

Mendenhall Loop Road Capacity Improvements

Open House

July 8, 2014

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Meeting Agenda

- Welcome and Project Overview
 - Purpose and Need
 - Timeline
 - Goals and Objectives
 - Overview of Issues, Challenges, and Opportunities
 - Public Involvement Summary

- Corridor Concepts Overview
 - Concept Development
 - Concept Evaluation

- Q&A

- Summary of What We've Heard



Project Purpose & Need

- Improve the vehicular capacity on Mendenhall Loop Road
 - Nancy Street to Back Loop

- Provide efficient pedestrian and bicycle facilities
 - Crossings
 - Longitudinal treatments

- Identify feasible, cost-effective treatments to improve safety



Project Timeline

- Analysis & Design Concepts
 - Summer 2013 – Summer 2014

- Environmental Process & Engineering Design
 - Winter 2014 – Fall 2015

- Bidding/Contractor Selection
 - Winter 2015/2016

- Construction
 - Spring 2016 – Fall 2016



Project Goals & Objectives



> Mendenhall Loop Road Corridor Features

- Provide sufficient vehicular capacity along the corridor
- Minimize conflicts
- Provide safe and effective pedestrian crossings
- Provide safe and effective bicycle and pedestrian facilities



> Community and Stakeholder Involvement

- Acceptance of improvements
- Minimize Impacts
- Provide flexibility



> Plan Implementation

- Identify cost effective improvements
- Potential to phase improvements over time

Corridor Overview



Corridor Overview - Character

- Serves as major commute route
 - Connects residential areas to Egan Drive
- Serves local destinations
 - Glacier Valley Elementary School
 - Floyd Dryden Middle School
 - Mendenhall Glacier Visitor Center
 - Churches
 - Movie theater and commercial uses
- Important link in bicycle network
 - Partial shoulder bike lanes
 - Multiuse path on both sides



Corridor Overview - Challenges

- Peak hour/direction vehicle congestion
- Difficulty exiting side streets, including Floyd Dryden and Nancy Street
- Conflict areas throughout corridor
- Crash history at signalized intersections
- Pedestrian and bicycle crossing spacing



November Open House & Advisory Group Meeting

> Most Frequently Discussed

- Stephen Richards intersection
 - Congestion
 - Alignment
- Nancy Street intersection
 - Difficult egress
- Floyd Dryden Access
 - Pedestrian crossing
 - Difficult egress
 - Short Way access
- Mendenhall/Valley intersection
 - Turning bay lengths
 - Alignment
- Snow removal
- Riverside stop signs
- Avoid corridor widening
 - Crossing distance
 - Right-of-way/noise impacts
 - Targeted widening
 - Roundabouts
- Safe crossings for pedestrians
- Bicycle lanes
 - Essential for commuters
- Multiuse paths
 - Driveway conflicts
 - Young users
- Bus stop access
 - Crossing difficulty
- Plan calls for 35 mph boulevard



Corridor Concepts

- Two concept “families”
- Concept A Family: Corridor Widening
 - Five- and three-lane cross sections
 - Presented at Advisory Group and Open House on November 6, 2013
 - Concern over widening impacts
- Concept B Family: Intersection Widening
 - Developed in response to public comments
 - Targeted widening at Stephen Richards
 - Includes signals and/or roundabouts



Corridor Concept A Family Summary

- Three corridor-level concepts
 - 5-lane and 3-lane cross sections
 - Concepts vary by where the transition from 5 lanes to 3 lanes takes place
 - All serve projected peak traffic demand

- Concept A1: Transition north of Stephen Richards/Haloff Way
- Concept A2: Transition north of Floyd Dryden Access
- Concept A3: Transition north of Mendenhall/Valley

- Primary differentiators
 - Right-of-way impacts and cost of additional widening
 - Pedestrian crossing distance and time



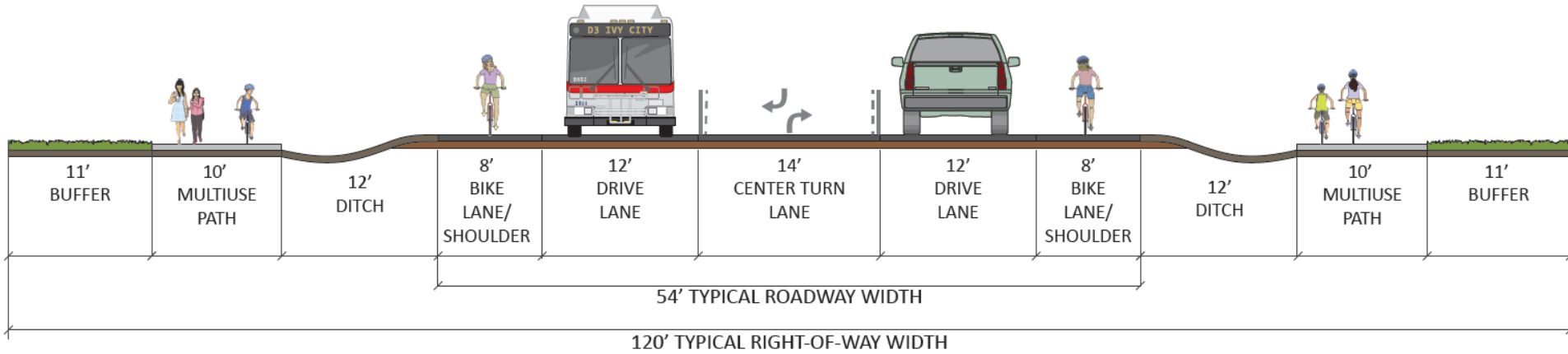
Corridor Concept A Elements

- Widen to five-lanes from Nancy Street north
- Transition to three-lanes vary from Stephen Richards to Mendenhall/Valley by concept
- Enhanced street lighting at intersections and crossings
- Access management to reduce driveway conflicts
- Additional bus pullouts and shelters
- Intersection improvements

