

**WELCOME TO:  
West Bragg Creek Emergency Access Study  
Open House No. 1**



June 23, 2016



# Study Objectives & Background

## OBJECTIVES

- Determining an emergency access route that serves the community in West Bragg Creek
- Establishing plans for the recommended route that will assist with the future design and right-of-way protection
- ***Ultimate goal – Prevent loss of life***

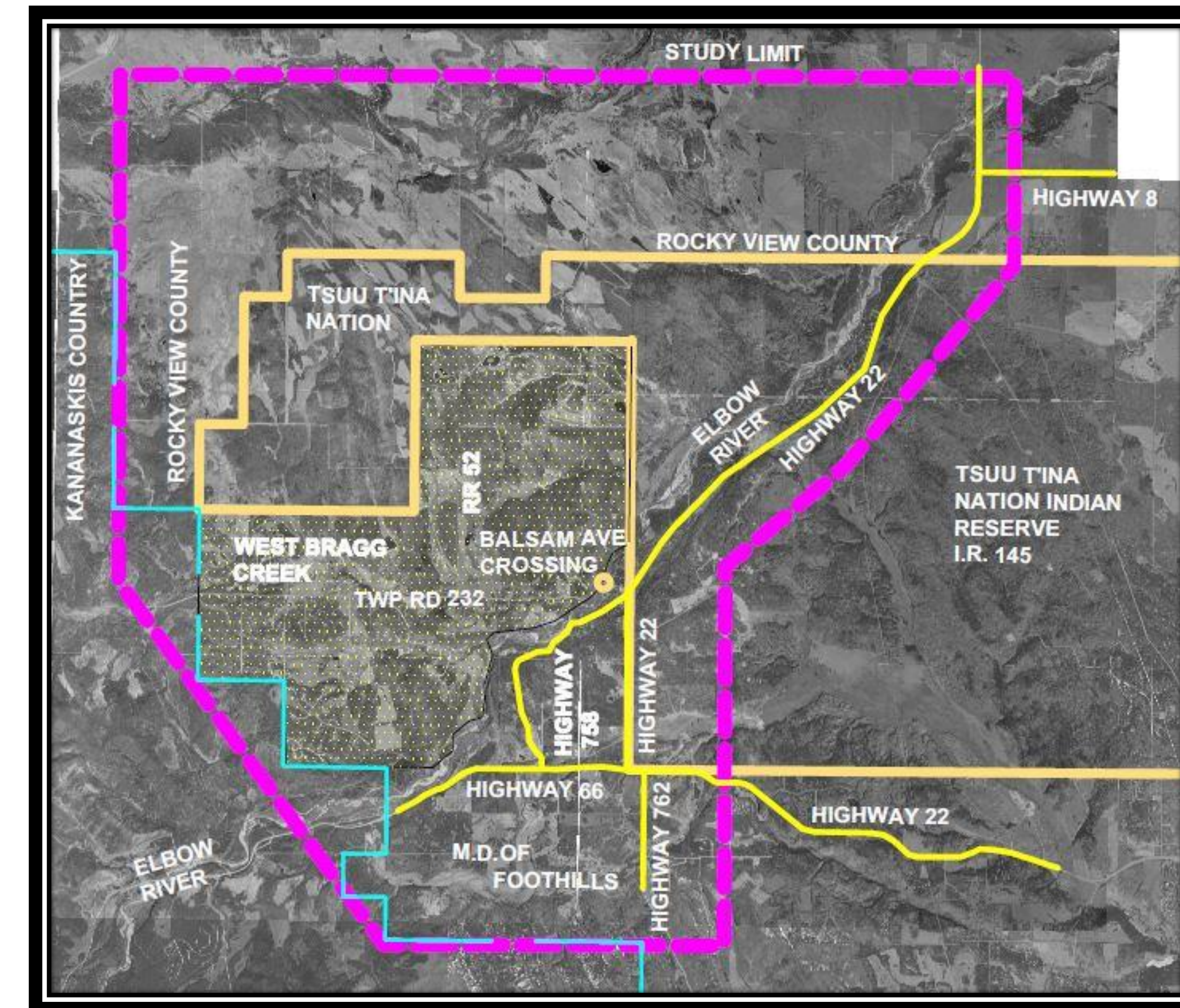
## BACKGROUND

- Currently only one access to/from West Bragg Creek
- During the 2013 flooding:
  - The Balsam Avenue crossing was not accessible
  - Residents stranded on either side with no alternatives
  - 1,150 people evacuated <sup>1</sup>
  - 321 homes and businesses damaged <sup>1</sup>

# Study Process

Planning Study – March 2016 to Winter 2016

- Data Collection & Review
- Identify Constraints
- Develop Conceptual Route Options
- Stakeholder Consultation & Open House 1
  - Meetings with affected landowners
    - Individuals and focus groups
- Evaluate Route Options to Determine Preferred Route
- Open House 2 to Present Recommended Option

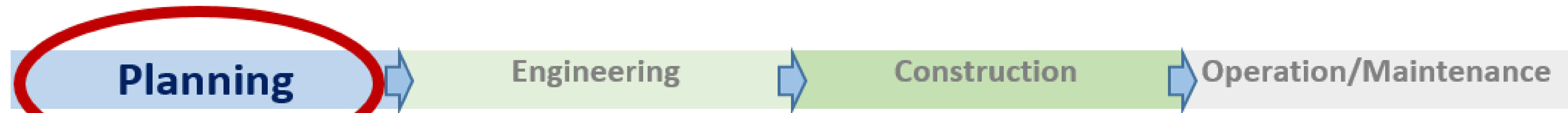


Study Area

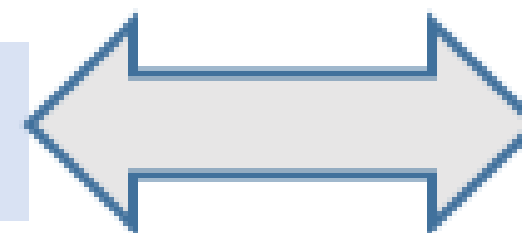
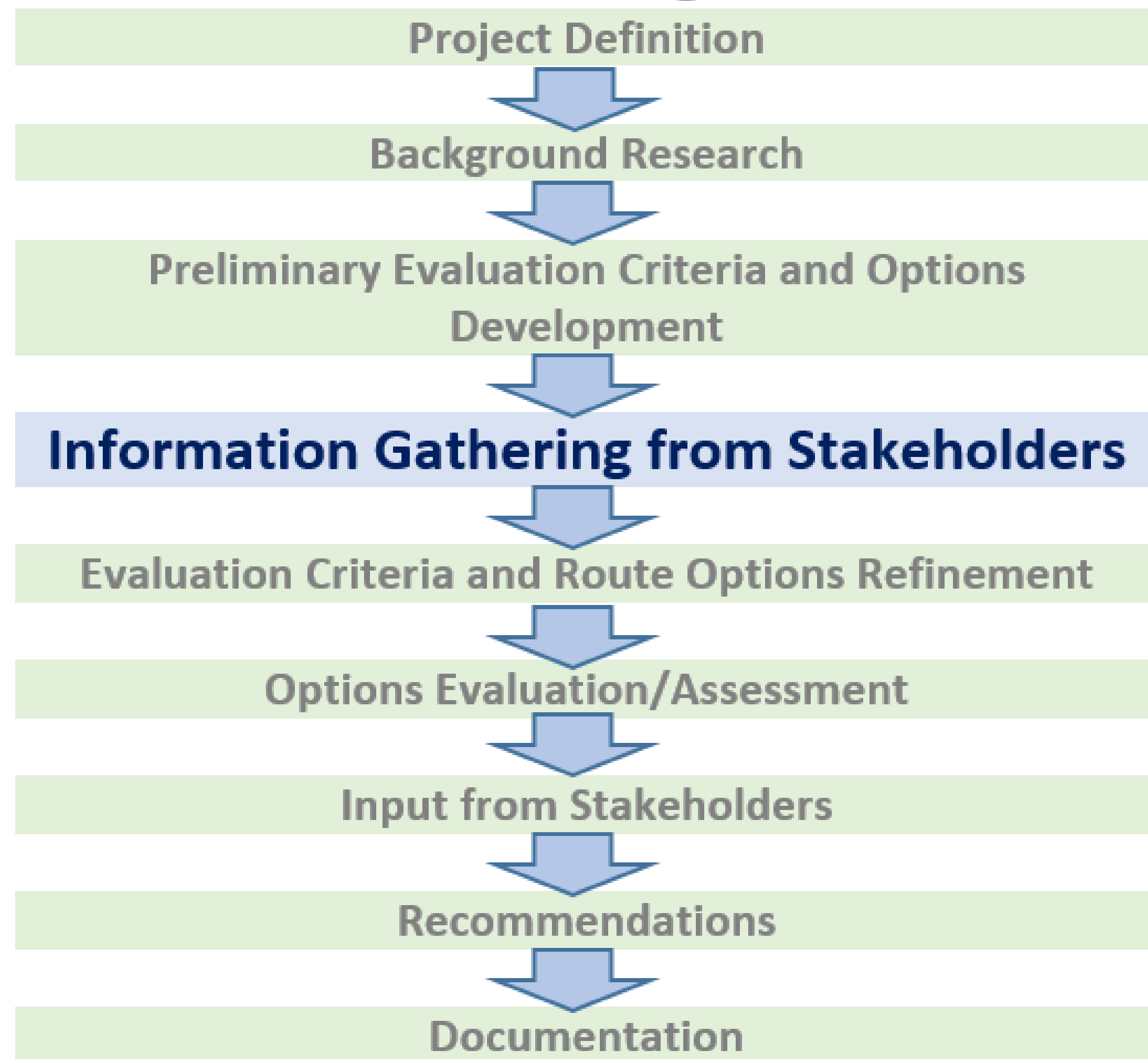
Not included in this planning study (timing unknown):

