Washington City
Where Dixie Began

Washington City Power Board
Regular Meeting Agenda
August 4, 2026

PUBLIC NOTICE is hereby given that the Washington City Power Board will hold a Public Electronic Regular Meeting on **Tuesday August 4, 2026 at 5:00 P.M.** hosted at the Washington City Office located at 111 North 100 East, Washington, Utah The meeting will be broadcast via Youtube Live linked online at https://washingtoncity.org/meetings

1. **APPROVAL OF AGENDA**
2. **APPROVAL OF MINUTES**
    a. Approval of the minutes from 07/07/2026.
3. **REGULAR BUSINESS**
    a. Operations Report & Generation Update. - Power Director Rick Hansen
4. **UAMPS REPORT**
5. **ADJOURNMENT**

POSTED this 27th day of July, 2026
Rachel Hess, Administrative Assistant

In accordance with the Americans with Disabilities Act, Washington City will make reasonable accommodations to participate in the meeting. Requests for assistance can be made by calling the City Recorder at 656-6308 at least 24 hours in advance of the meeting to be held.

VERSION (DRAFT)

Preliminary Wildfire Risk Assessment Report

Washington City Power Department

JULY 2026

Prepared for:

WASHINGTON CITY POWER DEPARTMENT
4250 Telegraph St.
Washington, UT 84780
Contact: Rick Hansen

Prepared by:

DUDEK

687 S. Coast Highway 101, Suite 110
Encinitas, California 92024
Contact: Jeremy Cawn

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Jeremy Cawn
Fire Protection Planner

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
WUI	Wildland Urban Interface
IFTDSS	Interagency Fuel Treatment Decision Support System
FEMS	Fire Environment Management System
UWRAP	Utah Wildfire Risk Assessment Portal
Utility	Washington City Power Department
NWCG	National Wildfire Coordinating Group

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1 Introduction

The objective of this report is to provide UAMPS with an assessment of the wildfire risk present in Washington City Power Department's (Utility) service territory based on the environmental conditions that allow wildfires to ignite and spread (the fire environment) and the history of a fire in the St. George-Washington City area. This risk assessment describes the wildfire risk posed by potential ignition sources, including but not limited to electrical equipment. Understanding wildfire risk present within a utility's service territory is a foundational component in planning and implementing mitigation strategies to address this risk. Wildfire risk assessments can help justify expenditures for hardening or additional vegetation management, and support the development of a Wildfire Mitigation Plan that meets the requirements for Wildland Fire Protection Plans in Chapter 24 (Wildland Fire Planning and Cost Recovery Act) of the Utah State Code.

2 Methodology

This document outlines Dudek's methods for conducting this preliminary wildfire risk assessment. A preliminary review was conducted of the entire Washington City service territory and the surrounding lands to develop this assessment of wildfire risk to nearby structures and critical infrastructure.

Wildfire behavior modeling was conducted to evaluate anticipated fire behavior at or around Washington City's substations and distribution/transmission lines. The modeling provided a quantitative foundation for identifying the highest wildfire-risk areas and prioritizing them for fire mitigation activities.

Model inputs included topography, vegetation characteristics (fuel types, loading, and continuity), weather parameters, and other factors influencing fire behavior. The analysis was conducted using the Interagency Fuel Treatment Decision Support System (IFTDSS) to evaluate flame length and relative wildfire hazard by integrating spatial fuels, topography, and weather data with predictive fire behavior models. Vegetation conditions were represented using LANDFIRE data, which provides standardized information on fuel and vegetation attributes across the landscape.

Areas of focus for the modeling effort included the following components:

Conditional Flame Length Analysis

Flame length is the length of the flame of a spreading surface fire within the flaming front, measured from midway in the active flaming combustion zone to the average tip of the flames (Andrews et. al. 2008). Fireline personnel must evaluate fireline intensity, and it is a vital wildfire variable (Rothermel, 1993). ,Table 1 summarizes flame length and fireline intensity measurements and provides an interpretation of these measurements in relation to suppression efforts.

