City of Norman Community Wildfire Protection Plan

2025

Prepared for the

City of Norman, Oklahoma

Prepared by

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Oklahoma City, Oklahoma

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The City of Norman (Norman) Community Wildfire Protection Plan (CWPP) is an initiative of Norman led by the Norman Forestry Division and Norman Fire Department to help its citizens understand wildfire risk, prepare for it, and avoid preventable impacts of future wildfires.

Norman, the Norman Fire Department (NFD), and the Oklahoma Forestry Services (OFS) have approved this CWPP. This plan is intended to share information and serve as a planning tool for fire and land managers and property owners to assess risks associated with wildland fire and identify strategies and make recommendations for reducing those risks.

_____ _____
Joel Chesser, Assistant Fire Chief Date
City of Norman

_____ _____
Larry Heikkila, Mayor Date
City of Norman

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Colin Zink, City Forester Date
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James Briggs, Park Development Manager Date
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David Grizzle, Emergency Manager Date
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_____ _____
Aaron Williams, Hazardous Mitigation Coordinator Date
Oklahoma Forestry Services

Acknowledgements

In the true spirit of collaboration, the following agencies noted in **Table 1** are acknowledged for their participation and commitment resulting in the 2025 Norman CWPP.

Table 1: Acknowledgements

Agency
City of Norman
Oklahoma Electric Cooperative
Oklahoma Forestry Services
Oklahoma Gas and Electric
Thunderbird State Park
University of Oklahoma

Executive Summary

The Norman Community Wildfire Protection Plan (CWPP) is a strategic, professional-level planning framework developed to guide the City of Norman's efforts in reducing wildfire risk, enhancing public safety, and strengthening long-term community resilience. Designed for municipal application, this plan is intended to directly inform and support the development of Norman's Emergency Operations Plan (EOP), ensuring wildfire-specific strategies are integrated into broader emergency management protocols.

Created through collaboration with local, state, and federal partners, the CWPP offers a non-regulatory yet actionable roadmap for wildfire mitigation, preparedness, and recovery. It also establishes a foundation for securing local, state, and federal funding through alignment with key legislation and initiatives, including the Healthy Forests Restoration Act (HFRA) and the National Cohesive Wildland Fire Management Strategy.

Key Objectives

- Protect lives, property, and critical infrastructure.
- Strengthen community resilience to wildfire impacts.
- Foster interagency coordination and stakeholder collaboration.

Priority Areas

- The CWPP identifies and focuses on Norman's most vulnerable zones, including the following:
- Wildland-Urban Interface (WUI) areas: Where homes and flammable vegetation intersect.
- Infrastructure corridors and public green spaces: Susceptible to direct and indirect wildfire impacts.

Core Components

- Risk Assessment: In-depth evaluation of wildfire hazards, vulnerabilities, and exposure throughout Norman.
- Community Collaboration: Prioritization of public engagement and coordination among city departments and regional partners to support a fire-adapted community.
- Action Plan: Strategic, prioritized initiatives for the following:
- Defensible space creation and fuel reduction.
- Structural hardening of buildings.

- Emergency preparedness planning.
- Public education and outreach.
- Prescribed Fire Program: Promotion of controlled burns to reduce fuel loads and mitigate future wildfire risk.
- Implementation and Maintenance: Establishment of clear roles, monitoring procedures, and a schedule for annual reviews and five-year plan updates.

Integration with Emergency Plans

The CWPP will directly support the development and refinement of Norman's EOP by providing wildfire-specific hazard mitigation strategies, operational protocols, and community coordination mechanisms. Additionally, the CWPP will inform and align with other critical city emergency planning documents, including the Hazard Mitigation Plan and any other city emergency plan. This comprehensive integration ensures a unified, all-hazards emergency management approach that enhances Norman's ability to prepare for, respond to, and recover from wildfire events and other disasters.

Funding

By aligning with federal and state wildfire protection priorities and demonstrating a professional, city-scale approach, the CWPP positions Norman to pursue funding opportunities through the following:

- FEMA Hazard Mitigation Assistance programs.
- U.S. Forest Service (USFS) and Bureau of Land Management (BLM) grants.
- State emergency management and forestry programs.
- Public-private partnerships and non-profit grant initiatives.

Conclusion

The Norman CWPP is more than a planning document—it is a catalyst for coordinated action and long-term resilience. Designed for use at the municipal professional level, it not only informs emergency planning through integration with the EOP but also opens pathways for vital funding to support mitigation, preparedness, and response. Through this plan, Norman is building a safer, fire-resilient future in the face of increasing wildfire threats.

List of Acronyms

Table 2: List of Acronyms

Title	Definition
BLM	Bureau of Land Management
CWDG	Community Wildfire Defense Grant
CWiRRZ	Community Wildfire Risk Reduction Zone
CWPP	Community Wildfire Protection Plan
EMAC	Emergency Management Assistance Compact
EMPG	Emergency Management Performance Grant
EOP	Emergency Operation Plan
FBFM40	40 Scott and Burgan Fire Behavior Fuel Model
FEMA	Federal Emergency Management Agency
FLAME	Federal Land Assistance, Management, and Enhancement Act
FMAG	Fire Management Assistance Grants
FP&S	Fire Prevention and Safety
FST	Fire Service Training
GIS	Geographic Information Systems
HFRA	Healthy Forests Restoration Act
HOA	Homeowners Association
HMGP	Hazard Mitigation Grant Program
HMGP-PF	Post Fire Hazard Mitigation Grant Program
HMP	Hazard Mitigation Plan
IFTDSS	Interagency Fuel Treatment Decision Support System
NCWFM	National Cohesive Wildland Fire Management
NEPA	National Environmental Protection Act
NFD	Norman Fire Department
NFPA	National Fire Protection Association
OFS	Oklahoma Forestry Services
OSU	Oklahoma State University
OU	University of Oklahoma
SouthWRAP	Southern Wildfire Risk Assessment Portal
U.S.	United States
USDA	United States Department of Agriculture
USFS	United States Forest Service
WFMRD&A	Wildland Fire Management Research, Development, and Application Program
WUI	Wildland-Urban Interface

Section 1: Introduction

1.1 Plan Purpose

The City of Norman CWPP 2025 is the first to address the protection of assets specific to the City of Norman, Oklahoma. The goal of all CWPPs is to describe the risk of wildfire and outline the priorities, strategies, and action plans for fuels reduction treatments in the Wildland-Urban Interface (WUI). This CWPP also summarizes public resources for reducing structural vulnerability. It is intended to be a living document that connects community members through fire risk education and catalyzes action for fuel reduction projects to decrease overall loss from wildland fire. It should be revisited at least annually by fire responders for operational familiarity and at least every five (5) years by a steering committee to address landscape changes, goals, and associated outcomes.

The purpose of the Norman CWPP is to accomplish the following:

- Protect lives and property from wildland fires.
- Increase the community's ability to prepare for, respond to, and recover from wildland fires.
- Increase public understanding of living in a fire-resilient ecosystem.
- Inspire interagency cooperation and the need for taking preventative action to protect private property.
- Improve the fire resilience of the landscape while protecting other social, economic, and ecological values.

1.2 Importance of Developing a CWPP

The City of Norman (Norman) CWPP 2025 is the first to address the protection of assets specific to Norman, Oklahoma. The goal of all CWPPs is to describe wildfire risk and outline priorities, strategies, and action plans for fuels reduction treatments in the WUI. This CWPP also summarizes public resources for reducing structural vulnerability. It is intended to be a living document that connects community members through fire risk education and catalyzes action for fuel reduction projects to decrease overall loss from wildland fire. Fire responders should revisit this CWPP at least annually for operational familiarity. A steering committee should review this document at least every five (5) years to address landscape changes, goals, and associated outcomes.

The Norman CWPP has the following purposes:

- Protect lives and property from wildland fires.

- Increase the community's ability to prepare for, respond to, and recover from wildland fires.
- Increase public understanding of living in a fire-resilient ecosystem.
- Inspire interagency cooperation and the need for taking preventative actions to protect private property.
- Improve the landscape's fire resilience while protecting other social, economic, and ecological values.

1. Reducing Wildfire Risks in Vulnerable Communities. Oklahoma has many rural and suburban areas with higher wildfire risk due to factors such as dense vegetation, dry conditions, and proximity to forests or grasslands. A CWPP helps identify these high-risk areas and implements strategies to reduce the likelihood of wildfire through prescribed burns, defensible space creation around properties, and improved land management practices. By creating defensible space around homes, communities can lower the risk of fire damage and protect both residents and structures.

2. Enhancing Firefighting and Emergency Response. A CWPP provides a comprehensive framework for coordinating firefighting efforts and emergency responses across various local, state, and federal agencies. In Oklahoma, where wildfire seasons can be unpredictable, timely and efficient coordination is essential for saving lives and property. The plan establishes clear communication channels, resource-sharing agreements, and emergency evacuation routes, enabling first responders to act quickly and efficiently during a wildfire event. This collaborative approach improves response times and helps ensure that communities receive the support they need when wildfire strikes.

3. Promoting Community Awareness and Engagement. A key CWPP component is educating residents about wildfire risks and prevention strategies. In Oklahoma, many communities are not always aware of threats wildfires pose, especially in rural areas where people may be living in or near wildfire-prone regions. A CWPP fosters community involvement by encouraging residents to participate in mitigation efforts, learn fire safety practices, and understand evacuation plans. This grassroots engagement is critical to creating a culture of preparedness and resilience, ensuring that everyone is ready to act when needed.

4. Protecting Oklahoma's Natural Resources. Oklahoma is home to a variety of valuable natural resources, including forests, wildlife habitats, and agricultural lands. Wildfires can devastate these ecosystems, resulting in long-term environmental damage, loss of biodiversity, and soil erosion. By implementing a CWPP, the state can focus on fire prevention and suppression efforts that protect Oklahoma's natural heritage. These efforts include managing hazardous fuels, preserving wildlife corridors, and reducing fire hazards in areas of high ecological value.

5. Supporting Economic Stability. Wildfires not only pose a risk to lives and property but also have a significant economic impact on local economies, especially in areas dependent on agriculture, tourism, and outdoor recreation. In Oklahoma, wildfires can destroy crops, damage infrastructure, and disrupt essential services. By reducing wildfire frequency and severity through a well-crafted CWPP, communities can safeguard their economic interests and protect

Oklahomans' livelihoods, ensuring that agricultural operations and rural businesses are less vulnerable to fire damage.

6. Strengthening State and Federal Collaboration. A CWPP in Oklahoma enhances the state's ability to work with federal agencies, such as the United States (US) Forest Service and the Federal Emergency Management Agency (FEMA), to secure funding, resources, and technical assistance for wildfire mitigation and response efforts. With increasing wildfire frequency across the nation, cooperation between state and federal agencies is essential to tackling this complex issue. A CWPP ensures that Oklahoma is aligned with federal guidelines and priorities, enabling the state to access additional support for prevention, suppression, and recovery efforts.

Conclusion. A CWPP's importance to the welfare of Norman, Oklahoma, is clear. As the state continues to face the challenges of growing wildfire risks due to climate change, population growth, and evolving land use, a CWPP offers a structured, collaborative approach to minimizing these risks. By identifying vulnerable areas, improving fire management practices, educating residents, and ensuring effective coordination during emergencies, Norman can enhance its resilience against wildfires, protect its natural resources, and preserve the safety and well-being of its communities.

1.3 Policy Background Related to CWPPs

The Healthy Forest Restoration Act of 2003 was the initiating legislation for the development of CWPPs. This legislation encourages communities to develop these plans to help reduce their risk of wildfire loss as well as create healthier natural ecosystems. This act also provides allowances to expedite the National Environmental Protection Act (NEPA) process for fuels reduction projects on federal lands. When a CWPP is in place, community groups and municipalities can apply for federal grants to treat hazardous fuels and address special concerns to reduce the risk of catastrophic loss from wildland fire.

In 2009, Congress passed the Federal Land Assistance, Management, and Enhancement (FLAME) Act which called for a National Cohesive Wildland Fire Management Strategy (NCWFM), developed in 2014 and amended in 2023, to provide a framework for addressing wildland fire challenges across the nation. The Cohesive Strategy's vision is "To safely and effectively extinguish fire, when needed; use fire where allowable; manage our natural resources; and collectively, learn to live with wildland fire."

The Cohesive Strategy's goals follow:

- Resilient Landscapes: Landscapes, regardless of jurisdictional boundaries, are resilient to fire, insect, disease, invasive species, and climate change disturbances in accordance with management objectives.
- Fire-Adapted Communities: Human populations and infrastructure are prepared as much as possible to receive, respond to, and recover from wildland fire.

- Safe and Effective Risk-Based Wildfire Response: All authorities, responding in all land types, participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

The Norman CWPP focuses on achieving a CWPP's three (3) minimum requirements described by the Healthy Forests Restoration Act (HFRA):

- Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
- Prioritized Fuel Reduction: A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
- Treatment of Structural Ignitability: A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

1.4 Existing Plans and Policies

The Norman CWPP complements and supports a comprehensive framework of federal, state, and local plans, policies, and programs related to wildfire risk mitigation and emergency planning. These connections ensure that wildfire resilience efforts align with regulatory requirements and funding eligibility while also leveraging regional priorities and community values specific to Norman. **Table 3** outlines existing plans and policies.

Table 3: Existing Plans and Policies

Policy	City of Norman CWPP Addresses Policy
Federal Policy Requirements	
Healthy Forests Restoration Act (HFRA)	Supports federal fuel reduction efforts by focusing action in high-priority WUI zones. Local, state, and federal stakeholders collaboratively developed the CWPP that prioritizes fuel reduction projects in and around Norman and recommends strategies for reducing structural ignitability.
National Fire Plan – 10-Year Comprehensive Strategy	Provides a collaborative framework for implementing wildfire risk reduction, aligning with the plan's goals of firefighting capacity, rehabilitation, fuels treatment, community assistance, and accountability. The CWPP Advisory Committee serves as the local coordination body for related projects.
Disaster Mitigation Act of 2000	The Norman CWPP serves as a wildfire annex to the Cleveland County Natural Hazards Mitigation Plan, enabling access to federal hazard mitigation funding.
FLAME Act (2009) – Cohesive Wildland Fire Management Strategy	Supports a multi-agency, stakeholder-driven approach to restoring landscapes, building fire-adapted communities, and improving wildfire response capacity across the Norman area.
State Policy Requirements	

Policy	City of Norman CWPP Addresses Policy
Oklahoma Forestland-Urban Interface Fire Protection Act (Defensible Space Law)	Identifies and designates local WUI areas; the CWPP's advisory group may assist in developing classification criteria and promoting landowner wildfire mitigation actions.
Oklahoma Natural Hazards Mitigation Plan (2024)	Incorporates wildfire risk data that aligns with statewide hazard vulnerability and mitigation priorities.
Oklahoma Forest Action Plan (2015)	Prioritizes local communities at risk within the Norman region and outlines strategies for fuels reduction and forest restoration. The CWPP provides local actions and identifies funding opportunities.
Local and Regional Plans	
Cleveland County Natural Hazards Mitigation Plan (2020)	Supplies wildfire risk data and strategies to reduce vulnerability across the Norman area.
City of Norman Comprehensive Plan	The CWPP's wildfire risk assessment supports updates to the Natural Hazards Inventory and guide future land use regulations in rural and fringe areas surrounding Norman.
City of Norman EOP	Enhances pre-incident planning and coordination by aligning wildfire response roles and responsibilities outlined in the EOP with CWPP action strategies.
City of Norman Parks and Recreation Master Plan	Identifies wildfire risks in or near parks and open spaces and informs future fuel reduction and vegetation management priorities for publicly owned recreational land in the Norman area.

1.5 CWPP Planning Process

The process of creating and implementing a CWPP involves several steps to ensure that the community is prepared, vulnerable areas are identified, and proactive measures are taken to protect people, property, and the environment.

1. Preliminary Planning and Team Formation. Form a planning team that includes local government agencies, fire departments, and other stakeholders (e.g., utility companies, environmental groups). The steering committee will define the CWPP's primary goals and available resources, including funding, tools, expertise, and community support, to guide the CWPP's development.

2. Risk Assessment and Hazard Mapping. Analyze the wildfire risks to the community by considering factors such as vegetation types, topography, weather patterns, and historical fire activity. This effort can involve data collection from local fire agencies and other sources. Create maps that highlight areas of high fire risk, including WUI zones (areas where human development meets wildland areas), and areas with significant fire hazards, such as dense vegetation or dry, windy conditions. Identify key infrastructure (e.g., roads, utilities, water sources) and assess wildfire vulnerability and potential impacts.

3. Stakeholder Engagement and Input. Engage local agencies by hosting meetings to gather input on areas at greatest risk, concerns, and ideas for wildfire prevention and mitigation.

4. Setting Priorities for Mitigation and Protection. Based on risk assessment and community input, develop strategies to reduce wildfire risk. Prioritize areas or structures that need immediate mitigation efforts, including evacuation routes, critical infrastructure, and residential zones near high-risk areas.

5. Developing Response and Recovery Strategies. Identify and ensure adequate firefighting resources, such as equipment, personnel, and mutual aid agreements with neighboring communities or agencies. Increased firefighting personnel, equipment and associated resources will be necessary to fully support the goals of the CWPP

6. Implementing Mitigation and Prevention Measures. Begin implementing the mitigation measures identified in the CWPP. Collaborate with local governments, fire agencies, and non-profits to carry out wildfire prevention activities. Seek funding from state and federal programs (e.g., FEMA or state forestry grants) to support mitigation projects.

7. Training and Education. Educate the community on wildfire preparedness, including how to create defensible space, safely evacuate, and prepare emergency kits. Conduct training sessions and simulated wildfire evacuation drills to ensure residents are familiar with emergency procedures.

8. Monitoring, Evaluation, and Adaptation. Regularly assess the CWPP's effectiveness and make updates based on new risks, data, or community feedback. Evaluate the success of mitigation measures and response plan readiness. Adapt the CWPP to incorporate new strategies, technologies, or lessons learned from previous wildfires.

9. Review and Update the CWPP. Review and update the CWPP regularly, at least every five (5) years to account for changes in the community, environment, and risks. Re-engage stakeholders during the review process to gather input on plan updates and changes.

A CWPP is a comprehensive strategy to reduce wildfire risks and enhance preparedness in wildfire-prone areas. The CWPP process involves risk assessments, community engagement, mitigation efforts, emergency response planning, and ongoing evaluation. By following these steps, communities can better protect their residents, infrastructure, and natural resources from the devastating effects of wildfires. **Table 4** below offers a timeline of CWPP development activities.

Table 4: Norman CWPP Meetings

Date	Activity Type	Description
November 21, 2024	Planning Meeting	Project kick-off.
February 11, 2025	Planning Meeting	Met with each fire department station to discuss areas of concern.
February 26, 2025	Planning Meeting	Discussed fire departments' finds and draft information.

Date	Activity Type	Description
March 26, 2025	Stakeholder Meeting	Gathered stakeholder to introduce CWPP and mutual aid agreements.
April 30, 2025	Planning Meeting	Discussed initial draft comments and revisions.
May 13, 2025	Stakeholder Meeting	Discussed stakeholder comments for final draft.
May 27, 2025	Planning Meeting	Present to Norman City Council for approval.

Section 2: Stakeholders and Collaboration

A core element of developing a Community Wildfire Protection Plan (CWPP) is ensuring meaningful and ongoing collaboration with stakeholders and the community. The City of Norman (Norman) CWPP provides a framework for gathering local input, identifying high-risk areas, and creating a prioritized list of projects and strategies to reduce wildfire hazards and increase community resilience.

Throughout the development of the 2025 Norman CWPP, the planning team adopted a community-centered approach, incorporating feedback from a wide range of local, regional, and state partners. The CWPP advisory committee includes representatives from Norman Fire Department (NFD), City of Norman Emergency Management, the Oklahoma Forestry Service (OFS), the University of Oklahoma, Lake Thunderbird State Park, the City of Norman Parks and Recreation, and utility providers. The committee helped identify vulnerable assets, wildfire-prone neighborhoods, and critical infrastructure at risk.

Community and stakeholder input was collected through the following:

- Advisory committee workshops and interagency coordination meetings.
- Integration of public feedback from previous wildfire preparedness efforts, including Firewise USA® and local community evacuation planning initiatives.
- Technical consultation with utility providers, park districts, and water management agencies.

A complete list of participating stakeholders, including fire agencies, land management partners, utility providers, community organizations, and local governments, is provided in **Table 5**. Their continued involvement is essential to maintaining the CWPP's relevance and ensuring cross-jurisdictional alignment as wildfire risks evolve.

Table 5: Norman CWPP Stakeholder Organizations

Organization / Agency	Role in CWPP Development
NFD	Leading agency for wildfire response, outreach, and defensible space planning.
Norman Emergency Management	Planning, land use integration, emergency management coordination. Community engagement, infrastructure planning, emergency preparedness.
Norman Parks and Recreation	Vegetation management in green spaces and public lands and home to the Urban Forester/Forestry Division.
OFS	State-level fuels treatment, risk modeling, and CWPP technical guidance.
OU Emergency Management	Campus risk planning and research contributions, which includes Max Westheimer Airport.

Organization / Agency	Role in CWPP Development
Oklahoma State Parks – Lake Thunderbird	Manage and maintain high-risk public lands within the CWPP area. Collaborate on fuel reduction and prescribed fire activities. Support public education and recreational safety in wildfire-prone areas.
Oklahoma Gas and Electric	Coordinate on utility infrastructure protection and vegetation management. Contribute to risk assessment for electrical corridors. Support power outage mitigation and emergency response planning.
Oklahoma Electric Cooperative	Coordinate on utility infrastructure protection and vegetation management. Contribute to risk assessment for electrical corridors. Support power outage mitigation and emergency response planning.

Section 3: Planning Area Description

The City of Norman (Norman), located in Cleveland County, Oklahoma, is situated in the central part of the state, approximately 20 miles south of Oklahoma City. Known for its diverse landscapes, Norman is characterized by a mix of urban, suburban, and rural areas, making it uniquely vulnerable to risks associated with wildfires. The city lies within a region of Oklahoma that experiences frequent periods of hot, dry conditions, particularly during the summer months, which create an elevated risk for wildfire activity.

The planning area for the Norman CWPP encompasses the city itself as well as surrounding areas, including unincorporated parts of Cleveland County and adjacent rural communities. A variety of land types exist, from urbanized neighborhoods and commercial districts to residential areas located near forested regions, grasslands, a large reservoir, and agricultural land. The area is home to a combination of urban and WUI zones, where human development meets natural landscapes, creating increased wildfire risk.

The Norman city limits contain diverse parks, open spaces, and the Cleveland County fairgrounds, as well as the University of Oklahoma, which adds to the city's infrastructure and population density. The planning area also includes several parks, wooded areas, and riparian zones along the banks of the Canadian River, which flows to the south and west of the city. These natural areas, while contributing to Norman’s scenic beauty and outdoor recreational opportunities, also represent areas where wildfire risks are present in every setting from floodplain to cross timbers.

In addition, the planning area extends to rural areas surrounding the city, where agricultural land, ranches, and undeveloped forested areas are prevalent. These regions are particularly vulnerable to wildfires, as they are often home to large stretches of grassland, forested plots, and agricultural crops. The presence of fire-prone vegetation shapes the landscape, which, combined with seasonal drought conditions, increases the potential for wildfire incidents.

Overall, the planning area for the Norman CWPP reflects a diverse range of environments, from urban settings to high-risk WUI zones, making it imperative to implement a comprehensive wildfire risk-reduction strategy. The CWPP will focus on reducing vulnerability to wildfires in these areas, improving community preparedness, and enhancing response capabilities across both urban and rural city areas and surrounding regions.

The Norman basemap in **Figure 1** provides a foundational geographic overview of the area. It includes key features such as city boundaries, major roadways, and water bodies. This map serves as a reference layer upon which additional wildfire-related data, such as risk zones, vegetation types, and critical infrastructure, can be overlaid. By offering spatial context, the basemap helps planners, emergency responders, community members, and stakeholders better understand Norman’s physical layout and identify priority areas for wildfire mitigation and response efforts.

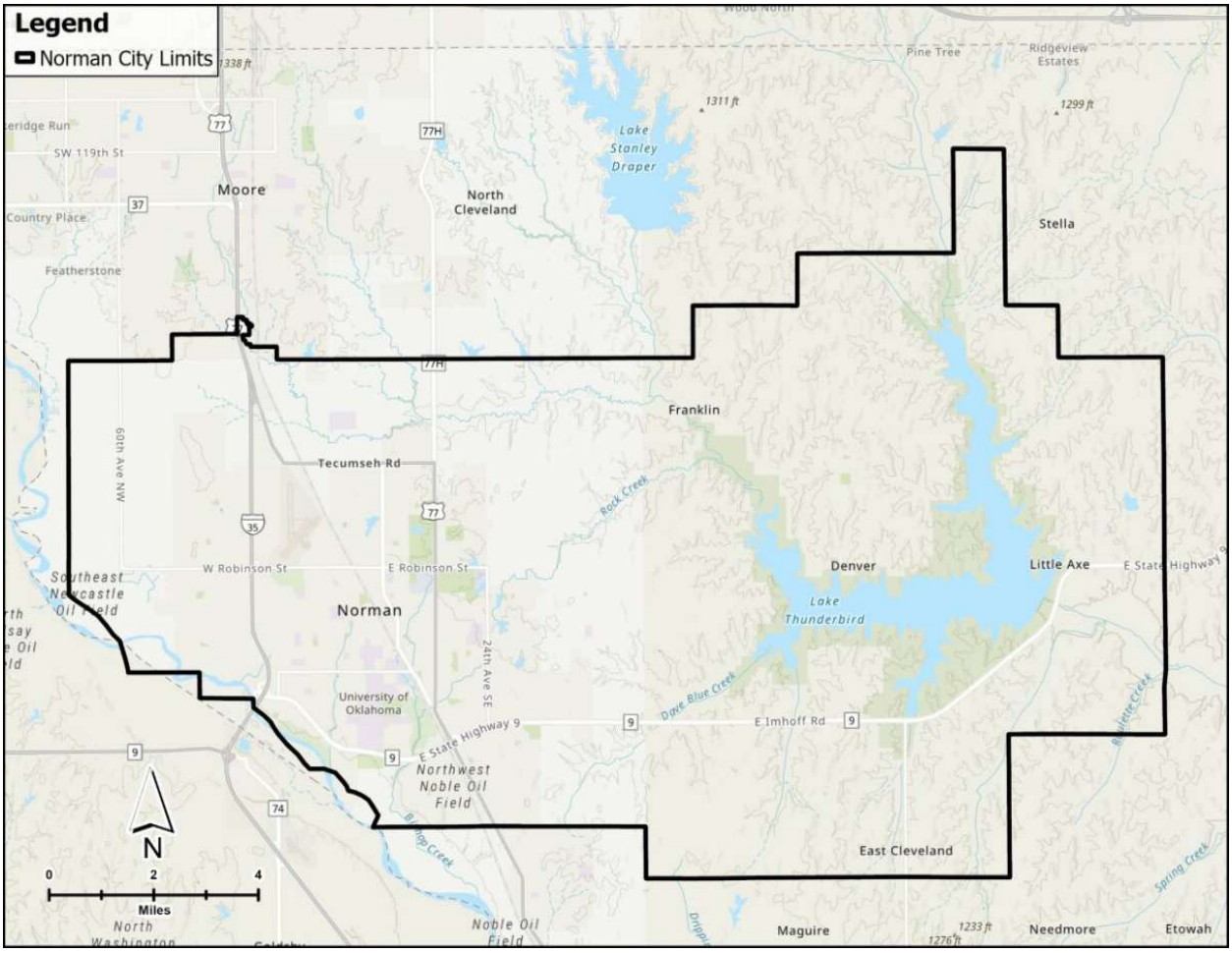

Figure 1: Community Base Map for Norman, Oklahoma

The WUI is defined in the Federal Register report on WUI communities at risk from fire.[1] The term "WUI" comprises both Wildland Urban Interface and Intermix, but there is a distinction. State and federal agencies will focus on communities that are classified as interface or intermixed. Municipalities, such as Norman, may contain all WUI classifications but are generally the only level of government working in occluded communities.