- Right-of-Way Negotiation/Acquisition
- Construction
- Detailed Design

# Study Progress



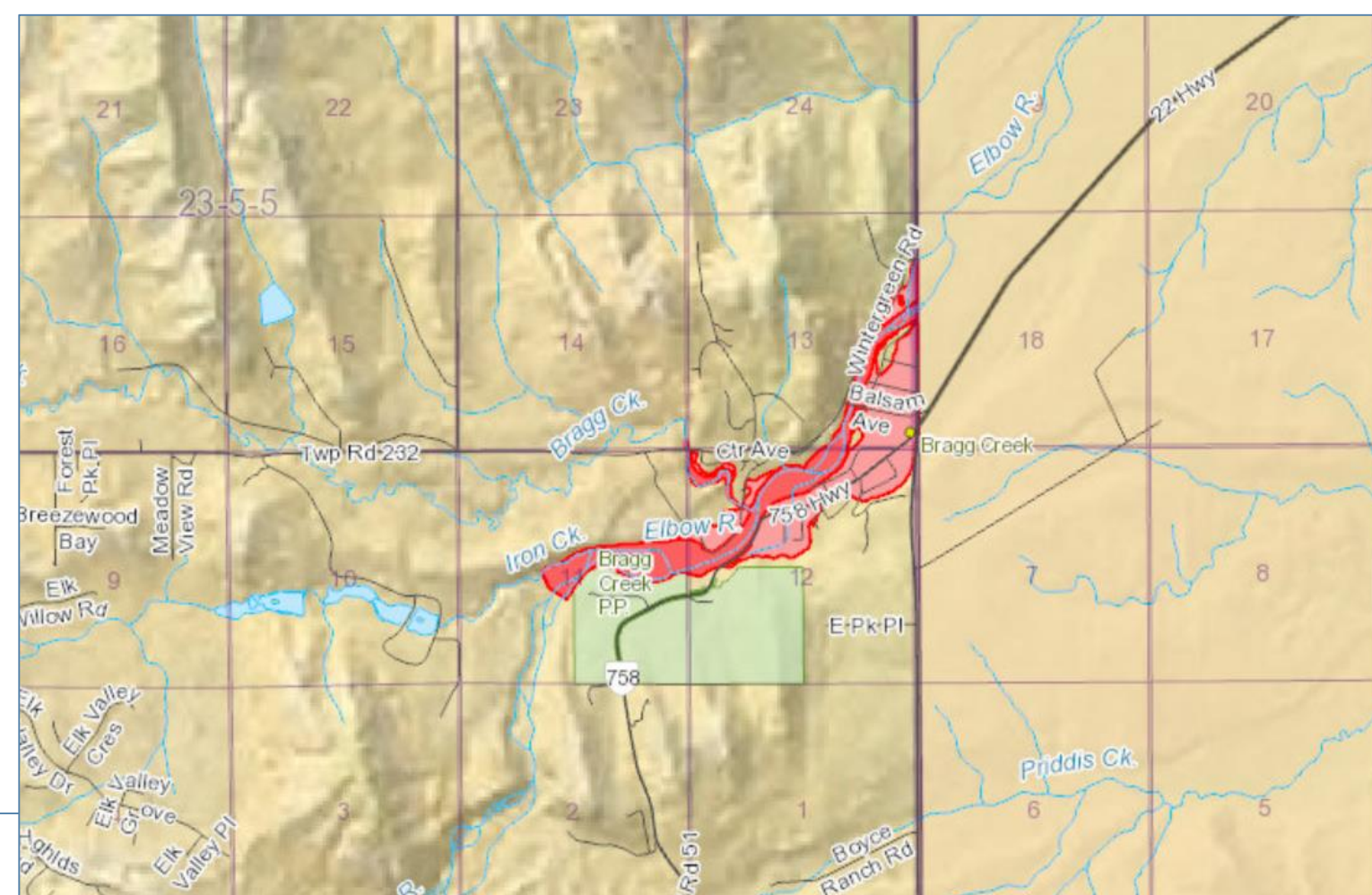
## Planning



**OBJECTIVE**  
To gather feedback from stakeholders to help refine the preliminary options and evaluation criteria.  
Stakeholder input would ultimately shape the assessment and evaluation of these options leading to a recommended plan

# Study Area Context

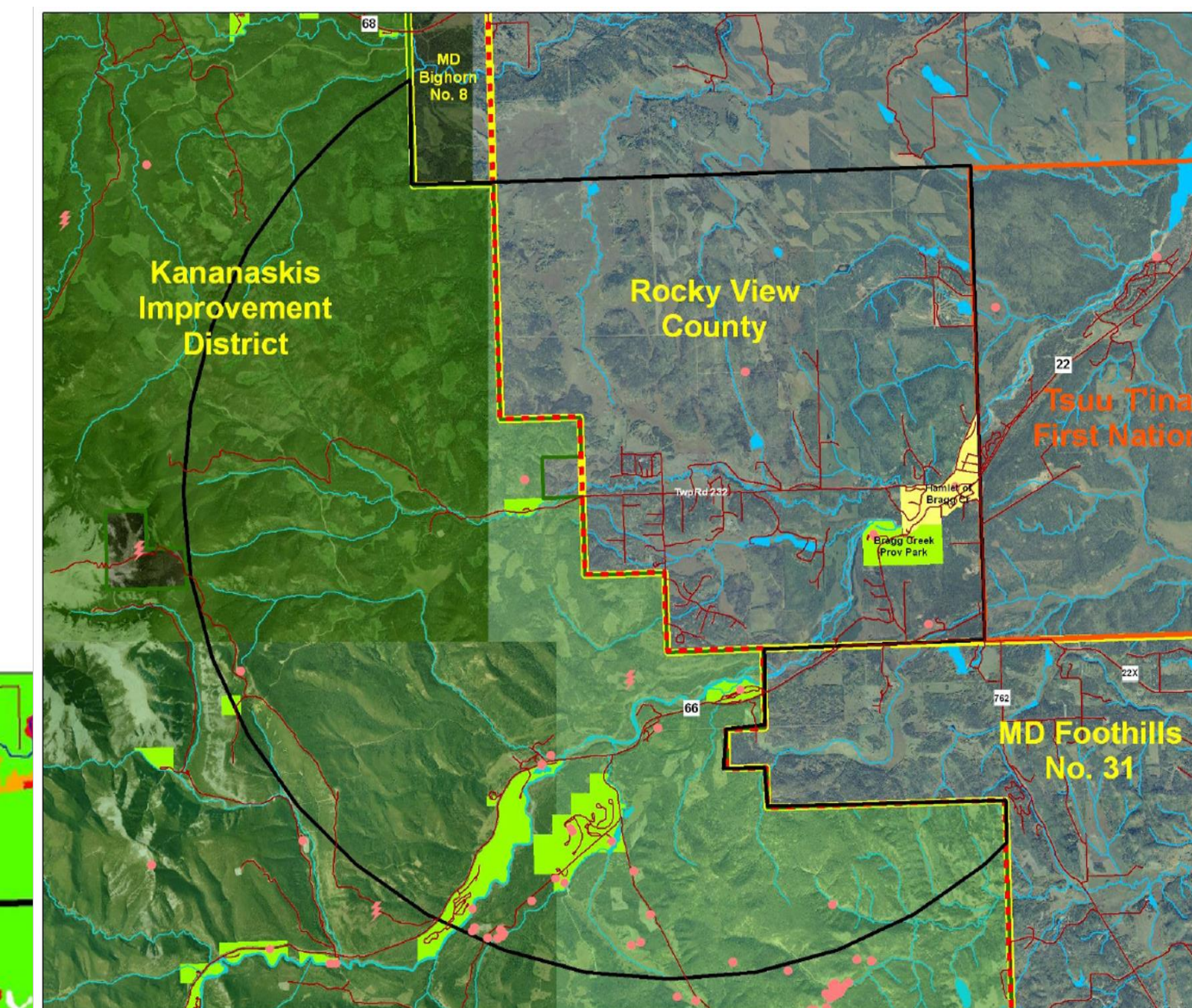
## Flood Hazard Areas



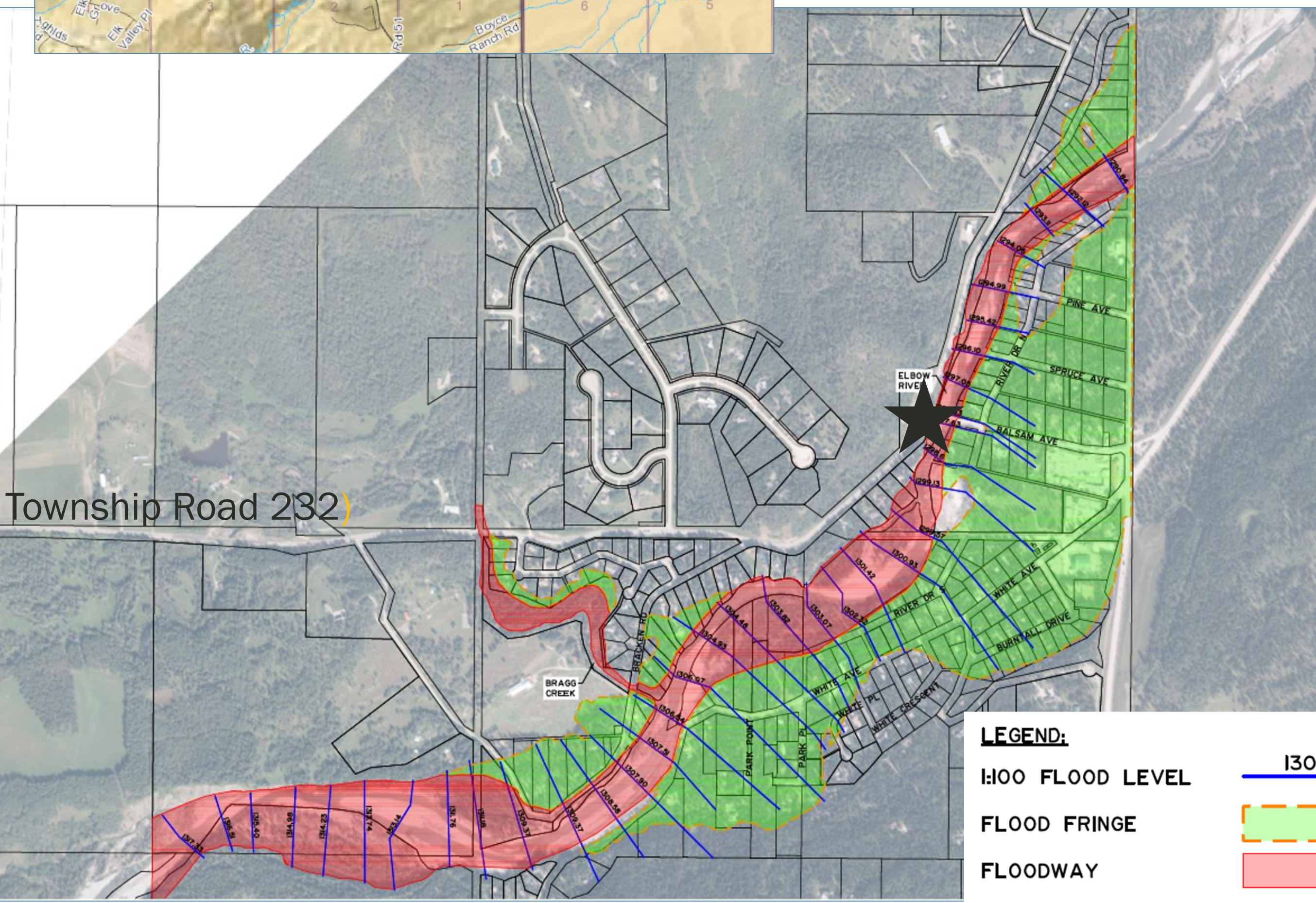
Protect:

