

WELCOME

Public Meeting Open House taking
place in the Community Room

Room 300



WELCOME

Public Meeting Open House

WELCOME

Stakeholder Meetings taking place
in the Council Chambers

Room 310

DRAFT PURPOSE AND NEED

The project team drafted the following preliminary purpose statement that can be further developed as the study progresses. The intent of this statement is to:



1. Solicit your input to help the project team better understand corridor and intersection issues
2. Use the input to refine the final purpose and need statements to comply with the National Environmental Policy Act (NEPA)

PROJECT PURPOSE:

To improve traffic operations and geometric performance of the Exit 133 interchange and U.S. 14B between its intersection with 22nd Avenue and U.S. 14

PROJECT GOALS:

Desired project outcomes beyond the transportation issues identified in the Purpose and Need and balance environmental and transportation values

- 1) Accommodation of Longer Combination Trucks (LCVs)
- 2) Accommodation of City of Brookings Bicycle Master Plan
- 3) Compatibility with Intelligent Transportation Systems

PROJECT NEEDS:

The primary “drivers” of the project and reflect the fundamental reasons why the project is being pursued

- **Traffic operations:** Forecasted traffic volumes indicate capacity needs at the Exit 133 interchange and along the U.S. 14 Bypass through the 2050 Planning Horizon. The identified need from the planning process is a capacity deficiency, requiring that the Exit 133 interchange operate at least LOS “C” and other U.S. 14 Bypass intersections operate at least LOS “D”. The expected 2050 traffic volumes will cause intersection operations to exceed these values.
- **Geometric performance:** Existing Exit 133 geometric elements, including minimum radii, maximum degree of curvature, minimum right/left shoulder width, and inslope support improvements to meet current SDDOT Road Design Manual guidelines. Bridge function is also hindered due to the narrow width of the existing structure, which restricts full development of left turn lanes at ramp terminal intersections.
- **U.S. 14B structure condition:** According to the Structure Inventory and Appraisal report (SIA) completed in 2022, the bridge’s superstructure, substructure, deck, structure approach and bridge post are rated a “Fair” condition, meaning they are structurally sound but have minor section loss. The SIA also indicated that the structure is of substandard width and has substandard lateral clearance. The substandard width will also impact traffic operations as proper turn lanes currently cannot be incorporated on the structure, particularly for truck traffic.

The SIA recommends structure replacement due to age, girder condition, overlay, substandard geometrics, and that the structure is near end of its useful life.