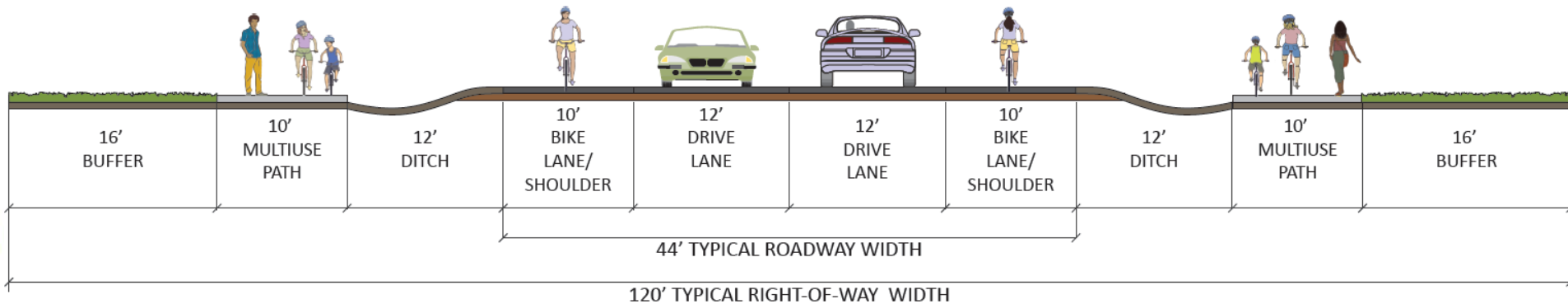


Existing Cross Sections

EXISTING 3-LANE AT STEPHEN RICHARDS/HALOFF WAY

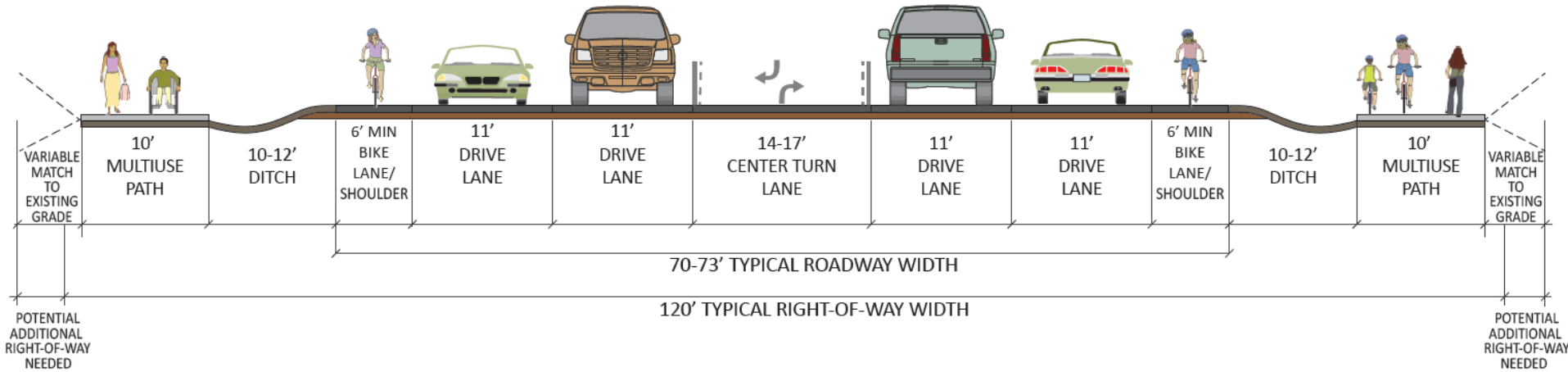


EXISTING 2-LANE AT BACK LOOP

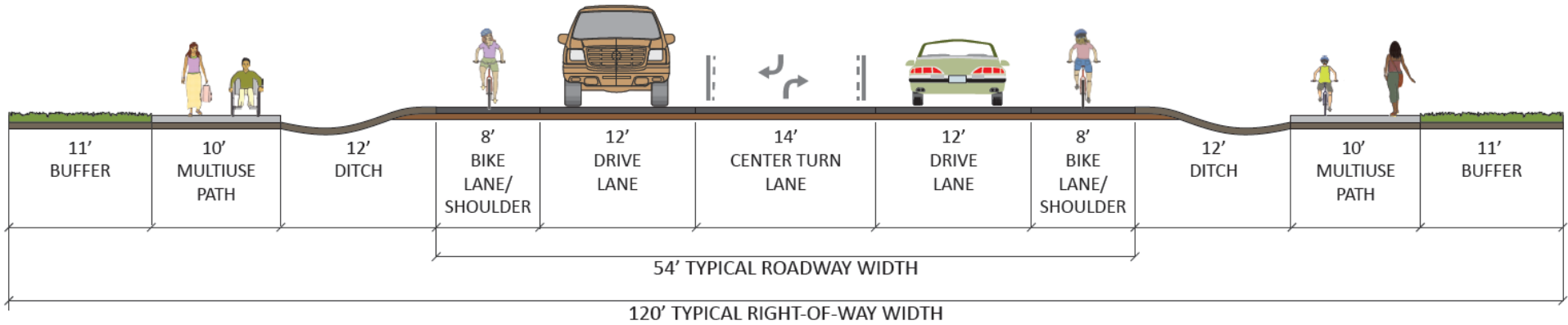


Proposed Concept A Cross Sections

PROPOSED 5-LANE SECTION W/ TWO-WAY LEFT TURN LANE



PROPOSED 3-LANE SECTION WITH TWO-WAY LEFT TURN LANE



Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd

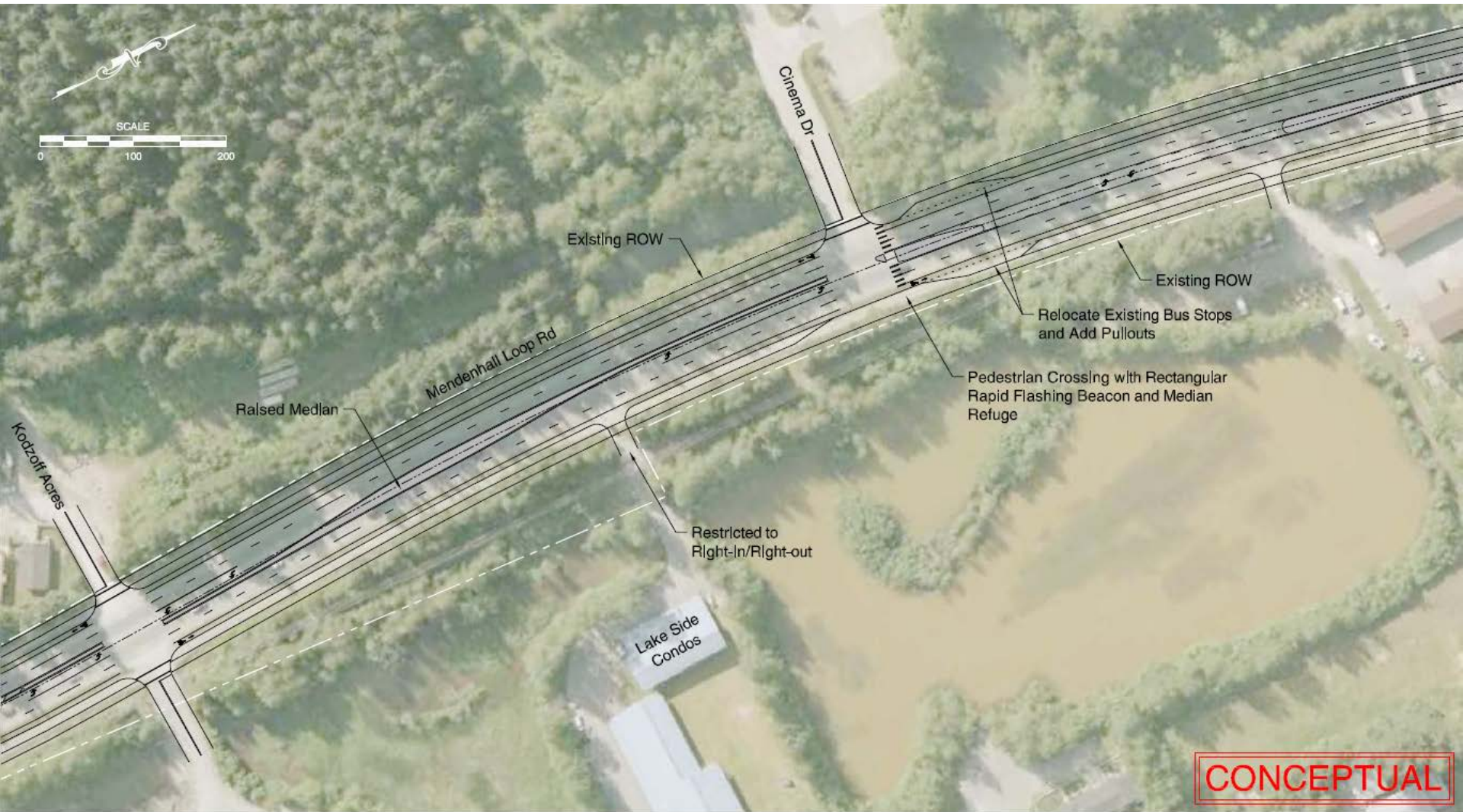


Notes:
1. Enhance existing illumination with additional Luminaires located at Intersections and pedestrian crossing locations.

