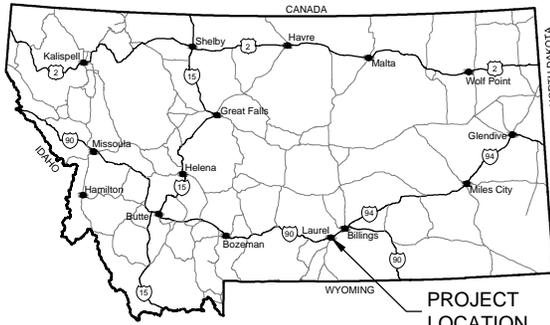
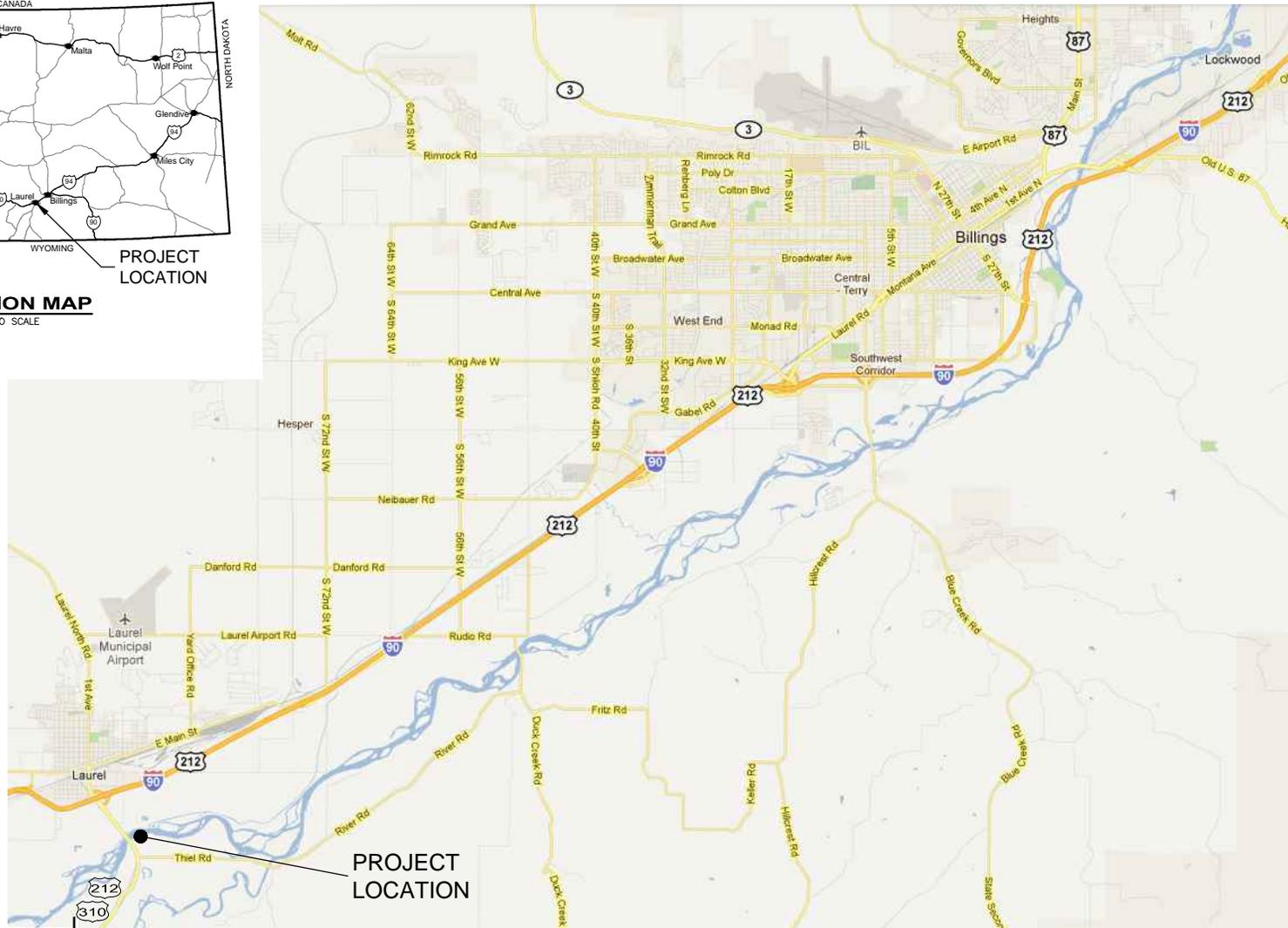

APPENDIX A – FIGURES AND MAPS



LOCATION MAP
NOT TO SCALE

PROJECT
LOCATION



PROJECT
LOCATION



EXHIBIT A-1 LOCATION MAP

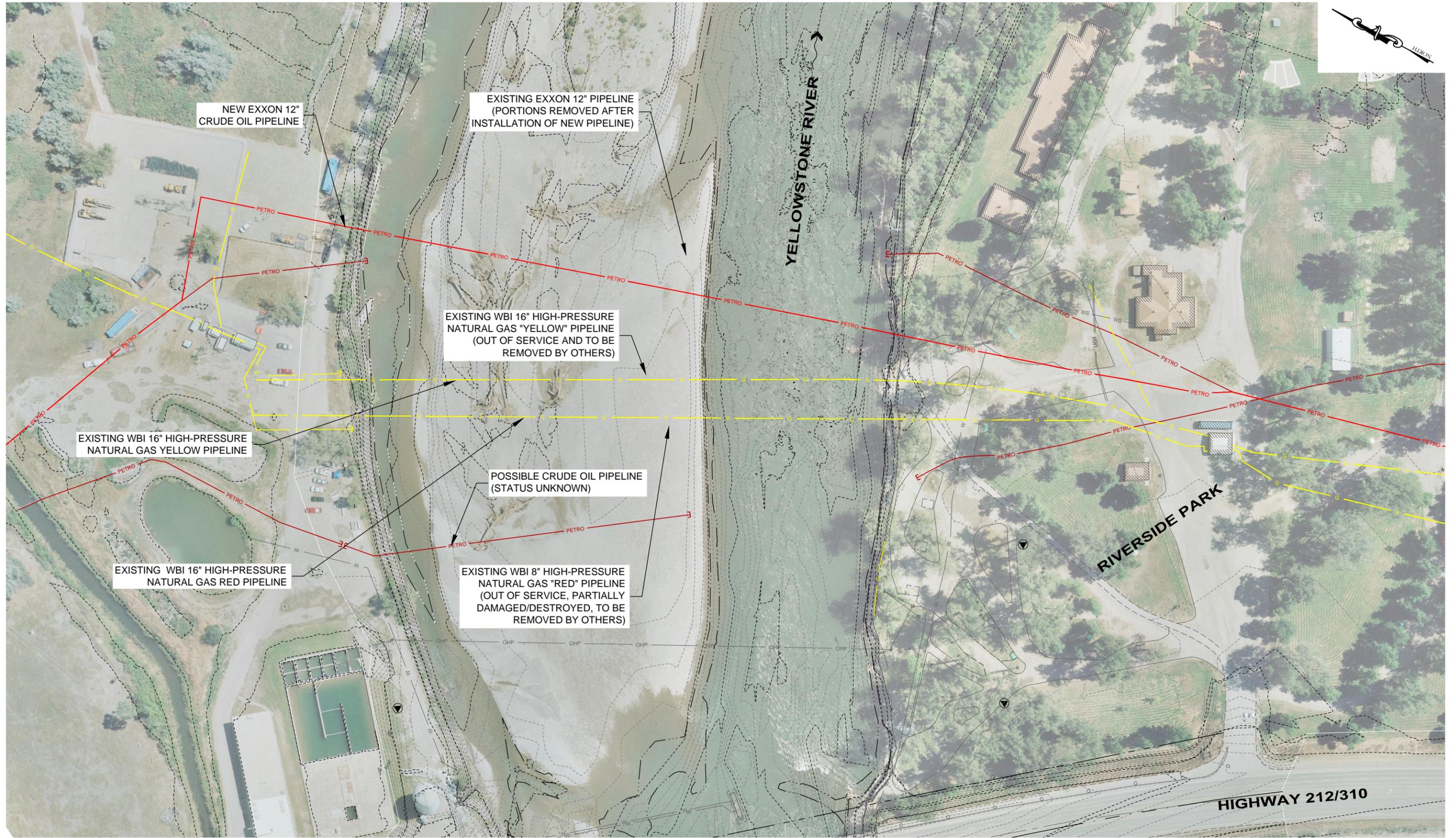
CITY OF LAUREL, MONTANA
WATER TREATMENT PLANT INTAKE FEASIBILITY STUDY



**EXHIBIT A-2
VICINITY MAP**

CITY OF LAUREL, MONTANA
WATER TREATMENT PLANT INTAKE FEASIBILITY STUDY

F:\2-07128-Laurel On-Call\TO 26 - New WTP Intake Study\CADD 2-07128-T026\Exhibits\Fees Study\2-07128-T026-FigA3-Utilities Exhibit.dwg



SITE PLAN
 0 60 120
 SCALE IN FEET
 CONTOUR INTERVAL = 1'