- ***Interface Community***: The Interface Community exists where structures directly abut wildland fuels. There is a clear line of demarcation between residential, business, and public structures and wildland fuels. Wildland fuels do not continue into the developed area. The development density for an interface community is three (3) or more structures per acre, with shared municipal services. Fire protection is provided by a local government fire department responsible for protecting structures from the interior and advancing wildland fires. An alternative definition of the interface community emphasizes a population density of 250 or more people per square mile.
- ***Intermix Community***: The Intermix Community exists where structures are scattered throughout a wildland area. There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures remarkably close together to one structure per forty (40)

acres. Fire protection districts funded by various taxing authorities normally provide life and property fire protection and may also have wildland fire protection responsibilities. An alternative definition of intermix community emphasizes a population density of between twenty-eight (28) to 250 people per square mile.

3.1 Wildland-Urban Interface

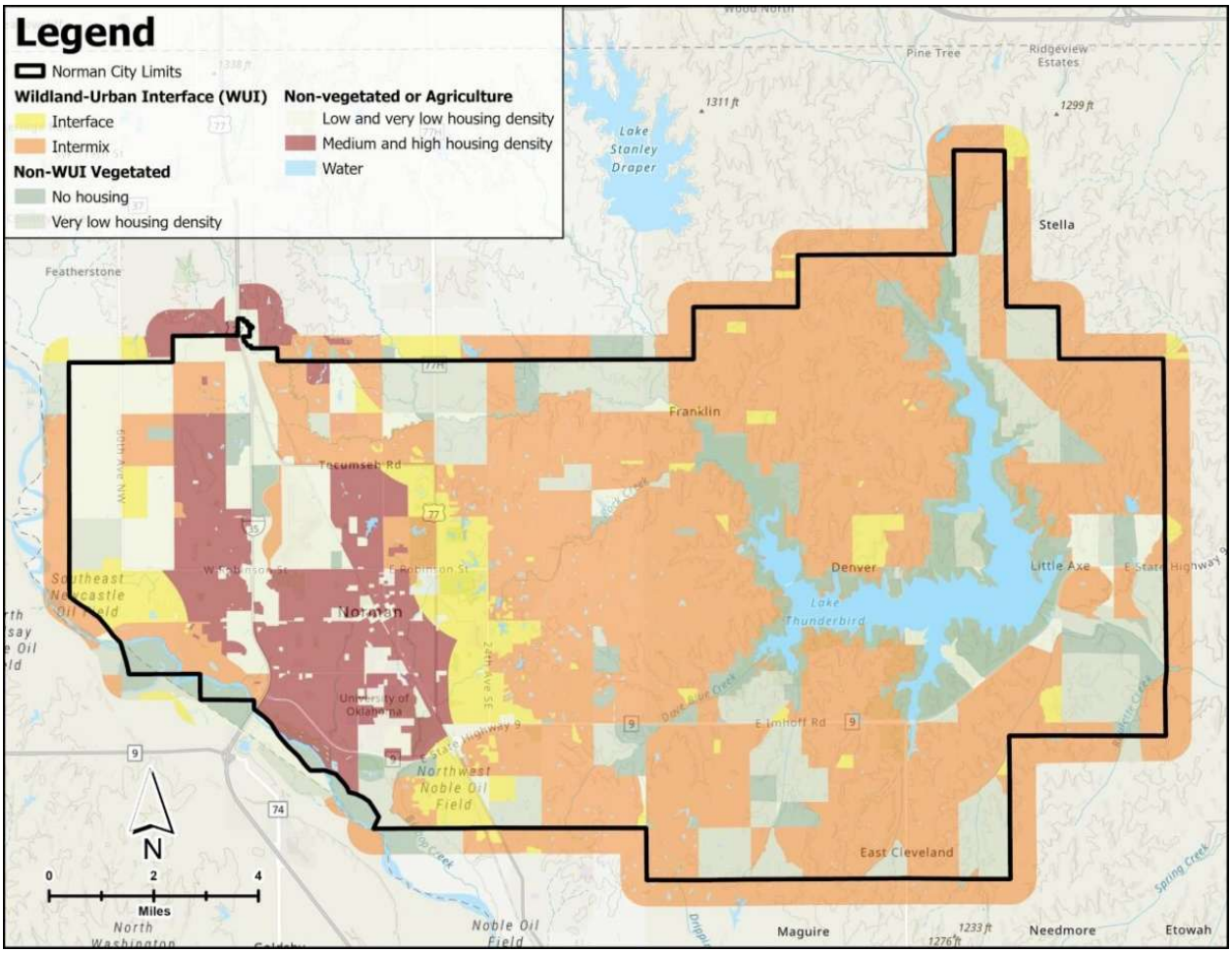

Figure 2: Wildland Urban Interface (WUI) for Norman, Oklahoma

WUI maps are critical tools for wildfire management, ensuring that resources are directed to areas with the greatest risk and aiding in making informed decisions on building codes, safety protocols, and emergency planning. **Figure 2**, WUI map, identifies areas where urban development meets or is near wildland areas prone to wildfire risks for Norman. The map highlights zones where human-built structures, such as homes and businesses, are near forests, grasslands, or other wildland areas that are susceptible to fires. The WUI map shows the boundary between urban or suburban areas and wildland regions, helping to identify where fire risk is highest. It helps to evaluate the potential for wildfires to spread to the communities in and surrounding the Norman city limits, guiding emergency planning and risk mitigation efforts. Local governments and fire agencies use WUI maps to prioritize areas for wildfire prevention measures such as defensible spaces, firebreaks, and

fuel reduction. It helps communities and residents in WUI better prepare for wildfires by providing information on high-risk zones and evacuation routes.

Norman's vulnerability to wildfires is shaped by its location in the WUI, its population characteristics, its infrastructure, and the surrounding environment. Addressing these vulnerabilities requires a comprehensive approach that includes risk mitigation strategies, community engagement, and developing strong emergency response systems. By addressing these challenges proactively, Norman can build resilience to wildfires and protect its residents, property, and critical infrastructure from the growing threat of wildfire hazards.

3.1.1 Interagency Fuel Treatment Decision Support System (IFTDSS)

The Interagency Fuel Treatment Decision Support System (IFTDSS) is a web-based tool developed and maintained by the Wildland Fire Management Research, Development, and Application Program (WFMRD&A) of the USFS. This tool is designed to assist land and fire managers in evaluating, planning, and documenting fuel treatments and fire behavior specific to their region. IFTDSS offers a user-friendly interface that provides access to a wide range of fire science models and geospatial data layers. These resources help assess wildfire risk, analyze treatment effectiveness, and support landscape-level fire planning to improve wildfire management in the Norman area.

IFTDSS key features include the following:

- Fire behavior modeling (e.g., flame length, rate of spread).
- Landscape and fuel treatment planning tools.
- Risk analysis and values-at-risk mapping.
- Integration with national datasets for fuels, topography, and historical fire occurrences.

3.1.2 Community Wildfire Risk Reduction Zones (CWiRRZ)

A Community Wildfire Risk Reduction Zone (CWiRRZ) (shown in **Figure 3** below) is an area designated for specific efforts to reduce the risk and impact of wildfires on communities. These zones are created through collaborative planning, often involving local governments, fire agencies, and community members, with the goal of mitigating wildfire hazards and increasing safety. A CWiRRZ was used to conduct a risk assessment that identifies areas most at risk from wildfires, including factors such as vegetation, terrain, climate, and nearby human infrastructure. This map can be used to develop mitigation strategies to reduce flammable vegetation and create defensible spaces around homes and communities. Activities can include prescribed burns, thinning forests, and removing dead vegetation while promoting building practices that reduce the potential for structures to catch fire. A visual tool can help educate residents and local stakeholders about fire safety, evacuation plans, and emergency preparedness. The goal is to minimize wildfire damage; protect lives, homes, and infrastructure; and enhance the community's resilience to future fires.

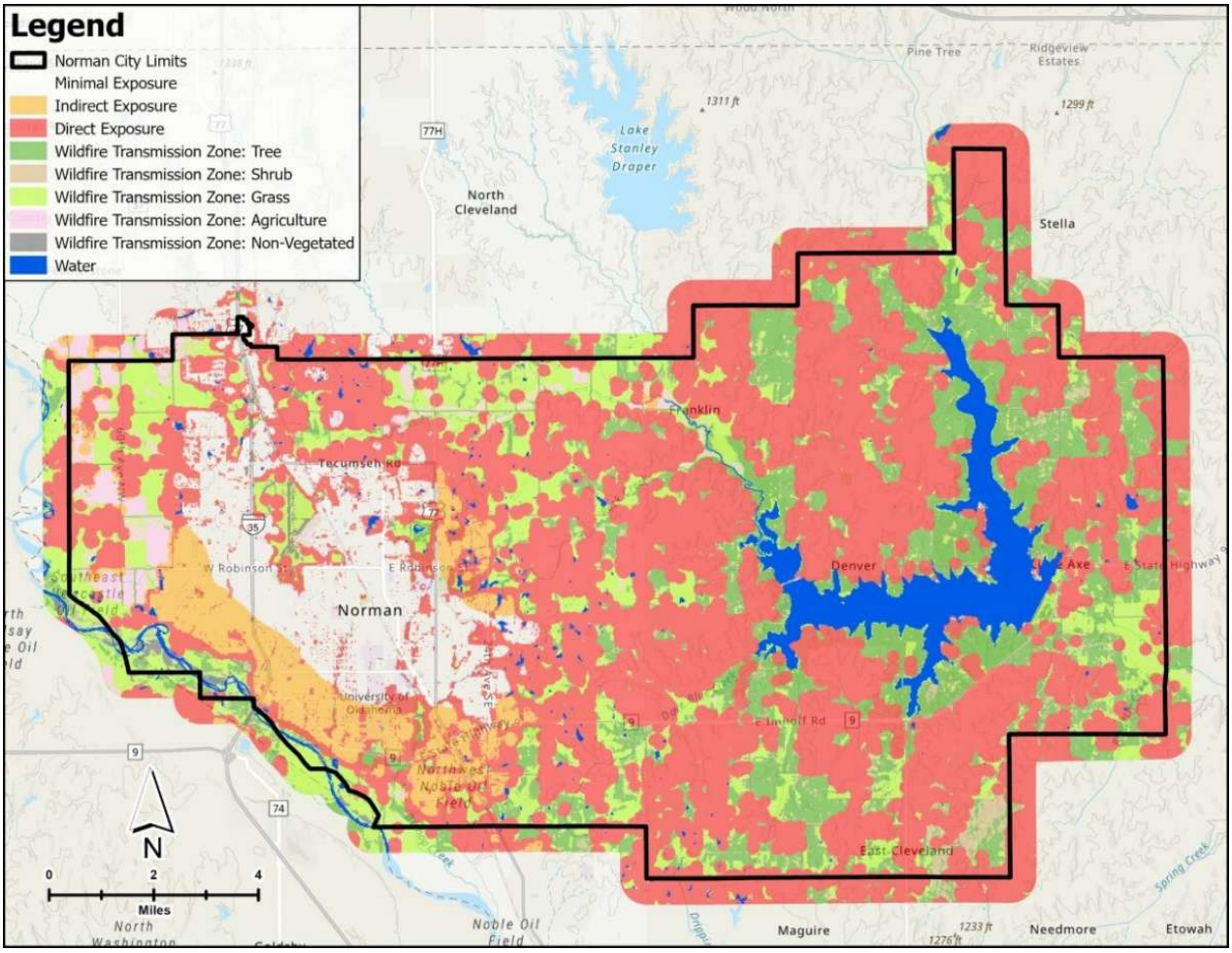

Figure 3: Community Wildfire Risk Reduction Zone (CWiRRZ) for Norman, Oklahoma

3.2 Fire Agency Capabilities and Preparedness

Equipped with a comprehensive array of resources and expertise, the Norman Fire Department (NFD) plays a crucial role in protecting the community from wildfire risks. Well-trained firefighters staff the department and receive specialized training in wildland fire suppression techniques, prescribed burns, and managing fire spread in various terrains. The NFD maintains a fleet of specialized equipment, such as brush trucks, all-terrain vehicles, and portable water systems, to effectively respond to wildfires, particularly in hard-to-reach or rural areas. **Figure 4** shows station locations and demonstrates the large rural area these 2 primary fire stations cover. Current staffing levels and the lack of additional fire stations possibly lead to increased response times and quicker fire spread.

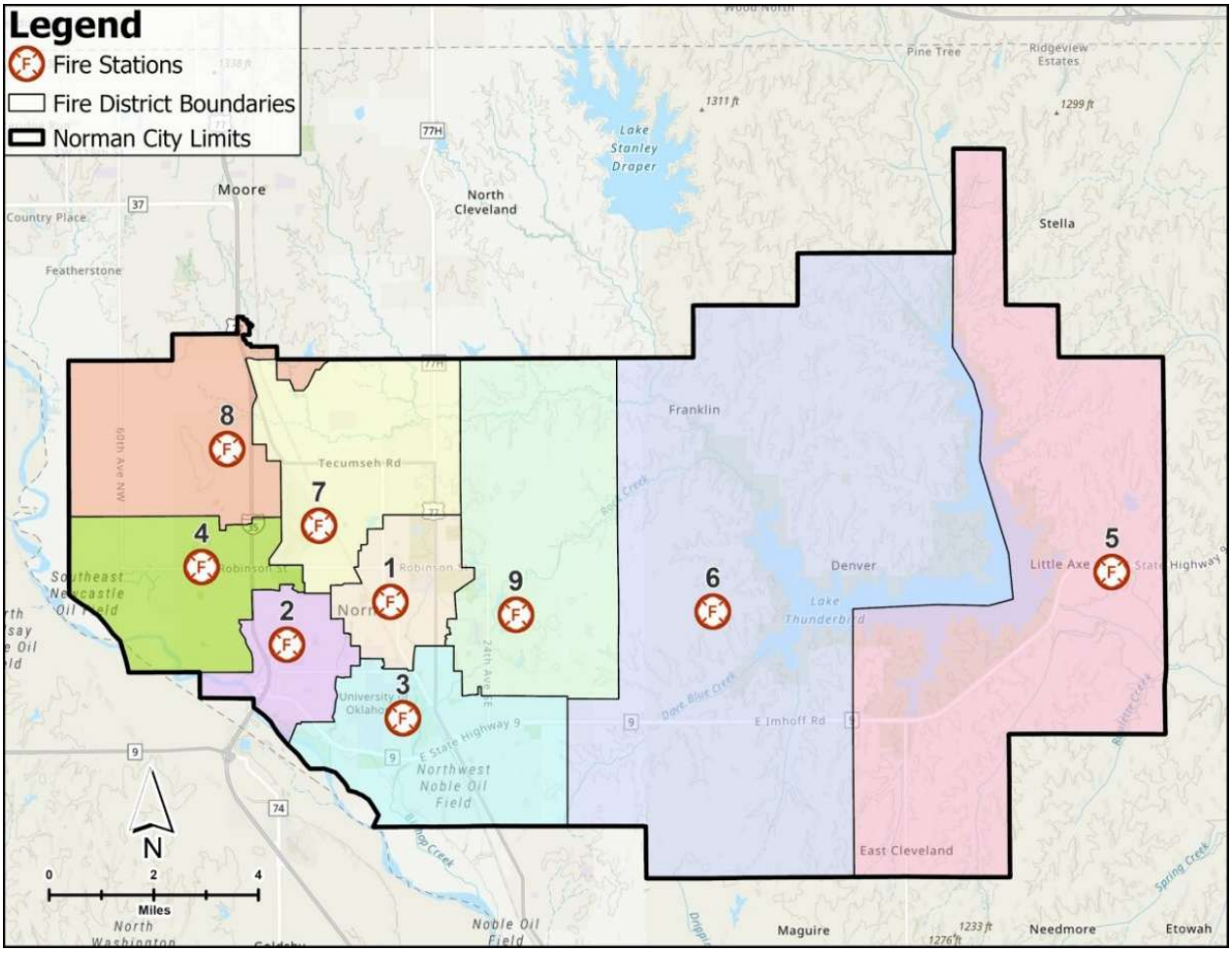

Figure 4: Norman Fire Department Stations

3.3 Agency Coordination

Norman is part of a broader regional network of wildfire mutual aid agreements that enhance the city's ability to respond to wildfire incidents, particularly those that may exceed local resources. These mutual aid agreements involve coordination between local fire departments, neighboring counties, and state agencies to provide additional support during large or complex wildfire events.

The NFD collaborates with the Cleveland County Fire Department, neighboring municipalities, and regional fire departments through a mutual aid system to ensure rapid response and resource sharing during wildfire events. This network allows for the deployment of additional personnel, specialized equipment, and fire suppression resources as needed. These partnerships ensure that Norman can draw on external assistance during large-scale emergencies, improving the efficiency and effectiveness of wildfire response.

In addition to local mutual aid, Norman benefits from collaboration with the OFS. This state agency provides vital support during significant wildfire incidents, offering firefighting resources,

equipment, and expertise. This partnership extends to aerial firefighting support, personnel, and fire management resources that may be needed in difficult terrain or during extreme fire conditions.

Furthermore, the Emergency Management Assistance Compact (EMAC), a nationwide mutual aid agreement, allows Norman to receive assistance from other states if wildfire becomes large-scale or threatens critical infrastructure. This system ensures that Norman is well-connected with a network of resources, from local fire departments to state and national agencies, enhancing the city's overall wildfire response capability.

These mutual aid agreements form a critical component of Norman's wildfire preparedness strategy, ensuring that, regardless of the scope of a wildfire event, sufficient resources are available to protect lives, property, and natural resources in the community.

3.4 Population and Housing

Norman, located in Cleveland County, Oklahoma, has a population of approximately 130,000 residents, making it the third-largest city in the state. **Figure 5** displays Norman's population density. As the home of the University of Oklahoma, Norman's population experiences seasonal fluctuations, with a significant number of students and faculty residing in the area. The city's population is diverse, with a mix of urban and suburban areas, as well as rural zones on the city's outskirts.

Much of Norman's population is concentrated in the central and southern parts of the city, with suburban neighborhoods expanding outward. These residential areas, particularly in the WUI zones, are vulnerable to wildfire risks due to their proximity to wooded areas, open fields, and grasslands. While most of the city is developed with infrastructure and fire protection services, portions of Norman's population live in more rural and less developed areas, which may face challenges related to fire response times and access to firefighting resources. Suburban neighborhoods in the northern and eastern areas of Norman, while urbanized, still feature significant tree cover, open spaces, and proximity to natural areas that increase fire risk. In addition, rural homes outside of the urban core may be more isolated, with larger properties and limited access to firefighting services. These areas may face longer response times and more challenging conditions during wildfire events.

Norman's population growth, especially in suburban areas near high-risk wildfire zones, highlights the need for proactive wildfire risk mitigation, preparedness, and education to safeguard the community. The city's diverse population, ranging from families in residential neighborhoods to students in university housing, requires tailored approaches to evacuation planning, public education, and fire safety outreach.

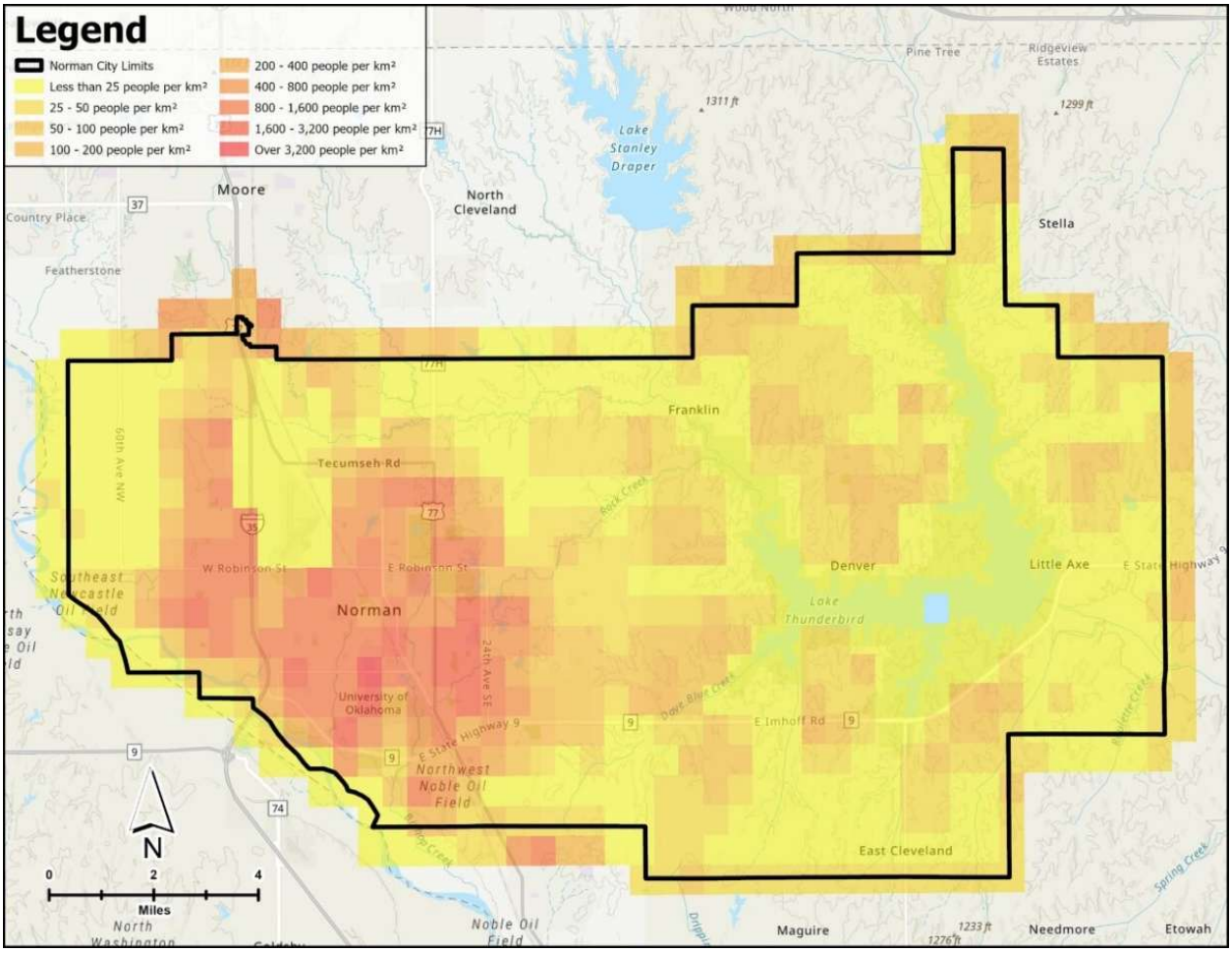

Figure 5: Population Density for Norman, Oklahoma

3.5 Land Ownership

The land within Norman is a mix of private, public, and institutional ownership, each contributing to the city's overall wildfire risk and response strategies. **Table 6** and **Figure 6** below explain land ownership within the Norman city limits and nearby areas. Private land makes up most developed areas in Norman, including residential neighborhoods, commercial properties, and suburban and rural areas. Many of these private properties are located within the WUI, making them especially vulnerable to wildfire risks due to their proximity to natural vegetation and open spaces. Homeowners in these areas play a critical role in wildfire mitigation by creating defensible space, maintaining fire-resistant landscaping, and participating in local fire safety programs such as Firewise USA.

Publicly owned lands in Norman include parks, open spaces, and city-managed facilities. Large parks such as Ruby Grant Park, Sutton Wilderness Park, and Lake Thunderbird State Park provide recreational and conservation areas but also present potential wildfire risks due to the presence of flammable vegetation and wooded areas. Active fire management, including prescribed burns and fuel reduction efforts, is necessary on these public lands to minimize wildfire hazards.

Additionally, a significant portion of land in Norman is owned by the University of Oklahoma (OU), which includes the university campus, an airport, and various research and residential facilities. While most of the campus is developed, some areas of open space and wooded land require wildfire mitigation efforts. Coordination between the OU and local fire agencies is essential to ensure fire safety across both academic and residential areas, especially those near natural spaces.

Effective wildfire mitigation in Norman requires close coordination across all types of landownerships such as private, public, institutional, and state. This cooperation ensures comprehensive wildfire risk management, such as shared responsibility for creating firebreaks, maintaining defensible space, and early detection systems. By working together, Norman, the OU, state agencies, and private landowners can develop and implement strategies that reduce wildfire risk; enhance community resilience; and protect lives, property, and critical infrastructure from wildfire threats.