- ~2,000 residents
- ~700 homes

## Wildfire Hazard Areas

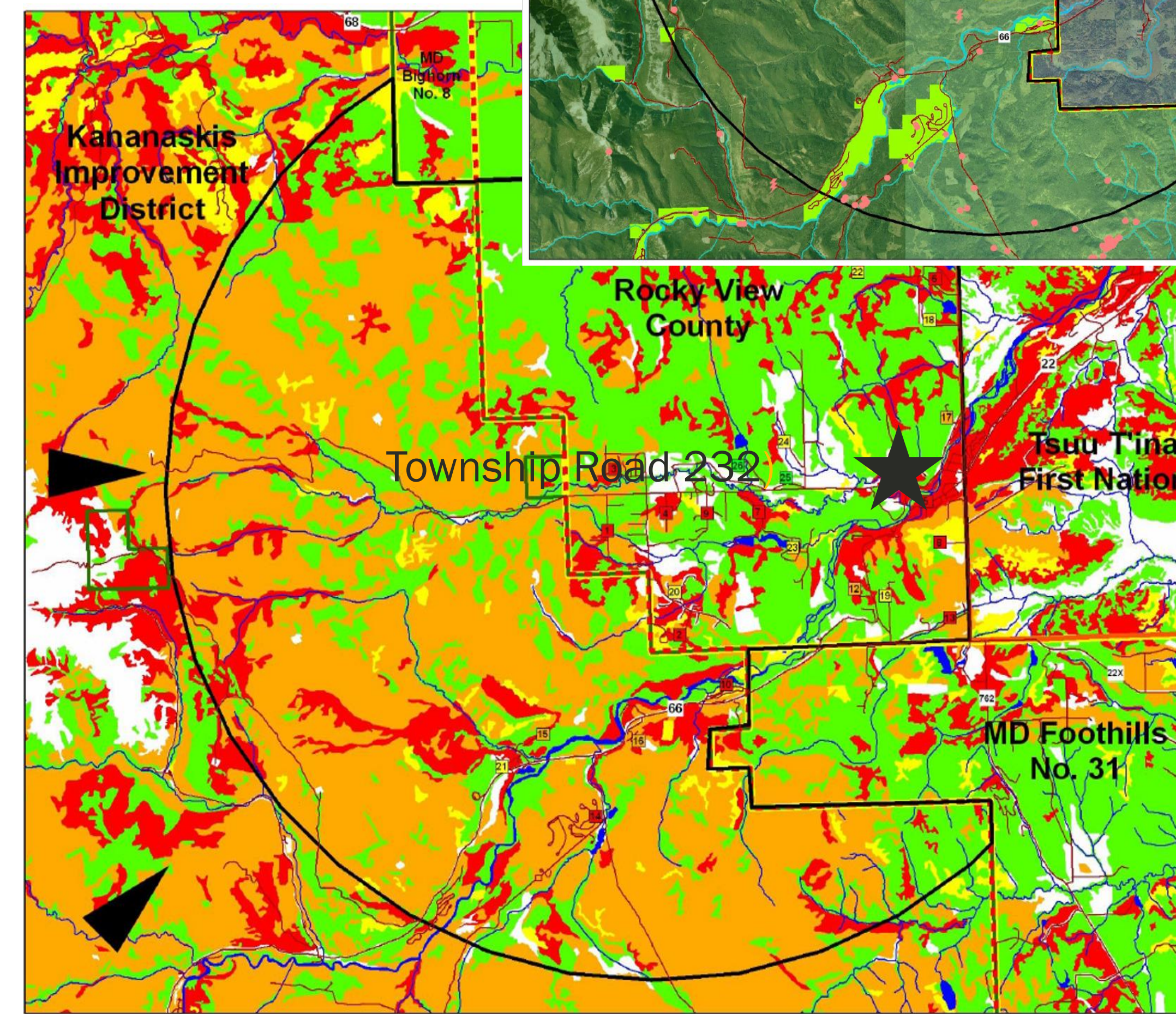


- Map 2 - Wildfire Incidence 1991 - 2010
- Human-Caused Wildfire
  - ⚡ Lightning-Caused Wildfire
  - ▭ Planning Area Boundary
  - - - Forest Protection Area Boundary
  - ▭ Tsuu T'ina First Nation Boundary
  - ▭ Spray Lake Sawmills FMA
  - ▭ Municipal Boundary
  - ▭ Parks & Protected Areas



- LEGEND:
- 1:100 FLOOD LEVEL 1309.37
  - FLOOD FRINGE
  - FLOODWAY

★ BALSAM AVE CROSSING



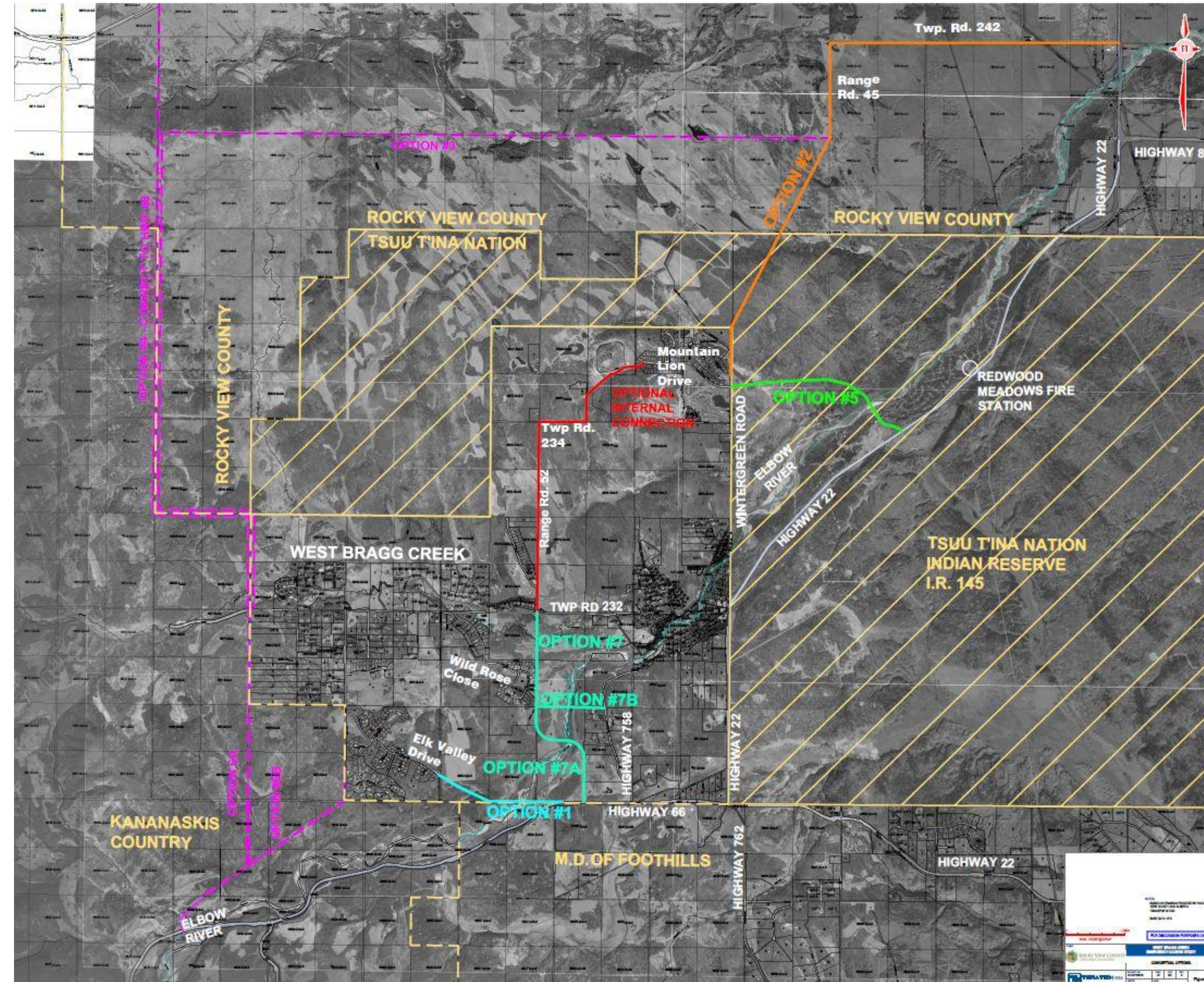
- Map 4 - FireSmart Hazard
- Low
  - Moderate
  - High
  - Extreme
  - ▲ Predominant/Strongest Winds (Critical Burning Days)
  - ▭ Planning Area Boundary
  - - - Forest Protection Area Boundary
  - ▭ Tsuu T'ina First Nation Boundary
  - ▭ Spray Lake Sawmills FMA
  - ▭ Municipal Boundary