EXHIBIT A-3
EXISTING UTILITIES EXHIBIT
 CITY OF LAUREL, MONTANA
 WATER TREATMENT PLANT INTAKE FEASIBILITY STUDY

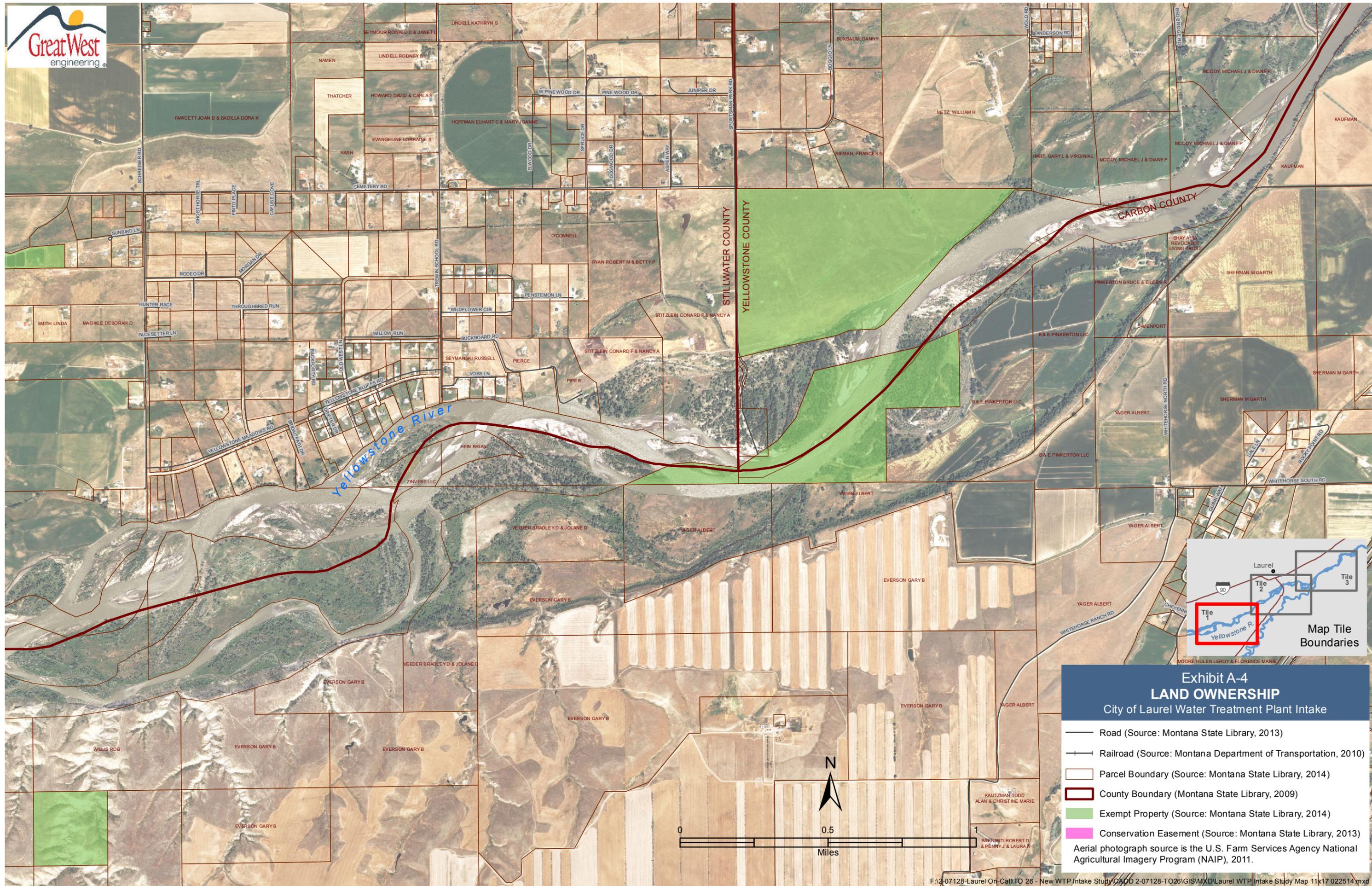
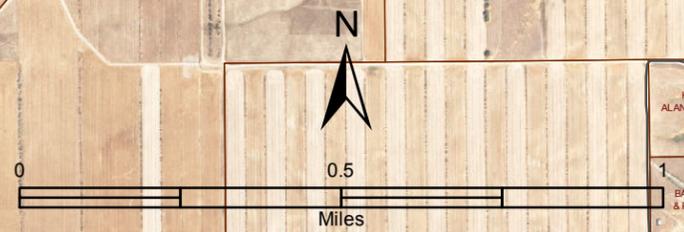


Exhibit A-4
LAND OWNERSHIP
City of Laurel Water Treatment Plant Intake

-  Road (Source: Montana State Library, 2013)
-  Railroad (Source: Montana Department of Transportation, 2010)
-  Parcel Boundary (Source: Montana State Library, 2014)
-  County Boundary (Montana State Library, 2009)
-  Exempt Property (Source: Montana State Library, 2014)
-  Conservation Easement (Source: Montana State Library, 2013)

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.



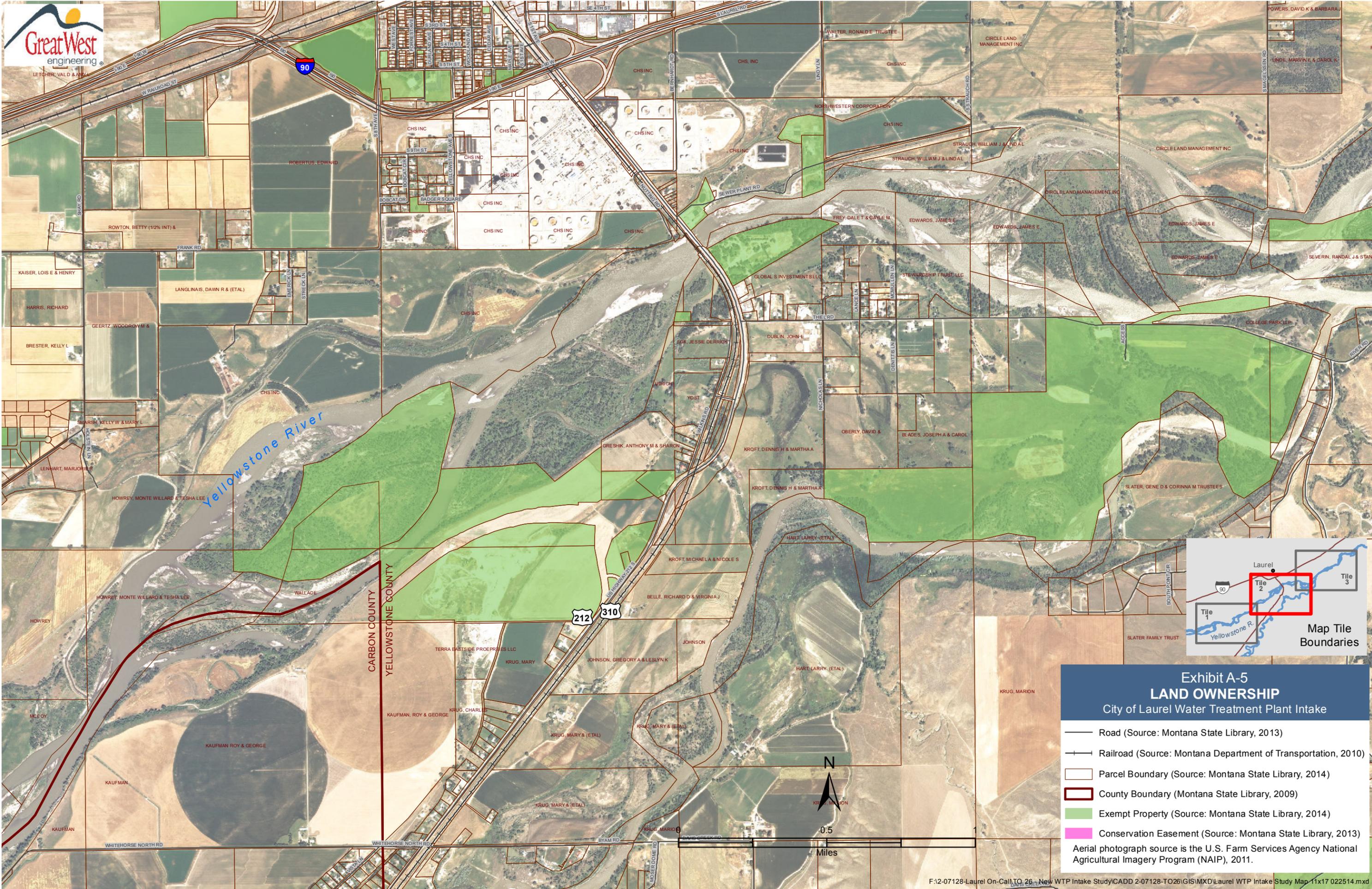


Exhibit A-5
LAND OWNERSHIP
 City of Laurel Water Treatment Plant Intake

- Road (Source: Montana State Library, 2013)
- Railroad (Source: Montana Department of Transportation, 2010)
- Parcel Boundary (Source: Montana State Library, 2014)
- County Boundary (Montana State Library, 2009)
- Exempt Property (Source: Montana State Library, 2014)
- Conservation Easement (Source: Montana State Library, 2013)

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.

