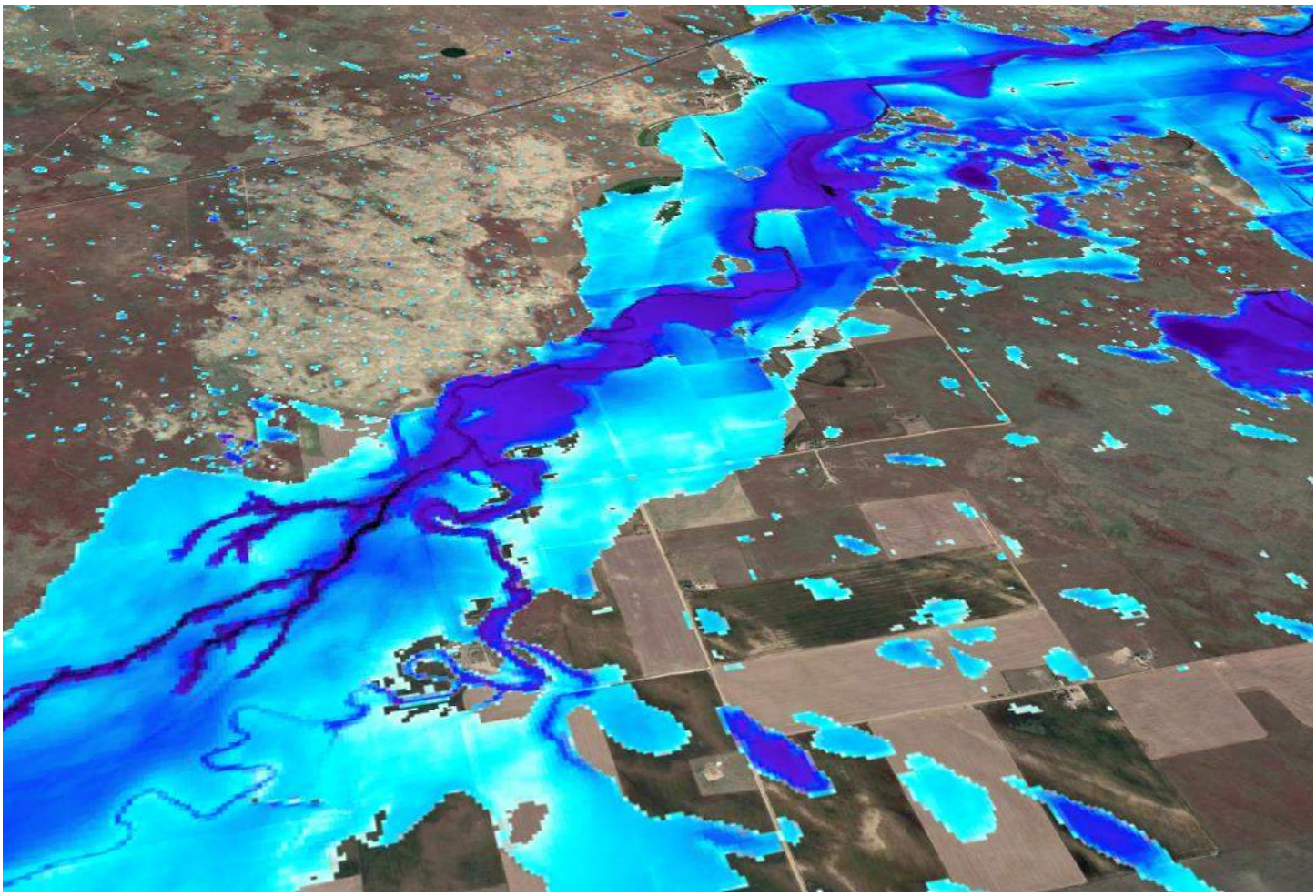

PRELIMINARY HYDROLOGY STUDY

Taelor Solar Project

Weld and Morgan Counties, Colorado

FEBRUARY 8, 2022

PREPARED FOR:

BALANCED ROCK POWER

PREPARED BY:

Westwood

Westwood

Preliminary Hydrology Study

Taelor Solar Project

Weld and Morgan Counties, Colorado

Prepared For:

Balanced Rock Power
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Project Number: R0034723.00
Date: February 8, 2022

Westwood

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Executive Summary

The purpose of this study is to analyze and review the existing hydrology of Phases 1 and 2 of the Taelor Solar Project (Project or Site) and any impacts that the hydrology may play in the design of the proposed solar array. This report was prepared to be used by the Project Team in the design and layout of the Project and not intended for submittal to reviewing agencies for stormwater permitting.

The Project Site is proposed on approximately 17 square miles and is located within Weld and Morgan Counties, Colorado, approximately 2.75 miles southwest of the city of Wiggins in Morgan County, Colorado. The Site is located on rough and varying land that generally slopes inwards towards the onsite reaches. The modeled watershed area encompasses approximately 94 square miles and generally drains northeast.

The analysis of the 100-year, 24-hour storm shows low water depths and velocities (Exhibits 7 through 8A) across the majority of the Site, outside of the onsite reaches and creeks. Higher flood depths and velocities exist within these creeks and their surrounding area. The floodplains onsite are fairly large; however, the flooding is generally well-contained within the floodplain limits. There are also scattered low-lying areas with localized ponding across the Project Site. Minimal velocities and scour are expected on site, outside of the onsite reaches and floodplains, due to the rough terrain and lack of consistent steep slopes.

The analysis of the 50-year, 24-hour storm event yielded similar results to those of the 100-year, 24-hour storm, but with slightly less severe depths, velocities, and scour (Exhibits 10-12).

Based on experience with similar projects, the majority of the Site is suitable for the planned development; however there are portions of the site which will be unusable for solar development, based on the presences of hazardous flows and velocities.

1.0 Data Sources

Table 1 – Data Sources

Task	Format	Source	Use
Elevation	2ft LiDAR	The National Map	FLO-2D Model Elevations
Crop Data	Shapefile	USDA 2013 Crop Data Layer	Landcover
Soils	Shapefile	USGS SSURGO Dataset	Curve Numbers
Precipitation	PDF File	NOAA Atlas 14	Design Storms
HUC-12 Drainage Boundary	Shapefile	USGS	Define Model Extents
Site Boundary	Taelor Solar - Max Footprint2.shp	Balanced Rock Power	Define Model Extents
2014 Aerial Photography	ArcGIS Map Service	USDA FSA	Reference
FEMA Flood Zones	PDF; Shapefile	FEMA	Reference
Culvert Locating and Sizing	Aerial Imagery	Google Earth	Culvert Modeling
Peak Flowrates	PDF	USGS StreamStats	Inflow Hydrographs

2.0 Coordinate System

Table 2 – Coordinate System Used

Projection	State Plane Coordinate System
Zone	Colorado North (FIPS 501)
Datum	NAD83
Planar Units	Feet (U.S. Survey)

3.0 Existing Conditions

3.1 Project Location

The Project Site, Phases 1 and 2 of the Taelor Solar Project, covers approximately 17 square miles and is located within Weld and Morgan Counties, Colorado (Exhibit 1). The Project Site is located approximately 50 miles northeast of Denver, with the nearest town being Wiggins in Morgan County, Colorado. Wiggins is located 2.75 miles northeast of the Project Area (Exhibit 1).

3.2 Watershed Hydrology

The modeled watershed area encompasses approximately 94 square miles that generally discharges to the northeast. The watershed is primarily defined by Kiowa Creek, which originates south of the Project, entering the Project through its southwest corner and flowing northeast through its limits. Kiowa Creek is defined by a fairly wide floodplain, which can range from 2,000 ft to over a mile in width.

Jack Rabbit Creek flows into Kiowa Creek just within the southwest limits of the Site, also originating from the south, but just west of Kiowa Creek.

Rock Creek enters the watershed from the south, approximately 5 miles east of Kiowa Creek, and then flows north through the eastern portion of the Site. Rock Creek then flows into Kiowa Creek within the northeastern corner of the Project.

An additional unnamed tributary of Kiowa Creek enters the watershed from the southeast. The tributary flows north-northwest just east of the project, before flowing into Kiowa Creek roughly 2,500 ft downstream of its junction with Rock Creek, just off the eastern limits of the Site.

See Exhibits 2 and 3 for geospatial displays of the watershed and its features.

3.3 Onsite Conditions

The Project is located on varying landscape, defined by several reaches as well as distributed patches of rougher terrain. The northwestern portion of the site generally is rougher, containing rolling slopes of 1% to 4%, with rougher distributions of a sort of prairie-pothole landscape, defined by many pockets of low-lying depressions. This area minimally discharges; however, there is a subtle drainage pattern towards Kiowa Creek to the southeast.

The majority of the stretch of land extended from the southwestern corner to the northeastern corner of the Site is defined by the channel and floodplain of Kiowa Creek. The floodplain is generally flatter, with more consistent slopes generally less than 0.5%. The southeastern banks are generally made up of rolling terrain with slopes generally between 1% to 4%, whereas the northwestern banks are more

comprised of the rough, prairie-pothole landscape. Kiowa Creek discharges offsite to the northeast.

The eastern portion of the project is generally covered by the channel and floodplain of Rock Creek, as it flows north and merges with Kiowa Creek. The banks are generally made up of the rolling landscape; however, there are small instances of isolated rough prairie-pothole patches. The majority of the runoff from this portion of the site discharges offsite to the northeast via Kiowa Creek.

US Fish and Wildlife Service National Wetlands Inventory (NWI Wetlands) provides information on the distribution of US wetlands and are shown in Exhibit 3. The NWI Wetlands dataset is not all-inclusive and other wetlands not shown may exist. The landcover on the Project area is primarily pastureland and agricultural row crops (Exhibit 6) and has soils that are primarily belonging to Hydrologic Soil Group (HSG) A (Exhibit 5). Typically, A soils are sands.

The main potential hydrologic issues on Site are riverine flooding and erosive velocities, although isolated pockets of ponding should also be considered.

3.4 FEMA Flood Zones

FEMA has completed a study to determine flood hazards for the selected location; the project area is covered by FIRM panels 08087C0575D, 08123C2035E, 08123C2050E, and 08087C0555D (Appendix C). FIRM panels 08123C2035E and 08123C2050E are within Weld County and have not yet been printed; however, electronic flood zones have been delineated for portions of these panels. The Project contains areas of FEMA Zone A flood hazards (Exhibits 3, 7, and 10), particularly associated with Rock Creek and the portions of Kiowa Creek within Morgan County. A FEMA Zone A flood hazard is a 100-year flood hazard with no defined base flood elevation. Preliminary FIRM panels have been issued for Weld County; however, they have not yet been made available or effective.

4.0 Proposed Conditions

4.1 Proposed Conditions

The majority of the proposed solar facility will consist of above ground mounted solar modules. A climate-specific grass seed mix should be planted below the modules and would make up a majority of the land cover. A small amount of impervious surface will be added from the gravel access roads and electrical equipment pads. The Project should be designed to minimize grading and maintain existing drainage patterns. A flood analysis of pre-development and post development depths may need to be completed once civil design is finalized for permitting purposes.

4.2 Post-Construction Stormwater Management

A desktop review of Weld County and Morgan County Stormwater Management and Drainage Requirements identified the 2020 Weld County Engineering and Construction Criteria manual, the Morgan County Zoning Regulations, and the Mile High Flood District (MHFD) Criteria Manual. As the Site design progresses, these manuals and documents should be referenced in order to assure that the Site design complies with any rate control, volume control, or water quality requirements that are outlined within them.

The typical solar project's low-impact development technique of converting the land cover from a row crop field to a meadow grass will provide post-construction stormwater management to meet most agency requirements. The proposed meadow grass will act as a vegetated filter providing both runoff treatment and reduction when compared to existing conditions. As the Project design advances, the post-construction stormwater management should be reviewed in further detail with the County Engineer.

5.0 FLO-2D Modeling

5.1 FLO-2D Modeling Overview

FLO-2D is a physical process model that routes rainfall runoff and flood hydrographs over flow surfaces or in channels using the dynamic wave approximation to the momentum equation. FLO-2D offers advantages over 1-D models and unit hydrograph methods by allowing for breakout flows and visualization of flows across a potential site. The primary inputs are a DTM (elevation data), curve numbers, and precipitation. No culverts were included in the model; all roadways and berms were assumed to overtop.

A FLO-2D model with 50-foot grid cells was utilized to model the watershed within and directly impacting the Project Site.

5.2 Elevation Data

The elevation data input into the FLO-2D model was 2ft LiDAR data from The National Map (Exhibit 6). This data was exported as a single digital terrain model (DTM), which is read directly into FLO-2D.

5.3 Watershed Soils and Land Cover

USDA-NRCS SSURGO soil data provides soil types within the Project boundary and full coverage of the contributing watershed. Soils are primarily classified as Hydrologic Soil Group (HSG) A within the Project boundary (Exhibit 4). Land cover was obtained from the USDA 2013 Crop Data Layer. Exhibit 5 displays the land cover classes for the entire watershed. Curve numbers were applied to each

grid cell in the FLO-2D model based on intersecting the grid with the curve numbers (Exhibit 6).

5.4 Precipitation

Precipitation data was downloaded from NOAA Atlas 14 (Appendix A) and used for the FLO-2D analysis for the 100-Year and 50-Year, 24-Hour storm events. Using the 100-Year and 50-Year rainfall depths of 4.54 inches and 3.95 inches, respectively, for this location allows for the best initial analysis in order to determine the worst areas of flooding and erosion during multiple different storm events. Rainfall inputs were distributed based on a site-specific nested Atlas 14 distribution pattern.

5.5 Inflows

Jack Rabbit Creek, Kiowa Creek, Rock Creek, and an Unnamed Tributary of Kiowa Creek all flow into the modeled watershed. USGS StreamStats provides 50-year and 100-year peak flow rates for these reaches (Appendix D). In order to account for these flows, inflow hydrographs were created at each location where these reaches enter the modeled watershed. Table 3 below displays the flow rates for each reach and flood event. See Exhibits 7 and 10 for inflow locations.

Table 3 – Inflow Rates

Reach	50-Year Peak Flow (cfs)	100-Year Peak Flow (cfs)
Jack Rabbit Creek	3,250	4,660
Kiowa Creek	28,900	40,700
Rock Creek	8,780	12,500
Unnamed Tributary	2,750	3,940

6.0 Flood Analysis Results

6.1 Existing Conditions Flood Analysis

The 100-year, 24-hour analysis shows low to moderate water depths and low velocities (Exhibits 7 through 8A) across the majority of the Site, outside of the influence of the onsite reaches. During a 100-year storm, the flood depths across the majority of the Project Area are less than 0.5 feet with velocities less than 1 foot/second, with the exception of the flows within the main onsite creeks and their associated floodplains. The 100-year flood depths within the onsite portions of the main channels of Kiowa Creek and Rock Creek can easily exceed 10ft, whereas the depths within the floodplains are generally between 2ft to 8ft. The area where the two creeks converge results in a large area of more significant flooding, due to the convergence of the creeks' floodplains. Although the extents of the floodplains are fairly wide, the flooding within them is generally well-contained to the floodplain

limits. The 100-year peak velocities within the channels can exceed 13 ft/second, whereas the velocities within the floodplain are generally between 1 ft/second and 6 ft/second. The majority of flood depths and velocities associated with the unnamed tributary to the east do not directly encroach onto the Project Area itself.

In addition to the riverine flooding, there are additional areas of isolated flooding within the more prairie-pothole portions of the site, particularly to the northwest. The 100-year flood depths within these pothole areas are generally less than 5ft, but have minimal velocities due to their disconnected nature. The presence of HSG A soils within the Project will likely help these flood depths infiltrate more quickly. See Table 3 below for a breakdown of 100-year flood depths within the Project Site.