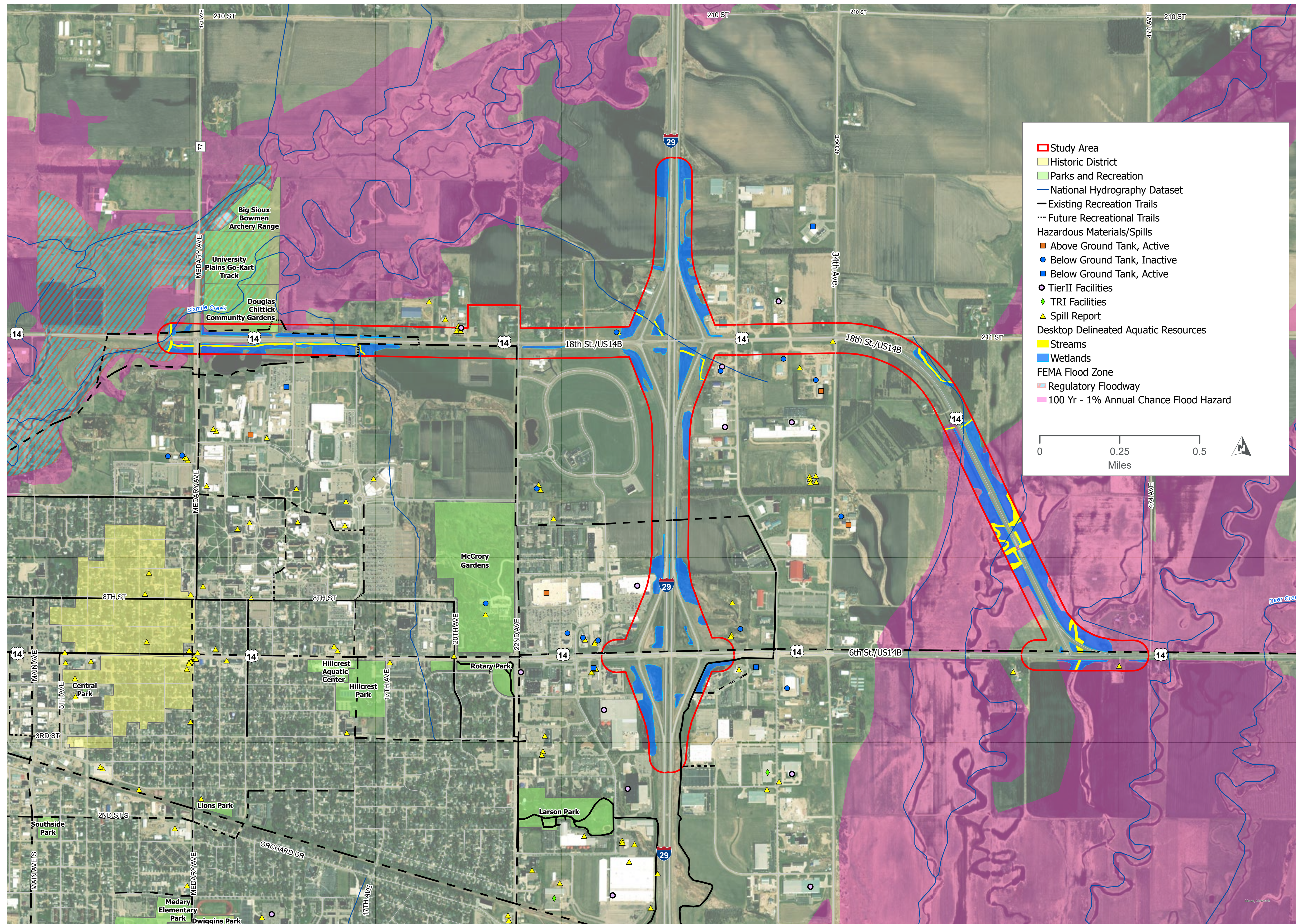
INTERSTATE

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I-29 | Exit 133

Interchange Modification Study

ENVIRONMENTAL CONSIDERATIONS

