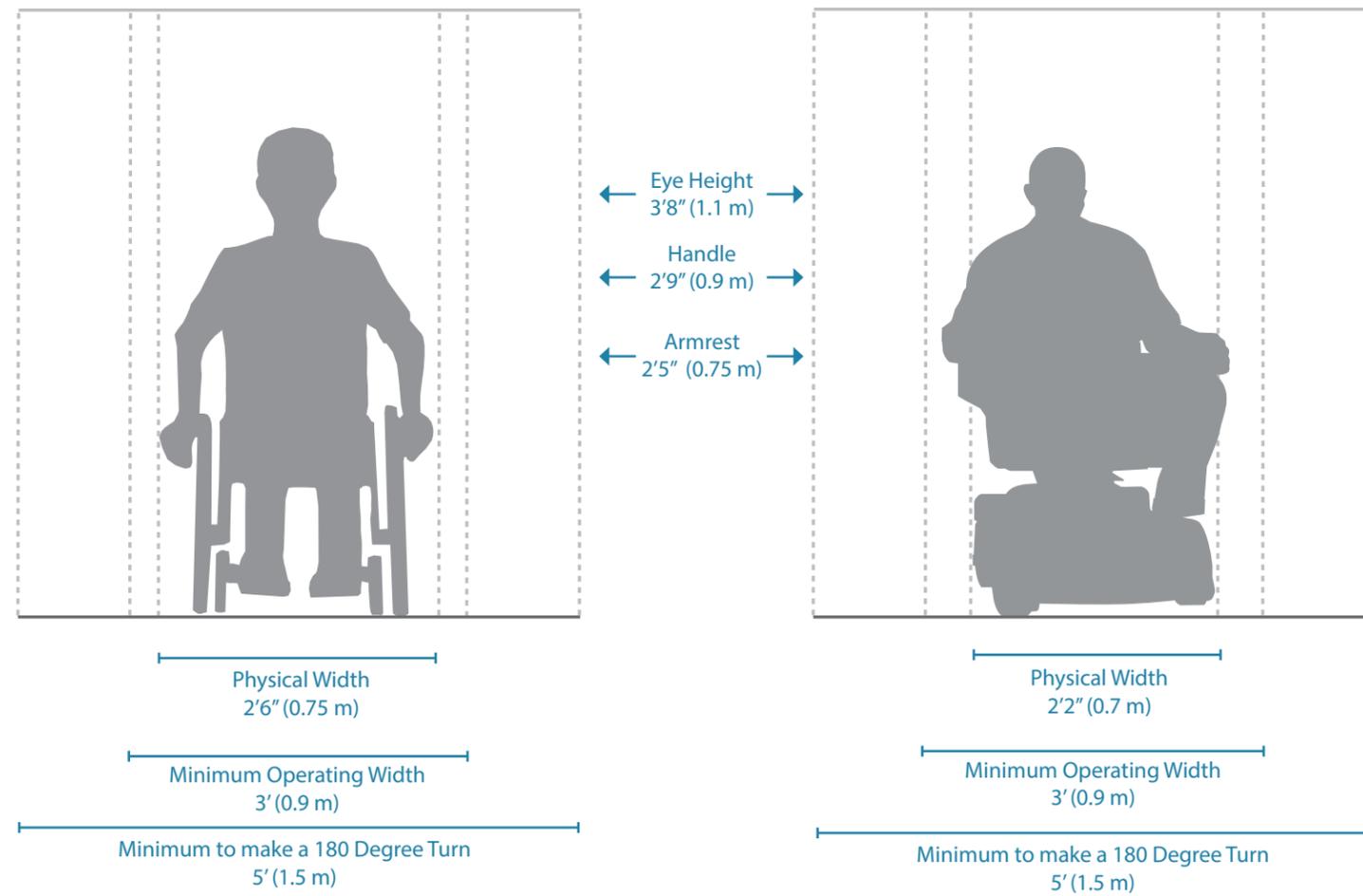


Stroller Dimensions



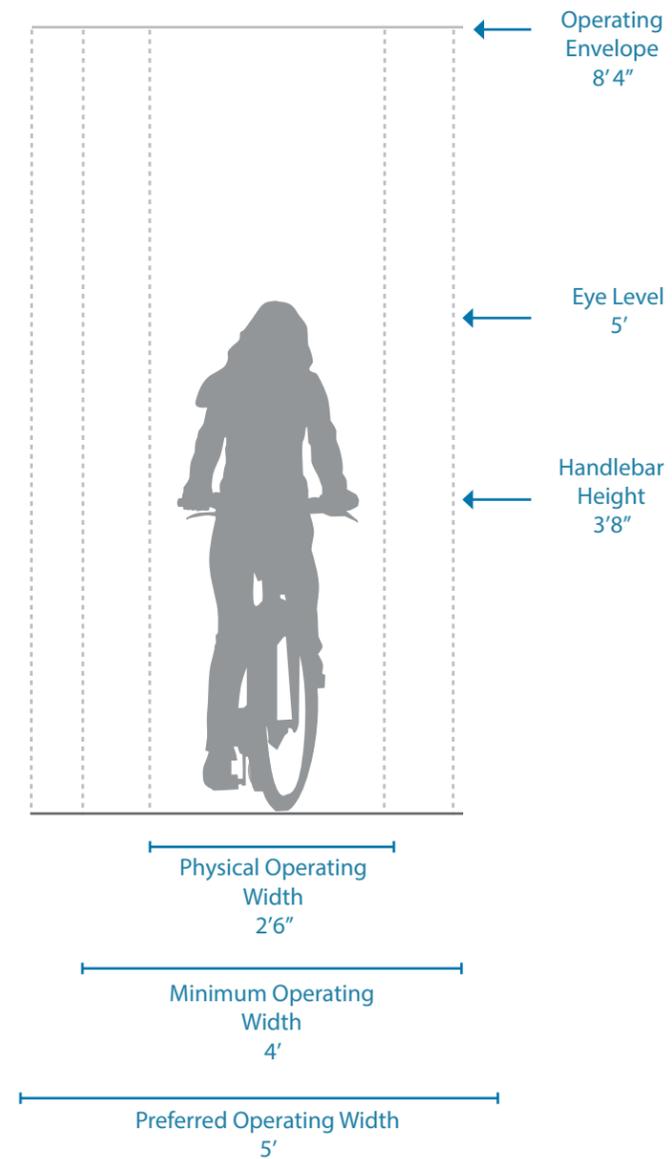
Source: AASHTO. *Guide for the Planning, Design, and Operation of Pedestrian Facilities*. Exhibit 2-1. 2004.

Wheelchair User Dimensions

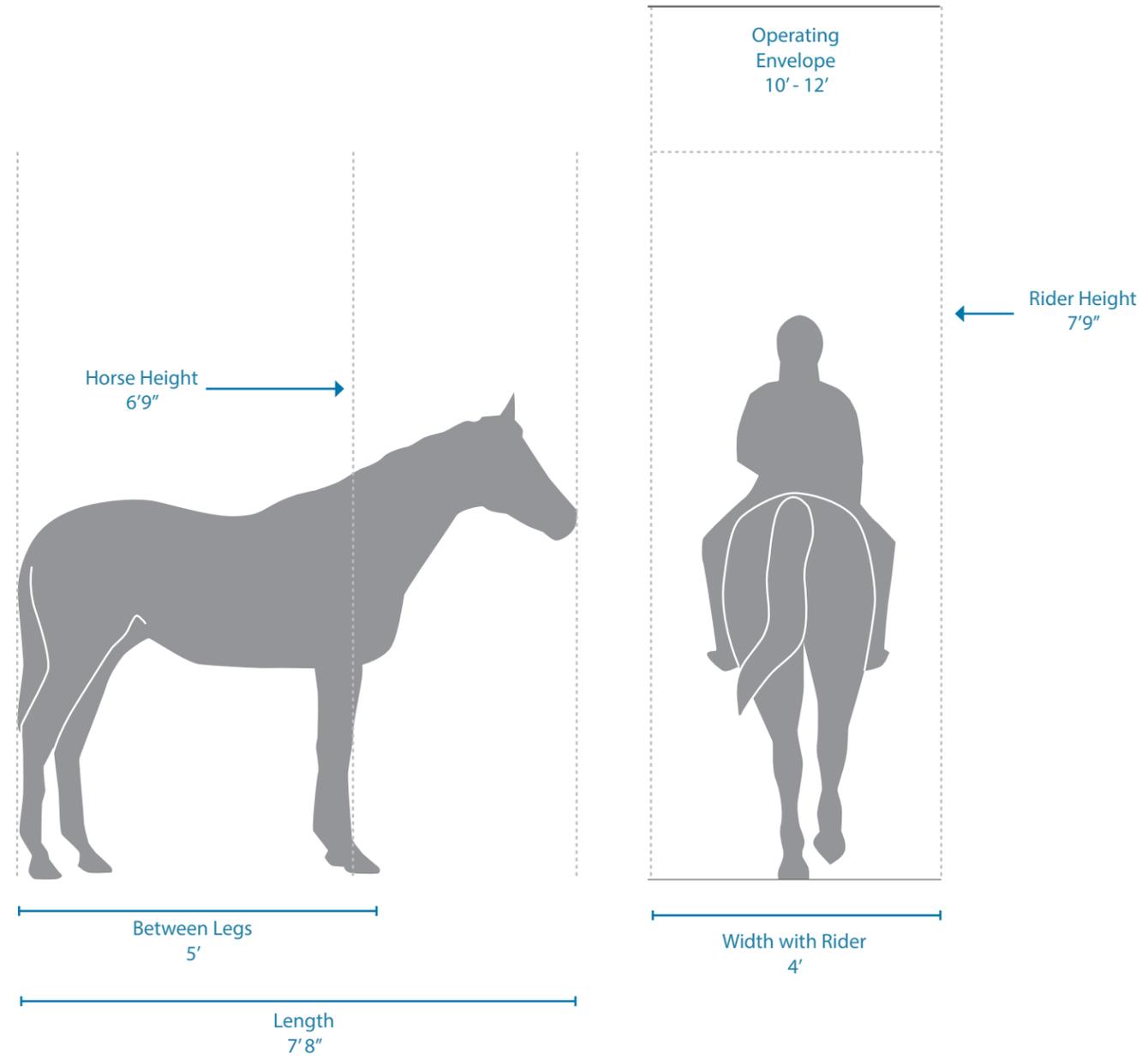


TRAIL USER SPATIAL CONSIDERATIONS

Bicycle Rider Dimensions



Equestrian Dimensions



PAGE INTENTIONALLY LEFT BLANK



SECTION 4

SHARED USE FACILITIES



SHARED USE PATH

A shared use path provides a travel area separate from motorized traffic for bicyclists, pedestrians, skaters, wheelchair users, joggers, and other users. Shared use paths are desirable for bicyclists of all skill levels preferring separation from traffic. Bicycle paths should generally provide directional travel opportunities not provided by existing roadways. Most shared use paths are designed for two-way travel.



Typical Application

- Shared use paths are typically located in independent rights of way, separate from roadways.
- In utility corridors, such as powerline and sewer corridors.
- In waterway corridors such as along ditches, drains, acequias, rivers and beaches.

Design Features

- Recommended minimum 10' width to accommodate moderate usage (14' preferred for heavy use). Minimum 8' width for low volume situations only.
- A 2' or greater shoulder on both sides of the path should be provided free of obstacles. An additional foot of lateral clearance, for a total of 3', is required by the MUTCD for the installation of signage or other furnishings.
- Standard clearance to overhead obstructions should be 10'.

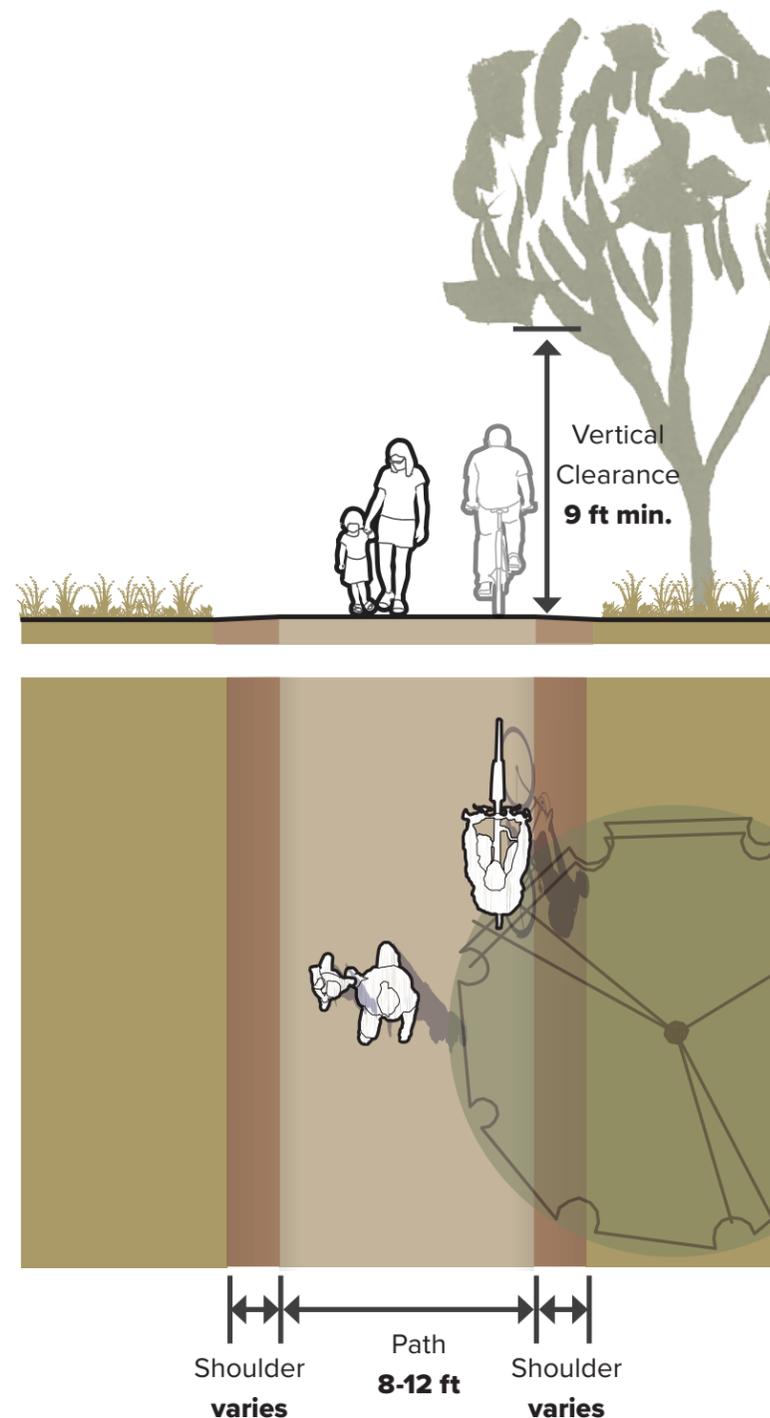


Further Considerations

- Under most conditions, centerline markings are not necessary. Centerline markings should only be used if necessary for clarifying user positioning or preferred operating procedure: Solid line = No passing; Dashed line = Lane placement
- Paths with a high volume of bidirectional traffic should include a centerline. This can help communicate that users should expect traffic in both directions and encourage users to travel on the right and pass on the left.
- Where there is a sharp blind curve, painting a solid yellow line with directional arrows reduces the risk of head-on collisions.
- Small scale signs should be used in shared use path environments (MUTCD 9B.02).
- Terminate the path where it is easily accessible to and from the street system, preferably at a trailhead, controlled intersection or at the beginning of a dead-end street.
- Use of bollards should be avoided when possible. If bollards are used at intersections and access points, they should be colored brightly and/or supplemented with reflective materials to be visible at night.

References

- AASHTO. Guide for the Development of Bicycle Facilities. Chapter 5. 2012.
- FHWA. Manual on Uniform Traffic Control Devices. Chapter 9. 2009.



ON-LEVEE PATH

Waterway corridors are often well suited for shared use paths. The relatively uninterrupted, level surface of the top of a levee or ditch is particularly ideal for path alignment.



Typical Application

- Along levees.

Design Features

- Shared use paths adjacent to levees or waterways should meet or exceed general design practices. If additional width allows, wider paths and landscaping are desirable.
- Where the path is adjacent to levees, ditches, or slopes steeper than 1' vertical and 3' horizontal (1:3), a wider separation should be considered. A 5-foot separation from the edge of the path to the top of slope is desirable under these circumstances. Where a slope of 1:2 or greater exists within 5 feet of a path and the fill is greater than 10 feet, a physical barrier such as dense shrubbery, railing, or chain link fence should be provided along the top of slope, if feasible.
- Access to a trail on top of a levee would likely require ramps or switchbacks to provide ADA compliance.
- Any access point to the path should be well-defined with appropriate signage designating the pathway as a bicycle and pedestrian facility and prohibiting motor vehicles.
- Paving of on-levee paths would require designation and/or construction of a parallel unpaved maintenance road. Due to spatial constraints, pathway paving is not anticipated in most scenarios.



Further Considerations

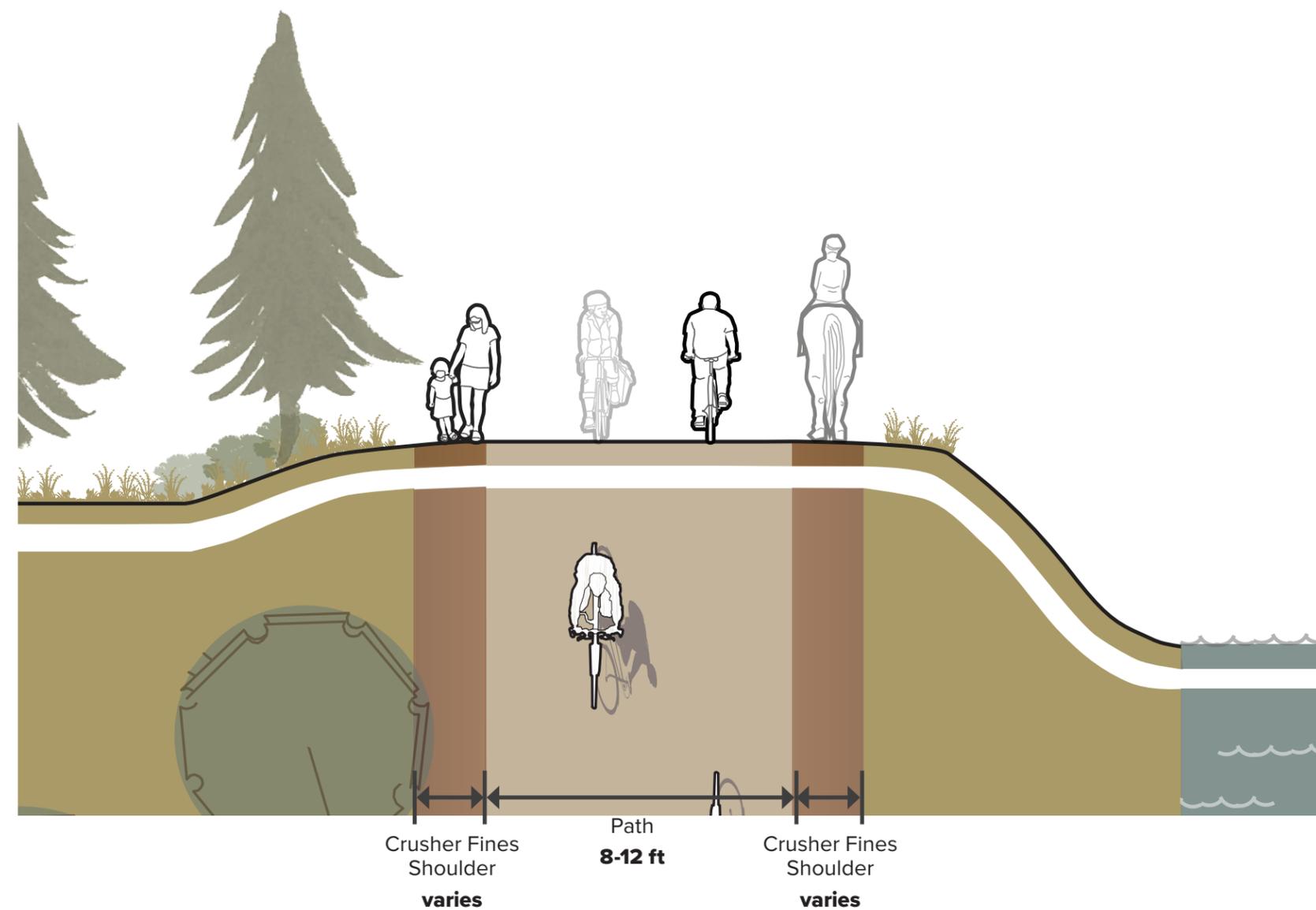
- Cross-section at right illustrates optimal conditions. In scenarios where these spatial standards cannot be met, the trail should default to the backcountry trail standards. Significant modifications to levees are not intended.

Public access to the shared use path may be prohibited during the following events:

- Levee maintenance activities
- Inclement weather or the prediction of storm conditions

References

- AASHTO. Guide for the Development of Bicycle Facilities. 2012.



ON-DITCH/DRAIN ROAD PATH

The corridors created by ditches and drains offer excellent shared use path development and bikeway gap closure opportunities. They are typically long and linear in nature and can generally offer a continuous pathway with few conflicts with other transportation modes.



Typical Application

- Along irrigation ditches, drains, and flood control channels.

Design Features

- Shared use paths adjacent to ditches and drains should meet or exceed general design practices. If additional width allows, wider paths and landscaping are desirable.
- In situations where asphalt or concrete paving is desired, a separate unpaved maintenance road should be designated or constructed. Coordination with MRGCD is required if paving is desired.
- Any access point to the path should be well defined with appropriate signage designating the pathway as a bicycle facility and prohibiting motor vehicles.

Further Considerations

Vehicular access may not be prohibited on all irrigation ditch, drain, and levee facilities. Where the Rio Grande Trail is proposed along facilities that allow vehicular access, an assessment involving the irrigation district, irrigators, and the general public should be undertaken to determine whether closure to motorized vehicles is appropriate and feasible.



Public access to the shared use path may be prohibited during the following events:

- Maintenance, construction, or management activities
- Weather-related emergencies

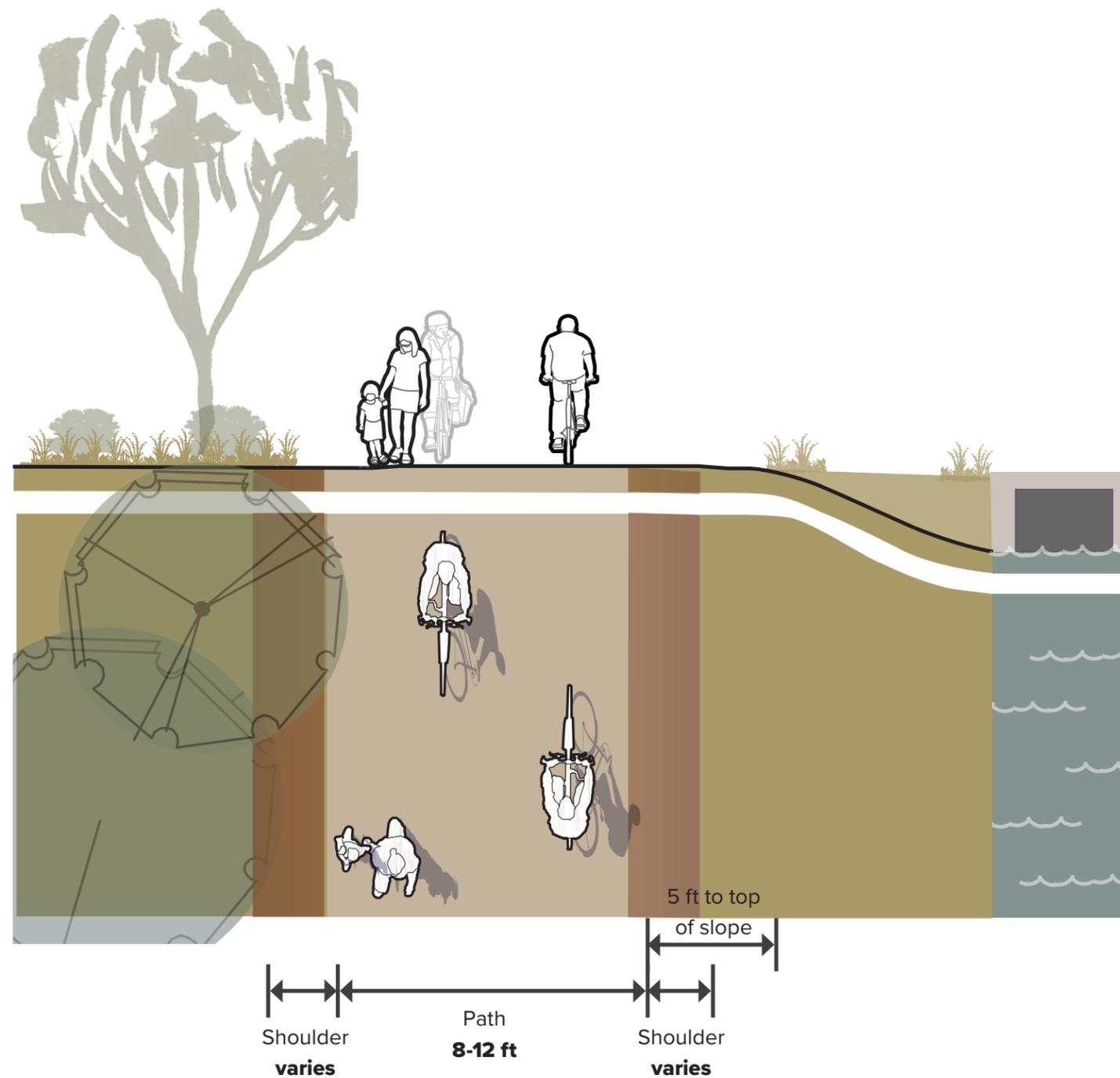
Coordinating Agencies

Trails within ditch or drain rights-of-way will require coordination and agreements with the underlying property owner. Primary districts along the preferred Rio Grande Trail route include:

- The Middle Rio Grande Conservancy District (MRGCD)
- Elephant Butte Irrigation District (EBID)

References

- AASHTO. Guide for the Development of Bicycle Facilities. 2012.



SIDEPATH

A sidepath is a bidirectional shared use path located immediately adjacent and parallel to a roadway. Sidepaths can offer a high quality experience for users of all ages and abilities as compared to on-roadway facilities in heavy traffic environments, allow for reduced roadway crossing distances, and maintain community character.