Table 4 – Flood Depths Onsite

Peak Flow Depth (ft)	Percentage of Project Area Covered by Peak Flow Depths
0.00 - 0.49	56.5%
0.50 - 1.00	4.5%
1.01 - 1.50	5.6%
1.51 - 2.00	6.4%
2.01 - 2.50	5.9%
2.51 - 3.00	4.6%
3.01 - 4.00	5.9%
4.01 - 6.00	6.6%
6.01+	4.0%

See Exhibits 7 through 8A for areas within the Project with higher flood depths and velocities during the 100-year, 24-hour storm.

Overall, the results of the 50-year, 24-hour storm model were similar to those of the 100-year, 24-hour storm, but with slightly lower extremes. The exceedance of 13 ft flood depths within the creek channels is less common during the 50-year storm, although it still occurs in some areas. The majority of channel depths are generally less than 10 ft. Similarly, the presence of floodplain depths in excess of 7ft is less common during the 50-year storm, with the majority of the floodplain depths being less than 5ft. Within the isolated ponding locations, flood depths rarely exceed 4ft. Channel velocities are generally less than 10 ft/second, with floodplain velocities generally between 1 ft/second and 5.5 ft/second. See Exhibits 7 through 8A for areas within the Project with higher flood depths and velocities during the 50-year, 24-hour storm.

6.2 Scour

Minimal scour is expected onsite, outside of the main reaches and their associated floodplains, during both the 50-year and 100-year storms (Exhibits 9 and 12). The scour depths calculated for this Project are based on HEC-18 Pier Scour Equations of a 6-inch-wide pile perpendicular to flow. Scour calculations consist of local scour only with unarmored soils and pile bases to provide the conservative local scour results. These scour results do not account for general, rill, or gully scour.

7.0 Recommendations

Based on experience on similar projects, the majority of the Site is suitable for the planned development; however, portions of the site, as is seen in Table 4 as well as Exhibits 7-12, will be unsuitable for solar development, due to the presence of hazardous flows and velocities. These areas should be reviewed and considered as Site design progresses, for areas of avoidance, as well as any potential locations where infrastructure could be designed to accommodate higher flood depths. Additionally, local stormwater requirements and regulations should be reviewed as the design progresses, in order to ensure Site compliance.

8.0 Next Steps

1. Final engineering design should account for the flood depths and velocities presented in Exhibits 7-11A.
2. Facilities to be elevated 1' above the 100-year, 24-hour peak flood elevations.
3. Proposed facilities should avoid FEMA Flood Zones located onsite.
4. Stormwater management should be revisited to ensure the final design meets the local and state requirements.

9.0 Included Output Files

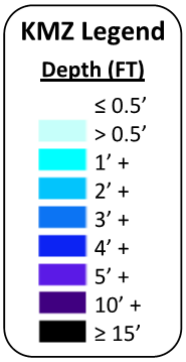
1. Shapefile of 100-Year Rain Event Flow Depth
   2022-02-08_Taelor_PrelimFlowDepthatCell_100yr.shp
   Attribute "ID" = Grid Cell Number
   Attribute "VAR" = Max Flow Depth (Feet)

2. Shapefile of 100-Year Rain Event Velocity
   2022-02-08_Taelor_PrelimVelocityatCell_100yr.shp
   Attribute "ID" = Grid Cell Number
   Attribute "VAR" = Max Velocity (Feet)

3. Shapefile of 50-Year Rain Event Flow Depth
   2022-02-08_Taelor_PrelimFlowDepthatCell_50yr.shp
   Attribute "ID" = Grid Cell Number
   Attribute "VAR" = Max Flow Depth (Feet)

4. Shapefile of 50-Year Rain Event Velocity
   2022-02-08_Taelor_PrelimVelocityatCell_50yr.shp
   Attribute "ID" = Grid Cell Number
   Attribute "VAR" = Max Velocity (Feet)

5. KMZ of FLO-2D Results
   2022-02-08_Taelor_PrelimFLO-2D.kmz
   Overlay in Google Earth for graphical representation.



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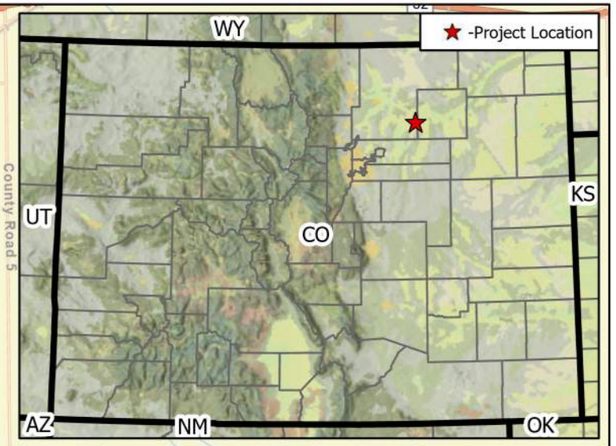
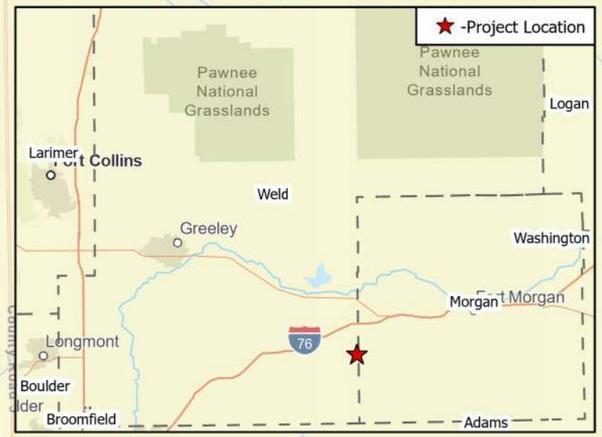
Exhibits





Wiggins
Roggen
Krauss
South Roggen
Monahan Lakes
French Lake
Walle Lake
Weld
Morgan
County Road 5
County Road 73
County Road 87
County Road F
Highway 52
76
52
79

Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- County Boundary
- FLO-2D Boundary

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N

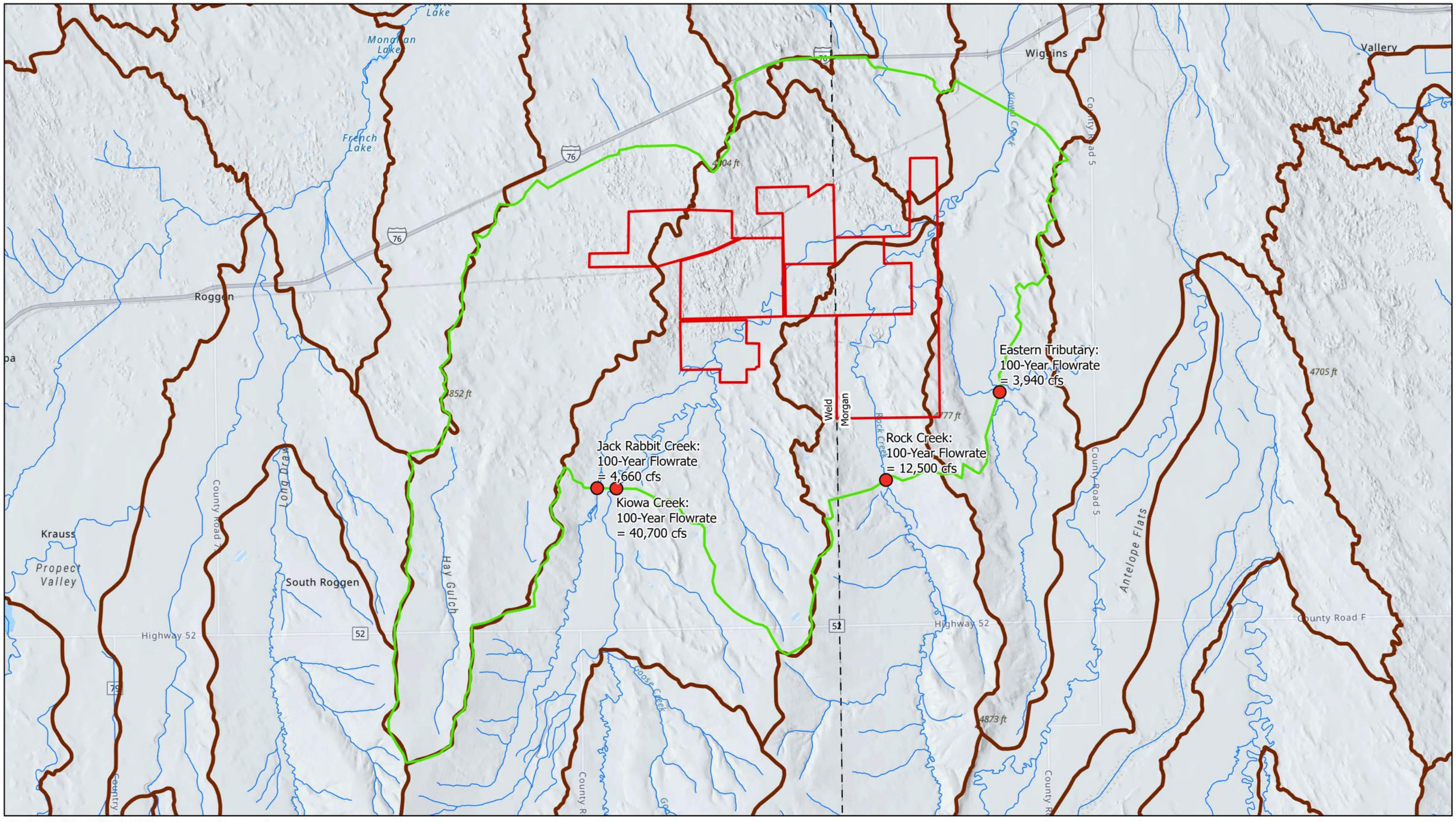
0 Miles 1.75

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 1: Location Map

February 7, 2022



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- HUC-12 Boundary
- NHD Flowlines
- Inflow Location

N

0 1 Miles

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 2: Base Hydrologic Map

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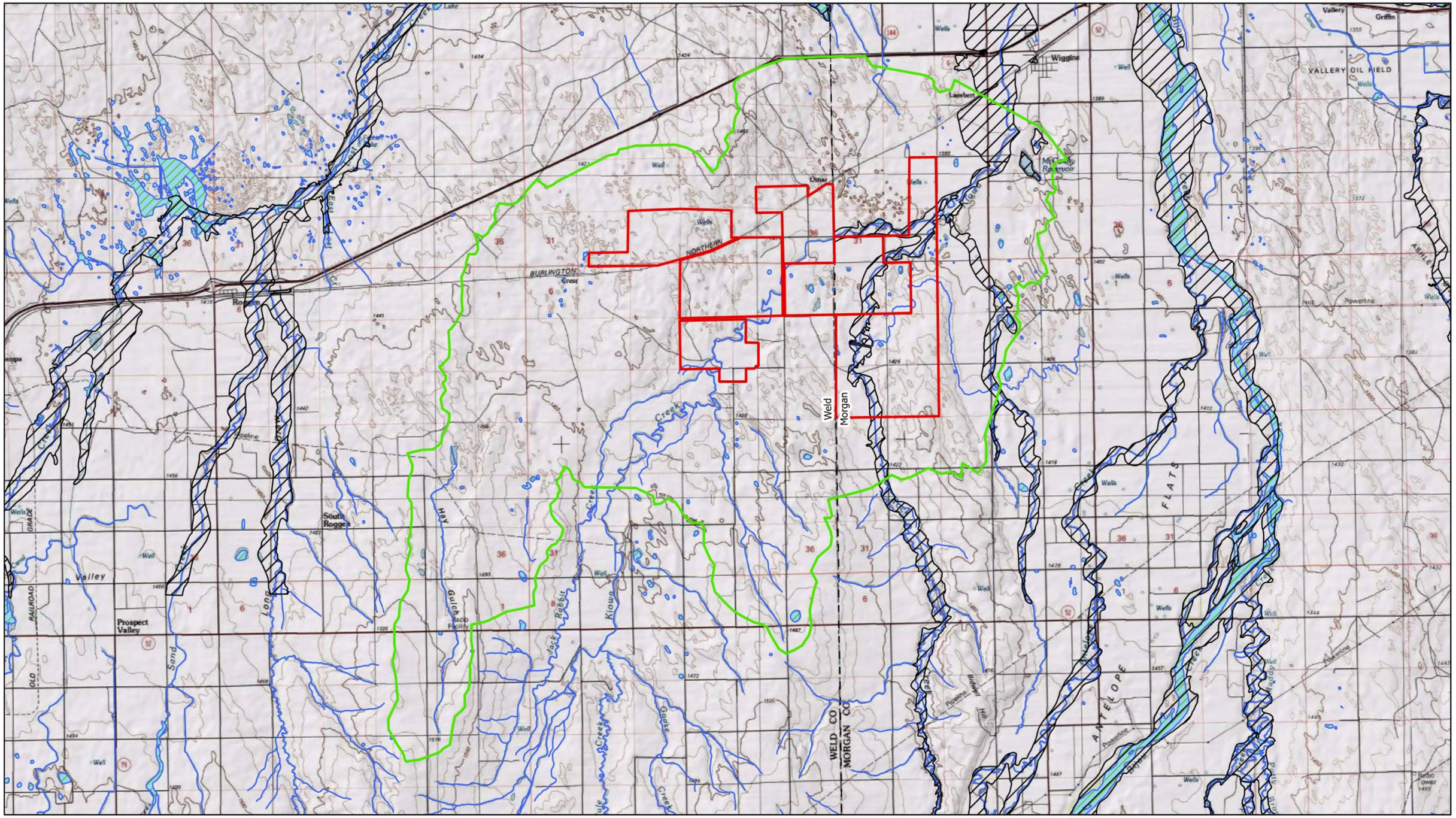
Base Hydrologic Map - Base Hydrologic Map | 2/7/2022 2:53:51 PM | GAPicherelli



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- FEMA Zone A
- NWI Wetlands

N

0 Miles 1.75

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 3: USGS, FEMA, and NWI Wetlands Map