Table 6: Land Ownership for Norman, Oklahoma

Ownership Type	Managing Entity / Description	Estimated % of Total Land Area
Federal Lands	BLM, USFS	~1%
State Lands	OFS	~6%
County-Owned Lands	Cleveland County Parks, Natural Areas, road and right-of-way parcels	~3%
Municipal-Owned Lands	City of Norman parklands, open space, and facilities	~12%
Utility-Owned Lands	City of Norman Utilities Administration	~3%
Private Residential and Commercial	Urban neighborhoods, commercial properties, subdivisions	~40%
Private Agricultural and Forestry	Working lands, small woodlots, conservation easements	~35%

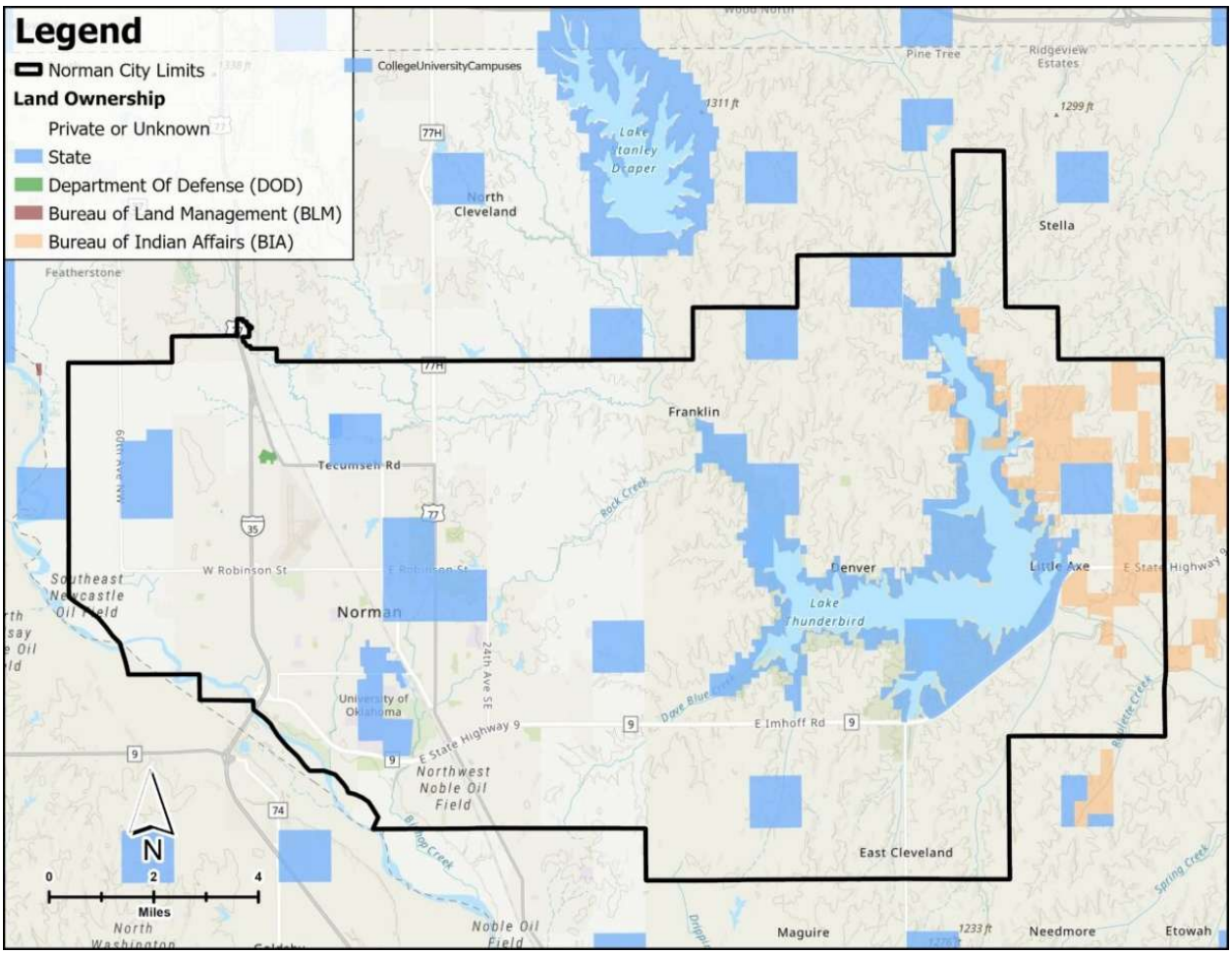

Figure 6: Land Ownership for Norman, Oklahoma

Section 4: Fire Environment

4.1 Weather

The seasonal climate of the City of Norman (Norman), Oklahoma, plays a significant role in shaping the city's wildfire risk throughout the year. Winters and springs are generally cool and moderately moist, with occasional rainfall, while the summer months bring higher temperatures and lower humidity, creating conditions more conducive to wildfires. During the summer, Norman experiences periods of dry and warm weather, often accompanied by winds, particularly when cold fronts pass through the region. These winds can elevate the risk of wildfire spread, especially in the absence of significant rainfall. Fall brings cooler and more moist conditions, but it is often preceded by periods of dry, windy weather associated with the passage of cold fronts. This transitional period can also bring dry, gusty winds, particularly from the west or northwest, which can significantly increase wildfire danger despite the overall trend toward wetter conditions. Understanding these seasonal weather patterns is crucial for assessing the timing and intensity of wildfire risks in Norman.

4.1.1 Temperature

The climate in Norman plays a significant role in shaping the region's wildfire risk and the overall effectiveness of wildfire prevention and mitigation strategies. Norman experiences a humid subtropical climate characterized by hot, humid summers and mild to cool winters. This seasonal variation directly influences vegetation growth, fire behavior, and the likelihood of wildfire events.

During the summer months, temperatures in Norman frequently rise above 90°F, with occasional heat waves pushing temperatures even higher. The combination of high temperatures and low humidity creates ideal conditions for the rapid spread of wildfires, especially when coupled with dry spells or drought conditions. These hot, dry periods are often exacerbated by strong winds, which are common in Oklahoma, further increasing the potential for fires to ignite and spread quickly across grasslands, forests, and other fire-prone areas.

In contrast, winters in Norman are generally mild, with average overall temperatures ranging from the mid-30s to mid-40s °F. While winter temperatures rarely drop to levels that would significantly impact wildfire risk, the occasional cold front can influence fire behavior during the transition between seasons. Moreover, winter months are often less active in terms of wildfire incidents, though occasional wildfire threats can still arise due to dry conditions or extended periods of little rainfall.

The spring and fall seasons in Norman experience more moderate temperatures, with highs ranging from the mid-60s to the low 80s °F. These transitional seasons are crucial for wildfire management because they often bring variable weather conditions, including sudden cold fronts, shifts in wind direction, and rainstorms that can alter the fire risk landscape. While fall can be particularly dangerous due to dry vegetation left over from the summer months, spring can also be a high-risk period as warm, dry spells increase the likelihood of wildfire activity. Average temperatures in Norman are displayed in **Figure 7**.

Overall, the temperature and climate conditions in Norman create fluctuating periods of high wildfire risk, particularly during the hot, dry summer months and in the spring and fall transition periods. Understanding the temperature patterns and their impact on wildfire behavior is critical for developing effective wildfire protection strategies, including planning for firebreaks, prescribed burns, and community education on fire safety. Given the increased frequency of extreme weather events associated with climate change, it is essential to consider temperature trends in the city's wildfire risk assessments and response planning to enhance community resilience against future wildfire threats.

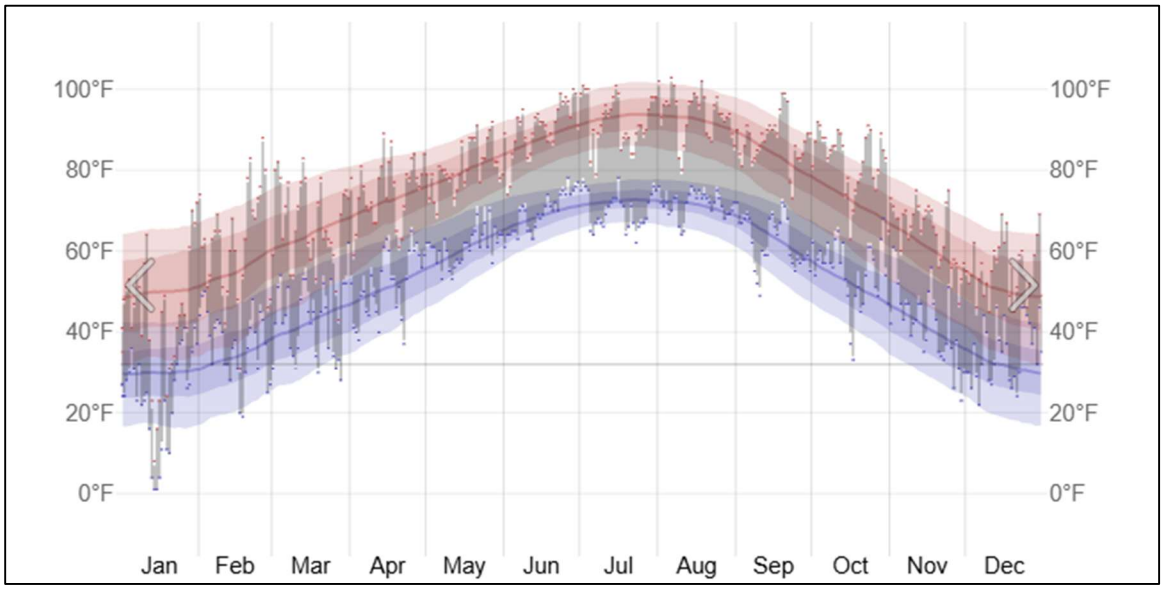

Figure 7: Average Temperature in Norman, Oklahoma

4.1.2 Precipitation

Precipitation patterns in Norman play a crucial role in shaping wildfire risk, as rainfall affects both vegetation growth and moisture levels across the landscape. **Figure 8** shows average rainfall for Norman. Although Norman receives an average of 35 to 40 inches of rainfall annually, its semi-arid climate results in uneven distribution throughout the year. These seasonal fluctuations in precipitation contribute to periods of increased wildfire vulnerability, particularly during drier months when vegetation becomes more flammable.

The wettest months in Norman are typically May and June when the area experiences frequent thunderstorms and rain showers associated with the spring and early summer storm season. These months can help reduce wildfire risks temporarily by increasing soil moisture and replenishing vegetation, which can absorb moisture and grow more densely. However, heavy rainfall during this time can also lead to flash flooding and other weather-related hazards, complicating wildfire management efforts. After these wetter months, vegetation growth can make areas more prone to wildfires once dry conditions return.

In contrast, late summer and fall (typically from July through October) are the driest months in Norman, with lower precipitation levels and higher evaporation rates. These months are the most

dangerous in terms of wildfire risk, as extended dry periods significantly lower moisture levels in grasslands, forests, and other vegetation, making them more susceptible to ignition. Additionally, the hot temperatures and occasional drought conditions during this time further exacerbate the risk of fire spread. Dry spells often last for weeks or even months, contributing to an increased likelihood of larger and more destructive wildfires.

Winter months (December through February) generally receive less precipitation, with average rainfall ranging between (one) 1 to (two) 2 inches per month. However, these months rarely experience the types of extended drought conditions that are typical of summer and fall. While winter precipitation is not as frequent, it may come in the form of light rain, or occasionally, snow or ice. These conditions have a limited impact on wildfire risk, but during warmer periods without rainfall, wildfires can still ignite in dry, wind-prone areas.

Overall, precipitation in Norman has a direct impact on wildfire behavior, with the dry periods in late summer and fall representing the highest risk for wildfires. The combination of low rainfall, high temperatures, and dry vegetation creates a volatile environment for wildfires to spread. The city's CWPP must account for these precipitation patterns to optimize wildfire mitigation strategies, such as planning for prescribed burns, managing vegetation, and ensuring that fire suppression resources are available during periods of reduced rainfall. By understanding the seasonal variations in precipitation, Norman can enhance its preparedness and response efforts, particularly during high-risk periods.

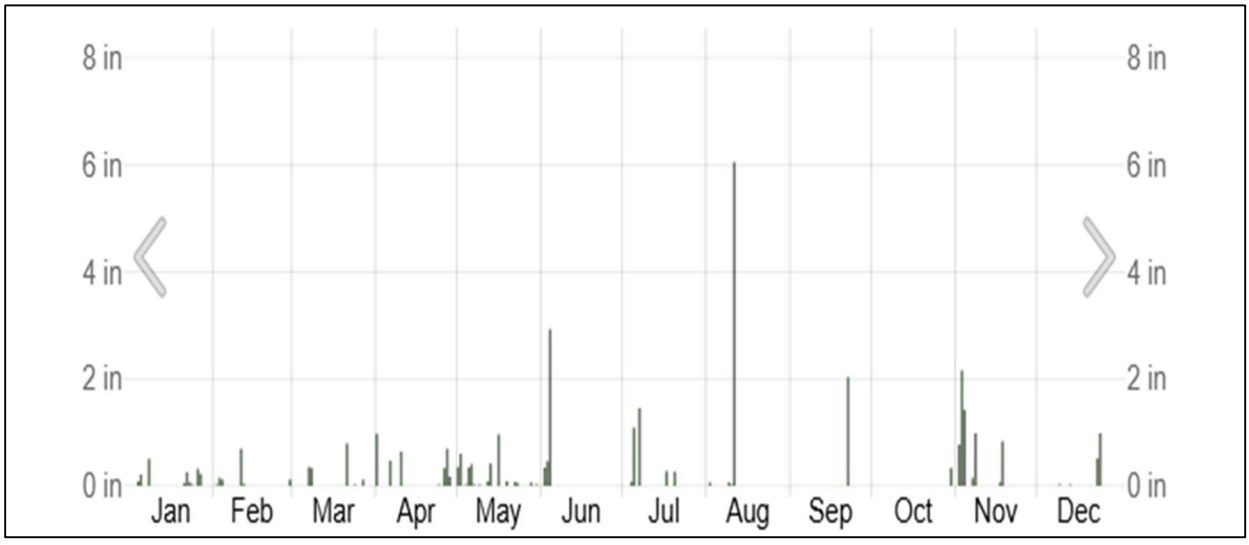

Figure 8: Average Rainfall for Norman, Oklahoma

4.1.3 Wind

Wind patterns play a crucial role in shaping wildfire behavior and risk in Norman. Known for its relatively flat terrain and exposure to the strong winds of the Great Plains, Norman is particularly susceptible to wind-driven wildfires, which can spread rapidly across the landscape, making it more challenging to control fire outbreaks. Average wind speeds for Norman are shown in **Figure 9.**

Throughout the year, Norman experiences significant wind activity, particularly during the spring and fall months. Average wind speeds in the city typically range between (ten) 10 to (fifteen) 15 miles per hour, but during certain conditions, wind gusts can exceed forty (40) to fifty (50) miles per hour, particularly when cold fronts pass through the region. These strong winds can quickly carry flames and embers from a wildfire over long distances, igniting new fires far beyond the initial blaze. In wildfire-prone areas, such as grasslands, forests, and rural properties, the combination of dry vegetation and strong winds creates an especially dangerous environment where fires can rapidly grow out of control.

Spring and early summer are typically the most hazardous seasons for wind-driven wildfires in Norman. During this time, the region experiences high wind speeds associated with seasonal weather shifts, especially when a warm, dry air mass clashes with cooler, moist air from storms. This phenomenon can lead to strong, gusty winds that increase the potential for wildfires to spread quickly. Additionally, the winds often come from shifting directions, making it harder to predict fire behavior and plan effective firefighting strategies.

Fall is another critical time for wind-driven fire risk, as winds tend to increase in frequency and strength as colder air moves into the region. Combined with the dry conditions common in late summer and early fall, these winds can cause wildfires to spread with little warning, threatening both rural and urban areas in the WUI. Wind-driven fires during this period can impact larger sections of the city, especially in areas with combustible vegetation or near transportation and utility corridors.

While the winter months generally see calmer winds, occasional cold fronts and windstorms can still influence fire behavior, particularly if a wildfire ignites during a dry period. However, winter wildfires are less frequent because of lower temperatures and higher moisture levels, though they are not impossible.

Given the impact of wind on fire spread, understanding and accounting for wind patterns is essential for wildfire mitigation and response planning in Norman. The city's CWPP must include strategies for managing fire risks in areas prone to strong winds, particularly by creating defensible spaces around properties, maintaining firebreaks, and enhancing fire detection and suppression capabilities. Wind forecasting and real-time monitoring during high-risk periods are also vital for effective emergency response. By addressing wind-related risks in the planning process, Norman can better protect its residents, infrastructure, and natural resources from the unpredictable and rapidly spreading nature of wind-driven wildfires.

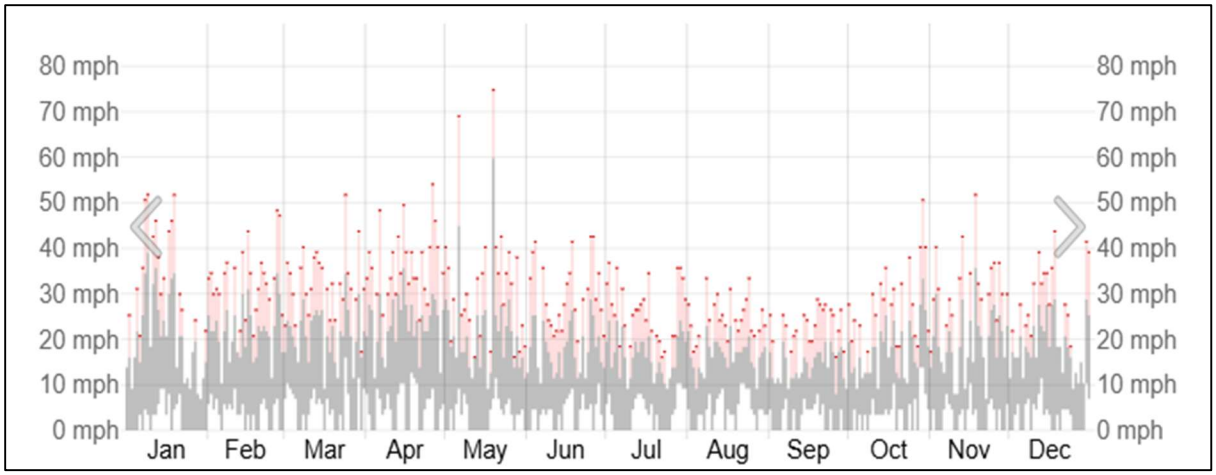

Figure 9: Average Wind Speed for Norman, Oklahoma

4.1.4 Drought

Drought conditions are a critical factor in the wildfire risk profile for Norman. As part of the broader climate variability in the region, droughts are not uncommon in central Oklahoma, and they significantly impact both wildfire behavior and fire prevention efforts. Drought leads to reduced soil moisture, dry vegetation, and elevated fire risks, all of which make wildfires more likely to ignite and spread, particularly in the summer and fall months.

Norman typically experiences periods of drought, with some years marked by more severe conditions than others. These drought periods are often exacerbated by high temperatures, lower-than-average precipitation, and strong winds, all of which combine to create an environment that is highly conducive to wildfire ignition and rapid spread. During these dry spells, grasses, shrubs, trees, and other vegetation become extremely parched and more susceptible to ignition, either from lightning strikes or human activity.

The impact of drought on wildfire risk is particularly significant during the summer and fall months, which are typically the driest periods of the year. Without adequate rainfall, vegetation remains parched, and moisture levels in the landscape decrease. This increases the chances that a small spark, such as from a discarded cigarette or an unattended campfire, could lead to a large, uncontrollable wildfire. Drought conditions also reduce the effectiveness of fire suppression efforts, as firefighters struggle with limited water supplies and dry conditions that make it harder to extinguish flames.

To mitigate the risks associated with drought and wildfires, Norman must incorporate strategies into the CWPP that focus on drought preparation, including the maintenance of defensible spaces, regular vegetation management, and public education on fire prevention during drought conditions. The CWPP should also emphasize collaboration between local fire departments, emergency services, and neighboring communities to ensure quick, coordinated responses during drought-driven wildfire events. Additional partners that the city can use are the National Oceanic and Atmospheric Administration, OU School of Meteorology, and the National Weather Center.

Additionally, addressing the potential for long-term droughts, exacerbated by climate change, will be essential in reducing the impacts of drought on wildfire frequency and intensity.

By understanding the relationship between drought and wildfire risk, Norman can better prepare for and respond to the dangers dry conditions pose, ensuring the safety of its residents, infrastructure, and natural landscapes.

4.2 Vegetation and Fuels Characteristics

In Norman, vegetation consists of a variety of forest types, grasslands, and shrublands, each with its own fire behavior characteristics. Using the 40 Scott and Burgan Fire Behavior Fuel Models (FBFM40), this assessment categorizes fuels based on type, density, and fire potential. Dominant fuel types in Norman include dense stands of trees, such as oak and pine, dry grasses, and mixed brush, each with different fuel loadings and potential flame lengths. A fuel hazard map was created to visualize the distribution of high-risk fuels, and detailed tables provide information on the acreage and percentage of coverage for each fuel type. This analysis is essential for identifying priority areas for fuel treatment and risk reduction efforts.

The fuel maps in **Figures 10 and 11** and corresponding **Tables 7 and 8** include two elements:

- Existing Vegetation
- Fire Behavior Fuel Model

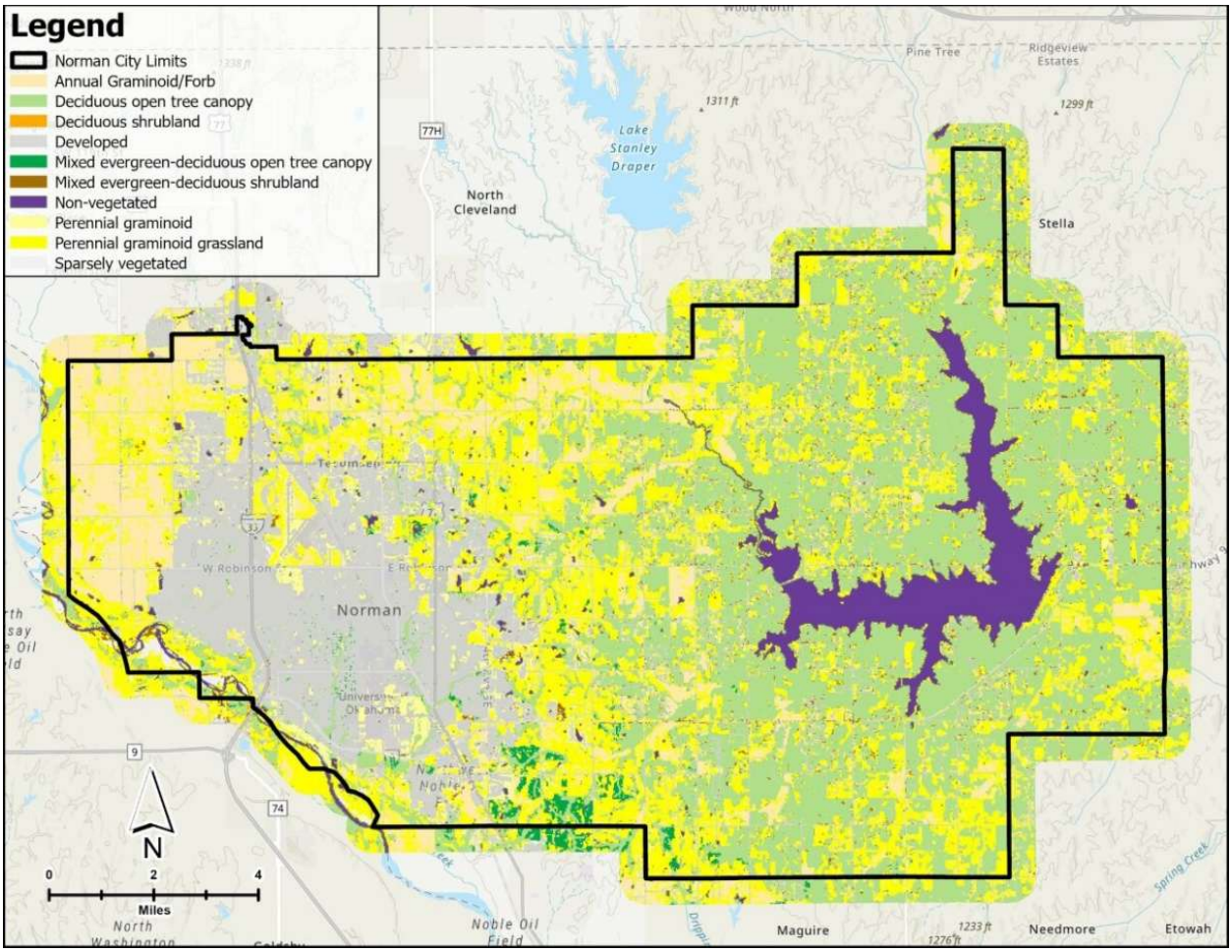

Figure 10: Existing Vegetation for Norman, Oklahoma

Table 7: Existing Vegetation Type with Acreage for Norman

Vegetation Type	Acres
Annual graminoid/forb	9,801
Deciduous open tree canopy	42,202
Deciduous shrubland	87
Developed	24,637
Mixed evergreen-deciduous open tree canopy	881
Mixed evergreen-deciduous shrubland	1,858
Non-vegetated	6,442
Perennial graminoid	4,681
Perennial graminoid grassland	30,436
Sparsely vegetated	249
TOTAL	**121,274**

The FBFM40 is used to represent distinct distributions of fuel loading found among surface fuel components, including both live and dead fuels, as well as different fuel types and size classes. The model accounts for variations in dead fuel moisture content and includes dynamic fuel models with herbaceous components, meaning that fuel loads shift between live and dead vegetation to simulate the curing process, rather than remaining static.