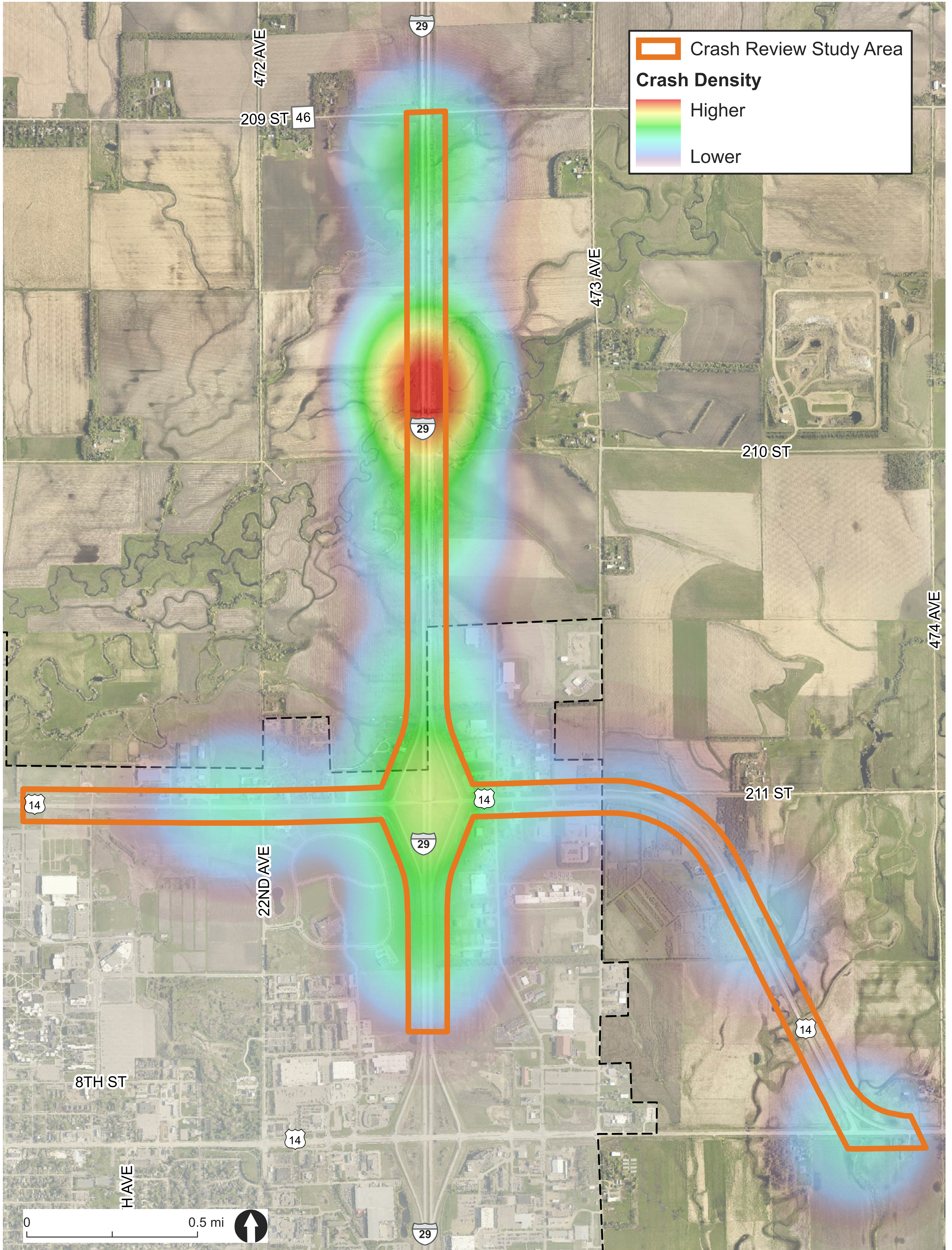




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Interchange Modification Study

CRASH DENSITY (2017-2021)