A3 - Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd
Juneau, AK

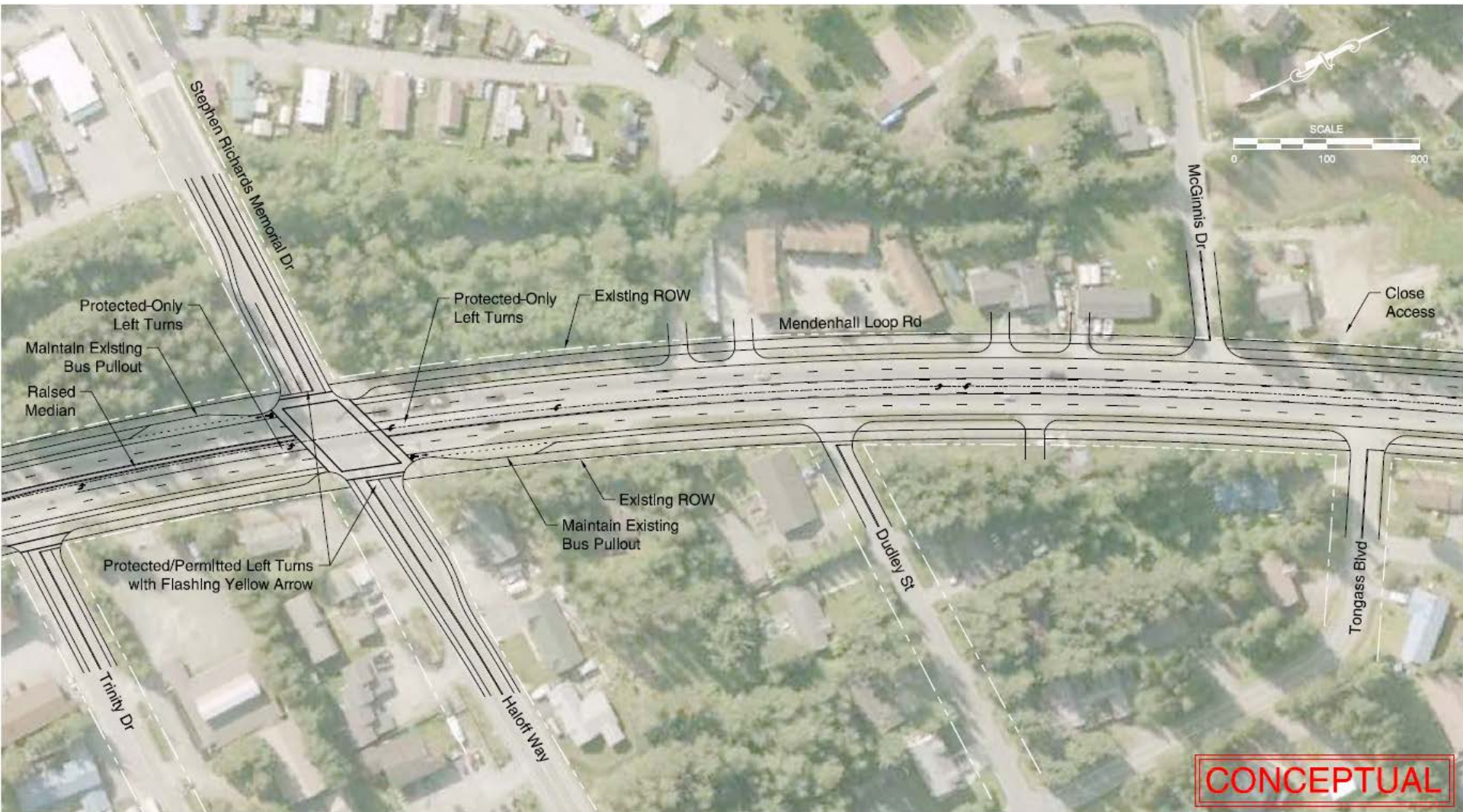
Figure
A3-1

Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd



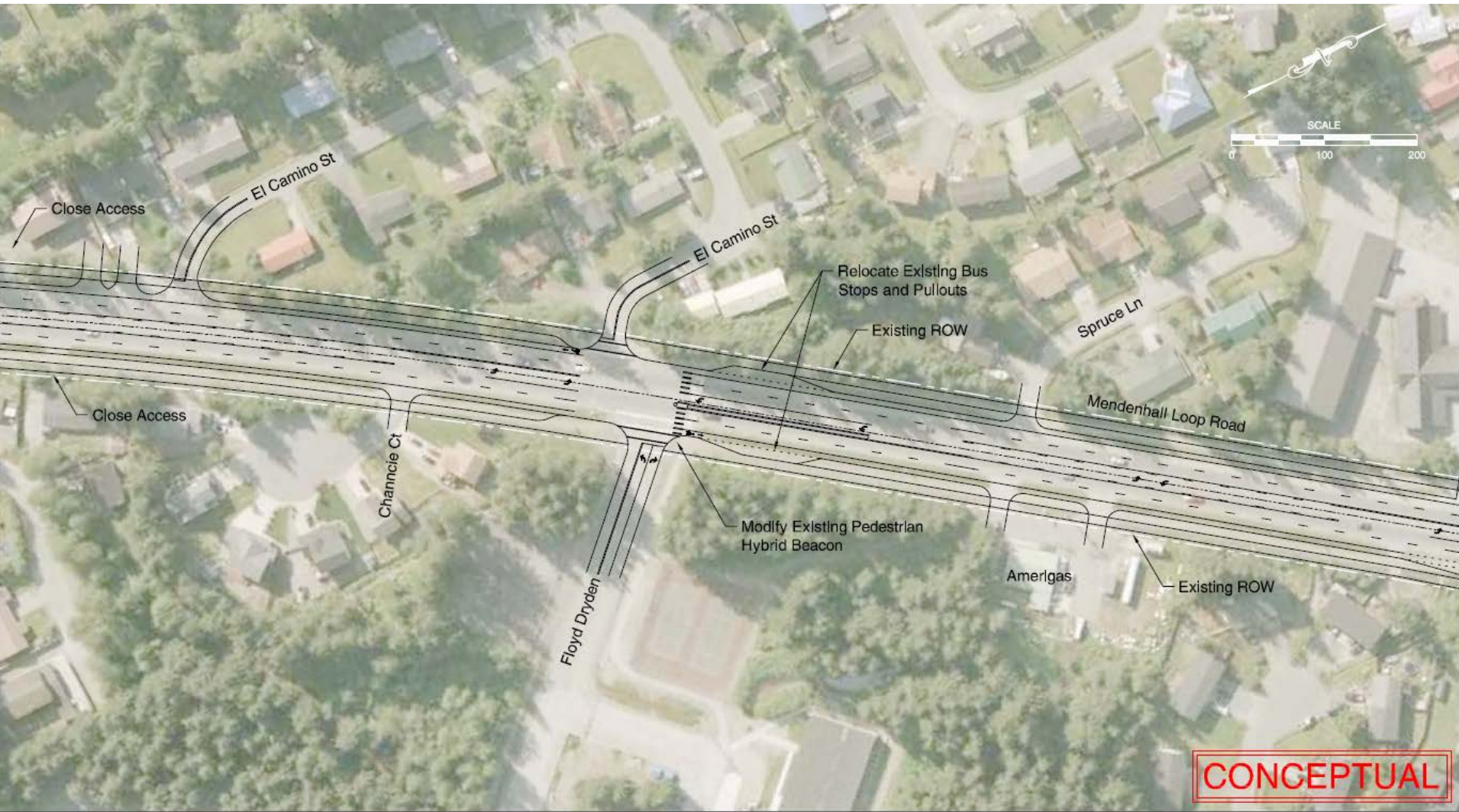
Notes:
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Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd



Notes:
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Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd



Notes:
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A3 - Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd
Juneau, AK

Figure
A3-4

Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd



Notes:
1. Enhance existing illumination with additional Luminares located at Intersections and pedestrian crossing locations.