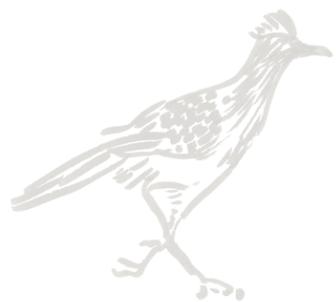
Alignment Considerations

Although paths in independent rights-of-way are preferred, sidepaths may be considered where one or more of the following conditions exist:

- The adjacent roadway has relatively high-volume and high-speed motor vehicle traffic that might discourage many bicyclists from riding on the roadway.
- To provide continuity between existing segments of shared use paths.
- For use near schools and neighborhoods, where increased separation from motor vehicles is desired.

Design Standards

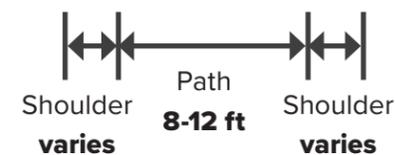
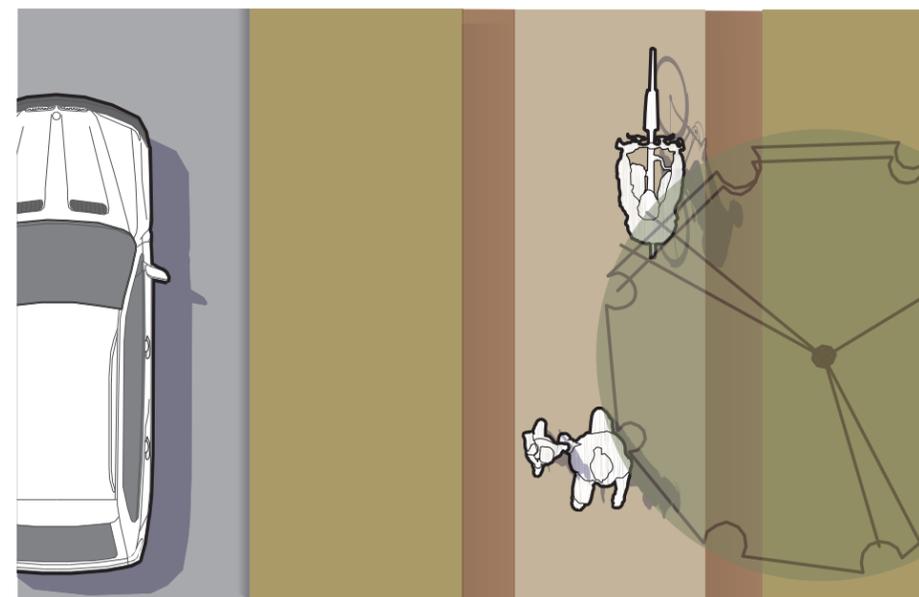
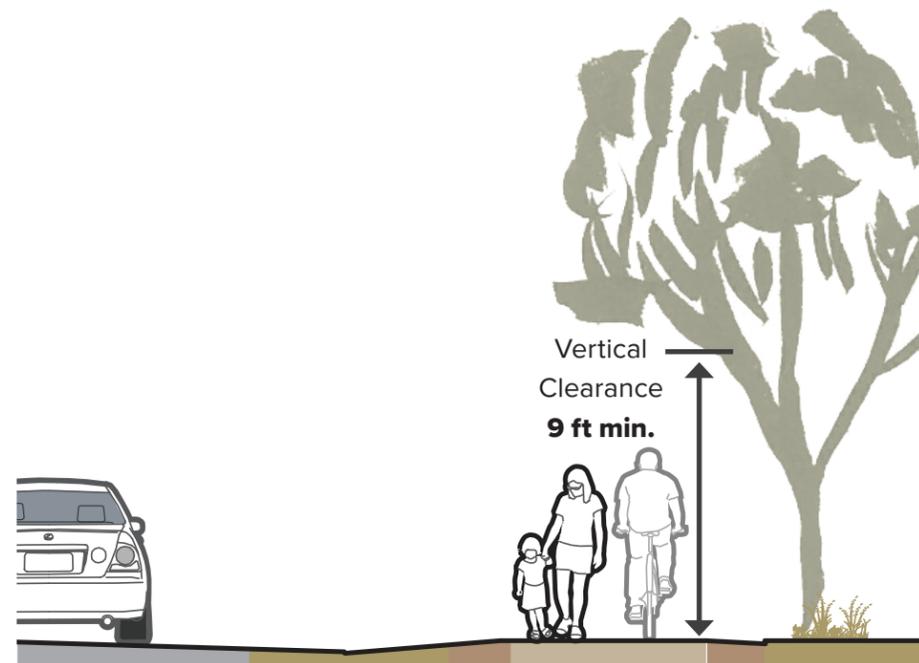
- To reduce potential conflicts in some situations, it may be better to place one-way sidepaths on both sides of the street.
- Asphalt is the standard paving material for sidepaths. Shoulders are typically unpaved.
- Standard shared use path width is 12 ft, which is suitable for heavy-use with high concentrations of multiple user types. Where user volumes are extremely high, a separate track for cyclists is recommended.



- 5 ft sidewalk can be provided for separate pedestrian use. Minimum width of a sidepath is 10 ft.
- The preferred minimum roadway separation width is 6.5 - 16.5 ft. Absolute minimum separation width of 5 ft.
- A 2 ft or greater shoulder on both sides of the path should be provided free of obstacles. An additional foot of lateral clearance, for a total of 3 ft, is required by the MUTCD for the installation of signage or other furnishings. Standard clearance to overhead obstructions should be 10 ft, 8 ft minimum.
- It is important to keep approaches to intersections and major driveways clear of obstructions due to parked vehicles, shrubs, and signs on public or private property.
- Maximum cross slope of 2%. Design for a 1.5% cross slope to account for tolerance in construction.
- Running slopes should be below 5%. However, because sidepaths are located within a roadway right-of-way, the running slope may match the general grade established for the adjacent roadway.

References

- AASHTO. Guide for the Development of Bicycle Facilities. Chapter 5.2.2. 2012.
- FHWA. Manual on Uniform Traffic Control Devices. Chapter 9. 2009.



SIDEPATH CROSSINGS

Sidepaths provide a high degree of comfort on long uninterrupted roadway segments, but have operational and safety concerns at driveways and intersections with secondary streets. Crossings should be designed to promote awareness, lower speeds, and facilitate proper yielding of motorists to bicyclists and pedestrians.

Typical Application

- At controlled and uncontrolled sidepath crossings of driveways or minor streets.
- Used to provide for visibility and awareness of the crossing by motorist in advance of the crossing.
- Increases the predictability of sidepath and road user behavior through clear, unambiguous right of way priority.

Design Features

- The sidepath should be given the same priority as the parallel roadway at all crossings.
- Provide clear sight triangles for all approaches of the crossing.
- Maintain physical separation to the crossing of 6.5 to 25 ft. As speeds on the parallel roadway increase, so does the preference for wider separation distance.
- Configure crossings with raised speed table and median safety island.
- Use high visibility crosswalk markings to indicate the through area of the crosswalk.

Further Considerations

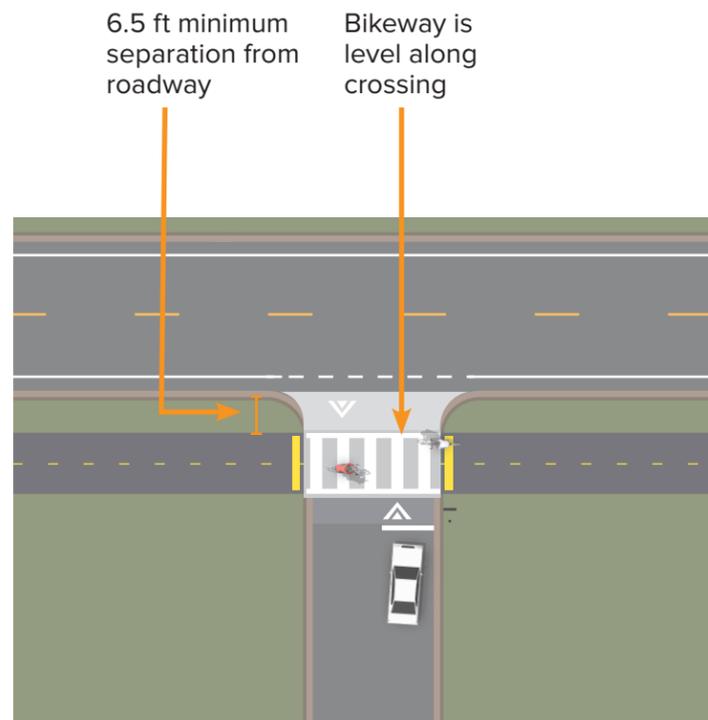
- Sidepaths running for long distances in suburban areas with many driveways or street crossings can create operational concerns. See the figure above for potential conflicts associated with sidepath crossings.
- Along roadways, these facilities create a situation where a portion of the bicycle traffic rides against the normal flow of motor vehicle traffic and can result in wrong-way riding where bicyclists enter or leave the path.

References

- AASHTO. Guide for the Development of Bicycle Facilities. 2012.
- FHWA. Incorporating On-road Bicycle Networks into Resurfacing Projects. 2015.
- FHWA. Separated Bike Lane Planning and Design Guide. 2015.

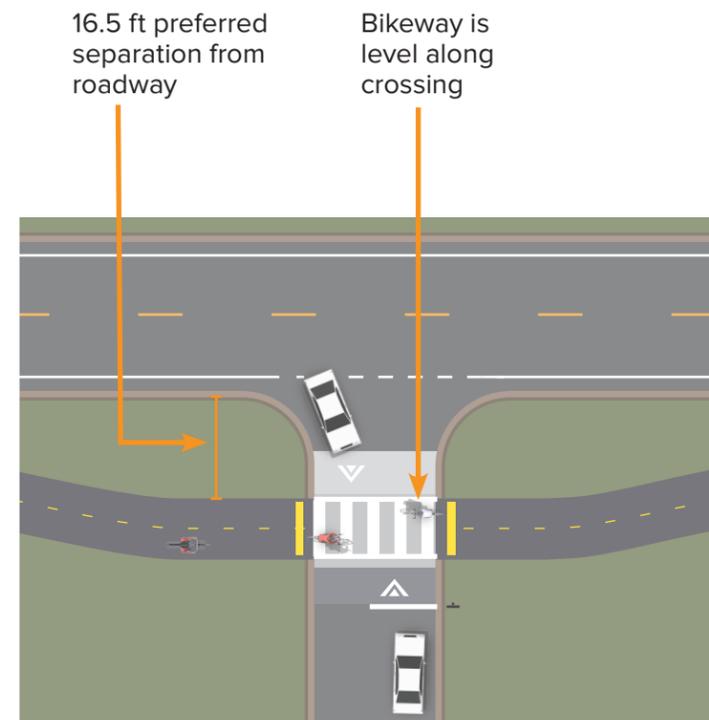


ADJACENT SIDEPATH CROSSING



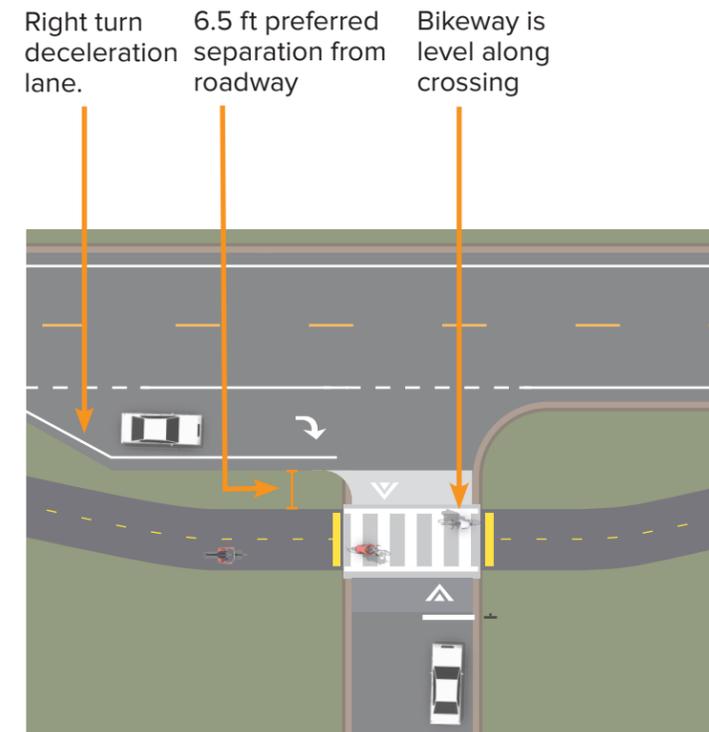
- Where space is constrained or sight distance is limited, an adjacent crossing can promote visibility of path users.

SEPARATED SIDEPATH CROSSING



- Where space is available, a separated crossing provides room for most motorists to yield to path users outside of the flow of through traffic.

WITH DECELERATION LANE



- On high-speed roadways, a deceleration lane is recommended to allow motorists to slow down as needed to yield to path users.

PAGE INTENTIONALLY LEFT BLANK



SECTION 5

BACKCOUNTRY TRAIL



BACKCOUNTRY TRAIL

Natural surface trails meet the recreational demands of hikers, mountain bikers, equestrians, and other non-motorized recreational trail users. Natural surface trails should be carefully sited within the landscape rather than constructed.



Adhere to the Half Rule

Trails whose running slope generally exceeds more than half the grade of the sideslope it's crossing are considered "fall line" trails. Drainage crossing a fall line trail will follow the trail rather than crossing it creating a high probability for erosion.



10% Max Average Grade

An overall trail grade of less than or equal to 10% provides a general framework for a sustainable trail profile. A preferred trail grade of 5-7% allows for some undulation and for short sections approaching 10%. Overall trail grades below 10% are also suitable for most soil types and minimizes erosion.



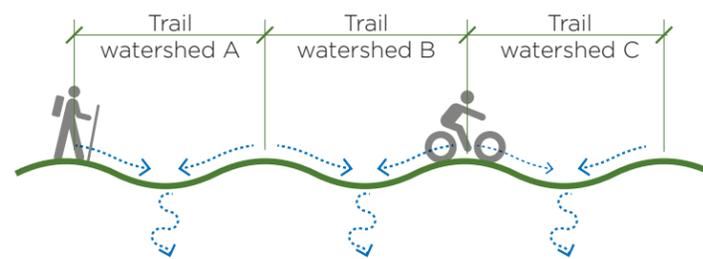
Identify Control Points

Positive control points are places that people want to go. These points might include scenic overlooks, trail access points, interesting landforms, water, or historic sites. Negative control points are places that the trail system should avoid. These could include places like private property, sensitive environmental resources, or safety hazards. By routing trail users to places they instinctively want to go and avoiding potential liabilities, trail planners can mitigate the potential for unauthorized social trails while limiting opportunities for trail users to go places that could lead to management issues.



Rolling Contour Trails

Rolling contour trails gently undulate while traversing side slopes to divide trails into distinct trail watersheds. Trail watersheds limit the amount of drainage flowing across a trail by combining an outsloped trail tread with frequent high and low points (grade reversals) along the trail profile.



Maximum Sustainable Trail Grades

Maximum sustainable trail grades relate to short segments (10' or more) that may exceed the recommended overall average grade of 10%. Typically maximum sustainable trail grades vary between 15% and 20% depending on soil type, rock, annual rainfall, or many other factors.

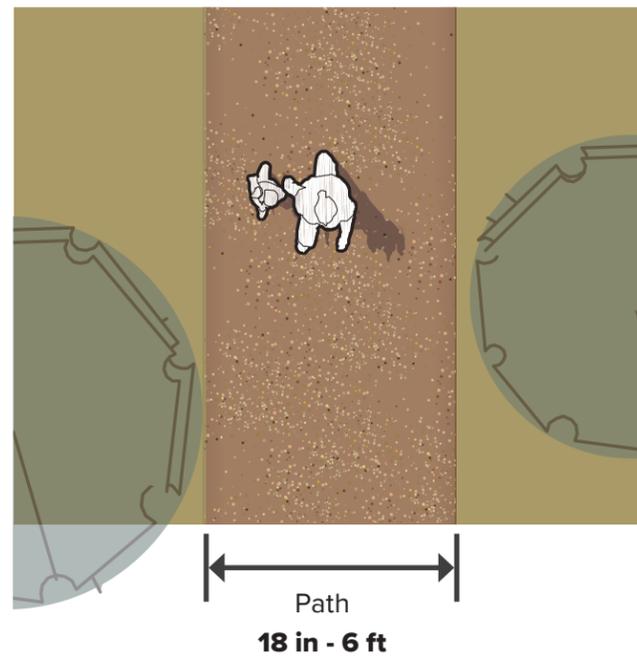


Design Standards

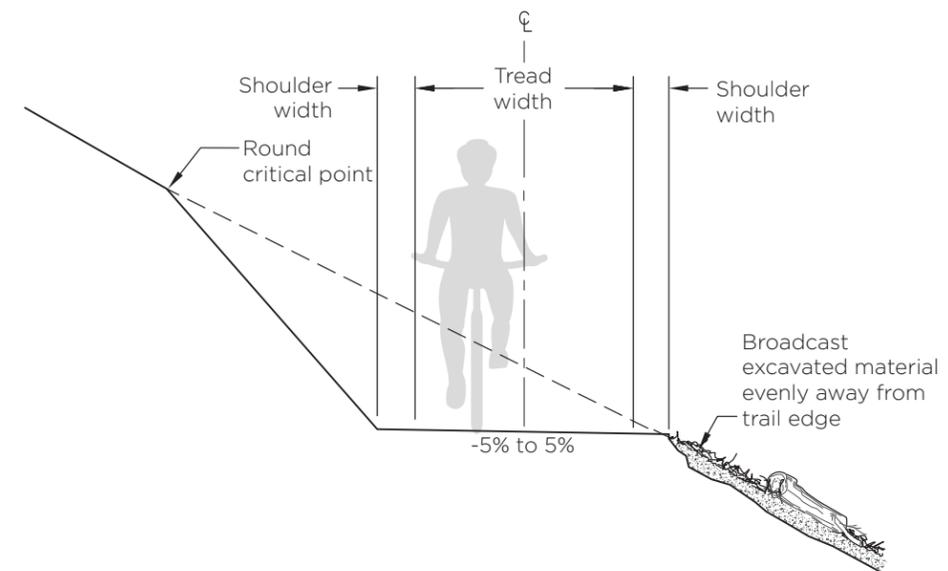
- Tread: Trail surface should be compacted native material soil.
- Trail Benching: Full bench trails provide the most durable trail construction however partial bench trails can provide an adequate trail surface where full bench trails are not possible or where “singletrack” is desired without waiting for vegetation to re-naturalize adjacent to the trail.
- Smoothness: Barriers such as steps, rocks, or roots do not exist although the natural surface may have some irregularities, not to exceed 2” high.
- Tread Width: Varies by anticipated use levels and types of users (24” to 8’-0”).
- Horizontal Clearance: A 1’ shoulder maintained with minimum vegetation should be provided free of obstacles.
- Vertical Clearance: 8’ min., 10’ where equestrian use is anticipated
- Running Slope: 15% max for less than 20’, 7% overall trail grade.
- Provide frequent grade reversals to shed water and prevent erosion.

References

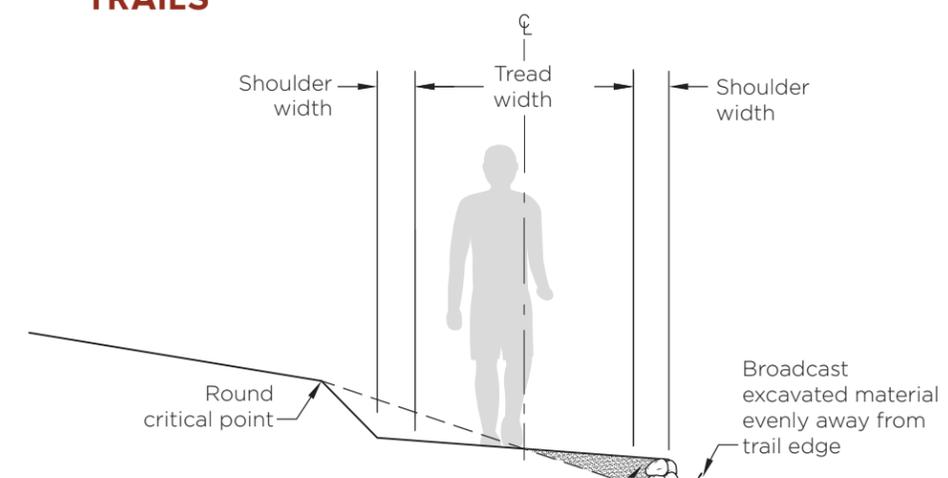
- US Forest Service Standard Trail Plans and Specifications
- IMBA Trail Solutions: IMBA’s Guide to Building Sweet Singletrack (2004).



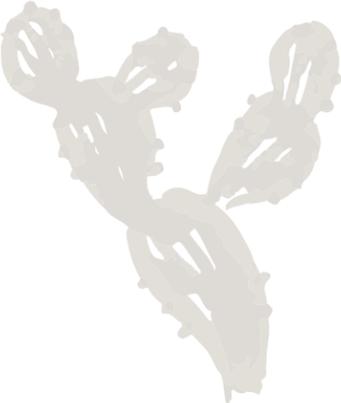
FULL BENCH CONSTRUCTION TRAILS



PARTIAL BENCH CONSTRUCTION TRAILS



PAGE INTENTIONALLY LEFT BLANK





SECTION 6

SHARED USE PATH CROSSINGS



PAGE INTENTIONALLY LEFT BLANK



SHARED USE PATH CROSSING TREATMENT SELECTION

The specific type of treatment at a shared use path crossing may range from a simple marked crosswalk to full traffic signal or grade separated crossing.

The table below presents a high-level assessment of potential crossing treatment options for a variety of contexts. Enhanced treatments require additional site by site analysis and should be implemented based upon a safety engineering evaluation, identified community need and NMDOT guidance. The evaluation should consider the number of lanes, the presence or lack of a median, the distance from adjacent signalized intersections, the pedestrian volumes and delays, the average daily traffic (ADT), the posted or statutory speed limit or 85th-percentile speed, the geometry of the location, the possible consolidation of multiple crossing points, the availability of street lighting, and other appropriate factors.

| Street Posted Speed Range | 15-25 mph | | 25-30 mph | | | 30-45 mph | | | | | | | |
|--|-----------|--------|-----------|---------------------------|--------|-----------|---------------------------|--------|--------|---------------------------|--------|--------|---------------------------|
| | 2 lane | 3 lane | 2 lane | 2 lane with median refuge | 3 lane | 2 lane | 2 lane with median refuge | 3 lane | 4 lane | 4 lane with median refuge | 5 lane | 6 lane | 6 lane with median refuge |
| Marked and Signed Crosswalk* | ✓ | ✓ | EJ | EJ | X | EJ | EJ | X | X | X | X | X | X |
| Crosswalk with Yield Lines | EJ | ✓ | ✓ | ✓ | ✓ | EJ | EJ | EJ | X | X | X | X | X |
| Raised Crosswalk | ✓ | ✓ | EJ | EJ | EJ | EJ | EJ | EJ | X | X | X | X | X |
| Rectangular Rapid Flashing Beacon Crossing | X | EJ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | X | ✓ | X | X | X |
| Pedestrian Hybrid Beacon Crossing | X | X | EJ | EJ | EJ | EJ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Full Traffic Signal Crossing | X | X | EJ | EJ | EJ | EJ | EJ | EJ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Grade Separated Crossing | X | X | EJ | EJ | EJ | X | EJ | EJ | ✓ | ✓ | ✓ | ✓ | ✓ |

| LEGEND | |
|-----------------------|----|
| Desirable | ✓ |
| Engineering Judgement | EJ |
| Not Recommended | X |

*NOTE: All treatments shall include a marked crosswalk. The “Marked and Signed Crosswalk” line item indicates contexts where ONLY a marked and signed crosswalk is an appropriate treatment.

MARKED & SIGNED CROSSWALK

A marked/unsignalized crossing typically consists of a marked crossing area, signage, and other markings to slow or stop traffic. The approach to designing crossings at mid-block locations depends on an evaluation of vehicular traffic, line of sight, pathway traffic, use patterns, vehicle speed, road type, road width, and other safety issues such as proximity to major attractions. Raised crosswalks combine a marked crosswalk with raised speed-table geometry to increase yielding rates and clarify road user priority with geometric design.



Typical Application

- Where shared use paths intersect with local or collector streets.
- Midblock path crossings should not be provided within 250 feet of an existing signalized intersection. When an existing intersection is in close proximity, route the path directly to the signal.

Maximum Traffic Volumes:

- 12,000 Average Daily Traffic (ADT) volume
- Maximum travel speed of 35 MPH

Minimum Sight Lines:

- 25 MPH zone: 155 ft
- 35 MPH zone: 250 ft
- 45 MPH zone: 360 ft



Design Features

- High visibility “ladder” style crosswalk markings. Crosswalk markings legally establish midblock shared use path crossing.
- Path priority signing (MUTCD R1-5 or R1-2) and stop or yield markings are placed 20 feet in advance of the crossing and function best when path user volumes are high.
- Speed management features such as speed humps may improve yielding. On roadways with low to moderate traffic volumes (<12,000 ADT) and a need to control traffic speeds, a raised crosswalk may be the most appropriate crossing design to improve pedestrian visibility and safety.

Further Considerations

- The approach to designing path crossings of streets depends on an evaluation of vehicular traffic, line of sight, pathway traffic, use patterns, vehicle speed, road type, road width, and other safety issues such as proximity to major attractions.
- Geometric design should promote a high degree of yielding to path users through raised crossings, horizontal deflection, signing, and striping.
- Raised crossings should raise 4 inches above the roadway with a steep 1:6 (16%) ramp. The raise should use a sinusoidal profile to facilitate snow plow operation. Advisory speed signs may be used to indicate the required slow crossing speed.

Maintenance

- Because the effectiveness of marked crossings depends entirely on their visibility, maintaining marked crossings should be a high priority. Thermoplastic or epoxy markings offer increased durability over conventional paint.