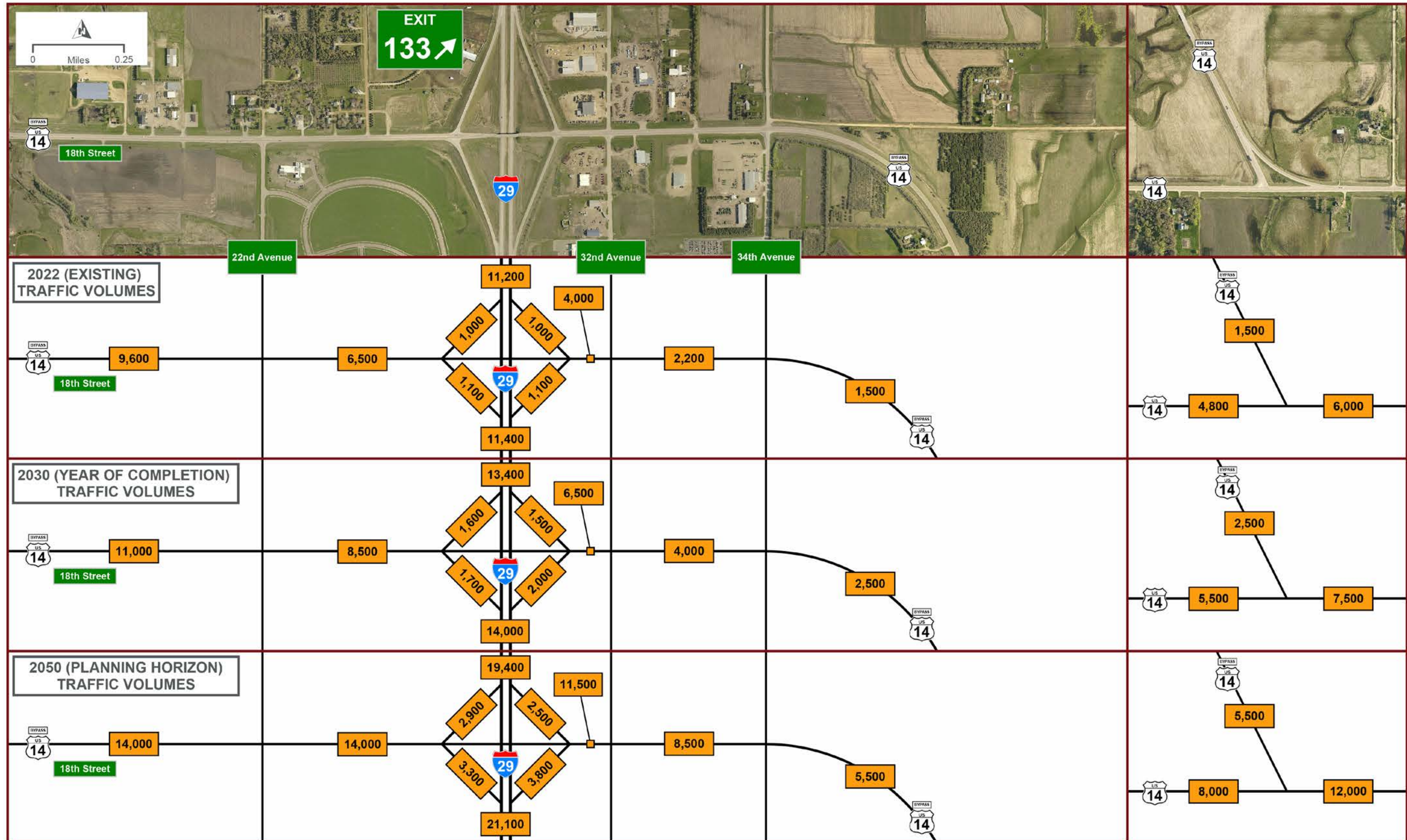




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DAILY TRAFFIC VOLUMES

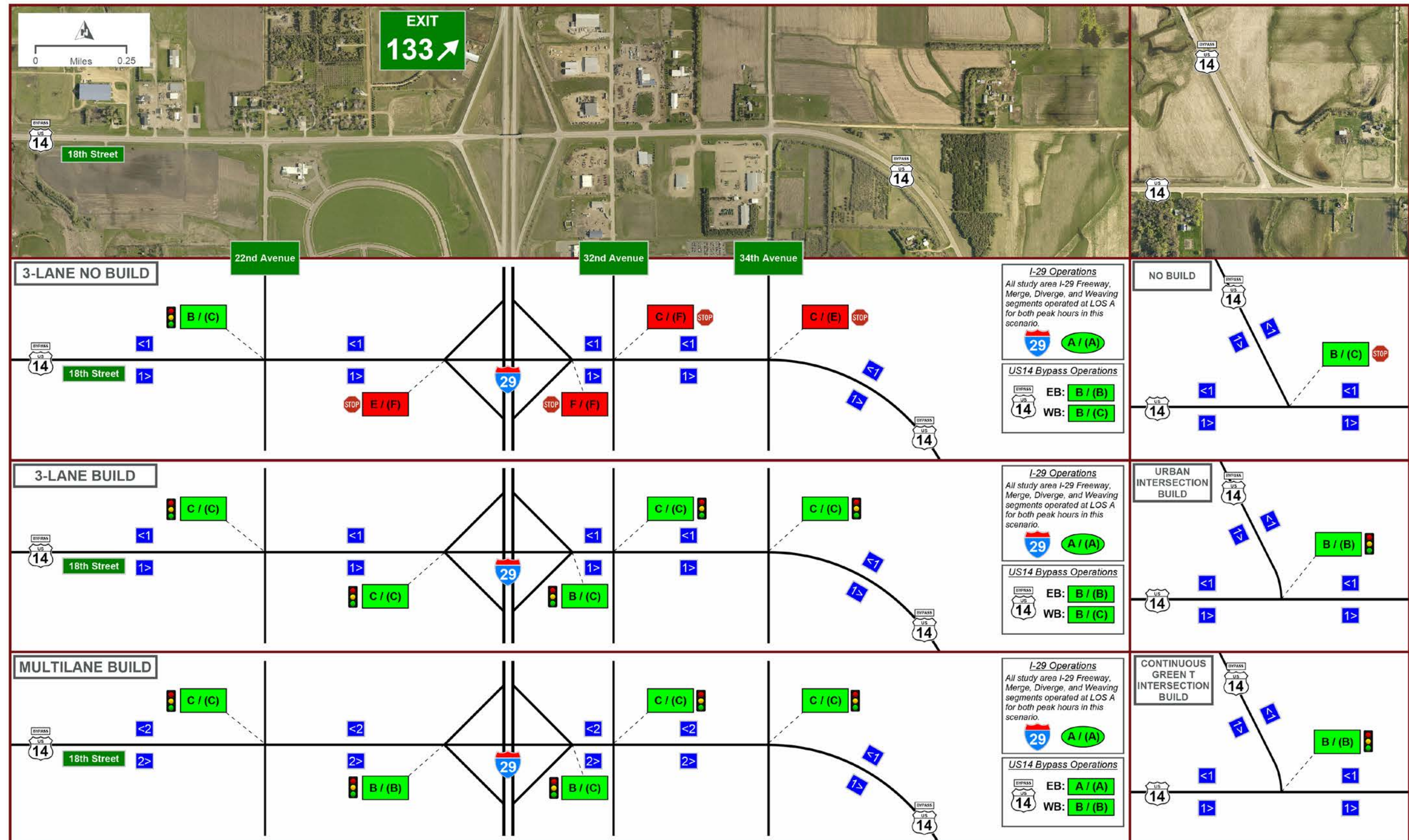




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2050 TRAFFIC OPERATIONS



U.S. 14 BYPASS TYPICAL SECTIONS

3-Lane Section



4-Lane (Multilane) Divided Section





I-29 EXIT 133 INTERCHANGE

ALTERNATIVE				2050 PLANNING HORIZON TRAFFIC OPERATIONS			PREDICTED SAFETY (2030-2050)		ROW AND COSTS	
	Exit 133	U.S. 14 Bypass		Interchange LOS	SB RTI LOS	NB RTI LOS	Fatal & Injury Crashes	Total Crashes	ROW Acquisition	Construction + ROW + Contingency Costs
Alt	Interchange Type	No. of Lanes on Bridge	No. of Lanes East and West of Interchange	AM / PM	AM / PM	AM / PM	% Increase (+) or Decrease (-) from No Build	% Increase (+) or Decrease (-) from No Build	Acres	\$M
I-1	Modified Diamond	3	3	C / C	C / C	B / C	-3%	-3%	0	\$12.5
I-2	Modified Diamond	3	Multilane	C / C	C / C	B / C	0%	+1%	0	\$13.5
I-3	Modified Diamond	Multilane	Multilane	B / C	B / B	B / C	-3%	-5%	0	\$16.5
NB	No Build	2	3	E / F	E / F	F / F	Baseline (65)	Baseline (185)	0	0