A3 - Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd
Juneau, AK

Figure
A3-5

Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd



Notes:
1. Enhance existing illumination with additional Luminaires located at Intersections and pedestrian crossing locations.

A3 - Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd
Juneau, AK

Figure
A3-6

Corridor Concept B Summary

- Four corridor-level concepts
 - Three-lane cross section with targeted widening at intersections
 - Include expanded intersections and up to three roundabouts
 - All serve projected peak traffic demand
- Concept B1: Expanded Stephen Richards signalized intersection
- Concept B2: Roundabout at Stephen Richards
- Concept B3: Roundabouts at Stephen Richards and Floyd Dryden
- Concept B4: Roundabouts at Stephen Richards, Floyd Dryden, and Mendenhall/Valley
- Primary differentiators
 - Intersection traffic control
 - Roundabout right-of-way impacts
 - Floyd Dryden intersection operations



Roundabouts vs. Traffic Signals

➤ Traffic Operations

- Improve efficiency by reducing delay and number of stops
- Make vehicle travel speeds more consistent

➤ Traffic Safety

- 40-50% reduction in overall crashes with roundabout(s)
- 70-80% reduction in injury crashes with roundabout(s)

➤ Right of Way

- Requires more right-of-way at intersection, but possibly less on roadway segments

➤ Pedestrians and Bicyclists

- Roundabouts reduce potential conflict points
- Bicyclists can ride in circulatory roadway or traverse roundabout around the perimeter as a pedestrian
- Pedestrians cross via marked crosswalks with raised medians and supplemental traffic control for multilane crossings



Pedestrian Treatment Options at Roundabouts



Rectangular Rapid Flash Beacons



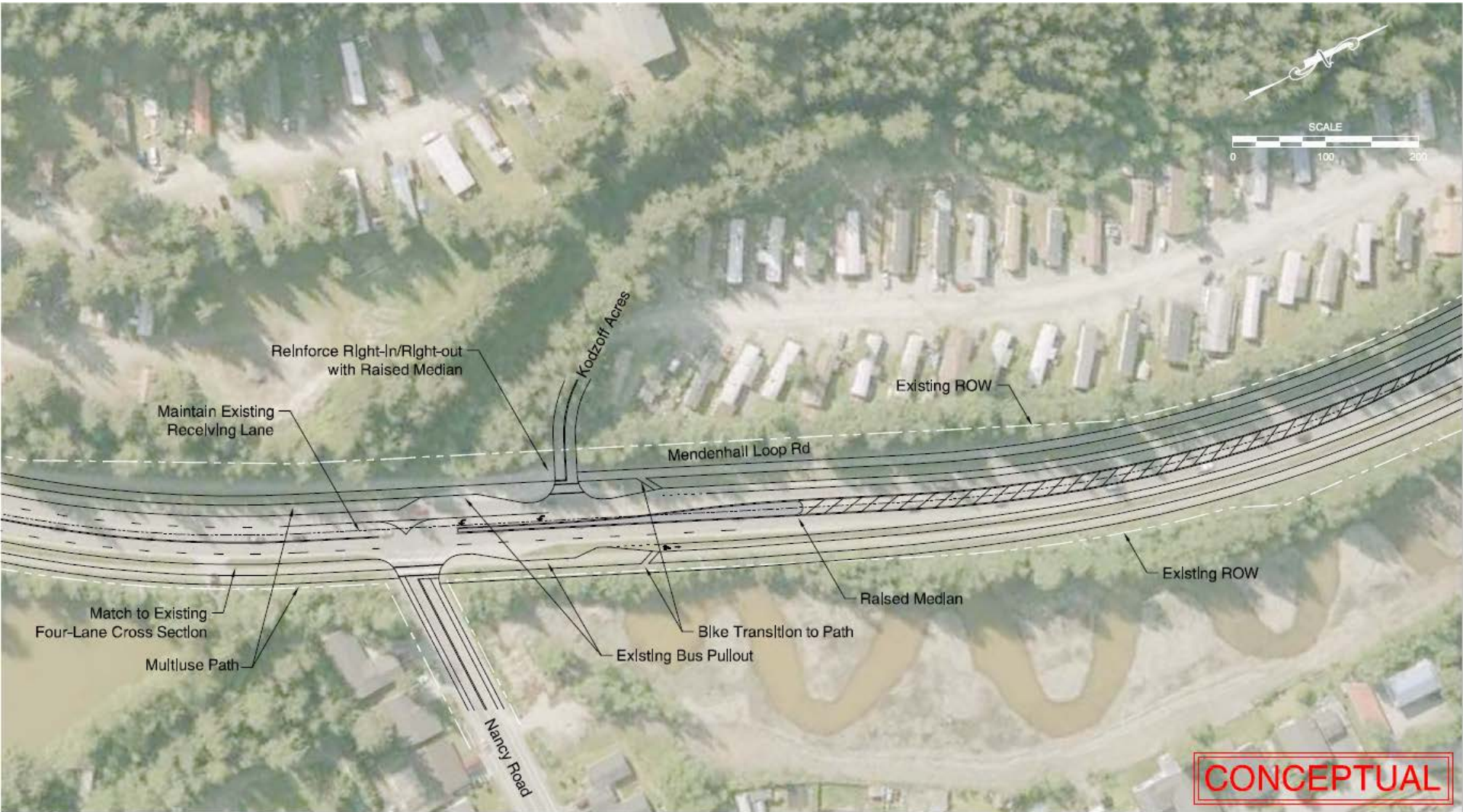
Pedestrian Hybrid Beacons (HAWK)

Corridor Concept B Family Elements

- Maintain/widen to three-lane cross section
- Enhanced street lighting at intersections and crossings
- Access management to reduce driveway conflicts
- Additional bus pullouts and shelters
- Intersection improvements including roundabouts