Table 1. Flame Length and Fire Intensity Measurements

Flame Length	Fireline Intensity	Interpretation
Under 4 feet	Under 100 BTU/ft/s	Fires can generally be attacked at the head or flanks by persons using hand tools. Hand line should hold the fire.
4 feet to 8 feet	100–500 BTU/ft/s	Fires are too intense for a direct attack on the head by persons using hand tools. Hand line cannot be relied on to hold the fire. Equipment such as dozers, pumpers, and retardant aircraft can be effective.
8 feet to 11 feet	500–1,000 BTU/ft/s	Fires may present serious control problems—torching out, crowning, and spotting. Control efforts at the fire head will probably be ineffective.
Over 11 feet	Over 1,000 BTU/ft/s	Crowning, spotting, and major fire runs are probable. Control efforts at the head of the fire are ineffective.

*British Thermal Units (BTU)

Conditional flame length (CFL) is the average flame length at a location, considering the likelihood and direction of fire spread at a given location. Traditional flame-length modeling often assumes head fire under fixed conditions, which can overstate intensity across large areas. CFL, by contrast, incorporates a full range of fire behavior (heading, flanking, and backing fire) across many simulated fires. The result is a more balanced, probability-informed estimate of fire intensity that better reflects how fire actually moves across the landscape.

Conditional flame-length modeling was conducted in IFTDSS using the landscape file inputs listed in Table 2 and custom weather parameters based on local conditions. Wildfire behavior modeling was performed under multiple 90th-percentile wind scenarios to provide a comprehensive assessment of wildfire behavior throughout the fire season and to capture variability in dominant wind patterns that influence fire spread.

In fire weather forecasting and fire behavior modeling, the 90th percentile refers to statistically derived weather conditions based on a historical record of observations (e.g., temperature, humidity, wind, and fuel moisture). This percentile represents severe or extreme conditions that strongly influence fire ignition, spread, intensity, and suppression difficulty. It is not a simple threshold but indicates how rare and extreme the conditions are relative to typical weather history for the same location and season.

For this assessment, two 90th-percentile wind scenarios were modeled to represent the most influential local wind regimes affecting the Service territory: prevailing winds and north-northeast winds. These scenarios were selected to capture differences in wind direction and speed that may result in varying fire spread patterns and areas of intensified fire behavior. Weather values for both scenarios were obtained from the White Reef (#422805) Remote Automated Weather Station (RAWS) located approximately 5 miles to the northeast of the Washington Coral Canyon substation. Weather data were processed using the Fire Family Plus software package to determine fuel moisture and wind inputs. The modeled 90th-percentile weather inputs are summarized in Table 2, Wildfire Behavior Modeling Inputs.

Table 2. Wildfire Behavior Modeling Weather Inputs

Model Input	Prevailing 90th Percentile Weather	North-Northeast 90th Percentile Weather
Wind Speed*	38 mph	27 mph
Wind Direction	204 degrees	40 degrees
Wind Type	Gridded	Gridded
1-Hour Fuel Moisture	3%	3%
10-Hour Fuel Moisture	6%	6%
100-Hour Fuel Moisture	5%	5%
Herbaceous Fuel Moisture	30%	60%
Live Woody Fuel Moisture	30%	60%
Crown Fire Calculation Method	Scott/Reinhardt	Scott/Reinhardt

* Average of wind speed and gust.

