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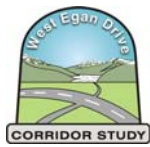
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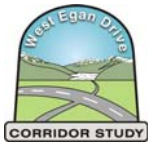
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Section 1

Executive Summary





Executive Summary

Egan Drive is the major transportation corridor in Juneau, Alaska, and the only continuous connection between the Mendenhall Valley and downtown Juneau. In addition to serving a variety of commuting, recreational use, shopping, commercial activity, and government trips within the Mendenhall Valley, it also links Juneau with the region's major external gateways: Juneau International Airport and the Auke Bay Ferry Terminal.

This report documents the activities of the West Egan Drive Corridor Study (WEDCOR), initiated by the Alaska Department of Transportation and Public Facilities (ADOT&PF). The purpose of the project was to identify current and possible future transportation problems along and across the Egan Drive corridor between Industrial Boulevard and Yandukin Drive and evaluate solutions that safely and efficiently accommodate existing and future travel demands. The recommended improvements balance the competing demands of local trips within the Mendenhall Valley with through trips to or from downtown Juneau. Each has been the subject of extensive public scrutiny and is designed to provide safe and efficient access along and across Egan Drive for all modes of transportation: pedestrians, bicycles, public transit, automobiles, trucks, and commercial vehicles. ADOT&PF will use the results of this study as it undertakes further design and the environmental process consistent with the requirements of the National Environmental Policy Act (NEPA).

This report, prepared by Kittelson & Associates, Inc., in association with CH2M Hill, Cogan Owens Cogan, and Southeast Strategies, documents the preliminary evaluation of the existing and future transportation system, environmental conditions, and socio-economic conditions that guided ADOT&PF in developing its Proposed Action for the corridor. A comprehensive public involvement process helped educate the public about the issues and possible solutions and inform the project team of the key issues and concerns of the public. The functional layouts of alternative transportation systems created during the course of this study attempted to balance the potentially competing demands of local and through trips along and across Egan Drive for all modes of transportation. The resulting Proposed Action and an associated phasing strategy allow improvements to be built over time as funding and transportation needs dictate.

Summary of Activities

The project began January 2002. Concurrent with the technical scope of work was a public involvement plan aimed at involving and informing Juneau citizens in all phases of the project. Of initial importance was to work with a Citizens Advisory Committee (CAC) to develop a set of project goals. These and other activities are summarized in Section 2, Chapter 1 of this report.

The initial analyses focused on assessing existing conditions in the study area. These were transportation (traffic volumes, number of lanes on the roadways, safety history); natural environment (noise, air quality, endangered and threatened species, wetlands); and the built environment (land use, employment, income levels, types of businesses). From these current conditions, a forecast of future traffic was analyzed. The findings from these activities are summarized in Section 2, Chapters 2 and 3 of this report.



Considering the assessment of existing transportation and environmental conditions, the project team prepared a Draft Purpose and Need statement to identify why improvements are needed in the corridor (Section 2, Chapter 4 of this report). These items will be refined and analyzed further as ADOT&PF carries the recommendations from this planning level into the environmental stage (NEPA process).

The Draft Purpose and Need statement led to the development and analysis of several transportation system concepts to address the needs previously identified and evaluated at a qualitative level. After consideration from ADOT&PF, the CAC and the general public, some were eliminated and others modified as subjects for a more detailed evaluation. The summary and evaluations of these early concepts are included in Section 2, Chapter 5 of this report.

Subsequent to the initial brainstorming and evaluation of concepts, the three most viable alternatives were studied. A fourth alternative was added to meet CAC and public concerns. Out of this evaluation came the development of the Department's Proposed Action. Section 2, Chapter 6 of this report documents this refined evaluation and the Department's Proposed Action.

Finally, Section 2, Chapter 7 presents the recommended phasing plan, a series of stand-alone projects, to implement the Department's Proposed Action.