Concept B1 – Three Lane Section with Expanded Stephen Richards Signal

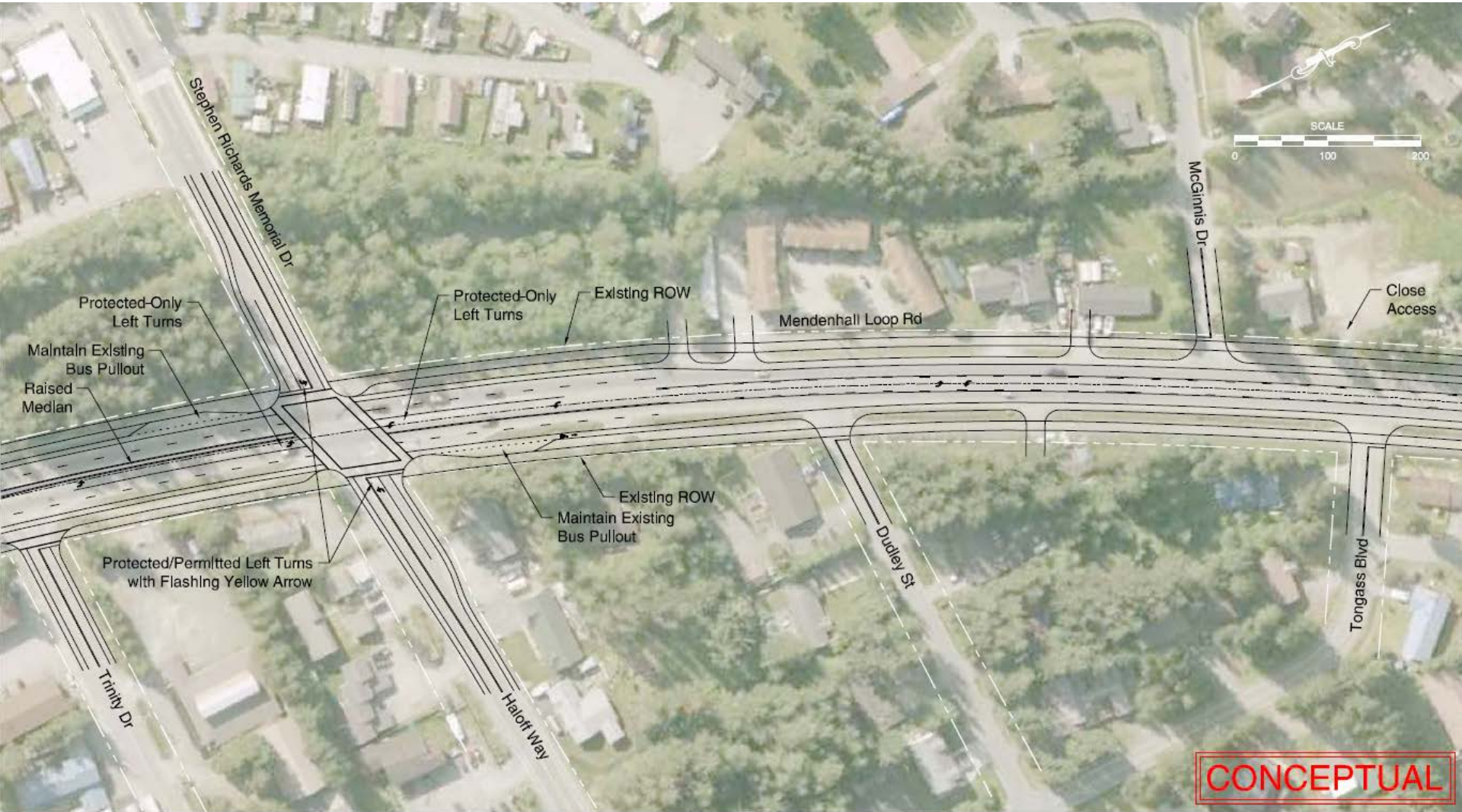


Notes:
1. Enhance existing illumination with additional luminaires located at Intersections and pedestrian crossing locations.

B4 - Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts
Juneau, AK

Figure
B4-1

Concept B1 – Three Lane Section with Expanded Stephen Richards Signal

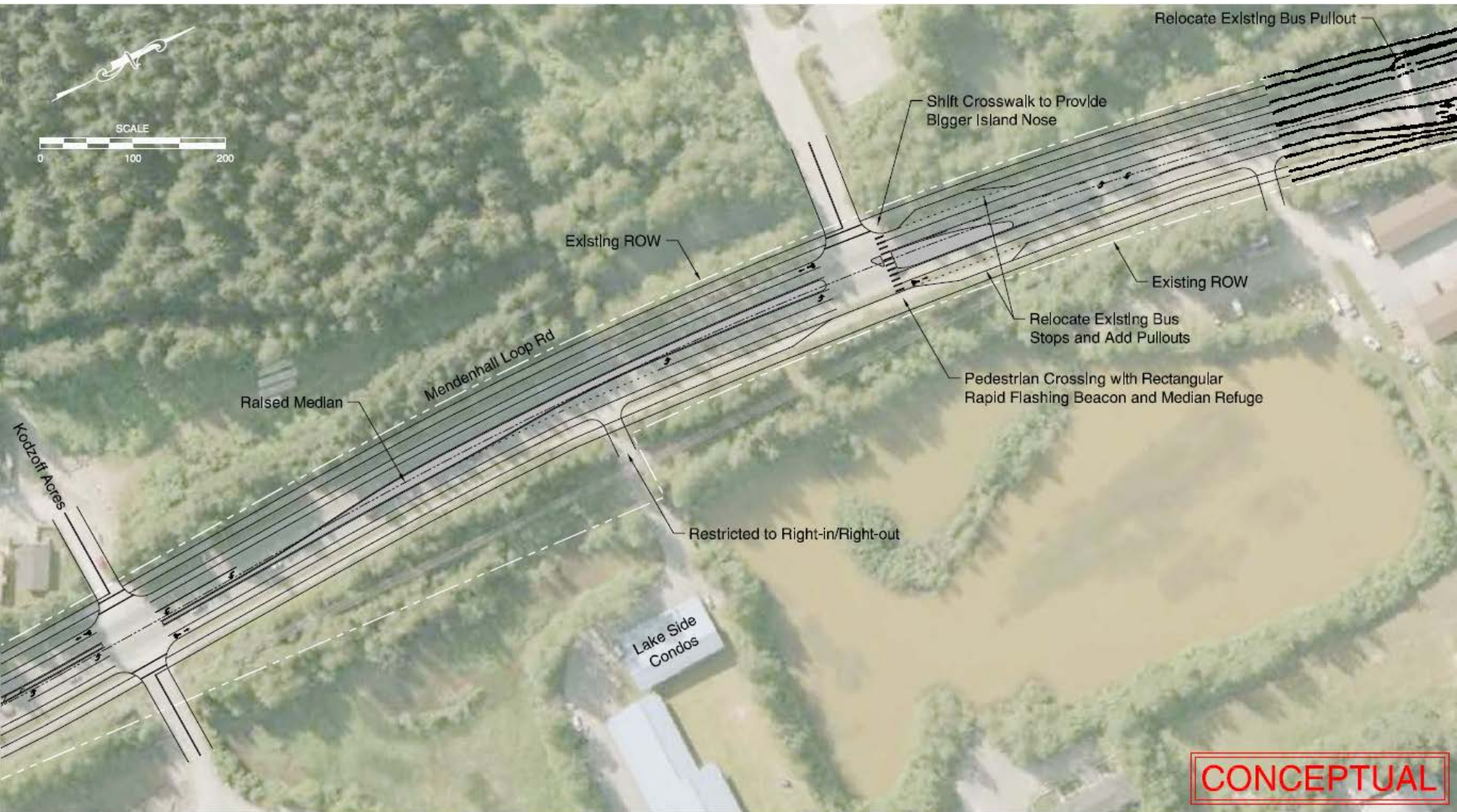


Notes:
1. Enhance existing illumination with additional luminaires located at Intersections and pedestrian crossing locations.