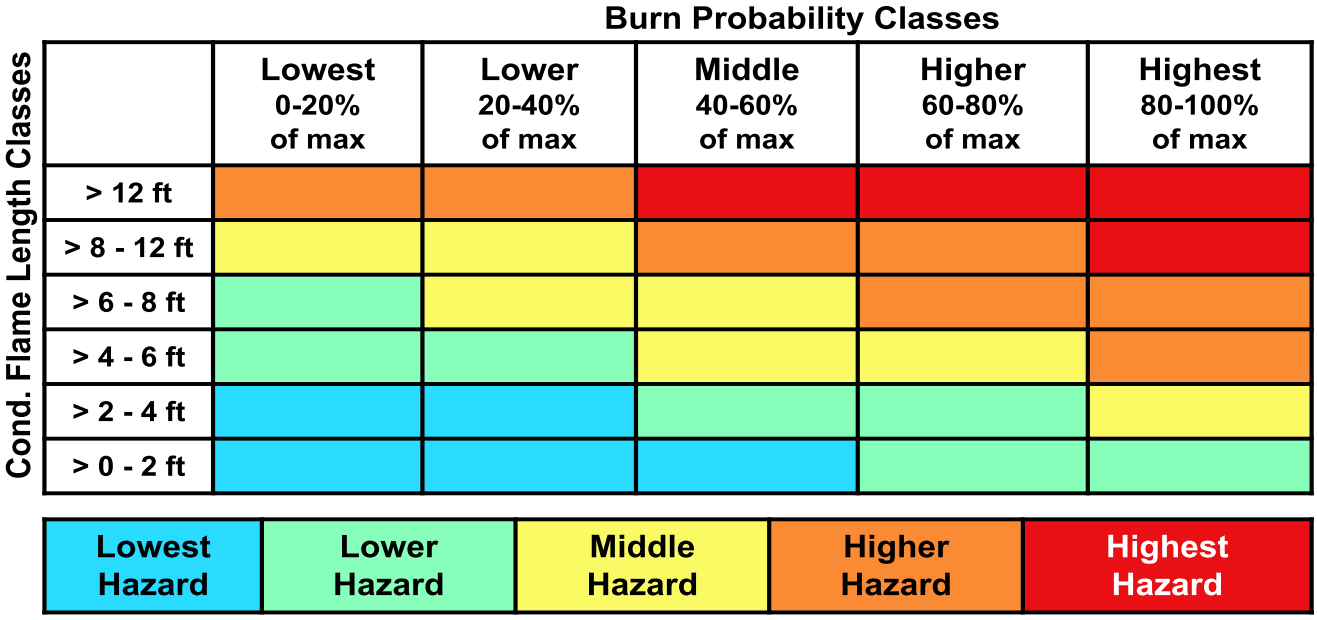
To identify worst-case fire behavior conditions, results from both 90th-percentile wind scenarios were overlaid to capture the highest modeled flame lengths across a range of potential weather patterns. By combining results from both scenarios, the analysis ensures that the final output accounts for the most severe fire behavior that could occur under differing yet plausible weather conditions.

Relative Wildfire Hazard

A Washington City Power Department service-territory relative wildfire-hazard assessment was conducted in IFTDSS, integrating the conditional flame length (representing fire intensity) and burn probability. The burn probability output in IFTDSS represents the likelihood that any given point on the landscape will burn, based on thousands of simulated wildfire scenarios. Each pixel on the map is assigned a value between 0 and 1, indicating how often that location burned across all simulations. For example, a burn probability of 0.20 means the area burned in 20% of the modeled fires. This output is generated by repeatedly simulating fire ignitions and spread under 90th-percentile weather conditions.

The relative wildfire hazard modeling analysis generated five hazard classes based on the intersection of burn probability and conditional flame length values, as shown in Exhibit 1.

Exhibit 1. Relative Wildfire Hazard Classification Matrix



3 Results

Washington City Power Department Service Territory Fire Environment Summary

Washington City Power Department Service Territory encompasses 22.15 square miles extending from the St. George city limits on its west side to Utah Highway 9 on the east side. Washington City Power Department generally serves the area north of the Virgin River and within the Washington City limits, including a portion of the north side of the Interstate (I-15) Freeway corridor. The majority of the Utility's assets are above- and below-ground distribution lines that provide electrical service to customers in the urban areas of Washington City. Washington City Power's transmission assets are limited to a 69 kV lines that extend across its service territory from north to south (Washington Parkway Substation to Millcreek Substation (UAMPS)) and east to west (Interconnect on Red Cliffs Drive to the RMP Purgatory Substation)

Washington City Power Department assets include:

- 31 miles of overhead distribution lines,
- 191 miles of primary underground distribution lines
- 12 miles of overhead transmission lines.

In addition to its distribution and transmission lines, Washington City Power's assets include seven substations, located in or adjacent to urban areas throughout the service territory. In addition to the assets owned and operated by Washington City Power, there is a 69 kV transmission line that extends through its service territory in the Country Way area that is owned by UAMPS (UGRC 2019).

While the St. George area is characterized by large open spaces with rocky and rugged terrain and covered with a mix of grass and sage scrub Washington City Power's service territory covers a large area that includes the urban areas of Washington City north of the Virgin River and the undeveloped areas north of I-15 and the Red Cliffs Desert Reserve. Washington City Power assets are located in predominantly urban or developed areas, where the native terrain and vegetation have been disrupted by grading and property development. The Wildland Urban Interface (WUI) within Washington City Power's service territory, the area where the wildlands meet or intermingle with developed areas, occurs along the boundaries of development in the areas north of I-15. WUI also occurs in the Coral Canyon and Sienna Hills areas, where open space separates residential communities. Washington City Power Department has two sections of lines that extend north of the urban areas of the city onto undeveloped open space, a section of lines that extends north from Washington Parkway Substation to City water wells in the Red Cliffs Desert Reserve, and a line that extends north from Grapevine Substation to meters in the Red Cliffs Desert Reserve. Vegetation cover in open spaces within the WUI and undeveloped areas consists of creosote desert scrub composed of blackbrush, creosote, and scrub live oak (UARC 2021).