Source: Greater Bragg Creek Wildfire Mitigation Strategy, 2012

Sources: Rocky View County and Alberta Environment & Parks

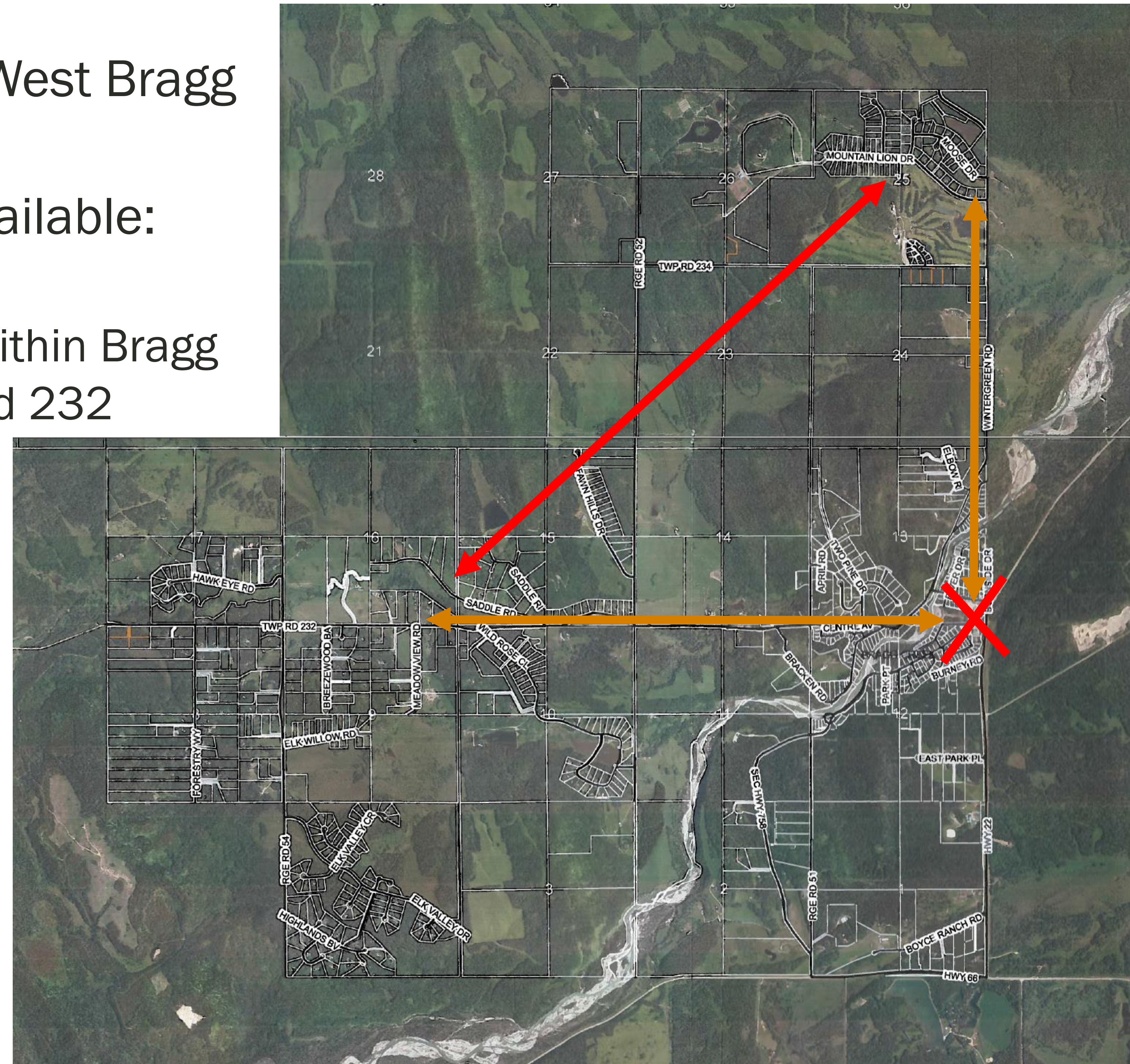
# Preliminary Route Options

- Seven initial route options
- Three do not meet desirable emergency response or evacuation requirements
- Two routes go through Tsuu T'ina Reserve lands
- Internal connection required to avoid isolating community areas if Balsam Avenue is compromised



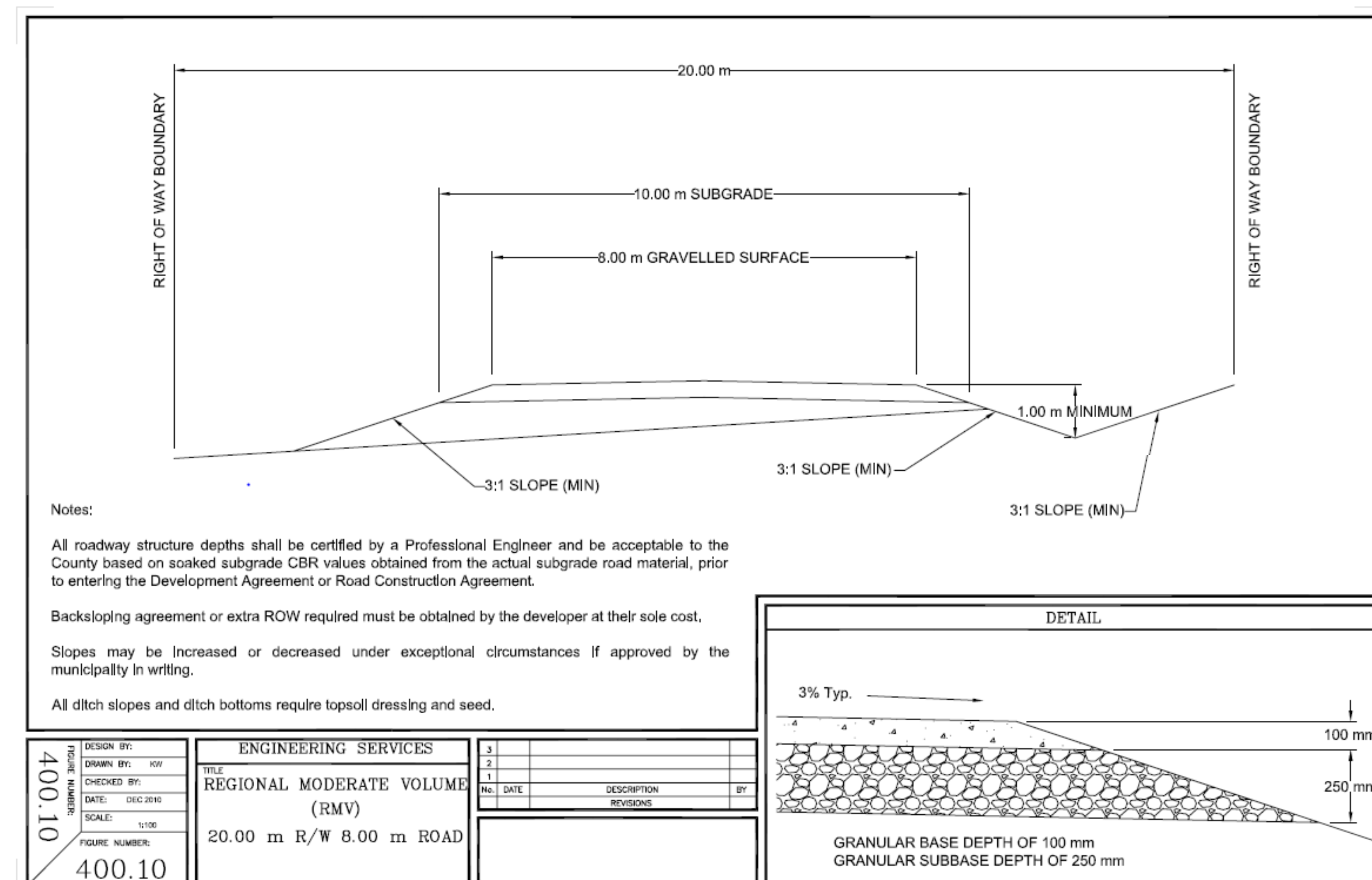
# Internal Connection

- Currently only one access point into West Bragg Creek – via Balsam Avenue
- In the event this access point is unavailable:
  - No access across the Elbow River
  - No internal circulation between areas within Bragg Creek, i.e. Wintergreen – Township Road 232
- Internal connection required to ensure emergency route is available with the Balsam Ave bridge closed
- Only available north/south road allowance within the County, besides Wintergreen Road, is Range Road 52



# Function

- Rocky View County Emergency Services
  - Factors important to emergency responders:
    - Direct route (*serves the largest population density as possible in the shortest time*)
    - Familiarity (*on occasion, responders from other jurisdictions assist the County*)
    - Integrity (*when the road is needed, there are no problems with the road*)
  - Needs to support two-way traffic; emergency vehicles enter as residents exit the area
- Controlled access for use during emergency events only
- Geometric Details:
  - 2 lanes
  - 8.0 m wide gravel surface
  - 20 m basic right-of-way
  - Maximum gradient of 8%





# Initial Screening of Preliminary Routes

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
	Elk Valley Dr to Hwy 66	Wintergreen Road to TR 242 thru Tsuu T'ina Lands	North Route around Tsuu T'ina Lands to TR 242	North Route around Tsuu T'ina to Hwy 68	Wintergreen Rd to Redwood Meadows thru Tsuu T'ina Lands	South Route to Hwy 66 thru Kananaskis Park	RR 52 to Hwy 22 or Hwy 758
Emergency Response Service	Favourable	Neutral	Unfavourable	Unfavourable	Favourable	Unfavourable	Favourable
Emergency Evacuation Service	Favourable	Unfavourable	Unfavourable	Unfavourable	Favourable	Unfavourable	Favourable
Wildfire Risk	Neutral	Favourable	Unfavourable	Unfavourable	Favourable	Unfavourable	Neutral
Environmental Constraints	Unfavourable	Unfavourable	Unfavourable	Unfavourable	Unfavourable	Unfavourable	Unfavourable
Geotechnical Risks	Neutral	Neutral	Neutral	Neutral	Neutral	Unfavourable	Neutral
Historical Resource Impacted	Favourable	Neutral	Unfavourable	Unfavourable	Favourable	Favourable	Favourable
New Bridge Infrastructure	Unfavourable	Favourable	Favourable	Favourable	Unfavourable	Favourable	Unfavourable
New Road Infrastructure	Favourable	Favourable	Unfavourable	Unfavourable	Favourable	Favourable	Favourable
Landowners Impacted	Favourable	Unfavourable	Unfavourable	Unfavourable	Unfavourable	Unfavourable	Unfavourable
Maintenance	Favourable	Unfavourable	Unfavourable	Unfavourable	Unfavourable	Favourable	Favourable
Topography	Unfavourable	Unfavourable	Favourable	Favourable	Unfavourable	Unfavourable	Unfavourable
Ease of Use / Familiarity	Neutral	Neutral	Unfavourable	Favourable	Favourable	Neutral	Favourable
Route Directness	Favourable	Neutral	Unfavourable	Neutral	Favourable	Neutral	Favourable