B1 - Three Lane Section with Expanded Stephen Richards Signal
Juneau, AK

Figure
B1-3

Concept B4 – Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts

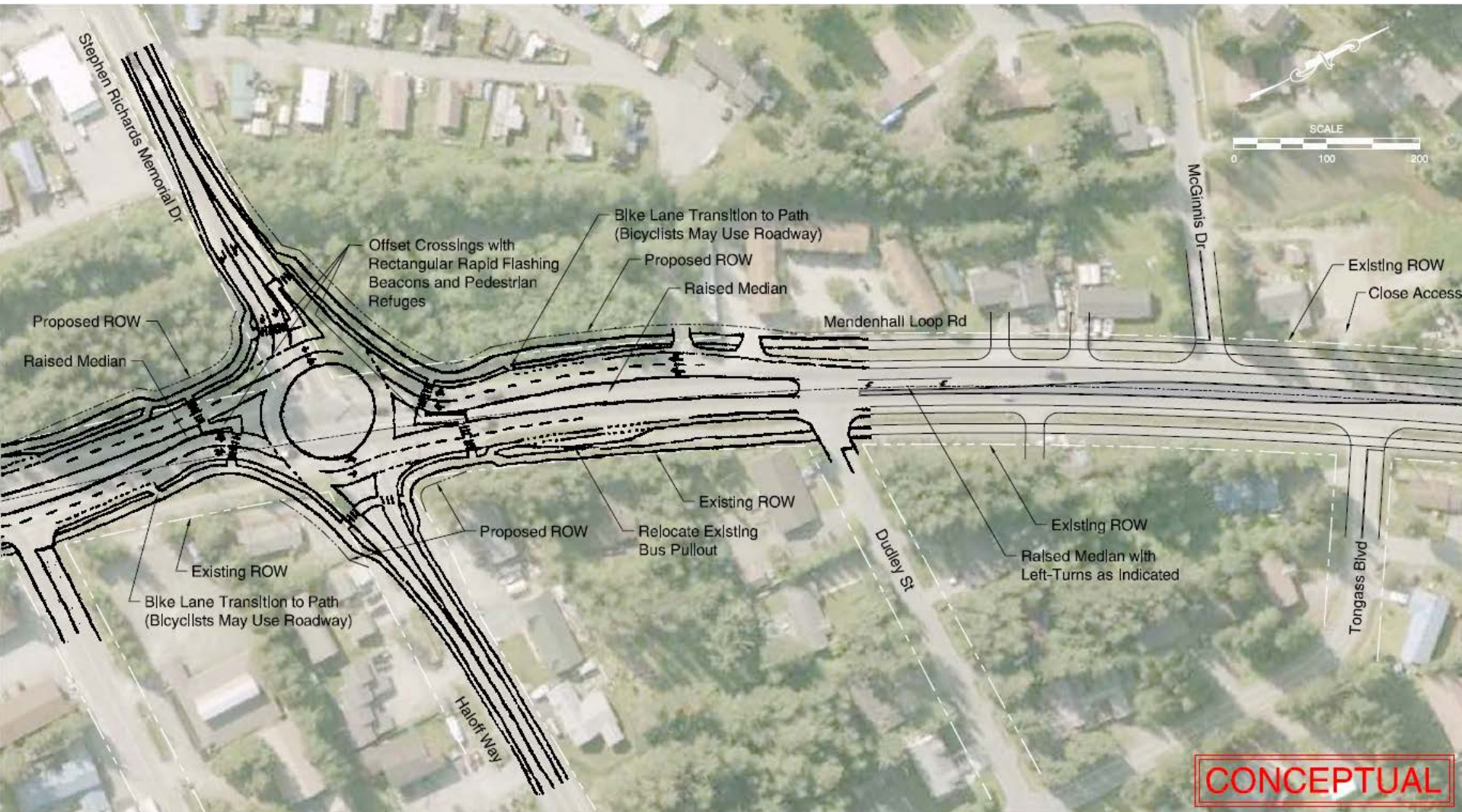


Notes:
1. Enhance existing illumination with additional luminaires located at Intersections and pedestrian crossing locations.