Overview of Issues Considered

Transportation System

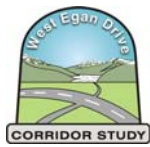
The transportation system within and through the corridor today relies on a single facility (Egan Drive) for most trips through and within the study area. Current congestion at some of the intersections is expected to worsen and expand to other intersections as traffic demand through the Mendenhall Valley continues to grow. Existing pedestrian and bicycle facilities throughout the area are discontinuous. In some cases (e.g. between Fred Meyer and the Valley, and Fred Meyer and the Airport) there are major barriers to non-motorized travel. The safety of the traveling public is a major consideration; some intersections within this corridor have recorded crash rates that rank among the highest in Southeast Alaska. There are also sight distance constraints at some locations that will create other safety issues.

Natural Environment

The natural environment encompasses landforms and geology; hydrology; surface water; fish and wildlife; endangered and threatened or protected species; essential fish habitat; and wetlands. Critical considerations in the development of transportation system solutions in the corridor were preserving the main rivers and creeks (Mendenhall River, Jordan Creek and Duck Creek) for fish habitat and riparian habitat, as well as preserving the wetlands in the vicinity of Mendenhall Loop Road, along Glacier Highway and Shell Simmons Drive, and in the Mendenhall Wetlands State Game Refuge.

Built Environment

The built environment, those elements associated with human activity, includes historic and cultural factors; local government; land use; parks, recreation facilities and refuges; social/socioeconomic conditions; future development plans; air quality; noise; aesthetics; and



solid/hazardous waste. More than 31 percent of the businesses in the City and Borough of Juneau (CBJ) are located within the study area, employing over 3,000 people. Thus, it is imperative that the transportation solutions be sensitive to needs for access circulation within the study area. In addition, while the Mendenhall Valley will likely remain a major employment area in the CBJ, future developments may increase through traffic. Those include the NOAA/NMFS office building and laboratory at Lena Point; Kensington Gold Mine 45 miles north of Juneau; second bridge crossing to Douglas Island; 1,400-acre Cascade Point for residential, marine, and commercial related development; North Douglas Road/West Douglas Development: extended road connections to West Douglas to encourage housing; and a deep-water harbor.

Draft Purpose and Need Statement

The issues outlined above led to the development of a Draft Purpose and Need Statement for the project. These concepts, reviewed and modified by the CAC, served as the principal guide in developing the possible solutions.

Purpose of the Action

The purpose of the improvements in the WEDCOR study area is to improve traffic flow, capacity, efficiency, safety and accessibility for all modes of travel in the study area. More specifically, the changes to the transportation system should:

- Decrease travel time and delay at identified locations,
- Improve the efficiency of local trips on or across Egan Drive as well as traffic traveling through the area along Egan Drive,
- Improve access to and from the Juneau International Airport,
- Improve safety at high accident locations, and
- Improve or add pedestrian and bicycle facilities where needed.

Need for the Action

Capacity and Level of Service assesses how well a roadway or intersection accommodates vehicles within an acceptable range of delay. The needs identified are:

- By the year 2025, unacceptable delay is anticipated at 16 of the 21 intersections in the area. They include every intersection on Egan Drive in the study area: Industrial Boulevard, Vintage Boulevard, Riverside Drive, Mendenhall Loop Road, Glacier Highway (McNugget), and Yandukin Drive.
- The close spacing of traffic signals on Mendenhall Loop Road at Egan Drive and Mendenhall Mall Road/Atlin Drive creates congestion and queuing as well as unsafe weaving conditions.

System Linkage identifies how well Egan Drive serves both regional and local trips in and around the study area.

- While vehicles traveling through the study area along Egan Drive are accommodated adequately now and in the future, it is anticipated that by 2025, local trips leaving,



entering, and crossing Egan Drive will be delayed unduly. This will be created in part by the use of Egan Drive for local trips where other facilities are neither available nor convenient.

- Many local trips within the study area require the use of Egan Drive because no alternatives exist, such as between the Mendenhall Valley and Fred Meyer and between Glacier Highway (North) and Riverside Drive.

Airport Access is critical in the Egan Drive corridor due to the importance of the Juneau International Airport to the regional economy. The study evaluated how well Egan Drive and the surrounding transportation system accommodates the movement of people between and among air, ground, and sea transportation in and around the study area.

- Travel between the Juneau International Airport and other key destinations in the Juneau area (e.g., downtown Juneau, Auke Bay Ferry Terminal) often requires the use of local streets, a factor understood by the residents, but that is not obvious to visitors. The resulting confusion creates unnecessary out-of-direction travel.