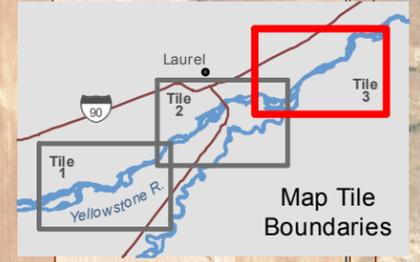
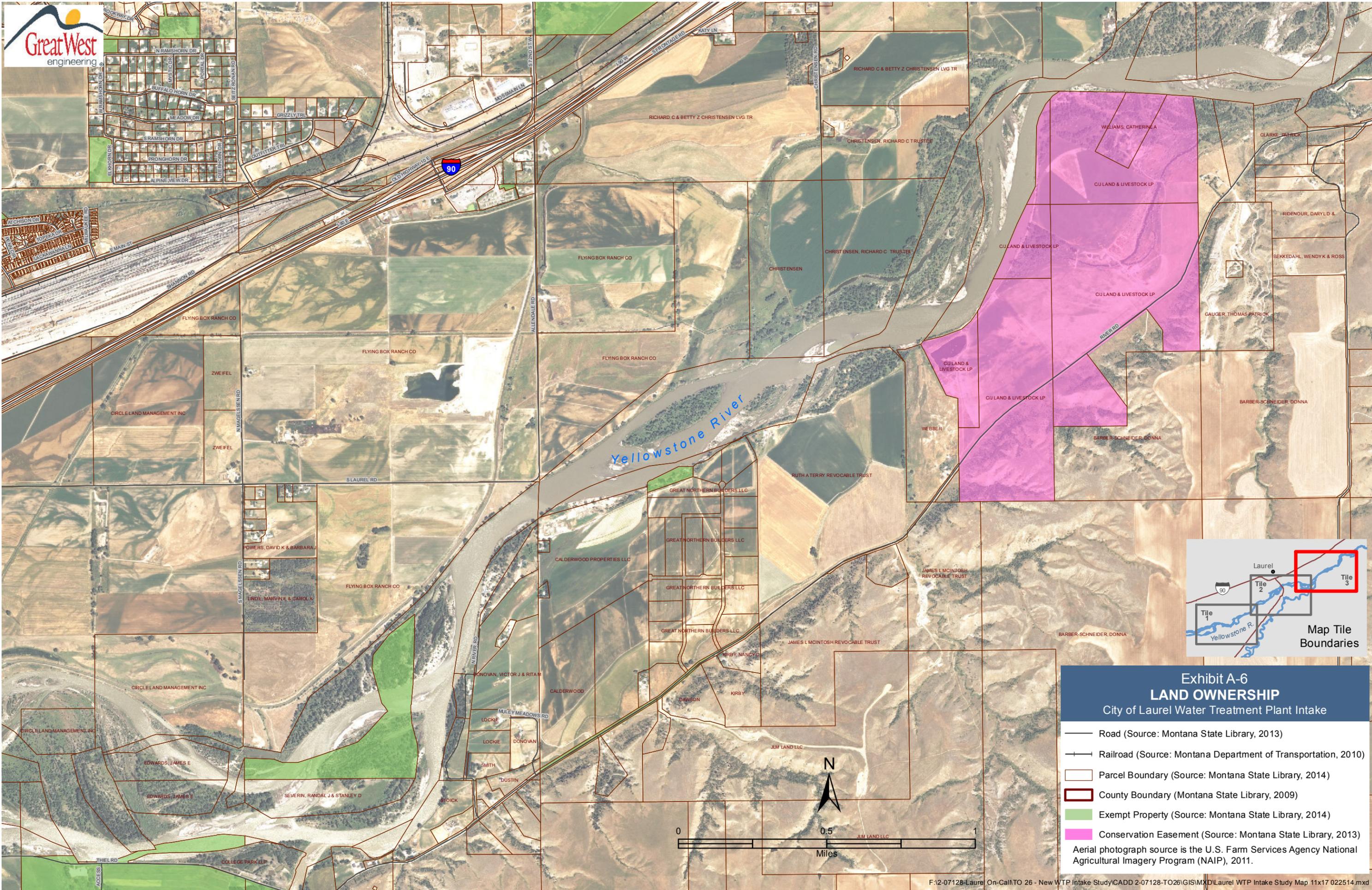


Exhibit A-6
LAND OWNERSHIP
 City of Laurel Water Treatment Plant Intake

- Road (Source: Montana State Library, 2013)
 - +— Railroad (Source: Montana Department of Transportation, 2010)
 - ▭ Parcel Boundary (Source: Montana State Library, 2014)
 - ▭ County Boundary (Montana State Library, 2009)
 - ▭ Exempt Property (Source: Montana State Library, 2014)
 - ▭ Conservation Easement (Source: Montana State Library, 2013)
- Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.

SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A: No Base Flood Elevations determined.
- ZONE AE: Base Flood Elevations determined.
- ZONE AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

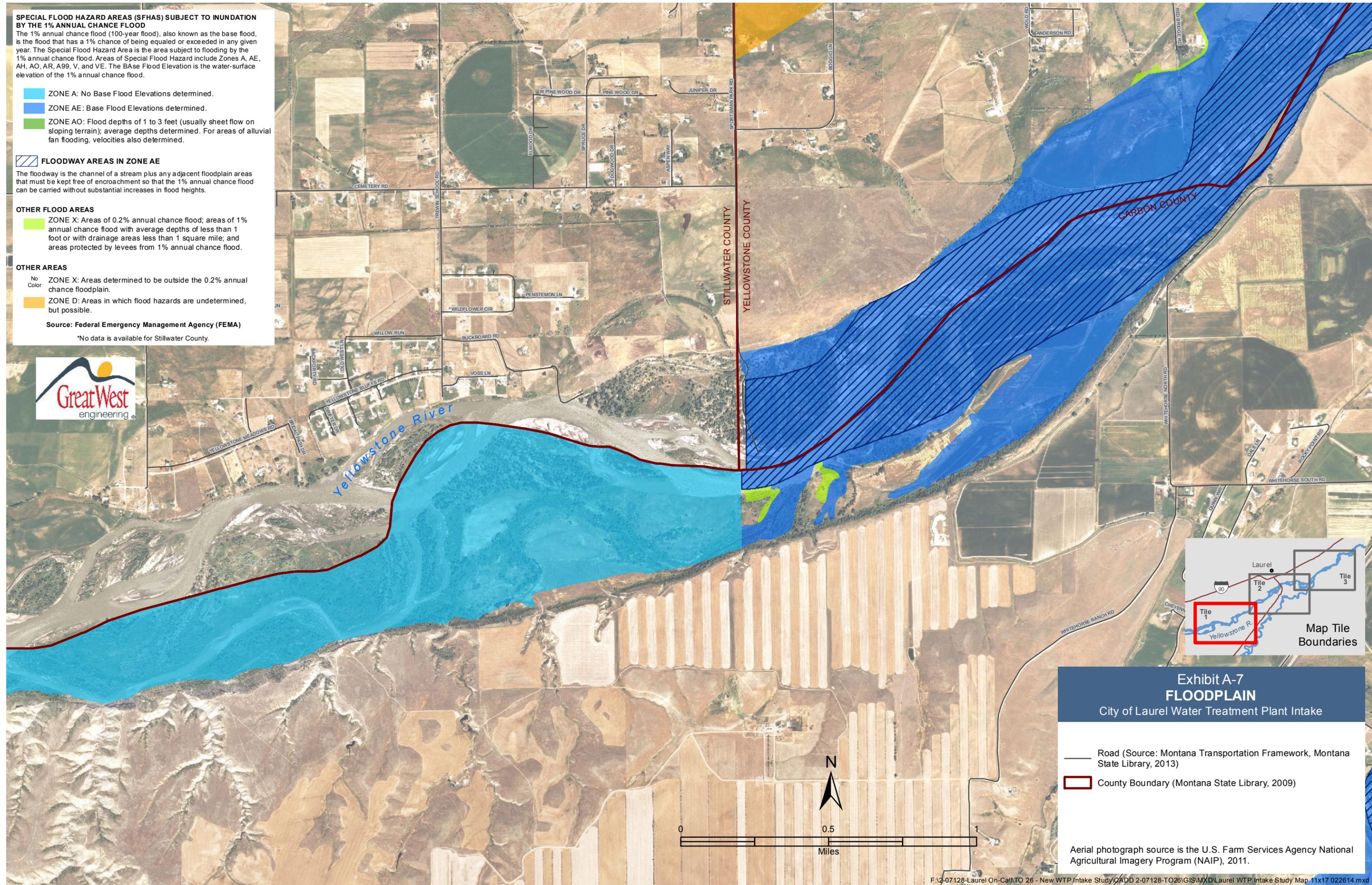
- ZONE X: Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X: Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D: Areas in which flood hazards are undetermined, but possible.

Source: Federal Emergency Management Agency (FEMA)

*No data is available for Stillwater County.



**Exhibit A-7
FLOODPLAIN**
City of Laurel Water Treatment Plant Intake

- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- County Boundary (Montana State Library, 2009)

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.

SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A: No Base Flood Elevations determined.
- ZONE AE: Base Flood Elevations determined.
- ZONE AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

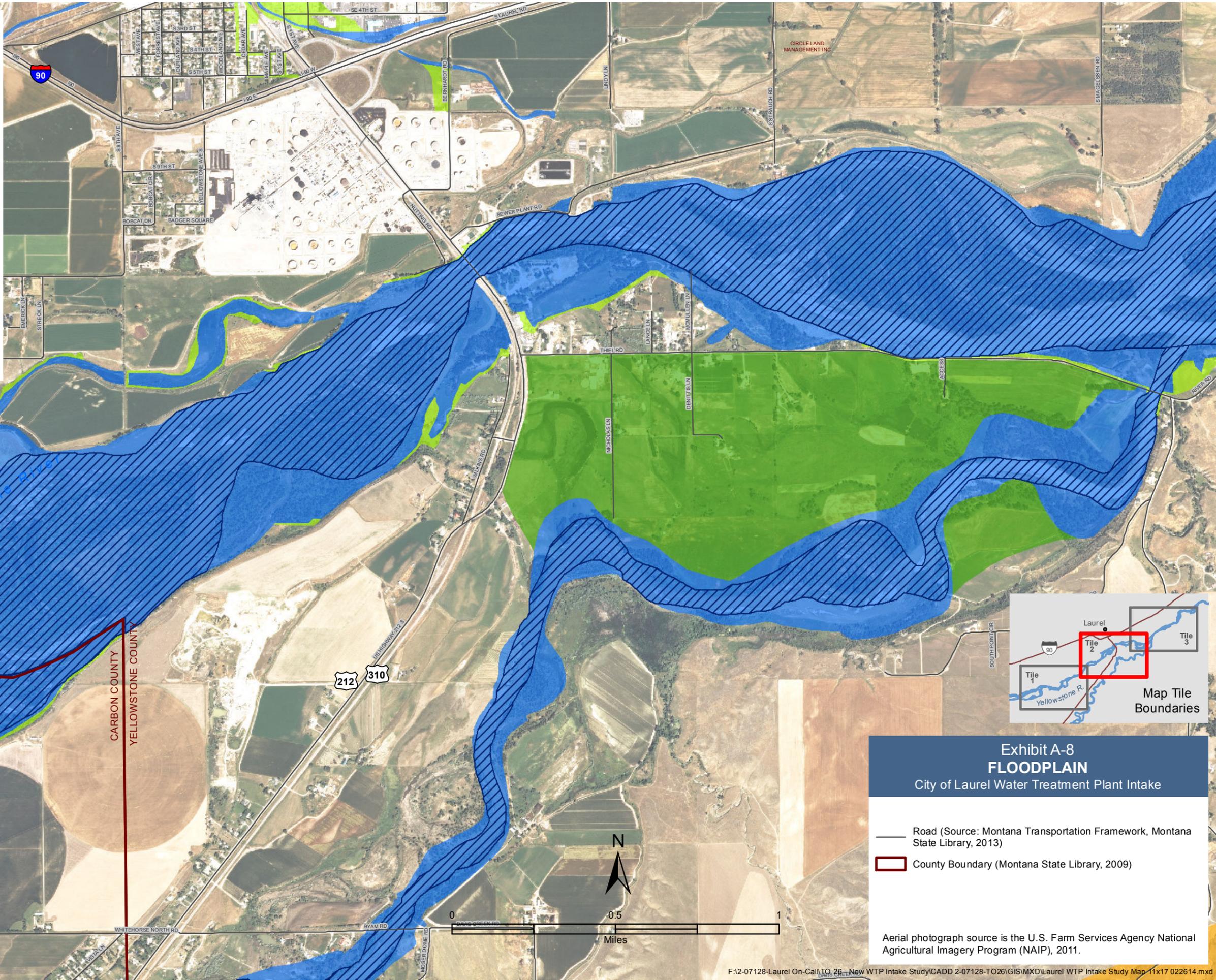
- ZONE X: Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X: Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D: Areas in which flood hazards are undetermined, but possible.