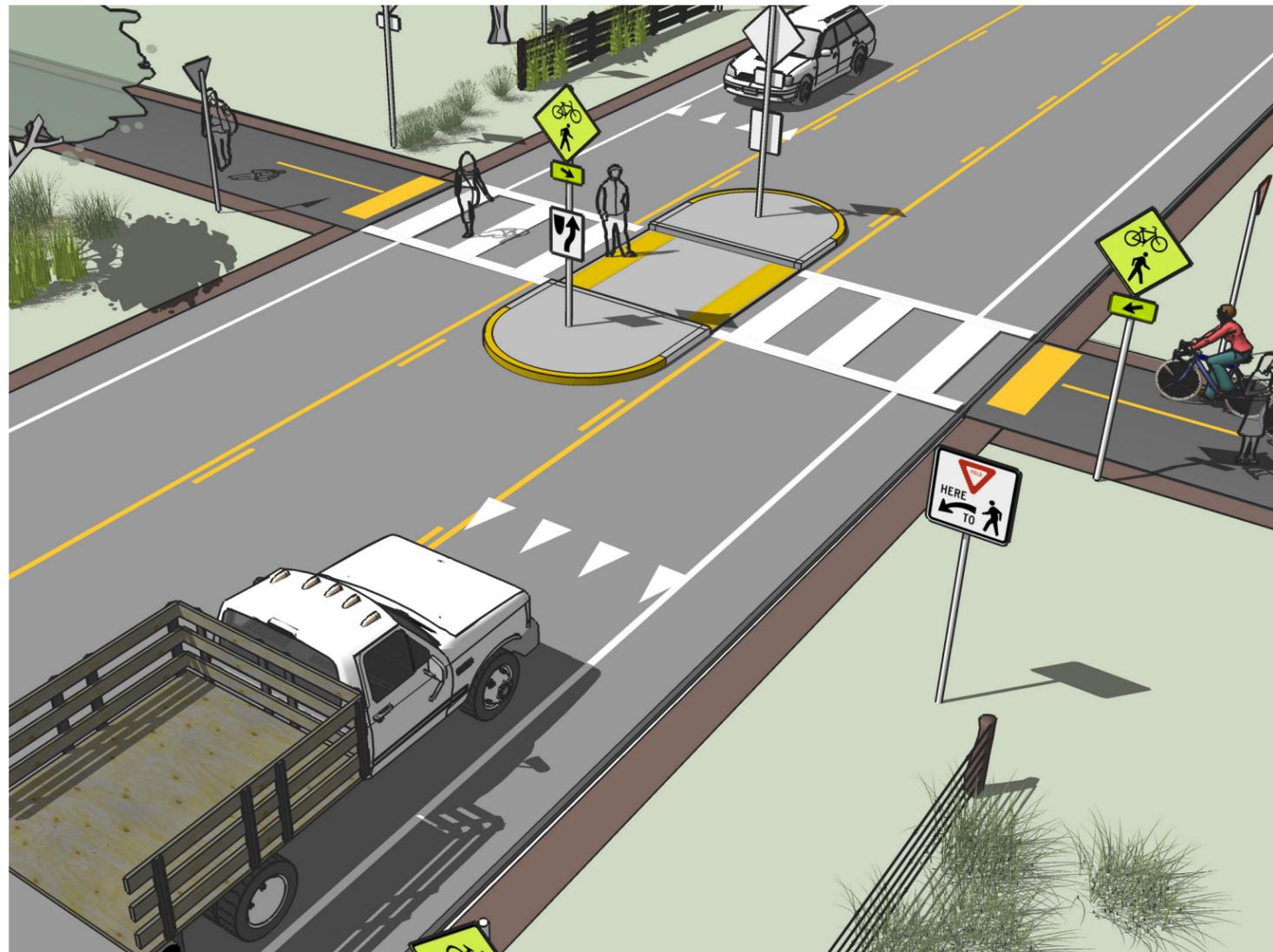
References

- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- AASHTO. Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004.



MEDIAN REFUGE ISLAND

On roadways with higher volumes, higher speeds and multi-lanes of vehicular traffic, a median crossing is preferred. Median refuge islands are located at the mid-point of a marked crossing and help improve path user safety by allowing pedestrians to cross one direction of traffic at a time. Median refuge islands minimize pedestrian exposure by shortening crossing distance and increasing the number of available gaps for crossing.



Typical Application

- Can be applied on any roadway with a left turn center lane or median that is at least 8' wide, or where wide traffic lanes and/or shoulders can be narrowed to provide at least 8' of space for the island.

Maximum Traffic Volumes

- Up to 15,000 ADT on two-lane roads, preferably with a median
- Up to 12,000 ADT on four-lane roads with median

Design Features

- Median islands should be paired with a Marked Crosswalk and Advanced Yield Line crossing treatment package.
- To accommodate bicyclists, the standard refuge area depth is 10 ft, 8 ft minimum.
- The path through the median should be the same width of the crosswalk and approaching shared use path.
- On multi-lane roadways, consider pairing as a Rectangular Rapid Flashing Beacon Crossing for improved yielding compliance.



Further Considerations

- Configure the island with an at-grade passage through the island rather than ramps and landings. Detectable warning surfaces must be full-width and 2 ft deep to provide indication for people with vision disabilities.
- Any refuge landscaping should not compromise the visibility of pedestrians crossing in the crosswalk. Shrubs and ground plantings should be no higher than 1 ft 6 in.

Maintenance

- Refuge islands may collect road debris and may require somewhat frequent maintenance. Trees and plantings must be maintained so as not to impair visibility.

References

- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- AASHTO. Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004.



RECTANGULAR RAPID FLASHING BEACON

Rectangular Rapid Flashing Beacons (RRFBs) are user-actuated warning beacons to supplement pedestrian warning signs at unsignalized intersections or mid-block marked pedestrian crosswalks.

RRFBs have been shown to increase motor vehicle yielding compliance at crossings of multi-lane or high-volume roadways.



Typical Application

- Located at high-volume pedestrian crossings, or at priority bicycle route crossings, including shared use paths.
- RRFBs are suitable for collector and arterial streets where posted speeds are 25-45 mph and there are three lanes of traffic (or four lanes with a median refuge island).
- These are implemented at high-volume pedestrian crossings where a signal is not warranted or desired, including mid-block locations.
- Where driver yield compliance at shared use path crossings is low.
- The use of RRFBs may not be appropriate at locations where there is a combination of both high traffic volumes and high pedestrian volumes. Extended activation of the flashing beacon may reduce yielding compliance. Consider Pedestrian Hybrid Beacon Crossings at those locations.

Design Features

- Rectangular Rapid Flashing Beacon Crossings should be paired with a Marked Crosswalk and Advanced Yield Line crossing treatment package.
- Push buttons should be easy to identify and located on the right-hand side of the path. They should be positioned so that bicyclists do not have to dismount to activate. If equestrians are expected, provide an equestrian height actuation button.
- Where possible, RRFBs work well as multi-beacon installations on mast arms, or Median Refuge Island Crossings to improve driver yielding behavior.

Further Considerations

- Signalized shared use path crossings should be operated so the slowest user type likely to use the path will be accommodated. This will typically be the pedestrian. The minimum walk interval time is seven seconds. The walk and pedestrian clearance times can be adjusted to account for the elderly, wheelchair users, and visually-disabled people who typically need more time to cross.
- A push button outfitted with a pilot or indicator light and/or audible/vibrotactile feedback acknowledges that the pedestrian call has been placed, reassuring the pedestrian that they have been detected.
- Each crossing, regardless of traffic speed or volume, requires additional review by a registered engineer to identify sight lines, potential impacts on traffic progression, timing with adjacent signals, capacity, and safety.

Maintenance

- Depending on power supply, maintenance can be minimal. If solar power is used, active warning beacons can run for years without issue.
- RRFBs should be regularly maintained to ensure that all lights and detection hardware are functional.

References

- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- AASHTO. Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004.



PEDESTRIAN HYBRID BEACON

Pedestrian Hybrid Beacons (PHBs) are used to improve non-motorized crossings of major streets in locations where a traffic analysis does not support installation of a conventional traffic signal. A PHB is distinct from pre-timed traffic signals because it rests in dark and is only activated by pedestrians and bicyclists when needed.



Typical Application

- Pedestrian hybrid beacons may be installed without meeting traffic control signal warrants if roadway speed and volumes are excessive for comfortable pedestrian crossing.

Design Features

- A pedestrian hybrid beacon consists of a signal-head with two red lenses over a single yellow lens on the major street, and pedestrian and/or bicycle signal heads for the minor street.
- Pedestrian Hybrid Beacon Crossings with a R10-23 or R10-23a should be paired with a Marked & Signed Crosswalk package.
- A stop line and STOP HERE ON RED sign (R10-6) should be used.
- Push buttons should be easy to identify and located on the right-hand side of the path. They should be positioned so that bicyclists do not have to dismount to activate. If equestrians are expected, provide an equestrian height actuation button.
- Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the marked crosswalk to provide adequate sight distance.



Further Considerations

- If installed within a signal system, signal engineers should evaluate the need for the hybrid signal to be coordinated with other signals.
- Each crossing, regardless of traffic speed or volume, requires additional review by a registered engineer to identify sight lines, potential impacts on traffic progression, timing with adjacent signals, capacity and safety.
- Hybrid beacons are subject to the same maintenance needs and requirements as standard traffic signals. Signing and striping need to be maintained to help users understand any unfamiliar traffic control. For additional technical information regarding PHBs, see MUTCD chapter 4F.

Maintenance

- Hybrid beacons are subject to the same maintenance needs and requirements as standard traffic signals. Signing and striping need to be maintained to help users understand any unfamiliar traffic control.

References

- FHWA. Manual on Uniform Traffic Control Devices. 2009.
- AASHTO. Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004.



FULL TRAFFIC SIGNAL

A full traffic signal installation treats the path crossing as a conventional 4-way intersection and provides standard red-yellow-green traffic signal heads for all legs of the intersection.

Signalized crossings provide the most protection for crossing path users through the use of a red-signal indication to stop conflicting motor vehicle traffic.



Typical Application

Full traffic signal installations must meet MUTCD pedestrian, school or modified warrants. Additional guidance for signalized crossings:

- Located more than 300 feet from an existing signalized intersection
- Roadway travel speeds of 40 MPH and above
- Roadway ADT exceeds 15,000 vehicles



Design Features

- Full traffic signal should be paired with a marked & signed crosswalk package.
- A stop line and STOP HERE ON RED sign (R10-6) should be used.
- Push buttons should be easy to identify and located on the right-hand side of the path. They should be positioned so that bicyclists do not have to dismount to activate. If equestrians are expected, provide an equestrian height actuation button.
- Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 ft (6 m) beyond the marked crosswalk to provide adequate sight distance.

Further Considerations

- Each crossing, regardless of traffic speed or volume, requires additional review by a registered engineer to identify sight lines, potential impacts on traffic progression, timing with adjacent signals, capacity and safety.

Maintenance

- Traffic control signals should be regularly maintained to ensure that all lights and detection hardware are functional.

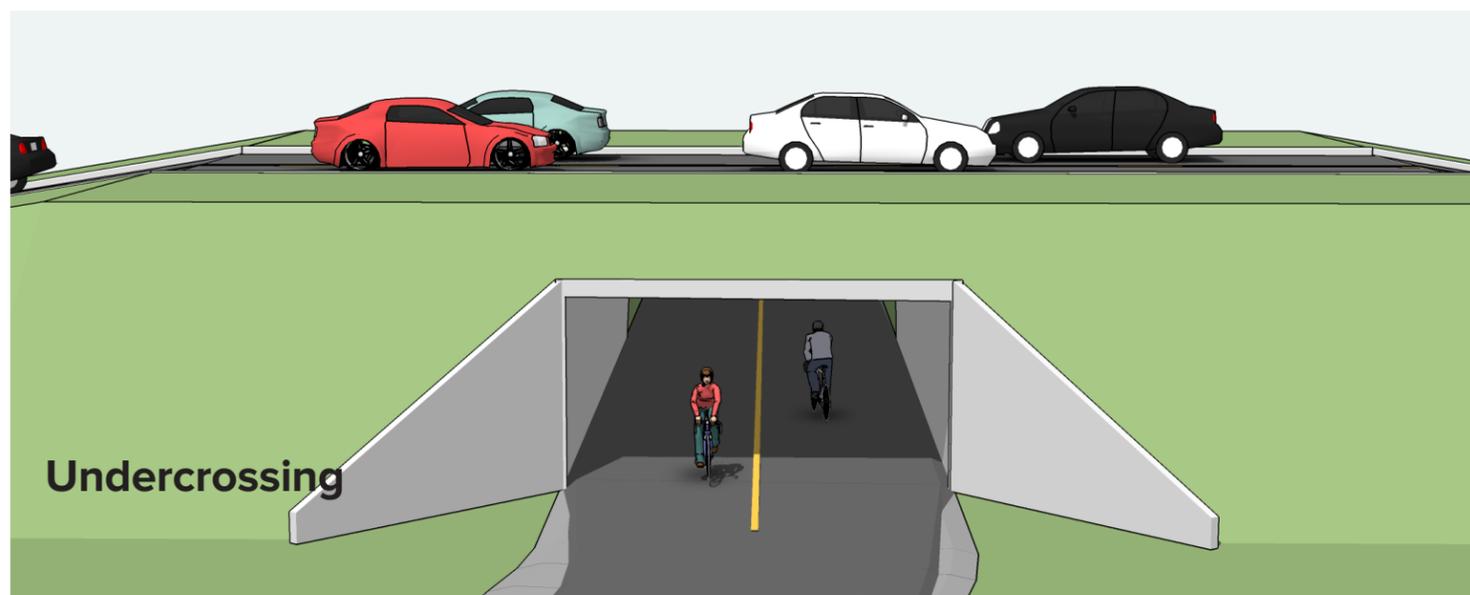
References

- FHWA. Manual on Uniform Traffic Control Devices. 2009.



GRADE SEPARATED CROSSINGS

Overcrossings and undercrossings provide critical non-motorized system links by joining areas separated by barriers such as deep canyons, waterways, or major transportation corridors. In most cases, these structures are built in response to user demand for safe crossings where they previously did not exist.



Typical Application

- The AASHTO Bike Guide recommends the use of grade separated crossings to provide continuity of a shared use path where a barrier exists.
- There are no minimum roadway characteristics for considering grade separation. Depending on the type of facility or the desired user group grade separation may be considered in many types of projects.

Design Features

- Clear width should allow 2 ft of clearance on each side of the pathway. Under constrained conditions, a bridge may taper to the pathway width.
- 10 ft headroom on overcrossings; clearance below will vary depending on feature being crossed: Roadway: 17 ft, Freeway: 18.5 ft, Heavy Rail Line: 23 ft.
- For undercrossings, 14 ft minimum width, greater widths preferred for lengths over 60 ft. As an exception, in constrained conditions, width may be reduced to 10 ft minimum.
- For undercrossings, there is a 10 ft min. height, and a balanced proportion of 1.5:1 width to height is desired.



Further Considerations

- If overcrossings have any scenic vistas additional width should be provided to allow for stopping.
- Overpasses require a minimum of 17 ft of vertical clearance to the roadway below versus a minimum elevation differential of around 12 ft for an underpass. This results in potentially greater elevation differences and much longer ramps for bicycles and pedestrians to negotiate.
- Overpasses for bicycles and pedestrians typically fall under the Americans with Disabilities Act (ADA), which strictly limits ramp slopes to between 5% (1:20) and 8.33% (1:12) with landings at 50 ft (15.2 m) intervals with 5% slopes, or 30 ft (9.1 m) intervals with 8.33% slopes.
- Safety is a major concern with underpasses. Shared use path users may be temporarily out of sight from public view and may experience poor visibility themselves. To mitigate safety concerns, an underpass should be designed to be spacious, well-lit, equipped with emergency cell phones at each end and completely visible for its entire length from end to end.



Maintenance

- Poorly maintained undercrossings can create unsafe feeling conditions, discouraging use. Grade separated crossings should be cleared of snow and other debris across the entire width of the facility.

References

- AASHTO. Guide for the Development of Bicycle Facilities. 2012.



PAGE INTENTIONALLY LEFT BLANK





SECTION 7

ON-ROAD FACILITIES



RURAL UNPAVED MULTI-USE ROADWAY

A walk/bike roadway is a type of shared roadway, utilizing a local roadway that is designed to serve pedestrians, bicyclists, and motor vehicle traffic all within the paved travel area. These roads are used by such low volumes of traffic that crashes are rare, as vehicles hardly encounter other vehicles. This facility is able to maintain service for local traffic volumes, as well as, maintain local aesthetics, and should be considered the typical for local rural roads.



Typical Application

- AASHTO defines a “very low volume” road as a local road with 400 or fewer motor vehicles per day.

Design Features

- A travel area width of 12 to 18’ is appropriate for low volumes of two-way traffic and will require queueing or slowing during motor vehicle meeting events.
- Where widths are less than or equal to 14’ provide regular pull-out areas to allow for infrequent meeting and passing events between motor vehicles. Pull out areas may be established in driveways, the parking lane, or roadside.

Further Considerations

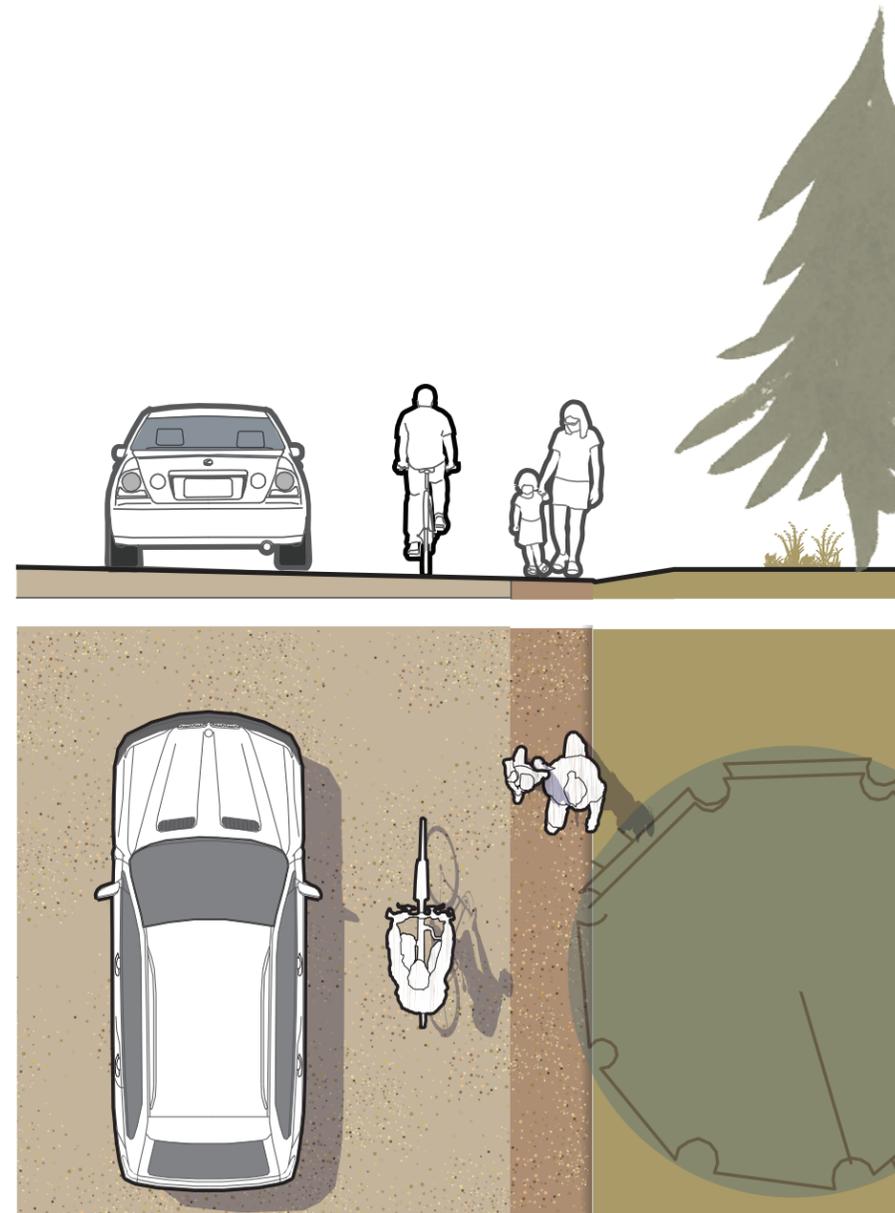
- When operating at very low volumes, pedestrians may be comfortable walking within the travel area of the roadway. As volumes increase, consider providing an exclusive pedestrian facility such as a sidewalk.
- Access for fire trucks and emergency vehicles should be provided. This requires adequate width along the road for an emergency response vehicle, and frequent opportunity to park and access equipment from the vehicle. An acceptable range of clear roadway for parking/deploying fire department apparatus is between 16 and 20 ft.

Maintenance

- Shoulders should be cleared of all debris through routine maintenance operations.

References

- FHWA. Small Town and Rural Multimodal Networks. 2016.



URBAN BIKEWAY

On-street bike lanes designate an exclusive space for bicyclists through the use of pavement markings and signs. Bike lanes are located adjacent to motor vehicle travel lanes and travel in the same direction as motor vehicle traffic.



Typical Application

- On existing paved roadways.

Design Features

- Where additional width is available, or where additional distance from motor vehicles is desired, a marked buffer may be included between the bike lane and travel/parking lane.
- Minimum width is 6 ft adjacent to on-street parking, 5 ft adjacent to curb faces, and 4 ft adjacent to road edge.
- If used, buffers should be at least 2 ft wide. If buffer area is 4 ft or wider, white chevron or diagonal markings should be used. At driveways, mark the inside buffer line with dotted lines.



Further Considerations

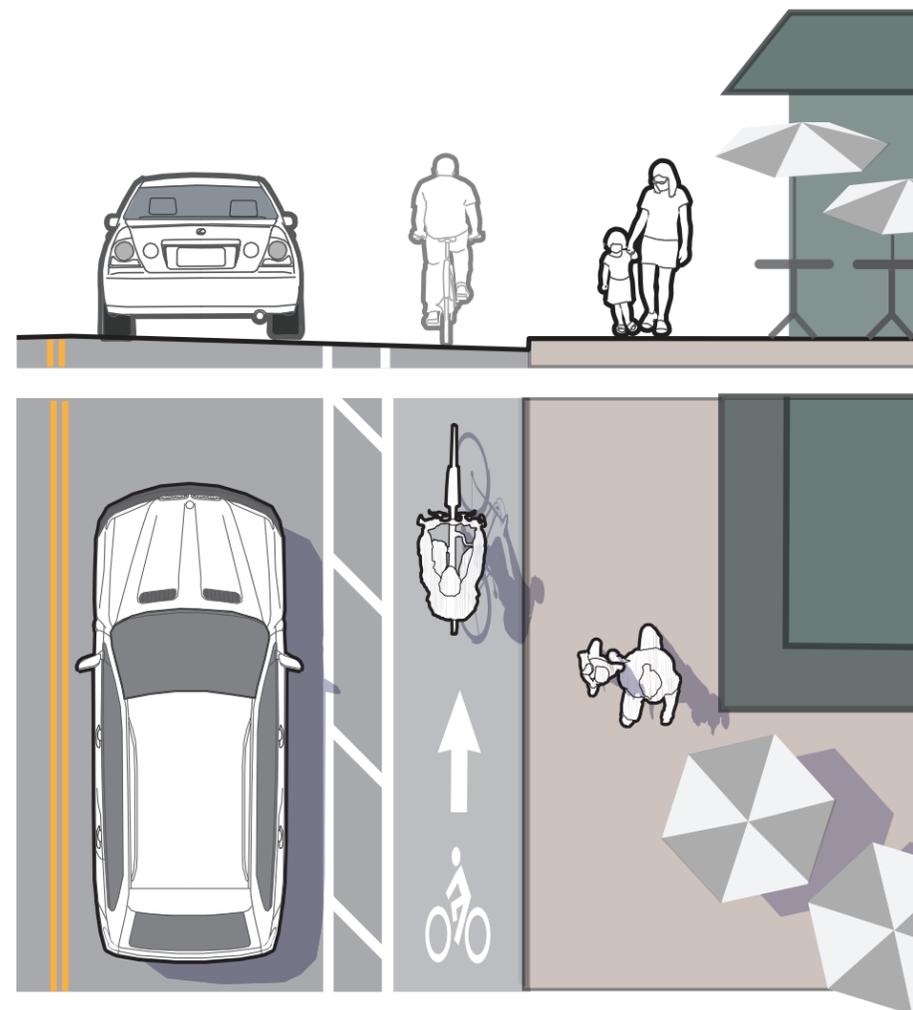
- On high speed streets (≥ 45 mph) or multi-lane streets, a physically separated bike lane or sidepath is preferred over a bike lane or buffered bike lane for safety.
- There are many strategies available to implement bicycle lanes into roadway resurfacing projects, including road widening, lane narrowing, travel lane reconfiguration and parking lane reconfiguration.
- Bike lanes and buffered bike lanes are not intended for use by pedestrians. Pedestrians are expected to travel along a separate facility such as a sidewalk or path. In the absence of such a facility, pedestrians may legally walk along the roadway, potentially occupying the bike lane.

Maintenance

- Paint can wear more quickly in high traffic areas. Bicycle lanes or buffered bike lanes should be cleared of snow and debris through routine maintenance operations.

References

- AASHTO. Guide for the Development of Bicycle Facilities. 2012.
- NACTO. Urban Bikeway Design Guide. 2012.



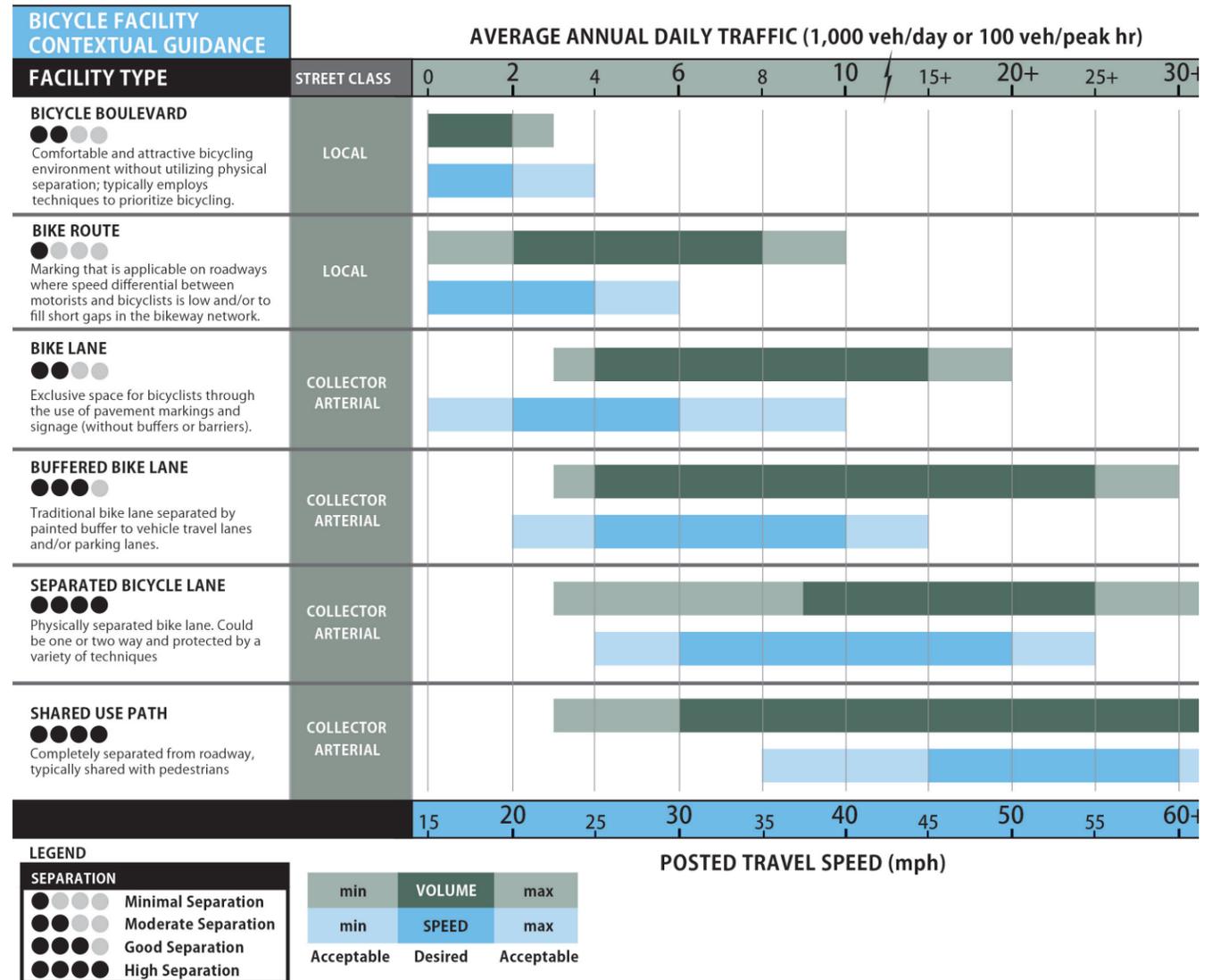
URBAN BIKEWAY

Facility Selection Guidance

Selecting the best bikeway facility type for a given roadway can be challenging, due to the range of factors that influence bicycle users' comfort and safety. There is a significant impact on cycling comfort when the speed differential between bicyclists and motor vehicle traffic is high and motor vehicle traffic volumes are high.