Safety needs within the study area as follows:

- The intersections with the highest accident rates are Egan/Vintage; Egan/Mendenhall Loop; Riverside/Vintage/Mendenhall Mall; Mendenhall Loop Road/Mendenhall Mall Road/Atlin Drive; and Egan/Glacier (McNugget). Their accident rates rank among the highest in southeast Alaska.
- Other safety problems include inadequate or marginal sight distance at Egan Drive/Yandukin Street/Glacier Highway (Fred Meyer) and Egan Drive/Industrial Boulevard, as well as poor intersection alignment at Mendenhall Loop Road/Mendenhall Mall Road/Atlin Drive.

Pedestrian and Bicycle Facilities are deficient at a variety of locations:

- The unsignalized intersections on Egan Drive at Vintage Boulevard/Glacier Highway (North) and Yandukin Drive are of particular concern. Additional lanes on Egan to accommodate more vehicles would make access by pedestrians even more difficult unless adequate alternate pedestrian and bicycle facilities are provided.
- Narrow pedestrian bridges are a safety concern on paths along Egan Drive and Mendenhall Loop Road. These are currently being addressed in an ongoing reconstruction project.
- There are many transit stops at unsignalized intersections that are dangerous for pedestrians. Examples are Egan Drive at Industrial Boulevard and on Glacier Highway at Fred Meyer.

Proposed Action

After developing and evaluating a variety of at-grade and grade separated potential solutions and considering valuable input from the project Citizen Advisory Committee (CAC) and the public, ADOT&PF recommends the Department's Proposed Action shown in Figure EX-1. Under this plan, Egan Drive would cross over (be grade-separated from) Riverside Drive, Mendenhall Loop



Road, Glacier Highway (Airport), and Yandukin Drive. Interchanges at each of these locations provide either complete or partial access to and from Egan Drive and the adjacent streets. The concept also includes re-aligning Industrial Boulevard opposite Wildmeadow Lane and installing a traffic signal. The Proposed Action also includes several changes to the existing roadway system, including extending Riverside Drive south to Glacier Highway (North); removing the connection of Glacier Highway (North) to Egan Drive; and extending Lemon Spur Road to Glacier Highway (Airport).

Among the key elements leading to the decision to recommend this alternative as the Department's Proposed Action are the following:

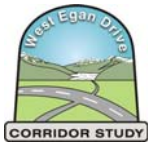
- The CAC and public generally support grade separation as a likely necessity in the long term, even though it changes the character of the area. ADOT&PF thus recommends the development of at-grade interim phases that could function adequately during part of the design life of the plan. This is shown in Section 2, Chapter 7.
- A full interchange at Yandukin Drive and Egan Drive also is considered important. A location east of Fred Meyer would have the least impact while still serving the needs of the area, including the airport.
- The CAC and ADOT&PF agree that although access between Mendenhall Valley and Fred Meyer is important, it should not be at the expense of neighborhoods and wetlands. Therefore, the Lemon Spur extension ends at Glacier Highway (Airport) and a frontage road completes the connection to Mendenhall Loop Road. There are no direct connections to James Boulevard.
- ADOT&PF and the CAC also believe that maintaining full access and improving safety at Industrial Boulevard is needed. To achieve this, it is recommended that Industrial Boulevard be re-aligned west of its current location opposite Wildmeadow Lane and then be signalized. This will facilitate left turns to and from Industrial Boulevard; improve the distance for lane changing that may occur between Industrial Boulevard and Vintage Boulevard; and provide access to potential future development on the north side of Glacier Highway.

The relationship of the Proposed Action to the Draft Purpose and Need Statement is summarized in Table EX 1.