U.S. 14 BYPASS CORRIDOR

ALTERNATIVE				2050 PLANNING HORIZON TRAFFIC OPERATIONS			PREDICTED SAFETY (2030-2050)		ROW AND COSTS	
	U.S. 14 Bypass			Facility LOS	22 nd Avenue Intersection LOS	32 nd Avenue and 34 th Avenue Intersection LOS	Fatal & Injury Crashes	Total Crashes	ROW Acquisition	Construction + ROW + Contingency Costs
Alt	Corridor Type	Intersection Improvements?	Segment Location	AM / PM	AM / PM	AM / PM	% Increase (+) or Decrease (-) from No Build	% Increase (+) or Decrease (-) from No Build	Acres	\$M
W-1	Existing 3-Lane	Yes	West of interchange	B / C	C / C	-	-15%	-17%	1.0	\$3.8
E-1		Yes	East of interchange		-	C / C	-9%	-2%	1.2	\$2.5
W-2	Multilane Hybrid	Yes	West of interchange	A / B	C / C	-	-32%	-32%	0.8	\$9.5
W-3	IV Lane Divided	Yes	West of interchange		C / C	-	-42%	-42%	1.5	\$13.0
E-2	IV Lane Divided	Yes	East of interchange		-	C / C	-37% to -50%	-34% to -45%	0.1 to 1.4	\$3.7 to \$5.6
NB (W)	No Build	No	West of interchange	B / C	B / C	-	Baseline (92)	Baseline (281)	0	0
NB (E)		No	East of interchange		-	C / E-F	Baseline (46)	Baseline (122)	0	0