Source: Federal Emergency Management Agency (FEMA)

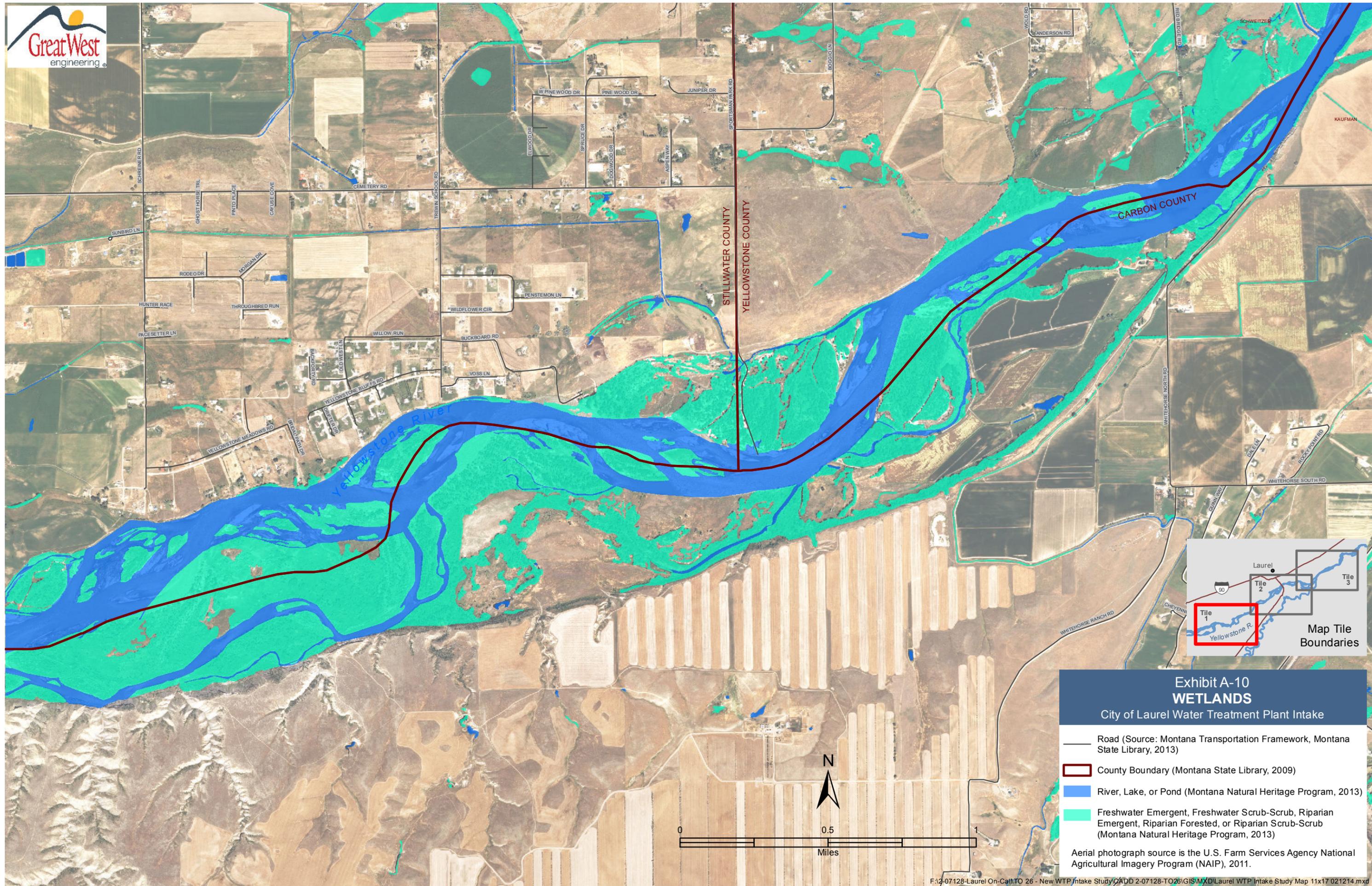
*No data is available for Stillwater County.



**Exhibit A-8
FLOODPLAIN**
City of Laurel Water Treatment Plant Intake

- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- ▭ County Boundary (Montana State Library, 2009)

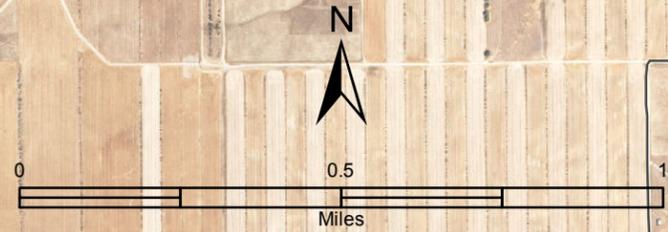
Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.

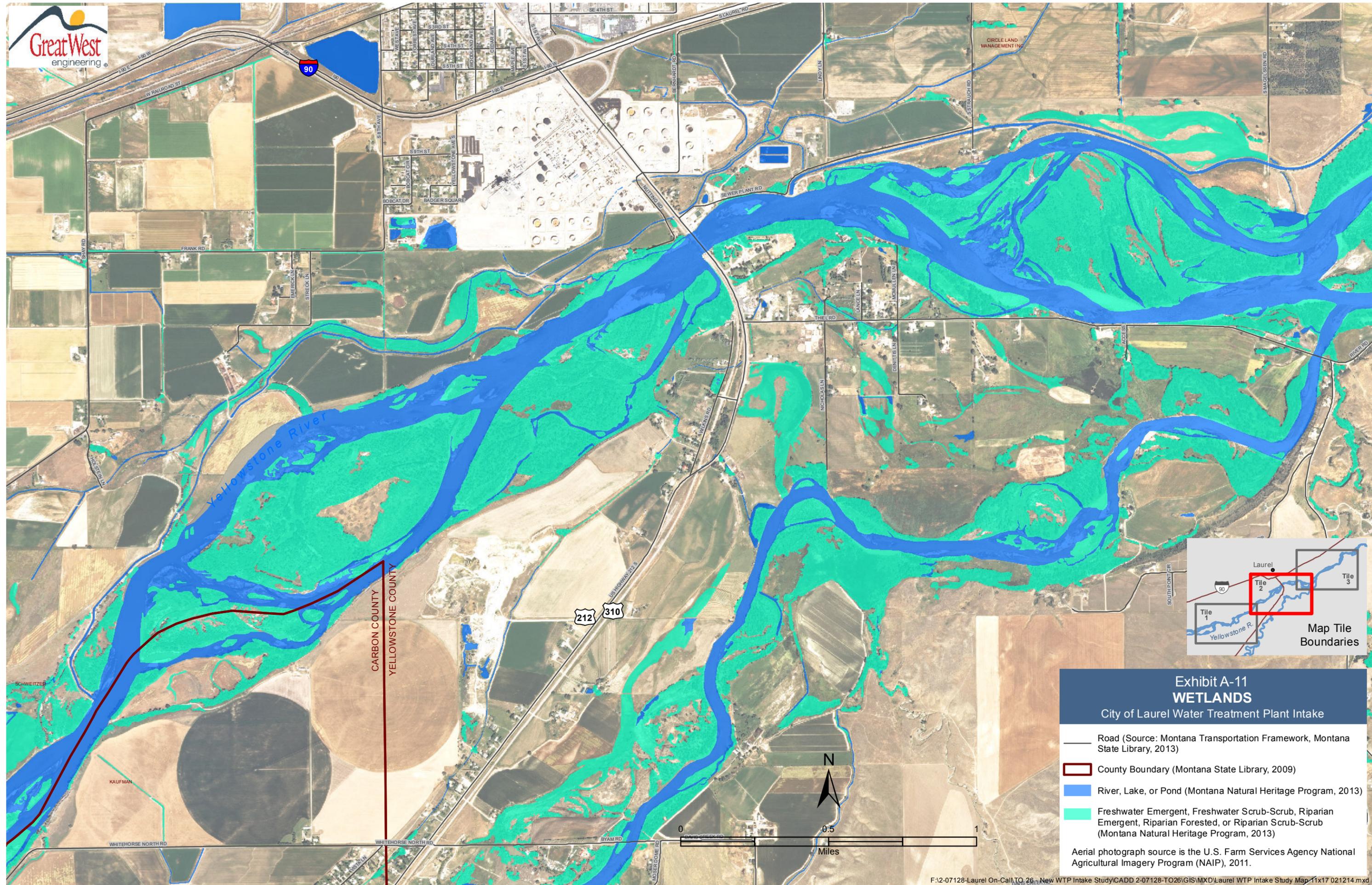


**Exhibit A-10
WETLANDS**
City of Laurel Water Treatment Plant Intake

- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- County Boundary (Montana State Library, 2009)
- River, Lake, or Pond (Montana Natural Heritage Program, 2013)
- Freshwater Emergent, Freshwater Scrub-Scrub, Riparian Emergent, Riparian Forested, or Riparian Scrub-Scrub (Montana Natural Heritage Program, 2013)

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.