**LEGEND:**

Favourable
Neutral
Unfavourable

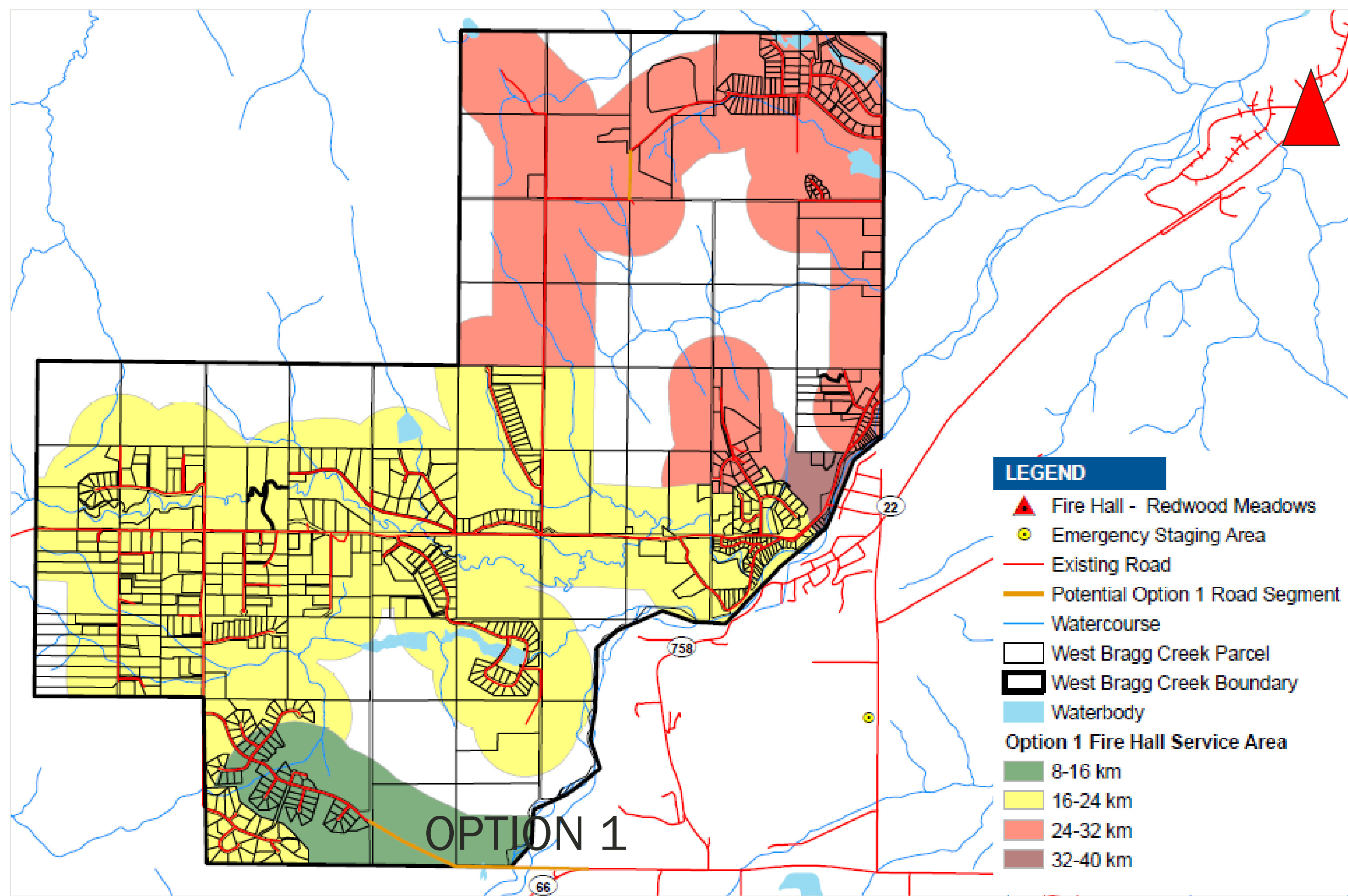
## Results of screening:

- Proceed to detailed evaluation of Options 1, 2, 5 and 7
- Eliminate Options 3, 4, and 6 at this time
  - Predominantly due to unfavourable emergency response and evacuation service

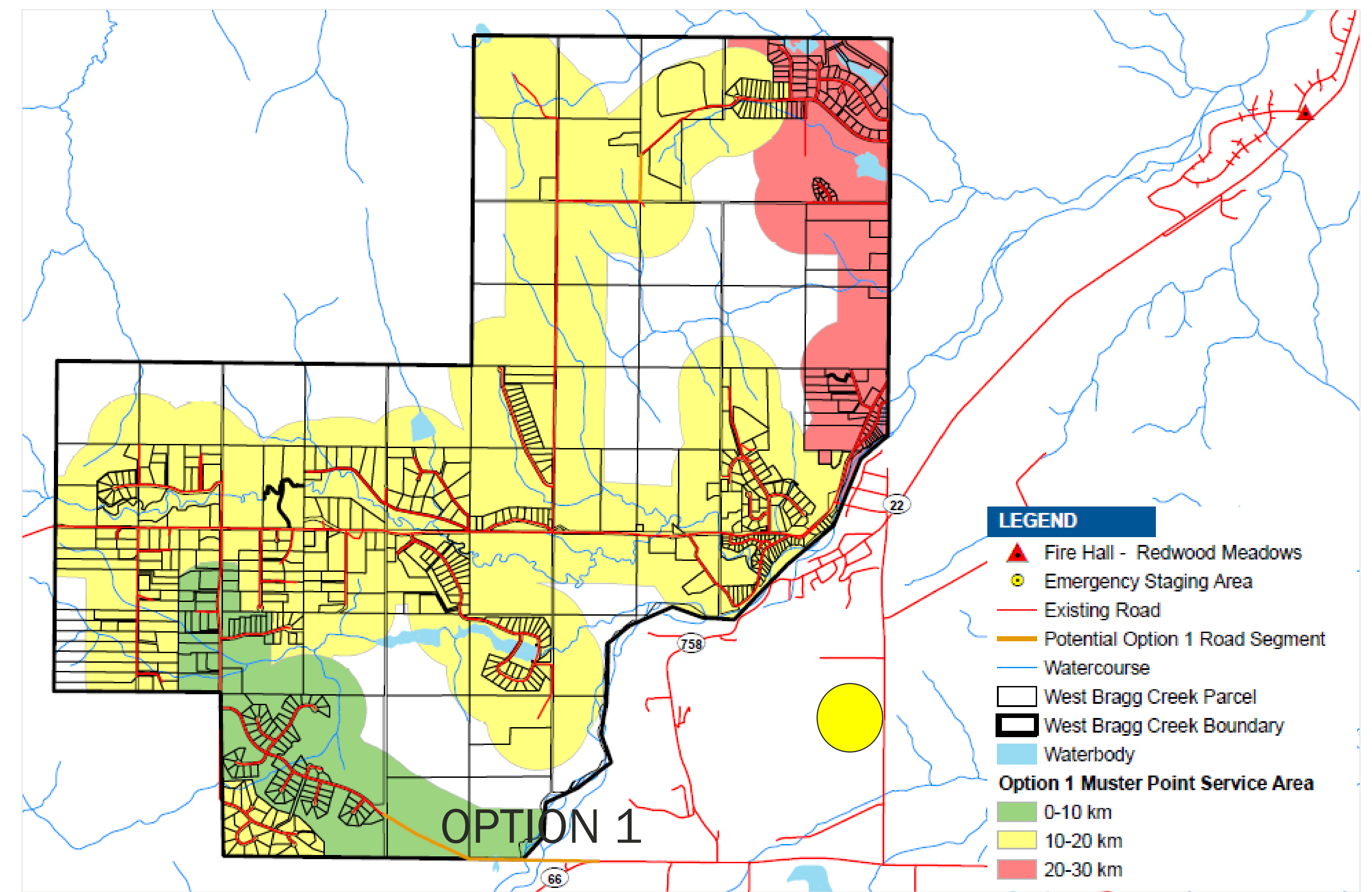
# Emergency Response and Evacuation Profiles

## Option 1 – Elk Valley Drive to Highway 66

- Emergency response considers worst case scenario from Redwood Meadows fire station
  - Closure of Balsam Avenue bridge/intersection with ingress/egress via Route Option 1 only
  - Desirable response from first responders – 8 km within 18 minutes, 80% of the time
- Evacuation considers access to a common muster point – Banded Peak School on Highway 22