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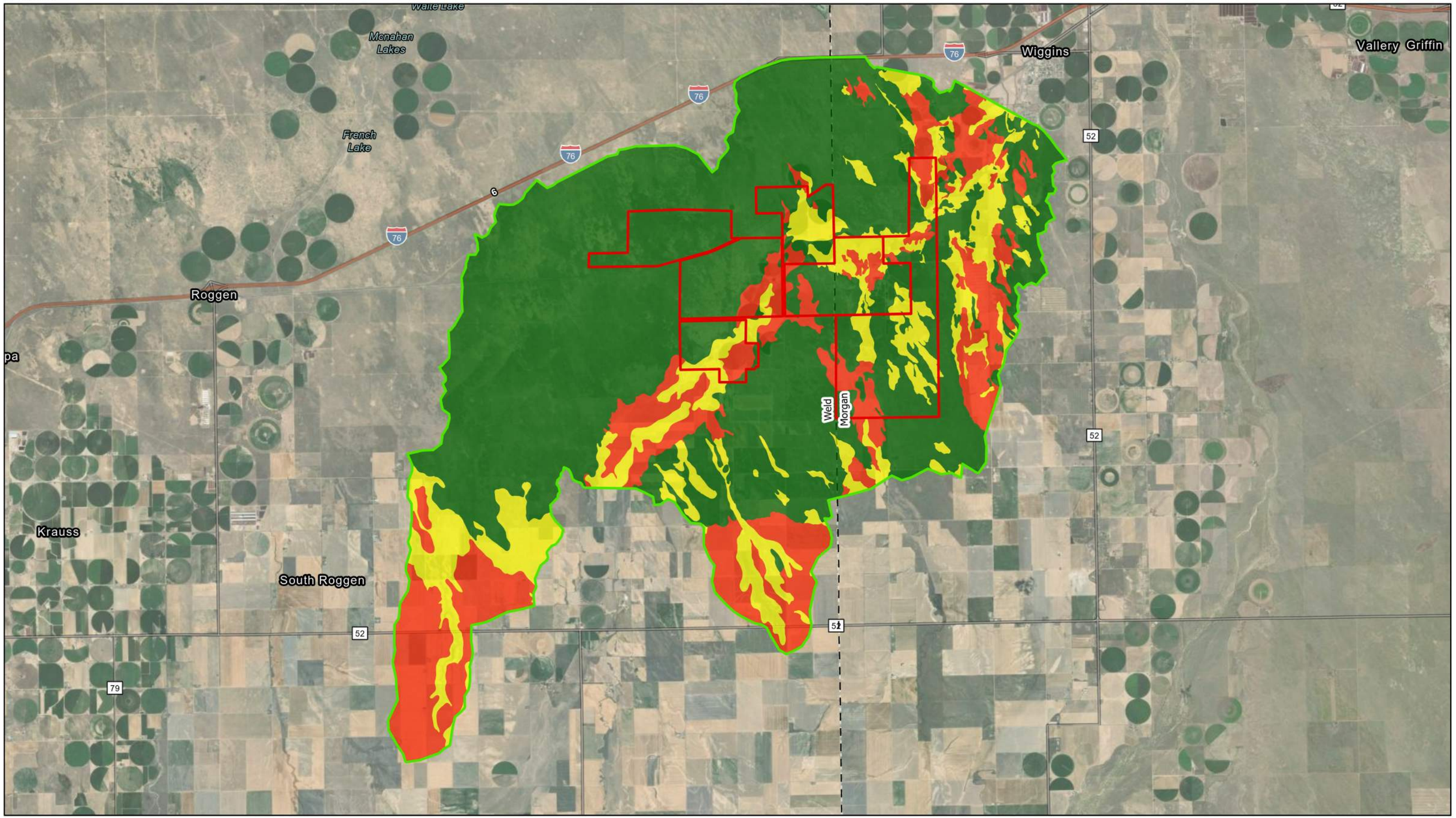
USGS, FEMA, and NWI Wetlands Map - USGS, FEMA, and NWI Wetlands Map | 2/7/2022 2:59 PM | GAPolverari



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary

Hydrologic Soil Group

- A
- B
- C

N

0 Miles 1.75

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 4: Soils Map

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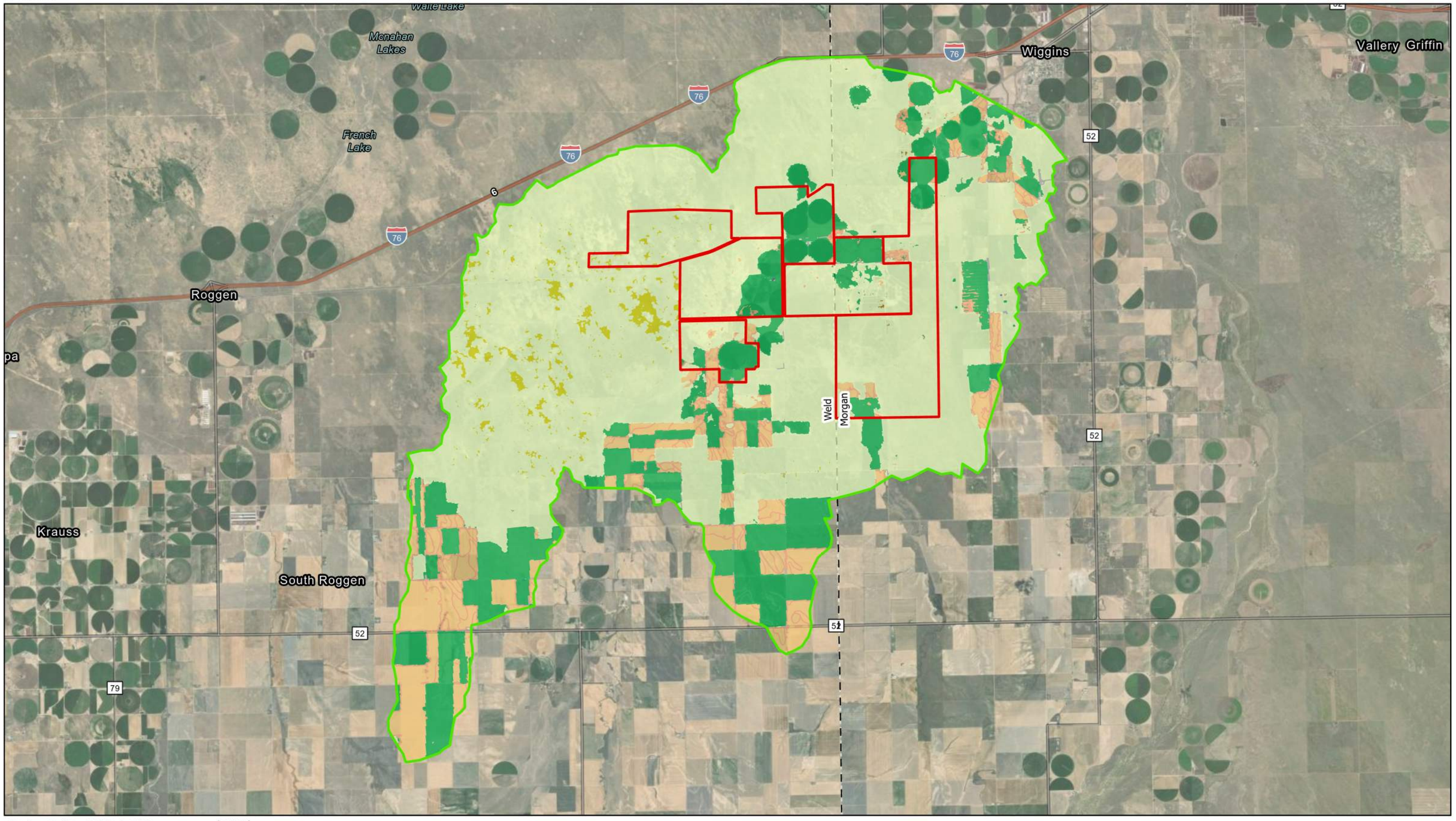

Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

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Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary

Landcover

- Barren
- Cultivated
- Developed
- Fallow
- Woods
- Grassland/Pasture
- Shrubland
- Water
- Wetland

N

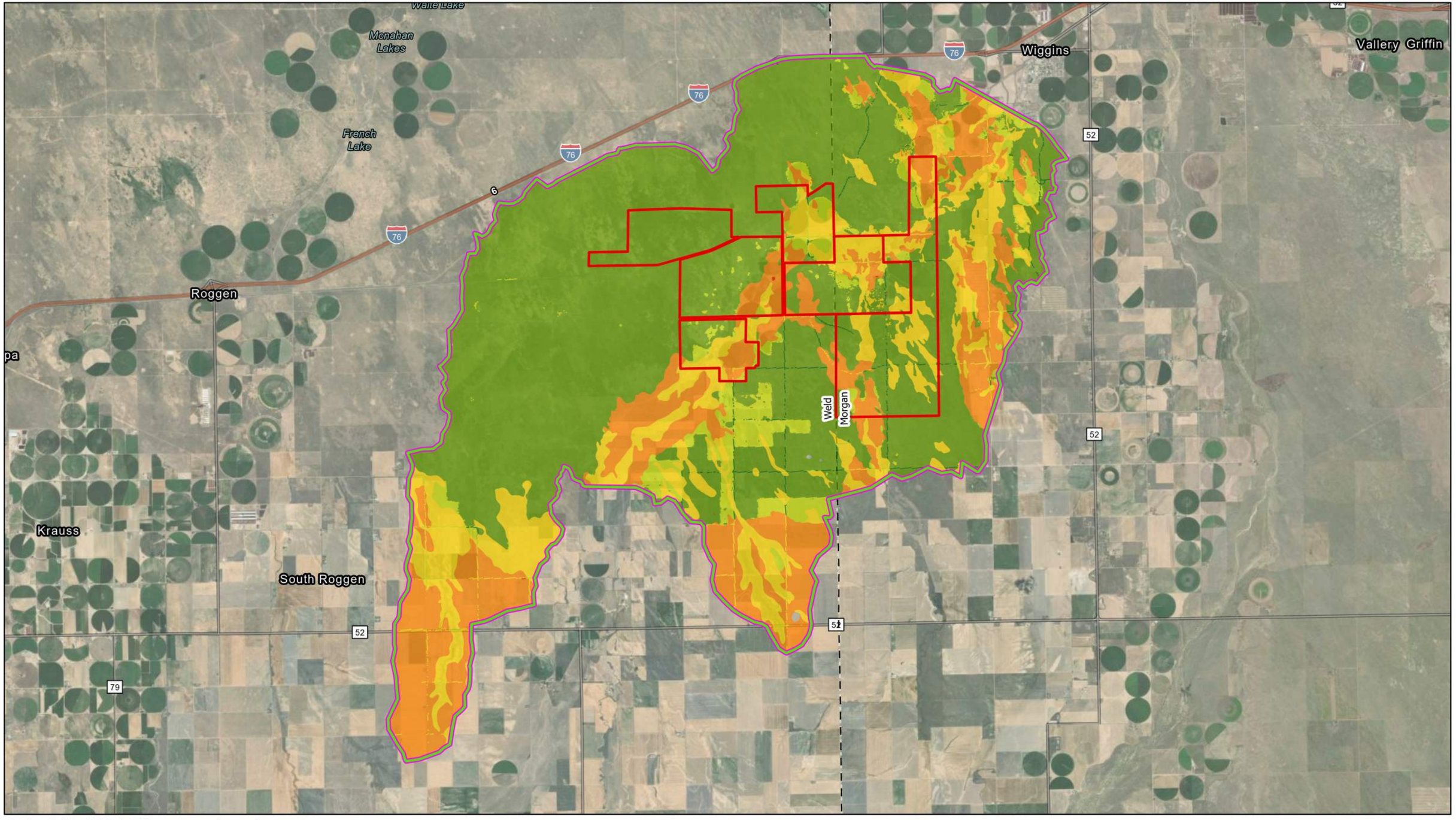
0 Miles 1.75

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 5: Landcover Map

February 7, 2022



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- 2-ft LiDAR Extents

Curve Number

- 40 - 49
- 50 - 59
- 60 - 69
- 70 - 79
- 80 - 89
- 90 - 99

N

0 Miles 1.75

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Weld and Morgan Counties, Colorado

Exhibit 6: Curve Number and Topographic Source Map

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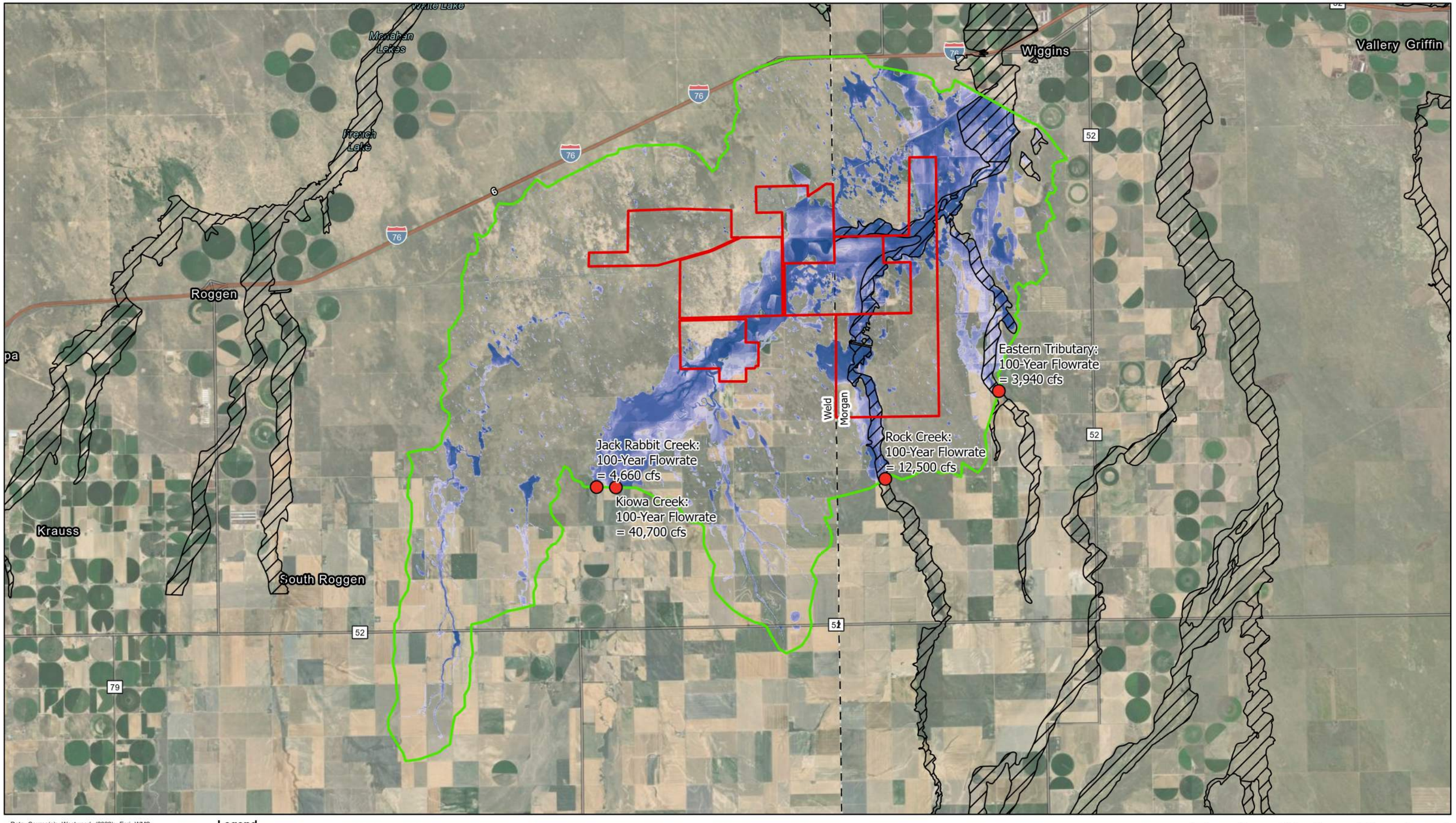

Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- FEMA Zone A
- Inflow Location

Max Water Depth (ft)

- 0.50 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 - 6.00
- 6.01 +

N

0 Miles 1.75

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Exhibit 7: 100-Year Max Water Depth Map