U.S. 14 & U.S. 14 BYPASS INTERSECTION

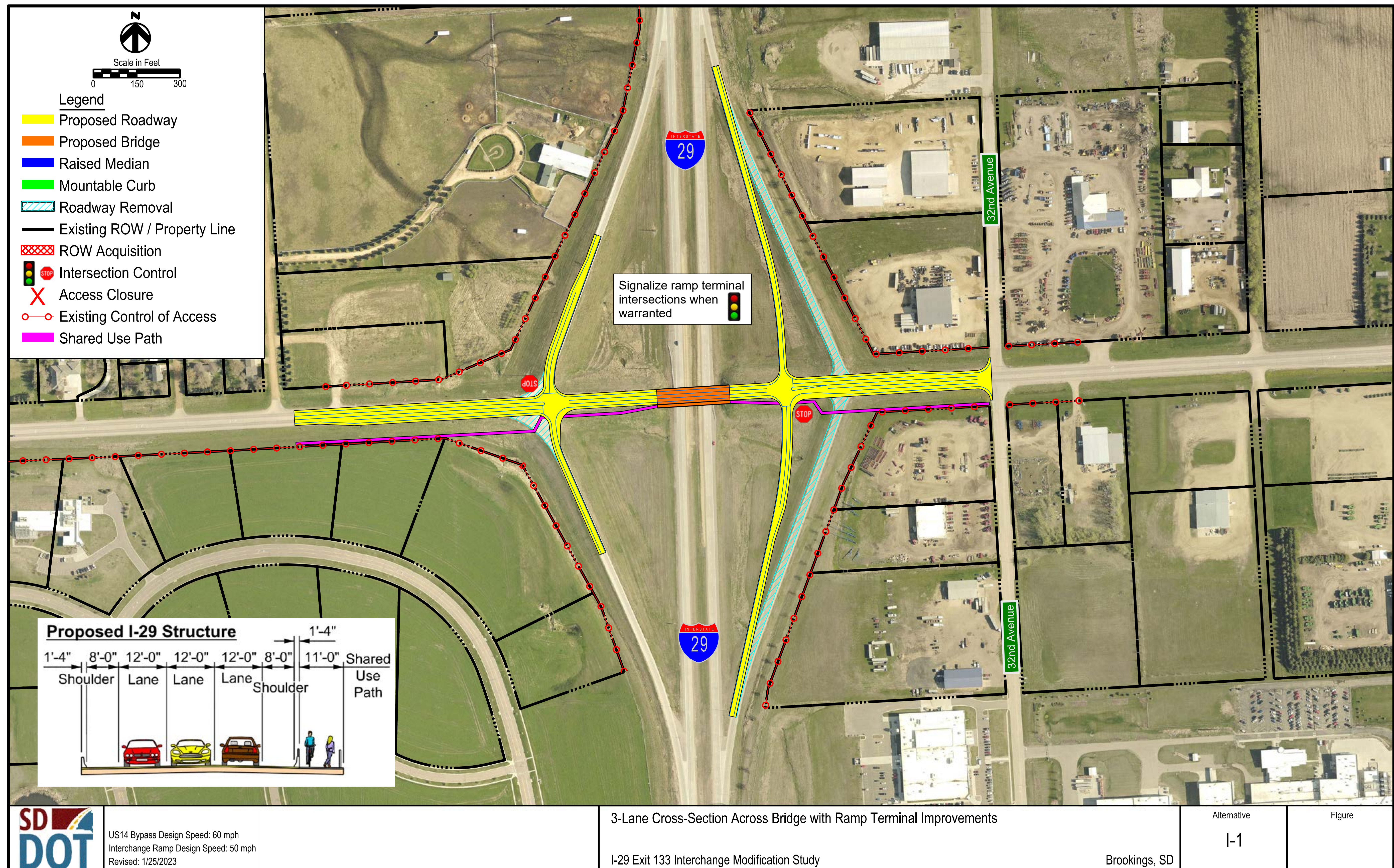
ALTERNATIVE		2050 PLANNING HORIZON TRAFFIC OPERATIONS	PREDICTED SAFETY (2030-2050)		ROW AND COSTS	
		Intersection LOS	Fatal & Injury Crashes	Total Crashes	ROW Acquisition	Construction + ROW + Contingency Costs
Alt	Intersection Type	AM / PM	% Increase (+) or Decrease (-) from No Build	% Increase (+) or Decrease (-) from No Build	Acres	\$M
US14-1	Urban Intersection	B / B	-15%	-18%	0.1	\$2.2
US14-2	Continuous Green T	B / B	-15%	-18%	0.1	\$6.1
NB	No Build	B / C	Baseline (27)	Baseline (97)	0	0