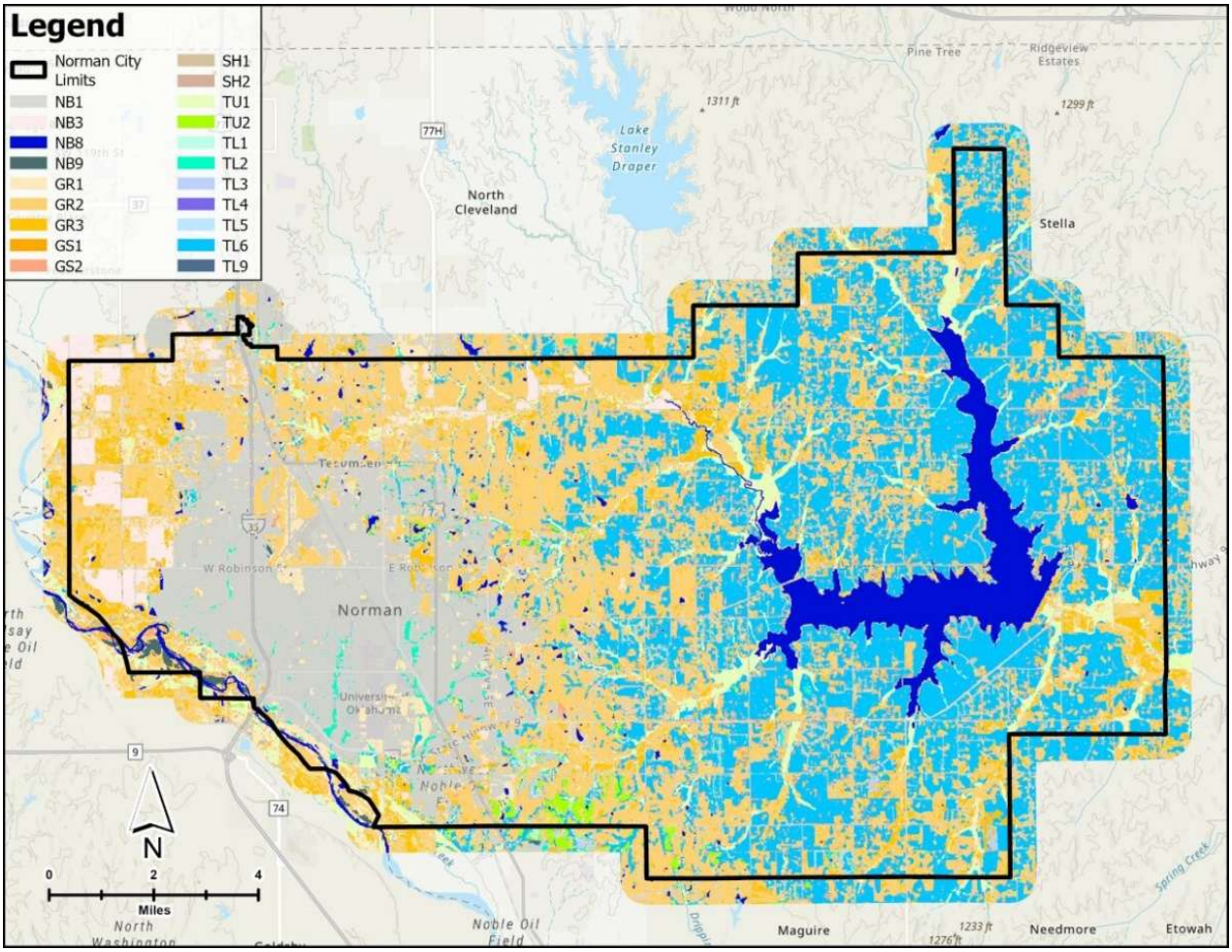

Figure 11: 40 Scott and Burgan Fire Behavior Fuel Model (FBFM40) for Norman, Oklahoma

Table 8: Surface fuels acreage and percentage of area covered in Norman

Surface Fuel	Description	Acres
Non-burnable Fuel Type Models (insufficient wildland fuel to carry a wildland fire under any condition)		
NB1	Urban or suburban development; insufficient wildland fuel to carry wildland fire. Includes roads.	24,920
NB3	Agricultural field, maintained in nonburn able condition.	3,313
NB8	Open water	6,449
NB9	Bare ground	250
Grass Fuels Type Models (nearly pure grass and/or forb type)		
GR1	The grass is short, patchy, and heavily grazed. Spread rate moderate; flame length low.	4,999
GR2	Moderately coarse continuous grass, average depth about 1 foot. Spread rate high; flame length moderate.	29,982
GR3	Very coarse grass, average depth about 2 feet. Spread rate high; flame length moderate.	6,279
Grass-Shrub Fuels Type Models (mixture of grass and shrub, up to 50 percent shrub coverage)		
GS1	Shrubs are about 1-foot high, with a low grass load. Spread rate moderate; flame length low.	130
GS2	Shrubs are 1 to 3 feet high, moderate grass load. Spread rate high; flame length moderate.	1,745
Shrub Fuel Type Models (Shrubs cover at least 50 percent of the site, grass sparse to nonexistent)		
SH1	Low shrub fuel load, fuelbed depth about 1 foot; some grass may be present. Spread rate very low; flame length very low.	59
SH2	Moderate fuel load (higher than SH01), depth about 1 foot, no grass fuel present. Spread rate low, flame length low.	4,297
Timber-Understory Fuel Type Models (Grass or shrubs mixed with litter from forest canopy)		
TU1	Fuel bed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	4,566
TU2		680
Timber Litter Fuel Type Models (dead and down woody fuel litter beneath a forest canopy)		
TL1	Light to moderate load, fuels 1 to 2 inches deep. The spread rate is very low; flame length very low.	17
TL2	Low load, compact. Spread rate is very low; flame length is very low.	1,116
TL3	Moderate load conifer litter. Spread rate is very low; flame length is low.	285
TL4	Moderate load, includes small diameter downed logs. Spread rate low, flame length low.	3

Surface Fuel	Description	Acres
TL5	High load conifer litter; light slash or mortality fuel. Spread rate low; flame length low.	138
TL6	Moderate load, less compact. Spread rate moderate; flame length low.	32,041
TL9	Very high load broadleaf litter; heavy needle-drape in otherwise sparse shrub layer. Spread rate moderate; flame length moderate.	5

4.3 Wildfire History

Norman, like much of central Oklahoma, has experienced periodic wildfire events throughout its history. While wildfires are not as frequent as in some other parts of the country, they still pose significant risks, especially during dry, windy seasons when fire conditions are heightened. The combination of natural landscapes, such as grasslands, forests, and open spaces, alongside urban development and rural areas in proximity, creates a unique wildfire risk profile for Norman. **Figure 12** and corresponding **Table 10** offer more wildfire history.

Historically, wildfires in Norman have been primarily driven by dry conditions during the summer and fall months, which are common in the region. These fires have been exacerbated by Oklahoma's strong winds and fluctuating weather patterns, such as drought followed by dry lightning or human activity, such as discarded cigarette butts or improperly managed burns. One of the most notable wildfire events in recent history occurred in the summer of 2012, which was one of Oklahoma's driest years on record. The region faced severe drought conditions, and Norman saw several large wildfires, particularly in rural and wooded areas. These fires, fueled by dry vegetation, forced evacuations and resulted in property and crop losses, highlighting the need for better preparedness and coordination between local fire departments, residents, and landowners.

Another significant wildfire event took place in 2018 when fires broke out in several locations around Norman and Cleveland County during a particularly dry spring. Though smaller in scale than other fires in the state, these incidents still required substantial resources from the city's fire department, as well as mutual aid from nearby communities. Recently, in March of 2025, Oklahoma experienced a historic weather event where high winds and low humidity produced critical fire weather conditions. Across the state, many communities experienced devastating wildfires, including the City of Norman. The March wildfire event further demonstrated the need for additional personnel and resources to mitigate wildfires effectively, safely, and quickly. This event emphasized the importance of managing vegetation in the WUI and ensuring firebreaks and defensible spaces to protect homes and infrastructure.

In recent years, Normal wildfire frequency and intensity have been increasing, a trend that mirrors broader changes in Oklahoma's climate and growing urbanization. Hotter summers, drought periods, and expanding development near forests, grasslands, and agricultural lands have raised overall wildfire risk in the area. As Norman continues to grow, particularly in suburban areas bordering natural landscapes, wildfire mitigation efforts will become even more critical.

While Norman is not as prone to large-scale wildfires as some regions in the western U.S., the history of fire events in the city has underscored the need for proactive wildfire management. These events have shaped the city's approach to fire prevention, land management, and emergency preparedness. Moving forward, Norman is committed to developing strategies that reduce wildfire risk to ensure the safety of its residents, businesses, and natural resources from future fire threats.

According to statistics from the Oklahoma State Fire Marshal Office, Norman Fire responded to 3,800 fire calls from 2019 to 2023. Of those calls, the following breakdown is shown in **Table 9**: For more comprehensive and accurate information regarding wildfire incidents during this period, data provided directly by Norman Fire should be referenced.

Table 9: Fire Incident Types Norman, Oklahoma

Number of Incidents	Percentage	Incident Type
3,497	55.4%	Outside Fires
1,664	26.3%	Structure Fires
944	14.9%	Mobile Property/Vehicle Fires
211	3.3%	Other

Table 10: Large Fire History Norman, Oklahoma, Area

Fire Name	Acres Burned	Year Occurred
Unknown USGS	3,324	1991
Unknown	1,688	2006
Moore	1,693	2006
Choctaw	2,228	2009
Noble	7,036	2012
Brinkley	35	2016
Walker Road	146	2016
Norman	140	2017
Brinkley Road	175	2017
OKC Complex	897	2017
HWY 62	400	2020
Cowboy Day	614	2021
Midstream	45	2024
Timberline	98	2025
Post Oak	204	2025
East Thunderbird	380	2025
East Thunderbird	390	2025
East Thunderbird – Station 2	583	2025
East Thunderbird - Lema	605	2025

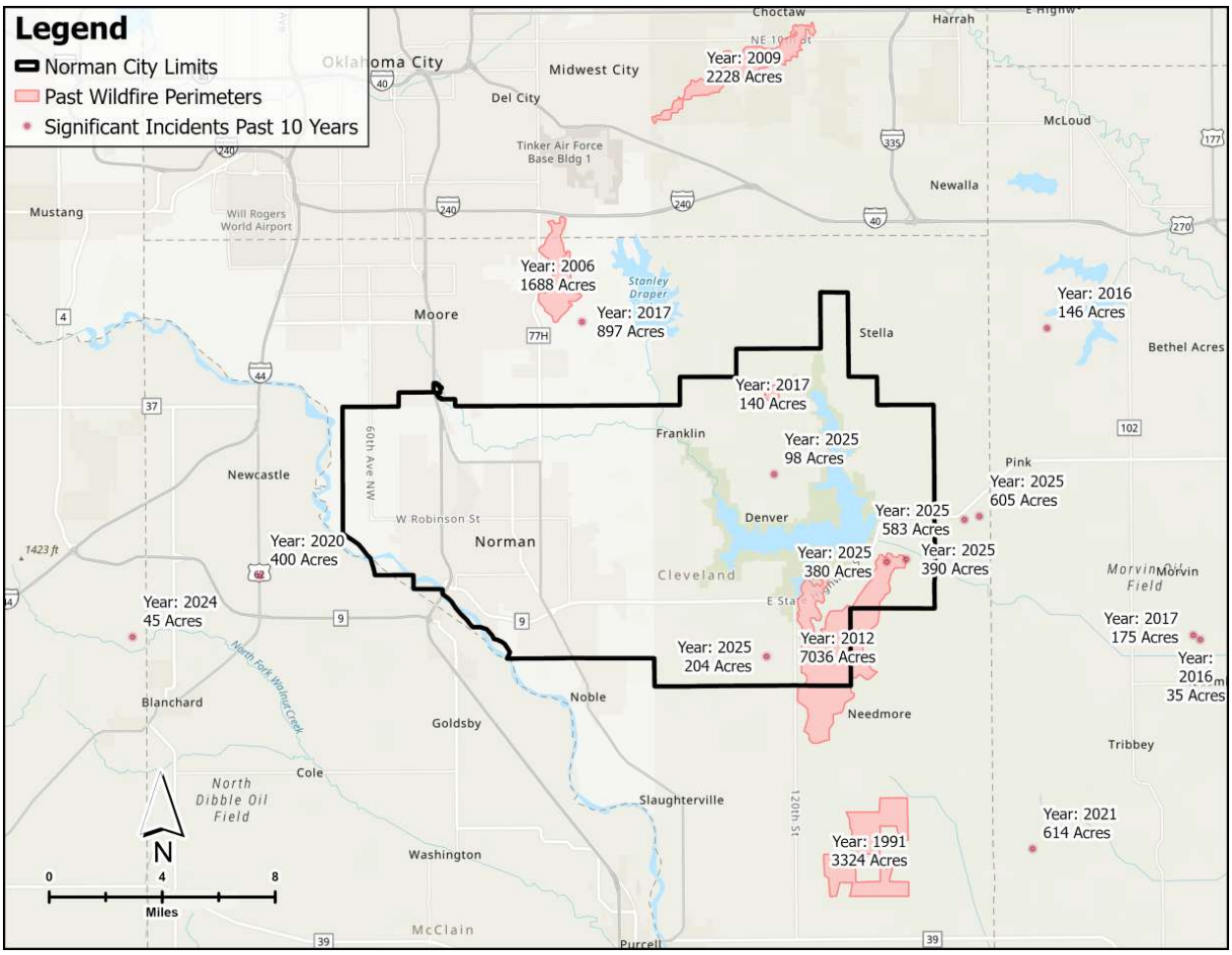

Figure 12: Large Wildfires for Norman, Oklahoma

4.4 Summary

As human development continues to expand into forested and rural areas, the risk of WUI fires in Norman increases. The city's diverse geography, varying land ownership patterns, and a mix of urban and rural communities further complicate efforts to reduce wildfire risk. While there are multiple programs and entities dedicated to wildfire risk response, reduction, and education, the ability to integrate resources and information effectively is often limited. The risk assessment and action plan of the Norman CWPP aim to create opportunities for improved collaboration, enhanced wildfire mitigation efforts, and a reduction in the overall risk of wildfire across the city.

Section 5: Risk Assessment

5.1 Introduction

A key element of the City of Norman (Norman) CWPP is the Wildfire Risk Assessment, which evaluates the potential loss of life, property, and essential infrastructure in the event of a fire. This assessment provides a localized understanding of wildfire hazards and identifies neighborhoods, corridors, and community assets throughout Norman that are at higher risk. It is designed to support local planning efforts and decision-making and should be used in conjunction with regional and statewide assessments to inform comprehensive wildfire mitigation strategies.

The data gathered through this risk assessment is intended to assist emergency managers, firefighting professionals, and land use planners in prioritizing areas of concern for more in-depth analysis and proactive mitigation efforts. The 2025 update incorporates the most current fire risk data, geospatial modeling, and input from local stakeholders, ensuring that Norman's wildfire risk strategies reflect the latest available information.

Purpose: The purpose of the 2025 Wildfire Risk Assessment is to establish a data-driven foundation for understanding and addressing wildfire hazards in Norman, Oklahoma. This includes the following actions:

- Incorporating the most current wildfire risk data into the CWPP to assess wildfire exposure and vulnerability across the community.
- Developing community-wide maps and geospatial datasets that highlight overall wildfire risk and key WUI zones.
- Identifying areas of elevated risk for targeted mitigation planning, defensible space creation, and fuels treatments.
- Supporting public education efforts and future neighborhood-level risk assessments.
- Guiding strategic investments and resource allocation in alignment with the CWPP Action Plan.

The risk assessment will serve as a tool to inform decision-making related to fuel reduction, defensible space implementation, public education, and emergency planning. It is intended to be a dynamic resource, updated regularly as new data and community input are gathered, and plays a central role in prioritizing mitigation strategies outlined in the CWPP Action Plan.

5.2 Areas of Concern

For this CWPP, the specific greenspace and greenspace interface targets with Fuel Models TL2 (timber litter with light load) and TL6 (timber litter with moderate load), as well as TU1 (timber understory with light surface fuels) are displayed in the maps (**Figures 13 to 20**) and **Table 11**:

Canadian River

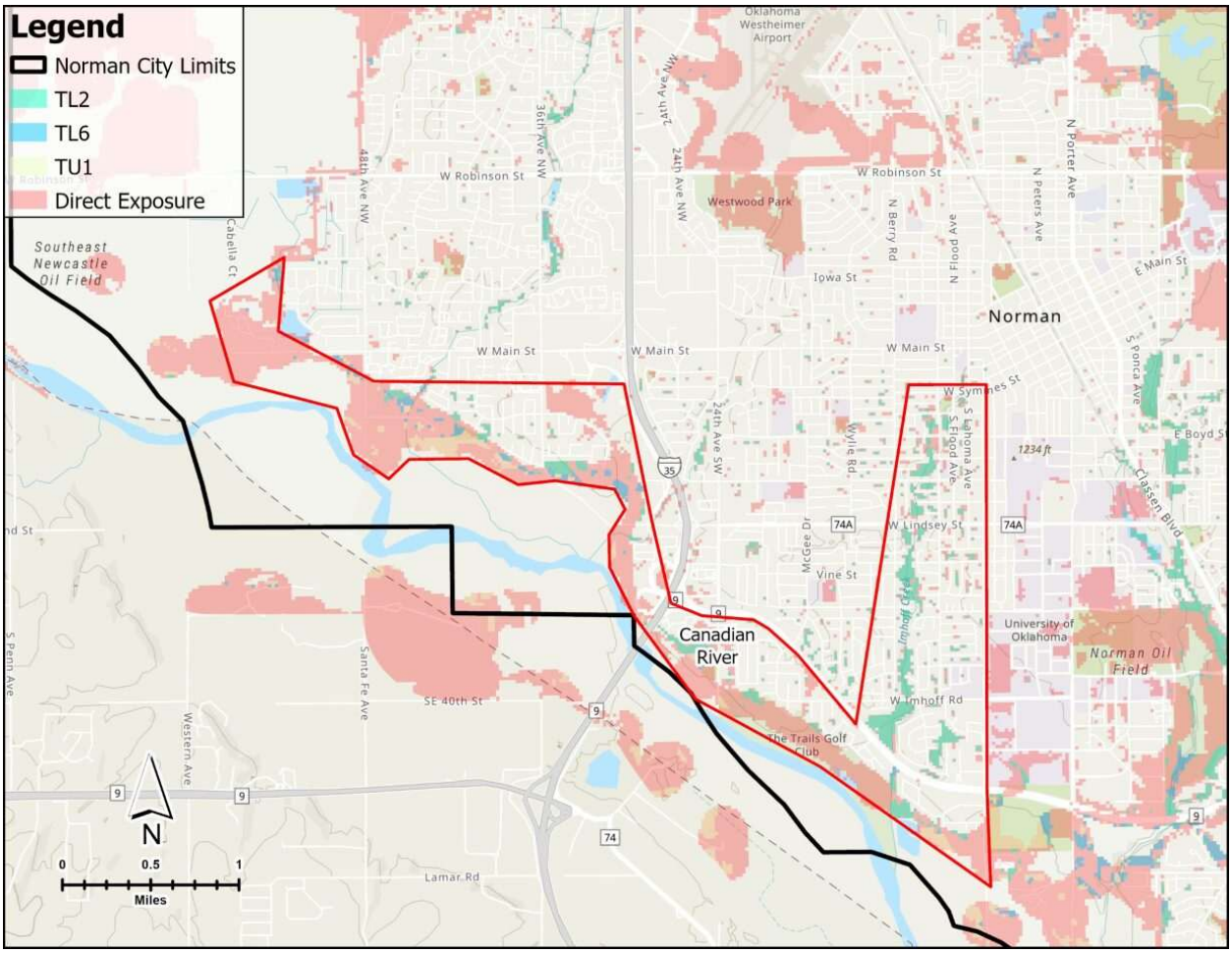

Figure 13: Canadian River Topography

Hall Park

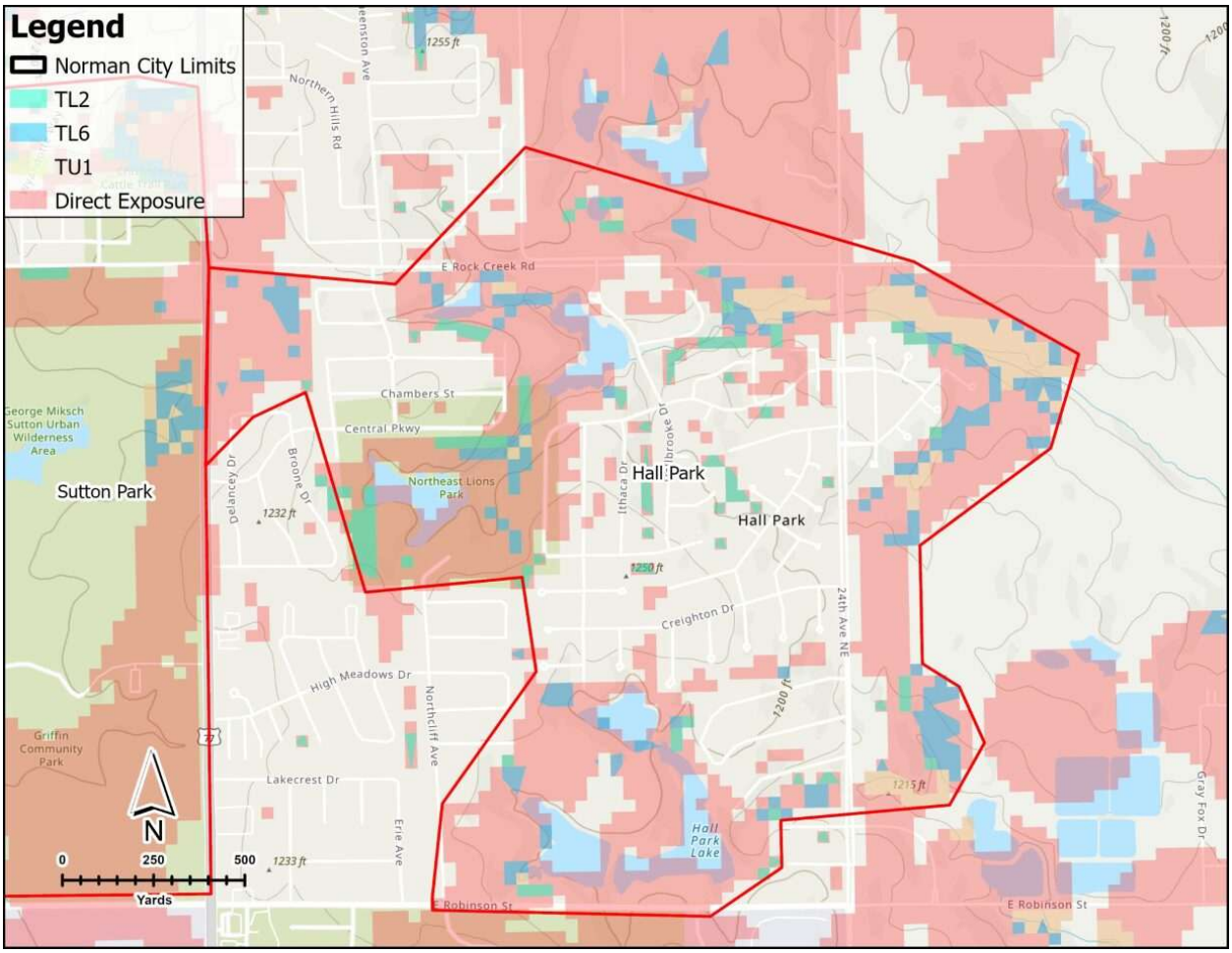

Figure 14: Hall Park Topography

Royal Oaks Park

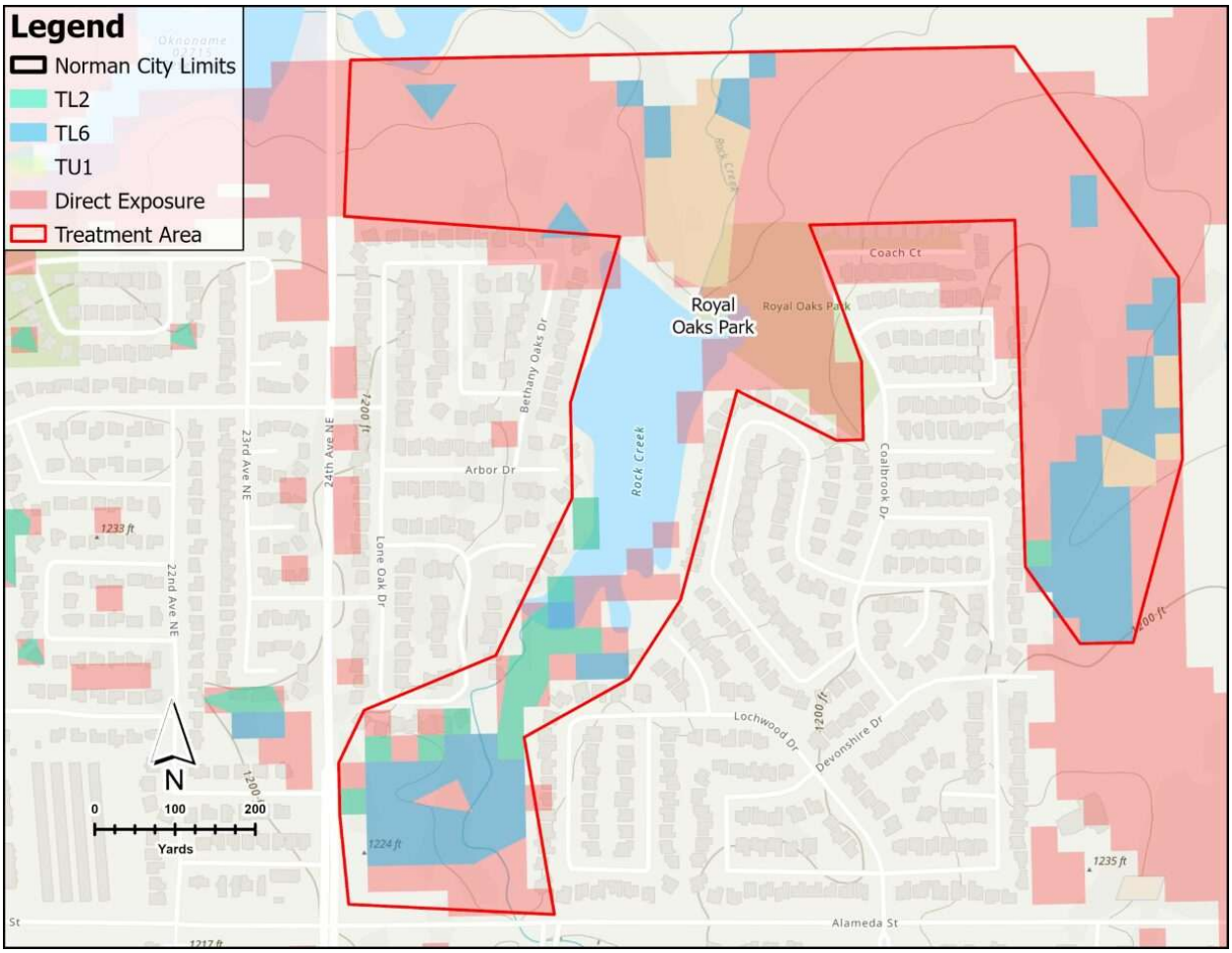

Figure 15: Royal Oaks Park Topography

Little River

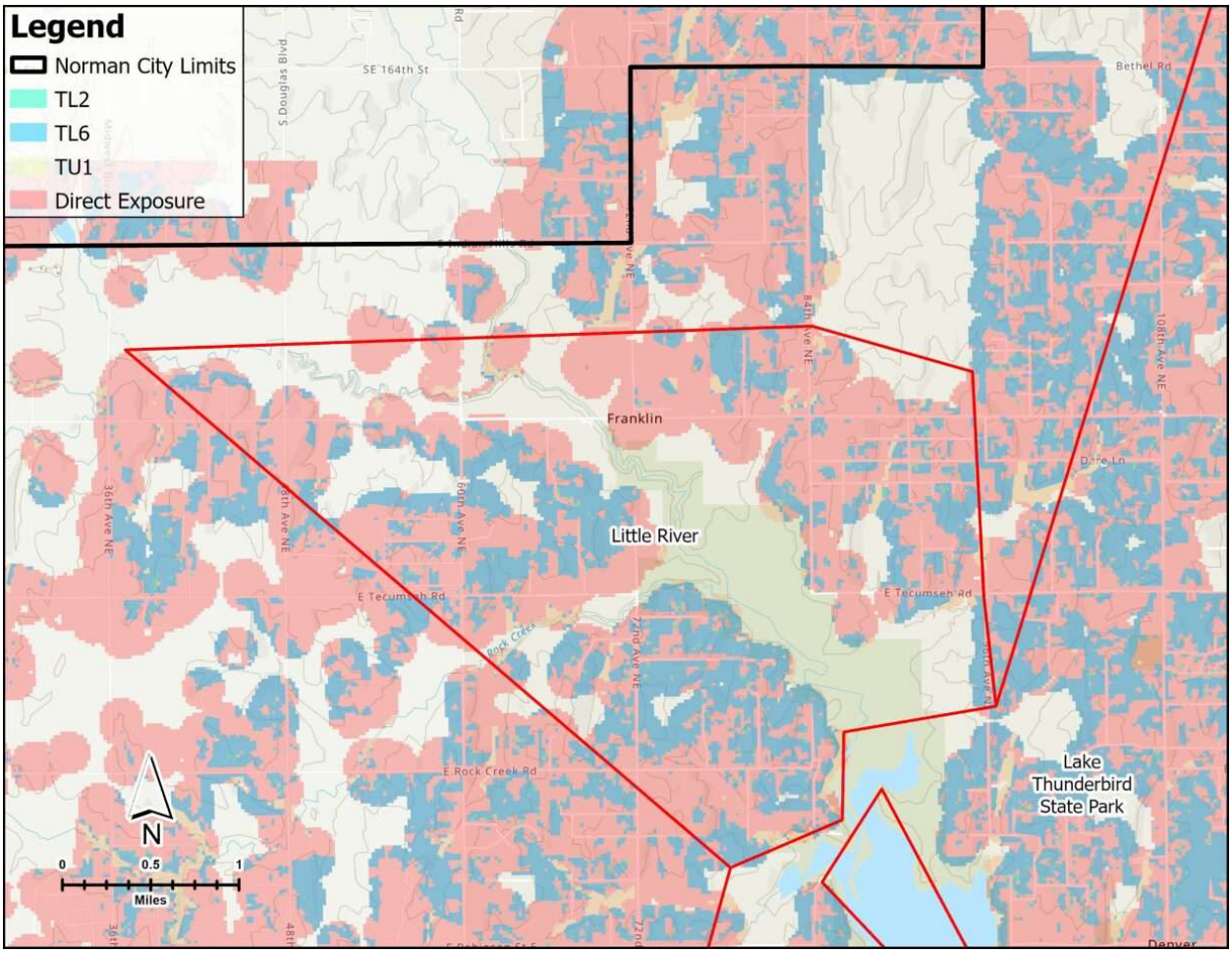

Figure 16: Little River Topography

Thunderbird State Park

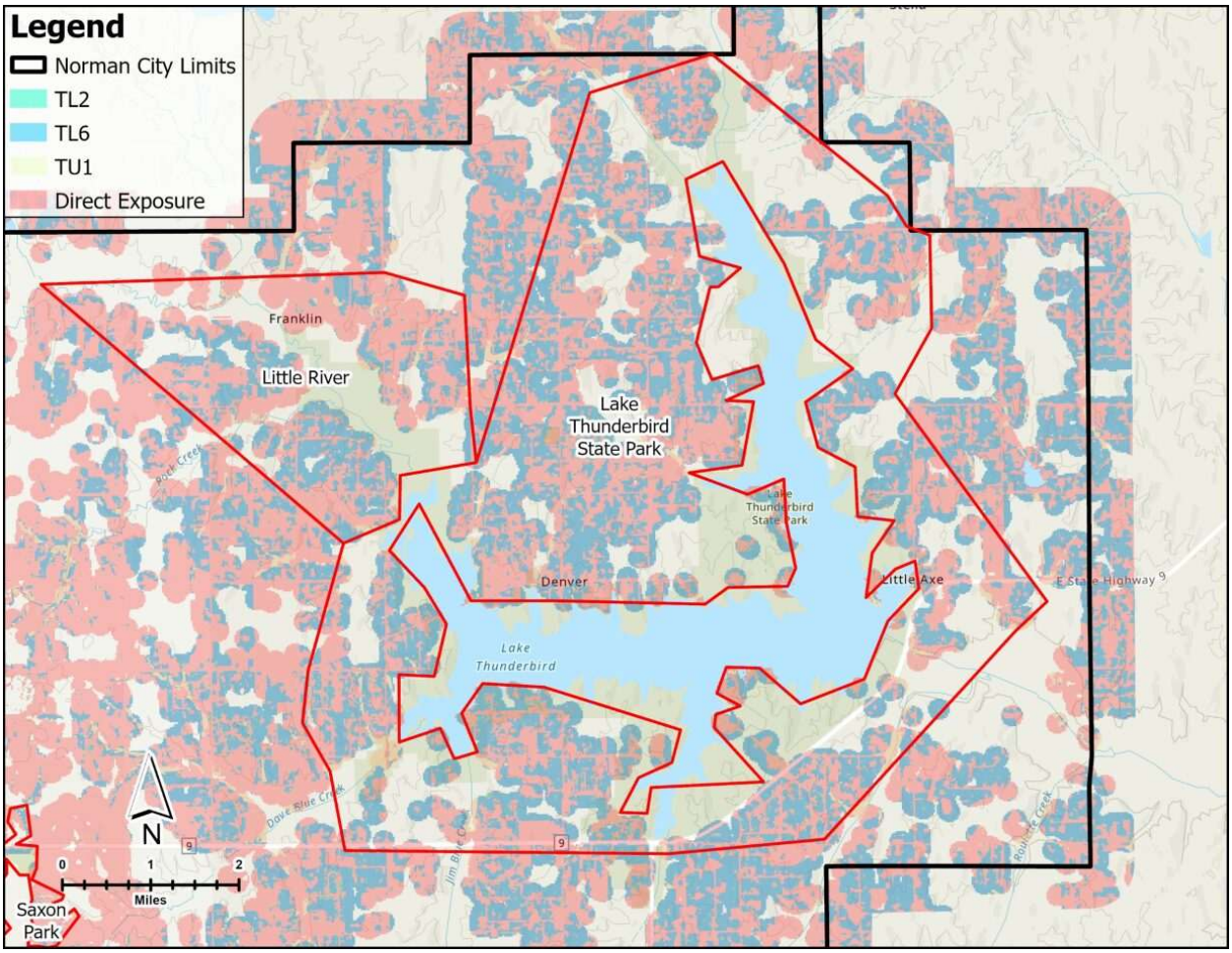

Figure 17: Thunderbird State Park Topography

Saxon Park

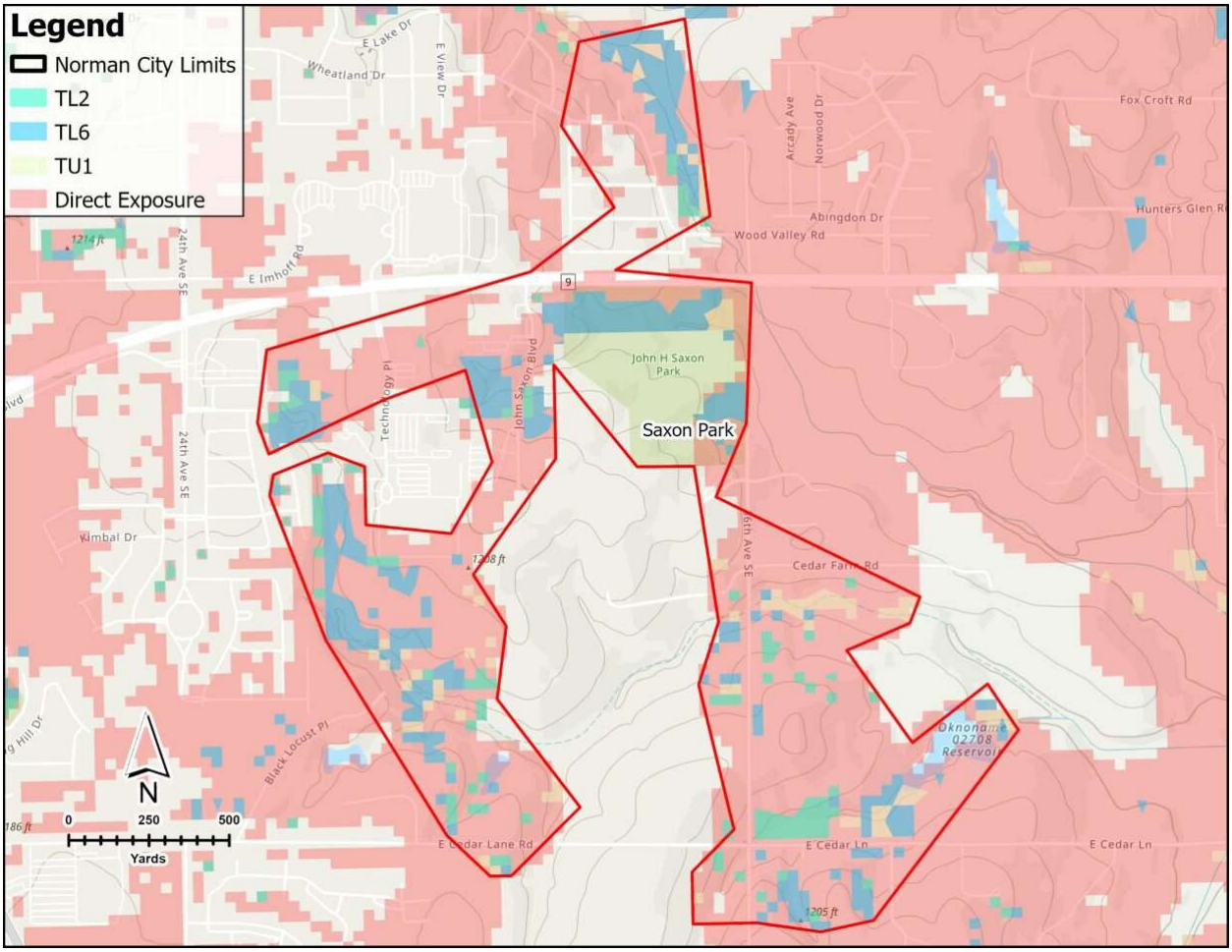

Figure 18: Saxon Park Topography

Sutton Wilderness

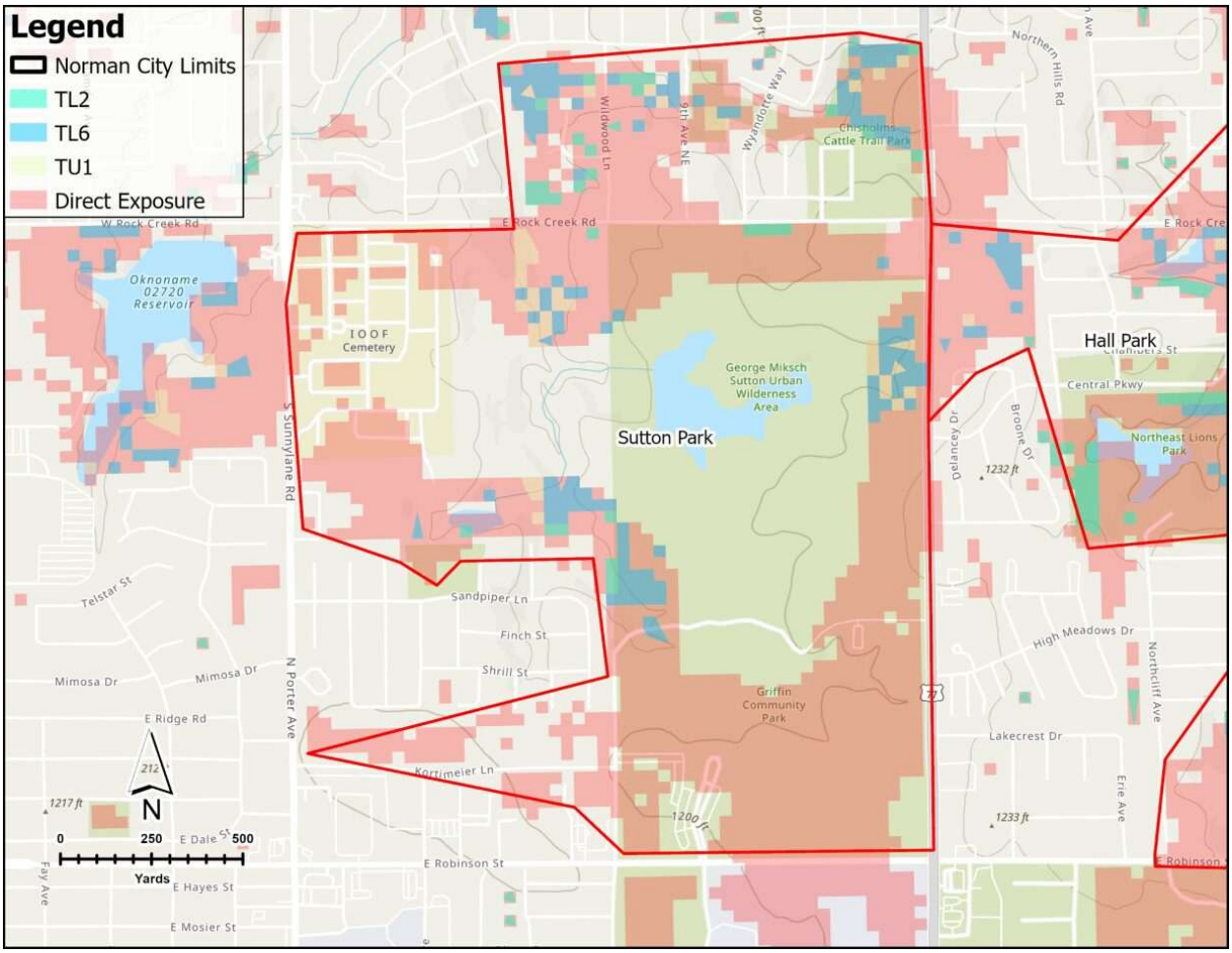

Figure 19: Sutton Wilderness Topography

Ruby Grant Park

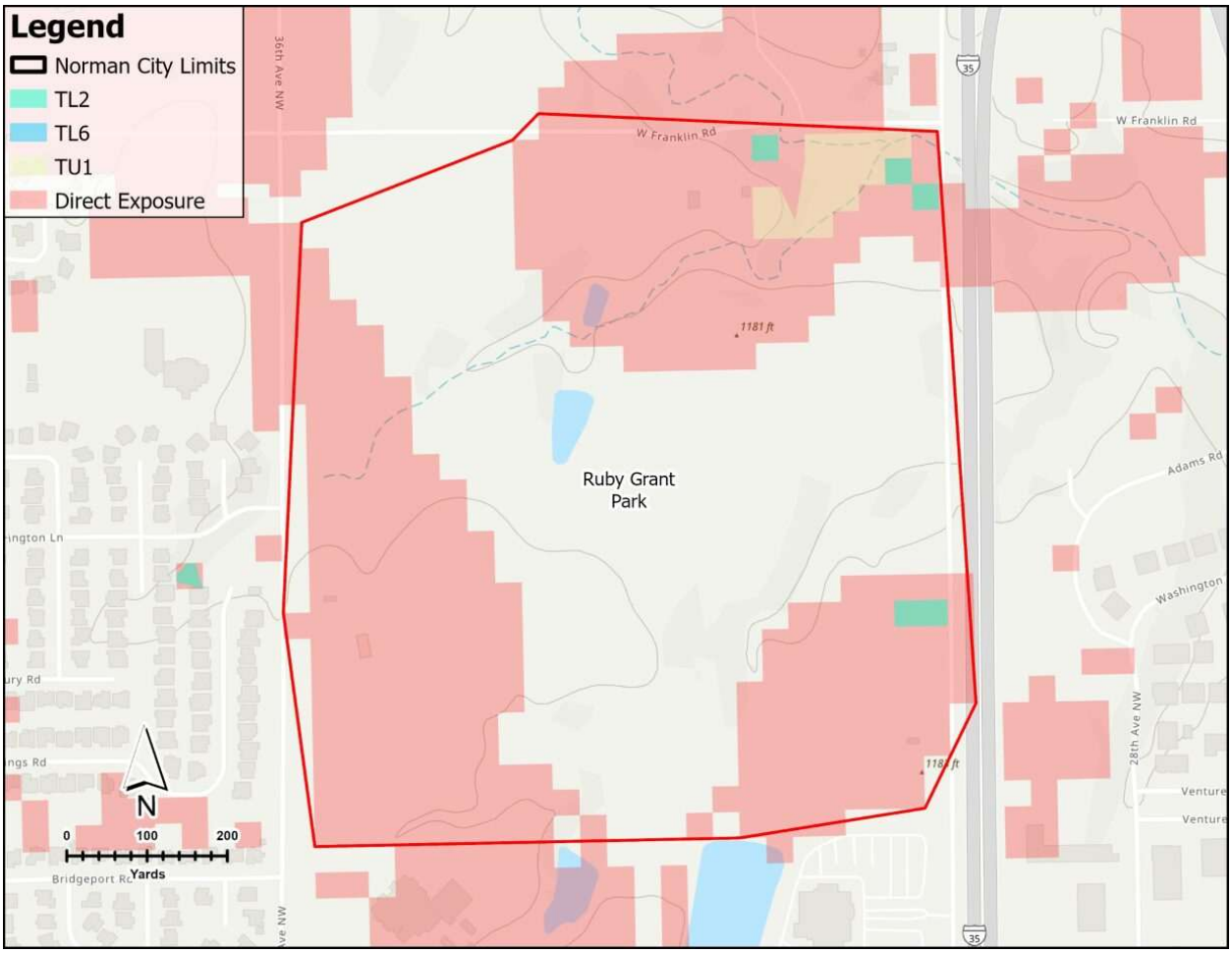

Figure 20: Ruby Grant Park Topography

Table 11: Wildfire Risk Assessment Table - Norman, Oklahoma

Area/Asset	Wildfire Hazard Level	Exposure Potential	Community Vulnerability	Critical Infrastructure at Risk	Overall Risk Rating	Mitigation Priority
Canadian River (2,269 acres)	High	Riparian vegetation, including grasses, shrubs, and trees.	Limited evacuation routes and large unhoused populations	Residential and recreation areas	High	High
Hall Park (617 acres)	Moderate	Mix of wooded areas and open grasslands with dense vegetation	Older structures	Residential neighborhoods	Moderate	Medium
Royal Oaks Park (102 acres)	Moderate	Green spaces and wooded area with dense vegetation	Limited defensible space and access to fire resources.	Residential areas and parks	Moderate	Medium
Little River (5,601 acres)	High	Riparian vegetation, including grasses, shrubs, and trees.	Limited evacuation routes and firefighting resources.	Residential areas, infrastructure	High	High
Thunderbird State Park (23,204 acres)	High	Woodland, grasslands, and dense brush	Limited evacuation routes	Recreational infrastructure and residential areas	High	High
Saxon Park (477 acres)	High	Adjacent to wooded areas and open grasslands	Limited access points and proximity to residential areas	Nearby homes and limited access roads	High	High
Sutton Wilderness (627 acres)	Moderate	Extensive natural grasslands	Limited access	Nearby homes and access challenges	Moderate	Medium
Ruby Grant Park (148 acres)	Moderate	Large park with mixed vegetation and open spaces	Increasing exposure during peak times	Playground, sports fields, trails, and homes	Moderate	Medium

Wildfire Risk Assessment Column Definitions are below:

- **Wildfire Hazard Level:** Based on fuel type, slope, and historical fire behavior.
- **Exposure Potential:** Likelihood of flame contact, embers, smoke, or radiant heat.
- **Community Vulnerability:** Based on population density, evacuation capacity, structural vulnerability, etc.
- **Critical Infrastructure at Risk:** Key public or private infrastructure that may be affected.
- **Overall Risk Rating:** A qualitative summary of the previous three columns.
- **Mitigation Priority:** Strategic level of urgency for action planning.

5.2.1 Fire Hazards in Unhoused Encampments

The unhoused population includes many who live with mental illness, drug addiction, and other problems. At unhoused shelters where some are housed, attention to fire prevention may take a back seat to other concerns, such as adding capacity. More troubling are fire hazards at makeshift housing sites and unhoused camps throughout Norman.

Fire calls to unhoused encampments include many of the same types of emergencies as other calls. According to the Norman Fire Department, unhoused individuals often use open fires for cooking or warmth, which cause brush fires or abandoned building fires. Also, inside the makeshift tents in unhoused encampments, residents may use or store propane, butane, car batteries, ammunition, or other hazards.

In January 2024, a recorded two hundred forty (240) citizens were experiencing being unhoused in Norman, Oklahoma, with ninety-one (91) of them unsheltered, according to the Cleveland County unhoused population headcount. The number of people experiencing being unhoused in Norman has increased since 2015. According to the local Point in Time Count, conducted by the Cleveland County Continuum of Care earlier this year, one hundred twenty-five (125) of those people are utilizing emergency shelters, fourteen (14) are sheltered in transitional housing and seventy-four (74) are considered unsheltered. The median number of citizens in the past fifteen (15) years has been two hundred sixty-six (266) people and the average is three hundred twenty-two (322) people. The city has considered alternative locations to shelter the unhoused, but these have been met with opposition. The city does not have a 24/7 permanent shelter.

Responding to fires at unhoused encampments requires additional training and awareness for firefighters, especially in issues involving mental health, addiction, de-escalation tactics, and crisis resolution. More personnel are often needed on a call. For example, additional staff may be needed to keep watch on apparatus because of the potential for vandalism or theft.

Unhoused encampments, often located in ravines, rivers, creek beds, and other wildfire-prone areas, create a dangerous wildfire hazard. Open flames used for cooking and warmth, combined with flammable debris and a lack of fire prevention measures, make these encampments a serious threat—not only to the community but also to those living within them.

Unhoused encampments are particularly prone to wildfire for several reasons:

- Improvised Living Conditions: Many encampments are set up using flammable materials such as tents, tarps, and cardboard, which can easily catch fire.
- Cooking and Heating Methods: Individuals in encampments often use makeshift cooking devices, open flames, or portable stoves, which can lead to accidental fires, especially in close quarters.
- Electrical Hazards: Some encampments may have makeshift electrical setups, using extension cords or other unsafe wiring, which can pose fire risks.
- Lack of Fire Safety Infrastructure: Encampments lack access to fire safety resources, such as fire extinguishers, and access to emergency services may be limited.
- Proximity to Flammable Materials: Encampments are often located near brush, debris, or other flammable materials that can easily ignite and spread fire.
- Substance Use: The presence of drugs and alcohol can impair judgment and increase the likelihood of accidents that lead to fires.
- Refuse: Combustible materials are present, but trash collection services and flush toilets are not.

These factors create an environment where fires can start easily and spread rapidly, posing significant risks to those living in encampments and nearby communities and requiring unique wildfire prevention messaging.

5.3 Summary of Key Findings

5.3.1 Maintenance

The Norman CWPP and its components, especially the risk assessment, require long-term maintenance to continue to effectively support Norman. Institutionalizing this long-term process and assigning maintenance responsibilities to oversee long-term maintenance can help ensure that the plan continues to be a functional document. This document is intended to be a living document that connects community members through fire risk education and catalyzes action for fuel reduction projects to decrease overall loss from wildland fire. Fire responders should revisit the CWPP at least annually for operational familiarity. The steering committee should review the document every five (5) years by to address landscape changes, goals, and associated outcomes.

5.3.2 Risk Assessment

While Norman has a predominantly moderate risk throughout much of the area within the city limits, high-risk areas do exist within the city's response area. These high-risk areas could result in catastrophic wildfire occurrences and should be addressed with mitigation efforts. The risk assessment can be shared with local communities and used as a decision-making tool to help prioritize fuels reduction projects. However, to ensure long-term viability, the risk assessment should be updated and enhanced with more precise data from the local community level.

5.3.3 Community Planning

Because of Norman's scale, the countywide risk assessment could not assess the structural ignitability of every structure located in the WUI. Local planning efforts in small communities and neighborhoods should collect more refined, site-specific data required to address the structural ignitability component of the risk assessment. Local community planning efforts are vital because as site-specific data is gathered at the micro level, it can be fed back into the countywide risk assessment. The incorporation of this refined local data into the countywide assessment will help to provide a better picture of overall risk in Norman.

5.3.4 Collaboration

The risk assessment draws on many data sources. As a result, it will be important to maintain collaborative approaches to identifying, acquiring, and utilizing data layers among data users and providers. Because of the importance that local refined data plays in community planning efforts, collaboration among the county and local communities will also be important.

Section 6: Mitigation Measures and Strategies

As wildfire threats continue to evolve and urban development expands into natural landscapes, the Norman CWPP offers a comprehensive set of mitigation strategies aimed at reducing wildfire risks to people, property, infrastructure, and ecosystems. These strategies address both broad, landscape-level challenges and specific vulnerabilities identified through community input, field assessments, and recent fire science research.

This section builds upon the CWPP's foundational Wildfire Risk Assessment and incorporates local priorities identified through on-the-ground evaluations and feedback from local experts and stakeholders. Together, these strategies reflect the best practices in wildfire mitigation, covering areas such as fuel management, defensible space, building resilience, infrastructure protection, and emergency planning.