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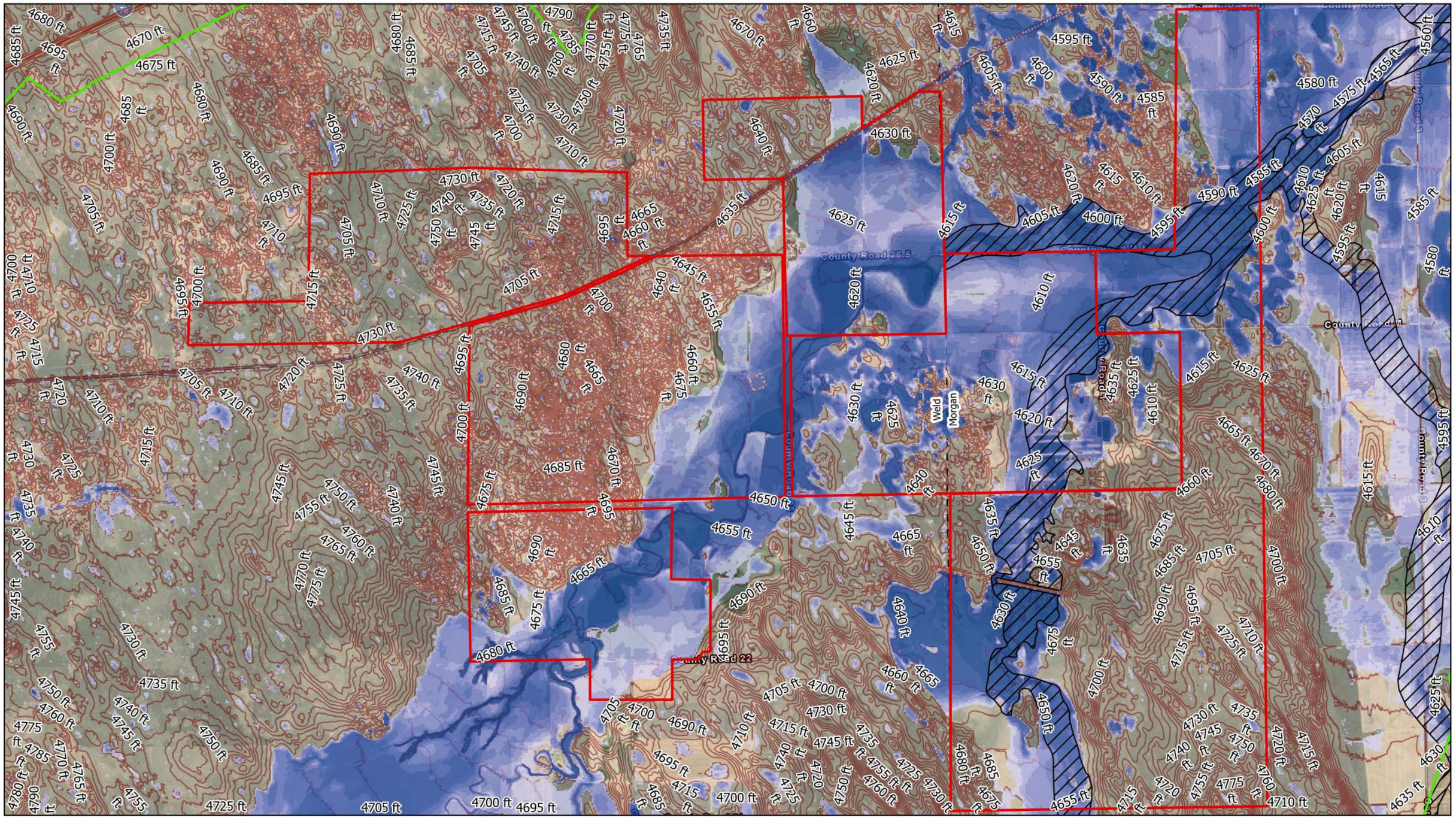
100 Yr Max Water Depth Map - 100 Yr Max Water Depth | 2/7/2022 3:32:2 PM | GAP-Olivetari



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- FEMA Zone A
- 5-foot Contours

Max Water Depth (ft)

- 0.50 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 - 6.00
- 6.01 +

N

0 Feet 3,000

Taelor Solar Project

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Exhibit 7A: 100-Year Max Water Depth Project Area Map

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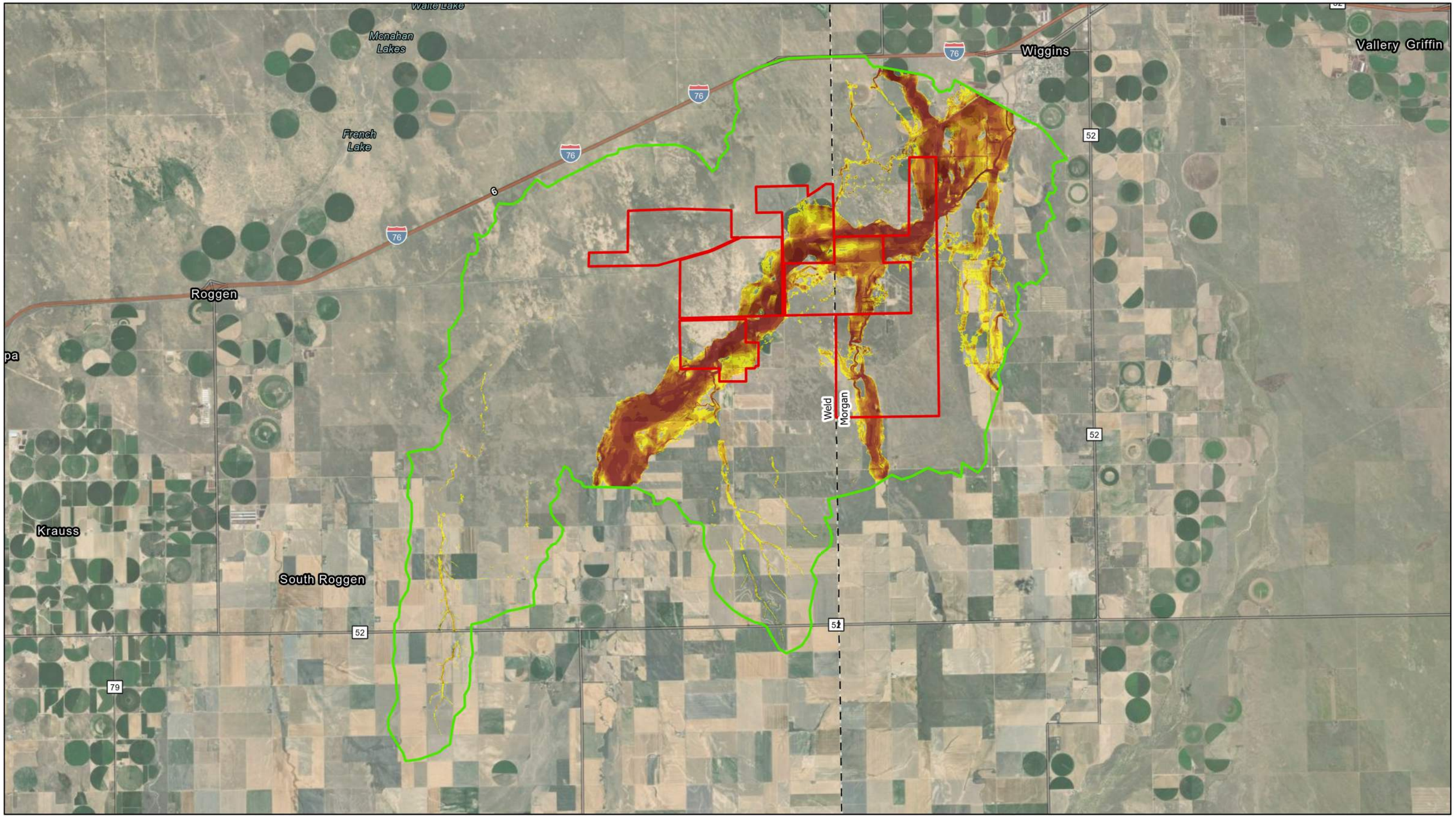
100 YR Max Water Depth Project Area\Map - 100 YR Max Water Depth Project Area | 2/7/2022 3:04 PM | GAdhikari



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary

Peak Velocity (fps)

- 1.00 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 +

N

0 Miles 1.75

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 8: 100-Year Peak Velocity Map

February 7, 2022

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Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- 5-foot Contours

Peak Velocity (fps)

- 1.00 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 +

Westwood
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N

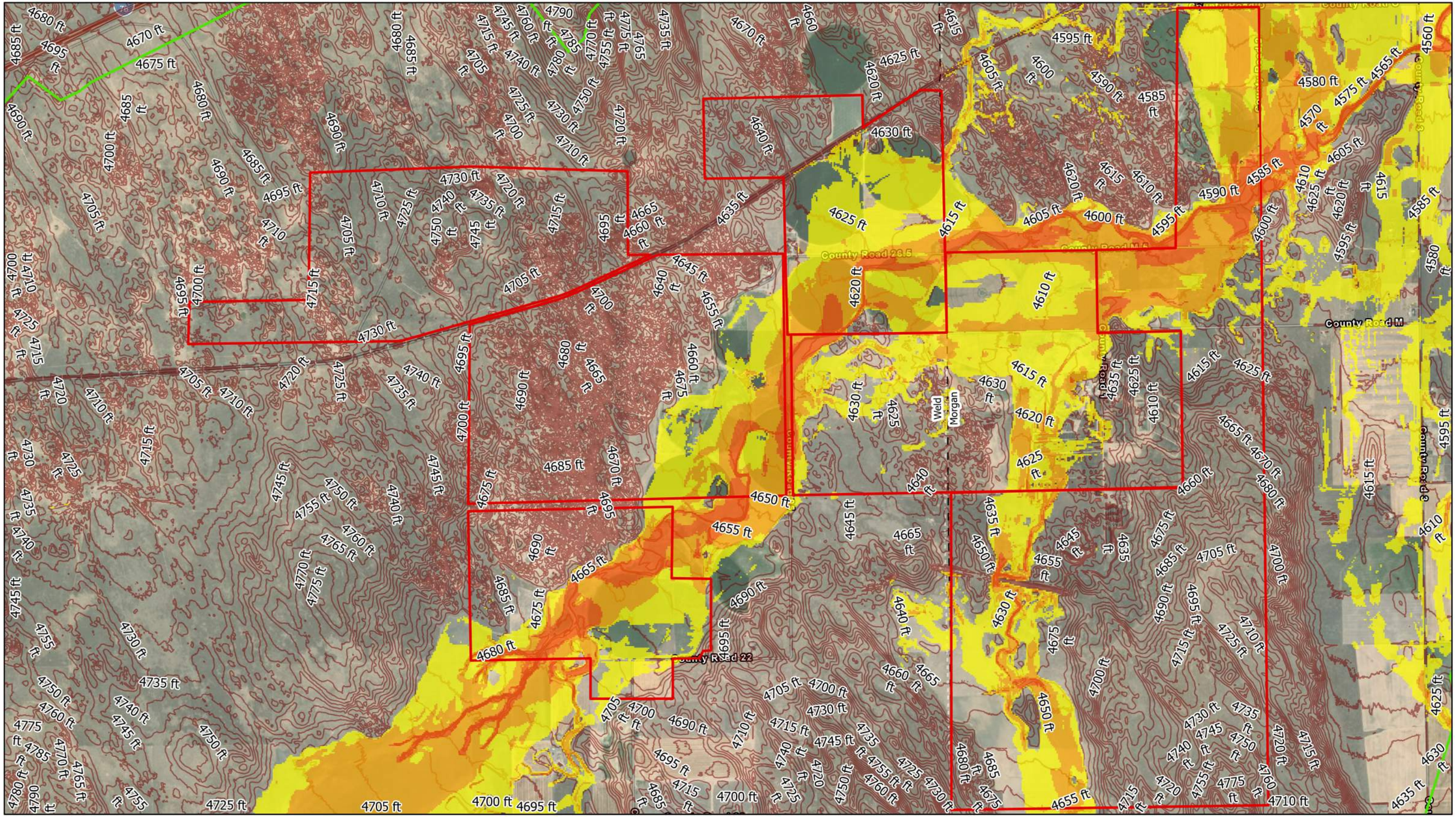
0 Feet 3,000

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 8A: 100-Year Peak Velocity Project Area Map

February 7, 2022



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- 5-foot Contours
- Scour (ft)
  - 1.00 - 1.50
  - 1.51 - 2.00
  - 2.01 +

Westwood
Toll Free (888) 937-5150 westwoodps.com

N

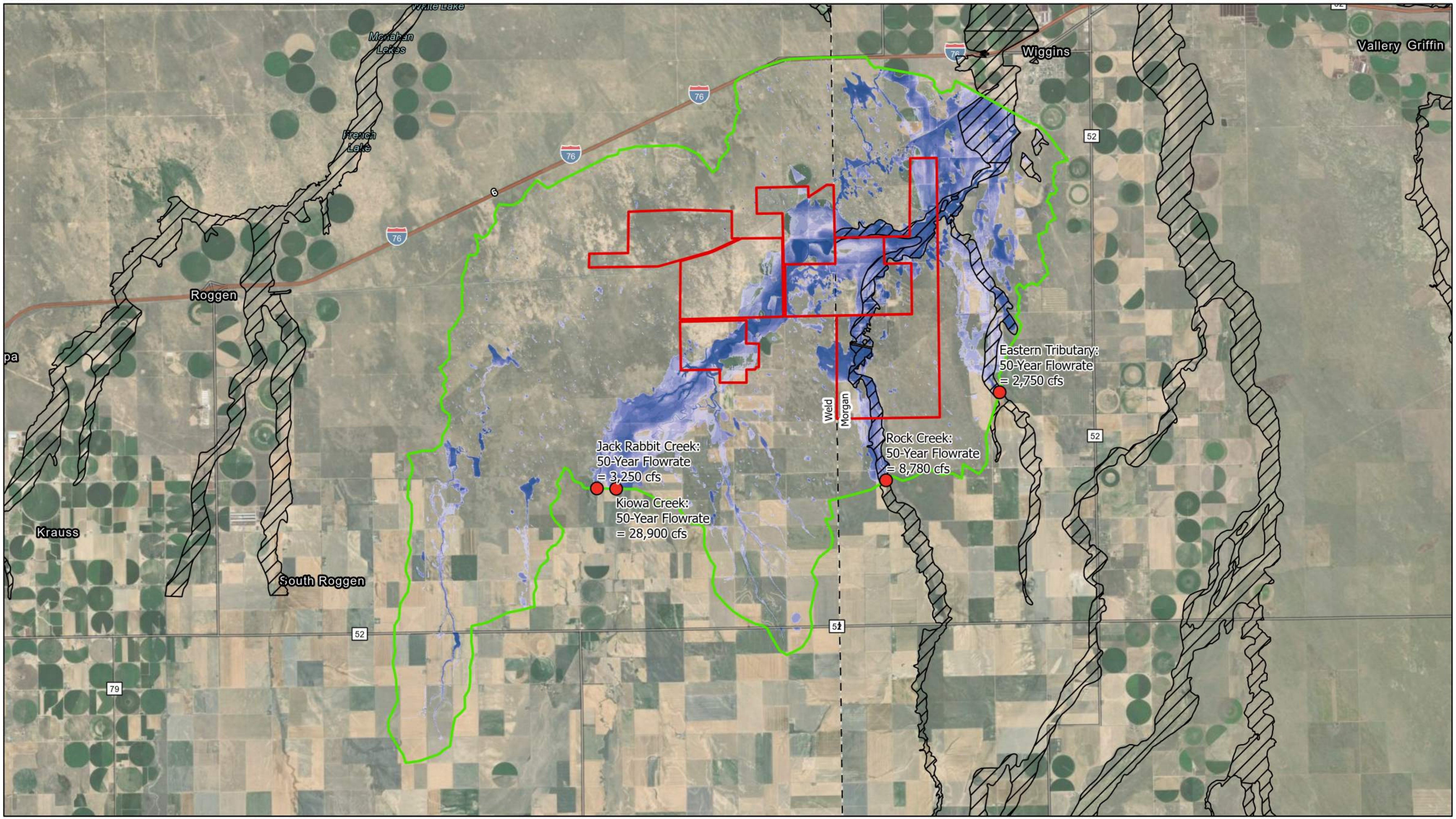
0 US Feet 3,000

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 9: 100-Year Scour Map

February 7, 2022



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Westwood

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Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- FEMA Zone A
- Inflow Location

Max Water Depth (ft)