Table EX 1: Proposed Action - Relationships to Purpose & Need

Purpose & Need Item	Description
<p>Capacity and Level of Service</p> <ul style="list-style-type: none"> ○ Minimize travel time and delay along and across Egan Drive for local and through trips. 	<ul style="list-style-type: none"> ○ Grade separation of Egan Drive removes traffic signals for Egan Drive through traffic, virtually eliminating delay for those movements and reducing delay for other movements. ○ All signalized intersections along Egan Drive, including its interchanges, operate at LOS C or better and a volume-to-capacity ratio of 0.90 or better, except for Egan Drive North Ramps/Mendenhall Loop Road (LOS C and 0.92, respectively, during the p.m. peak hour). Off Egan Drive, all signalized intersections operate at LOS C and a volume-to-capacity ratio of 0.90 or better. All key unsignalized intersections operate acceptably or do not warrant additional improvements. ○ Overall system vehicular delay is estimated at 89 vehicle-hours during the a.m. peak and 186 hours during the p.m. peak; 67% and 89% improvements over the no-build alternative.
<p>System Linkage</p> <ul style="list-style-type: none"> ○ Provide non-Egan Drive local access to decrease delay for local trips within the study area. 	<ul style="list-style-type: none"> ○ Local eastbound and westbound access is provided from Lemon Road to Glacier Highway (airport) via a Lemon Spur Road extension to Glacier Highway (Airport). ○ Lemon Spur extension continues with westbound only access to the Mendenhall Loop Road/Egan Drive North Ramp Terminal Intersection. This reduces local trips on Egan from Fred Meyer or the Glacier Highway (Airport) commercial area. ○ Grade-separated crossings of Egan Drive for pedestrians, bicyclists and vehicles at Riverside Drive, Mendenhall Loop Road, Glacier Highway (Airport), and Yandukin Drive are provided. Signalized intersections at the interchange ramp terminals have shorter signal cycle lengths than current signalized intersections along Egan Drive, causing less delay to cross traffic. ○ A new Riverside Drive extension to Glacier Highway (North) provides access into the Glacier Highway (Airport) commercial area from the west side of the Valley without using Egan Drive. Access from Vintage Boulevard to Egan Drive is limited to a right-in-right-out only intersection on the westbound Egan Drive Ramp.
<p>Airport Access</p> <ul style="list-style-type: none"> ○ Provide clear and direct access to Juneau International Airport 	<ul style="list-style-type: none"> ○ Airport access is signed for the full access interchange at Yandukin Drive, providing easy access to Downtown Juneau and to the west.
<p>Safety</p> <ul style="list-style-type: none"> ○ Implement improvements that address safety deficiencies at high accident locations 	<ul style="list-style-type: none"> ○ Frequency and severity of accidents along Egan Drive would substantially decrease with grade-separated interchanges. In addition, the highest-speed through movements on Egan Drive are generally free of right-angle and signal-related conflicts. ○ Sight distance constraints for the movements from Industrial Boulevard onto Egan Drive are eliminated through realignment and signalization; however, the new traffic signal at Wildmeadow Lane may increase rear-end accidents at this location. In addition, the interchange at Egan Drive/Yandukin Drive eliminates existing sight distance deficiencies. ○ Motorists accessing westbound Egan Drive from the Vintage Boulevard on-ramp and traveling to southbound Industrial Boulevard will have a relatively short distance in which to cross two high-speed Egan Drive through lanes.