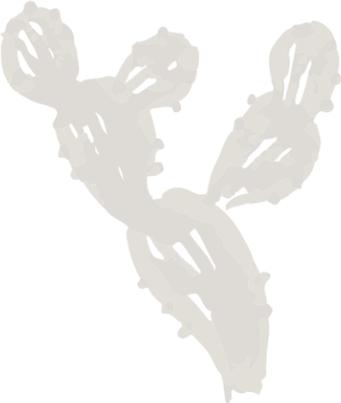
As a starting point to identify a preferred facility, this chart can be used to determine the recommended type of bikeway to be provided in particular roadway speed and volume situations. To use this chart, identify the appropriate daily traffic volume and travel speed on or the existing or proposed roadway, and locate the facility types indicated by those key variables.

Other factors beyond speed and volume which affect facility selection include traffic mix of automobiles and heavy vehicles, the presence of on-street parking, intersection density, surrounding land use, and roadway sight distance. These factors are not included in the facility selection chart below, but should always be considered in the facility selection and design process.





PAGE INTENTIONALLY LEFT BLANK





SECTION 8

TRAILHEADS



MAJOR TRAILHEADS

Good access to a path system is a key element for its success. Trailheads serve the local and regional population arriving to the path system by car, transit, bicycle, or other modes. Trailheads provide essential access to the shared use path system and include information and amenities for trail user comfort.

Typical Application

Trailheads function as multi-modal transfer points. Major access points should be established near commercial developments and transportation nodes, making them highly accessible to the surrounding communities.

Design Standards

Trailheads of 10 or more parking spaces are considered major trailheads and should provide off-street parking and restrooms. The parking area may be asphalt or gravel, as long as ADA requirements are met.

Major trailheads provide a wide range of user amenities, such as:

- Convenient access to transit stops
- Motor vehicle parking, including accessible parking spaces
- Short term and long term bicycle parking such as racks, lockers, or secure parking areas
- Wayfinding kiosks, with orientation and interpretive information
- Accessible trail signs noting trail conditions and degrees of difficulty
- Drinking water fountains

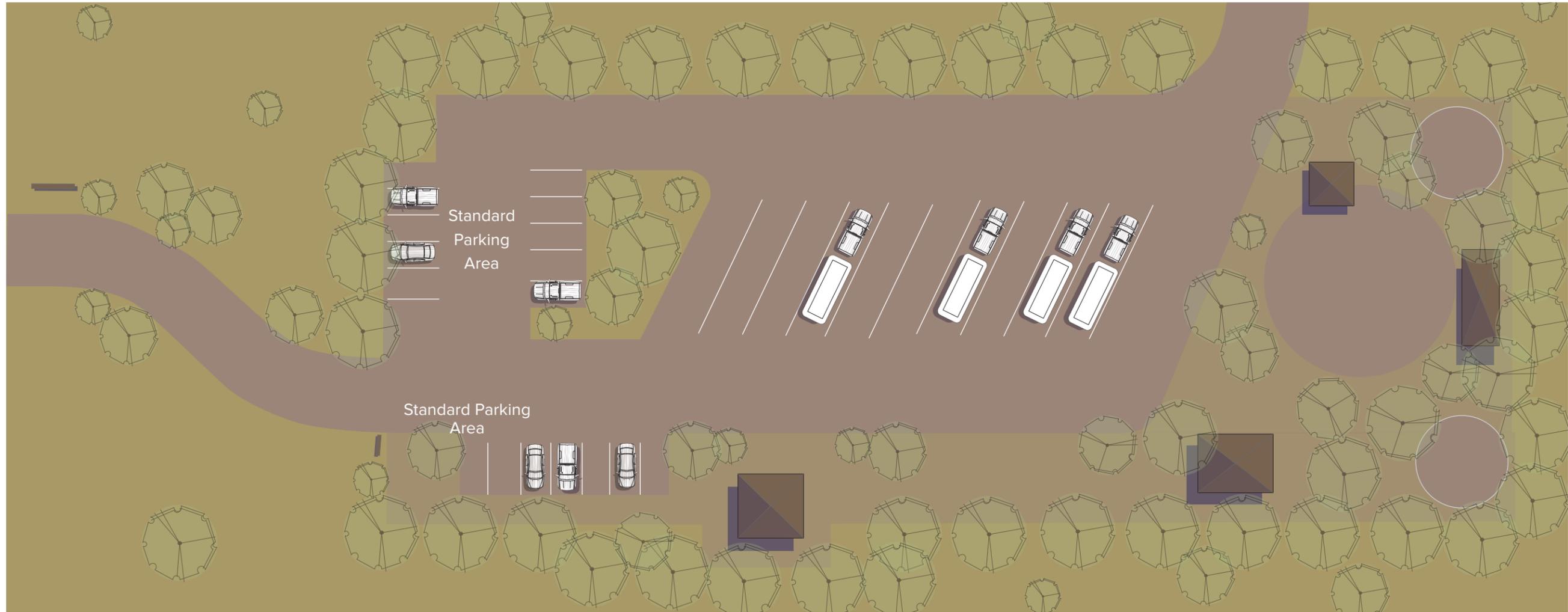
- Restrooms
- Shelters or picnic areas
- Emergency telephone
- Fitness courses
- Scenic viewpoints or overlooks
- Benches and/or picnic tables
- Staging or gathering spaces
- Interpretive signs
- Trash and recycling containers

Further Considerations

- All trailheads must be open to the public.
- Major trailheads should provide emergency and maintenance vehicle access and turnaround.
- Place accessible parking spaces near the site's accessible route, at a rate of one accessible space per 25 standard spaces. Parking spaces and access aisles should not exceed two percent slope in any direction.
- Parking lot surfaces should never exceed five percent slope in any direction.

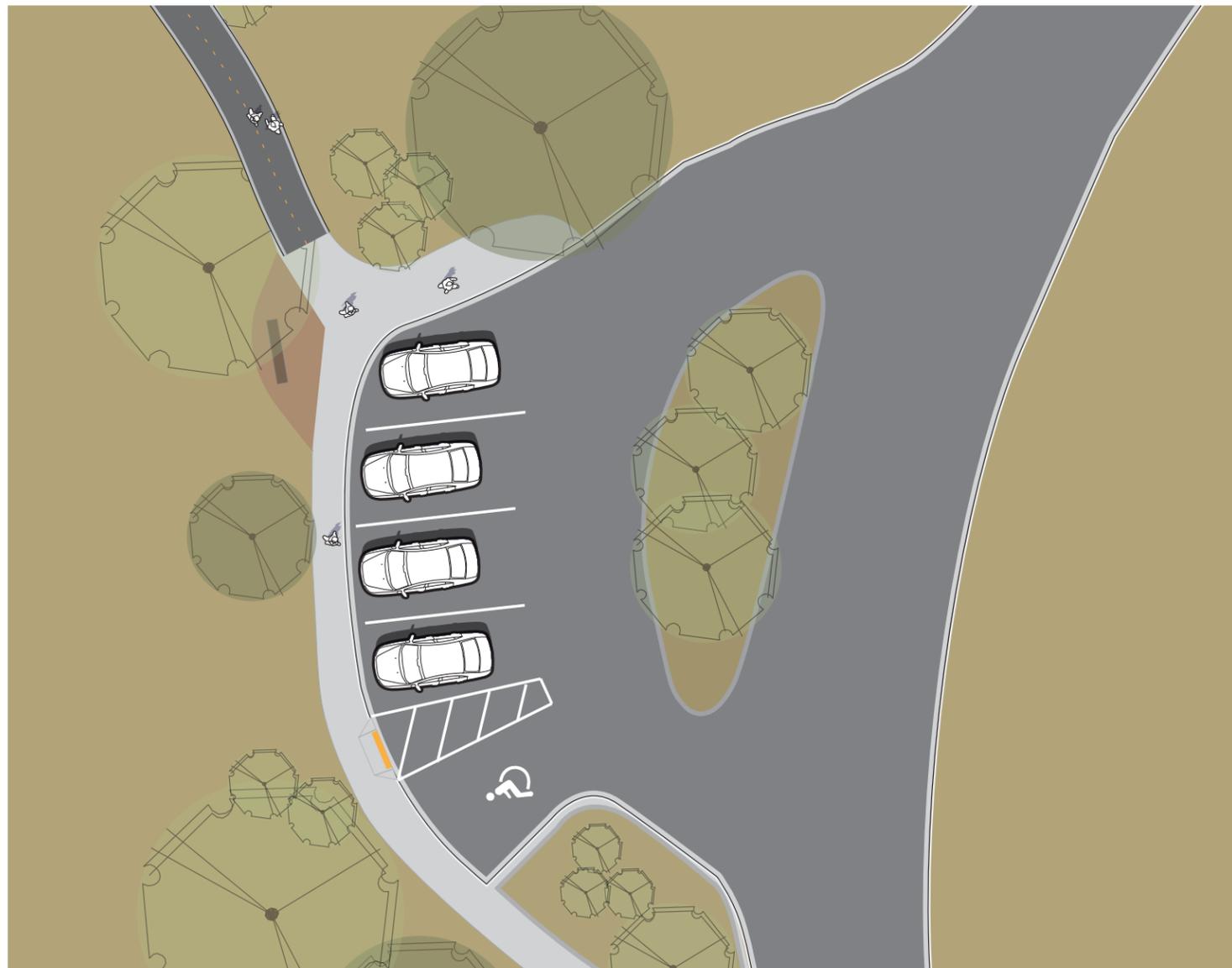
- Reduce the visual intrusion of large parking areas by using vegetative screening.
- Consider one-way vehicle circulation within parking areas to minimize internal roadway width.
- Partnerships could also be sought with owners of existing parking lots near trails. Benefits are three-fold: Businesses benefit from trail-user patronage; trail owners benefit from not having to buy more land and construct a parking facility; and the environment benefits from less development in the watershed.
- Equestrians require parking spaces with additional length and width in trailhead parking areas to accommodate their vehicles, the loading and unloading of horses, and tacking up. A typical truck and trailer "rig" is between 44 and 78 feet long; 15 additional feet is needed to safely unload horses from the back of the trailer without stepping into the vehicle circulation area. Rigs are usually eight feet wide, 12 feet of clearance should be provided for horses to be tied to the side of a trailer, and four feet of clearance should be provided for a person to walk or lead another animal behind a tied horse. To accommodate these needs, parking stalls should be 55-78 feet by 24-28 feet wide.





MINOR TRAILHEADS

Minor trailheads are shared use path access points with minimal infrastructure.



Typical Application

Minor trailheads can occur at locally known spots, such as parks and residential developments.

Design Standards

Some minor trailheads could include a small parking lot for up to 10 passenger vehicles. The parking area may be asphalt or gravel, as long as ADA requirements are met. Often minor trailheads will include:

- Short term bicycle parking such as racks
- Wayfinding kiosks with orientation and interpretive information
- Accessible trail signs noting trail conditions and degrees of difficulty
- Drinking water fountains (if feasible)
- Benches and/or picnic tables
- Interpretive signs
- Trash and recycling containers



ACCESS POINTS

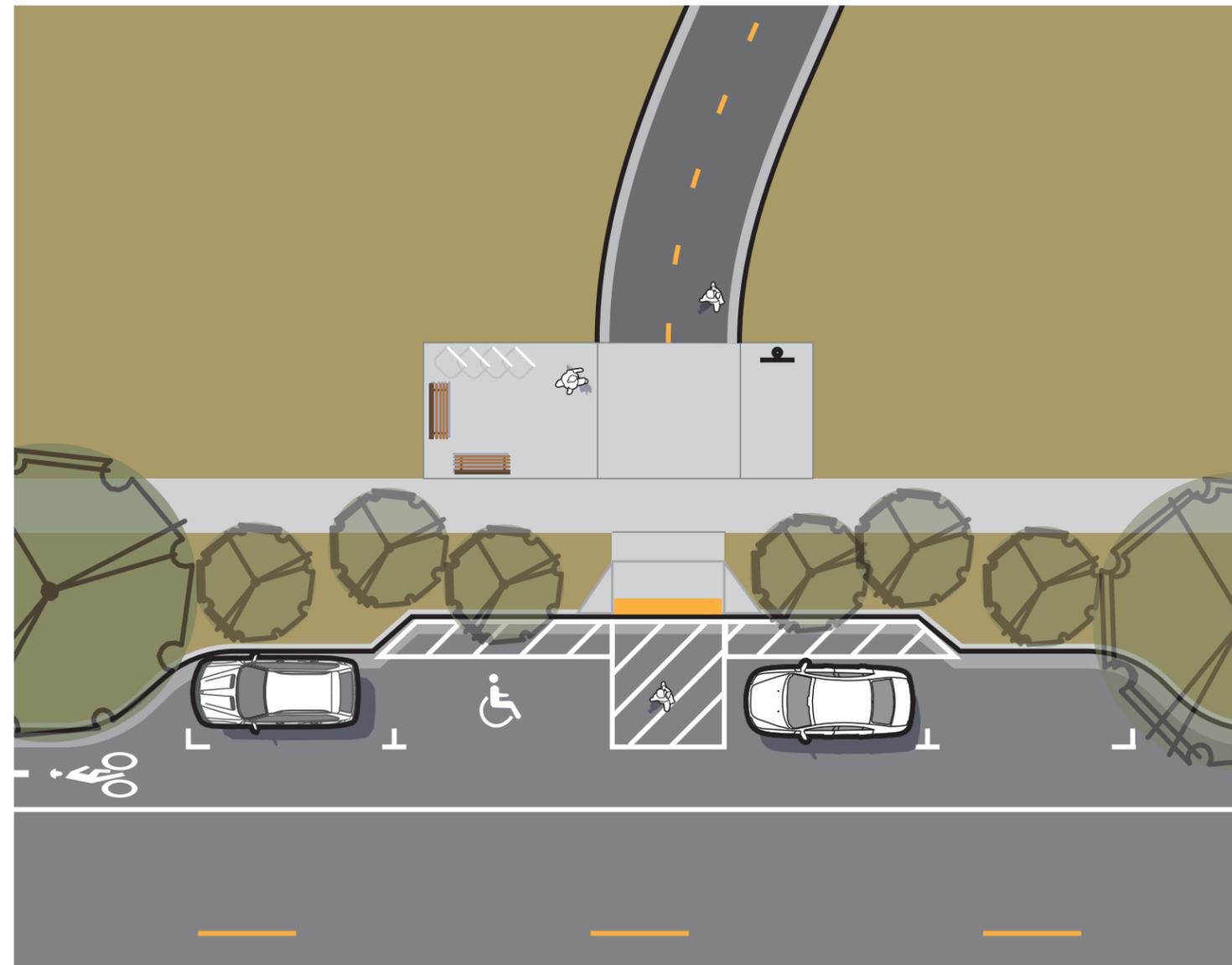
On-street trail access points are formalized small trailhead facilities served by on-street parking along an adjacent roadway and connected via an access path.

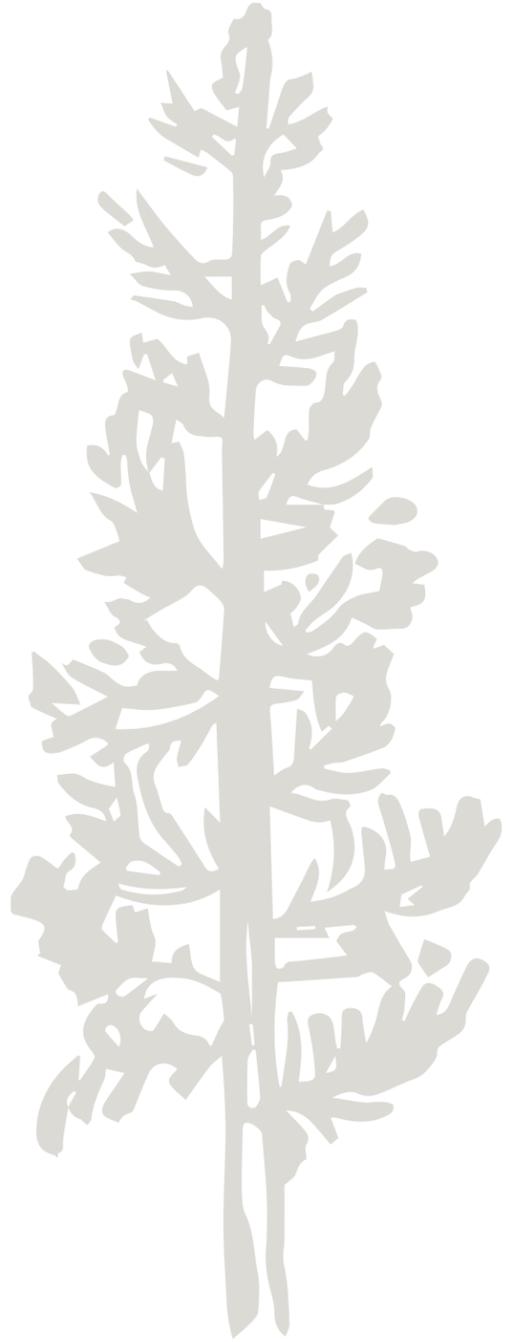
Typical Application

On-street access points should be located where there are long stretches of path with no public vehicular access. Consider providing access points every two miles where feasible.

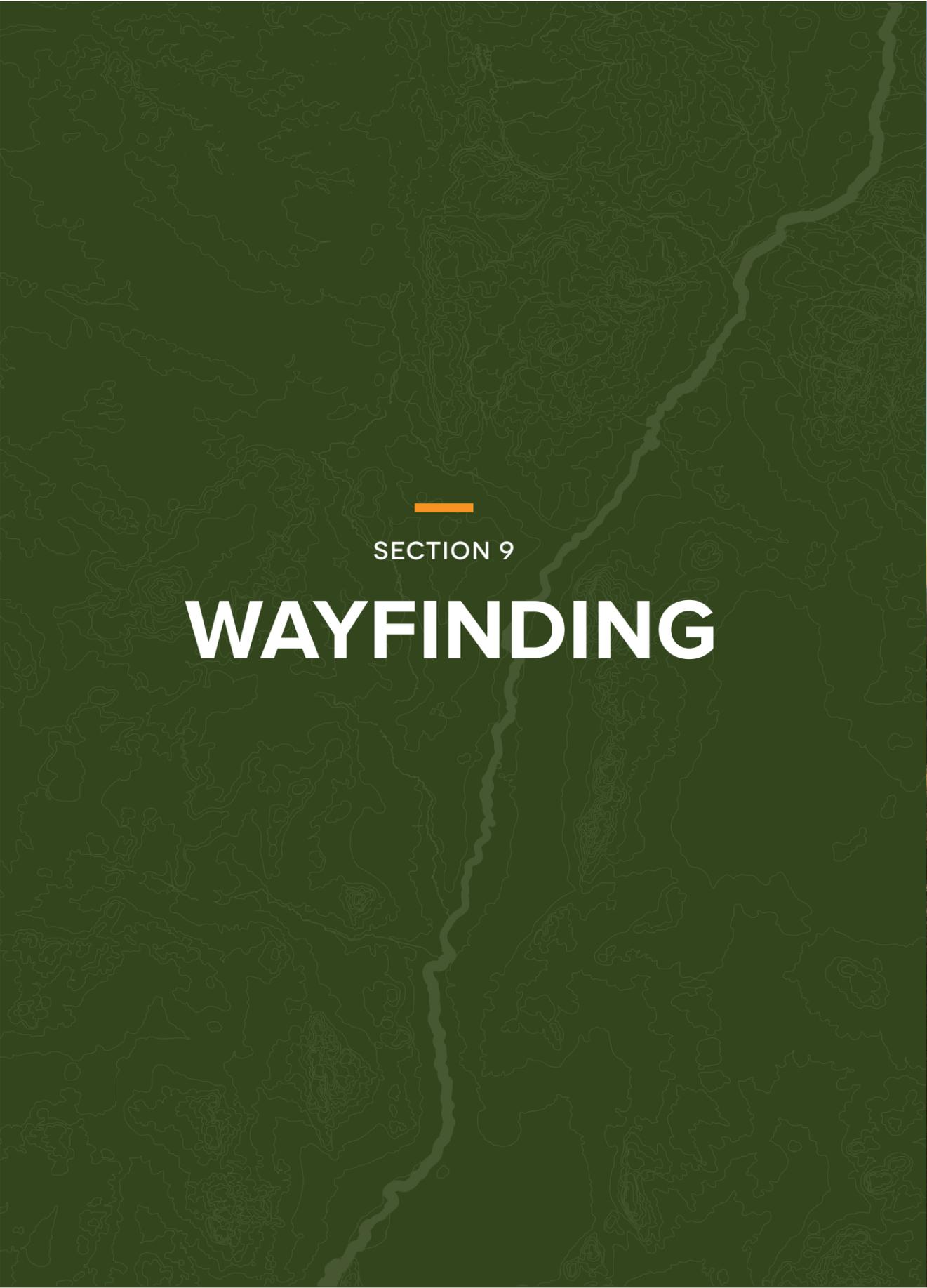
Design Standards

- Access points should be designed with a consistent character to larger trailhead locations but may feature fewer amenities due to limited space requirements.
- Access points should provide parking for a minimum of four vehicles. Two of these parking spaces should meet guidelines for accessible parking spaces.
- Accessible curb ramps should be provided from the parking lane to the access point.
- Furnishings, signs, and amenities should be located outside of the access path corridor to not interfere with access and travel.





PAGE INTENTIONALLY LEFT BLANK



SECTION 9

WAYFINDING



WAYFINDING / SIGNAGE

The ability to navigate through and along a trail is informed by landmarks, natural features, and other visual cues. Visible signs along the trail should indicate to users the direction of travel, the locations of destinations, and the travel time/distance to those destinations.

Introduction

The preferred alignment for the proposed Rio Grande Trail crosses through ten counties and numerous publicly managed lands. The design and application of the Rio Grande Trail wayfinding system will vary with the changing trail design and contexts. Additionally, public or local land manager standards may drive the design of the proposed wayfinding system, however, continuity for Rio Grande Trail users may still be achieved by following the suggested guidance in this section.

Branding development for the Rio Grande Trail is currently underway and should be applied to the wayfinding principles and guidance described in the following section.

Wayfinding Principles

The “legibility” of a place describes how easy it is to understand. Places are more legible when they are arranged so people can intuitively determine the location of destinations, identify routes, and recognize areas of different character. A wayfinding system helps to make places more legible by better enabling individuals to:

- Easily and successfully find their destination.
- Understand where they are with respect to other key locations.
- Orient themselves in an appropriate direction with little misunderstanding or stress.
- Discover new places and services.





CONNECT PLACES

Wayfinding enables both residents and visitors to travel between destinations and to discover new ones. Wayfinding connects neighborhoods and provides navigational assistance to both local and regional destinations. Effective wayfinding is an extension to the bicycling and walking network and provides a seamless travel experience for non-motorized users.

Wayfinding provides benefits that go beyond physical signage. It can create a deeper connection to a place, cultivate a sense of pride by reflecting community values, and support local economic development by encouraging residents and visitors to use services or visit attractions in New Mexico.



PROMOTE ACTIVE TRAVEL

A wayfinding network should encourage increased rates of active transportation by creating a clear and attractive system that is easy to understand. The presence of wayfinding signs should help to communicate that walking and bicycling to many destinations is possible.

Wayfinding helps overcome physical barriers that discourage the use of active transportation modes of travel. If existing facilities are underutilized, wayfinding improvements are a cost-effective way of increasing use.



MAINTAIN MOTION

Bicycling and walking require physical effort. Frequent stopping and starting to check for directions may lead to frustration and discourage use. Consistent, clear, and visible wayfinding elements allow people walking and bicycling to navigate while maintaining their state of motion. The wayfinding information needs to be presented in a manner that is quick to read and easy to comprehend.



BE PREDICTABLE

Effective wayfinding networks are predictable. When information is predictable, patterns emerge and users rely on the network. Predictability also helps users to understand new situations quickly, whether it be navigating a new intersection or traveling to a destination for the first time.