- 0.50 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 - 6.00
- 6.01 +

N

0 1.75 Miles

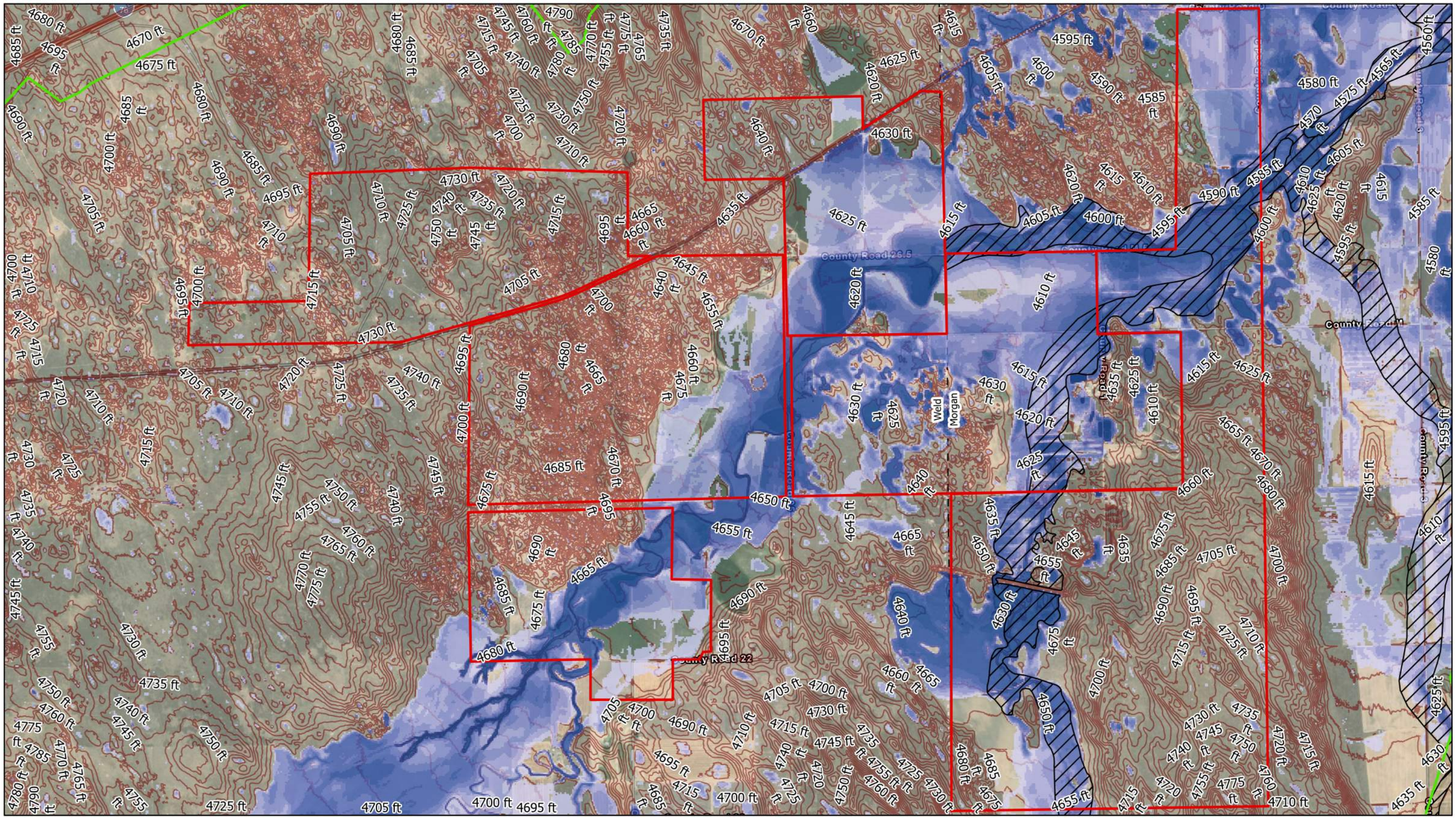
Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 10: 50-Year Max Water Depth Map

February 7, 2022

N:\0034723.00_GIS_Hydro Exhibits\2022-02-07 Taelor Hydro Exhibits 10-12\Taelor Solar Project.aprx
50 Yr Max Water Depth Map - 50 Yr Max Water Depth | 2/7/2022 3:30 PM | GAPolverari



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- FEMA Zone A
- 5-foot Contours

Max Water Depth (ft)

- 0.50 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 - 6.00
- 6.01 +

N

0 Feet 3,000

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 10A: 50-Year Max Water Depth Project Area Map

February 7, 2022

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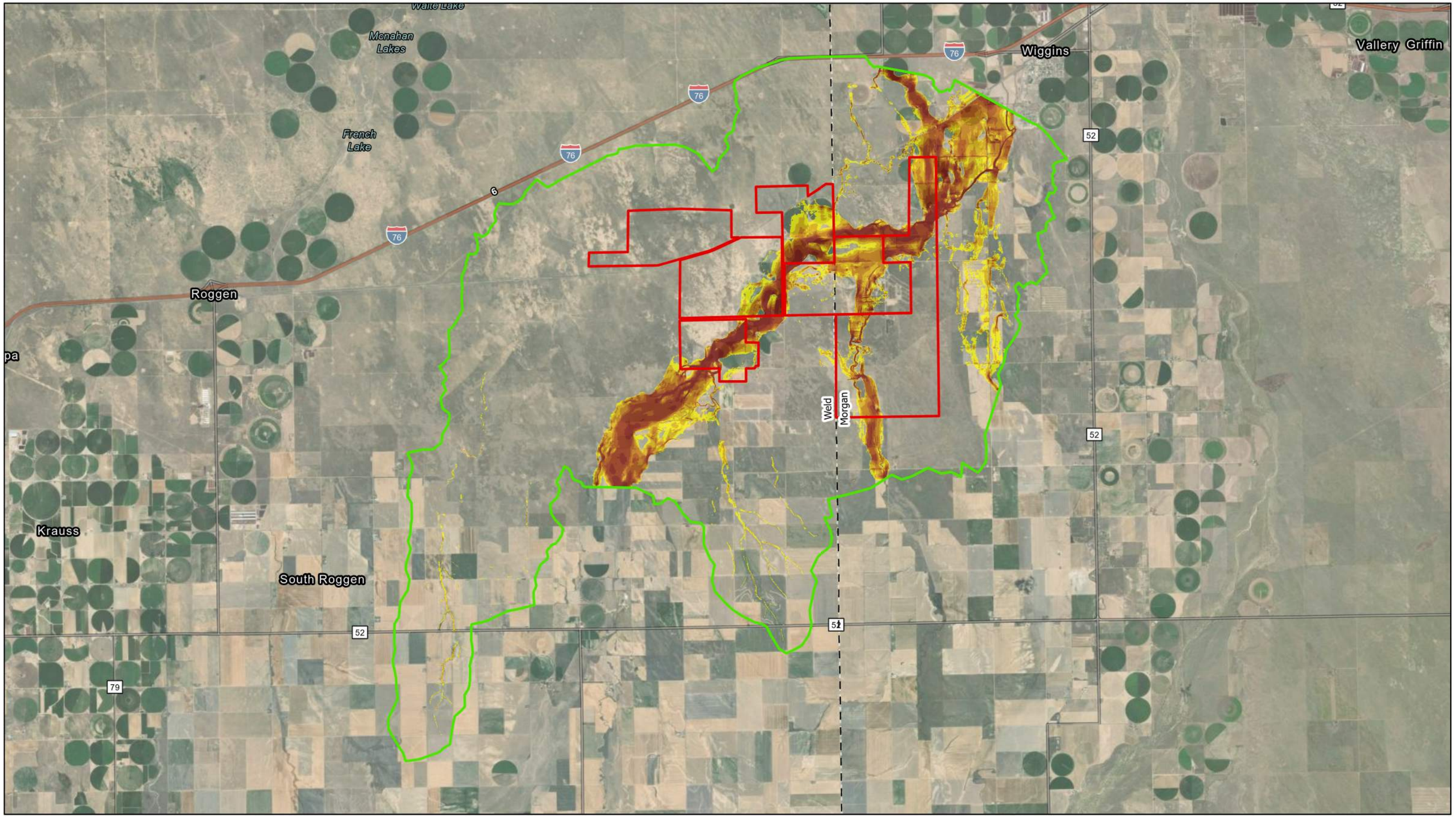
50 Yr Max Water Depth Project Area\Rev_50 Yr Max Water Depth Project Area 2\2022_2_350 Pdf | GA-Polverari



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary

Peak Velocity (fps)

- 1.00 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 +

N

0 Miles 1.75

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 11: 50-Year Peak Velocity Map

February 7, 2022

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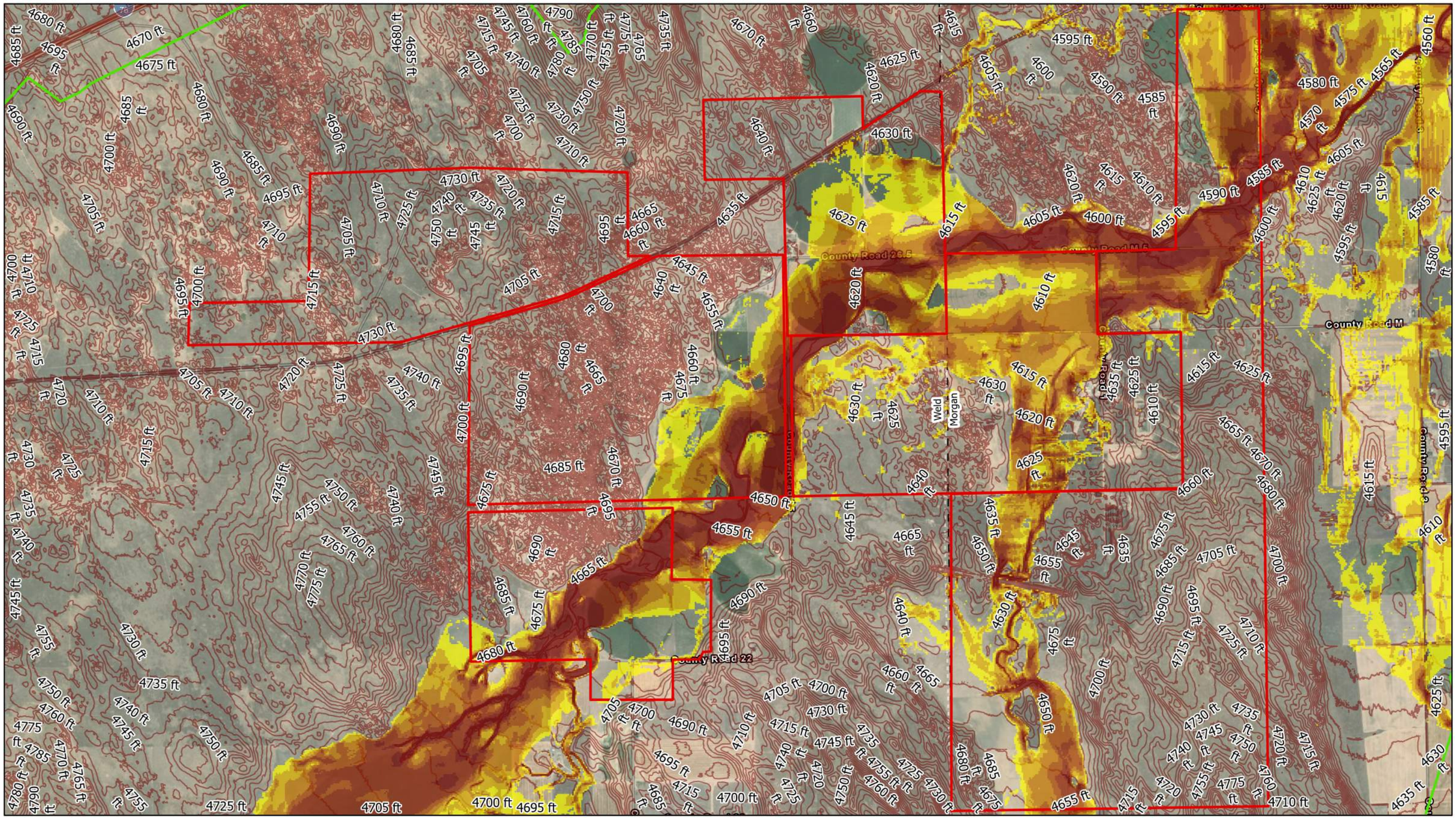
N:\0034723.00_GIS_Hydro Exhibits\2022-02-07 Taelor Hydro Exhibits 10-12\Taelor Solar Project.aprx
50 YR Peak Velocity Map - 50 YR Peak Velocity | 2/7/2022 2:31 PM | GAPolvinen



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- 5-foot Contours

Peak Velocity (fps)

- 1.00 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.00
- 3.01 - 4.00
- 4.01 +

N

0 Feet 3,000

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 11A: 50-Year Peak Velocity Project Area Map

February 7, 2022

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N:\0034723.00\...GIS\...Hydro Exhibits\2022-02-07 Taelor Hydro Exhibits 10-12\Taelor Solar Project.aprx
50 M Peak Velocity Project Area Map - 50 Yr Peak Velocity Project Area | 2/7/2022 3:32 PM | GAshcraft

Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Legend

- Project Boundary- Phases 1 & 2
- FLO-2D Boundary
- County Boundary
- 5-foot Contours

Scour (ft)

- 1.00 - 1.50
- 1.51 - 2.00
- 2.01 +

Westwood
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N

0 — US Feet — 3,000

Taelor Solar Project

Weld and Morgan Counties, Colorado

Exhibit 12: 50-Year Scour Map

February 7, 2022

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50 Yr Scour Map - 50 Yr Scour 2/7/2022 3:38 PM | GAPolstein