6.1 Introduction to Areas of Concern

The Norman CWPP identifies key Areas of Concern—neighborhoods, corridors, and assets—that are particularly vulnerable to wildfire impacts. These areas meet one or more of the following criteria:

- Located within WUI zones.
- Contain critical infrastructure or high-value community assets.
- Face unique wildfire vulnerabilities, such as limited ingress/egress, steep slopes, or ecological sensitivity.

A Wildfire Risk Summary was developed using both qualitative and spatial analysis based on wildfire exposure potential, built-environment vulnerabilities, and topographic challenges. These include ignition-prone materials, dense housing configurations, and single-access neighborhoods. **Table 12** below explains the Norman CWPP Areas of Concern.

The Recommended Actions in this section are based on CWPP best practices and informed by current research on suburban wildfire spread and home-to-home ignition risks. Mitigation measures address both system-wide vulnerabilities and location-specific issues. These actions include the following:

- Fuel reduction and defensible space creation.
- Parcel-level ignition resistance retrofits.
- Improved access for emergency response.
- Protection of critical infrastructure (e.g., utility lines, hospitals, communication corridors).

- Regulatory updates, incentives, and community outreach.

These strategies aim to reduce risks, protect vulnerable areas, and enhance the community's overall wildfire resilience.

Table 12: Norman CWPP Areas of Concern

Area Name	Description	Risk Summary	Vulnerabilities	Recommended Mitigation Actions
Canadian River	A 2,269-acre area runs through rural and urbanized areas, with riparian vegetation and grasslands	High	Limited access for emergency response Nearby residential areas with vulnerable populations	Fuel reduction along riverbanks. Creation of firebreaks and defensible space Improve access routes for emergency response. Public education on evacuation plans
Hall Park	A 617-acre public park with a mix of wooded areas and open grasslands, surrounded by residential neighborhoods	Moderate	Dense vegetation within the park and residential areas with limited defensible space	Fuel reduction and defensible space around the park. Improved firebreaks and access routes for firefighters Community outreach and education on wildfire risks

Area Name	Description	Risk Summary	Vulnerabilities	Recommended Mitigation Actions
Royal Oaks Park	A 102-acre park area with wooded and grassy sections, located near residential developments	Moderate	Dense vegetation in the park and limited access for fire suppression teams	Increase defensible space for nearby homes. Fuel reduction within the park. Improve evacuation routes for residents. Fire-resistant building materials for nearby homes.
Little River	A 5,601-acre natural corridor with riparian zones, rural communities	Moderate	Dense brush and forested areas along the river, limited evacuation routes, and rural areas with agricultural activity and livestock at risk	Fuel management and defensible space for rural properties. Community engagement on fire prevention. Improve road access and create firebreaks in critical areas.
Thunderbird State Park	A 23,204-acre recreational area with dense forests, grasslands, and a large lake	High	Dense vegetation in the park and proximity to residential areas with limited evacuation routes	Develop fire management plans for the park. Increase defensible space for surrounding homes. Community education and awareness campaigns. Emergency evacuation drills for visitors.

Area Name	Description	Risk Summary	Vulnerabilities	Recommended Mitigation Actions
Saxon Park	A 477-acre park with wooded areas and grasslands, surrounded by residential areas	High	Proximity to homes, limited access, and high fuel loads in surrounding areas	Focus on invasive species removal, enhance firebreaks, and establish community fire safety programs.
Sutton Wilderness	A 627-acre park with grasslands and red cedar encroachment, located near homes	Moderate	Residential proximity and limited evacuation routes	Conduct prescribed burns, reduce invasive species, and improve community fire preparedness.
Ruby Grand Park	A 148-acre developed park with sports fields, trails, and open spaces	Moderate	Lack of defensible space around park infrastructure	Clear vegetation around high-risk areas, install fire barriers, and educate the public on fire safety.

6.2 Land Development and Building Code Improvements

To enhance wildfire resilience in Norman, the city can implement several land development and building improvements. Key measures include adopting fire-resistant building materials such as non-combustible siding, ember-resistant vents, and fire-resistant roofing, particularly in WUI zones. Additionally, regulations for defensible space around new buildings, requiring a 30-foot buffer of managed vegetation, will help slow or stop fire spread. Road design improvements for better emergency access and multiple evacuation routes, along with wildfire risk assessments incorporated into zoning regulations, will further protect communities. Mandating fire protection systems in new developments, such as sprinklers and fire-resistant materials, and increasing building setbacks from high-risk areas will improve overall resilience. Lastly, community fire safety education and incentive programs for property owners can encourage widespread adoption of fire-resistant practices. These combined efforts will reduce wildfire risk and protect Norman's residents and infrastructure.

6.3 Education and Community Empowerment

Although fire prevention education programs exist, very few landowners may be aware of this information.

The three goals of education and awareness for this planning effort are as follows:

- Instill a sense of personal responsibility for taking preventative actions regarding wildland fire on one's property.

- Increase public understanding of living in a fire-adapted ecosystem.
- Increase the community's ability to prepare for, respond to, and recover from wildland fires.

6.3.1 Firewise USA

The Firewise USA program, developed by the National Fire Protection Association (NFPA), empowers residents to take preventative action by creating defensible space around structures, managing vegetation, and using fire-resistant construction materials. Key practices include maintaining a minimum 100-foot buffer of defensible space around homes, trimming overhanging limbs, eliminating ladder fuels, and reducing leaf litter and debris. Homeowners are encouraged to utilize fire-resistant roofing and siding materials, keep gutters clear, and ensure that address signage is visible for emergency responders. Just as crucial is the need for community collaboration that enhances preparedness through shared resources, education, and neighborhood action.

6.3.2 Southern Wildfire Risk Assessment Portal (SouthWRAP)

The Southern Wildfire Risk Assessment Portal (SouthWRAP) is a web-based planning and risk analysis tool developed by the Southern Group of State Foresters. This tool provides critical wildfire risk data and interactive mapping capabilities for the southern United States, including Oklahoma.

The Wildfire Risk Explorer is an interactive map that displays detailed data layers related to wildfire risk, fuel types, topography, and historical fire activity. This tool enables city planners, emergency managers, and residents to visualize wildfire hazard potential across Norman and identify the most vulnerable areas. The platform also highlights Community Protection Zones that are strategically important areas near population centers where fuels management and mitigation efforts can have the greatest impact. This feature is especially useful for Norman's expanding WUI, where residential development intersects with natural vegetation.

The Values at Risk layer identifies critical resources such as homes, infrastructure, and environmentally sensitive areas that may be threatened by wildfire. By pinpointing what is at stake, this feature helps prioritize mitigation projects and supports effective communication with stakeholders and the public. Another essential tool within the portal is the Wildfire Hazard Potential map, which assesses the likelihood and intensity of fire behavior based on factors such as vegetation, slope, and historical ignition patterns. This information is particularly valuable for long-term planning efforts, such as zoning, land-use decisions, and fire-resilient development.

The Treatment Opportunities layer identifies areas where fuel reduction or other mitigation activities would be most effective in lowering wildfire risk. These treatment zones can be integrated into Norman's overall mitigation strategy, helping to guide resource allocation and support applications for funding or interagency collaboration. Users can also generate customized reports summarizing wildfire risk, values at risk, and recommended treatments for specific

properties or areas. These reports are ideal for use in planning, grant writing, and public outreach efforts tied to the CWPP.

SouthWRAP offers multiple viewer modes designed to accommodate different user needs, ranging from casual exploration to detailed wildfire risk analysis. The platform's Basic Viewer is designed for general users, such as homeowners and community members, who want a straightforward way to explore wildfire risk data in their area. It offers simplified navigation, quick access to key layers such as wildfire hazard potential and values at risk, and an intuitive interface suitable for non-technical users. This mode is ideal for raising public awareness and promoting community engagement.

The Professional Viewer provides access to a broader range of data layers and tools tailored for emergency managers, fire professionals, land use planners, and other decision-makers. This mode includes detailed modeling outputs, fuel treatment opportunities, historical fire occurrence data, and custom reporting tools. Users can conduct risk assessments at various geographic scales, generate project-specific maps, and integrate multiple data sources to support planning and mitigation strategies.

The Custom Reporting Tool functions across viewer modes but is particularly powerful in Professional Viewer. This tool allows users to generate site-specific reports summarizing wildfire risk levels, priority treatment areas, and vulnerable assets. These reports can be saved, printed, or shared, and they are especially useful for inclusion in grant applications, CWPP updates, or outreach materials.

6.3.3 Prescribed Fire Program

Norman recognizes prescribed fire as a critical land management tool for reducing hazardous fuels, enhancing ecosystem health, and mitigating catastrophic wildfire risk. As part of the CWPP, Norman is considering a structured Prescribed Fire Program in collaboration with local landowners, OFS, OU, and the Norman fire departments. The program's primary goals would be to reduce the buildup of hazardous vegetative fuels in high-risk WUI areas, restore and maintain native prairie and cross-timbers ecosystems, and promote public safety through the controlled and responsible use of fire.

The program will begin with the identification and mapping of priority burn areas based on fuel loads, fire history, ecological needs, and their proximity to developed areas. Each prescribed burn will be guided by a detailed burn plan that aligns with National Wildfire Coordinating Group (NWCG) standards, outlining weather conditions, fire behavior predictions, safety measures, and contingency strategies. The city will work closely with partners such as the Oklahoma Prescribed Burn Association and the Cleveland County Conservation District to encourage private landowner involvement by offering technical support and education.

Training will be a cornerstone of the program, with opportunities for local fire personnel, land managers, and community volunteers to gain skills in prescribed fire planning and implementation. The city will support a trained cadre of qualified burn bosses and fire crews to carry out prescribed burns safely and effectively. Public engagement is also a key focus. Residents will be notified in

advance of any planned burns and provided with educational materials explaining the benefits and safety considerations of prescribed fire. The city will utilize online platforms, including its website and social media channels, to keep the public informed.

Each burn will be monitored to evaluate its effectiveness in reducing fuel loads and achieving ecological goals. These assessments will help refine future planning efforts and improve program outcomes over time. All burns conducted under this program will comply with Oklahoma state laws and local ordinances, including those pertaining to air quality and burn permits. Ultimately, through the regular and safe use of prescribed fire, Norman aims to foster a fire-adapted community that is resilient to wildfire threats while preserving the health and diversity of its natural landscapes.

6.4 Recommendations to Reduce Structural Vulnerability

Structural ignitability refers to the vulnerability of buildings and other structures to ignition from wildfire embers, radiant heat, or direct flame contact. Reducing structural ignitability is critical to improving wildfire resilience. Best practices for reducing the risk of structure loss are outlined below.

According to the OFS website, three defense zones are recommended to help prevent wildfire. Homeowners should keep a minimum distance of one hundred (100) to one hundred fifty (150) feet around their home clear and free of debris. Greater distances are recommended for homes on steep slopes or windswept exposures.

- Zone One ([thirty [30]-foot minimum from the perimeter of the house): Homeowners are encouraged to plant low-growing, fire-resistant plants and water plants and grass regularly, especially during droughts and burn bans.

- Zone Two (thirty [30] to sixty [60] feet from the house): This area includes slow-growing drought-tolerant shrubs and ground covers to keep fire near ground level.

- Zone Three (sixty [60] to one hundred fifty [150] feet from the house): Homeowners are required to remove over-growth and major pruning every three (3) to five (5) years. Trees should be thinned, and homeowners should remove any limbs that may encounter power lines.

6.4.1 Structural Hardening Measures

Beyond defensible space, reducing structural ignitability requires ignition-resistant construction materials and maintenance practices noted below.

- Roofing and Gutters
    - Use Class A fire-rated roofing materials such as metal, tile, or asphalt shingles.
    - Regularly clean gutters to prevent the buildup of dry leaves and pine needles.

- Siding and Walls
    - Use non-combustible or ignition-resistant siding materials such as stucco, fiber cement, or treated wood.
    - Enclose eaves and vents with 1/8-inch metal mesh to prevent ember intrusion.
- Windows and Doors
    - Install dual-pane or tempered glass windows to resist heat and reduce the risk of breakage.
    - Use fire-resistant door materials such as metal or solid-core wood.
- Decks and Attachments
    - Construct decks with non-combustible or ignition-resistant materials.
    - Remove debris from beneath decks and use non-flammable ground coverings.

Reducing structural ignitability through defensible space and ignition-resistant construction is essential to protecting Norman from wildfire. Individual citizens can significantly reduce the risk of wildfire-related structure loss and improve overall wildfire resilience on their property by following these guidelines.

6.4.2 Restoring Resilient Landscapes

A resilient landscape is one that can withstand, adapt to, and recover from wildfire impacts while maintaining ecological health and community safety. In the context of the Norman CWPP, creating a resilient landscape involves managing vegetation, protecting critical infrastructure, and promoting land use practices that reduce fire intensity and spread. By integrating fire-adapted strategies and ecological principles, the plan aims to enhance the long-term sustainability of the environment and the safety of residents in fire-prone areas.

The steering committee's intention is to engage in continued discussions with the Norman community and adjacent landowners to implement the CWPP and accomplish hazardous fuels reduction projects in the most expeditious manner possible.

The steering committee recognizes the effectiveness and value of maximizing treatment efforts in areas that are adjacent to federal or other private projects and recommends that future projects consider these benefits when selecting areas for treatment.

With these goals in mind, education and outreach are top priorities for the Norman CWPP. Property owners and visitors will continue to benefit from clear examples of what a fire-resilient landscape and community look like as well as easy access to resources that help them act. Property owners are strongly encouraged to learn more about how they can reduce the hazards to their own property.

Section 7: Action Plan

7.1 Goals and Objectives

Table 13 below outlines the primary goals of the City of Norman (Norman) CWPP and their corresponding objectives. This framework is designed to provide a clear, actionable guide to support implementation efforts, inform prioritization, and encourage ongoing collaboration among local, state, and federal partners. Each goal focuses on a key area of wildfire preparedness, mitigation, and community resilience. The associated objectives provide measurable steps to help achieve each goal, ensuring a comprehensive and coordinated approach to reducing wildfire risk throughout Norman.

Table 13: Goals and Objectives

Goal	Supporting Objectives
Goal 1: Protect Lives, Property, and Critical Infrastructure	1.1 Identify and prioritize high-risk areas for mitigation, especially those vulnerable to east wind-driven wildfire events. 1.2 Develop strategies to protect critical infrastructure, including utilities and emergency access routes. 1.3 Support the expansion of defensible space and structural hardening measures across WUI neighborhoods.
Goal 2: Enhance Wildfire Resilience through Community Engagement and Education	2.1 Implement education campaigns to increase public awareness of fire-adapted living and home ignition risks. 2.2 Expand community participation in Firewise USA® and neighborhood preparedness networks. 2.3 Partner with local schools, businesses, and civic groups to deliver wildfire preparedness education.
Goal 3: Restore and Maintain Resilient Landscapes	3.1 Use data from IFTDSS and CWiRRZ to identify priority fuel treatment zones. 3.2 Coordinate with local, state, and federal partners to plan and implement ecologically appropriate fuel reduction projects. 3.3 Promote landscape-scale forest health initiatives that consider climate change and fire-adapted ecosystems.
Goal 4: Improve Emergency Response and Recovery Capabilities	4.1 Align CWPP actions with the Norman EOP and mutual aid agreements. 4.2 Develop and practice evacuation routes and sheltering plans for at-risk communities. 4.3 Build capacity for post-fire recovery planning, including watershed protection and community support services.
Goal 5: Strengthen Collaboration Across Jurisdictions	5.1 Formalize coordination among Norman, OFS, BLM, USFS, and rural fire districts. 5.2 Establish a CWPP Advisory Committee for ongoing implementation, tracking, and plan updates. 5.3 Leverage state and federal funding opportunities such as the Landscape Resiliency Program and CWDGs.

Goal	Supporting Objectives
Goal 6: Support Policy Alignment and Regulatory Integration	6.1 Use the CWPP as a guide to inform local land use planning, building codes, and hazard mitigation policies. 6.2 Encourage local adoption of voluntary best practices for wildfire risk reduction in zoning and development decisions. 6.3 Develop a Prescribed Fire Program.

7.2 Action Items and Implementation

The City of Norman (Norman) CWPP is a living tool that can be used for multiple outcomes. The plan contains recommendations consistent with the Cohesive Strategy's three goals (safe and effective wildfire response, fire-adapted communities, and resilient landscapes), as well as prioritized recommendations and preferred treatment methods. The risk assessment process evaluates critical needs and identifies priority areas. The following recommendations meet the purposes of the Norman CWPP:

- Reduce hazardous fuels on public land.
- Reduce hazardous fuels on private land.
- Reduce structural vulnerability.
- Increase education and awareness of the wildfire threat.

7.3 Action Plan Methods

The development of the CWPP Action Plan (see **Table 14** below) for Norman, Oklahoma, was based on a combination of data-driven analysis, stakeholder engagement, and alignment with state and federal wildfire mitigation frameworks. Geographic risk modeling and local wildfire data helped identify and prioritize areas most vulnerable to wildfire impacts. These areas were evaluated for both direct exposure, such as flame and ember pathways, as well as indirect risk factors, including limited evacuation routes, infrastructure dependence, and community vulnerability.

Input from fire agencies, utility providers, local planners, and community groups was essential in selecting feasible and locally supported mitigation actions. Action items were designed to address specific conditions within Norman while supporting broader regional goals for wildfire resilience. Key strategies include creating defensible spaces, reducing fuel loads, hardening structures, and enhancing public education efforts. Each action was assigned a priority level to guide phased implementation, considering the urgency of the risk, available resources, and the potential for reducing wildfire hazards.

Table 14: Norman CWPP Action Items

Goal	Objective	Action Item	Lead Agency/Partner(s)	Priority
Goal 1	1.1	Use CWiRRZ and OWRE data to map and prioritize high-risk zones.	City of Norman Fire, ODF, Geographic Information Systems (GIS) Teams	High
	1.2	Assess and harden critical infrastructure corridors (e.g., power lines, water facilities).	EWEB, Cleveland County, Public Works	High
	1.3	Launch a defensible space assistance program for WUI homeowners.	City of Norman Fire, Firewise Communities	High
Goal 2	2.1	Conduct seasonal public outreach on fire preparedness and home hardening.	Local Fire Districts, City PIOs, Schools	High
	2.2	Host Firewise certification workshops for Homeowners Associations (HOAs) and neighborhood groups.	Firewise USA®, Local Fire Agencies	Medium
	2.3	Develop wildfire safety curriculum for wildfire in local K–12 schools.	Local School Districts, Emergency Management	Low
Goal 3	3.1	Prioritize treatment projects using IFTDSS scenarios and ecological data.	OFS, USFS, BLM, CWPP Committee	High
	3.2	Coordinate cross-jurisdictional fuel reduction projects and prescribed burns.	OFS, BLM, Local Fire Districts	High
	3.3	Develop a long-term forest health and fire-adapted ecosystem strategy.	OFS, Natural Resources Partners	Medium
Goal 4	4.1	Integrate CWPP priorities into the Norman EOP.	Norman Emergency Management	High
	4.2	Create and publicize updated evacuation route maps and signage.	Transportation Dept., Fire Dept., Public Works	High
	4.3	Build a local post-fire recovery task force and response framework.	Norman, Cleveland County Office of Emergency Management	Medium
Goal 5	5.1	Establish regular interagency CWPP coordination meetings and workshops.	CWPP Advisory Committee	Medium
	5.2	Formally adopt CWPP by all participating jurisdictions and update every five (5) years.	Norman, OFS, BLM	High

Goal	Objective	Action Item	Lead Agency/Partner(s)	Priority
	5.3	Pursue CWDG and FEMA grants to fund prioritized mitigation projects.	City/County Planners, Fire Dept., Grant Writers	High
Goal 6	6.1	Review city and county development codes to integrate wildfire resilience best practices.	Planning Departments	Medium
	6.2	Promote voluntary adoption of defensible space and fire-resistant building practices in building permit processes.	Planning, Fire Prevention Divisions	Medium
	6.3	Reduce the buildup of hazardous vegetative fuels in high-risk WUI areas, restore and maintain native prairie and cross-timbers ecosystems, and promote public safety through the controlled and responsible use of fire.	Norman and NFD	High

7.4 Safe and Effective Wildfire Response

Norman is charged with identifying and assessing opportunities to improve coordinated wildfire response including an assessment of the water resources available for fire suppression in the Norman CWPP area. The steering committee will make recommendations for projects to ensure adequate water resources are available for fire suppression. In addition, the steering committee will help conduct further assessments to determine the evacuation needs and identify potential projects developing new and/or improving existing routes.

7.5 Improving Fire Protection Capabilities

Grants and funding opportunities for wildfire prevention, recovery, and mitigation are essential in addressing the growing threat of wildfires and their devastating impact on communities, ecosystems, and economies. These financial resources, often provided by government agencies, non-profit organizations, and private foundations, support a range of initiatives, from research and emergency response to land management and rebuilding efforts. By securing funding, organizations and local governments can implement crucial wildfire preparedness programs, enhance firefighting capabilities, restore affected landscapes, and foster community resilience. Accessing these grants and funding possibilities is key to reducing wildfire risk and ensuring a more sustainable, fire-resilient future. Below are funding opportunities that Norman could include.

7.5.1 Community Wildfire Defense Grant (CWDG)

The Community Wildfire Defense Grant (CWDG) program is a federal initiative aimed at helping at-risk communities reduce the risk of wildfire damage. Funded by the U.S. Department of

Agriculture (USDA), the program provides financial assistance to local and tribal governments, as well as nonprofit organizations, to implement wildfire mitigation projects. These projects can include creating defensible spaces around homes, improving wildfire preparedness plans, removing hazardous vegetation, and enhancing emergency response capabilities. The CWDG program is designed to empower communities to take proactive measures to protect lives, property, and natural resources from the growing threat of wildfires.

7.5.2 Hazard Mitigation Grant Plan (HMGP)

The Hazard Mitigation Grant Program (HMGP) is a federal initiative managed by FEMA that provides funding to support projects aimed at reducing or eliminating the long-term risk of disasters, including wildfires, floods, and hurricanes. The program helps state, local, tribal, and territorial governments fund mitigation measures such as improving infrastructure, enhancing emergency preparedness, and protecting vulnerable areas. HMGP funding is typically available after a presidential disaster declaration and can be used for projects that address the root causes of disasters to minimize future damage and loss of life. The goal is to build more resilient communities by reducing future hazard impacts.

7.5.3 Post Fire Hazard Mitigation Grant Program (HMGP-PF)

The Post Fire Hazard Mitigation Grant Program (HMGP-PF) is a specialized funding initiative under FEMA's HMGP. It focuses on supporting wildfire recovery and mitigation efforts in areas that recent wildfires have impacted. This program provides financial assistance to state, local, tribal, and territorial governments to implement projects aimed at reducing the risk of future wildfires and enhancing community resilience. HMGP-PF funding can be used for activities such as vegetation management, infrastructure improvements, and fire prevention measures, all designed to prevent or lessen future wildfire impacts. The program helps communities recover from the immediate effects of wildfire while addressing long-term risks.

7.5.4 Fire Management Assistance Grants (FMAG)

Fire Management Assistance Grants (FMAG) are federal funds provided by FEMA to assist state, local, tribal, and territorial governments in managing and mitigating wildfires. These grants help cover the costs of firefighting efforts, including expenses for equipment, personnel, and operations needed to control and suppress wildfires. FMAGs are typically rewarded when wildfire threatens to cause major destruction, and firefighting costs exceed certain thresholds. The program aims to reduce the financial burden on communities facing large-scale wildfires and to enhance their ability to respond effectively to fire emergencies.

7.5.5 Fire Prevention and Safety (FP&S) Grants

Fire Prevention and Safety (FP&S) Grants, managed by FEMA, are designed to support projects that aim to prevent fires and enhance safety in communities. These grants focus on funding initiatives related to fire prevention, education, and safety, including programs that reduce the risk of fire-related injuries and deaths. FP&S grants are typically awarded to fire departments, non-profits, and other eligible organizations to support activities such as fire safety education, the

installation of fire prevention equipment, and community outreach programs. The program's goals are to improve fire safety awareness and reduce the overall incidence of fires, particularly in high-risk areas.

7.5.6 Emergency Management Performance Grant (EMPG)

The Emergency Management Performance Grant (EMPG) program, managed by FEMA, provides funding to state, local, tribal, and territorial governments to enhance their emergency management capabilities and improve preparedness for a variety of disasters, including wildfires, floods, and other hazards. The EMPG program supports efforts to develop and maintain emergency plans, conduct training and exercises, and strengthen coordination among response agencies. The goal is to ensure communities are better equipped to respond to and recover from emergencies, ultimately reducing the impact of disasters on public health and safety.

7.5.7 State Fire Capacity Grant

The State Fire Capacity (SFC) Grant is a federally funded program administered through OFS to support local and rural fire departments in building their capacity to prevent and respond to wildfires. This grant provides funding for wildfire mitigation planning, training, equipment, and community outreach efforts. OFS will apply for the SFC Grant on behalf of Norman, covering both the application process and the project funding. As a result, there will be no cost to Norman to apply for or implement the grant-funded activities, making it a highly effective and cost-efficient opportunity to advance wildfire preparedness and mitigation efforts.

7.6 Firefighter Training

Firefighter training in Oklahoma is crucial to ensuring that emergency responders are fully prepared to handle the unique challenges wildfires pose. With the state's diverse terrain and frequent fire risks, specialized training equips firefighters with the skills and knowledge necessary to protect lives, property, and natural resources. Oklahoma offers a variety of training programs, workshops, and certification opportunities that focus on everything from fire suppression tactics to safety protocols and advanced firefighting techniques. These training initiatives not only enhance firefighter effectiveness but also strengthen the state's overall emergency response capabilities, ensuring that first responders are ready for any challenge they may face. Currently, the Norman Fire Department uses strategies and tactics that are adapted and tailored to meet the response needs of the City of Norman. The Norman Fire Department is extremely knowledgeable and capable in mitigating wildfires, however due to the size of the response district, large WUI, and sizeable rural area, more resources including personnel, stations, and equipment are needed to help reduce the impact wildfires have on the community. Training opportunities also exist outside of the state and are utilized to further educate and prepare personnel.

7.7 Fire-Adapted Communities

Oklahoma is not immune to the impacts from hazardous wildland fires. Historic wildfire events have caused catastrophic damage throughout communities resulting in loss of life, significant

structural loss, and damage to natural resources. Recently an emphasis has been placed on key communities-at-risk to encourage planning and mitigation efforts for future wildfire events. This is being facilitated through CWPP development and extensive outreach efforts at the local and county level.