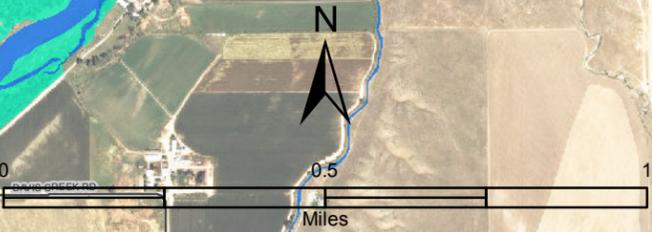




**Exhibit A-11
WETLANDS**
City of Laurel Water Treatment Plant Intake

- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- County Boundary (Montana State Library, 2009)
- River, Lake, or Pond (Montana Natural Heritage Program, 2013)
- Freshwater Emergent, Freshwater Scrub-Scrub, Riparian Emergent, Riparian Forested, or Riparian Scrub-Scrub (Montana Natural Heritage Program, 2013)

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.



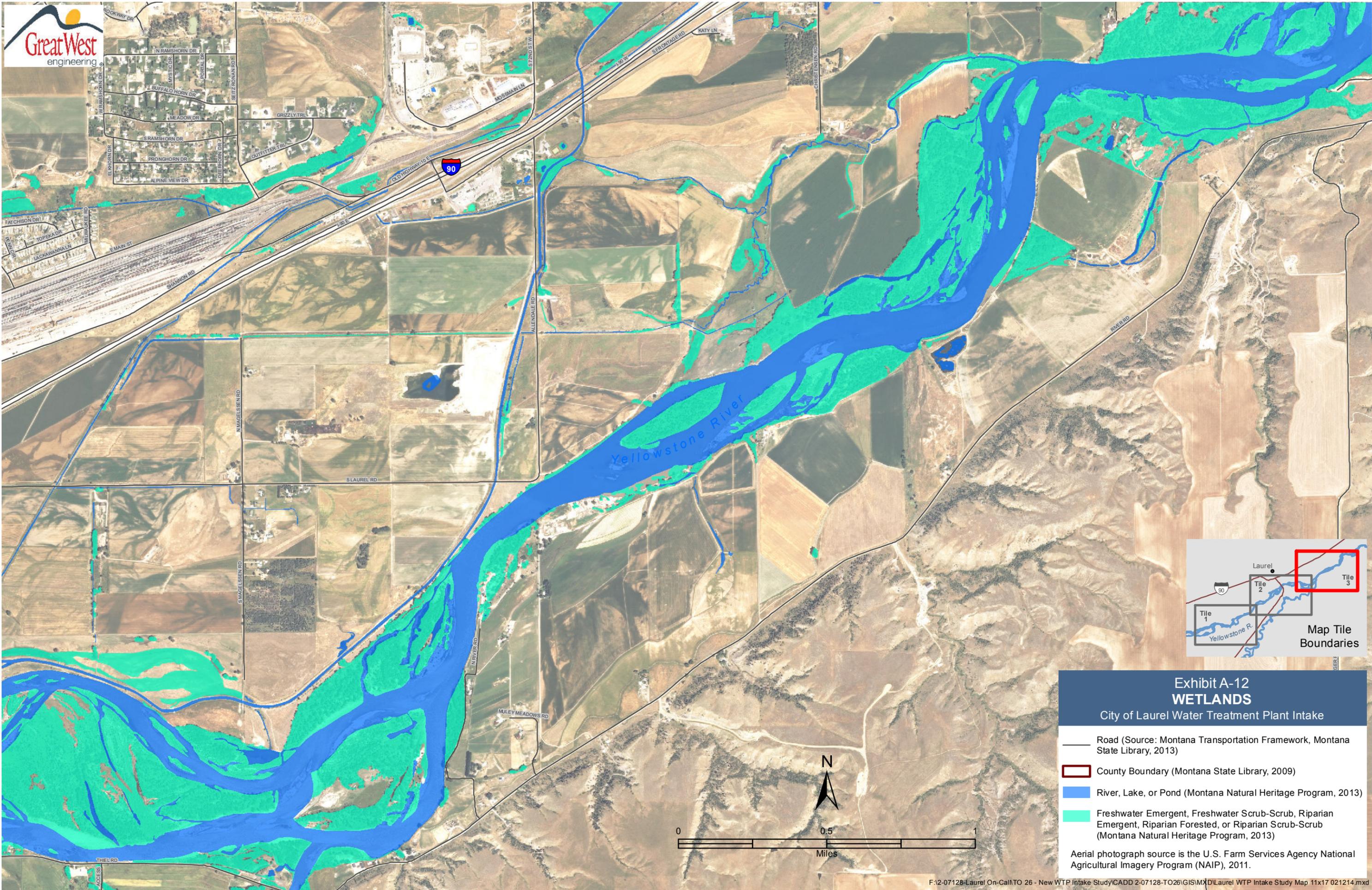


Exhibit A-12
WETLANDS
 City of Laurel Water Treatment Plant Intake

- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- ▭ County Boundary (Montana State Library, 2009)
- ▭ River, Lake, or Pond (Montana Natural Heritage Program, 2013)
- ▭ Freshwater Emergent, Freshwater Scrub-Scrub, Riparian Emergent, Riparian Forested, or Riparian Scrub-Scrub (Montana Natural Heritage Program, 2013)

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.

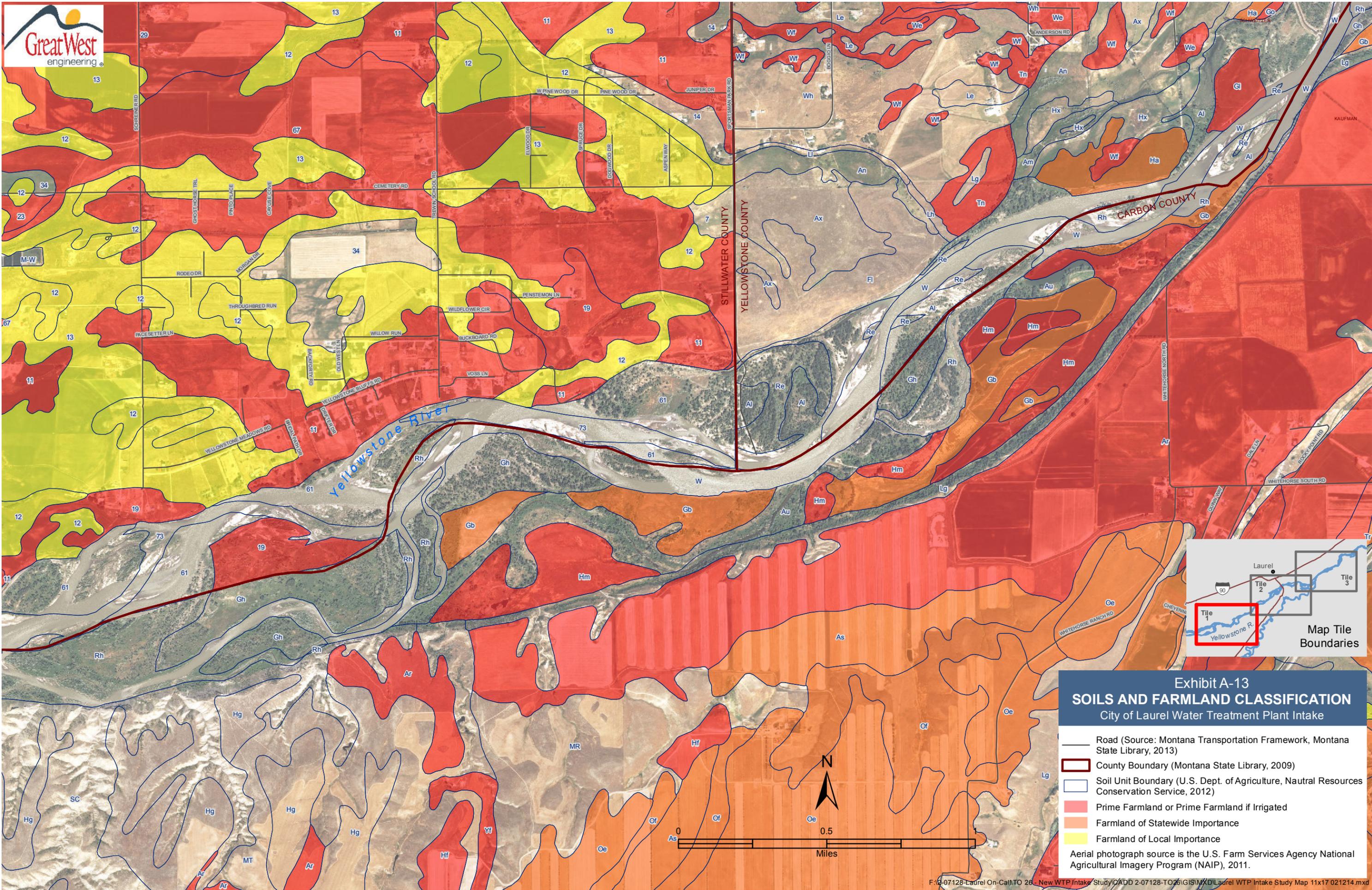
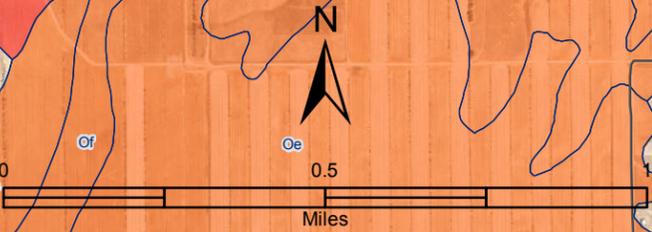


Exhibit A-13
SOILS AND FARMLAND CLASSIFICATION
 City of Laurel Water Treatment Plant Intake

- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- County Boundary (Montana State Library, 2009)
- Soil Unit Boundary (U.S. Dept. of Agriculture, Natural Resources Conservation Service, 2012)
- Prime Farmland or Prime Farmland if Irrigated
- Farmland of Statewide Importance
- Farmland of Local Importance

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.