• Emergency Response Profile from Redwood Meadows

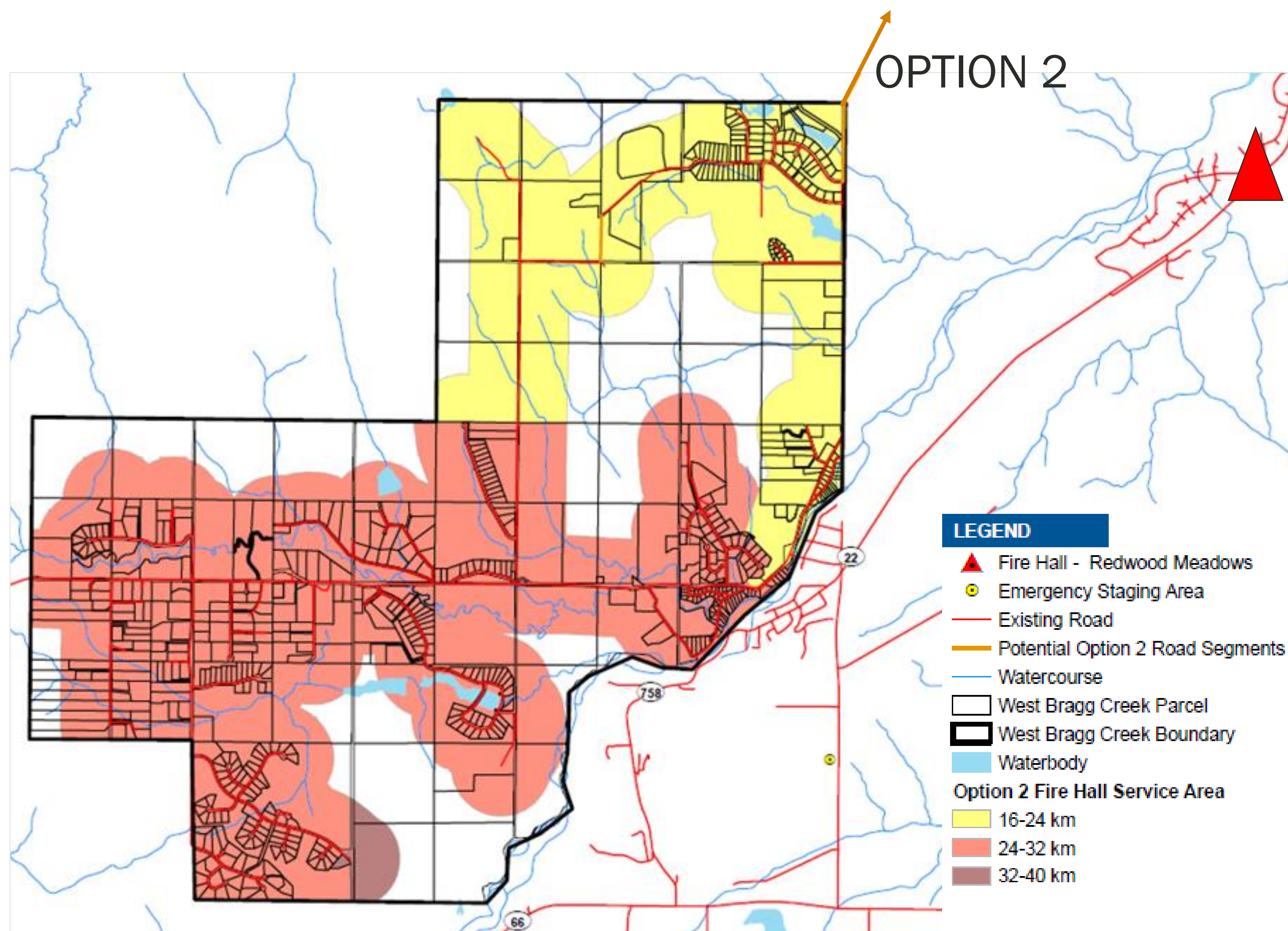


• Emergency Evacuation Profile to a common muster point

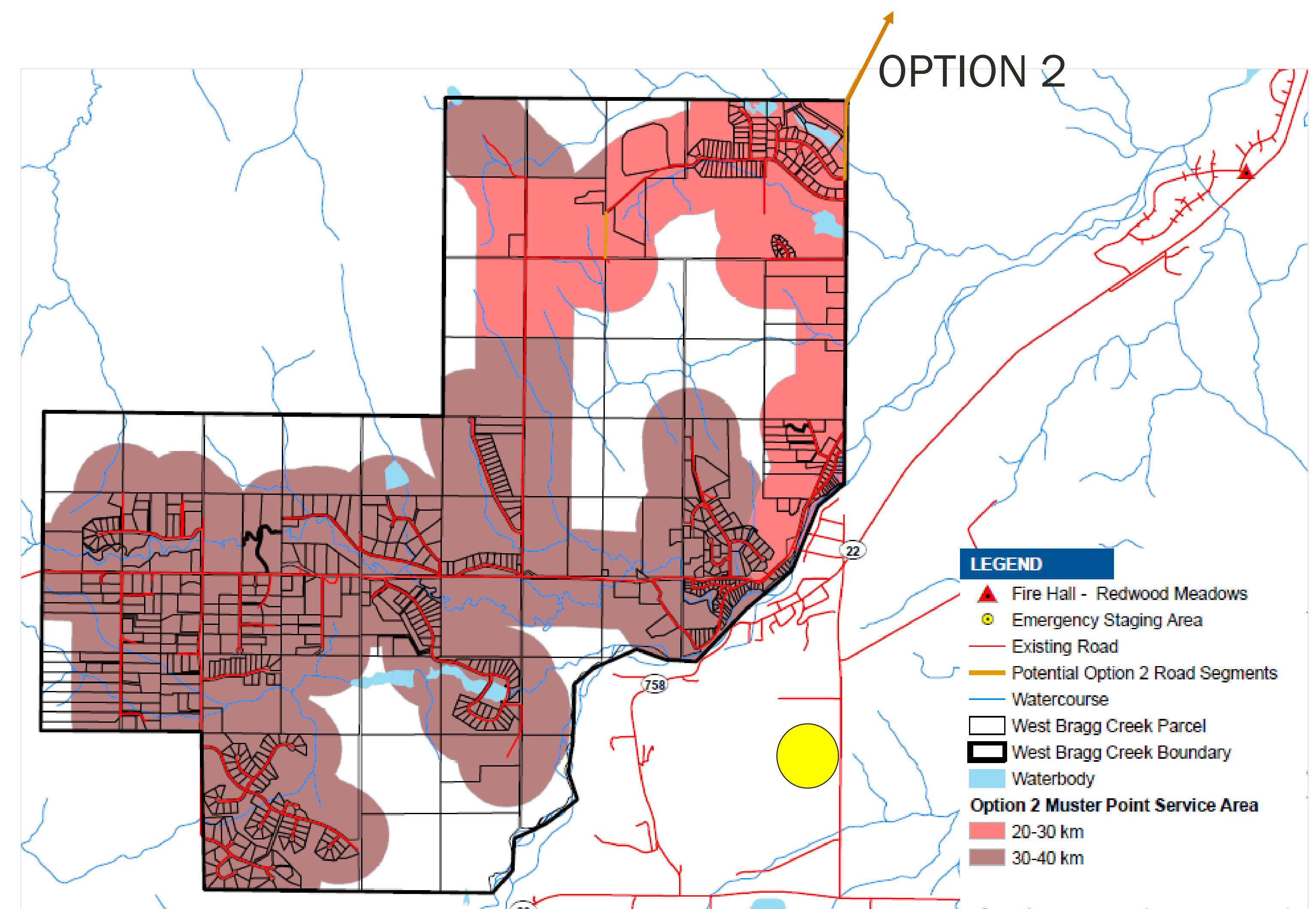
# Emergency Response and Evacuation Profiles

## Option 2 – Wintergreen Road to TR 242

- Emergency response considers worst case scenario from Redwood Meadows fire station:
  - Closure of Balsam Avenue bridge/intersection with ingress/egress via Route Option 2 only
  - Desirable response from first responders – 8 km within 18 minutes, 80% of the time
- Evacuation considers access to a common muster point – Banded Peak School on Highway 22



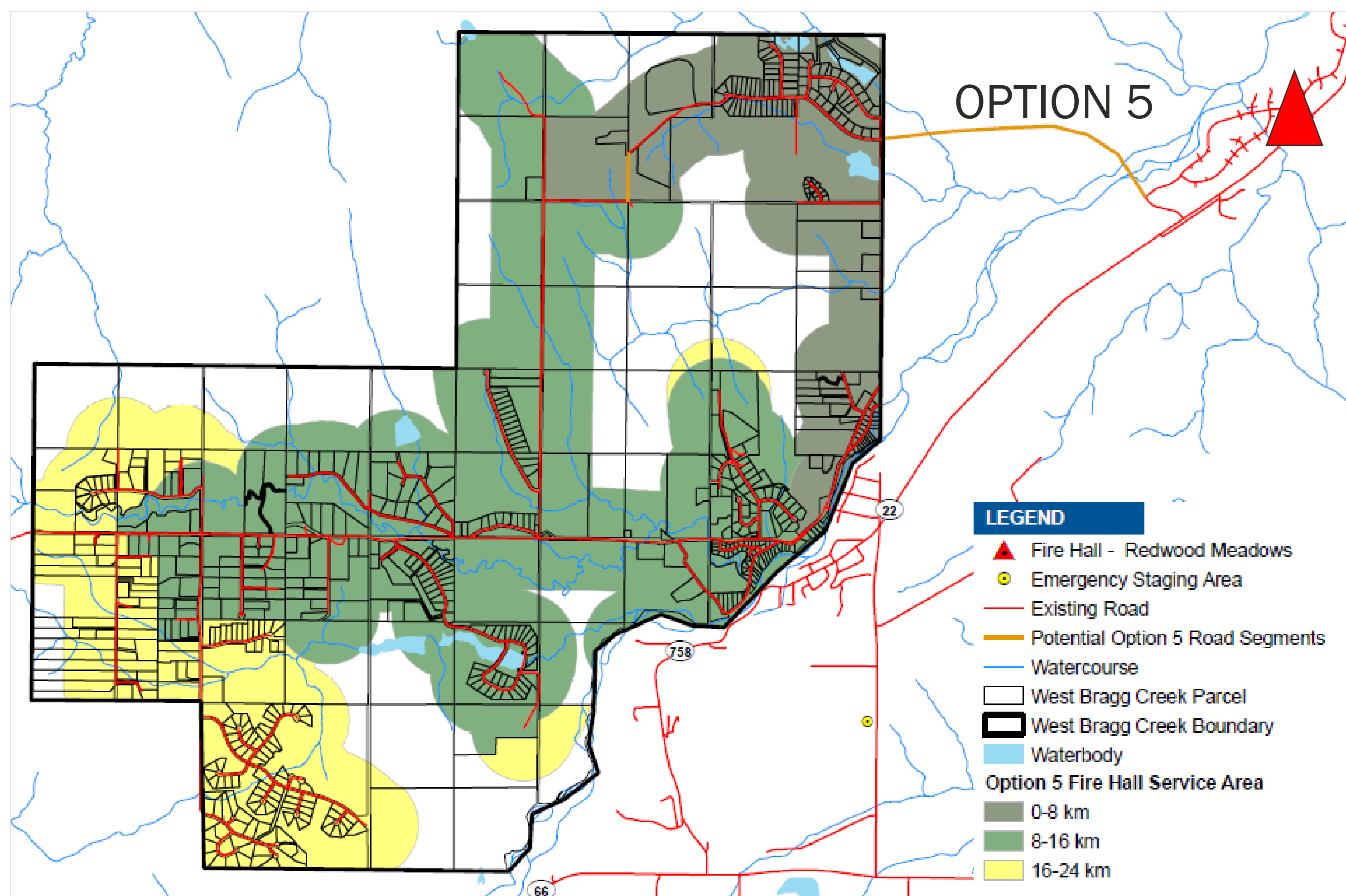
• Emergency Response Profile from Redwood Meadows