The steering committee is charged with the task of engaging community members to review the risk assessment, including the overall fire risk in this CWPP and identify projects that will increase the potential for property owners to survive a high-intensity wildland fire within the Norman area. Property owners can use the information in this document as a resource to individually improve their home's fire resistance.

The steering committee's intention is to engage in continued discussions with landowners to facilitate fuels reduction projects on private lands utilizing the data in Appendix A. These actions can be accomplished through educational activities or grants for specific projects on private lands.

One important piece of a fire-adapted community is preparing for the recovery process after a wildland fire occurs. Many resources exist for property owners who are recovering from a wildland fire that can impact their small business and home. Building community and business resiliency is the key to being fully adapted to fire.

7.8 Recommendations and Preferred Treatment Methods

A key element in community fire planning is the meaningful discussion it promotes among community members. The success of this CWPP is dependent on local stakeholders' involvement and input. A plan that accurately reflects the community's interests and priorities will have greater legitimacy and success in implementing the recommended actions.

7.9 Hazardous Fuels Reduction

Fuel reduction treatments are recommended for areas within Risk Reduction Zones. During a wildland fire, plant material can act as fuel and increase wildfire intensity. These fuels allow fires to burn hotter, longer, and faster, making fires more difficult and dangerous to manage. Houses and other developments in or near the WUI are surrounded by these fuels.

Removing burnable vegetation can mitigate wildfire hazards by reducing the continuity and availability of fuels. The objective of any fuel treatment project is to remove enough vegetation so that wildfire burns less severely and is more easily managed.

Fuels have historically been treated outside of communities to provide a buffer between forest and rangeland land and the wildfire-prone areas. Recently, land managers and communities have started reducing fuels within wildfire hazard areas to lessen the impacts of fires that either move into the community from the wildland or originate from within the community.

To reduce flammable material within and near communities, land management agencies strategically remove and reduce fuels. Strategies include the following:

- Conducting prescribed fires to reduce hazardous fuel loadings. Prescribed burning reintroduces and maintains fire within the fire-adapted ecosystem, helping to stabilize and improve the resiliency of forest and rangeland conditions while increasing public and firefighter safety.

- Thinning forest and range land areas using saws or other equipment.

- Reducing grasses and shrubs mechanically or using domesticated grazing animals.

- Chemical treatments.

Fuels treatments complement other wildfire mitigation strategies, such as creating defensible space, home hardening, and other mitigation measures within the built environment to reduce risks to people, homes, and communities and make wildfire response safer and more effective.

7.9.1 Proposed Fuel Treatment Zones

As part of Norman's CWPP, several key areas have been identified for strategic fuel treatments to reduce wildfire risk and protect both residential communities and natural resources. **Figure 21** offers a map overview of these areas. **Table 15** delineates corresponding fuel types. Priority zones include the Canadian River and Little River corridors, Lake Thunderbird State Park, and several neighborhood parks, such as Hall Park, Royal Oaks Park, Sutton Wilderness, Saxon Park, and Ruby Grant Park. Red-shaded zones on the map indicate areas of potential wildfire exposure, where radiant heat or direct flame contact could impact structures or public spaces. These areas were selected based on wildfire exposure, ecological importance, and proximity to homes and infrastructure. Planned treatments will focus on thinning hazardous vegetation, removing invasive species, creating defensible space, and improving emergency access while maintaining the ecological integrity of each site through collaborative efforts with local, state, and private partners.

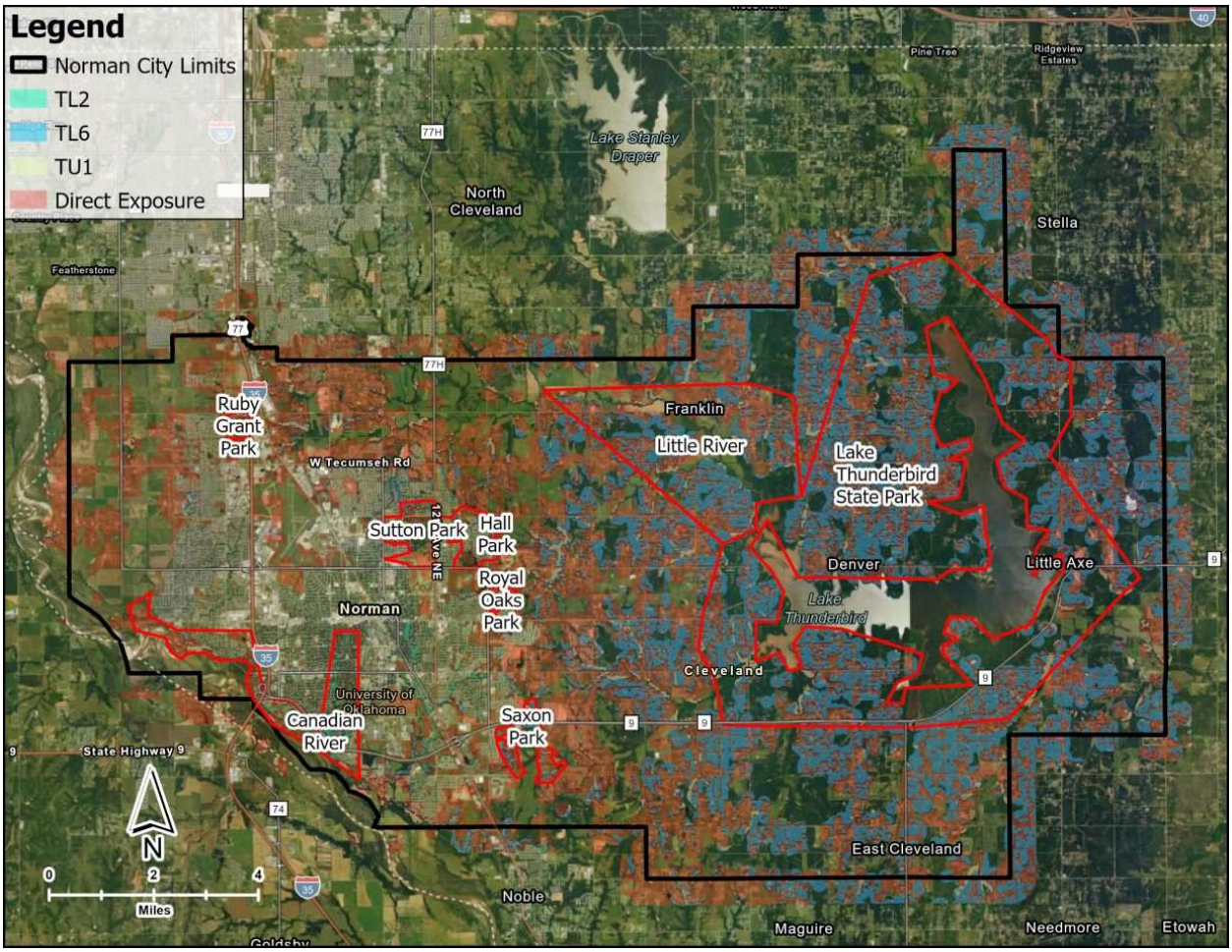

Figure 21: Overview of Proposed Fuel Treatment Zones for Norman, Oklahoma

Table 15: Fuel Type with Total Acreage Covered in Norman

Fuel Type – FBFM40	Description	Acres
TL2	Low load, compact. Spread rate is very low; flame length is very low.	412
TL6	Moderate load, less compact. Spread rate moderate; flame length low.	8,615
TU1	Fuel bed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	671
TOTAL		**9,698**

7.9.2 Canadian River

The Canadian River fuel reduction proposal is demonstrated in **Figure 22,** encompassing approximately 2,269 acres. This area has been identified as a priority treatment zone due to its combination of hazardous vegetation and proximity to residential development and critical infrastructure. The site includes a mix of high-risk fuel types, notably Fuel Models TL2 (timber litter with light load) and TL6 (timber litter with moderate load), as well as TU1 (timber understory with light surface fuels). See **Table 16**. These fuels are capable of sustaining moderate- to high-intensity surface fires and pose significant risk under extreme fire weather conditions. The red-shaded areas on the map represent zones of elevated wildfire exposure where homes and infrastructure may be directly threatened by flame contact or radiant heat. The proposed treatment units—TL2 (one hundred forty-five [145] acres), TL6 (twenty-eight [28] acres), and TU1 (forty-seven [47] acres)—are outlined in red. Recommended mitigation efforts include selective thinning of understory vegetation, removal of accumulated dead and downed material, and enhancement of defensible space around critical assets. These actions aim to reduce ladder fuels, decrease fire intensity and rate of spread, and improve firefighter access and operational safety, thereby reducing overall wildfire risk to the Canadian River corridor and surrounding communities.

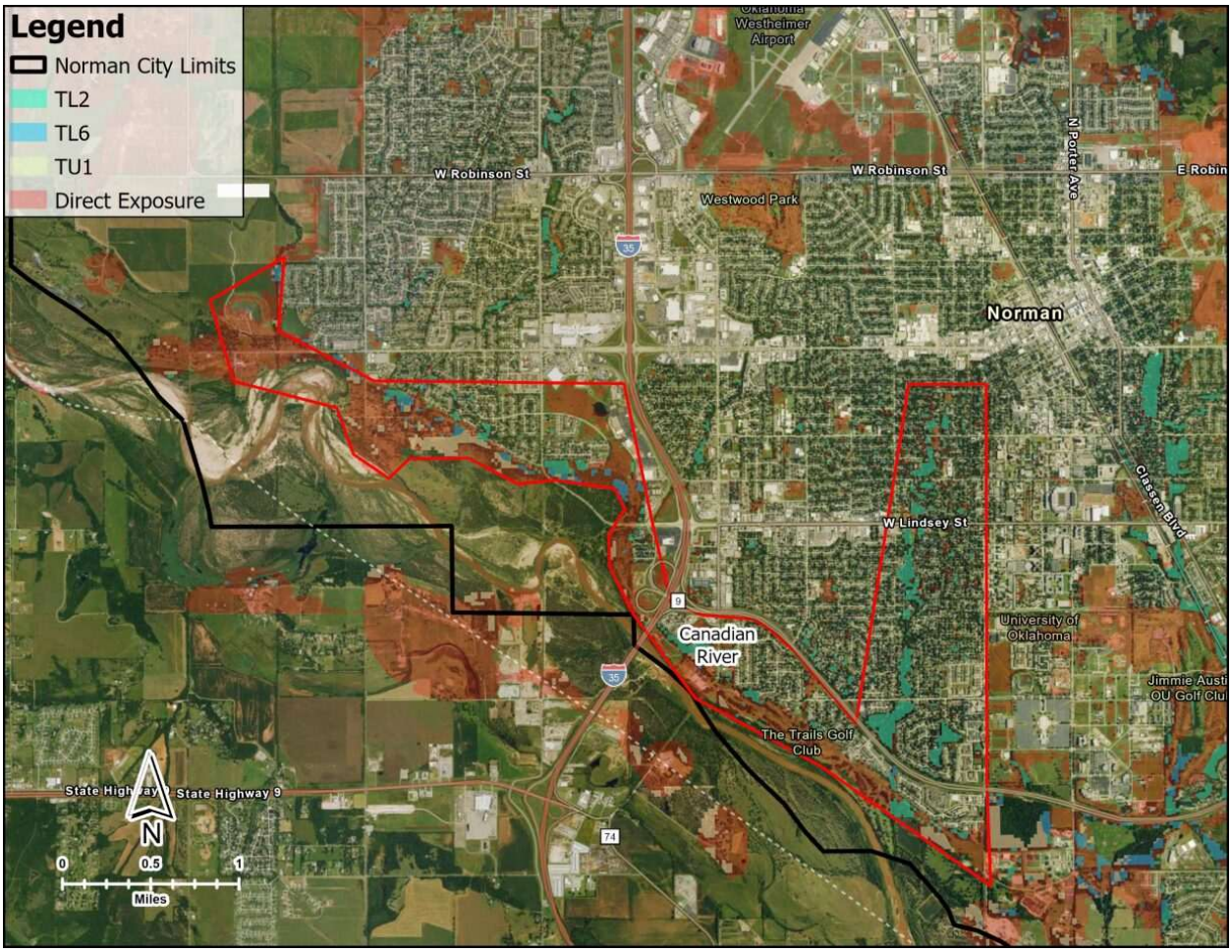

Figure 22: Fuel Reduction: Canadian River

Table 16: Canadian River Table Fuel Types and Acreage

Fuel Type – FBFM40	Description	Acres
TL2	Low load, compact. Spread rate is very low; flame length is very low.	145
TL6	Moderate load, less compact. Spread rate moderate; flame length low.	28
TU1	Fuel bed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	47
TOTAL		**220**

7.9.3 Hall Park

Hall Park fuel reduction proposal is demonstrated in **Figure 23,** a seventy-three (73)-acre priority treatment area. This site has been identified for mitigation due to its hazardous vegetation profile and proximity to residential neighborhoods and community infrastructure. The area includes a combination of high-risk fuel types: Fuel Model TL2 (timber litter with light surface fuel load) across nineteen (19) acres, TL6 (timber litter with moderate load) across thirty-four (34) acres, and TU1 (timber understory with light surface fuels) across twenty (20) acres. See **Table 17**. These fuels can support surface fire spread and, under certain conditions, transition into more intense fire behavior that could threaten nearby homes. The red outlined boundary defines the seventy-three (73)-acre proposed treatment zone where targeted fuel reduction efforts are recommended. These efforts include understory vegetation thinning, downed woody debris removal, and defensible space creation or expansion around key assets. Additional mitigation projects may involve establishing shaded fuel breaks along access routes, improving ingress and egress for emergency response, while maintaining fuel continuity breaks to slow fire spread.

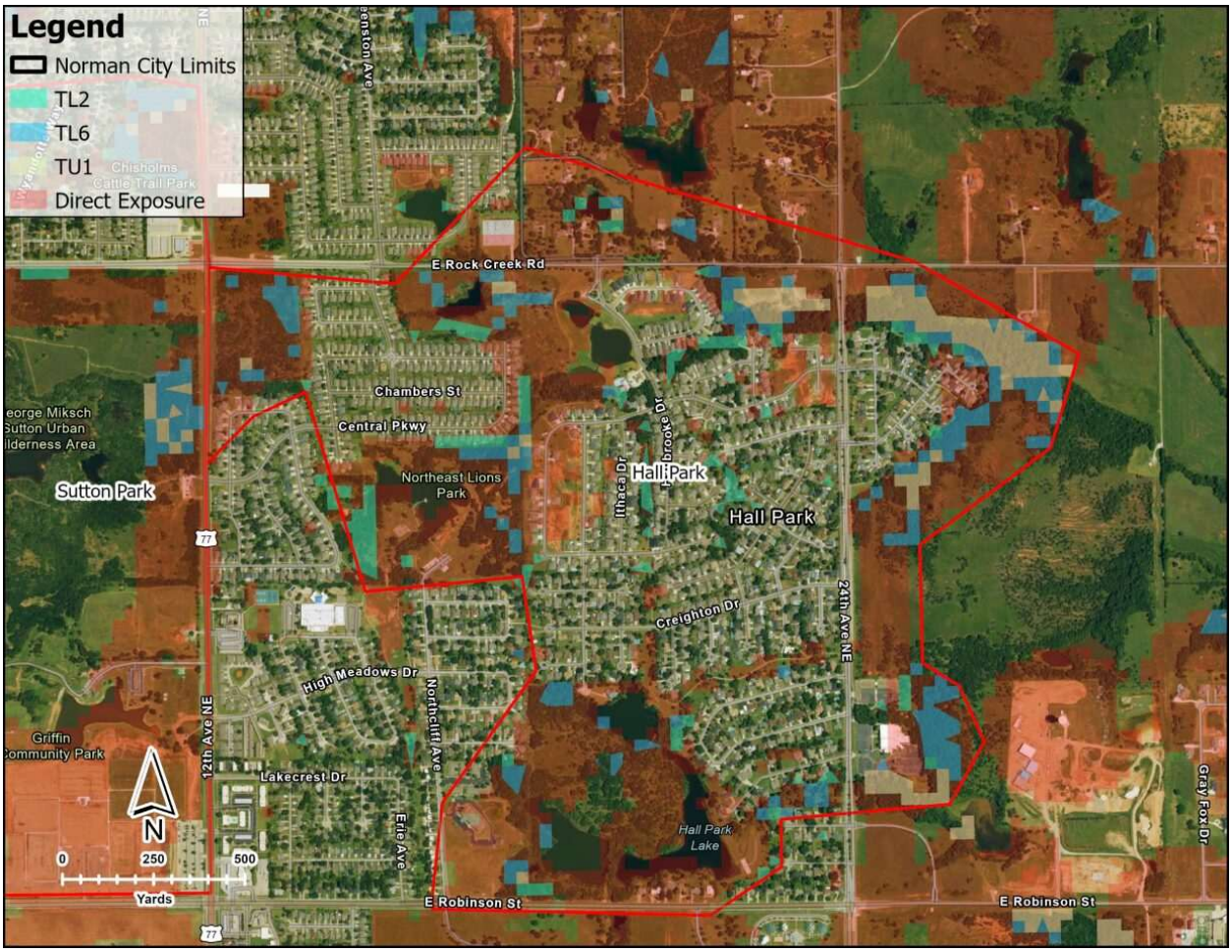

Figure 23: Fuel Reduction: Hall Park

Table 17: Hall Park Table Fuel Types and Acreages

Fuel Type – FBFM40	Description	Acres
TL2	Low load, compact. Spread rate is very low; flame length is very low.	19
TL6	Moderate load, less compact. Spread rate moderate; flame length low.	34
TU1	Fuel bed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	20
TOTAL		**73**

7.9.4 Royal Oaks Park

Royal Oaks Park fuel reduction proposal is demonstrated in **Figure 24**, a twenty-five (25)-acre priority treatment area. This site has been selected for mitigation due to its mix of hazardous vegetation and its proximity to nearby homes and community infrastructure. The area contains a combination of fire-prone fuel types, specifically Fuel Model TL2 (timber litter with light surface fuel load) over four (4) acres, TL6 (timber litter with moderate surface fuel load) over fifteen (15) acres, and TU1 (timber understory with light fuels) across six (6) acres. See **Table 18**. These fuels can sustain surface fires that may intensify under dry, windy conditions, posing a threat to adjacent residential areas. The red outlined boundary marks the full 25-acre proposed treatment area where strategic fuel reduction measures are recommended. These include understory vegetation thinning, dead and downed woody debris removal, and defensible space creation or maintenance around park boundaries and nearby homes. Additional mitigation strategies may involve installing shaded fuel breaks along trail systems and access roads, enhancing emergency access, and maintaining fuel discontinuities to limit fire spread.

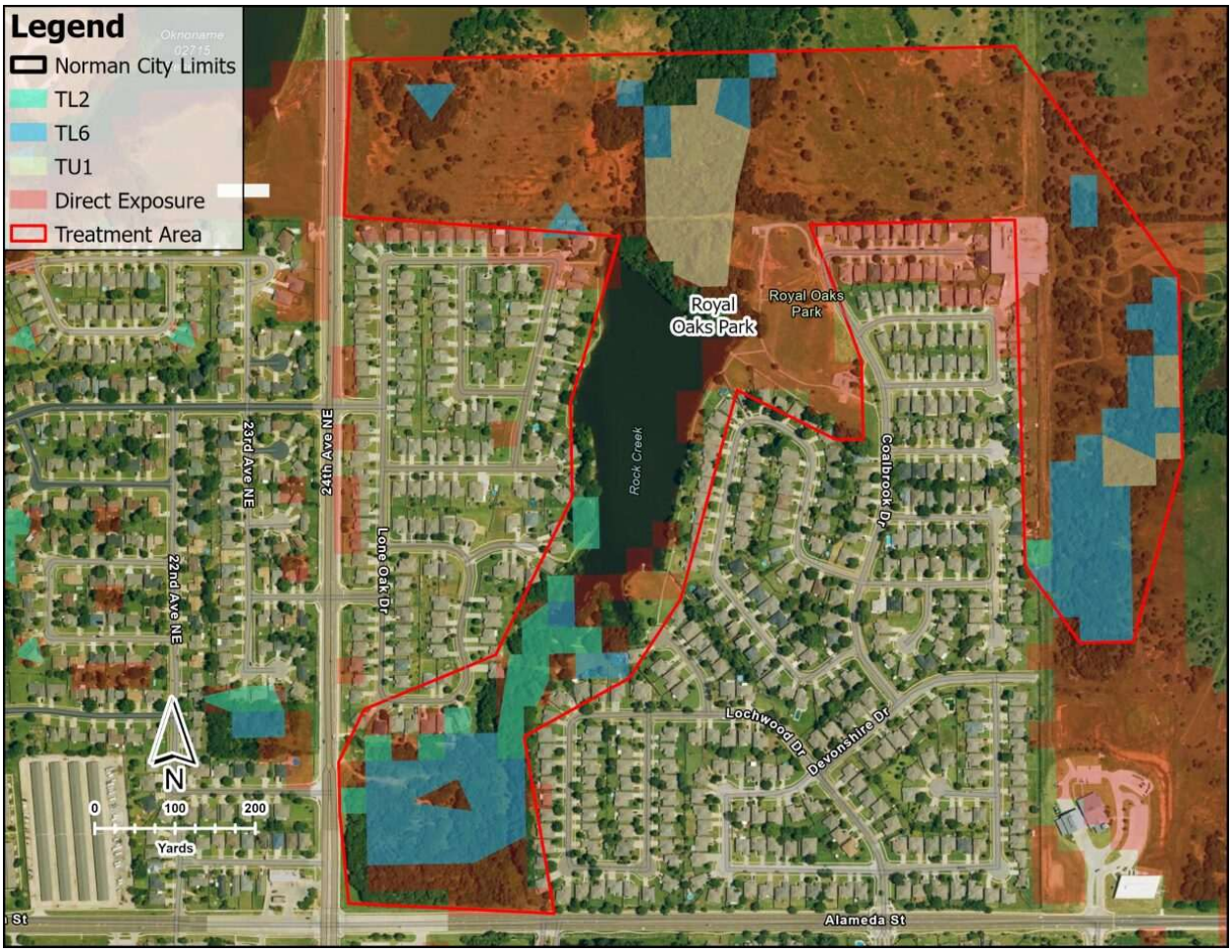

Figure 24: Fuel Reduction: Royal Oaks Park

Table 18. Royal Oaks Park Table Fuel Types and Acreages

Fuel Type – FBFM40	Description	Acres
TL2	Low load, compact. Spread rate is very low; flame length is very low.	4
TL6	Moderate load, less compact. Spread rate moderate; flame length low.	15
TU1	Fuel bed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	6
TOTAL		**25**

7.9.5 Little River

The Little River fuel reduction proposal demonstrated in **Figure 25** is a 1,615-acre priority treatment area. This landscape has been identified for proactive wildfire mitigation due to its extensive coverage of hazardous vegetation and proximity to residential communities, infrastructure, and natural resources. The area includes a range of fire-prone fuel types, primarily Fuel Model TL6 (timber litter with moderate surface fuel load) spanning 1,452 acres, along with TL2 (timber litter with light load) covering thirty-fiver (35) acres, and TU1 (timber understory with light surface fuels) across one hundred twenty-eight (128) acres. See **Table 19**. These fuel types can sustain surface fire activity, and under adverse weather conditions, support rapid fire spread that threatens nearby homes and ecological values. The red outlined boundary defines the full 1,615-acre treatment area, where a range of fuel reduction strategies are recommended to mitigate risk. Key mitigation actions include selective thinning of understory vegetation, removal of accumulated dead and downed materials, and expansion of defensible space near the WUI. Additional projects may involve establishing shaded fuel breaks along trails, roads, and utility corridors; enhancing emergency ingress and egress; and restoring native vegetation to reduce fuel continuity.

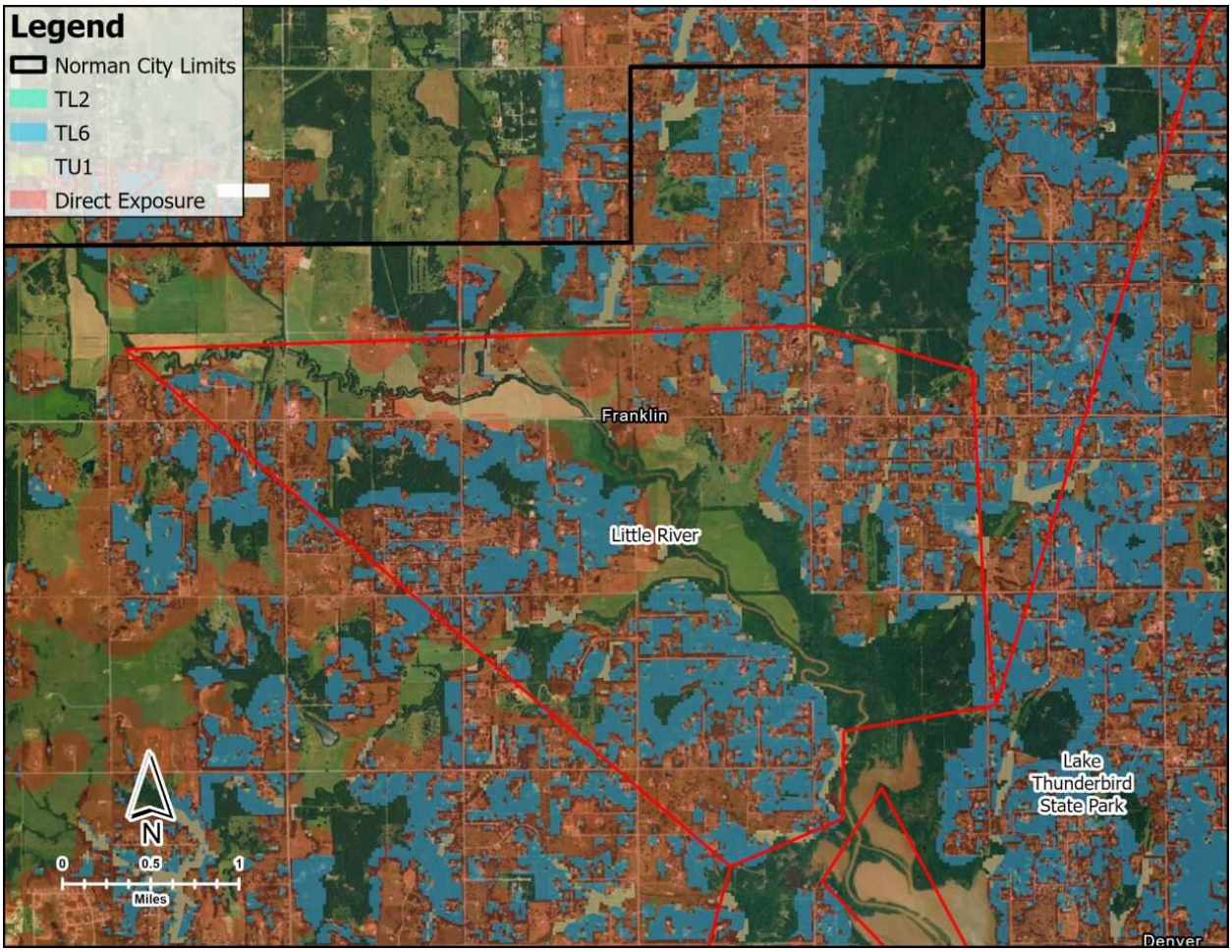

Figure 25: Fuel Reduction: Little River

Table 19: Little River Table Fuel Types and Acreages

Fuel Type – FBFM40	Description	Acres
TL2	Low load, compact. Spread rate is very low; flame length is very low.	35
TL6	Moderate load, less compact. Spread rate moderate; flame length low.	1,452
TU1	Fuel bed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	128
TOTAL		**1,615**

7.9.6 Thunderbird State Park

Thunderbird State Park fuel reduction proposal demonstrated in **Figure 26** is a 7,839-acre priority treatment area. This expansive site has been designated for wildfire mitigation due to its high fuel loads, diverse vegetation, and its proximity to recreational infrastructure, residential areas, and critical public resources. The landscape consists predominantly of Fuel Model TL6 (timber litter with moderate surface fuel load), which spans 7,183 acres, alongside TL2 (timber litter with light surface load) over one hundred seventy-nine (179) acres, and TU1 (timber understory with light fuels) across four hundred seventy-seven (477) acres. See **Table 20**. These fuel types present a significant wildfire hazard, with the potential to sustain fast-moving surface fires and generate intense heat under extreme conditions. The red outlined boundary defines the full treatment area, where a comprehensive set of fuel reduction strategies is proposed. Recommended mitigation efforts include mechanical thinning of understory vegetation, removal of downed woody debris, prescribed burning where ecologically appropriate, and the maintenance of defensible space around developed zones such as visitor centers, trailheads, and campgrounds. Additional projects may include the creation of shaded fuel breaks along park roads and utility lines, the improvement of emergency access and evacuation routes, and restoration of native fire-adapted vegetation to reduce fuel continuity and enhance ecological resilience.