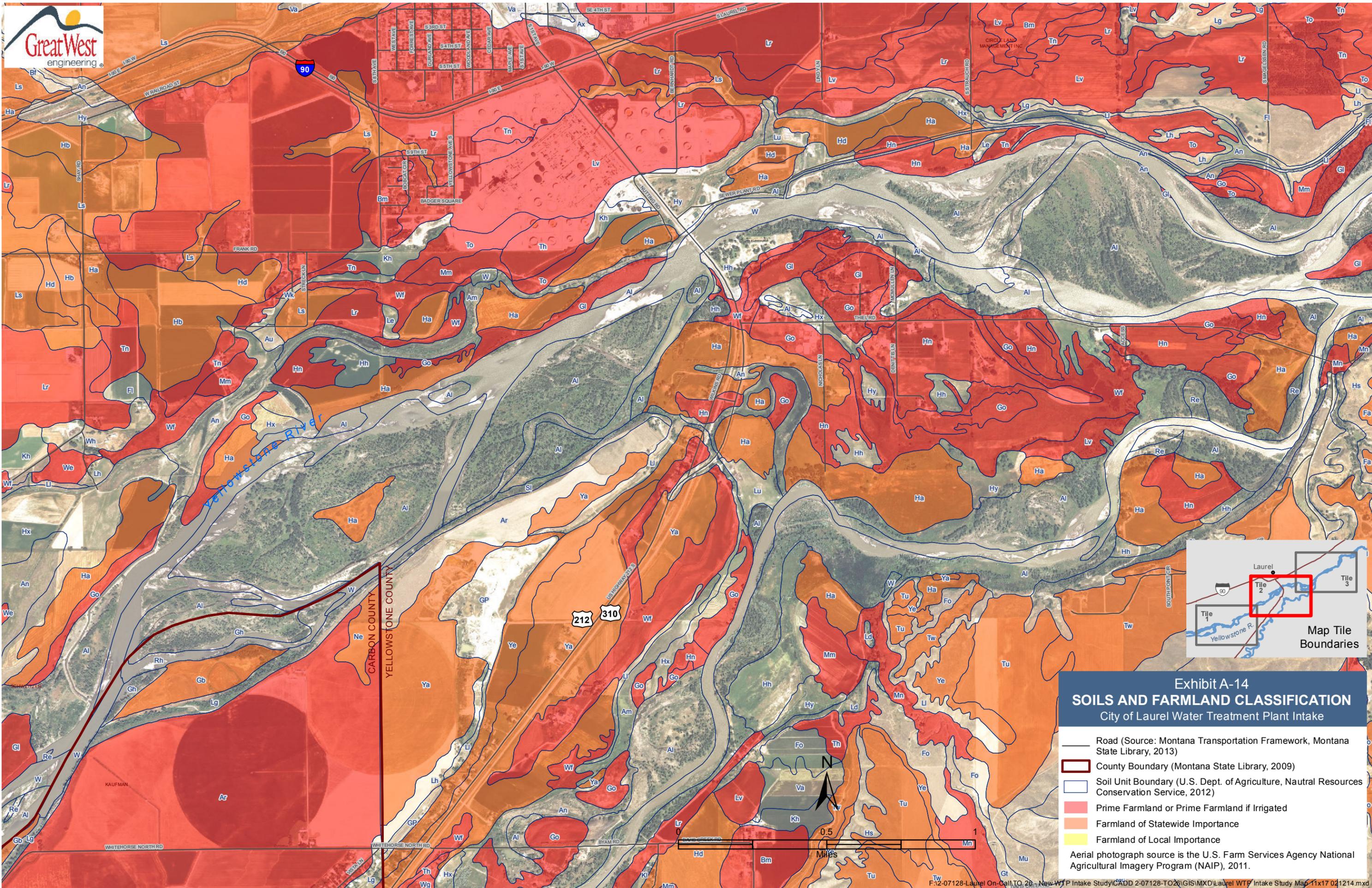
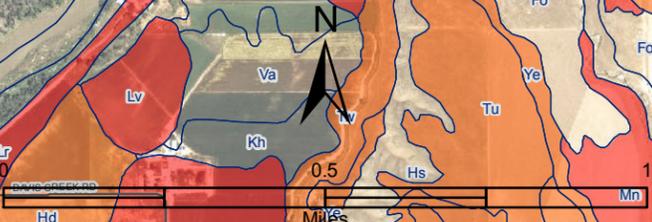


Exhibit A-14
SOILS AND FARMLAND CLASSIFICATION
 City of Laurel Water Treatment Plant Intake

- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- County Boundary (Montana State Library, 2009)
- Soil Unit Boundary (U.S. Dept. of Agriculture, Natural Resources Conservation Service, 2012)
- Prime Farmland or Prime Farmland if Irrigated
- Farmland of Statewide Importance
- Farmland of Local Importance

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.



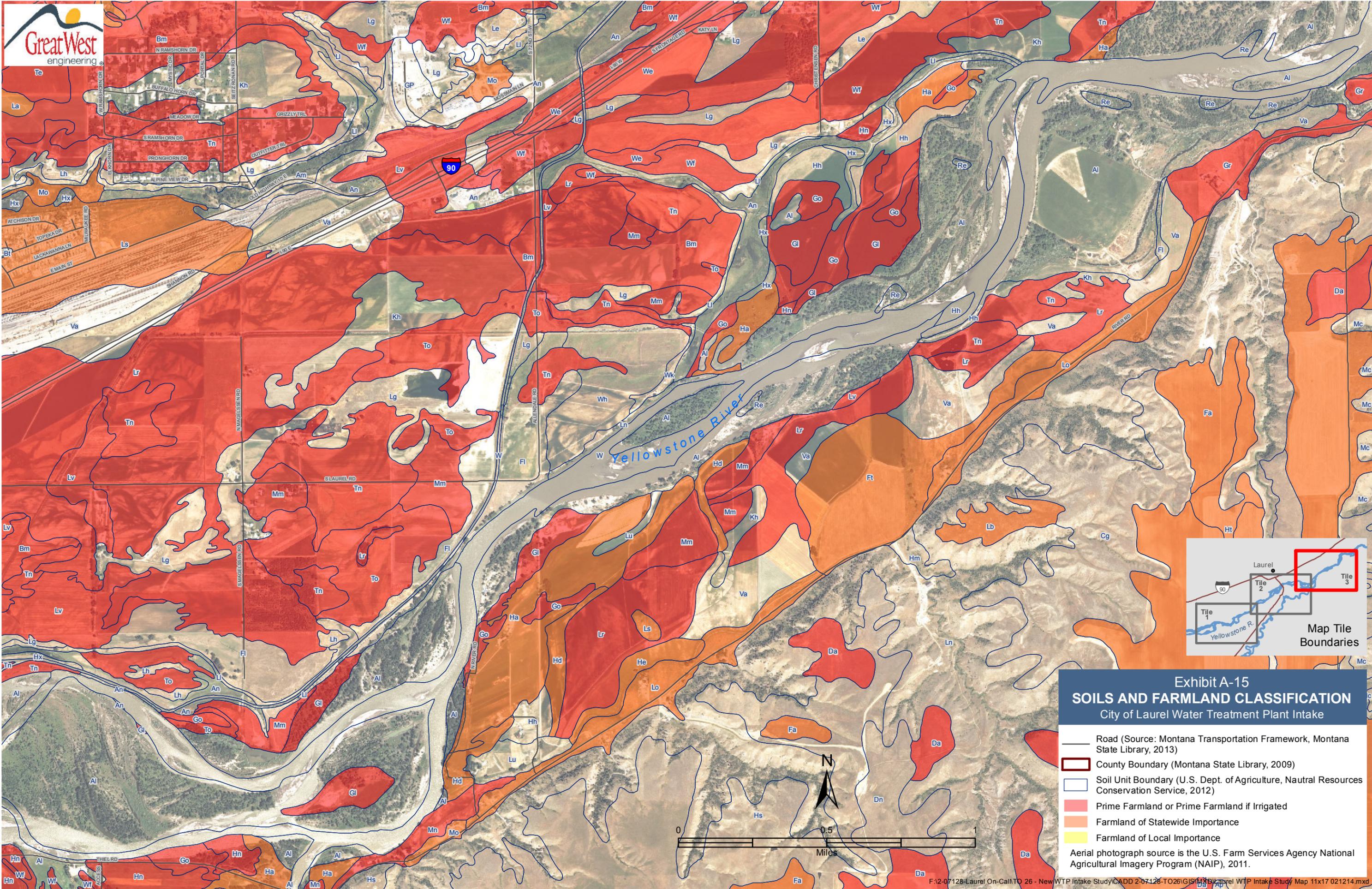
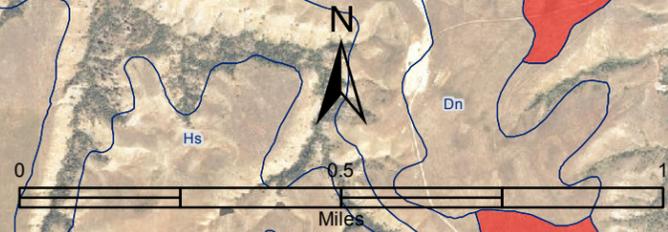
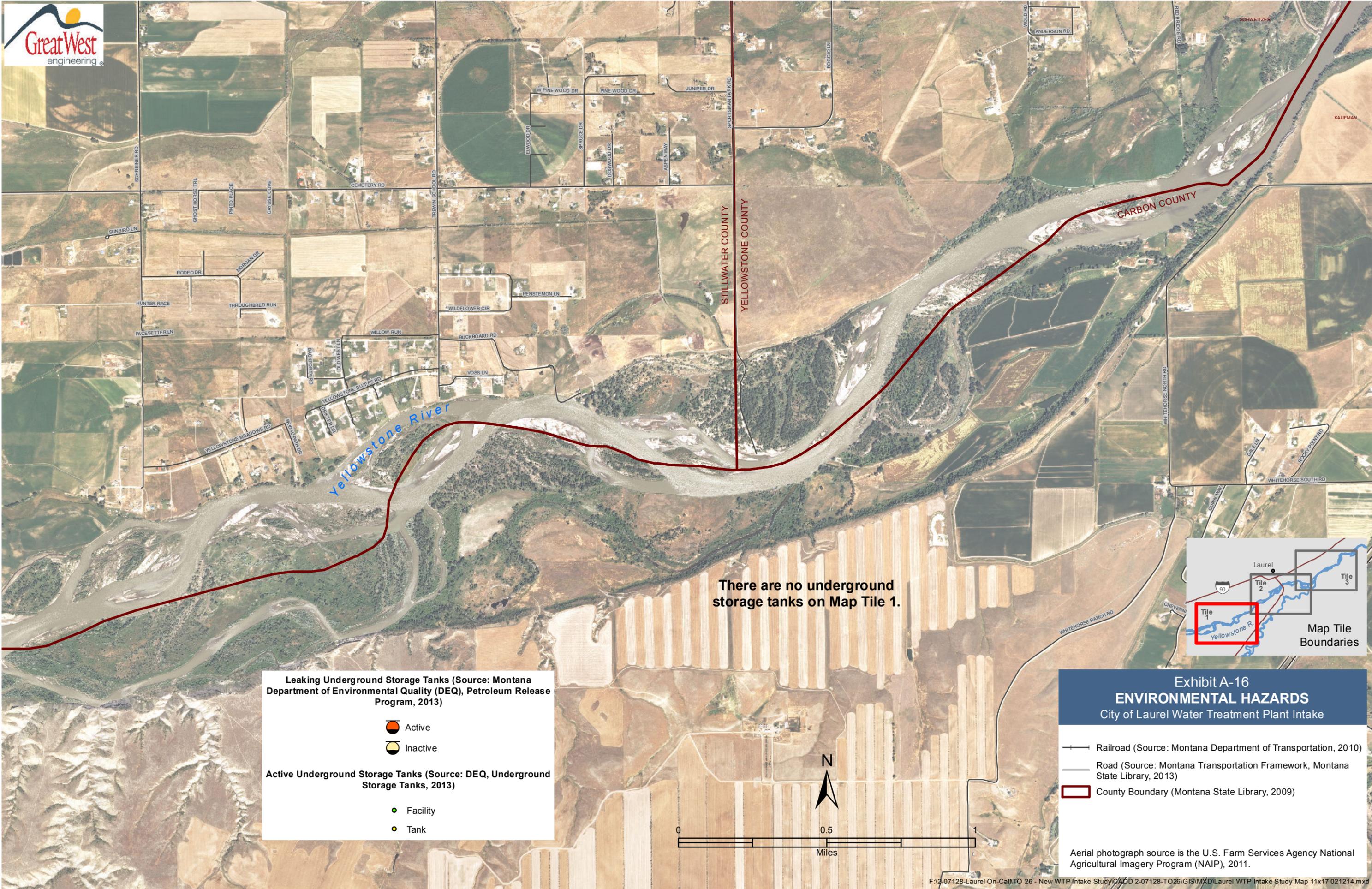