Appendix A

NOAA Atlas 14 Precipitation Data

NOAA Atlas 14, Volume 8, Version 2
Location name: Wiggins, Colorado, USA*
Latitude: 40.1686°, Longitude: -104.1629°
Elevation: 4639.05 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.257** (0.206-0.325)	**0.311** (0.248-0.393)	**0.410** (0.326-0.519)	**0.503** (0.398-0.640)	**0.648** (0.503-0.868)	**0.773** (0.582-1.04)	**0.909** (0.661-1.25)	**1.06** (0.738-1.49)	**1.27** (0.854-1.83)	**1.45** (0.942-2.09)
10-min	**0.377** (0.301-0.476)	**0.455** (0.363-0.575)	**0.600** (0.477-0.760)	**0.736** (0.582-0.937)	**0.948** (0.736-1.27)	**1.13** (0.853-1.53)	**1.33** (0.968-1.83)	**1.55** (1.08-2.18)	**1.87** (1.25-2.68)	**2.13** (1.38-3.06)
15-min	**0.460** (0.367-0.581)	**0.555** (0.443-0.702)	**0.731** (0.582-0.927)	**0.898** (0.710-1.14)	**1.16** (0.898-1.55)	**1.38** (1.04-1.86)	**1.62** (1.18-2.23)	**1.89** (1.32-2.65)	**2.28** (1.53-3.27)	**2.59** (1.68-3.73)
30-min	**0.612** (0.489-0.774)	**0.738** (0.589-0.933)	**0.971** (0.772-1.23)	**1.19** (0.942-1.52)	**1.53** (1.19-2.05)	**1.83** (1.38-2.46)	**2.15** (1.56-2.95)	**2.50** (1.75-3.51)	**3.01** (2.02-4.32)	**3.43** (2.23-4.93)
60-min	**0.754** (0.602-0.953)	**0.904** (0.722-1.14)	**1.19** (0.945-1.51)	**1.46** (1.16-1.86)	**1.89** (1.47-2.54)	**2.26** (1.71-3.05)	**2.67** (1.95-3.68)	**3.12** (2.18-4.39)	**3.78** (2.54-5.43)	**4.32** (2.81-6.22)
2-hr	**0.896** (0.721-1.12)	**1.07** (0.861-1.34)	**1.41** (1.13-1.77)	**1.73** (1.38-2.18)	**2.25** (1.76-3.00)	**2.70** (2.05-3.61)	**3.19** (2.35-4.36)	**3.75** (2.64-5.23)	**4.55** (3.08-6.49)	**5.22** (3.42-7.44)
3-hr	**0.977** (0.790-1.22)	**1.16** (0.939-1.45)	**1.52** (1.23-1.90)	**1.87** (1.50-2.35)	**2.43** (1.92-3.24)	**2.93** (2.24-3.91)	**3.48** (2.57-4.73)	**4.09** (2.89-5.68)	**4.98** (3.39-7.06)	**5.72** (3.76-8.11)
6-hr	**1.13** (0.920-1.40)	**1.34** (1.09-1.66)	**1.75** (1.42-2.17)	**2.14** (1.72-2.66)	**2.76** (2.19-3.62)	**3.30** (2.54-4.35)	**3.89** (2.90-5.24)	**4.55** (3.25-6.26)	**5.51** (3.78-7.74)	**6.30** (4.18-8.86)
12-hr	**1.31** (1.08-1.61)	**1.57** (1.28-1.92)	**2.03** (1.66-2.49)	**2.45** (1.99-3.02)	**3.09** (2.46-3.99)	**3.63** (2.81-4.72)	**4.22** (3.15-5.59)	**4.85** (3.48-6.58)	**5.76** (3.98-7.99)	**6.50** (4.35-9.05)
24-hr	**1.56** (1.29-1.89)	**1.82** (1.51-2.21)	**2.30** (1.90-2.80)	**2.74** (2.24-3.34)	**3.40** (2.72-4.33)	**3.95** (3.08-5.08)	**4.54** (3.43-5.96)	**5.19** (3.76-6.96)	**6.10** (4.25-8.37)	**6.84** (4.62-9.44)
2-day	**1.79** (1.50-2.16)	**2.10** (1.75-2.52)	**2.62** (2.18-3.16)	**3.09** (2.55-3.74)	**3.77** (3.03-4.74)	**4.33** (3.40-5.49)	**4.92** (3.74-6.37)	**5.55** (4.05-7.36)	**6.43** (4.51-8.72)	**7.14** (4.87-9.76)
3-day	**1.96** (1.64-2.35)	**2.27** (1.90-2.71)	**2.79** (2.33-3.35)	**3.26** (2.70-3.92)	**3.95** (3.19-4.93)	**4.51** (3.56-5.69)	**5.11** (3.90-6.58)	**5.75** (4.21-7.57)	**6.63** (4.68-8.95)	**7.34** (5.04-9.99)
4-day	**2.09** (1.76-2.49)	**2.40** (2.01-2.86)	**2.93** (2.45-3.50)	**3.40** (2.83-4.07)	**4.09** (3.32-5.08)	**4.66** (3.68-5.84)	**5.25** (4.02-6.73)	**5.89** (4.33-7.72)	**6.78** (4.80-9.10)	**7.48** (5.15-10.1)
7-day	**2.38** (2.01-2.81)	**2.72** (2.30-3.22)	**3.31** (2.78-3.92)	**3.81** (3.19-4.53)	**4.52** (3.67-5.54)	**5.09** (4.04-6.31)	**5.67** (4.36-7.19)	**6.28** (4.64-8.15)	**7.11** (5.07-9.45)	**7.76** (5.39-10.4)
10-day	**2.63** (2.23-3.09)	**3.01** (2.56-3.55)	**3.65** (3.09-4.31)	**4.19** (3.52-4.96)	**4.93** (4.01-5.99)	**5.51** (4.39-6.78)	**6.09** (4.70-7.66)	**6.69** (4.96-8.61)	**7.49** (5.35-9.88)	**8.09** (5.64-10.8)
20-day	**3.41** (2.92-3.97)	**3.89** (3.32-4.53)	**4.66** (3.97-5.44)	**5.29** (4.48-6.20)	**6.13** (5.02-7.35)	**6.77** (5.43-8.23)	**7.40** (5.75-9.18)	**8.02** (5.99-10.2)	**8.83** (6.36-11.5)	**9.42** (6.63-12.5)
30-day	**4.06** (3.49-4.70)	**4.61** (3.96-5.35)	**5.50** (4.71-6.39)	**6.21** (5.29-7.25)	**7.16** (5.89-8.52)	**7.86** (6.33-9.48)	**8.54** (6.67-10.5)	**9.21** (6.91-11.6)	**10.0** (7.27-13.0)	**10.7** (7.54-14.0)
45-day	**4.86** (4.20-5.60)	**5.53** (4.77-6.37)	**6.58** (5.66-7.60)	**7.41** (6.34-8.59)	**8.49** (7.00-10.0)	**9.28** (7.50-11.1)	**10.0** (7.85-12.3)	**10.7** (8.09-13.4)	**11.6** (8.44-14.9)	**12.2** (8.70-16.0)
60-day	**5.52** (4.79-6.34)	**6.30** (5.45-7.23)	**7.50** (6.47-8.62)	**8.43** (7.25-9.74)	**9.64** (7.97-11.3)	**10.5** (8.51-12.5)	**11.3** (8.88-13.7)	**12.0** (9.11-15.0)	**12.9** (9.44-16.5)	**13.6** (9.69-17.7)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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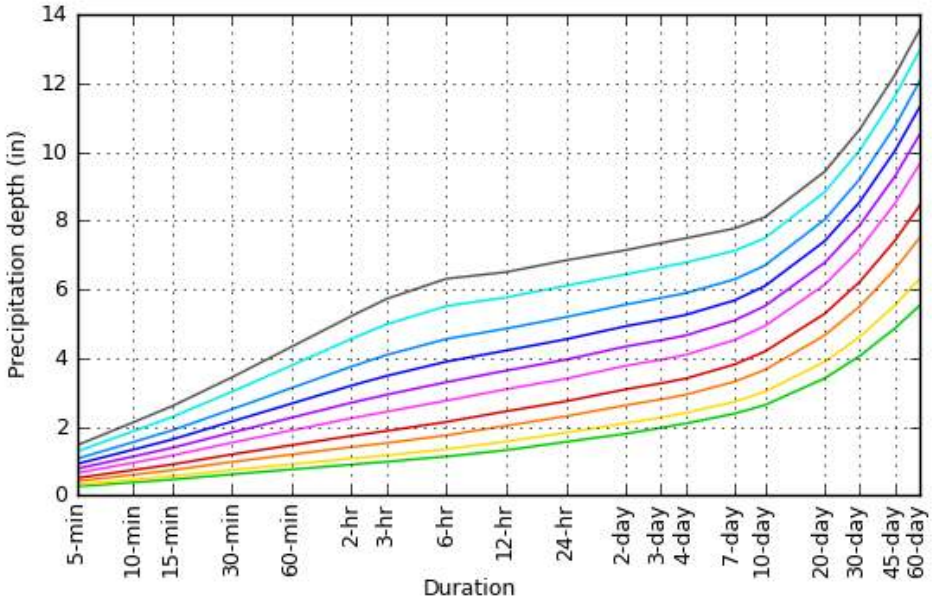
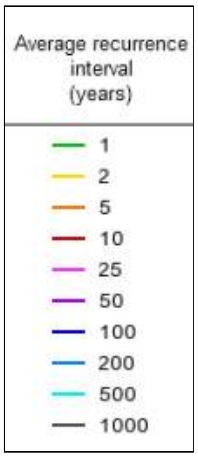
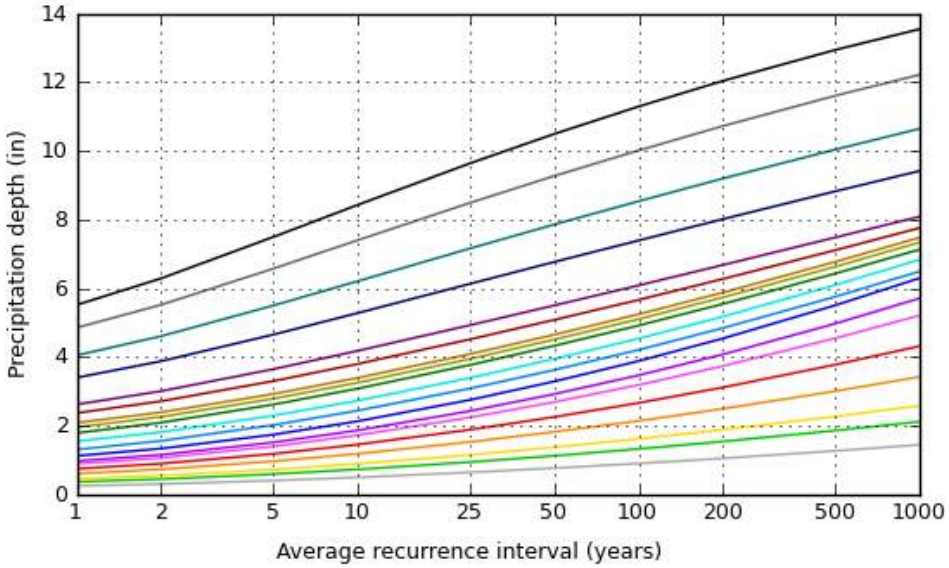
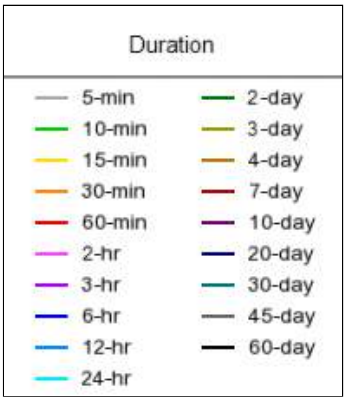
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 40.1686°, Longitude: -104.1629°









NOAA Atlas 14, Volume 8, Version 2

Created (GMT): Wed Jan 26 20:02:21 2022

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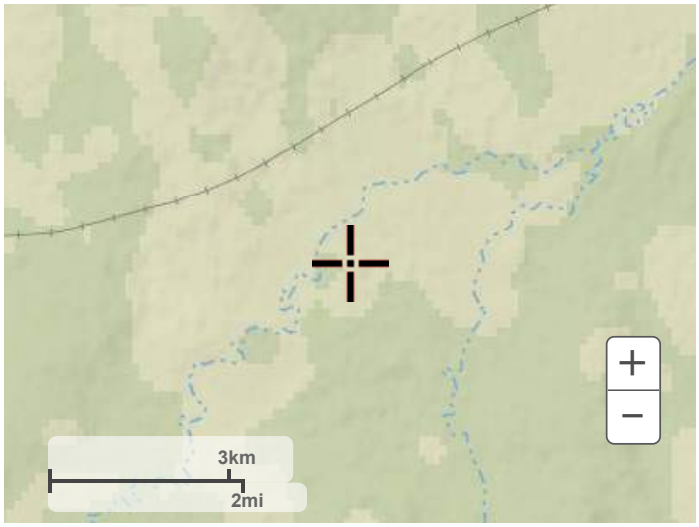
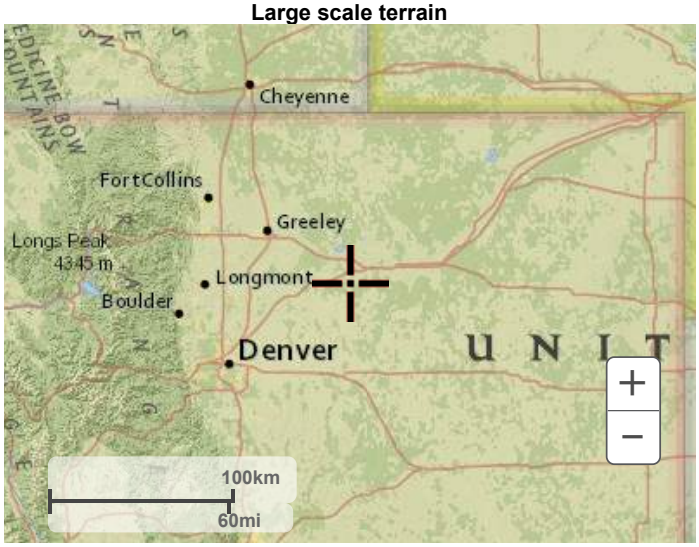
Maps & aerials

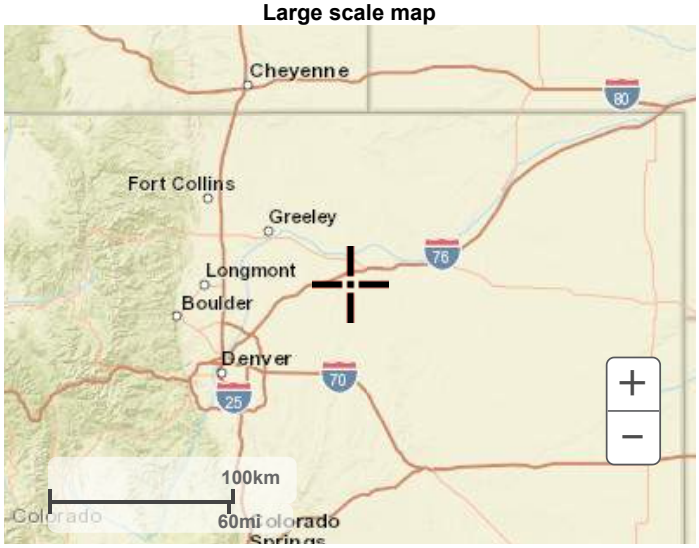
Small scale terrain



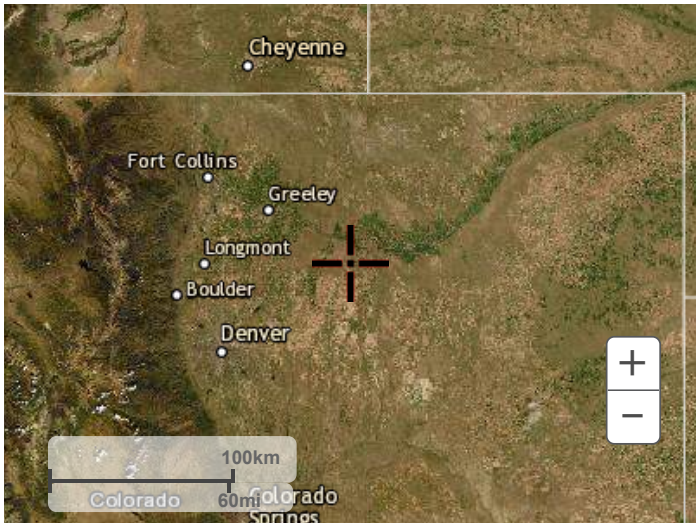
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix B

Curve Number Table

Table 2. Semi-Arid Curve Numbers (adapted from NEH 630)