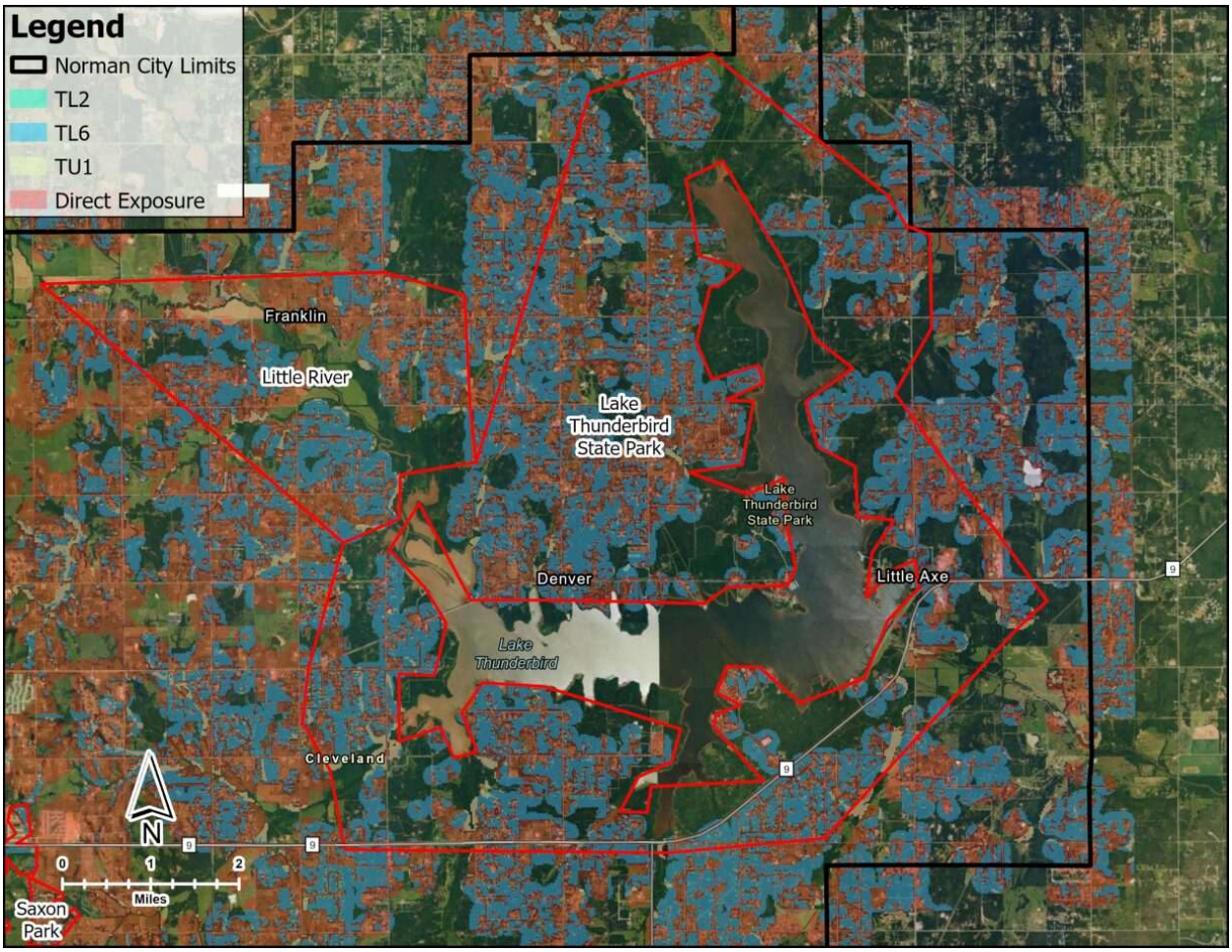

Figure 26: Fuel Reduction: Thunderbird State Park

Table 20: Thundrbird State Park Table Fuel Types and Acreages

Fuel Type – FBFM40	Description	Acres
TL2	Low load, compact. Spread rate is very low; flame length is very low.	179
TL6	Moderate load, less compact. Spread rate moderate; flame length low.	7,183
TU1	Fuel bed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	477
TOTAL		**7,839**

7.9.7 Saxon Park

The Saxon Park fuel reduction proposal demonstrated in **Figure 27** is a one hundred thirteen (113)-acre priority treatment area. This area has been identified for wildfire mitigation due to its hazardous vegetation profile and its proximity to residential neighborhoods and park infrastructure. The site includes a mix of high-risk fuel types, specifically Fuel Model TL6 (timber litter with moderate surface fuel load) covering seventy-two (72) acres, TL2 (timber litter with light fuel load) across twenty-two (22) acres, and TU1 (timber understory with light surface fuels) over nineteen (19) acres. See **Table 21**. These fuels can sustain moderate- to high-intensity surface fires, and under the right conditions, facilitate rapid fire spread that threatens nearby homes, park users, and critical infrastructure. The red-outlined boundary marks the entire 113-acre proposed treatment zone, where targeted fuel reduction strategies are recommended. Mitigation efforts include mechanical understory vegetation mechanical thinning, dead and downed wood removal, and defensible space creation around trails, picnic areas, and adjacent residential property lines. Additional projects may involve establishing shaded fuel breaks along park roads and boundaries, enhancing emergency vehicle access, and restoring low-fuel native plant species to disrupt fuel continuity.

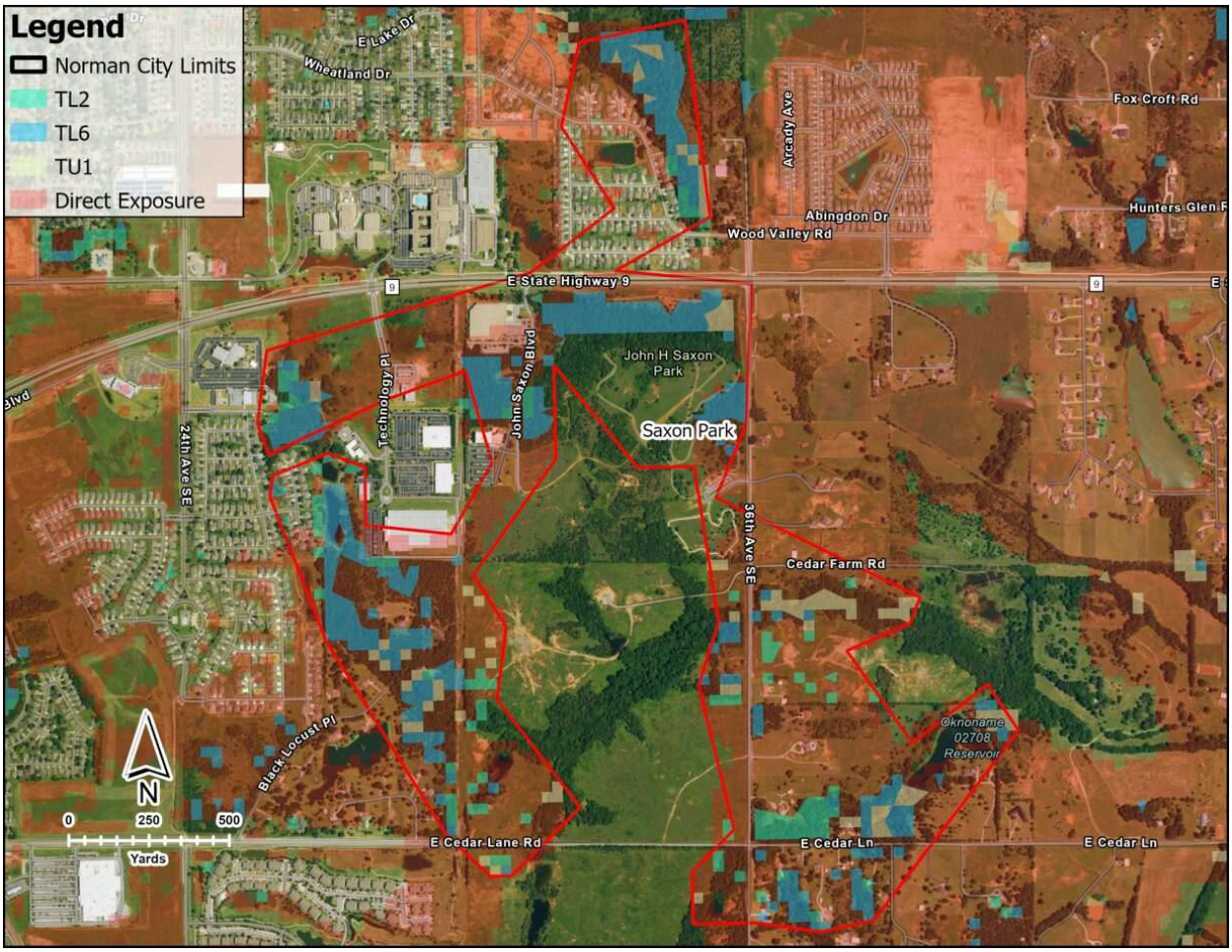

Figure 27: Fuel Reduction: Saxon Park

Table 21: Saxon Park Table Fuel Type and Acreages

Fuel Type – FBFM40	Description	Acres
TL2	Low load, compact. Spread rate is very low; flame length is very low.	22
TL6	Moderate load, less compact. Spread rate moderate; flame length low.	72
TU1	Fuel bed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	19
TOTAL		**113**

7.9.8 Sutton Wilderness

Sutton Wilderness fuel reduction proposal demonstrated in **Figure 28** is a forty-five (45)-acre priority treatment area located in Norman, Oklahoma. This site has been identified for proactive wildfire mitigation due to its dense vegetation, frequent public use, and its proximity to surrounding residential neighborhoods. The area includes a combination of fire-prone fuel types: Fuel Model TL6 (timber litter with moderate surface fuel load) covering twenty-eight (28) acres, TL2 (timber litter with light surface fuel load) across eight (8) acres, and TU1 (timber understory with light fuels) on nine (9) acres. See **Table 22**. These fuel conditions can support moderate-intensity surface fires and pose a significant risk, especially during periods of drought and high winds. The red-outlined boundary marks the forty-five (45)-acre proposed treatment area where key fuel reduction strategies are planned. These strategies include thinning understory vegetation, removing accumulated deadfall and downed woody debris, and creating defensible space along park boundaries and around high-use areas such as trails, benches, and signage. Additional mitigation projects may include establishing shaded fuel breaks along park access paths, enhancing emergency response access, and reintroducing native, low-fuel vegetation to reduce fire spread potential while maintaining ecological integrity.

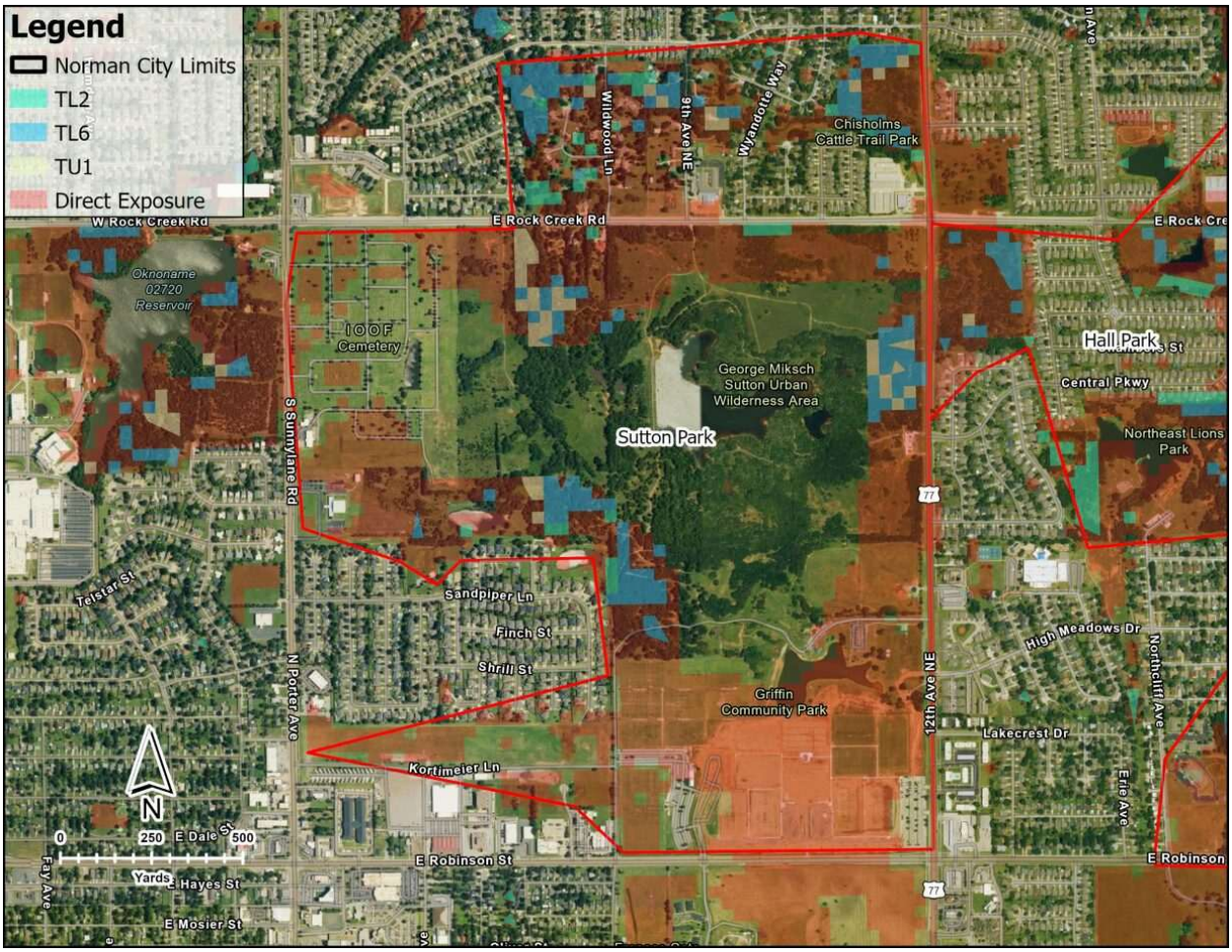

Figure 28: Fuel Reduction: Sutton Wilderness

Table 22: Sutton Wilderness Table Fuel Types and Acreages

Fuel Type – FBFM40	Description	Acres
TL2	Low load, compact. Spread rate is very low; flame length is very low.	8
TL6	Moderate load, less compact. Spread rate moderate; flame length low.	28
TU1	Fuel bed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	9
TOTAL		**45**

7.9.9 Ruby Grant Park

Ruby Grant Park fuel reduction proposal demonstrated in **Figure 29** is a four (4)-acre priority treatment area. This small yet strategically important site has been identified for wildfire mitigation due to its mix of flammable vegetation and its proximity to surrounding residential development and recreational infrastructure. The area includes two primary fuel types: Fuel Model TU1 (timber understory with light surface fuels) across three (3) acres, and TL2 (timber litter with light fuel load) over one (1) acre. See **Table 23**. While the overall fuel load is relatively light, these fuels can still carry low- to moderate-intensity surface fires, particularly under dry and windy conditions, posing a risk to park users and adjacent homes. Red-shaded zones on the map indicate areas of potential wildfire exposure, where radiant heat or direct flame contact could impact structures or public spaces. The red-outlined boundary encompasses the entire four (4)-acre proposed treatment zone, where targeted fuel reduction activities are recommended. These include thinning understory vegetation, removing light deadfall, and maintaining defensible space around trails, signage, and nearby property lines. Given the park's limited size, additional mitigation efforts may focus on public education signage, regular vegetation maintenance during fire season, and ensuring clear emergency access for first responders.

Figure 29: Fuel Reduction: Ruby Grant Park

Table 23: Ruby Grant Park Table Fuel Types and Acreages

Fuel Type – FBFM40	Description	Acres
TL2	Low load, compact. Spread rate is very low; flame length is very low.	1
TL6	Moderate load, less compact. Spread rate moderate; flame length low.	0
TU1	Fuel bed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	3
TOTAL		**4**

Section 8: Plan Implementation and Maintenance

Overview: The advisory committee faced a challenging task in developing the City of Norman (Norman) CWPP. Successfully implementing and sustaining the initiatives outlined in the action plan will require a significant investment of time, resources, and financial support. The first step in reducing wildfire risks has been building a collaborative and cooperative environment involving local fire departments, community-based organizations, local government, and public land management agencies.

The advisory committee recognizes that the Norman CWPP will be a living document, intended to support ongoing efforts in fuels reduction, public education, and other projects aimed at decreasing the overall risks of loss from wildfires. The CWPP will be reviewed at least annually to ensure its relevance and effectiveness in meeting the community's needs.

The advisory committee recommends a formal review of the CWPP every five years or following any significant wildfire event within the planning area. Review topics may include the following:

- Identification and assessment of new or treated risks.
- Evaluation of progress toward established goals.
- Updates to maps and geospatial data.
- Adoption of new or revised priorities based on emerging risks.
- Identification of specific community outreach initiatives or fuel treatment projects.
- Discussions of available grant opportunities and funding eligibility.
- Grant writing and securing funding for key projects.
- Identifying appropriate projects to address additional priorities, including structural vulnerability, public education, and critical transportation routes as outlined in the action plan.

8.1 Plan Implementation

The successful implementation of the Norman CWPP relies on ongoing collaboration, strategic actions, and adaptive management. This section outlines the structure and approach for executing the plan, including coordination responsibilities, monitoring efforts, and procedures for future updates.

8.2 Implementation Structure

The CWPP advisory committee will lead plan implementation in Norman. The advisory committee consists of representatives from NFD, OFS, city and county emergency managers, planning departments, utility providers, and community stakeholders. This group will be responsible for the following:

- Guiding and overseeing the execution of prioritized action items.
- Facilitating coordination and resource sharing among agencies.
- Aligning CWPP strategies with local, state, and federal wildfire resilience efforts.

The committee will meet quarterly to review progress, assess new opportunities (such as funding and partnerships), and respond to emerging wildfire risk conditions.

8.3 Roles and Responsibilities

Effective implementation of the Norman CWPP relies on strong partnerships and clearly defined responsibilities among local, state, federal, and community stakeholders. This table outlines the lead agencies and supporting organizations responsible for advancing key plan components. Each entity plays a critical role in wildfire mitigation, response planning, public education, infrastructure protection, and long-term resilience building. By clearly delineating roles and fostering collaboration, the CWPP ensures a coordinated, city-wide approach to reducing wildfire risk and protecting Norman's people, property, and natural resources. **Table 24** below outlines CWPP roles and responsibilities.

Table 24: CWPP Roles and Responsibilities

Partner/Agency	Primary Roles and Responsibilities
NFD	Lead public outreach and defensible space programs. Integrate CWPP priorities into response planning. Support structural vulnerability assessments.
OFS	Coordinate state-level fuel reduction projects. Provide technical expertise for risk analysis and landscape resilience. Administer grants and compliance with state codes.
BLM	Collaborate on fuels treatment on federally managed lands. Share geospatial data and wildfire modeling support.
Norman Emergency Management	Align CWPP strategies with the EOP. Lead evacuation planning and emergency coordination efforts.
City and County Planning Departments	Incorporate CWPP findings into comprehensive plans and development code. Promote wildfire-resilient building practices.
Utility Providers	Protect energy and water infrastructure in high-risk zones. Support hazard mitigation planning for critical facilities.
Parks and Recreation Departments	Implement vegetation management and fuels reduction in urban green spaces. Coordinate wildfire risk mitigation in public parks.
CWPP Advisory Committee	Oversee plan implementation and updates. Track progress of action items and reporting. Facilitate cross-jurisdictional collaboration.

Partner/Agency	Primary Roles and Responsibilities
Community Organizations/HOAs	Support local defensible space and Firewise programs. Help organize neighborhood-scale preparedness initiatives.
School Districts/Educational Partners	Integrate wildfire safety into curriculum. Support school-based outreach and emergency planning.

8.4 Monitoring and Reporting

Norman CWPP progress will be evaluated through a structured monitoring and reporting process tied directly to measurable performance indicators. These indicators—such as acres treated, homes assessed, outreach events held, and funding secured—are aligned with each major action area in the plan. **Table 25** explains monitoring and reporting plans. The CWPP advisory committee will be responsible for compiling and publishing an Annual Implementation Report, which will include the following:

- A summary of complete actions and measurable outcomes.
- Identification of barriers to implementation and proposed solutions.
- Updates to wildfire risk assessments or priority areas based on new data or wildfire events.
- Recommended actions for the following year.

This approach ensures that the CWPP remains a dynamic, actionable document that adapts to changing conditions and continues to guide city-wide efforts toward wildfire resilience in Norman.

Table 25: CWPP Monitoring and Reporting

Action Area	Performance Metrics / Indicators	Responsible Party	Reporting Frequency
Fuels Reduction	Acres treated (mechanical, prescribed burn). Number of high-risk zones mitigated.	OFS, BLM, NFD	Semi-annually
Defensible Space Implementation	Number of homes assessed or treated. Community Firewise designations achieved.	NFD, HOAs	Annually
Public Outreach and Education	Number of outreach events, workshops held. Educational materials distributed.	Fire Department, OEM, School Districts	Quarterly
Structural Hardening	Number of structures upgraded with fire-resistant materials. Permits issued for fire-resilient construction.	Norman Planning Department, Fire Marshal	Annually
Evacuation and Emergency Preparedness	Evacuation drills conducted. Routes and signage updated.	Norman Emergency Management, NFD	Annually
Interagency Coordination	Number of CWPP Advisory Committee meetings. Updates to shared response protocols.	CWPP Advisory Committee	Quarterly
Grant Funding and Resource Tracking	Funding secured. Number of grants applied for/awarded.	City/County Grant Writers, OFS	Annually

Action Area	Performance Metrics / Indicators	Responsible Party	Reporting Frequency
Plan Maintenance	Annual progress report published. Five (5)-year full CWPP update completed.	CWPP Advisory Committee	Annually/Every five (5) years

8.5 Plan Maintenance and Updates

The Norman CWPP is designed to be a living document, responsive to changing conditions, new data, and the community's evolving needs. To ensure its long-term effectiveness, the CWPP advisory committee will conduct an annual review to assess progress, identify barriers to implementation, and adjust near-term priorities. Additionally, a comprehensive update will occur every five (5) years to accomplish the following:

- Reassess wildfire risk using the most current data and tools available, such as local wildfire risk assessments and geospatial modeling.
- Update goals, objectives, and action items to reflect changing community needs and development patterns.
- Incorporate changes in land use, climate conditions, wildfire regulations, and state or federal policies.
- Integrate feedback gathered from public outreach and stakeholder engagement efforts.

Table 26 below outlines specific plan maintenance activities, those responsible, how often activities occur, and their intended outcomes, ensuring the CWPP remains a relevant and actionable tool for wildfire resilience in Norman.

Table 26: CWPP Plan Maintenance

Maintenance Task	Responsible Party	Frequency	Purpose
Review and update action item progress.	CWPP Advisory Committee	Annually	Evaluate implementation status; identify successes and gaps.
Update wildfire risk assessment data.	GIS/Planning Teams, OFS, BLM	Every five (5) years (or as needed)	Reflect new modeling, fire history, or land use changes.
Reassess priority areas and exposure zones.	CWPP Advisory Committee, Fire Agencies	Every five (5) years	Adjust mitigation focus based on updated risk and community input.
Update roles, responsibilities, and partnerships.	CWPP Advisory Committee	Every five (5) years	Reflect staff changes, new stakeholders, or shifts in agency capacity.

Maintenance Task	Responsible Party	Frequency	Purpose
Evaluate community outreach effectiveness.	NDF, Norman Emergency Management, Schools	Annually	Ensure messages are reaching intended audiences and inspiring action.
Compile Annual Implementation Report.	CWPP Advisory Committee	Annually	Summarize accomplishments, challenges, and recommendations.
Conduct plan update and formal re-adoption.	All Participating Jurisdictions	Every five (5) years	Ensure plan reflects current policies; aligns with grant requirements
Integrate updates with other plans.	Norman Planning Department, Norman Emergency Management	Every five (5) years	Maintain consistency with broader hazard mitigation and emergency plans.