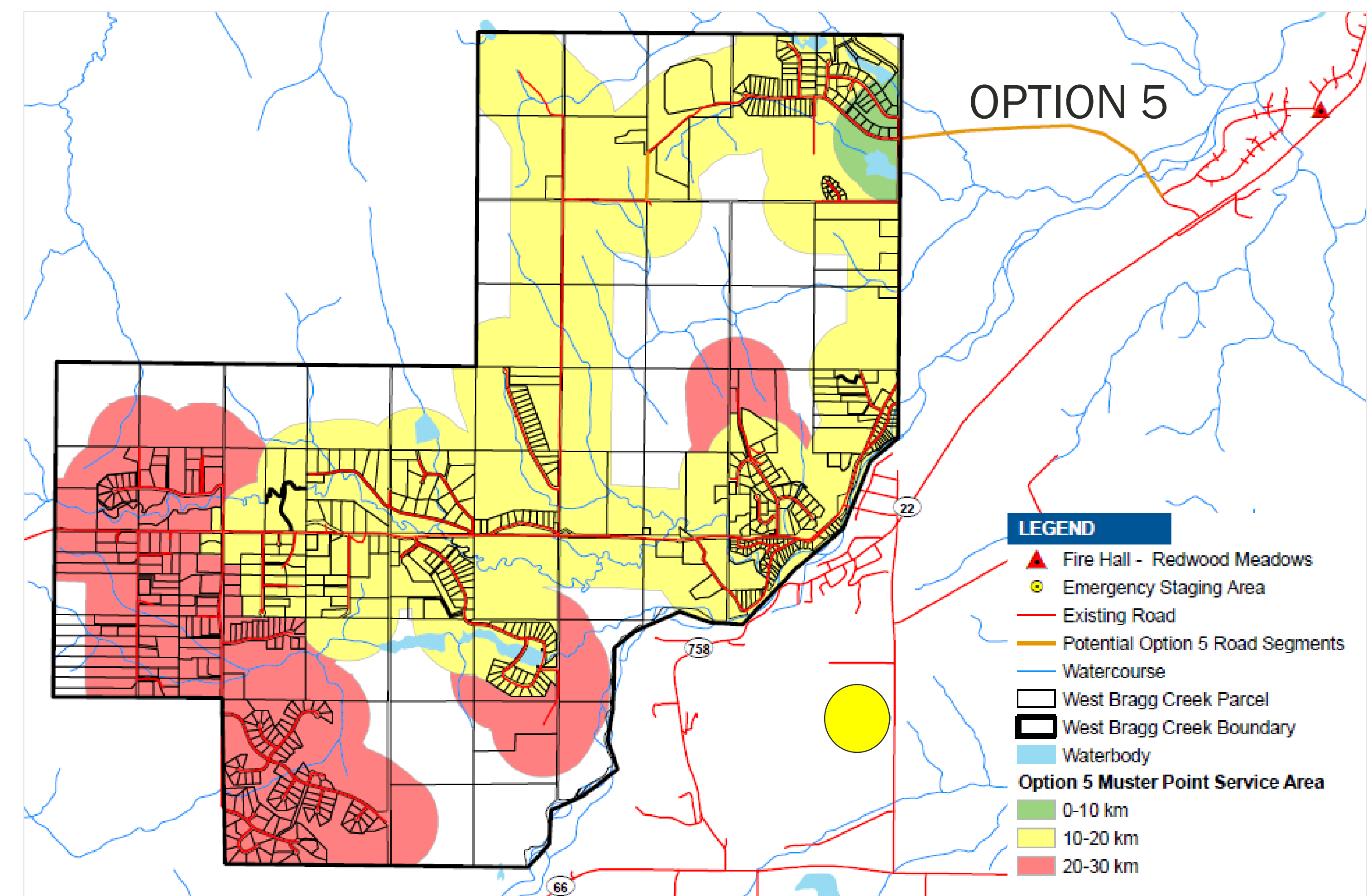
• Emergency Evacuation Profile to a common muster point

# Emergency Response and Evacuation Profiles Option 5 – Wintergreen to Redwood Meadows

- Emergency response considers worst case scenario from Redwood Meadows fire station:
  - Closure of Balsam Avenue bridge/intersection with ingress/egress via Route Option 5 only
  - Desirable response from first responders – 8 km within 18 minutes, 80% of the time
- Evacuation considers access to a common muster point – Banded Peak School on Highway 22



• Emergency Response Profile from Redwood Meadows

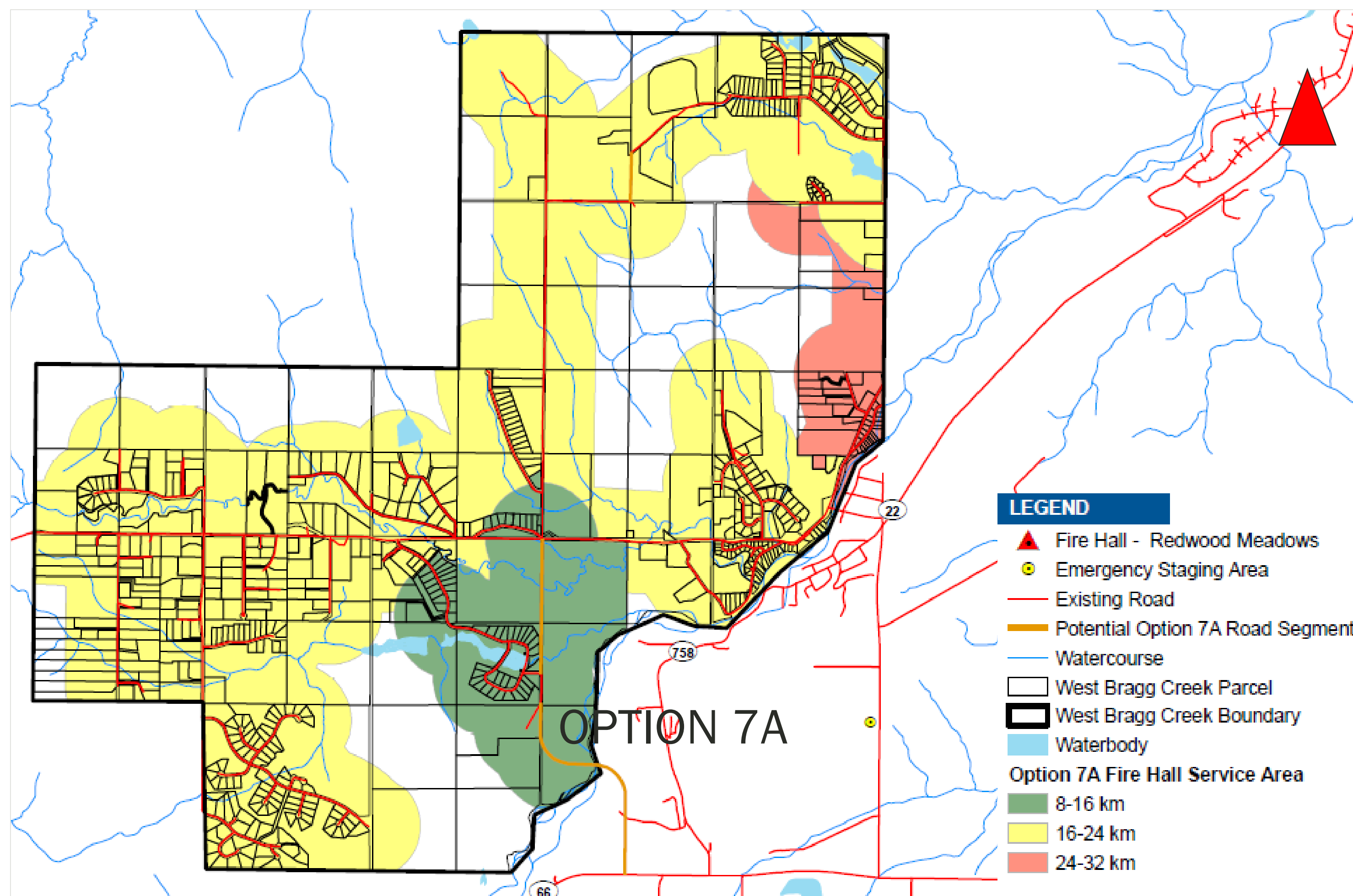


• Emergency Evacuation Profile to a common muster point

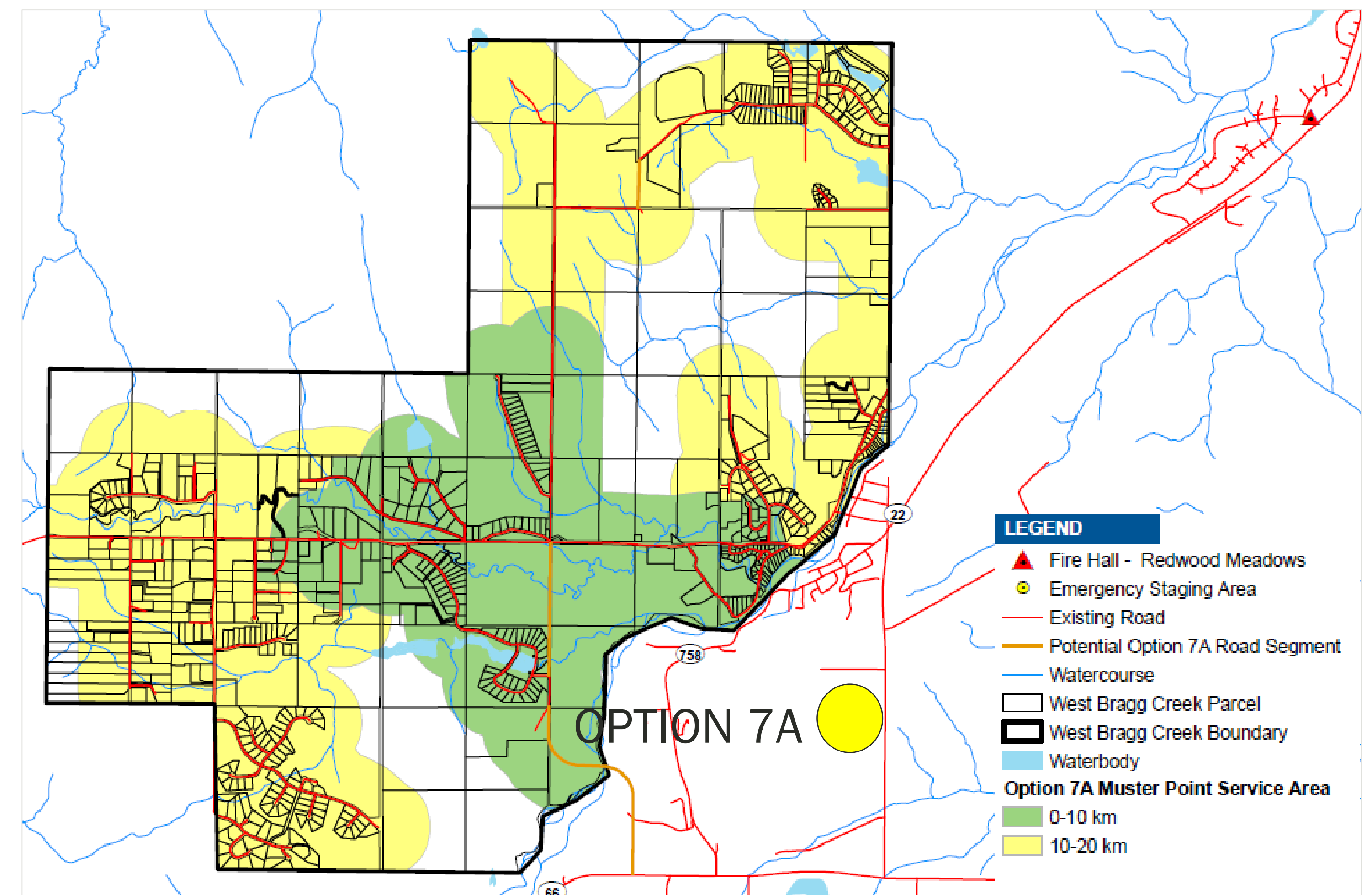
# Emergency Response and Evacuation Profiles