Exhibit A-15
SOILS AND FARMLAND CLASSIFICATION
 City of Laurel Water Treatment Plant Intake

- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- County Boundary (Montana State Library, 2009)
- Soil Unit Boundary (U.S. Dept. of Agriculture, Natural Resources Conservation Service, 2012)
- Prime Farmland or Prime Farmland if Irrigated
- Farmland of Statewide Importance
- Farmland of Local Importance

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.





There are no underground storage tanks on Map Tile 1.



Leaking Underground Storage Tanks (Source: Montana Department of Environmental Quality (DEQ), Petroleum Release Program, 2013)

- Active
- Inactive

Active Underground Storage Tanks (Source: DEQ, Underground Storage Tanks, 2013)

- Facility
- Tank

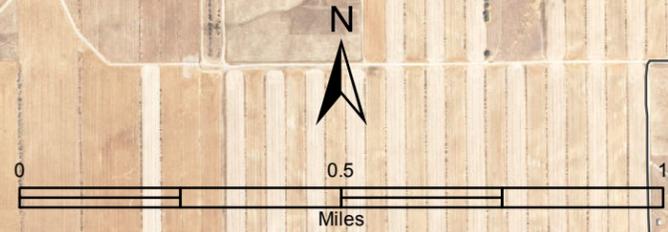
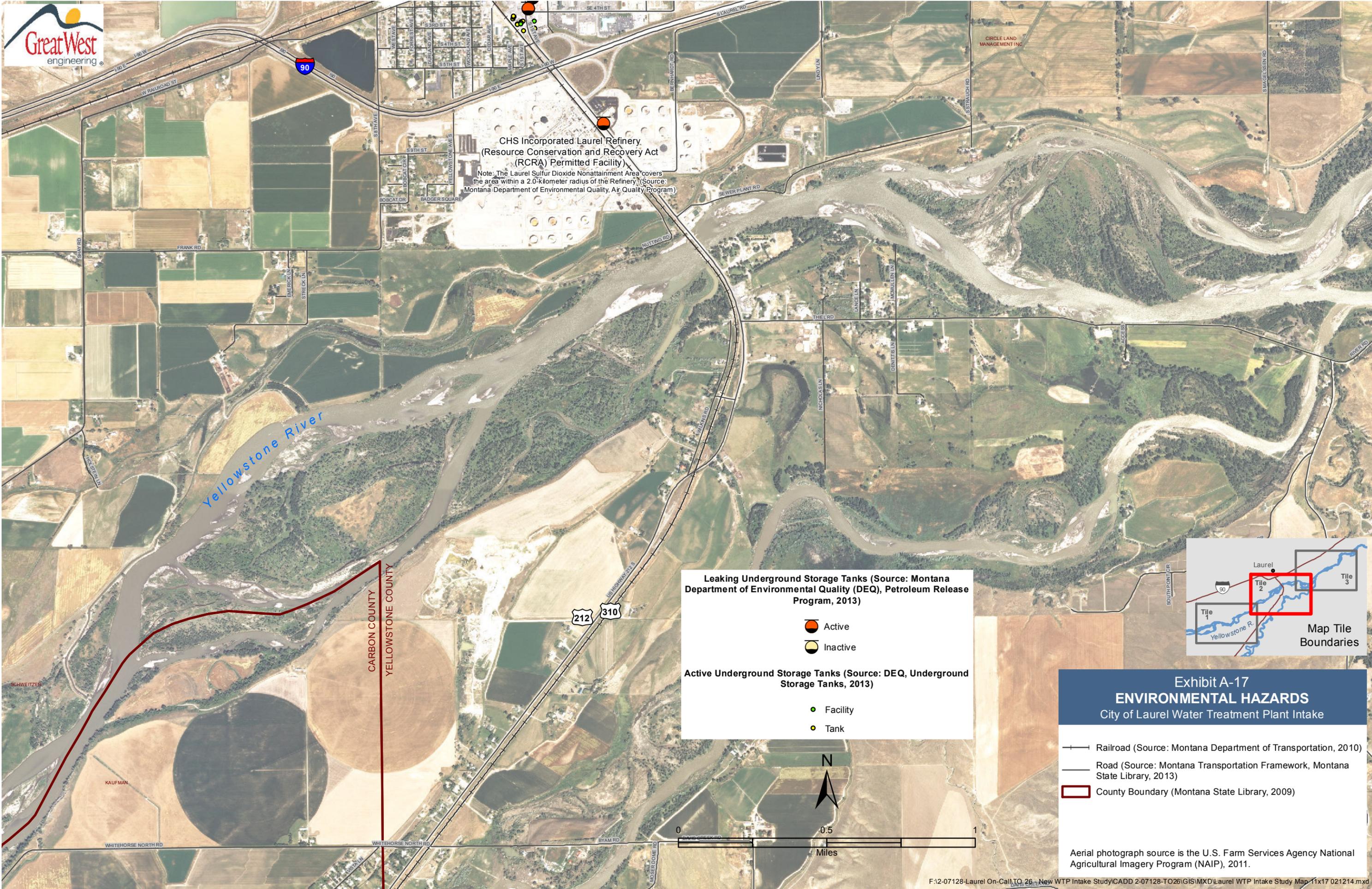


Exhibit A-16
ENVIRONMENTAL HAZARDS
 City of Laurel Water Treatment Plant Intake

- Railroad (Source: Montana Department of Transportation, 2010)
- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- County Boundary (Montana State Library, 2009)

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.