B4 - Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts
Juneau, AK

Figure
B4-2

Concept B4 – Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts

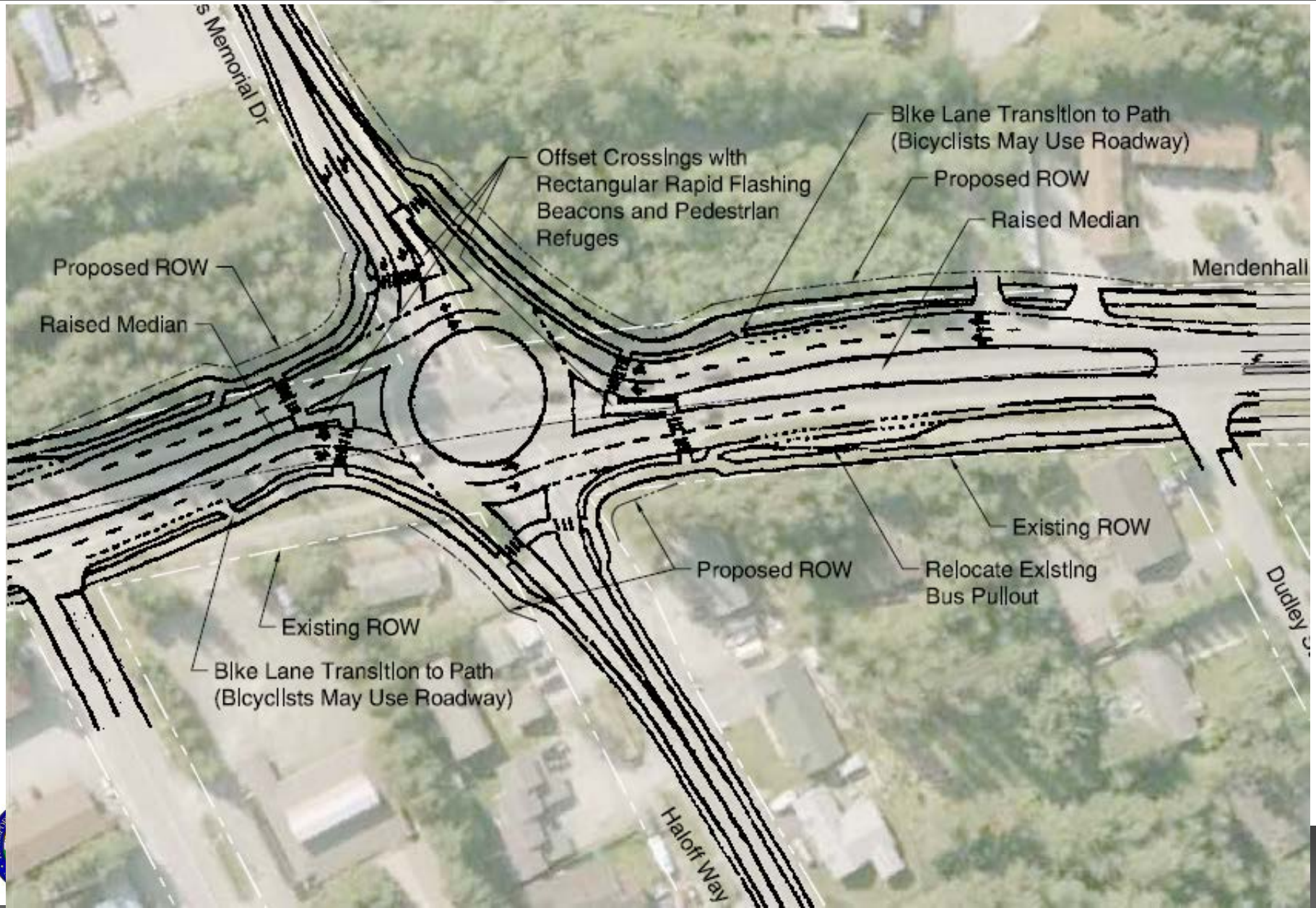


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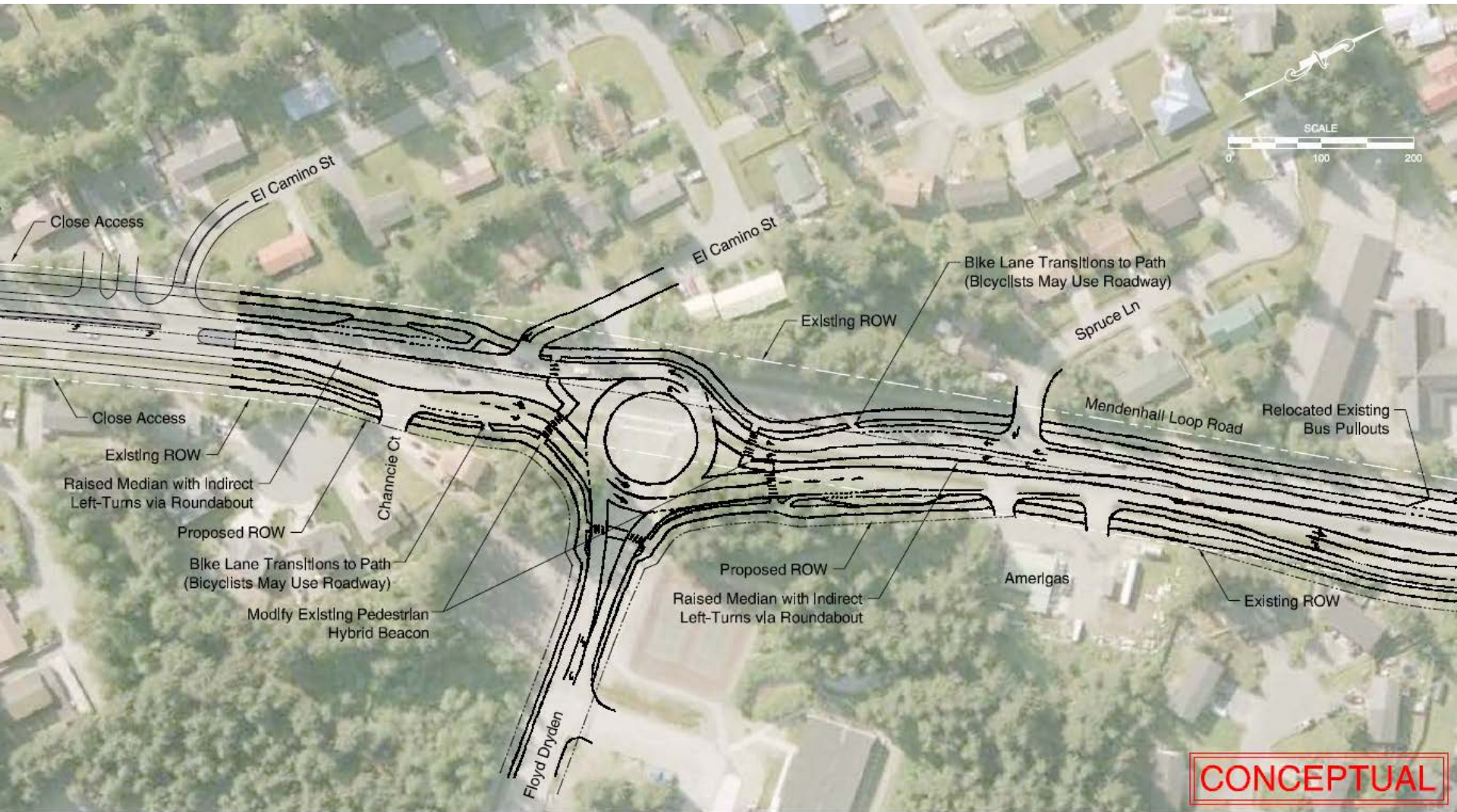
B4 - Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts
 Juneau, AK

Figure
 B4-3

Concept B4 – Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts



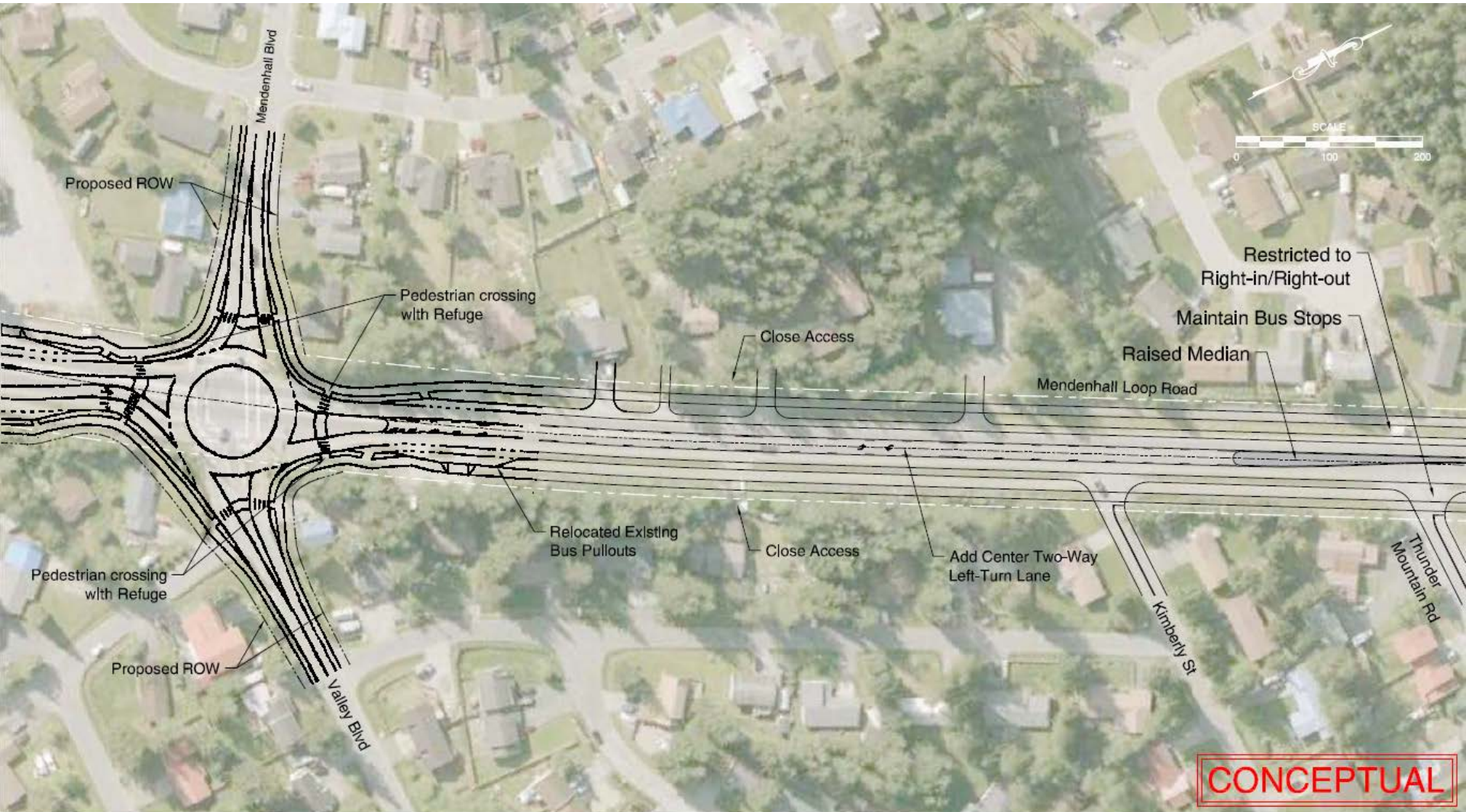
Concept B4 – Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts



Notes:
 1. Enhance existing illumination with additional luminaires located at intersections and pedestrian crossing locations.