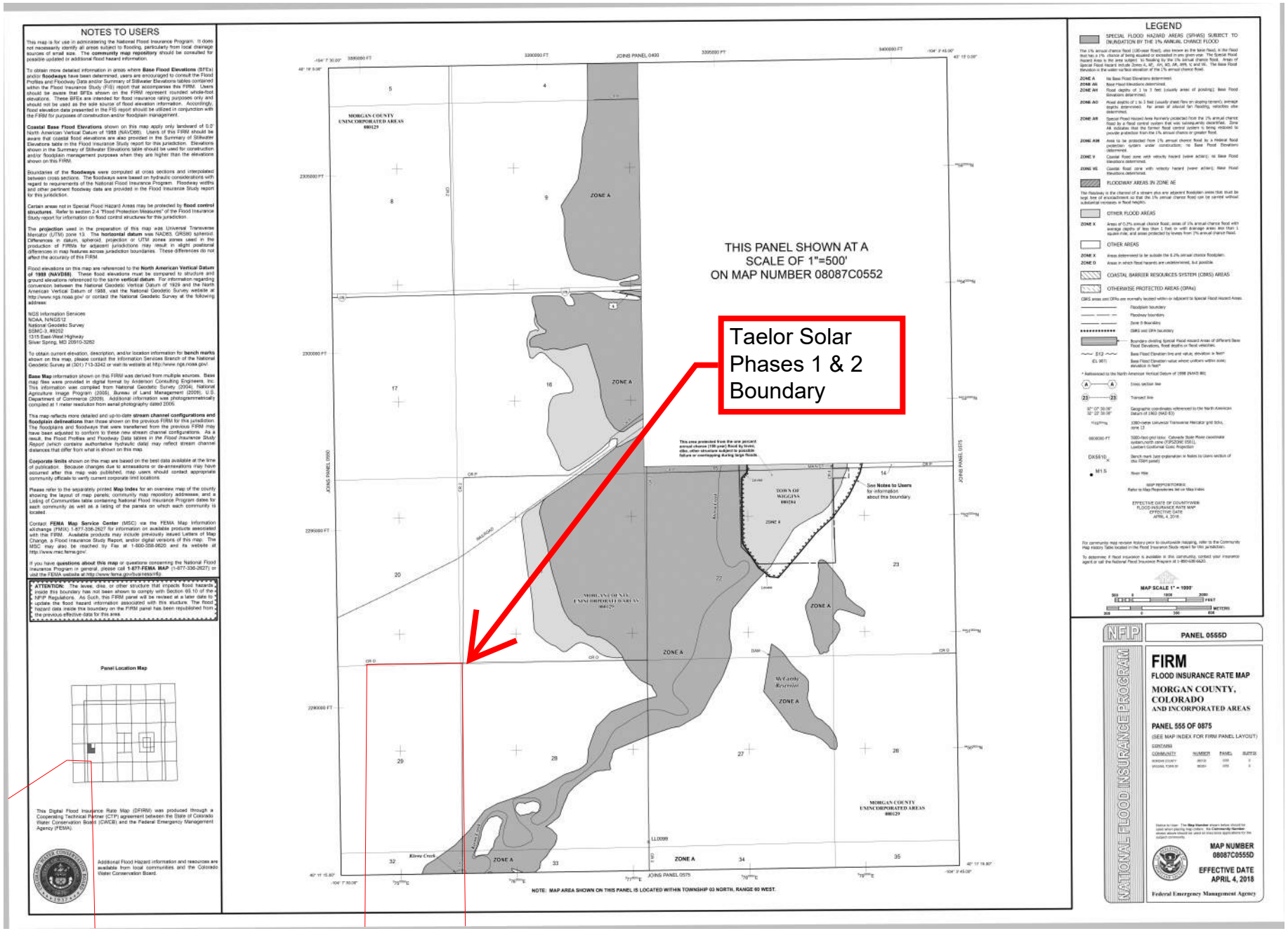
Class	Value	Classification Description	Curve Number				
			Soil Type*				
			A	B	C	D	W
Water	11	**Open Water** - areas of open water, generally with less than 25% cover of vegetation or soil.	98	98	98	98	100
	12	**Perennial Ice/Snow** - areas characterized by a perennial cover of ice and/or snow, generally greater than 25% of total cover.	98	98	98	98	100
Developed	21	**Developed, Open Space** - areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.	46	65	77	82	100
	22	**Developed, Low Intensity** - areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units.	61	75	83	87	100
	23	**Developed, Medium Intensity** – areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units.	77	85	90	95	100
	24	**Developed High Intensity** -highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80% to 100% of the total cover.	89	92	94	95	100
Barren	31	**Barren Land (Rock/Sand/Clay)** - areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits and other accumulations of earthen material. Generally, vegetation accounts for less than 15% of total cover.	77	86	91	94	100
Forest	41	**Deciduous Forest** - areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.	43	55	70	77	100
	42	**Evergreen Forest** - areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species maintain their leaves all year. Canopy is never without green foliage.	43	55	70	77	100
	43	**Mixed Forest** - areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75% of total tree cover.	43	55	70	77	100
Shrubland	51	**Dwarf Scrub** - Alaska only areas dominated by shrubs less than 20 centimeters tall with shrub canopy typically greater than 20% of total vegetation. This type is often co-associated with grasses, sedges, herbs, and non-vascular vegetation.	55	71	81	89	100
	52	**Shrub/Scrub** - areas dominated by shrubs; less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions.	55	71	81	89	100
Herbaceous	71	**Grassland/Herbaceous** - areas dominated by gramanoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing.	55	71	81	89	100
	72	**Sedge/Herbaceous** - Alaska only areas dominated by sedges and forbs, generally greater than 80% of total vegetation. This type can occur with significant other grasses or other grass like plants, and includes sedge tundra, and sedge tussock tundra.	55	71	81	89	100
	73	**Lichens** - Alaska only areas dominated by fruticose or foliose lichens generally greater than 80% of total vegetation.	55	71	81	89	100
	74	**Moss** - Alaska only areas dominated by mosses, generally greater than 80% of total vegetation.	55	71	81	89	100
Planted/Cultivated	81	**Pasture/Hay** – areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20% of total vegetation.	55	71	81	89	100
	82	**Cultivated Crops** – areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.	67	78	85	89	100
	83	**Small Grains**	63	75	83	87	100
Wetlands	91	**Woody Wetlands** - areas where forest or shrubland vegetation accounts for greater than 20% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.	45	66	77	83	100
	92	**Emergent Herbaceous Wetlands** - Areas where perennial herbaceous vegetation accounts for greater than 80% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.	45	66	77	83	100

*A/D, B/D and C/D soils lumped as D soils, W denotes water

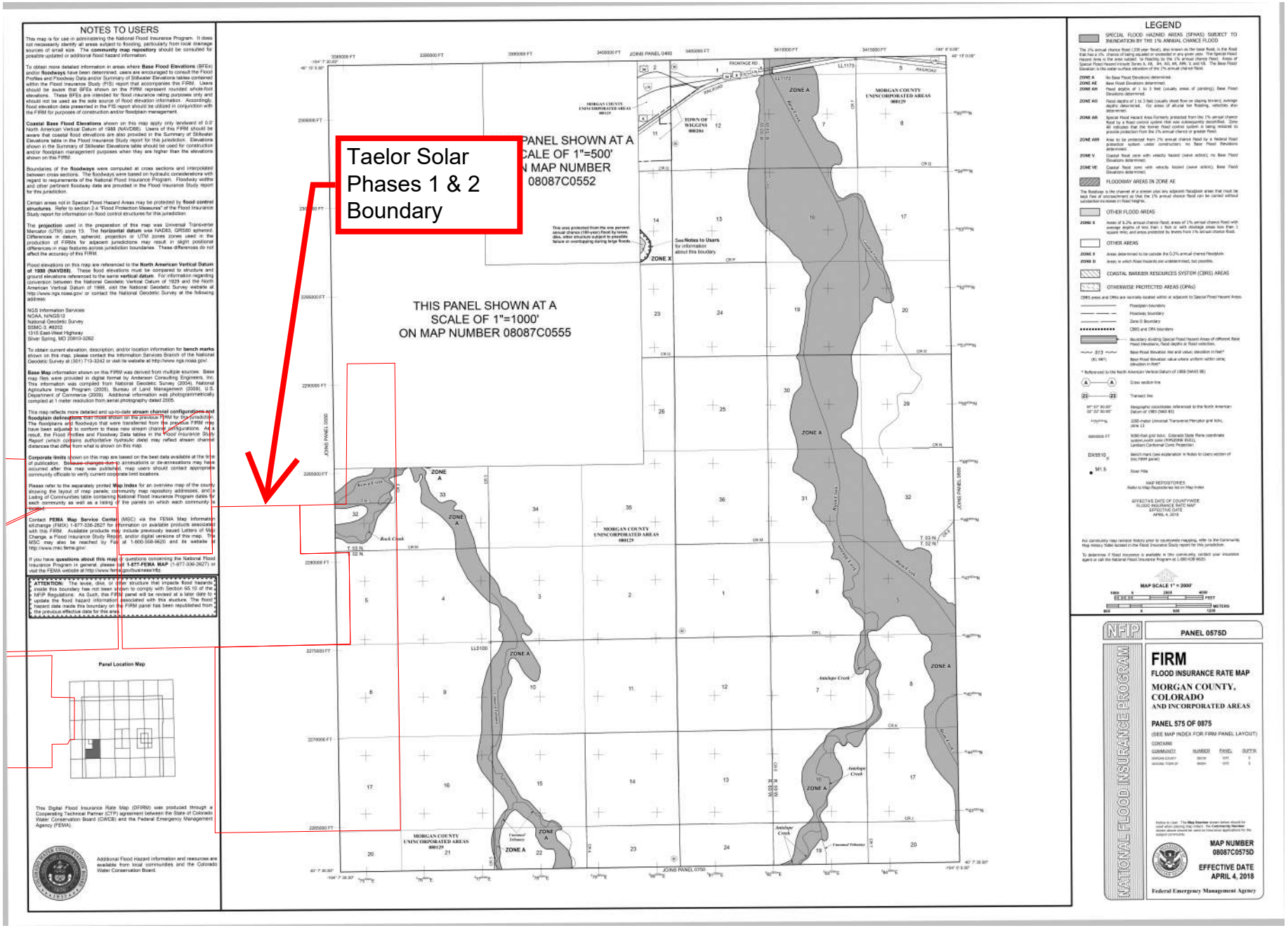
**Curve Numbers for NLCD Codes 41-43 have been increased from 30 to 43 as many of these areas are partially grazed Woods-grass combination.

Appendix C

FEMA Flood Insurance Rate Map (FIRM)



0.0 mi 0.5 mi 1.0 mi 1.5 mi 2.0 mi 2.5 mi

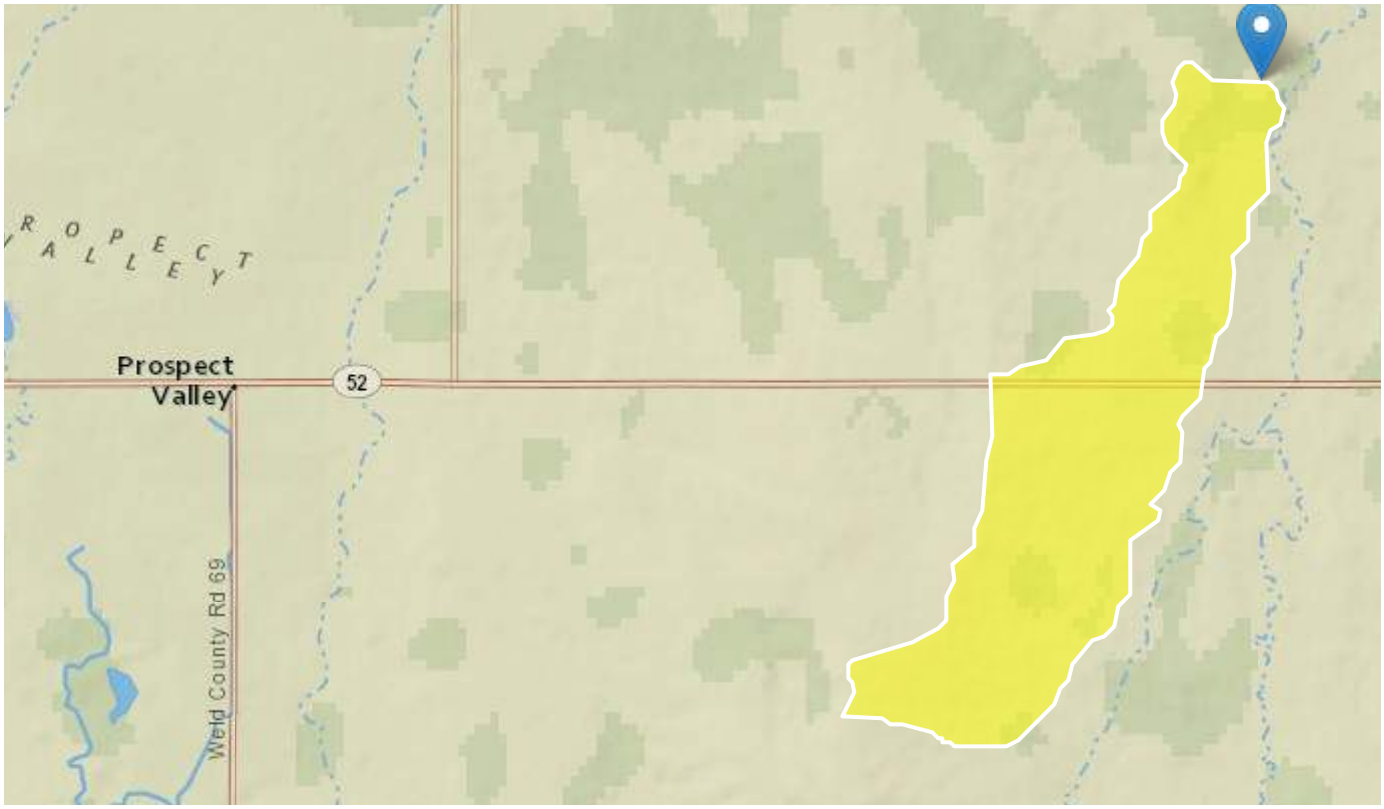

Taelor Solar
Phases 1 & 2
Boundary
THIS PANEL SHOWN AT A
SCALE OF 1"=1000'
ON MAP NUMBER 08087C0555
NOTES TO USERS
LEGEND
PANEL 0575D
FIRM
FLOOD INSURANCE RATE MAP
MORGAN COUNTY,
COLORADO
AND INCORPORATED AREAS
PANEL 575 OF 0875
MAP NUMBER
08087C0575D
EFFECTIVE DATE
APRIL 4, 2018
Federal Emergency Management Agency
NATIONAL FLOOD INSURANCE PROGRAM
0.0 mi
1.0 mi
2.0 mi
3.0 mi
4.0 mi
5.0 mi

Appendix D

USGS StreamStats Reports

Jack Rabbit Creek StreamStats Report

Region ID: CO
Workspace ID: CO20220126180819041000
Clicked Point (Latitude, Longitude): 40.11290, -104.23792
Time: 2022-01-26 11:08:42 -0700



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	8.33	square miles
I6H100Y	6-hour precipitation that is expected to occur on average once in 100 years	3.89	inches
STATSCLAY	Percentage of clay soils from STATSGO	22.01	percent
OUTLETELEV	Elevation of the stream outlet in feet above NAVD88	4733	feet

Peak-Flow Statistics Parameters [Foothills Region Peak Flow 2016 5099]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	8.33	square miles	0.6	2850
I6H100Y	6 Hour 100 Year Precipitation	3.89	inches	2.38	4.89
STATSCLAY	STATSGO Percentage of Clay Soils	22.01	percent	9.87	37.5
OUTLETELEV	Elevation of Gage	4733	feet	4290	8270

Peak-Flow Statistics Flow Report [Foothills Region Peak Flow 2016 5099]

PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	ASEp
50-percent AEP flood	192	ft^3/s	117
20-percent AEP flood	644	ft^3/s	87
10-percent AEP flood	1180	ft^3/s	80
4-percent AEP flood	2200	ft^3/s	80
2-percent AEP flood	3250	ft^3/s	83
1-percent AEP flood	4660	ft^3/s	88
0.5-percent AEP flood	6390	ft^3/s	94
0.2-percent AEP flood	9290	ft^3/s	104