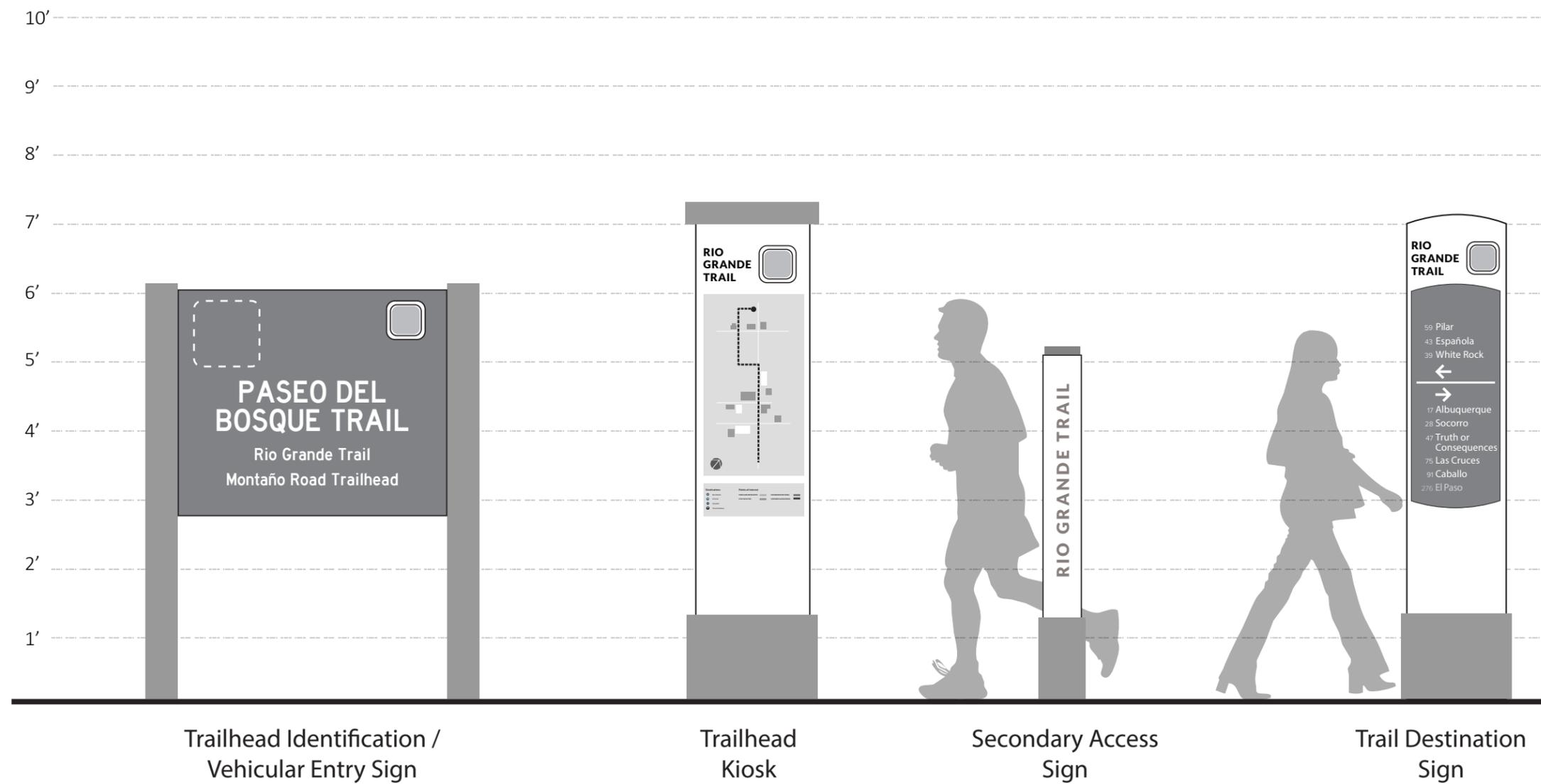


KEEP INFORMATION SIMPLE

For a wayfinding network to be effective, information needs to be presented clearly and logically. The presentation of information needs to be balanced: too much information can be difficult to understand; too little and decision-making becomes impossible. To be successful, wayfinding information must be provided in advance of major changes in the path of travel and confirmed when the maneuver is complete.

Wayfinding signage should be accessible and be designed for all users. Special consideration should be taken for those without high educational attainment, English language proficiency, or spatial reasoning skills. Wayfinding signage should use text and symbols wherever possible. Designers should minimize the use of bilingual text or separate-language signs. Including these elements may clutter information and reduce overall legibility. Signs should be consolidated wherever possible to reduce clutter along trails as well as utilize resources more efficiently.

WAYFINDING FAMILY OF ELEMENTS





On-Street Decision Sign



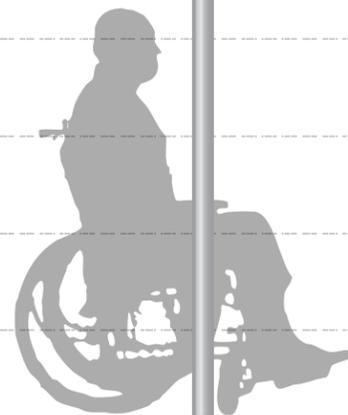
Off-Street Decision Sign



Turn Sign



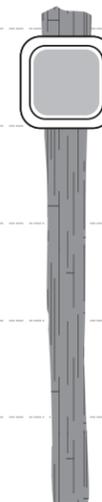
Confirmation Sign



On-street Confirmation



Trail Blaze



Mile Marker

TRAILHEAD IDENTIFICATION

Trailhead Identification signs denote major trailhead locations where people can access the Rio Grande Trail. Signs are scaled to be visible from adjacent streets and at vehicular speeds. Overall sign aesthetics and character will largely depend on local standards, however recognition that the trailhead accesses the Rio Grande Trail should be included on new signs or added to existing signs.

Design Guidelines

- Sign shall be placed outside of the right-of-way.
- Place sign perpendicular to road and within the visual field of approaching vehicles in both directions of travel.
- Sign should never be placed within the sight triangle of turning vehicles leaving a parking area or driveway.
- Local jurisdictions and/or land managers should be contacted to comply with local codes for placement, design, and required landscaping.
- Sign materials may vary by location and municipal guidance and standards.



Typical BLM Signage (Photo credit: Bureau of Land Management)



TRAILHEAD KIOSKS

Trailhead kiosks that include area or regional maps provide helpful navigational information, especially in locations where users may be stopping long enough to digest more material. Additionally, a map that shows the trailhead location in the context of the entire statewide Rio Grande Trail should also be provided. Kiosks should be located in conspicuous areas along the primary route from parking areas to the trail. Sufficient space should be provided around the kiosk to allow people to observe the information without obstructing adjacent walkways, and meet ADA clear zone requirements.

Design Guidelines

Whenever possible, trailhead kiosks should be designed with integrated shade structures or situated so that map panels face north. Both options help to extend the longevity of the kiosk maps and protect them from UV damage. Map panels are typically the quickest elements to require replacement.

While specific design will vary by land manager standards, typical elements to be included on trailhead kiosks are:

- Trail map
- Trail name(s)
- Regulations, hours, emergency contact information, trail etiquette
- Community or trail branding
- Approved or prohibited user types (and who should yield to whom)
- Approved or prohibited uses
- Rio Grande Trail branding (optional)

Additionally, per the Americans with Disabilities Act (ADA) standards, trailhead facilities built with federal funds shall include the following information:

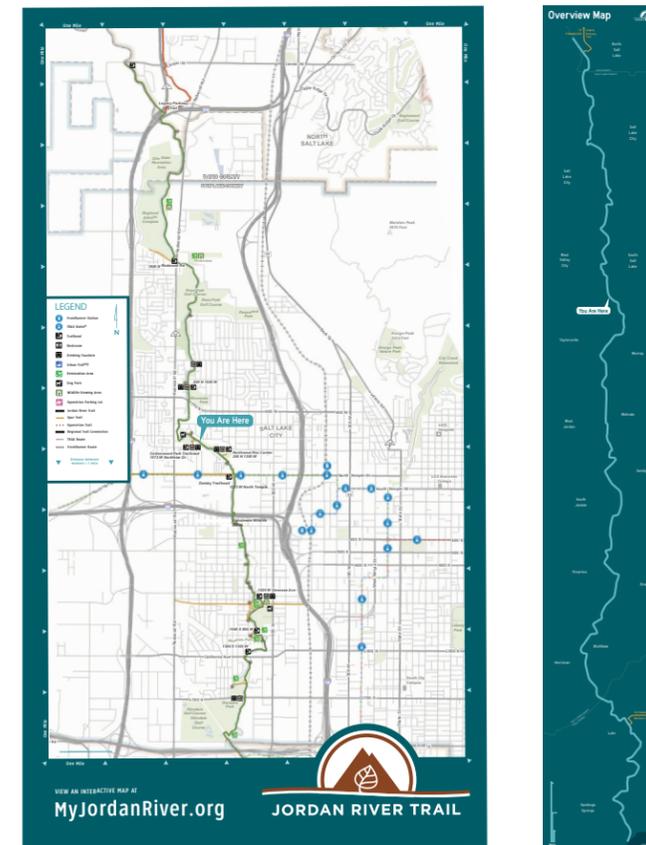
- Length of the trail or trail segment

- Surface type/firmness/stability
- Typical and minimum tread width
- Typical and maximum running slope
- Typical and maximum cross slope

Kiosk Map Design Guidance

Map designs can vary widely and still produce effective navigation guidance to trail users. Easily interpreted trail maps can contain a variety of elements, however the following items should always be provided:

- North arrow
- Scale / distance references
- Legend
- Trail names
- Use of approved icons for ease of use and to accommodate non-English speakers
- Trail alignments, lengths, and surface types
- Jurisdiction or agency boundaries
- Basic amenities including restrooms, trailheads, parks, campgrounds, and civic institutions
- Specific trail hazards (if present)
- “You are here” indicators



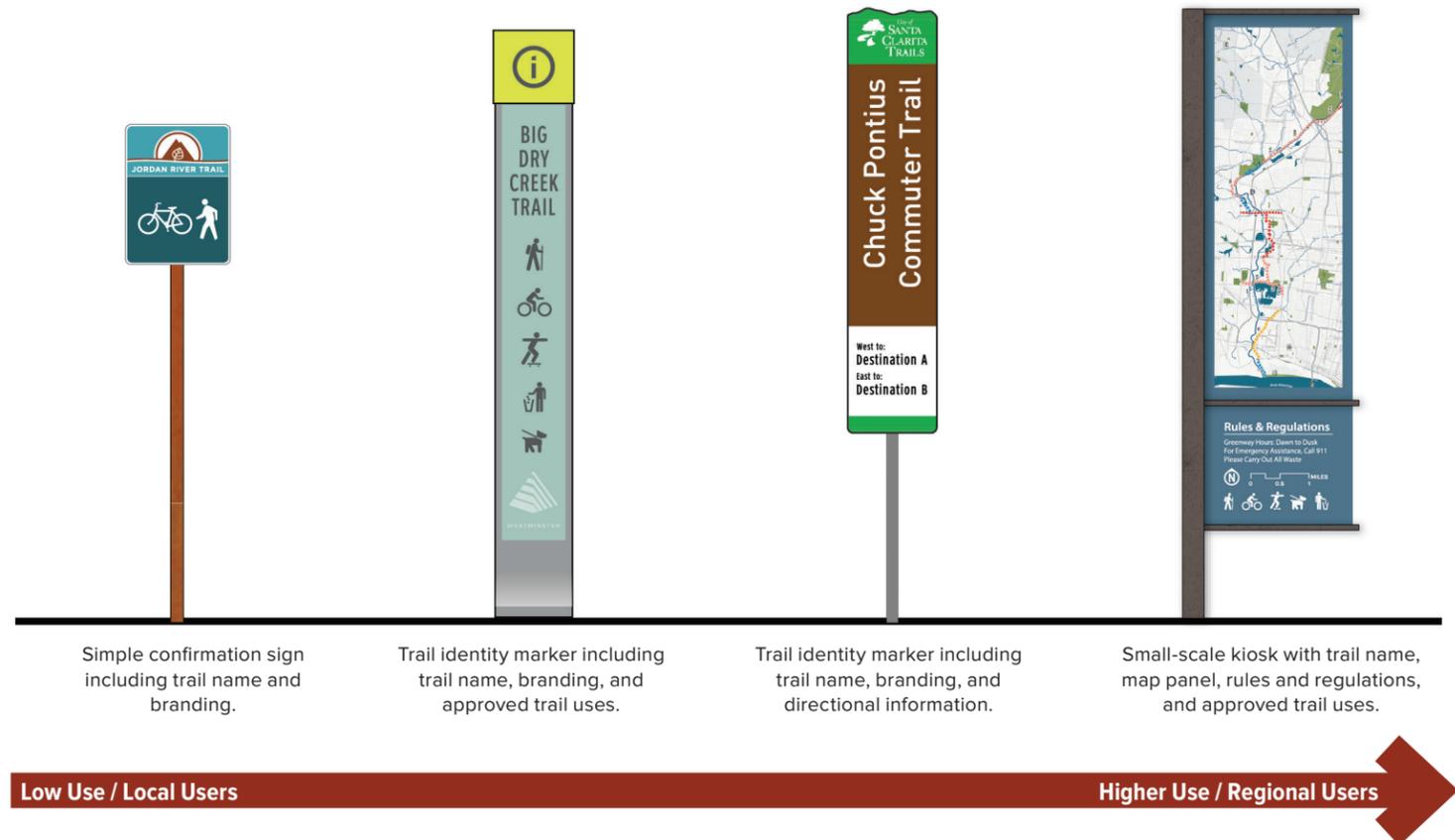
Example of a kiosk map design with side panel illustrating regional connections.

SECONDARY ACCESS SIGNAGE

Secondary access points with limited parking, services, or user traffic may not necessitate the same level of information and signage as formal trailheads with greater use. Signage at these locations may vary from a simple confirmation sign stating the name of the trail to a scaled down trailhead kiosk complete with user map, rules and regulations, permitted and restricted uses, and destination information. Local standards will guide the design of these signage elements. Some recognition, through the incorporation of text or branding, should notify that the adjacent trail has been designated as part of the Rio Grande Trail.

Design Guidelines

- Secondary access signage should be placed at locations that access the Rio Grande Trail that have limited parking and/or use.
- Sign materials may vary by location and local guidance standards.
- Recognition of the trail as part of the Rio Grande Trail should be included in the signage design.
- Access points with higher trail user volumes may necessitate more wayfinding information such as directional information to nearby destinations or small scale trail maps.
- If needed, these signs should inform which user groups are welcome where (for example, bikes and equestrian users may not be permitted along Rio Grande Trail segments within the Bosque trail), and which user groups must yield in certain sections of trail.



TRAIL DESTINATION SIGNAGE

Trail destination signage is geared towards long-distance trail users such as thru-hikers, bikepackers, or other trail users traveling significant distances over multiple days. Trail destination signs show the direction and mileage to significant regional or state-wide destinations along the Rio Grande Trail.

Design Guidelines

- Locate trail destination signage at major trailheads.
- The front of the sign shows all major trail towns or significant destinations listed in order from north to south. The nearest town in each direction is highlighted in a bold font, and the most distant destinations in a subdued color.
- The user's current location in the sequence, not listed, is marked with a rule which visually divides destinations to the left and to the right.
- A prioritized list of destinations should be developed to program this wayfinding element that accounts for geographic diversity, points of interest, and availability of trail-related services (camping/lodging, restaurants, bike shops, potable water, etc).



DECISION SIGNAGE

The Rio Grande Trail is incorporated into New Mexico’s expansive trail and bikeway system. Without proper wayfinding signage, navigation could be confusing to potential users. Decision signs clarify route options when multiple are available. Their primary function is to provide direction for trail users to remain on the Rio Grande Trail or navigate to nearby attractions, services, or destinations. Users can orient themselves within the trail system based on key destinations including culturally significant landmarks, cities, and/or districts. These signs provide geographical context, reference points, and destination direction.



Example of off-street decision sign

On-street Design Standards

- These are typically larger signs but might also be incorporated into standard MUTCD sign formats. They address pedestrians, bicyclists, and motorists at varying distances and speeds.

- On-street wayfinding signs also serve to visually cue motorists that they are driving along a trail route and should use caution.
- Too many road signs tend to clutter the right-of-way, and it is recommended that these signs be posted at a level most visible to bicyclists rather than per vehicle signage standards.

Off-street Design Standards

Off-street signs are similar to on-street directional signage in function, but likely differ in size, intended audience, and might contain varying secondary information. These will be likely located at trail intersections or along the trail to alert trail users of a destination. These signs often:

- Mark the junction of two or more bikeways or trails.
- Inform bicyclists and pedestrians of the designated routes of the Rio Grande Trail or to access key destinations.
- Provide clear direction for pedestrians or cyclists to continue on the Rio Grande Trail route.

Destination Selection and Prioritization

Decision signs typically are limited to a maximum of three destinations per sign for legibility. Given the multitude of possible destinations, a consistent approach to selecting which destinations to include on wayfinding elements is key. The identification and prioritization of destinations should follow the same approach throughout the Rio Grande Trail system to maintain a clear and predictable wayfinding system. Destinations and their names should be referred to consistently on all relevant wayfinding signs.

Potential destinations for inclusion on decision signs are categorized within four levels. Level 1 destinations should receive first priority on wayfinding signs, followed by Level 2 and then Level 3. Level 4 destinations should only be included when other destinations are not present to fill available slots on signs. All destinations to be signed should be open and accessible to the public.

LEVEL 1: CITIES AND REGIONAL DESTINATIONS

Level 1 destinations include regional destinations. Highlighting nearby cities and regional destinations provides large scale geographical context.

LEVEL 2: DISTRICTS AND NEIGHBORHOODS

Level 2 destinations provide a finer grain of navigational information than Level 1 destinations by directing users to recognizable districts and neighborhoods. These may be city centers; historic, commercial, cultural, or educational districts; or neighborhoods with a distinct and recognizable name and character. Emphasis should be placed on districts providing a mix of services. Neighborhoods not offering services or attractions need not be included.

LEVEL 3: LANDMARKS

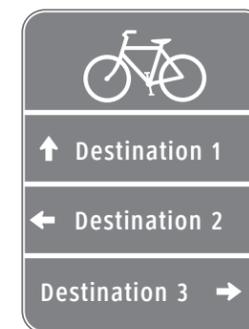
Level 3 destinations are specific landmarks or major attractions which generate a high volume of visitors. Landmarks include transit stations, major tourist venues, regional parks, open spaces, and post-secondary educational institutions.

LEVEL 4: LOCAL DESTINATIONS

Level 4 destinations are local destinations such as civic buildings, parks, retail centers, or healthcare facilities. They typically occur on signs in low density areas where few other destinations are present or along segments not connecting higher priority (Level 1–3) destinations.

ADDITIONAL CONSIDERATIONS FOR LONG DISTANCE TRAIL USERS

Long distance users of the Rio Grande Trail, such as through hikers and bikepackers, require additional information about critical services such as drinking water, restrooms, campgrounds, grocery stores, and hospitals, among others. Standard symbols such as the Universal Symbols for Recreation developed by the Society for Environmental Graphic Design should be used on directional signs and maps to indicate the availability of these amenities.



TURN / CONFIRMATION / TRAIL BLAZE

Turn signs, confirmation signs, and trail blazes help trail users successfully navigate to remain on the Rio Grande Trail. Turn signs clarify a specific route before changes in direction occur when only one route option is available. Confirmation signs, placed after a turn or intersection, confirm that a user has made the correct route choice. Trail blazes provide trail users constant comfort or confirmation that they are on the right trail or heading in the right direction. These “confidence markers” are a cost effective way to provide constant trail recognition by the trail users, or help users track mileage and distance. These should be placed intermittently along the trail, in between the other signage types, and in instances where other trails or roads may intersect the Rio Grande Trail.



Off-Street Turn / Confirmation Design Guidelines

- Turn signs should be placed so that bicyclists have sufficient time to comprehend the sign and change their course prior (typically 30-75' in advance of a decision point)
- Turn signs may be used in conjunction with a decision sign at complex intersections that require additional guidance.

- Confirmation signs should be placed just beyond intersections where a user may feel unsure of their route decision.



On-Street Design Guidelines

- On-street turn and confirmation signs should follow Chapter 9 of the MUTCD.
- Specific branding for on-street segments of the Rio Grande Trail on state roads should be coordinated with NMDOT.

Trail Blaze Guidelines (Backcountry and remote areas)

On natural surface trails in backcountry areas or along remote areas of the Rio Grande, blazes can be attached to other signage, fences, or can be a stand alone sign.

- On trails with minimal intersections/optional turn-offs or on trails that are wide and extremely obvious as to the trail direction, blazes may be placed every mile or half mile.



Continental Divide Trail Blaze

(Photo Credit: <http://continentaldivide trail.org>)

- In areas with the trail is less discernable, more frequent placement of trail blazes may be helpful in clarifying the trail for potential users.



MILE MARKER

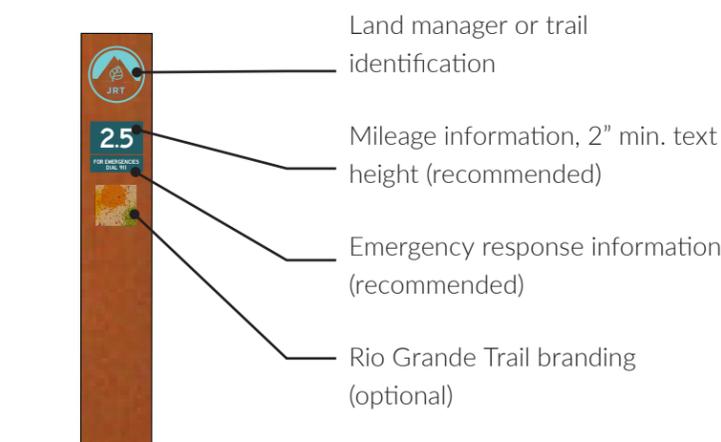
Mile markers are a series of numbered markers that may be placed alongside a trail at defined intervals to help users understand how far they have gone, and how far they have to go to their next destination. Furthermore, mile markers provide trail managers geospatial reference points for purposes such as maintenance or emergency response. Implementation of a sequential mile marker system may not be feasible until significant stretches of the Rio Grande Trail are designated. Mile markers may be most beneficial in remote or backcountry areas where wayfinding or emergency response benefits are critical.

Design Guidelines

- It is important that mile markers are spaced at consistent intervals along a pathway network. Point zero should begin at the southernmost and/or westernmost terminus points of a pathway or trail.
- Mile marker locations should be geolocated and supplied to emergency responders so that responders can efficiently respond to incidents on the trail. System landmark, path name, and distance information in miles may be included, as well as jurisdiction/land manager identification.
- The nearest edge of any mile marker should be placed a minimum of 2'-0" from the edge of the trail.
- The placement of the mile marker should be low on the trail (approximately 36" for mileage height), ideally on the right side of the trail. However, mile markers may also be installed on each side of a pathway to allow double-sided information

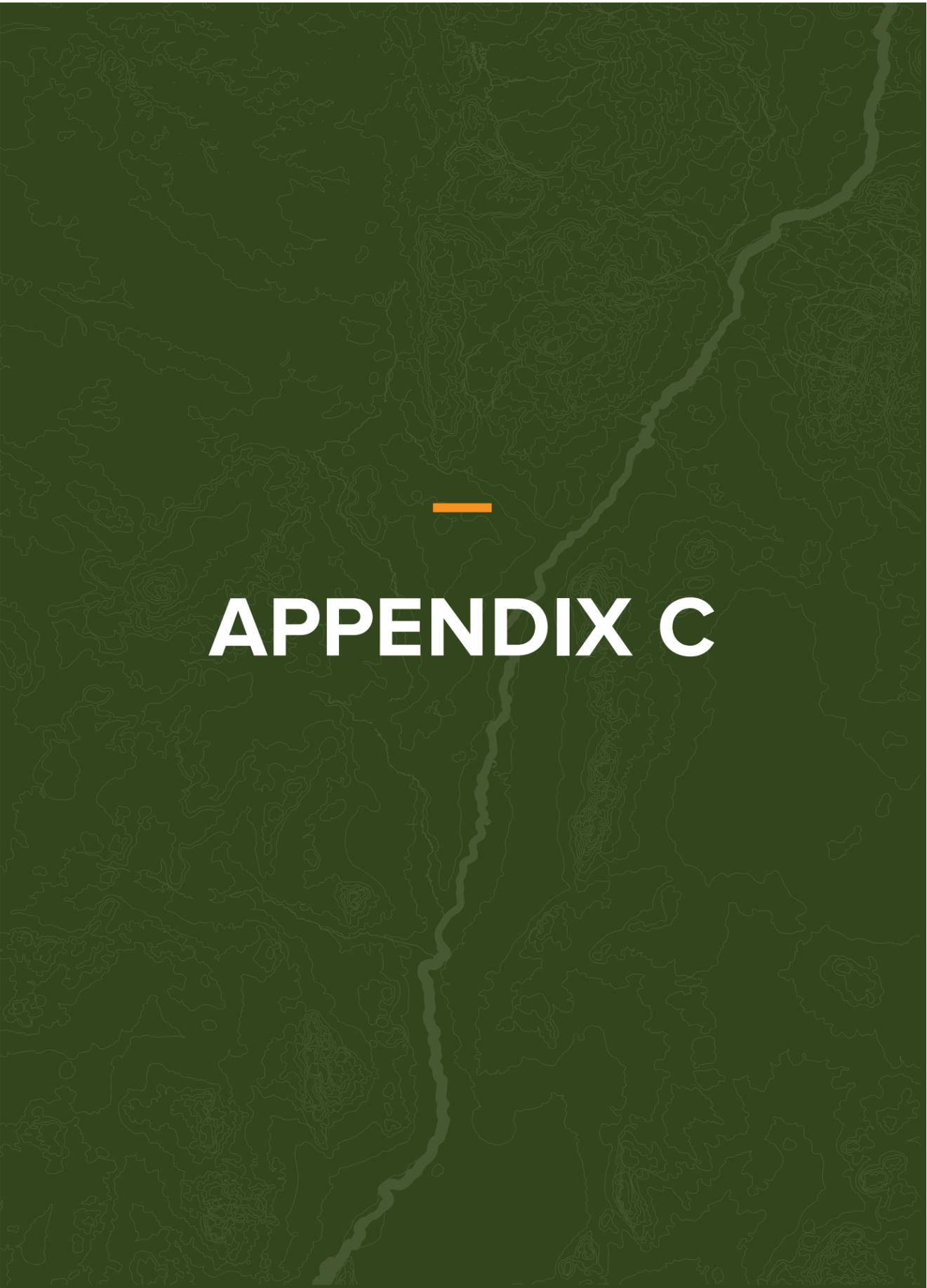


Example mile marker



Typical mile marker

Page intentionally left blank



APPENDIX C



Memorandum

Date: November 20, 2017
To: New Mexico Department of Energy, Minerals, and Natural Resources
From: Jean Crowther, Alta Planning + Design
Re: Long Distance Trail Best Practices Memo

Table of Contents

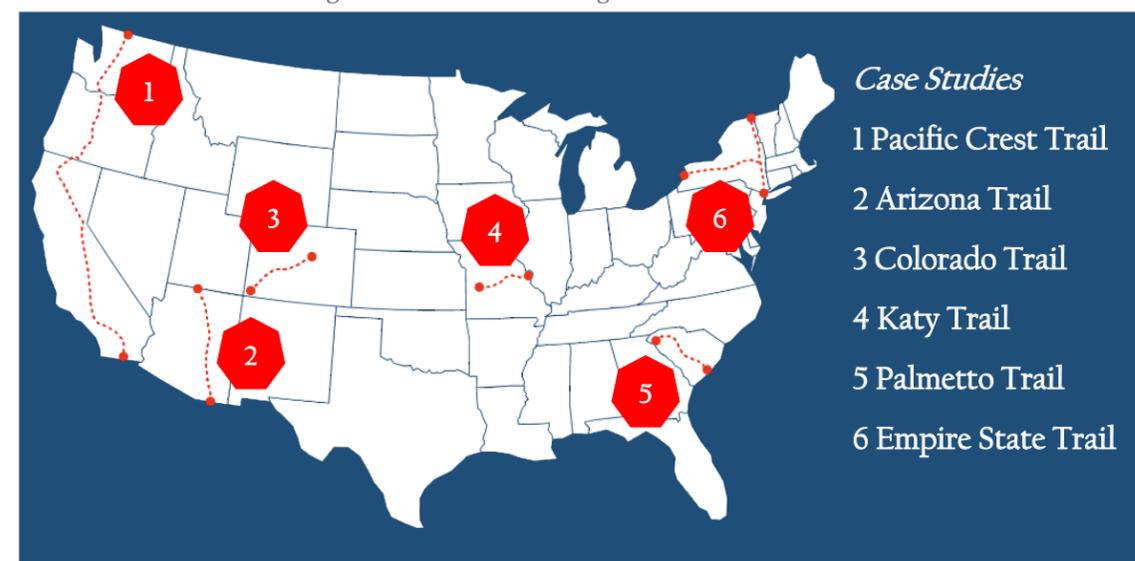
| | |
|---------------------------------------|----|
| Introduction..... | 2 |
| Key Findings..... | 2 |
| National Designation of Trails..... | 4 |
| Context for Long Distance Trails..... | 4 |
| Long-Distance Trail Case Studies..... | 6 |
| The Pacific Crest Trail..... | 6 |
| The Arizona Trail..... | 9 |
| The Colorado Trail..... | 12 |
| The Palmetto Trail..... | 16 |
| The Empire State Trail (Planned)..... | 18 |

Introduction

The Rio Grande Trail joins the ranks of many long-distance and cross-state trails in the U.S. The recommendations of the Rio Grande Trail Master Plan are informed by an understanding of the paths already blazed by other trail agencies and organizations.