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I-29 EXIT 133 INTERCHANGE

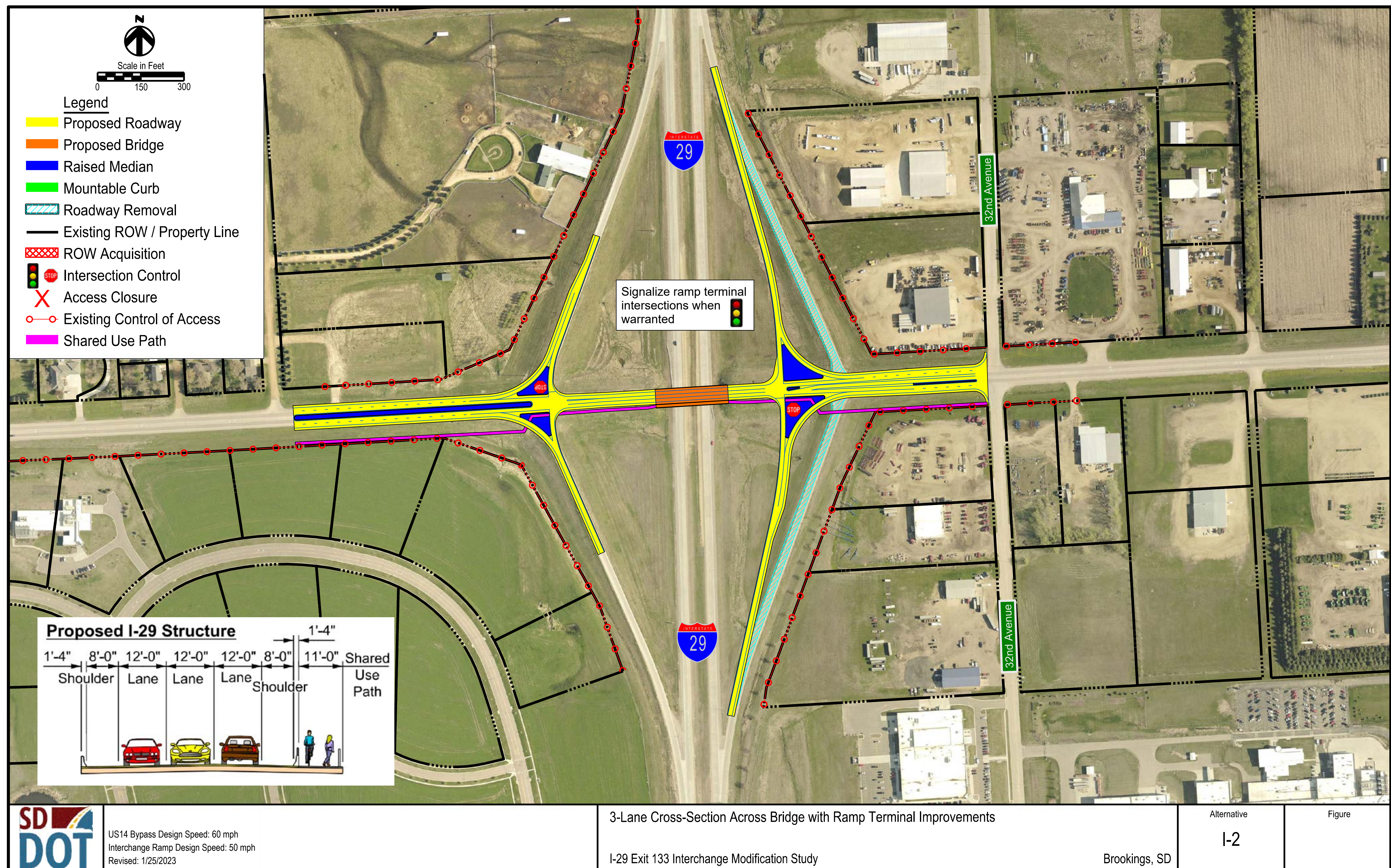




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I-29 