B4 - Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts
 Juneau, AK

Concept B4 – Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts

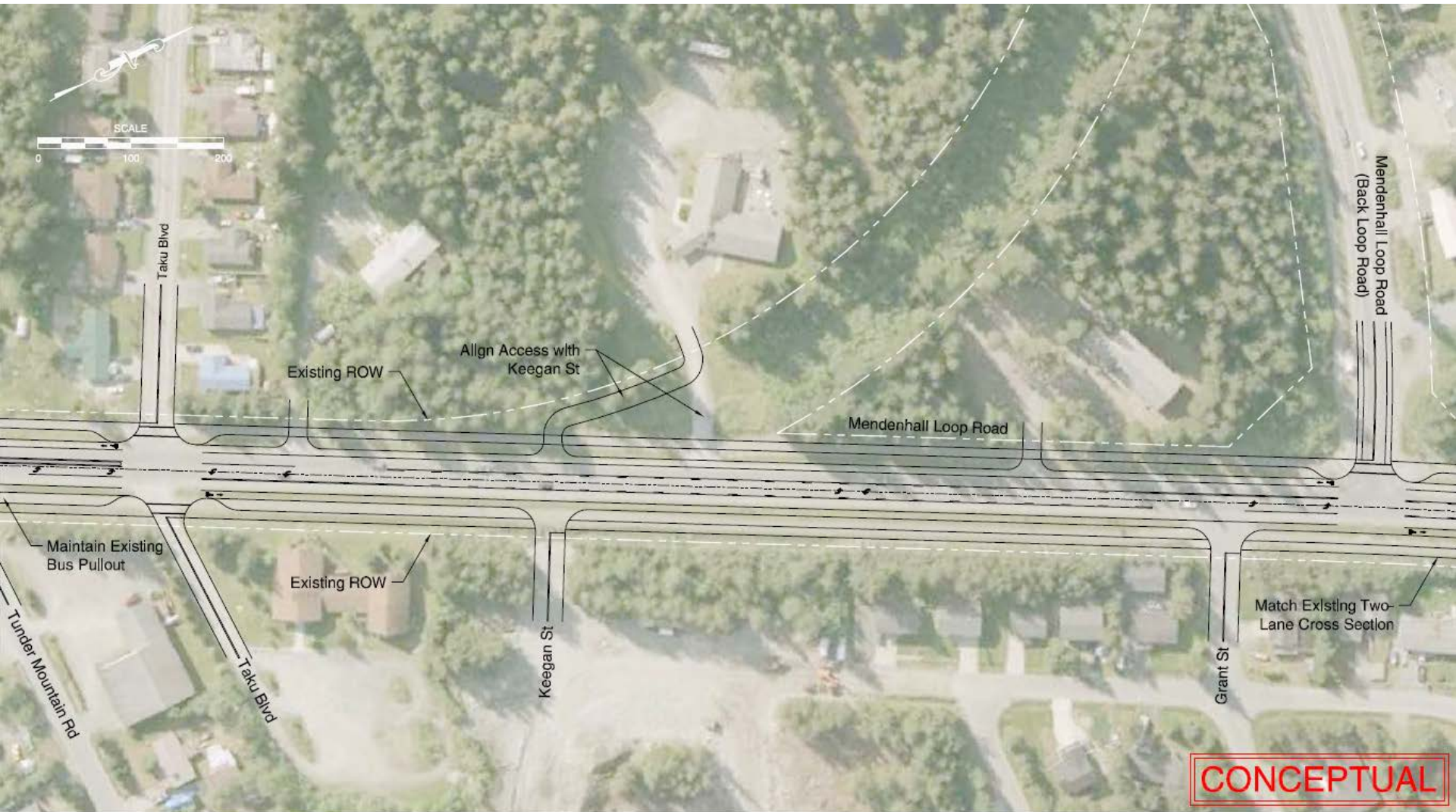


Notes:
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B4 - Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts
Juneau, AK

Figure
B4-5

Concept B4 – Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts

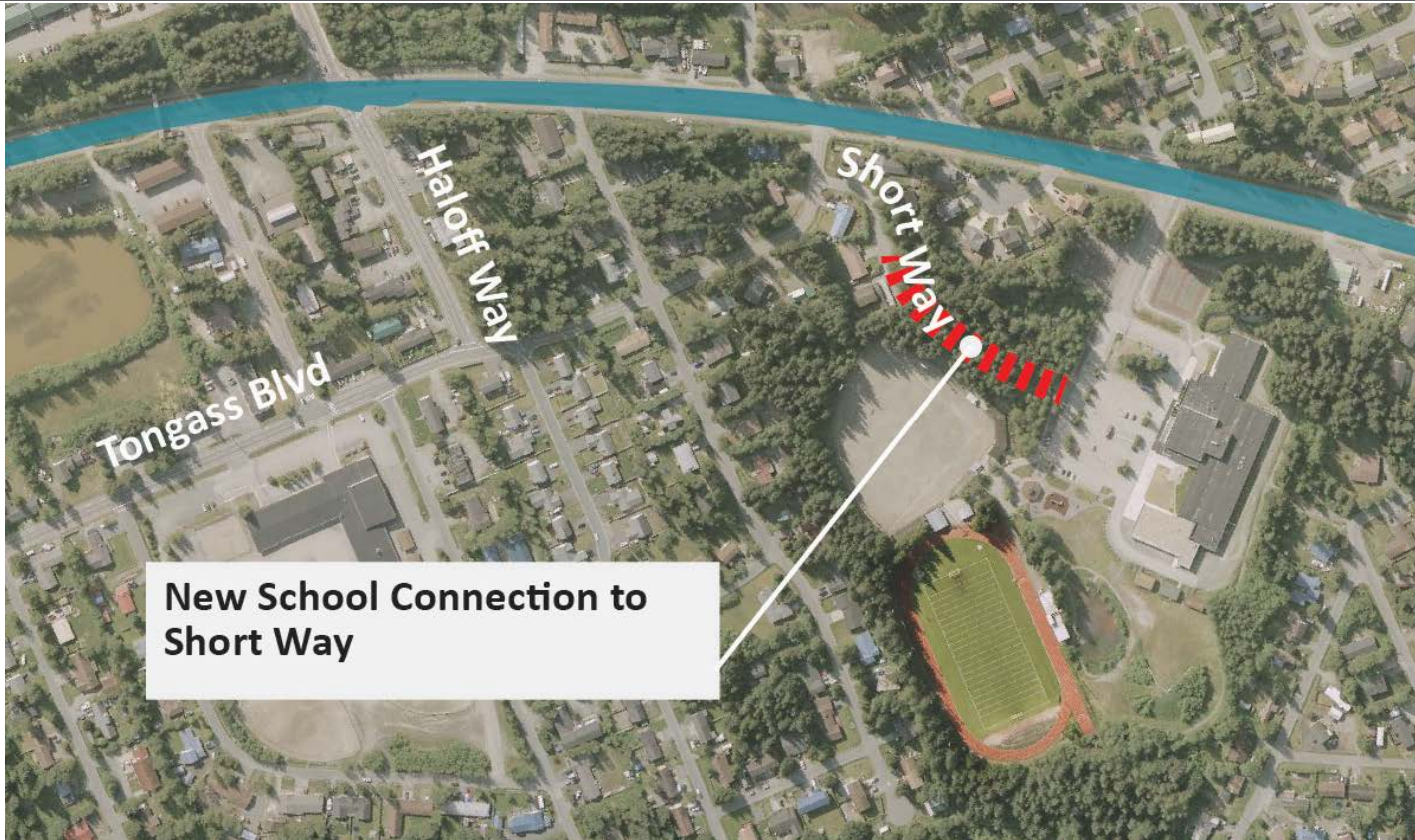


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B4 - Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts
Juneau, AK

Figure
B4-6

Short Way-Floyd Dryden Connection



- Provide secondary access to Floyd Dryden Middle School
- Relieve congestion at Floyd Dryden Access Road
- Needed under concepts without Floyd Dryden roundabout

Concept Evaluation

➤ Vehicle Operations

- Nancy Street operates at LOS E under 3-lane and 5-lane concepts
- Stephen Richards peak hour queues and delay reduced by expanded signal and further reduced by roundabout
- Floyd Dryden congestion reduced by roundabout and/or Short Way connection
- Mendenhall/Valley Boulevard operates with reduced queues and delay with added northbound right-turn lane or roundabout

➤ Pedestrian and Bicycle Operations

- Five-lane concepts increase crossing distance
- Roundabouts decrease crossing delay



Concept Evaluation

> Safety

- Roundabouts reduce crash frequency by 40-50%
- Protected-only and flashing yellow arrow left-turn control reduce crashes 40-60%
- Five-lane section predicted to experience more crashes than 3-lane

> Access Management

- Consolidating driveways reduces conflicts, particularly with path users
- Roundabouts in sequence enable U-turns in place of difficult left turns out of side streets and driveways

> Right-of-Way

- Five-lane concepts may require right-of-way acquisition to accommodate grades
- Roundabouts would require right-of-way acquisition at intersections
- Road widening will reduce buffer and may increase noise along roadway



Next Steps

- Project team develop recommended concept based on concept evaluation, public involvement, and cost estimates