The project team identified six long-distance trails to research as case studies for the Rio Grande Trail. The six trails are either fully or more than half-way developed. They represent each geographic region of the U.S., a variety of agency and organizational roles, and a variety of trail features and user groups. The trails were chosen for research as a means of identifying shared challenges and opportunities relevant to the Rio Grande Trail effort. The trails are: The Pacific Crest Trail, the Colorado Trail, the Arizona Trail, the Katy Trail, the Palmetto Trail, and the Empire State Trail

This chapter is organized to provide an overview of key takeaways from the research, as well as in-depth summaries of national trail designations and six chosen long-distance trail case studies



Key Findings

The following summarizes themes identified through the research of six long-distance trail case studies. These themes are reflective of lessons learned as well as strategies for success.

1. Management of trails usually starts with **agreements between public agencies** (e.g., USDA Forest Service, Conservancy Districts, State Parks) and results in the creation of **specific non-profits** for the maintenance, volunteer management, and coordination of funds for the trail. Memorandums of Understanding typically outline the obligations of the non-profit and public agency partners and describe how parties plan to work together. As federal budgets shrink, there is increasing pressure to replace public funding with volunteer hours and private contributions. Additionally, when multiple agencies manage the land, it can be useful to have an outside group coordinate and ensure the project moves forward.

2. Most of the trails, except for the Colorado Trail, have **some type of designation**. The Katy Trail has four designations. National designations increase the profile of the trail, which can boost usage and tourism to the area. Many of the trails highlighted by this memo are National Scenic Trails (NSTs). NST designation helps streamline coordination between management agencies, spurs private donations, and creates a platform for people managing similar trails to share information. National Scenic Trails can only be designated by an act of Congress.
3. **Most trails within this list are designated for hikers, mountain bikers and equestrians only**. Hikers are allowed throughout the entire extension of the trails, while mountain bikers and equestrians have limited access. The Colorado Trail Foundation has conducted research that shows how mountain bikers have minimal impact on sustainably built trails. They continue to advocate for mountain bike access where possible and well-marked bypasses when access is not an option.
4. **Trail surfaces vary according to the trail connection goals**. If the goal is to connect to urban centers, then trails will include on-roadway and paved portions. If the goal is to stay on public lands and wilderness, then surface will be natural or unpaved. Some trails, such as the Arizona Trail, switch trail surfaces as the context of the trail changes from urban to suburban.
5. **Some trails prioritize wilderness and a remote backcountry experience, while others seek to connect local communities to the trail**. Both the Arizona Trail and the Palmetto Trail provide successful examples of a trail that balances both remote wilderness experiences and connections with local communities. The Arizona Trail Association's Gateway Community initiative provides a helpful template for highlighting amenities and cultural sites along the trail that would be of interest to those visiting to use the trail.
6. Nearly all trails have logos and branding, some more developed than others (including merchandising). Multiple trails in different locations that may carry the same name. This can cause confusion, which reinforces the **importance of branding and outreach from the beginning of the planning process**. The Pacific Crest Trail's branding is a good example of a long-distance trail that overlays local trails, but does not replace their local names. The PCT uses "reassurance markers" (logos on trees or signs) at intersections to avoid replacing existing wayfinding. Trail Associations are increasingly using phone apps to communicate with users and streamline navigation.
7. Most trails are funded by a **combination of public and private sources**. However, the Colorado Trail and Palmetto Trail are funded by a majority of private donations from individuals and corporate sponsors, while the Katy trail and Empire State Trails are almost completely funded by their respective states. The PCT and Arizona Trail have a more typical balance of state, federal, and private money.

National Designation of Trails

Context for Long Distance Trails

In recent decades, many states have decided to highlight their unique recreation opportunities and natural landscapes by creating their own cross-state trails. Many of these have achieved one of the national trail designations outlined in the National Trail System's Act of 1968, which made it federal policy to promote trails by providing financial assistance, support of volunteers, and coordination with other stakeholders. As a result, 11 national scenic trails (NSTs) and 19 national historic trails (NHTs) have been established by law (and are administered by the National Park Service, the USDA Forest Service, and the Bureau of Land Management, depending on the trail); almost 1,300 national recreation trails have been recognized by the Secretaries of Agriculture and Interior and seven side-and-connecting trails have also been certified. These different trail types are described below:

- **National scenic trails (NST)** are 100 miles or longer, continuous, primarily non-motorized routes of outstanding recreation opportunity. Such trails are established by Act of Congress and have a designated National Scenic Trail Administrator who champions the project and coordinates between different jurisdictions.
- **National historic trails (NHT)** commemorate historic (and prehistoric) routes of travel that are of significance to the entire Nation. They must meet all three criteria listed in Section 5(b)(11) of the National Trails System Act. Such trails are established by Act of Congress. These trails allow for motorized use.
- **National recreation trails (NRT)**, also authorized in the National Trails System Act, are existing regional and local trails recognized by either the Secretary of Agriculture or the Secretary of the Interior upon application. They do not need approval from Congress. Trail distances range from less than a mile to 485 miles in length. NRTs are open to foot traffic, watercraft, bicycles, in-line skates, wheelchairs, cross-country skis, and off-road recreation vehicles such as motorcycles, snowmobiles, ATVs, and four-wheel drive vehicles.
- **American discovery trails**, are a proposed new national trail designation that would recognize trails that link urban places with backcountry trails in natural environments. The American Discovery Trail is the first to embody this type of trail.¹

National Trail Designation Benefits

The National Trail designation of any type helps streamline coordination between land managing agencies, prioritizes the trail for federal money and maintenance, spurs private donations, brings tourism to rural and urban areas, and opens the option to share information easily with other National Trails through the Partnership for National Trails Systems.

National Trail Designation Challenges

One challenge sparked by a National Trail designation is the need to update existing trail to meet sustainability design standards, including a maximum trail grade. Additionally, adding a federal agency partner also introduces a higher level of bureaucracy to efforts to fund and maintain a trail.

¹ <http://www.discoverytrail.org/>

Rio Grande Trail Designation Opportunities

National Scenic Trail designation may not be an option if the RGT includes segments that are along a road or allows other motorized use. National Historic Trail designation could be an option because it does allow for motorized sections of trail, but NHT's usually have a more specific cultural or historical focus. National Recreation Trail designation is a viable option for the RGT, particularly where the trail crosses federal land. NRT is also easier to achieve because it does not require an Act of Congress. The deadline to apply for this designation is November 1, annually, and National Park Service can assist in the nomination process. If American Discovery Trail designation became an option as part of the National Trail System's Act, it would fit the goals of the RGT very closely.

Long-Distance Trail Case Studies

The Pacific Crest Trail

Overview

The Pacific Crest Trail is a long-distance hiking and equestrian trail closely aligned with the highest portion of the Sierra Nevada and Cascade mountain ranges, which lie 100 to 150 miles east of the U.S. Pacific coast

The Pacific Crest Trail (PCT) was conceived by Clinton Churchill Clarke in 1932. It was designated a National Scenic Trail in 1968 and completed in 1993. The route passes through 25 national forests and 7 national parks. Elevations range from just above sea level at the Oregon-Washington border to 13,153 feet at Forest Pass in the Sierra Nevada.

Many thru-hikers complete the trail every year within an average time of 4 to 6 months. Most hikers cover about 20 miles per day while thru-hiking. The PCT is the national treasure it is today because of the long-term persistence of its supporters.²

Location: Mexico Border to Canada

Start/End Points: Campo, California to Manning Park, British Columbia

Length: 2,650 Miles

User Groups: Hikers, horseback riders and campers (bicyclists not permitted)

Surface Type(s): Natural/Unpaved, Paved (Portions along roads)

Managing Agency: The Pacific Crest Trail Association, USDA Forest Service (lead agency), BLM, National Park Service and California State Parks

Route Designation: National Scenic Trail

Typical Context and Attractions: Remote wilderness trail that prioritizes scenery and conservation over amenities. Historic and cultural sites within 10 miles of the trail are identified by relevant jurisdictions and included in planning and materials.

Estimated annual users: In 2016, 5,657 long-distance hiker permits, with numbers going up every year. The PCTA reports they do not have good data on the number of people using individual sections of trail and do not have a clear way to demonstrate economic or health impact of the trail. More often, they cite general data about the benefits of outdoor recreation on the economy.³

Governance

The Pacific Crest Trail is managed by a partnership between the Pacific Crest Trail Association (PCTA), the Forest Service, Department of the Interior, the National Park Service, state land management offices, and California State Parks. This partnership is currently defined by a 2015 Memorandum of Understanding (MOU)

² Interview with Mike Dawson, Director of Trail Operations, Pacific Crest Trail Association. 08/25/17

³ Interview with Mike Dawson, Director of Trail Operations, Pacific Crest Trail Association. 08/25/17

and is one of the strongest public/private partnerships of its kind. The MOU identifies the abundant shared interests of all the parties and outlines the responsibilities of each. The PCTA takes the lead role in promoting and providing information about the trail and volunteer recruitment and management. The government agencies (in their respective jurisdictions) have agreed to provide technical assistance for maintenance and publications, provide a designated trail manager, provide design and construction guidelines for the trail, signage, and amenities, and share relevant information about policy changes. The special Forest Service Trail Manager comes along with the National Scenic Trail designation. The person in this role acts as a direct line of correspondence and collaboration between the non-profit trail organization and the government bureaus, which means a more efficient and coordinated working relationship.⁴

This partnership allows for non-profit advocacy work on behalf of the trail paired with public ownership and access to government funding. This combination contributes to the long-term sustainability and resiliency of the PCT. The PCTA employs over 20 paid staff, which is a much larger scale than most other trail advocacy non-profits, and allows for more capacity to manage trail maintenance and provide an information hub for this broad community.⁵

Relationship Between Land Owners and Land Managers

The PCTA employs a Director of Land Protection who works directly with private land owners and manages the trail that is on their land. The goal is to maintain a continuous tread and acquire as few rights from private land owners as possible. The PCTA takes a long-term, optimal route approach and monitors certain properties for decades to wait for the opportunity to purchase or get an easement to route the trail along the best possible alignment. Interim routes can follow public right-of-ways (roads or bridges) until a better solution is found.⁶

The PCTA takes an “all-lands” management approach, which means they address conservation and management the same way to protect, preserve, and promote the PCT regardless of boundaries. The threats of wildfires, floods, vegetation encroachment, erosion, resource development, and illegal use exist no matter who owns or manages the land.

Segment Designation Process

The trail alignment is extremely important because ultimately the quality of experience is the reason people love the trail and support it over time. The route must maximize high quality, beautiful environments. Originally, the Forest Service consulted with the Advisory Council, participating agencies, before ultimately establishing the original PCT alignment in 1973. They sought to select a route that fulfilled the vision of the 1968 National Trail System Act, but also to minimize the impact on affected property owners.⁷

As the trail evolves over time, the PCTA uses Optimal Location Reviews (OLR) to evaluate whether the trail should be moved to provide a better PCT experience for users and fulfill the criteria outlined in the Comprehensive Plan. The OLR identifies the best possible location for the PCT regardless of land ownership or construction needs. OLRs can take six months or closer to 10 years, depending on the context of the area. The process acknowledges that it could take some time to acquire the perfect land for the trail. The long range Optimal Location approach enables land managers to take advantage of changes in land ownership and other opportunities to improve the trail location. The PCTA and bureau partners look for opportunities to buy the

⁴ IBID

⁵ IBID

⁶ <https://www.pcta.org/our-work/trail-and-land-management/>

⁷ 1982 Comprehensive Plan for the PCT

land quickly, but then can take a more measured pace when moving the trail. In the meantime, alternate routes, called “Interim Trail Routes” are used to maintain continuity. No major land purchases or trail work would occur along an Interim Route because it is not slated to be the long-term trail alignment.⁸

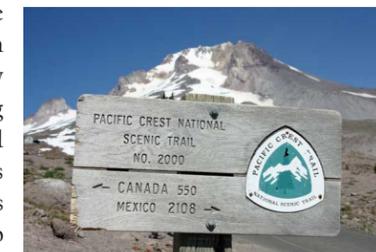
Balancing the Needs of Different Users

The PCT is open to hikers and people on horseback. Horses are essential for accessing remote sections of trail efficiently and are a part of the history of the trail. People riding bikes are not welcome on the trail. While there has been some friction over time between different user groups, most of the time there is agreement that everyone wants access to a high quality non-motorized trail. The only ongoing controversy is mountain bikers pushing for access in some areas. The PCTA’s approach is to support the mountain bike community’s interest in having access to other public land adjacent to the PCT, just not the actual trail.

Branding and Wayfinding

Despite being the longest and most remote National Scenic Trail, the PCT’s branding and wayfinding is generally present on maps and signage across multiple different jurisdictions. The PCT Logo (pictured below) is the most consistently used, and efforts to standardize implementation for signage and wayfinding are currently underway. A generous donor provided a gift for the purpose of improving signage consistency. There are 9-inch and 18-inch markers for road and highway intersections. The 3.5-inch marker is for trail intersections, and its purpose is to identify the trail to the person on the trail or approaching from a side trail.

Some challenges that the standardizing process has uncovered: each jurisdiction has its own sign manual, many signs use the local trail name instead of the unifying “Trail Number 2000,” and wilderness designations limit signage options. One of the central ways the report addresses these concerns is through “reassurance markers,” or small logos in sight of an intersection. Using this technique, hikers can see which way they should go without needing to add the PCT to every already existing sign. The report includes the option to add a directional sign with trail names in areas where users often get confused. Another challenge is when the PCT crosses other trails that allow different uses, such as bikes. PCT thru-hikers are also increasingly using GPS apps to navigate and track their progress.⁹



Funding

The PCT is predominantly funded by public dollars, supplemented by private donations and thousands of volunteer hours. In recent years, public funding has declined, but the PCTA has been able to fundraise and cover the gap. In 2016, the PCTA leveraged \$2.5 million in volunteer hours and raised another \$2.65 million in private donations in 2016.¹⁰ The PCTA requested the following from the US Congress:

- \$6.6 million for corridor acquisition projects from the Land & Water Conservation fund,
- \$2.1 million for capital improvement and trail maintenance from the USDA Forest Service Budget \$500,000 from the National Park Service and Bureau of Land Management for maintenance on their land.¹¹

⁸ “PCT Optimal Location Review Process Guidelines” March 2011

⁹ Interview with Mike Dawson, Director of Trail Operations, Pacific Crest Trail Association. 08/25/17

¹⁰ <https://www.pcta.org/2017/pcta-goes-washington-behalf-trails-45776/>

¹¹ “Pacific Crest National Scenic Trail FY 2016 Appropriations Request.” Prepared by the PCTA.

The Arizona Trail

Overview

The Arizona National Scenic Trail stretches 800 miles across the entire length of the state to connect deserts, mountains, forests, canyons, wilderness, history, communities and people, including the Grand Canyon's North Rim. The Arizona Trail (AT) was envisioned in 1985 by Dale Shewalter, a former schoolteacher who then became the first paid trail coordinator. It was designated as a National Scenic Trail in 2009 and completed in 2011. The trail crosses 4 National Forests, 4 National Monuments, 2 State Parks and 1 National Park.

Location: Mexico Border to Utah

Start/End Points: Hereford, Arizona to Kanab, Utah

Length: 800 Miles

User Groups: Day hikers, thru hikers, horseback riders, mountain bikers, llama packers, cross country skiers

Surface Type(s): Natural/Unpaved

Managing Agencies: The Arizona Trail Association, USDA Forest Service (managing agency), BLM, Arizona State Parks

Route Designation: National Scenic Trail

Typical Context and Attractions: Diverse trail that traverses both wilderness and urban areas including a "Gateway Community" program to connect local communities to the trail.

Governance

The Arizona Trail is governed by a partnership between the Arizona Trail Association (ATA) and government bureaus, led by the USDA Forest Service. Arizona State Parks was very involved at the beginning of the Arizona Trail's existence, and they continue to be involved to a lesser degree. The partnership between non-profit, state, and federal agencies is strategic and powerful.¹² The Arizona Trail Association was founded in 1994 to advocate for the trail, provide route info, organize volunteers, identify water and resupply points, and raise money (about 35% of staff time). The ATA employs seven, mostly part-time, staff, including an Executive Director, Trail Director, Volunteer and Youth Program Coordinators.

The formal partnership is established through a Memorandum of Understanding. The four government partners have an Intergovernmental Agreement that outlines their division of labor. At the beginning of the work building the trail, the government agencies held the majority of the responsibility, but over time much as been transferred to the ATA. The ATA now controls the state trail funding and manages the Trail Steward, who leads the development of the trail. The ATA has the lead role in managing, maintaining, and funding the trail, as the mission has shifted from construction to maintenance and promotion.

Trail Maintenance

Trail maintenance is overseen by the Trail Director and Trail Operations committee through the Arizona Trail Association. The ATA has a Trail Stewards program to organize volunteers to take care of maintenance on different sections of trail. Additionally, the ATA is currently working on a project priority list and clear

¹² Interview with Matt Nelson. Executive Director, Arizona Trail Association. 8/18/17

maintenance standards for the different ecological regions. Another strategic goal is to develop a Remote Trail Maintenance Task force of longer-term volunteers.

National Scenic Trail (NST) Designation

The Arizona Trail sought National Scenic Trail Designation when the trail was 90-percent complete and had established a lot of public support. Compared to other long-distance trails around the country, this is an atypical approach. Traditionally, trail efforts seek NST designation in their concept phase. The benefits of a federal partner are protecting the land in perpetuity with a comprehensive management plan, streamlining dealings with multiple jurisdictions, and to some extent providing access to funding sources. As a part of the NST Designation process, the ATA chose the USDA Forest Service as their managing federal partner because 74% of the land the trail passes through is Forest Service land. Compared with the Park Service, the Forest Service is not as adept at managing recreational uses but it is more efficient at moving projects forward.¹³

Segment Designation Process

The Arizona Trail is located on 99-percent public land. The initial route designation was designed to take advantage of already existing trails (60%) and to showcase the biodiversity of the state by traversing as many ecological zones as possible. The alignment was determined primarily by linking existing segments of trail in ways that made sense.

The trail does not cross any Wildlife Refuges (there are not any in the state) or any Tribal Lands. When the trail received NST status in 2007 there were only 57 miles left to build to complete the cross-state trail. The trail was built district by district and county by county, mostly with volunteer labor. The effort was the largest volunteer mobilization in Arizona history.

Balancing the Needs of Different Users

The Arizona Trail is open to a variety of non-motorized use, including mountain bikes on some sections. The ATA does not report any real challenges to balancing user needs. They do not focus on this as a part of their management role and simply publicize the trail conditions and let users make their own choices about how they will enjoy the trail.

Branding and Wayfinding

The Arizona Trail was developed as a backcountry, wilderness experience trail so users are expected to be prepared and self-reliant. When the Arizona Trail shares alignment with another trail, co-branding tactics are used. One method is adding AT emblems to existing signs. On the Arizona Trail, wayfinding signs are posted at intersections and "reassurance signs" are posted about a quarter mile past an intersection so users know they are going the right way. The ATA has found that most thru-hikers use their GPS phone app to track their progress and stay up-to-date on any trail closures, etc.

The vision for comprehensive branding and wayfinding is under development and outlined in the 2016-2020 Strategic Plan.

Community Programming

In 2010, the ATA added a Gateway Community program to build stronger relationships with the 33 towns located near the trail. It started through an REI grant that funded a staff person to operate the program. Now there is an advisory council, but no dedicated staff. The program uses community signs, maps, events, information on the website and materials that describe the amenities available in each town. The ATA is

¹³ Interview with Matt Nelson. Executive Director, Arizona Trail Association. 8/18/17

working with communities so they can take advantage of opportunities to be “trail towns” and benefit from the growing and lucrative outdoor industry. Originally, the ATA selected these communities because of their proximity to the trail. In the future, the ATA recommends encouraging towns to opt-in to the program. The Gateway Communities are primarily used as access points for people to use the trail for shorter periods, and less by thru-hikers who need to resupply. The Gateway Community residents are much more likely to volunteer or promote the trail on their own.¹⁴

The ATA also conducts extensive youth outreach and education programs to get students to connect with the trail. The program is called “Seeds of Stewardship.” As part of the program, elementary through high school students get out on the trail learning about the environment and helping with light maintenance.¹⁵

Funding

Funding for the Arizona Trail is provided by a strong public/private partnership that is coordinated by the ATA. Public money comes from the USDA Forest Service, Bureau of Land Management, and National Park Service. The Arizona Heritage Fund Grants, from the state lottery, are a key source of state funding. Private sponsorship is provided by 33 Premier Legacy and Business Partners who contribute 37 percent of the annual operating budget. In 2015, the ATA had net assets of \$349,423.

¹⁴ Interview with Matt Nelson, Executive Director, Arizona Trail Association. 8/18/17
¹⁵ Arizona Trail Strategic Plan 2016-2020

The Colorado Trail

Overview

The Colorado Trail travels through the Colorado Rocky Mountains amongst peaks with lakes, creeks and diverse ecosystems. Trail users experience six wilderness areas and eight mountain ranges topping out at 13,271 feet. The Colorado Trail started to be planned in 1973 and was finally completed in 1987. A year later, the Colorado Trail Foundation and the USDA Forest Service signed an agreement recognizing their partnership in maintaining the trail. In 1998, both parties renewed the agreement with the signing of the Master Plan for the Colorado Trail. Most recently in 2012, the Collegiate West peak was added to the CO Trail as an alternate route to Collegiate East, forming a 160-mile loop.

Location: Colorado

Start/End Points: Durango to Denver

Length: 500 Miles

User Groups: Hikers, horseback riders, mountain bikers

Surface Type(s): Natural/Unpaved

Managing Agency: The Colorado Trail Foundation and USDA Forest Service

Route Designation: None

Typical Context and Attractions: Wilderness, remote trail

Estimated annual users: Only about 750-1000 hike the entire trail each year, with thousands more using it for shorter hikes and rides.

Governance

The Colorado Trail is governed by a partnership between the Colorado Trail Foundation (CTF) and the USDA Forest Service outlined by a 2005 Memorandum of Understanding. The CTF is responsible for trail development, maintenance, and continued improvement of the trail corridor, while the Forest Service is ultimately the decision maker for analysis, construction, restoration, and maintenance in accordance with their regulations. The Forest Service has delegated much of the actual work, but still maintains overall authority. The two organizations maintain a close working relationship.¹⁶

Maintenance

Trail maintenance is conducted by the CTF and their volunteers through trail crews and an Adopt-a-Trail Program. In 2016, 618 CTF volunteers contributed 21,527 hours preserving The Colorado Trail, which contributed \$552,813 worth of labor. The CTF hosts trail crews who pay a nominal fee for food for the week. These trips are marketed as active vacations with new friends, and spots fill up quickly. Unauthorized motorized use is one of the big challenges for the CT because it damages trails. Mountain biking, however, did not affect trail quality on sustainably built trails and mountain bikers were quick to volunteer to help with maintenance.

¹⁶ 2005 MOU between the Forest Service and the Colorado Trail Foundation

Segment Designation Process

The trail is organized into 28 distinct segments in between access points. Mountain biking is a priority use for the trail, so detours are provided when the trail crosses wilderness areas. Trails that do not allow motorized use were prioritized for the route

Branding and Wayfinding

The CTF is responsible for implementing branding and signage according to the Forest Service Sign Handbook and the Colorado Natural Resources Group trail signing standards.

Funding

The Colorado trail is funded almost entirely by private sources, in contrast to many trails that receive a lot of public funding. The CTF's revenue for 2016 was \$850,268. Initial seed money of \$300,000 for the trail came from the Gates Foundation. Overall, biking and walking contributed \$1.6 billion in benefits to the state including revenue from tourism, events, retail sales of products.¹⁷ The Colorado Trail is one component of this overall positive economic impact.

¹⁷<http://www.denverpost.com/2016/11/08/biking-and-walking-bring-1-6-billion-in-benefits-to-state-aside-from-improved-health/>

The Katy Trail

Overview

The Katy Trail is located along the right-of-way of the former Missouri-Kansas-Texas Railroad. Running largely along the northern bank of the Missouri River, it is the country's longest Rails-to-Trails trail. In 1991, the first segment of the Katy Trail officially opened in Rocheport, MO. Further trail segments were completed in 1996 and 1999, with the final corridor from St. Charles to Machens in 2011. The Katy Trail State Park follows the extension of the Katy Trail. On December 2016, a new 47-mile added spur called "The Rock Island Trail" was added to the trail system, and the plans are to expand this system to encompass 450 miles of trail.

Location: Missouri

Start/End Points: Clinton to Machens

Length: 240 Miles

User Groups: Hikers, joggers, bicyclists, horseback riders

Surface Type(s): Crushed Stone, average 12 feet wide

Managing Agency: Missouri State Parks, Missouri Department of National Resources

Route Designation: Lewis and Clark National Historic Trail, Rail-Trail Hall of Fame, The American Discovery Trail and Millennium Legacy Trail

Typical Context and Attractions: Rail Trail, passes through many small and medium-sized towns along the Missouri River.