According to fire history data available from the National Wildfire Coordinating Group and the Utah Risk Assessment Portal, 26 wildfires have occurred within 5 miles of Washington City Power Department Service Territory, four of which have fire perimeters that overlapped Washington City Power Department asset locations, including three fires on the north side of the city and one on the south side of the city. These included the 2000 Wing Fire and the 2014 Spring Canyon Fire, both of which had fire perimeters extending to the rear of homes along the city's east edge. Figure 1 shows a map of the recorded wildfires that have occurred within 5 miles of the Washington City Power Department service territory.

Washington City Power Department Fire Hazard

As noted above, the Washington City Power Department service territory contains both highly urban, non-WUI areas and WUI areas where unmanaged wildlands meet the city's developed areas. The WUI areas occur along the north side of the city, where Washington City Power Department assets extend into the residential communities near the edge of the Red Cliffs Desert Reserve, and on the east side of the city, where Washington City Power Department assets extend into the residential communities in the Coral Canyon area, which are separated by open space areas. Wildfire hazard in Washington Power's service territory is highest in these WUI areas and along the few sections of lines that extend into Red Cliffs Desert Reserve to serve city water wells. Wildfire hazard is generally very low in the urban, non-WUI areas of its service territory due to a lack of combustible vegetation and the presence of large areas of non-combustible surfaces. This is visible in the Wildfire Hazard Classification Map shown in Figure 2. Wildfire hazard in the Washington City Power Department service territory rapidly increases to moderate, high, and very high along the north side of the city at the edge of the developed areas, including the residential communities along Washington Parkway and North Concord Parkway. In these areas, wildfire hazard is increased by the presence of continuous desert scrub adjacent to structures at the edges of these residential areas. Wildfire hazard is similarly high to very high in the open space areas that separate the residential communities in Coral Canyon. In these areas, wildfire hazard is increased by the combination of steep terrain and continuous desert scrub intermixed with residential communities. Figure 2 indicates that wildfire hazard is highest in open spaces between residential communities in Coral Canyon. This is due to the relatively thicker, denser desert scrub vegetation on these hillsides compared to the hillsides in the Red Cliff Reserve near the edge of the city's developed areas. Flame lengths, which are a good visual indicator of fire intensity, are shown in Figure 3 (NWCG, n.d.). This difference in wildfire hazard due to the continuity and overall volume of vegetation cover is evident in Figure 3, with higher fire intensities in Coral Canyon than in the WUI area along the edge of the Red Cliff Desert Reserve.

Washington City Power Department Equipment and Lines Fire Risk

The vulnerability of the equipment and facilities in Washington City Power Department service territory to ignition by a wildfire varies. Equipment and facilities located in largely urban areas along Interstate 15, and not in a WUI area where Washington City Power Department assets can be exposed to wildfire, have low vulnerability due to the lack of nearby combustible vegetation. Vulnerability to wildfire increases in the areas where its equipment and facilities are located in a WUI area and adjacent to or within an area with unmanaged vegetation. However, this increase in vulnerability is limited to overhead lines in WUI areas. Underground lines, which make up the majority of Washington City Power Department primary and secondary distribution lines in the WUI areas, are underground and located in the street with the structure (and yard) between the lines and the nearest wildland or open space area. While these lines are in an area with higher wildfire vulnerability due to nearby combustible vegetation, the electrical equipment is not vulnerable because it is located underground. The exception to this is two sections of overhead primary distribution lines that extend north from Washington Parkway (Mill Creek and Grapevine Trails) and service several city water wells in the Red Cliffs Desert Reserve. These two distribution lines are highly vulnerable due to the continuous vegetation along and beneath them and their support on wooden poles, which can be ignited during a wildfire. Substations in the WUI areas (Grapevine and Washington Parkway) have low vulnerability despite higher potential for wildfire exposure because the substation equipment is largely constructed of non-combustible materials and sits on a non-combustible side pad. Therefore, the Washington City Power Department transmission lines are more vulnerable to ignition by wildfire because they are long sections that pass through WUI areas and are exposed to unmanaged combustible vegetation, which is predicted to produce higher fire intensities (Figure 2), and are more likely to ignite the wood poles. This includes the section of transmission lines along Washington Parkway extending from the end of Via Del Sol, the portion along Telegraph Road in Sienna Hills and Coral Canyon,