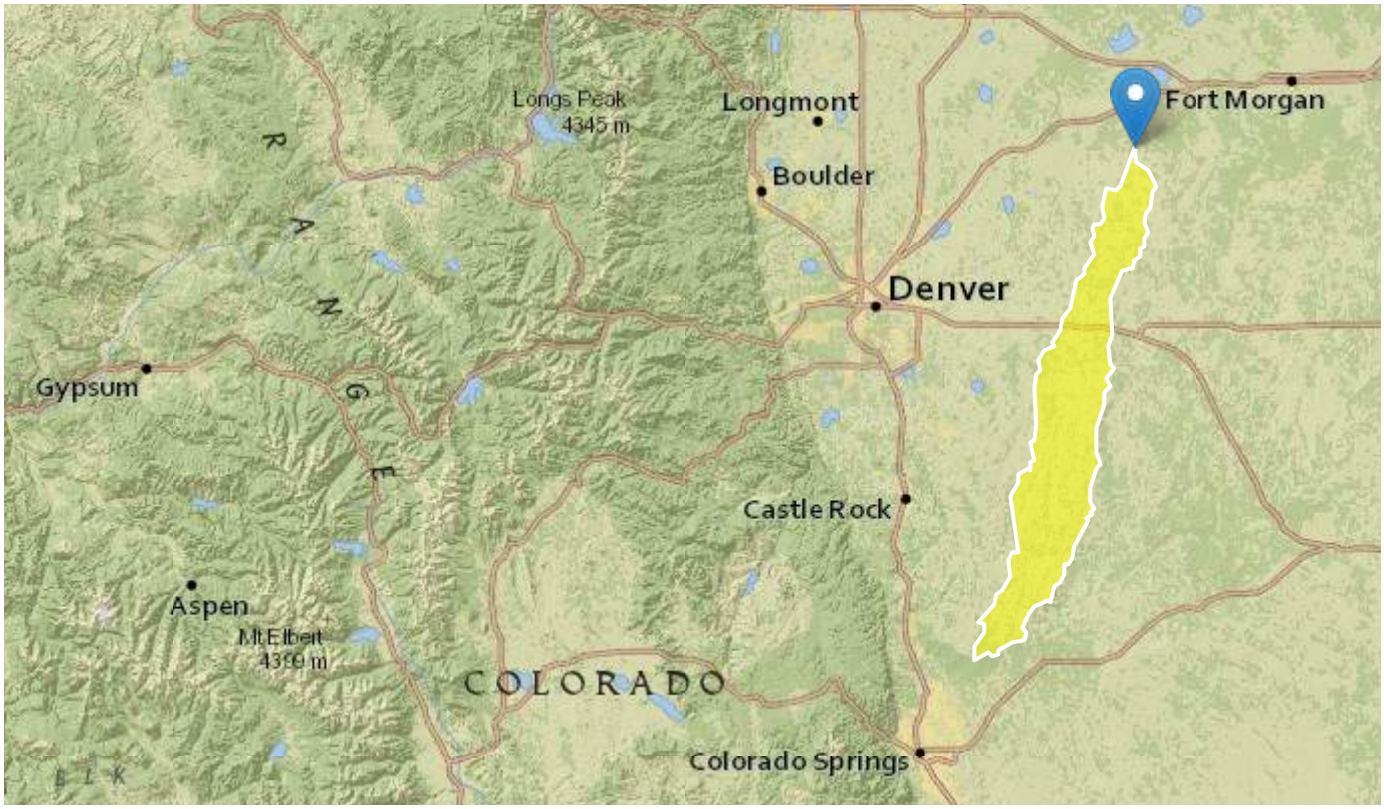
Peak-Flow Statistics Citations

Kohn, M.S., Stevens, M.R., Harden, T.M., Godaire, J.E., Klinger, R.E., and Mommandi, A.,2016, Paleoflood investigations to improve peak-streamflow regional-regression equations for natural streamflow in eastern Colorado, 2015: U.S. Geological Survey Scientific Investigations Report 2016–5099, 58 p. (http://dx.doi.org/10.3133/sir20165099)

Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

Kiowa Creek StreamStats Report

Region ID: CO
Workspace ID: CO20220126181728352000
Clicked Point (Latitude, Longitude): 40.11266, -104.23086
Time: 2022-01-26 11:17:52 -0700



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	585	square miles
I6H100Y	6-hour precipitation that is expected to occur on average once in 100 years	3.82	inches
STATSCLAY	Percentage of clay soils from STATSGO	17.97	percent
OUTLETELEV	Elevation of the stream outlet in feet above NAVD88	4734	feet

Peak-Flow Statistics Parameters [Foothills Region Peak Flow 2016 5099]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	585	square miles	0.6	2850
I6H100Y	6 Hour 100 Year Precipitation	3.82	inches	2.38	4.89
STATSCLAY	STATSGO Percentage of Clay Soils	17.97	percent	9.87	37.5
OUTLETELEV	Elevation of Gage	4734	feet	4290	8270

Peak-Flow Statistics Flow Report [Foothills Region Peak Flow 2016 5099]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	ASEp
50-percent AEP flood	2260	ft^3/s	117
20-percent AEP flood	6410	ft^3/s	87
10-percent AEP flood	11100	ft^3/s	80
4-percent AEP flood	20000	ft^3/s	80
2-percent AEP flood	28900	ft^3/s	83
1-percent AEP flood	40700	ft^3/s	88
0.5-percent AEP flood	55000	ft^3/s	94
0.2-percent AEP flood	78100	ft^3/s	104

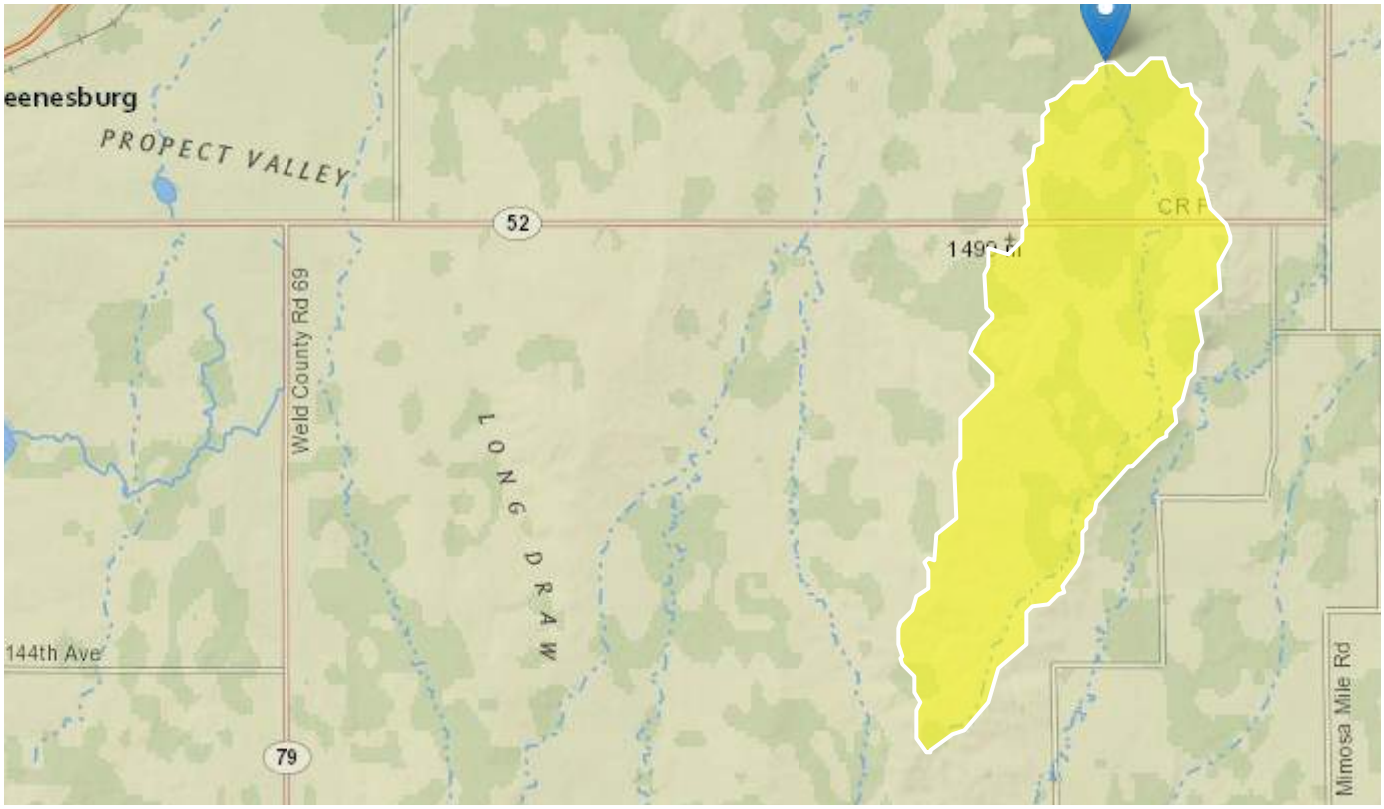
Peak-Flow Statistics Citations

Kohn, M.S., Stevens, M.R., Harden, T.M., Godaire, J.E., Klinger, R.E., and Mommandi, A.,2016, Paleoflood investigations to improve peak-streamflow regional-regression equations for natural streamflow in eastern Colorado, 2015: U.S. Geological Survey Scientific Investigations Report 2016–5099, 58 p. (http://dx.doi.org/10.3133/sir20165099)

Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

Rock Creek StreamStats Report

Region ID: CO
Workspace ID: CO20220126184549617000
Clicked Point (Latitude, Longitude): 40.11540, -104.13307
Time: 2022-01-26 11:46:10 -0700



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	35.9	square miles
I6H100Y	6-hour precipitation that is expected to occur on average once in 100 years	3.9	inches
STATSCLAY	Percentage of clay soils from STATSGO	24.18	percent
OUTLETELEV	Elevation of the stream outlet in feet above NAVD88	4667	feet

Peak-Flow Statistics Parameters [Foothills Region Peak Flow 2016 5099]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	35.9	square miles	0.6	2850
I6H100Y	6 Hour 100 Year Precipitation	3.9	inches	2.38	4.89
STATSCLAY	STATSGO Percentage of Clay Soils	24.18	percent	9.87	37.5
OUTLETELEV	Elevation of Gage	4667	feet	4290	8270

Peak-Flow Statistics Flow Report [Foothills Region Peak Flow 2016 5099]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	ASEp
50-percent AEP flood	540	ft^3/s	117
20-percent AEP flood	1760	ft^3/s	87
10-percent AEP flood	3210	ft^3/s	80
4-percent AEP flood	5960	ft^3/s	80
2-percent AEP flood	8780	ft^3/s	83
1-percent AEP flood	12500	ft^3/s	88
0.5-percent AEP flood	17200	ft^3/s	94
0.2-percent AEP flood	24900	ft^3/s	104

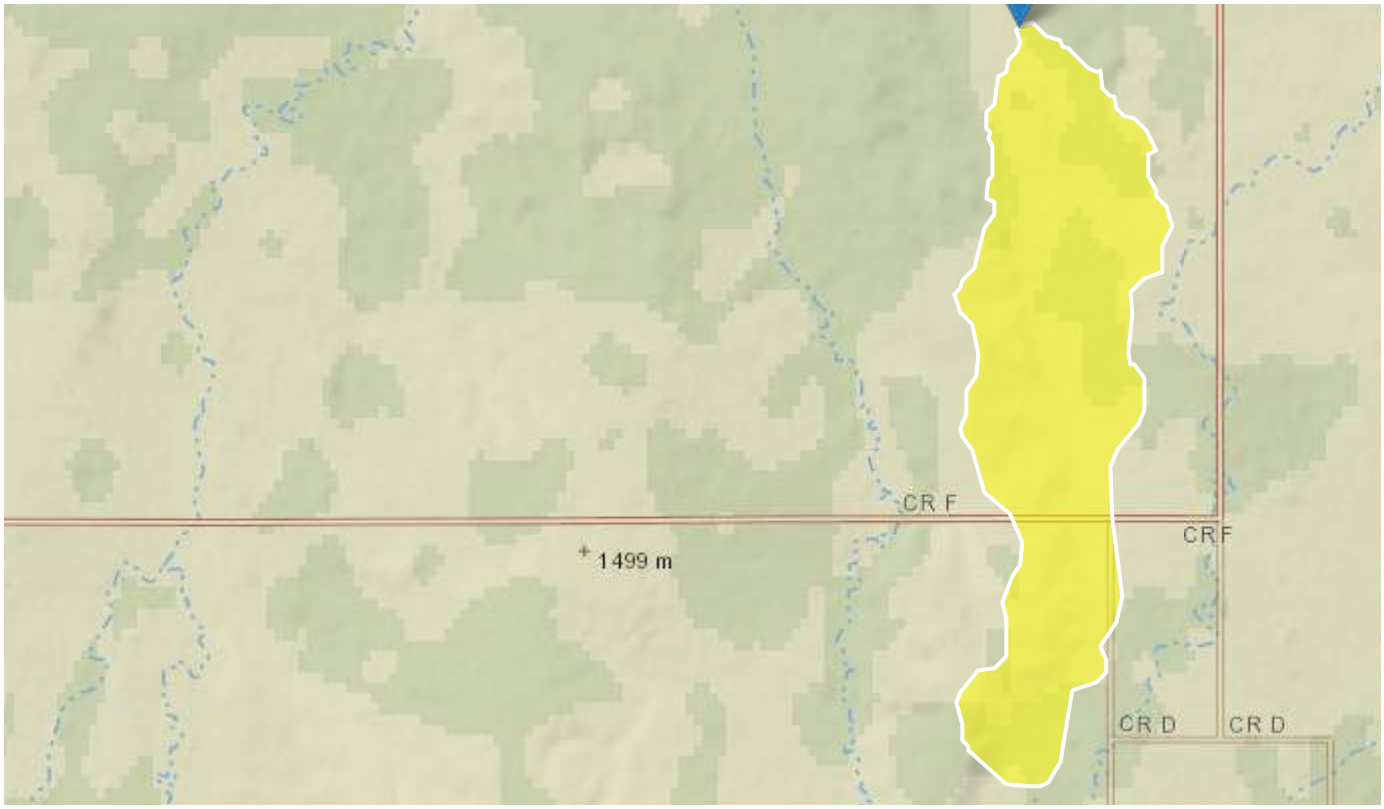
Peak-Flow Statistics Citations

Kohn, M.S., Stevens, M.R., Harden, T.M., Godaire, J.E., Klinger, R.E., and Mommandi, A.,2016, Paleoflood investigations to improve peak-streamflow regional-regression equations for natural streamflow in eastern Colorado, 2015: U.S. Geological Survey Scientific Investigations Report 2016–5099, 58 p. (http://dx.doi.org/10.3133/sir20165099)

Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

Eastern Tributary StreamStats Report

Region ID: CO
Workspace ID: CO20220126185734682000
Clicked Point (Latitude, Longitude): 40.13799, -104.09089
Time: 2022-01-26 11:58:02 -0700



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	8.2	square miles
I6H100Y	6-hour precipitation that is expected to occur on average once in 100 years	3.9	inches
STATSCLAY	Percentage of clay soils from STATSGO	17.27	percent
OUTLETELEV	Elevation of the stream outlet in feet above NAVD88	4630	feet

Peak-Flow Statistics Parameters [Foothills Region Peak Flow 2016 5099]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	8.2	square miles	0.6	2850
I6H100Y	6 Hour 100 Year Precipitation	3.9	inches	2.38	4.89
STATSCLAY	STATSGO Percentage of Clay Soils	17.27	percent	9.87	37.5
OUTLETELEV	Elevation of Gage	4630	feet	4290	8270

Peak-Flow Statistics Flow Report [Foothills Region Peak Flow 2016 5099]

PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	ASEp
50-percent AEP flood	165	ft^3/s	117
20-percent AEP flood	548	ft^3/s	87
10-percent AEP flood	1000	ft^3/s	80
4-percent AEP flood	1860	ft^3/s	80
2-percent AEP flood	2750	ft^3/s	83
1-percent AEP flood	3940	ft^3/s	88
0.5-percent AEP flood	5400	ft^3/s	94
0.2-percent AEP flood	7850	ft^3/s	104

Peak-Flow Statistics Citations

Kohn, M.S., Stevens, M.R., Harden, T.M., Godaire, J.E., Klinger, R.E., and Mommandi, A.,2016, Paleoflood investigations to improve peak-streamflow regional-regression equations for natural streamflow in eastern Colorado, 2015: U.S. Geological Survey Scientific Investigations Report 2016–5099, 58 p. (http://dx.doi.org/10.3133/sir20165099)

Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2