Estimated annual users: 400,000 visitors (2011)¹⁸

Governance

The Katy Trail is managed by the State Parks Department because the trail is almost entirely located within a State Park. Additionally, because nearly all of the trail is a rail-trail conversion, it had to be managed by an entity that could commit to long-term maintenance and management to meet interim use requirements. All donations and organization of volunteer activities is conducted by the State Parks. The department manages the trail in 4 sections, with district supervisors overseeing it.

Trail Maintenance

In-house Parks Department maintenance staff handle trail maintenance. When more significant work or investment is needed, projects are transferred to the Department's construction division. The Department also manages an Adopt-a-Mile program (includes signage recognition) and a volunteer program for receiving in-kind services.

¹⁸ 2012 Missouri State Park Economics and Benefits: An Update based on 2011 Visitation

Segment Designation Process

In 1988, the corridor for the Katy Trail was donated to the State of Missouri by the railroad after flooding damaged the tracks and would have required millions of dollars in repairs. The State of Missouri established the Katy Trail and a corresponding State Park.

Branding and Wayfinding

The Katy Trail does not have its own brand or its own website (it has a page within the State Parks website). Wayfinding signage uses the original rail line mile markers, which is reflected on all maps (each info depot has 6 panels, one is a statewide map, two are section maps).

The Katy Trail incorporates its numerous trail designations into its marketing. They include:

- Lewis and Clark National Historic Trail- Katy Trail is a segment of the larger 3,700 cross country route.
- Rail-Trail Hall of Fame- awarded by the Rail Trail Conservancy to trails that exhibit exceptional: excellence, leadership, community connections, geographic distribution, scenic value, management and maintenance, historical and cultural significance, usage rate and amenities.
- American Discovery Trail- 6,800-mile trail that spans the US. The Katy Trail is the segment through Missouri
- Millennium Legacy Trail- Part of President Clinton's Millennium Council Project- celebrating trails that honor our Nation's state's history. It is a long list of trails that connect with communities and have some historical significance.

Funding and Economic Impact

Funding for management and maintenance is provided through the State Parks annual budget. The Katy Trail provides a benefit to Missouri's economy, with a 2012 Economic Impact Report finding that:

"Katy Trail State Park, the nation's premier rail-trail conversion, has a positive economic impact on the state and local trail communities. Hundreds of businesses along the Katy Trail provide a variety of tourism-related services, from wineries, restaurants and shops to bed and breakfasts inns, hotels and campgrounds. The Katy Trail has been a catalyst for tourism development, and many small businesses depend on the trail for an ongoing stream of customers. An economic impact study released in 2012 found that trail-related expenditures made by these customers in 2011 generated nearly \$18.5 million a year in economic impact for the state, and supported 367 jobs with a payroll of \$5.1 million. The overall economic impact to the local trail communities from visitor spending is \$8.2 million. For every dollar spent by Missouri State Parks to operate Katy Trail State Park, Missouri's economy saw an \$18 return on investment."¹⁹

¹⁹ "Katy Trail Economic Impact Report. Visitors and MGM2 Economic Impact Analysis." Synergy Group. Pragmatic Research Inc. James Pona Associates.

The Palmetto Trail

Overview

The Palmetto Trail is South Carolina's cross-state trail that will stretch an estimated 500+ miles from the mountains to the sea once complete. The trail offers hiking and mountain biking beside lakes and farm fields, across mountain ridges, through forests and swamps, and into the heart of small towns and bustling cities.

The Palmetto Trail planning efforts started in 1994. Spearheaded by the nonprofit Palmetto Conservation Foundation, the goal of the trail is to provide access to the outdoors from the Blue Ridge Mountains to the Intracoastal Waterway. It connects state and county parks, national forests, nature preserves, wildlife management areas, revolutionary war battlefields, Native American paths, urban and rural areas

Location: South Carolina

Start/End Points: Awendaw to Walhalla (when finished)

Length: 350 Miles Completed/ 500 Miles Total Planned

User Groups: Hikers, horseback riders, mountain bikers, bicyclists, pedestrians

Surface Type(s): Natural, Paved

Managing Agency: Palmetto Conservation Foundation

Route Designation: Millennium Legacy Trail

Typical Context and Attractions: Weaves through backcountry, small town, rural, suburban, and downtown urban contexts connecting users with cultural heritage and natural sites

Governance

The Palmetto Conservation Foundation (PCF) is a 501c3 nonprofit with a mission to conserve South Carolina's natural and cultural resources, preserve historic landmarks, and promote active outdoor recreation on the Palmetto Trail and other greenways. PCF spearheads the Palmetto Trail planning, development, and branding and communications. The trail is developed largely through publicly-owned lands, on public rights-of-way, and through easements for recreational use, including rail-trail conversions and access to protected lands. Where that is not possible, PCF relies on MOUs as a way to reach agreement with a private property owner for trail access. Major partners trail management include the South Carolina Department of Parks, Recreation and Tourism and the US Forest Service.

Trail Maintenance

Most maintenance is undertaken by the local entity that owns or operates the trail segment of the trail. PCF plays a major role in tracking maintenance needs and in organizing and leading volunteer maintenance efforts. This includes ongoing partnerships with AmeriCorps, and the establishment of the Palmetto Conservation Corps, a trail-based state AmeriCorps program.

Segment Designation Process

Segment designation is handled by PCF as the spearheading agent. Their decision-making is guided by the 2013 Palmetto Trail Statewide Master Plan and handled on a segment by segment basis (no formal process).

Balancing the Needs of Different Users

User access is determined on a segment-by-segment basis depending on the suitability of the trail's terrain, surface type, width, context, and access points. This information is communicated through signage on the trail and through online maps and user guides. In some cases, the Palmetto Trail is also used for special events (such as mud runs) and closed to general use for a window of time, at the discretion of the local trail manager.

Branding and Wayfinding

PCF handles statewide, regional, and national promotion and branding for the trail. This includes the trails website, social media, user maps and guides, and wayfinding signage.

Funding

PCF secures a variety of funding sources to support the trail including annual memberships, major donors, major corporate sponsors (with trail recognition benefits available), grants, and to a limited degree, state allocations of funding. A recent partnership with a South Carolina-based brewery created the "Palmetto Trail Ale" with proceeds supporting the Palmetto Trail.

The Empire State Trail (Planned)

Overview

The Empire State Trail when completed in 2020 will create a 750-mile bicycle and walking trail that will span New York State, from Buffalo to Albany, and from New York City through the Hudson and Champlain Valleys to Canada. The Trail will drive economic growth and boost tourism in communities along its route.

Approximately 400 miles of the Empire State Trail already exists in discrete, disconnected segments. Empire State Trail funding will be utilized to connect existing trails into a continuous statewide trail. For example, the Erie Canalway Trail between Buffalo and Albany is 80% done – Trail funds will "close the gaps," such as completing the trail through Syracuse, Camillus, and Dewitt in central New York. The largest amount of new trail construction will occur in the Hudson Valley, where only about 50% of the complete trail route exists today.

Wherever possible, the Trail is "off-road," utilizing historic railway routes (e.g. rail-trails) and canal tow paths along sections of the Erie and Champlain canals. For the 550 miles from Manhattan to Buffalo, 85% of the Empire State Trail will be off-road.

For much of its route, the Empire State Trail is an overlay integrating local and regional trails. Local trails will retain their local name and identity, co-branded with the Empire State Trail to provide a cohesive marketing effort to increase public visitation. Examples of trails that will be integrated into the Empire State Trail include: the South and North County Trails in Westchester and Putnam Counties; the Dutchess, Hudson River, and Wallkill Valley Rail-Trails in the Hudson Valley; the Corning Preserve and Mohawk-Hudson Trails in the Capital District; the Erie Canalway Trail; and the Champlain Canalway Trail.

For on-road segments, the Empire State Trail will follow public roadways, utilizing low volume local roads wherever available. Long stretches of on-road sections, such as in the Champlain Valley where the Trail will run along State Bicycle Route 9, are appropriate for more experienced bicyclists. A portion of the \$200 million will be allocated to making targeted on-road improvements, such as paving shoulders in critical spots and installing better bicycle pavement markings.

Location: New York State

Start/End Points: N/S (Canada Border to NYC), E/W (Pebble Island to Buffalo Harbor)

Length: 750 Miles

User Groups: Hikers, bicyclists, cross-country skiers, snowmobiles and equestrians in areas where currently allowed.

Surface Type(s): Natural/Unpaved, Paved and Crushed Stone

Managing Agency: Primary: Hudson River Valley Greenway - Secondary: NYSDOT, Metro-North Railroad, NYS Canal Corporation, Local counties and municipalities.

Route Designation: Route Designation: Designation of an Empire State Trail is based on the alignments developed through the current master planning process. The master plan focused on closing gaps between existing trail segments to maximize existing trails wherever possible. The criteria used in establishing the proposed gap alignments prioritized: feasibility to construct by the year 2020, route directness between

existing trail segments, overall scenic and tourism value (such as historic sites, natural features, and similar). Existing trail segments that are designated as part of the Empire State Trail system retain their local ownership/governance and identity and will be co-branded as the Empire State Trail. Designation as part of the Empire State Trail will occur through an MOU or local resolution, where required. Significant portions of the Empire State Trail are or will be maintained by state entities, such as the NYS Canal Corporation or NYS Office of Parks, Recreation and Historic Preservation.

Typical Context and Attractions: Varies: urban and rural, historic corridors, water corridors (river, canal, lake).
Economic Development: historical canal villages, large upstate cities.

Governance

The Hudson River Valley Greenway Act of 1991 (the "Greenway Act") created a process for voluntary regional cooperation among 264 communities within 13 counties that border the Hudson River. Stemming from that Act, the Hudson River Valley Greenway is an innovative state sponsored program created to facilitate the development of a regional strategy for preserving scenic, natural, historic, cultural and recreational resources while encouraging compatible economic development and maintaining the tradition of home rule for land use decision-making. The Greenway Act created two organizations to facilitate the Greenway process: the Hudson River Valley Greenway Communities Council and the Greenway Conservancy for the Hudson River Valley. This is where the Empire State Trail initiative is being led; however, the program/trail remains a collaborative effort among five different state agencies, several counties, and a number of local municipalities. The Greenway remains a small entity (6 staff), and is only constructing one segment out of over 40, but is leading overall collaboration for the effort and distribution of state funds. Ownership and maintenance agreements will be implemented when trails are to be maintained by county or local entities, but owned by state entities. These agreements will be held between these local entities and the five involved state agencies.

Trail Maintenance

Most maintenance will continue to be undertaken by the entity that owns or operates each segment of the trail, despite the addition of co-branding. The State will provide continued capital maintenance support for some new sections of the EST.

Segment Designation Process

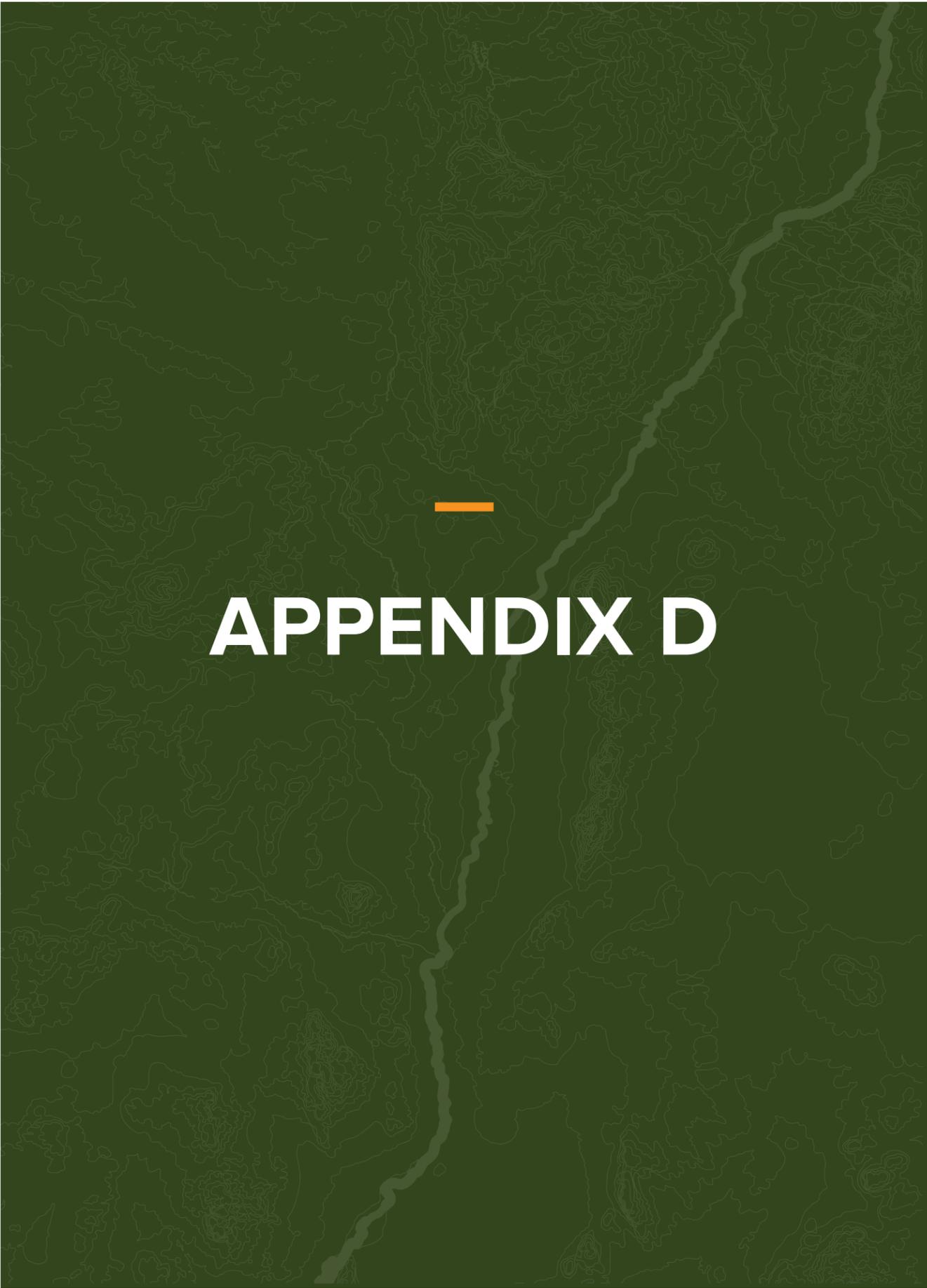
A route was selected to highlight and connect existing, iconic trails into a continuous statewide trail. Empire State Trail funds will be used to close gaps. Another criterion for route selection is a preference for "off-road" trails, such as rail trails. For segments that must be on-road, a portion of the project funding will be dedicated to improvements to make on-road travel more accessible for the average user. Local roads are preferred where possible for lower volumes and speeds.

Branding and Wayfinding

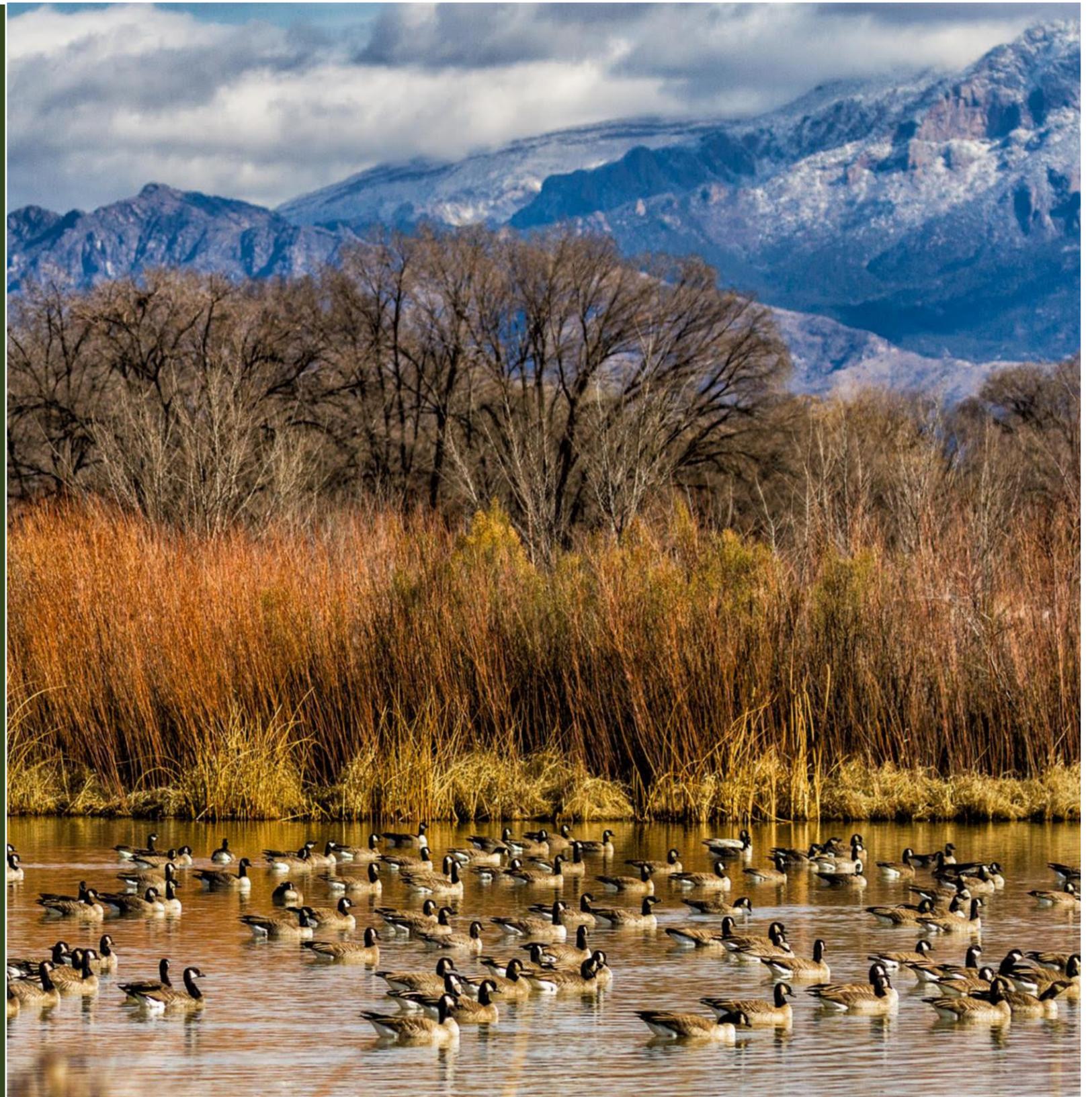
Much of the route will be an overlay on existing local and regional trails. Local trails will keep their names and identities. Co-branding is being developed to increase visitation for the area and will provide continuous wayfinding for EST users. Trail "Gateways" and additional trailheads will provide amenities, access to the trail, and information about surrounding communities.

Funding

New York State allocated \$200 million in the 2017 state budget to fund design and construction of approximately 60 trail segments.



APPENDIX D



Memorandum

Date: July 11, 2017
To: New Mexico Department of Energy, Minerals, and Natural Resources
From: Jean Crowther, Alta Planning + Design
Re: **Rio Grande Trail Master Plan Existing Plans Policy Review Memo**

Overview

The Rio Grande corridor passes through or near two national wildlife refuges, three national monuments, and six state parks, touching nearly 10 counties and more than 22 cities or towns. Existing recreation, transportation, and trail plans of these jurisdictions influence the Rio Grande Trail alignment, design, and management structure.

Studies that directly address the Rio Grande Trail and relevant state level plans addressing recreation, active transportation, and land use have been collected and summarized to determine their impact on the Rio Grande Trail project. Master Plan builds upon previous efforts, established goals, and “lessons learned.” As the planning process progresses, the project team will reference relevant plans from Metropolitan Planning Organizations, counties, and cities along the corridor to better understand context and local preferences.

Rio Grande Trail Planning Documents

The project team reviewed and summarized the following planning documents directly addressing the Rio Grande and Rio Grande Trail Corridor:

- New Mexico Legislature House Bill 563 (State of New Mexico)
- Rio Grande Trail Corridor Study Trail Resurfacing Report (Anasazi Trails Inc)
- Jobe Dinosaur Beach (Eric Kappus from Houghton College)
- Rio Grande Trail Extension Bernalillo to Belen (MRCOG)
- Rio Grande Trail Corridor Alignments and Constraints Analysis (Anasazi Trails Inc)
- BLM Presentation to Rio Grande Trail Commission: Rio Grande Del Norte and the Rio Grande Trail (BLM New Mexico)
- Rio Grande Water Fund: Comprehensive Plan for Wildfire and Water Source Protection (The Nature Conservancy in New Mexico)
- Resolution No. 17-036 A Resolution to Support the Designation of 4.5 Miles of La Llorona Trail as part of the New Mexico Rio Grande Trail (Las Cruces City Council)
- Blazing a Trail: The Benefits of a Rio Grande Trail in New Mexico (Environment New Mexico Research & Policy Center)

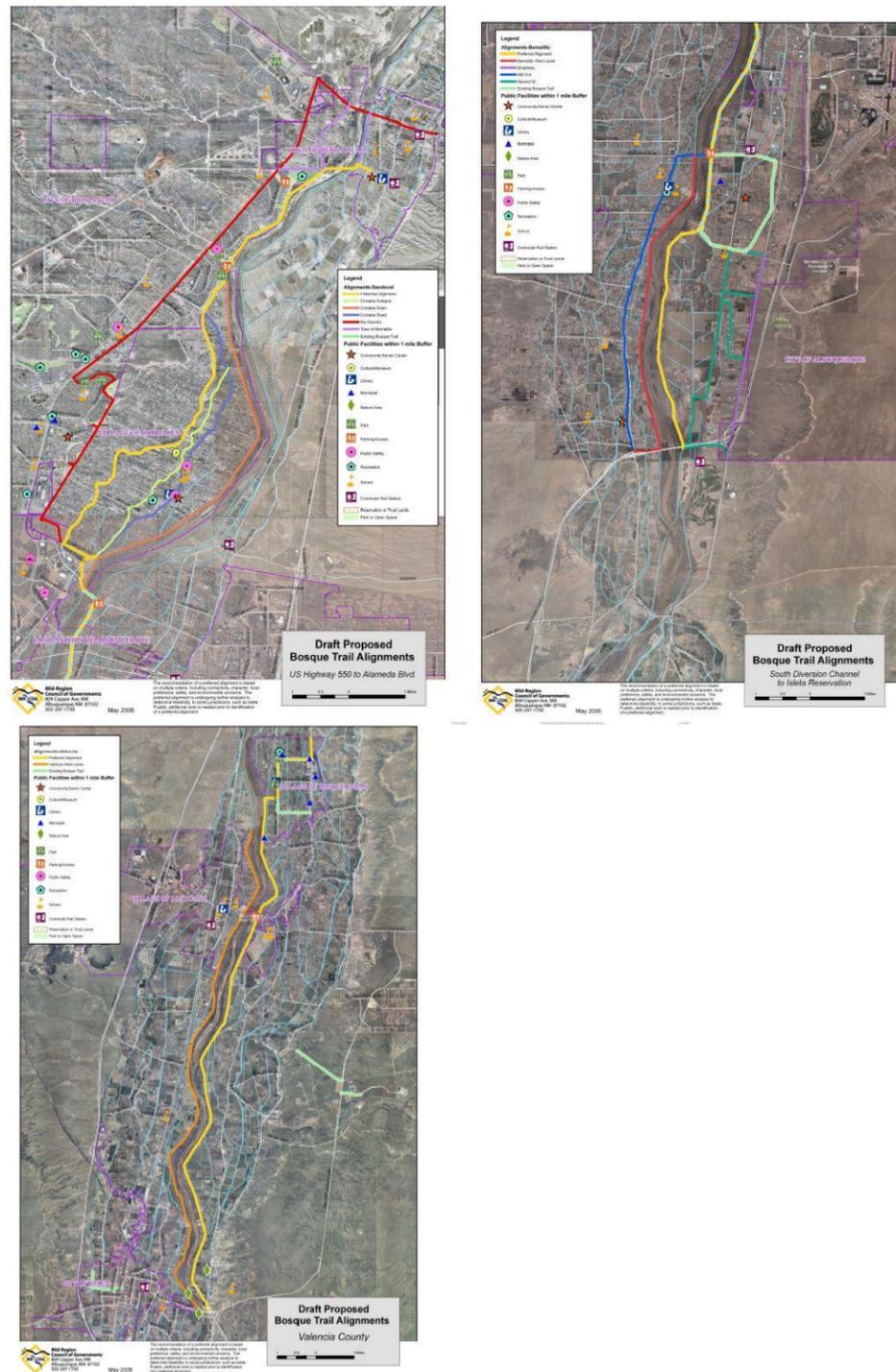
| | |
|---|---|
| Plan Name | New Mexico Legislature House Bill 563 |
| Date | 2015 |
| Study Area | State of New Mexico/Rio Grande Corridor |
| Plan Type | Legislative Act |
| Plan Overview | Signed by Governor Martinez: "An Act relating to parks, creating the Rio Grande Trail Commission to recommend policies to establish a Rio Grande Trail; Creating the Rio Grande Trail Fund." |
| Influence on the Rio Grande Trail Project | State authorization of advisory structure and funding mechanism for its development |
| Key Recommendations | <ul style="list-style-type: none"> • Minimize environmental impacts and preserve sensitive habitats • Avoid non-native materials • Coordinate with El Camino Real Historic Trail • Solicit public input before finalizing route • Administratively attached to Energy Mineral and Natural Resources Department |

| | |
|---|---|
| Plan Name | Rio Grande Trail Corridor Study Trail Resurfacing Report |
| Date | August 2008 |
| Study Area | Rio Grande Corridor (focus on Southern half) |
| Plan Type | Existing Conditions Analysis |
| Plan Overview | The Rio Grande Trail Corridor Study Trail Resurfacing Report analyses different types of trail surfaces that could be used to construct the southern half of the Rio Grande Trail and recommends specific materials that will maximize trail enjoyment and sustainability and minimize environmental impact. |
| Influence on the Rio Grande Trail Project | Provides region-specific trail surface background info, recommendations, and overall trail design concepts that apply to the current Rio Grande Trail Project. |
| Key Recommendations | <ul style="list-style-type: none"> • Aside from concrete and asphalt, no material is sustainable on poorly designed sections of trail with grades over 10%. • Locally imported road base or crusher fines material should be considered for the trail surface. This surface can be: fully accessible, long lasting, low impact, and relatively inexpensive. There are sources within one hour of most of the RGT. • Minimize use of asphalt and concrete in backcountry/natural settings except if high ADA need. • Agencies should share information about what works and doesn't work for trail surfacing in the state. |

| | |
|---|---|
| Plan Name | Jobe Dinosaur Beach, Dinosaur Track Site |
| Date | May 2002 |
| Study Area | Quarry on Mount Cristo Rey in Southern New Mexico, almost on Mexico border |
| Plan Type | Historical Site Description |
| Plan Overview | The Jobe Dinosaur Beach tells the story of the site and how it transformed from a concrete quarry to a park and museum. A graduate student discovered fossils then the mining company donated the land for a museum and park. |
| Influence on the Rio Grande Trail Project | Describes a historic site and protected land along the RGT. |
| Key Recommendations | <ul style="list-style-type: none"> • Demonstrates how industry partners can support historic preservation and community resources. Jobe Concrete Products uses this effort for PR very successfully. • Describes an interesting place to visit along the RGT corridor that the trail should highlight. RGT should promote this local effort and encourage trail users to visit. |

| | |
|---|--|
| Plan Name | Rio Grande Trail Extension Bernalillo to Belen |
| Date | Draft August 2006 |
| Study Area | Rio Grande Trail Corridor from Bernalillo to Belen |
| Plan Type | Trail Blueprint Study |
| Plan Overview | This blueprint provides an overview of the project and process including existing conditions, design recommendations, cost, next steps, and alignment ideas. |
| Influence on the Rio Grande Trail Project | The segment of trail being described in this part of the RGT through a major Metro area. Prioritization, funding, and implementation ideas could be applicable to other regions. |
| Key Recommendations | <ul style="list-style-type: none"> • Design: Recommended to include an asphalt-paved trail which meets AASHTO guidelines for shared use or multi-use paths and will comply with Americans with Disabilities Act (ADA) requirements. A separate parallel soft-surface track would accommodate equestrians, runners, and others who prefer soft surface. • The ideal trail would be located in a corridor away from traffic, have minimal and very safe street crossings and would be within occasional sight and/or sound of the bosque. • It would have frequent linkages to neighborhoods, destinations, and public transit and connections to nearby on-street facilities for bicyclists who choose to travel fast. Smaller loop trails into the bosque and closer to the river may support the main spine trail in selected locations. • Alignments: Initially on one side of the river only. Need to have safe, frequent crossings for bike/ped users. Crossings also good sites for trail heads. • Trail divided into 7 segments based on political jurisdiction. Potential trail corridors evaluated based on their ability to serve as the backbone of a regional north/south trail network along the river. • Evaluation Criteria: <ol style="list-style-type: none"> 1. Connectivity: to trail network, destinations, population, public transit 2. Character: the river valley experience, aesthetic value, views, quiet, adjacent land views. 3. Local Support: incorporate local plans and policy, consider political support, capacity for maintenance 4. Environmental Concerns: avoid impacts on environmentally sensitive areas, habitat, historic or cultural resources. 5. Ease of Implementation: cost, lack of right of way, available public lands are preferred over acquisition of trail right of way. 6. Safety: road, river, drain crossings 7. Ability to accommodate all user types • Preferred Alignment: Levee alignments are the best for minimizing negative impacts to the bosque and adjacent neighbors. Moves along the river when possible, then cuts out to take advantage of public right of ways or crossings |