References

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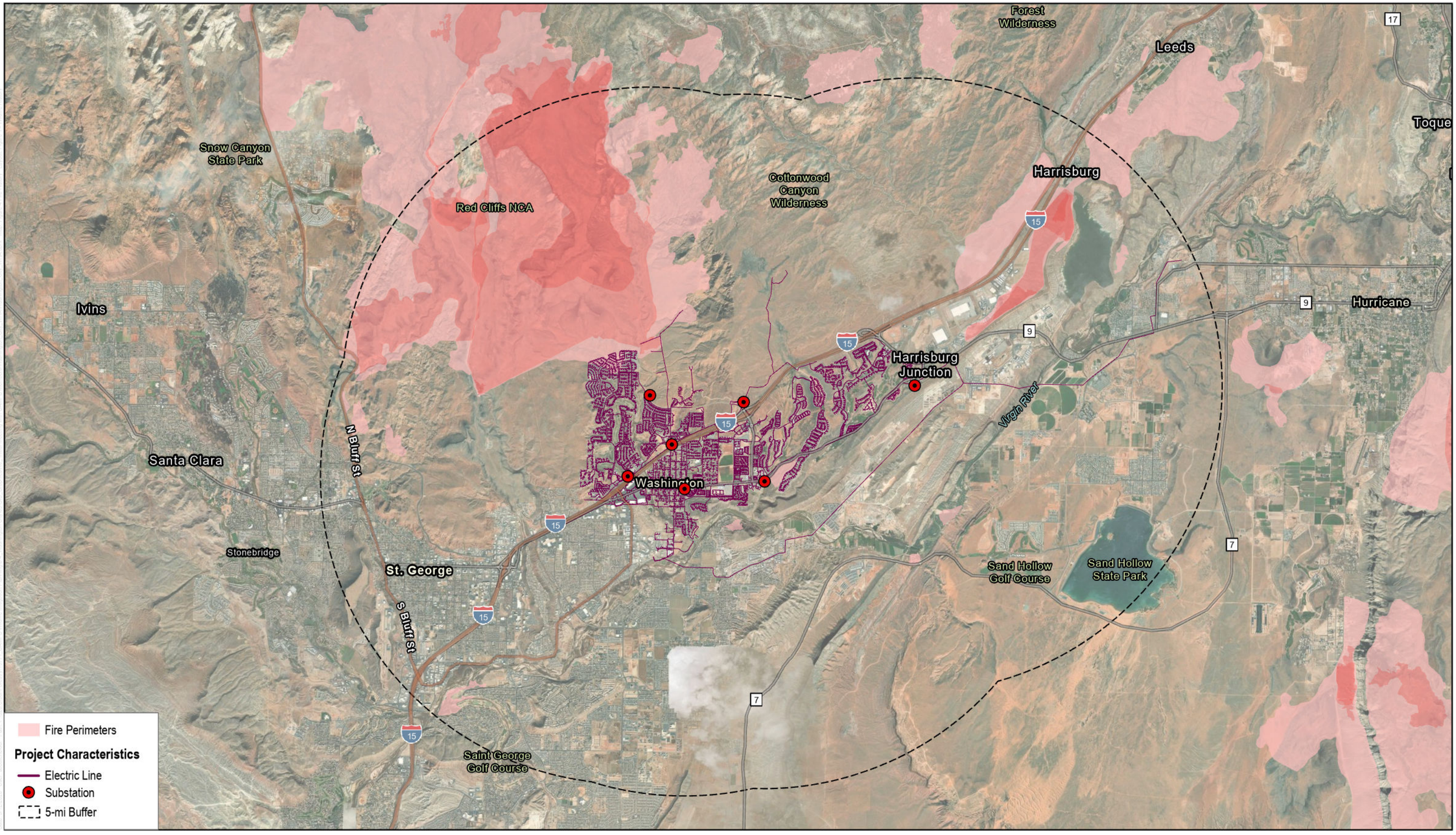
Figure 1 Wildfire History