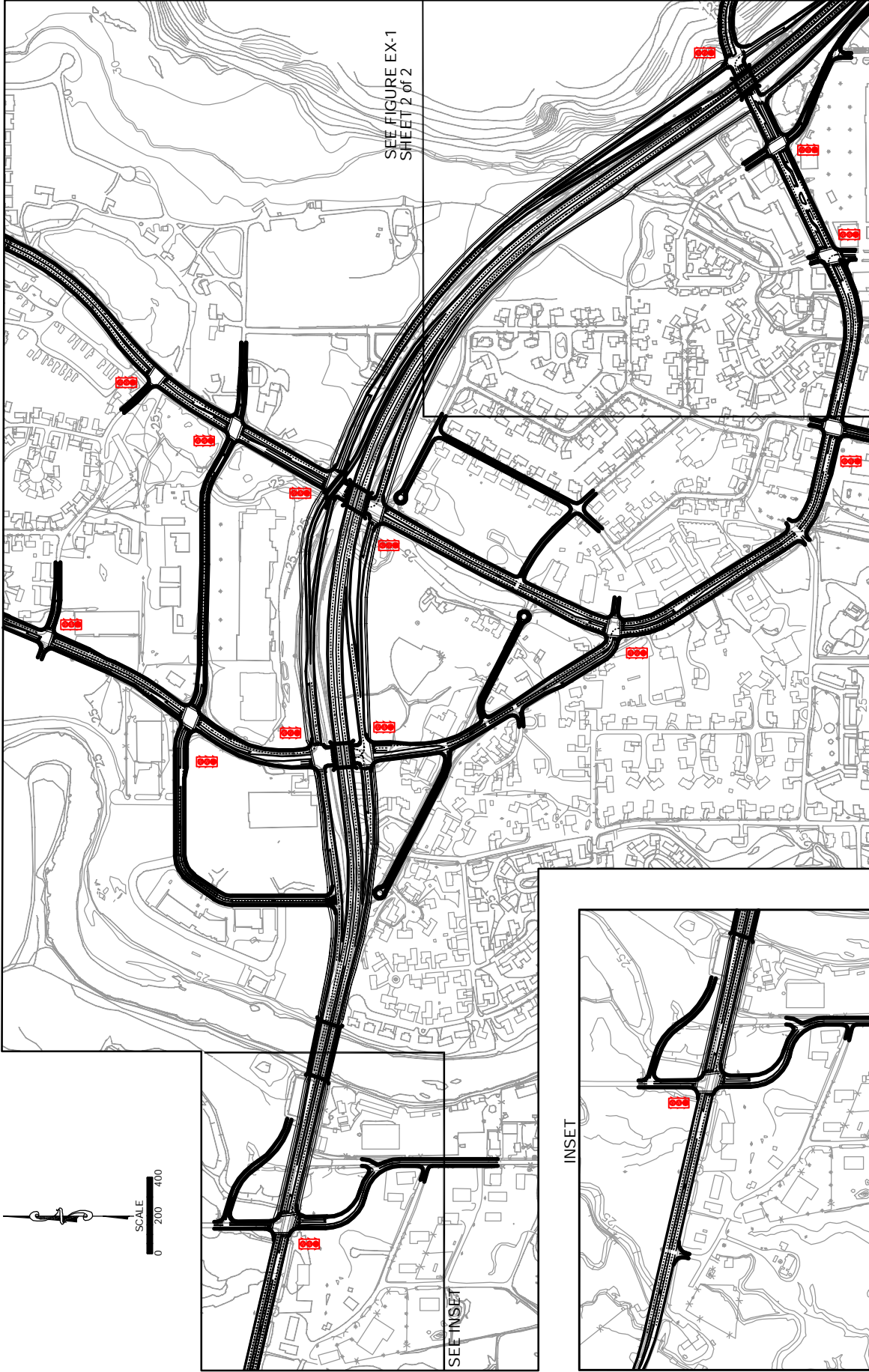


Purpose & Need Item	Description
<p>Pedestrian and Bicycle Facilities</p> <ul style="list-style-type: none"> ○ Develop a transportation system that decreases the barrier effect of Egan Drive; and that provides safe pedestrian and bicycle facilities 	<ul style="list-style-type: none"> ○ No sidewalks or bicycle lanes are provided along Egan Drive except across the Mendenhall River Bridge. Multi-use paths run along the north side of Egan Drive between Vintage Boulevard and Glacier Highway (McNugget) and along the south side between Mendenhall Loop Road Glacier Highway (McNugget). ○ Sidewalks and bicycle lanes are provided on all other improved roads. ○ There are four grade-separated crossings of Egan Drive for pedestrians and bicyclists; Riverside Drive, Mendenhall Loop Road, Glacier Highway (Airport), and Yandukin Drive. The signalized intersections at the interchange ramp terminals have shorter signal cycle lengths than current signalized intersections along Egan Drive, causing less delay to pedestrians and bicyclists. ○ The Egan Drive intersection crossings are narrower than current conditions; however, pedestrians/bicyclists will have to cross two intersections to cross Egan Drive.

Project Report

It is intended that this report be used as a reference document to explain the process and decisions that were made throughout the process, and also to serve as a foundation for the next phases of planning, engineering, design and environmental analysis of improvements to the West Egan Drive Corridor.

Section 2 presents the main activities and findings, and Sections 3 through 10 present the public involvement and technical appendices for each chapter in Section 2.