Preferred Trail Alignments for Belen to Bernalillo



Rio Grande Trail Existing Conditions Policy Review Memo | 7

| | |
|---|--|
| Plan Name | Rio Grande Trail Corridor Alignments and Constraints Analysis |
| Date | September 2008 |
| Study Area | 2 miles wide, 270-mile-long study corridor from Belen to Sunland Park (near the Mexican Border) |
| Plan Type | Alignments and Constraints Analysis |
| Plan Overview | Rio Grande Trail Corridor Alignments and Constraints Analysis outlines the project background and origins of the project, community involvement process, analysis of alternative, and preferred alignments for each County, and long-term goals for the project. Folder includes Alignment maps by segment. |
| Influence on the Rio Grande Trail Project | This plan is a direct precursor to the current RGT effort. New planning should build on these previous efforts. |
| Key Recommendations | <ul style="list-style-type: none"> Evaluation Criteria for Alignments: <ul style="list-style-type: none"> Aesthetical characteristic Trail accessibility Connectivity to other trails, communities and points of interest, Ease of trail implementation Potential environmental concerns Safety of the users Political support and capacity to provide management responsibilities Number of user groups the trail can accommodate MRGCD Board's July 2008 decision not to formalize or enhance the existing ditches with trails constitutes a fatal flaw for the RGT alignments identified in their jurisdiction between Belen and the Bosque del Apache National Wildlife Refuge. Proposes alignments for: Valencia County, Socorro County, Sierra County, Dona Ana County, and El Paso County. Future Vision is: shared use trail system the entire Rio Grande with state and national designation. Will need Cooperative Agreements to manage the trail across jurisdictions. |



Rio Grande Trail Existing Conditions Policy Review Memo | 8

| | |
|---|--|
| Plan Name | BLM Presentation to Rio Grande Trail Commission: Rio Grande Del Norte and the Rio Grande Trail |
| Date | No date given |
| Study Area | Taos Field Office Area BLM Area (NE New Mexico) |
| Plan Type | Presentation |
| Plan Overview | Presents Opportunities, Concerns, Maps, photos with route options and existing trails |
| Influence on the Rio Grande Trail Project | Good context for the north section of the RGT Route |
| Key Recommendations | <ul style="list-style-type: none"> • Opportunities: Trails that reconnect communities, local business development, use existing infrastructure, instill a leave no trace ethic • Concerns: Sensitive habitat, wild and scenic river constraints, river crossings, depreciative behaviors and messaging to reduce them, weeds, public safety, and funding |

| | |
|---|--|
| Plan Name | Rio Grande Water Fund: Comprehensive Plan for Wildfire and Water Source Protection |
| Date | July 2014 |
| Study Area | Rio Grande Watershed |
| Plan Type | Comprehensive Plan |
| Plan Overview | Goal of the plan is to generate sustainable funding over the next 20 years to increase the scale and pace of forest restoration to protect water resources for future generations. This plan includes an introduction and analysis of water security threats, a vision for the future, summaries of study results that will guide water fund investments and a clear path forward to securing New Mexico's water for the future. |
| Influence on the Rio Grande Trail Project | Context on certain community perspectives on water, fire, economic development, |
| Key Recommendations | <ul style="list-style-type: none"> • Recommends thinning forest to protect water resources, but pitched as a conservation tool to prevent forest fires. • Link between thinning forests and healthy forests/watersheds is not established clearly. |

| | |
|---|---|
| Plan Name | Resolution No. 17-036 A Resolution to Support the Designation of 4.5 Miles of La Llorona Trail as part of the New Mexico Rio Grande Trail |
| Date | September 6, 2016 |
| Study Area | City of Las Cruces |
| Plan Type | City Resolution |
| Plan Overview | The resolution is officially designating a section of city trails to be part of the RGT. |
| Influence on the Rio Grande Trail Project | Highlights an example of the process for designating segments of the RGT. |
| Key Recommendations | City is designating their riverside trail to be a part of the RGT because it would provide additional recreational and economic benefits to Las Cruces and Dona Ana County and would progress the goals of the RGT. |

| | |
|---|--|
| Plan Name | Blazing a Trail: The Benefits of a Rio Grande Trail in New Mexico (Environment New Mexico Research & Policy Center) |
| Date | January 2008 |
| Study Area | Rio Grande Corridor |
| Plan Type | Study of the Project Benefits |
| Plan Overview | This report will look at the benefits the Rio Grande Trail will have on preservation of the Rio Grande, the state economy, recreation and public health in New Mexico. |
| Influence on the Rio Grande Trail Project | The report describes benefits of long distance trails in general and the RGT specifically. These benefits apply to the current RGT Project. |
| Key Recommendations | <ul style="list-style-type: none"> • We all want healthy rivers but we first need to create an atmosphere in which people are invested in the river's health in order to create a solution. The Rio Grande Trail will achieve such an atmosphere by reconnecting residents with the river. The Alliance concluded in their report that while many resented the Rio Grande for its "second-class" status, there is undeniable "pride and emotion around the river that is potent, but it lies beneath the surface." We need to harness this emotion and remake the Rio Grande into a point of pride for all New Mexicans. • Benefits of long distance trails in general: inject money in local economies by bringing people to an area and making the area more desirable, improve health of local residents, build an ethic of conservation • In 2006, Outdoor Industry Foundation estimates that The Outdoor Industry Foundation estimates that outdoor recreation contributes \$3.8 billion annually to New Mexico's economy. • Trails are top recreation priority for residents of New Mexico. • Studies show trails improve public health and encourage those close to them to get active exercise more times a week. • Preservation: People currently do not consider the Rio Grande to be a destination, except in the few places with real trail systems along it. • Overall recommendation: fund the trail to score major benefits for the state. |

New Mexico Planning Documents

The project team collected and summarized the following state-level planning documents:

- Viva New Mexico: A Statewide Plan for Outdoor Adventure
- 2016 Annual Report: New Mexico Energy, Minerals & Natural Resource Department
- Active Transportation and Recreational Programs Guide: Federal Fiscal Years 2018 and 2019
- New Mexico Roadway Bike Map
- Recreational Trails Program Annual Report for Fiscal years 2014-2015

| | |
|---|---|
| Plan Name | Viva New Mexico: A Statewide Plan for Outdoor Adventure |
| Date | Strategic Plan 2016-2020, December 2015 |
| Study Area | State of New Mexico |
| Plan Type | Statewide Comprehensive Outdoor Plan |
| Plan Overview | This plan provides a common vision for outdoor recreation providers and residents throughout New Mexico, communicate the value of outdoor recreation, and helps to determine priorities over the next five years. |
| Influence on the Rio Grande Trail Project | Provides State vision and framework for outdoor recreation that will shape the RGT. |
| Key Recommendations | <p>Plan identified 5 key themes that emerged through the planning process, then goals/objectives/actions that fit within each theme:</p> <ul style="list-style-type: none"> • Community Livability <ul style="list-style-type: none"> ○ Goal: Address local needs, expand access to, and reduce barriers to outdoor recreation and trails. <ul style="list-style-type: none"> ▪ Increase the number of communities that have prepared parks, recreation, open space, and trail master plans. ▪ Increase local government capacity ▪ Provide lower cost close to home recreation options ▪ Increase awareness of the benefits of outdoor rec. • Trails <ul style="list-style-type: none"> ○ Goal: Develop Trail Networks Through the state that facilitate recreation, transportation, and health <ul style="list-style-type: none"> ▪ Provide leadership in trail planning activities ▪ Increase rate of trail construction and support trail maintenance. ▪ Improve local non-motorized transportation connectivity ▪ Develop more sustainable OHV trail systems throughout the state. ▪ Plan, prioritize, and implement new statewide and regional trail connections between cities, towns, and tribal communications. • Health <ul style="list-style-type: none"> ○ Goal: Promote health, wellness, and physical activity to improve health outcomes and assure safety net services for all people of New Mexico. <ul style="list-style-type: none"> ▪ Increase youth recreating and getting physical activity levels ▪ Get people walking and playing ▪ Continue creating partnerships with health care providers and leverage funding opportunities. • Economic Vitality <ul style="list-style-type: none"> ○ Goal: Enhance economic vitality through promoting recreation and tourism. <ul style="list-style-type: none"> ▪ Support promote and encourage cultural festivals and outdoor recreational events. ▪ Link tourism with recreational opportunities. |

- Promote recreation’s connection to economic development
- Continue providing a wide spectrum of recreation resources and add more for camping and boating.
- Promote quality places for residents with attract employers and retirees.
- Engage private recreation industry
- Environmental Health
 - Goal: Manage natural resources and recreation infrastructure through commitment to stewardship and the preservation of natural beauty and conservation of resources.
 - Expand volunteer capacity and volunteerism
 - Preserve scenic areas and special places
 - Identify and restore wetlands that contribute to large-scale conservation of wetlands and recreation opportunities.
 - Restore wildlife habitats

Statewide Findings:

- Build more trails
- Create more facilities for boaters and swimming/ water trails/ improve recreational access to rivers and streams
- Improve opportunities for youth
- More higher quality campgrounds
- Manage recreation areas so that at least: eighty percent of local areas enable those seeking beauty and escape in nature by protecting view-sheds, reducing noise pollution, limiting crowding, protecting habitat, etc.; forty percent of local areas enable risk and skill building, such as offering advanced or technical trails, instruction, etc.; and forty percent of local areas enable socialization through group shelters picnic areas, accessibility, etc.

Regional Recommendations also included.

| | |
|---|--|
| Plan Name | 2016 Annual Report: New Mexico Energy, Minerals & Natural Resource Department |
| Date | 2016 |
| Study Area | State of New Mexico |
| Plan Type | Annual Report |
| Plan Overview | Summarizes the department’s activities and accomplishments for the year |
| Influence on the Rio Grande Trail Project | Annual Report for the government agency responsible for the RGT and the State Parks Department. Provides background info for major stakeholder. |
| Key Recommendations | <ul style="list-style-type: none"> • State Parks Chapter summarizes funding, revenue, numbers of visitors, capital projects. Over 5 million people visited a State Park in 2016. • Volunteer Program hosted 2,300 volunteers- citizen groups played a key role “Friends Groups.” – could be good groups to reach out to for stakeholder input. • Outdoor Education Program: delivered services to 27,468 people- more good channels for outreach. |

| | |
|---|--|
| Plan Name | Active Transportation and Recreational Programs Guide: Federal Fiscal Years 2018 and 2019 |
| Date | No date listed |
| Study Area | State of New Mexico |
| Plan Type | Programs Guide |
| Plan Overview | The Active Transportation and Recreational Programs Guide is a user-focused handbook for New Mexico's Transportation Alternatives Program (TAP) and Recreational Trails Program (RTP). It is intended to assist potential applicants; Metropolitan Planning Organizations (MPOs); Regional Transportation Planning Organizations (RTPOs); and other transportation planning partners in identifying and applying for the appropriate funding source based on the specific project type. |
| Influence on the Rio Grande Trail Project | Funding Guide can be used to identify funding sources for components of the RGT. Reference for planning partners as the project goes forward. |
| Key Recommendations | <p>Scoring factors for both TAP and RTP funding:</p> <ul style="list-style-type: none"> • Planning: Must provide documentation (cover of plan and page[s] identifying or supporting the project); 2 points per plan, maximum of 6 points • Economic vitality • Safety and Security • Accessibility and Mobility through Integration and Connectivity • Protection and Enhancement of the Environment: <ul style="list-style-type: none"> ○ Promote environmental conservation ○ Improve quality-of-life for residents ○ Achieve community's land-use goals • Efficient System Management • System Preservation <p>Eligible TAP Projects:</p> <ul style="list-style-type: none"> • Planning, design, and construction of on-road and off-road trail facilities for pedestrian, bicyclists and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Public Rights-of-Way Accessibility Guidelines (PROWAG). • Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other non-motorized transportation users. <p>Eligible RTP Projects:</p> |

- Maintenance and restoration of existing trails to include any kind of trail maintenance, restoration, rehabilitation, or relocation, provided the work is completed within the time period outlined in the Cooperative Project Agreement.
- Development and rehabilitation of trailside, trailhead facilities, and trail linkages (including but not limited to drainage, crossings, stabilization, parking, benches, signage, traffic controls, water, sanitation, and access facilities). Rehabilitation can include extensive repair needed to bring a facility up to standards suitable for public use (not routine maintenance). Trailside and trailhead facilities should have a direct relationship with a recreational trail; a highway rest area or visitor center is not an eligible project.

| | |
|---|---|
| Plan Name | New Mexico Roadway Bicycle Guideline Map |
| Date | June 15, 2015 |
| Study Area | State of New Mexico |
| Plan Type | Public Brochure and Map |
| Plan Overview | Brochure is intended to assist people biking around the state to choose their preferred route. Includes information about bike laws, contact info for different city's recreation departments, tips for smart cycling, mileage between towns, average weather info, and etiquette when crossing tribal and Pueblo Lands. |
| Influence on the Rio Grande Trail Project | Brochure provides context for biking in the state, which could be good reference for the RGT project, particularly the info on etiquette for tribal lands and bike laws. |
| Key Recommendations | <ul style="list-style-type: none"> • Pueblo recommendations: <ul style="list-style-type: none"> ○ No cell phones ○ No alcohol ○ Call ahead to confirm travel dates ○ There may be an entry fee. ○ Nature is sacred. ○ Silence is mandatory during ceremonies ○ Do not remove artifacts or other items. • Bike laws: <ul style="list-style-type: none"> ○ Minors must wear helmets ○ Need to have appropriate lights. ○ Can't carry things in your arms on a bike (two hands on handle bars) |

| | |
|---|---|
| Plan Name | Recreational Trails Program Annual Report for Fiscal years 2014-2015 |
| Date | April 2016 |
| Study Area | State of New Mexico |
| Plan Type | Annual Report |
| Plan Overview | The Recreational Trails Program (RTP) provides federal funding for recreational trails and trail-related facilities for both non-motorized and motorized trail uses such as hiking, bicycling, and off-highway vehicle (OHV) use. RTP funds come from the Federal Highway Trust Fund and represent a portion of the motor fuel excise tax collected from non-highway recreational fuel use. Projects funded under the RTP must comply with all applicable federal requirements. |
| Influence on the Rio Grande Trail Project | Background info on a funding source for RGT |
| Key Recommendations | NMDOT received, by federal formula, approximately \$1.4 million in annual RTP apportionment for FFY14 and FFY15. Per Federal requirements, the RTP apportionment must be awarded according to the following distribution: 30% of the funds must be used for non-motorized trails; 30% for motorized trails; and 40% for diverse-use trails. |

Regional Planning Documents

The project team collected the following MPO/COG/RTPO Regional Transportation Plans for review during the development of alignment alternatives of the Rio Grande Trail:

- Northern Pueblos Regional Transportation Plan (Northern Pueblos RTPO)
- Mid-Region Regional Transportation Plan (Mid-Region RTPO)
- Metropolitan Transportation Plan (Santa Fe MPO)
- Bicycle Master Plan (Santa Fe MPO)
- Pedestrian Master Plan (Santa Fe MPO)
- Pedestrian and Bicycle Travel Monitoring Report 2016 (Santa Fe MPO)
- Futures 2040: Metropolitan Transportation Plan (Mid-Region MPO)
- South Central Regional Transportation Plan (South Central RTPO)
- Comprehensive Economic Development Strategy (New Mexico Planning and Development District 7)
- Transport 2040: Metropolitan Transportation Plan Update (Mesilla Valley MPO)
- Bicycle System Priorities Plan (Mesilla Valley MPO)
- Trail System Priorities Plan (Mesilla Valley MPO)
- Pedestrian Priorities Plan (Mesilla Valley MPO)
- 2040 MTP (El Paso MPO)

County and City Planning Documents

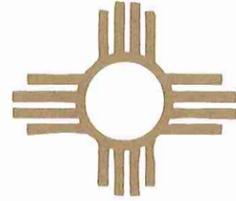
The project team collected the following city and county planning documents were collected for review during the development of alignment alternatives of the Rio Grande Trail:

- Bikeway and Trails Facilities Plan (Albuquerque, NM)
- Bicycle Transportation Plan (Los Alamos County)
- Sierra County Bicycle Plan (Sierra County Transportation Commission/ ISC Transportation consultants)
- Health Assessment (Socorro County)
- Valencia County Mobility Plan (Mid-Region Council of Governments)
- Bicycle Master Plan (City of Taos)
- Las Cruces Trail Map (City of Las Cruces)
- Parks and Recreation Master Plan (Bernalillo County Parks and Recreation Department)



APPENDIX E





The Legislature
of the
State of New Mexico

52nd Legislature, 1st Session

LAWS 2015

CHAPTER 20

HOUSE ENERGY, ENVIRONMENT AND NATURAL RESOURCES

COMMITTEE SUBSTITUTE FOR HOUSE BILL 563, as amended

Introduced by



CHAPTER 20

AN ACT

RELATING TO PARKS; CREATING THE RIO GRANDE TRAIL COMMISSION TO
RECOMMEND POLICIES TO ESTABLISH A RIO GRANDE TRAIL; CREATING
THE RIO GRANDE TRAIL FUND.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF NEW MEXICO:

SECTION 1. RIO GRANDE TRAIL COMMISSION CREATED--
MEMBERSHIP--FUND CREATED--ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT.--

A. The "Rio Grande trail commission" is created to
establish the Rio Grande trail to run the length of the state
from Colorado to Texas. The Rio Grande trail shall be a
recreation trail for New Mexico residents and visitors to
enjoy the natural beauty of New Mexico and the Rio Grande and
learn about the culture and history of New Mexico. The trail
shall be established in a manner that seeks to minimize
environmental impacts and preserve sensitive habitat. The
commission shall define and recommend viable path routes of
the Rio Grande Trail, mitigate challenges related to its
establishment and define and recommend other features,
facilities and enhancements needed on the trail. The
commission shall also make recommendations to the legislature
as needed and report annually to the governor and the
appropriate interim committees that deal with water and
natural resources and rural and economic development. The

1 commission shall consist of members appointed by the secretary
2 of energy, minerals and natural resources and shall include:
3 (1) the secretary of energy, minerals and
4 natural resources or the secretary's designee;
5 (2) the secretary of economic development or
6 the secretary's designee;
7 (3) the secretary of Indian affairs or the
8 secretary's designee;
9 (4) the secretary of transportation or the
10 secretary's designee;
11 (5) the secretary of tourism or the
12 secretary's designee;
13 (6) a representative from each of the
14 following:
15 (a) an organization with trail
16 management experience;
17 (b) the state parks division of the
18 energy, minerals and natural resources department;
19 (c) an organization that specializes in
20 river ecology and conservation, with specific experience in
21 the stated area of the organization's expertise; and
22 (d) an organization that specializes in
23 bird ecology and conservation, with specific experience in the
24 stated area of the organization's expertise; and
25 (7) two members of the public interested in

1 the Rio Grande trail development.
2 B. The secretary shall appoint the chair from
3 among the members of the commission and invite federal
4 entities to be a part of the commission as non-voting members,
5 including the:
6 (1) bureau of land management;
7 (2) bureau of reclamation;
8 (3) international boundary and water
9 commission;
10 (4) national park service;
11 (5) United States army corps of engineers;
12 (6) United States fish and wildlife service;
13 (7) United States forest service; and
14 (8) the offices of the New Mexico
15 congressional delegation.
16 C. The commission shall collaborate and cooperate
17 with the national park service's historic trails project for
18 the El Camino Real historic trail from Mexico to northern New
19 Mexico when appropriate.
20 D. The commission shall be administratively
21 attached to and staffed by the energy, minerals and natural
22 resources department. Members of the commission are entitled
23 to per diem and mileage as provided in the Per Diem and
24 Mileage Act and shall receive no other compensation,
25 perquisite or allowance, contingent upon money being available

1 for this purpose.

2 E. The commission shall:

3 (1) meet at least three times annually;

4 (2) define and recommend viable path routes
5 of the Rio Grande trail that shall be contiguous where
6 possible and include only land that is expressly authorized by
7 the owner, including Indian nations, tribes or pueblos, for
8 inclusion in the Rio Grande trail and not to be acquired by
9 eminent domain;

10 (3) mitigate challenges related to the Rio
11 Grande trail's establishment, including facilitating
12 negotiations and discussions with landowners and jurisdictions
13 surrounding the Rio Grande;

14 (4) define and recommend other features,
15 facilities and enhancements needed on the Rio Grande trail;

16 (5) identify appropriate opportunities for
17 river recreation along the trail;

18 (6) establish a Rio Grande trail commission
19 web site to publish meeting notices, meeting minutes,
20 commission trail recommendations and other appropriate
21 materials;

22 (7) ensure that any recommended designation,
23 construction and use of the trail will minimize environmental
24 impacts;

25 (8) endeavor to avoid areas of significant

1 habitat value and ensure that any recommended designation,
2 design, construction or use of the trail will minimize the
3 impact on habitat;

4 (9) consider the impacts on private and
5 commercial interests;

6 (10) make recommendations to the legislature
7 as needed;

8 (11) prepare and report annually to the
9 governor and the appropriate interim legislative committees
10 related to water and natural resources and economic
11 development;

12 (12) consult with representatives of the
13 following regarding issues within their jurisdiction in
14 development of the Rio Grande trail:

15 (a) each of the conservancy or
16 irrigation districts served by water in the Rio Grande;

17 (b) acequias adjoining the Rio Grande;

18 (c) counties adjoining the Rio Grande;

19 (d) land grants adjoining the Rio
20 Grande;

21 (e) municipalities adjoining the Rio
22 Grande; and

23 (f) Indian nations, tribes or pueblos
24 adjoining the Rio Grande;

25 (13) actively engage the public in the

1 planning process of the Rio Grande trail and display meeting
2 notices, meeting minutes and official commission trail
3 proposals on the Rio Grande trail commission's web site;
4 (14) where feasible, develop multiple
5 options of trail routing, construction design and potential
6 enhancements;
7 (15) prior to making any final decisions
8 regarding trail designation, design and construction, hold
9 public meetings to solicit public input and allow for a
10 written comment period;
11 (16) make a final recommendation based on
12 all factors, including public comments and environmental
13 impacts. In implementation of the Rio Grande trail, the
14 secretary of energy, minerals and natural resources shall
15 describe and publish any variance from commission
16 recommendations on the commission's web site;
17 (17) to the extent feasible, select existing
18 trails for the route of the Rio Grande trail;
19 (18) to the extent feasible, in the case of
20 non-motorized existing trails, avoid widening these trails;
21 (19) in the case of new trails on public
22 lands, construct the trails for non-motorized use; provided,
23 however, that such trails may, but are not required to, be
24 open to power-driven mobility devices for individuals with
25 mobility impairments; and

1 (20) to the extent possible, avoid
2 introduction of non-native material on the trail.

3 F. Eminent domain shall not be used to establish
4 or construct the Rio Grande trail or features, facilities or
5 enhancements associated with the trail.

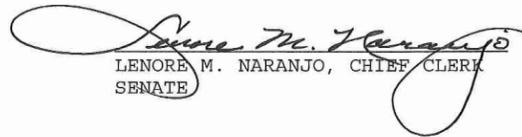
6 G. The "Rio Grande trail fund" is created in the
7 state treasury. The fund consists of appropriations,
8 donations, grants to the fund, income from investment of the
9 fund and money otherwise accruing to the fund. Money in the
10 fund shall not revert to any other fund at the end of a fiscal
11 year. The energy, minerals and natural resources department
12 shall administer the fund, and money in the fund is subject to
13 appropriation by the legislature to the energy, minerals and
14 natural resources department to develop, establish and support
15 the Rio Grande trail. Money in the fund shall be disbursed on
16 warrants signed by the secretary of finance and administration
17 pursuant to vouchers signed by the secretary of energy,
18 minerals and natural resources or the secretary's authorized
19 representative.

20 SECTION 2. EFFECTIVE DATE.--The effective date of the
21 provisions of this act is July 1, 2015. _____


DON TRIPP, SPEAKER
HOUSE OF REPRESENTATIVES


DENISE RAMONAS, CHIEF CLERK
HOUSE OF REPRESENTATIVES


JOHN A. SANCHEZ, PRESIDENT
SENATE


LENORE M. NARANJO, CHIEF CLERK
SENATE

Approved by me this 2nd day of April, 2015


SUSANA MARTINEZ, GOVERNOR
STATE OF NEW MEXICO