## Option 7A – Range Road 52 to Highway 22

- Emergency response considers worst case scenario from Redwood Meadows fire station:
  - Closure of Balsam Avenue bridge/intersection with ingress/egress via Route Option 1 only
  - Desirable response from first responders – 8 km within 18 minutes, 80% of the time
- Evacuation considers access to a common muster point – Banded Peak School on Highway 22



• Emergency Response Profile from Redwood Meadows

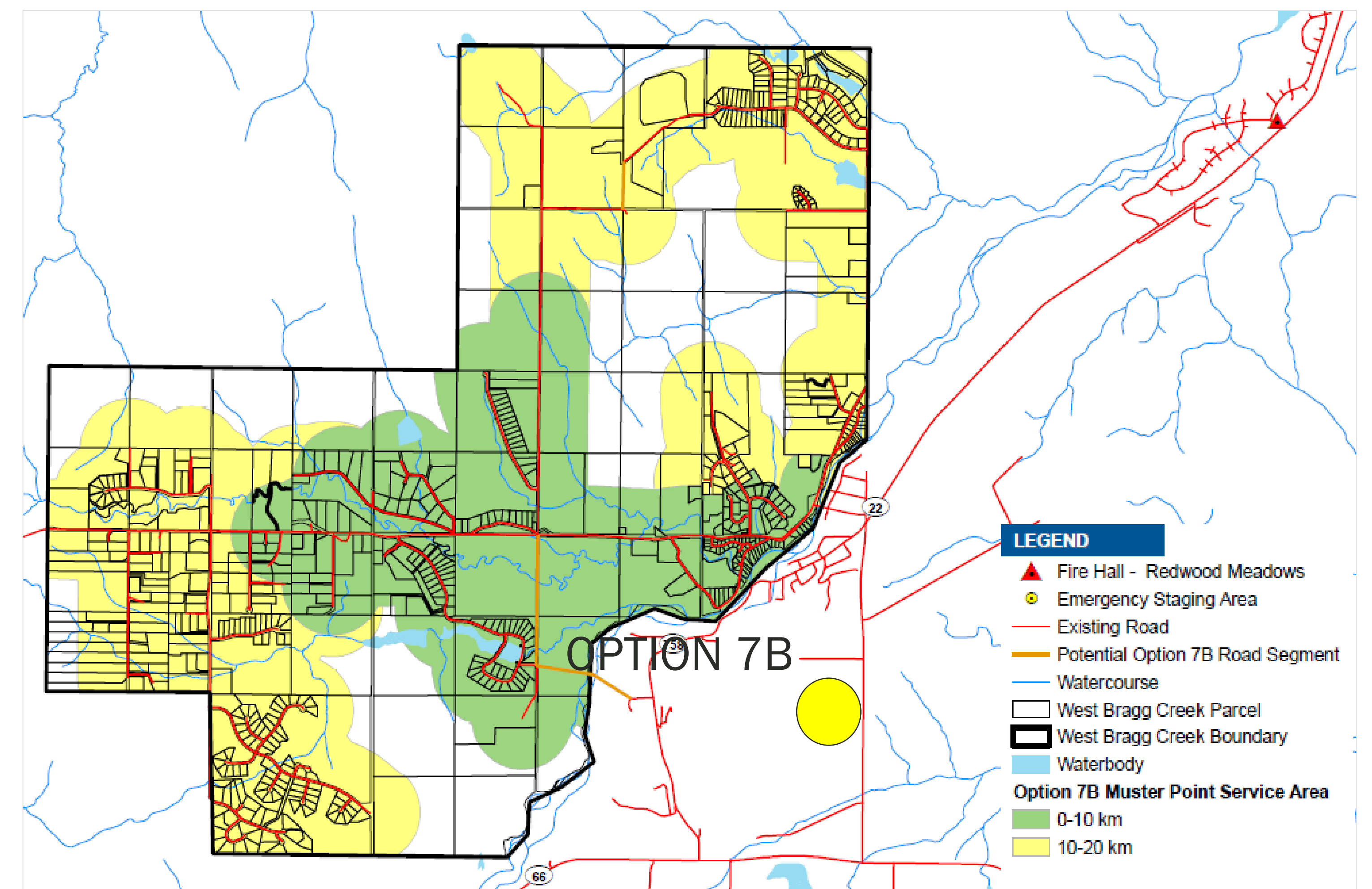
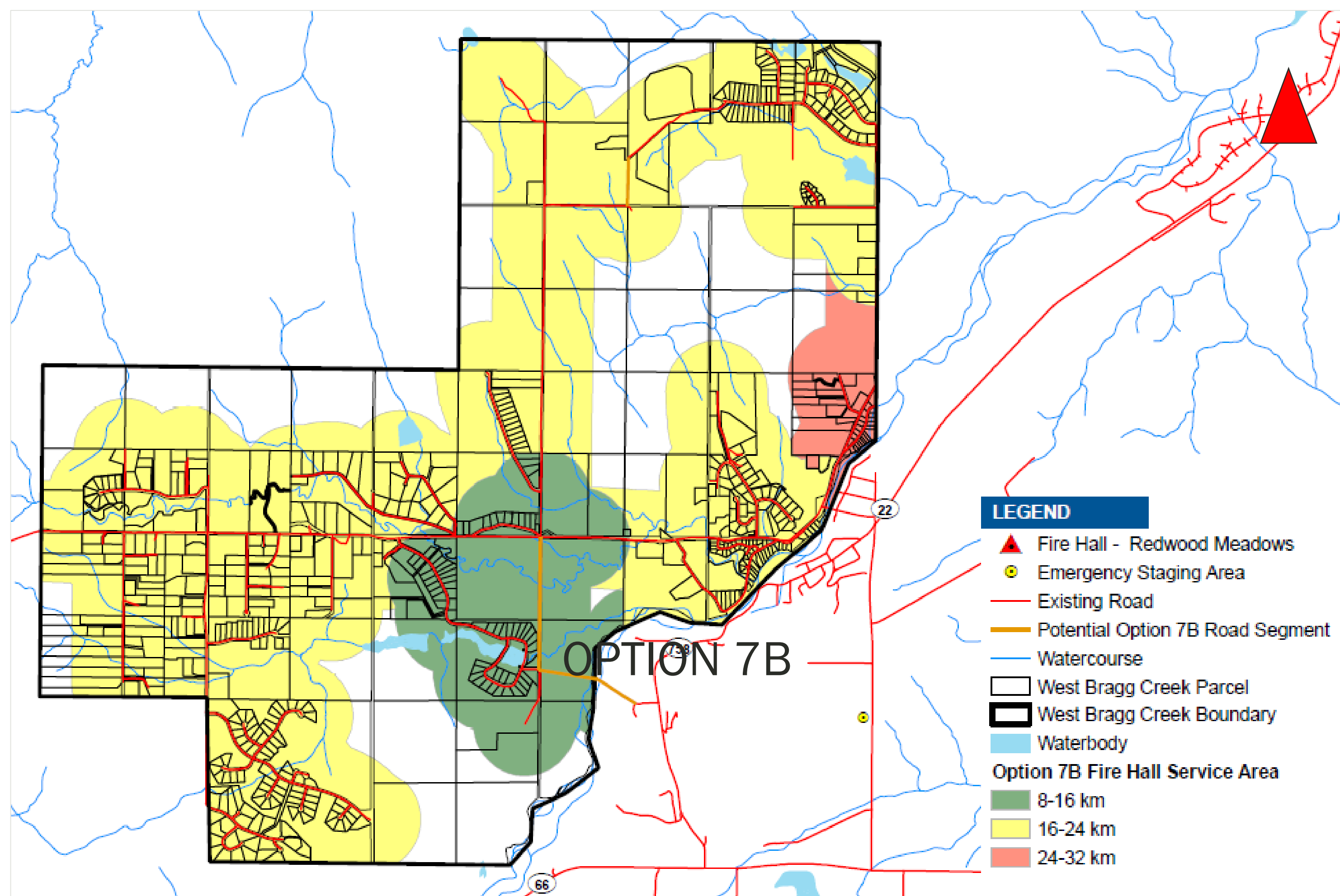


• Emergency Evacuation Profile to a common muster point

# Emergency Response and Evacuation Profiles

## Option 7B - Range Road 52 to Highway 758

- Emergency response considers worst case scenario from Redwood Meadows fire station:
  - Closure of Balsam Avenue bridge/intersection with ingress/egress via Route Option 1 only
  - Desirable response from first responders – 8 km within 18 minutes, 80% of the time
- Evacuation considers access to a common muster point – Banded Peak School on Highway 22



• Emergency Response Profile from Redwood Meadows

• Emergency Evacuation Profile to a common muster point

# Evaluation Criteria – Next Stage

- Emergency Response Service – *duration from Redwood Meadows fire hall*
- Emergency Evacuation Service – *time for residents to meet at common muster point (Banded Peak School, Highway 22)*
- Environmental Constraints – *impacts to crown reserves, parks and protected areas, significant/sensitive areas, wetlands, watercourse crossings etc.*
- Geotechnical Risks – *challenges associated with unsuitable ground conditions*
- Historical Resource Areas – *impact to areas of known or having potential historical significance*
- Infrastructure – *utilization of existing roads, new bridge and road construction*
- Landowner Impacts – *parties involved, possible extent of impact*
- Operations and Maintenance – *frequency, reliability, route directness and familiarity*
- Topography and Geometry – *relative steepness of grade impacting response and evacuation effectiveness*
- Utility Impacts – *number, type, commodity, outages etc.*
- Construction Cost Estimates – *total cost for construction of road and any bridgework*