CHS Incorporated Laurel Refinery
 (Resource Conservation and Recovery Act
 (RCRA) Permitted Facility)

Note: The Laurel Sulfur Dioxide Nonattainment Area covers the area within a 2.0-kilometer radius of the Refinery. (Source: Montana Department of Environmental Quality, Air Quality Program)

Leaking Underground Storage Tanks (Source: Montana Department of Environmental Quality (DEQ), Petroleum Release Program, 2013)

- Active
- Inactive

Active Underground Storage Tanks (Source: DEQ, Underground Storage Tanks, 2013)

- Facility
- Tank

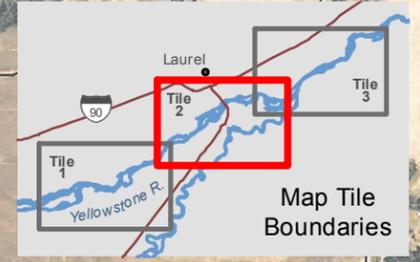
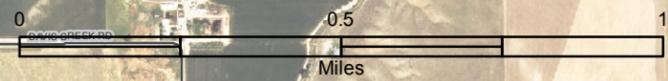
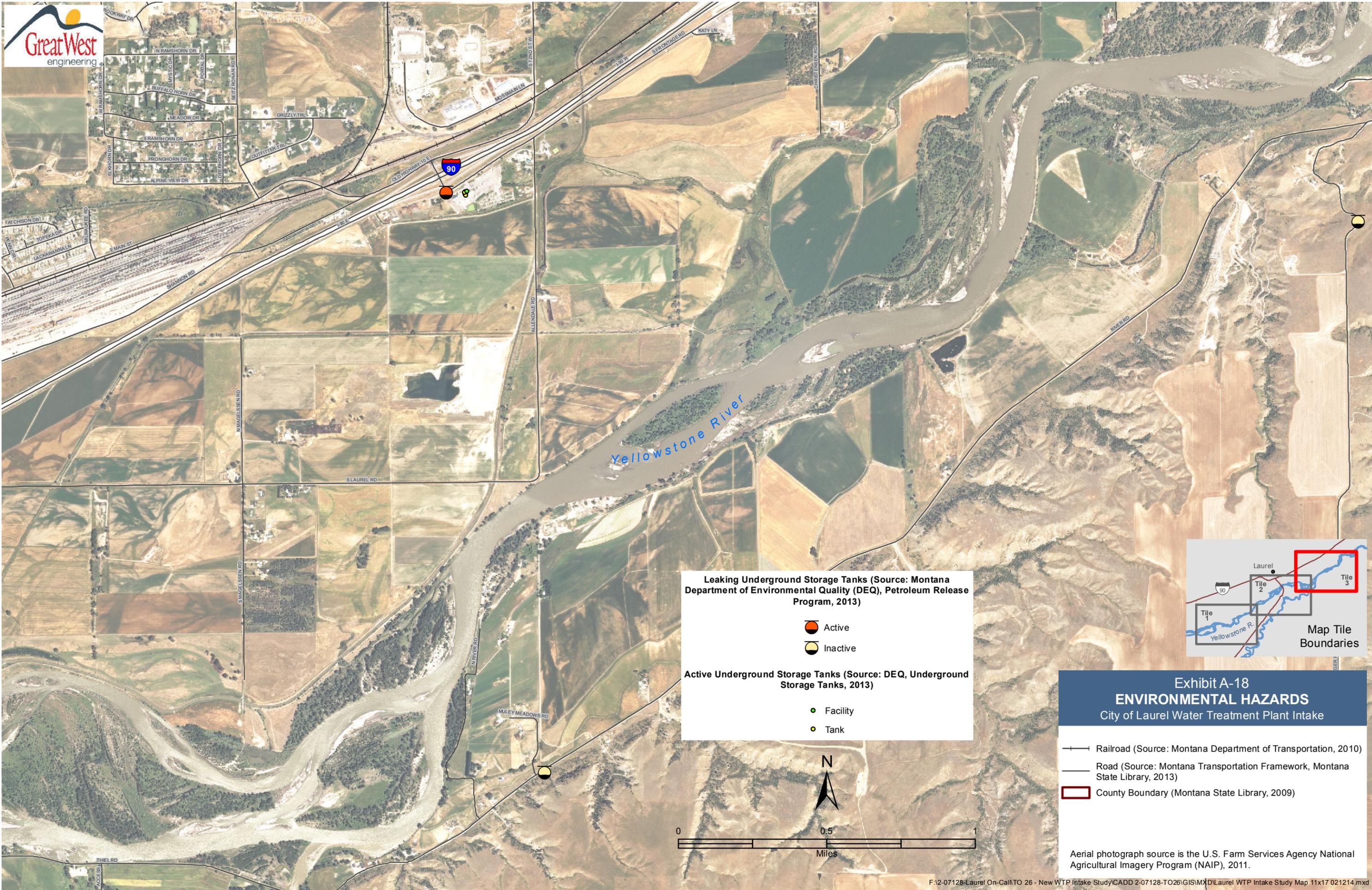


Exhibit A-17
ENVIRONMENTAL HAZARDS
 City of Laurel Water Treatment Plant Intake

- Railroad (Source: Montana Department of Transportation, 2010)
- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- County Boundary (Montana State Library, 2009)



Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.



Leaking Underground Storage Tanks (Source: Montana Department of Environmental Quality (DEQ), Petroleum Release Program, 2013)

-  Active
-  Inactive

Active Underground Storage Tanks (Source: DEQ, Underground Storage Tanks, 2013)

-  Facility
-  Tank

Exhibit A-18
ENVIRONMENTAL HAZARDS
City of Laurel Water Treatment Plant Intake

-  Railroad (Source: Montana Department of Transportation, 2010)
-  Road (Source: Montana Transportation Framework, Montana State Library, 2013)
-  County Boundary (Montana State Library, 2009)

Aerial photograph source is the U.S. Farm Services Agency National Agricultural Imagery Program (NAIP), 2011.



Geologic Units
(Source: Montana Bureau of Mines and Geology, 2000)

- Qal: Alluvium
- Qc: Colluvium
- Qaf: Alluvial Fan Deposits
- Qls: Landslide Deposits
- Qat1: Terrace Gravel, Level 1
- Qat2: Terrace Gravel, Level 2
- Qat3: Terrace Gravel, Level 3
- Qat: Terrace Gravel, Levels 1-3, undivided
- Qat4: Terrace Gravel, Level 4
- Qat5: Terrace Gravel, Level 5
- Tat: Terrace Gravel, Level 6
- Qst: Ancestral Shoshone River Terrace Gravel, Level 1
- Tst1: Ancestral Shoshone River Terrace Gravel, Level 2
- Tst2: Ancestral Shoshone River Terrace Gravel, Level 3
- QTpg: 5Pediment Gravel
- Kl: Lance Formation
- Kb: Bearpaw Shale
- Kjr: Judith River Formation
- Kcl: Claggett Shale
- Ke: Eagle Sandstone
- Ktc: Telegraph Creek Formation
- Kn: Niobrara Formation
- Kca: Carlile Shale
- Kg: Greenhorn Formation
- Kbf: Belle Fourche Shale
- Km: Mowry Shale
- Ktf: Thermopolis Shale
- Kfr: Fall River Sandstone
- Kk: Kootenai Formation

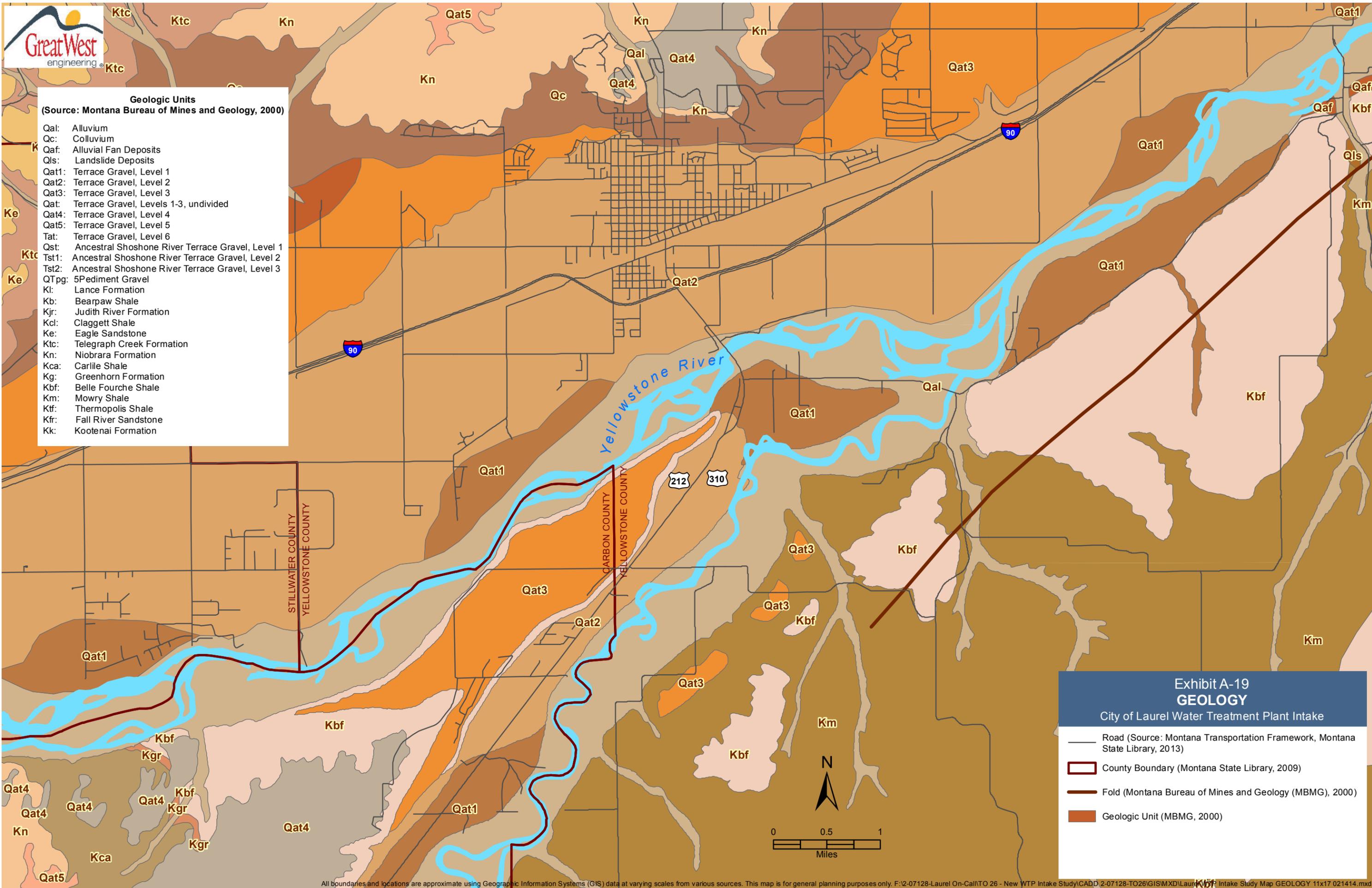


Exhibit A-19
GEOLOGY
City of Laurel Water Treatment Plant Intake

- Road (Source: Montana Transportation Framework, Montana State Library, 2013)
- County Boundary (Montana State Library, 2009)
- Fold (Montana Bureau of Mines and Geology (MBMG), 2000)
- Geologic Unit (MBMG, 2000)