SOURCE: Utah DNR - FFSL 2022

DUDEK

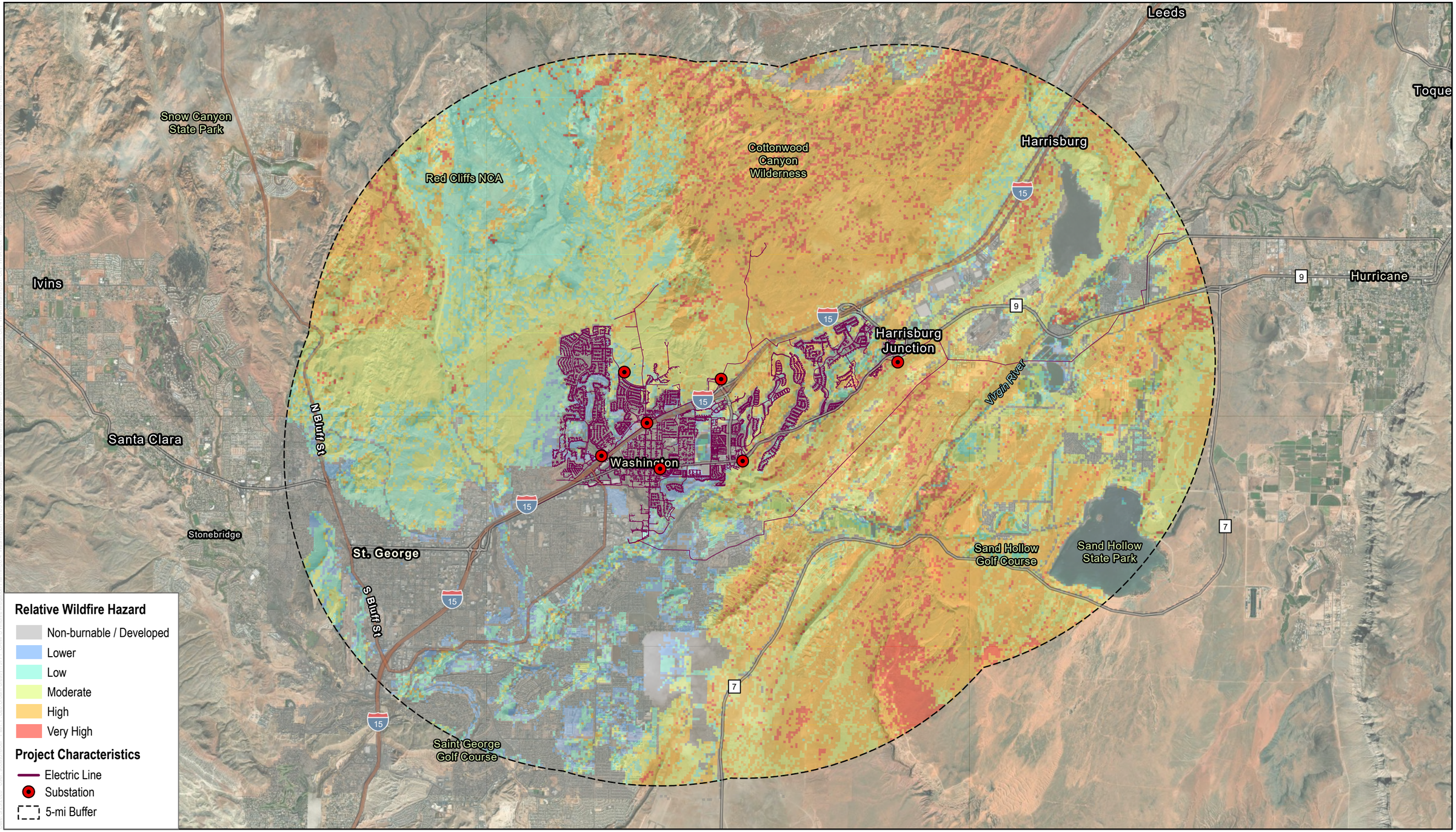
0 1 2 Miles

FIGURE 1

Wildfire History

Washington City - Wildfire Risk Assessment

Figure 2 Relative Wildfire Hazard



SOURCE: Dudek 2026

DUDEK

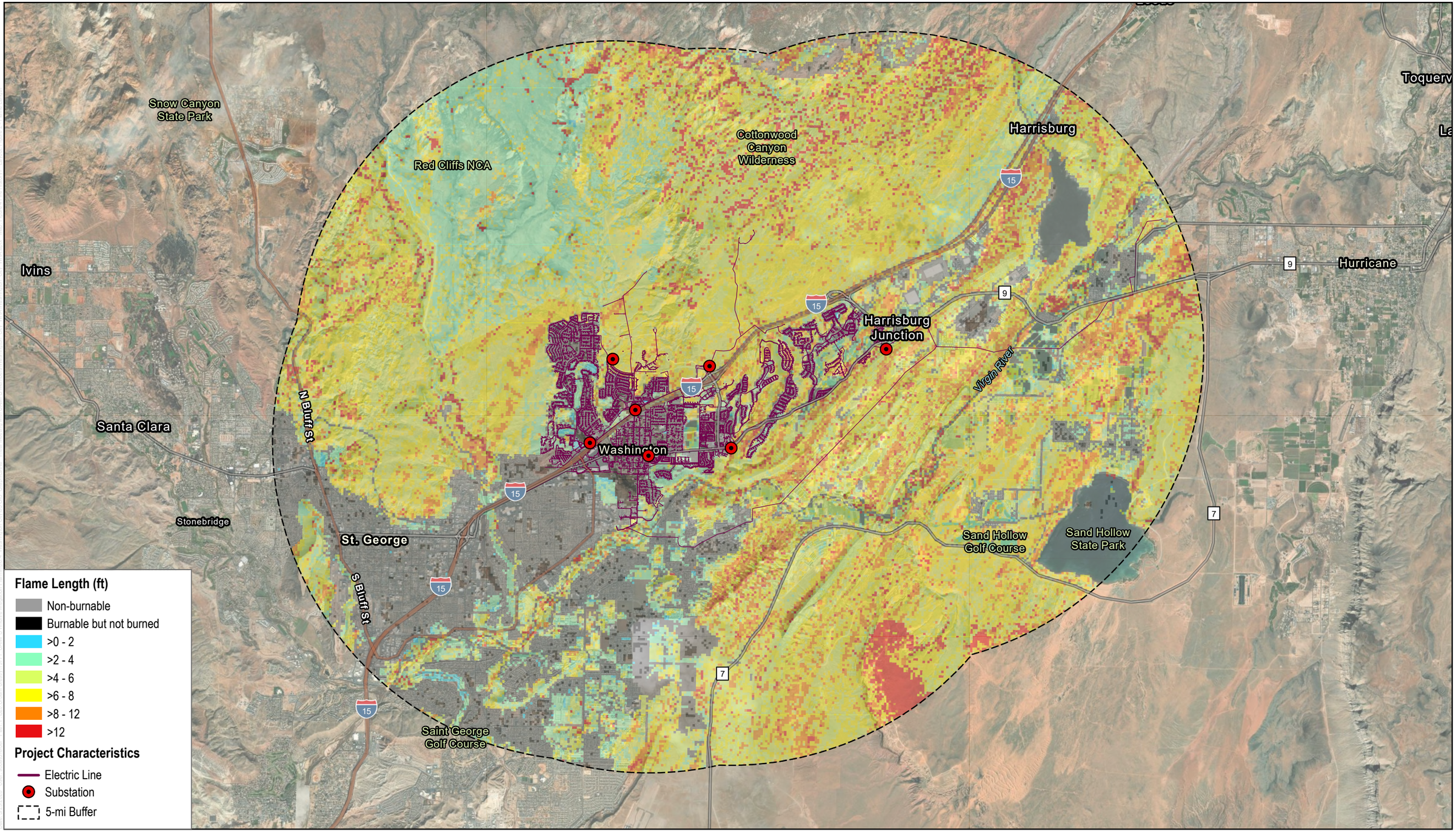
0 1 2 Miles

FIGURE 2

Relative Wildfire Hazard

Washington City - Wildfire Risk Assessment

Figure 3 Conditional Flame Lengths



SOURCE: Dudek 2026

DUDEK

0 1 2 Miles

FIGURE 3

Flame Length (ft)

Washington City - Wildfire Risk Assessment