FUNCTIONAL DESIGN LAYOUT DEPARTMENT'S PROPOSED ACTION

West Egan Drive Corridor Study

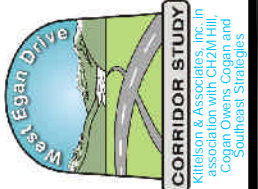
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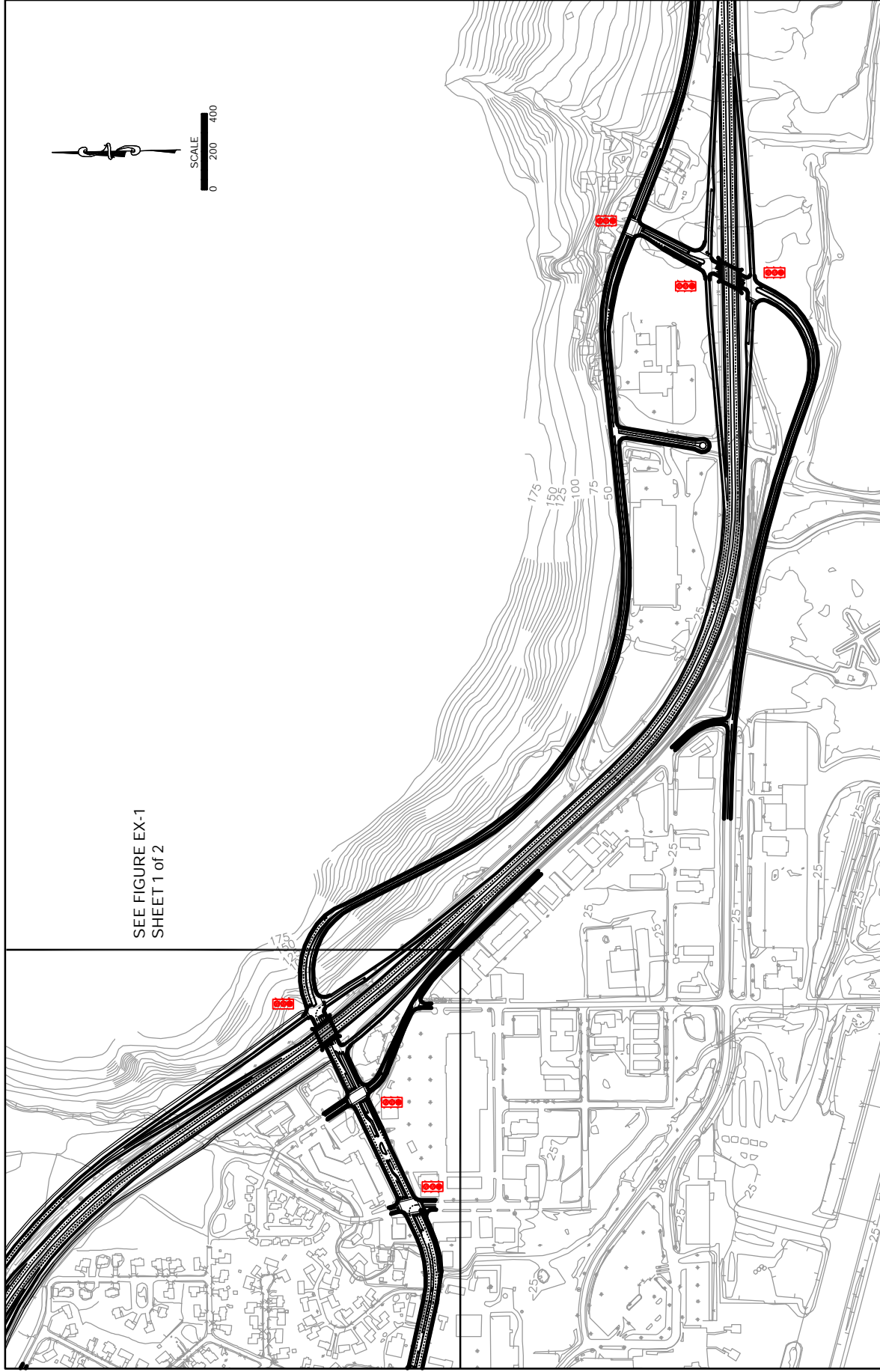
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FUNCTIONAL DESIGN LAYOUT DEPARTMENT'S PROPOSED ACTION

West Egan Drive Corridor Study

FIGURE
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