EXIT 133 INTERCHANGE

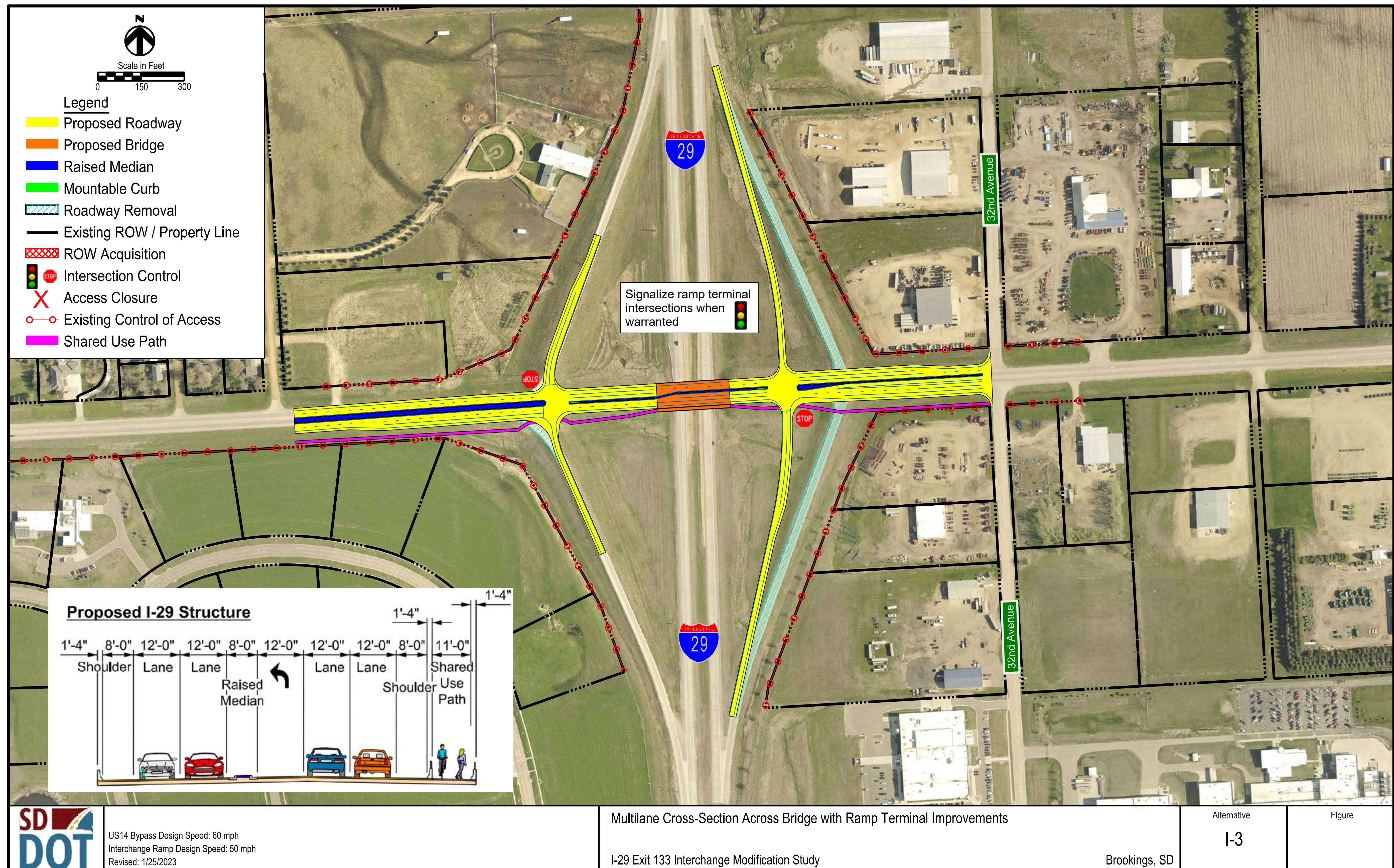




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I-29 EXIT 133 INTERCHANGE

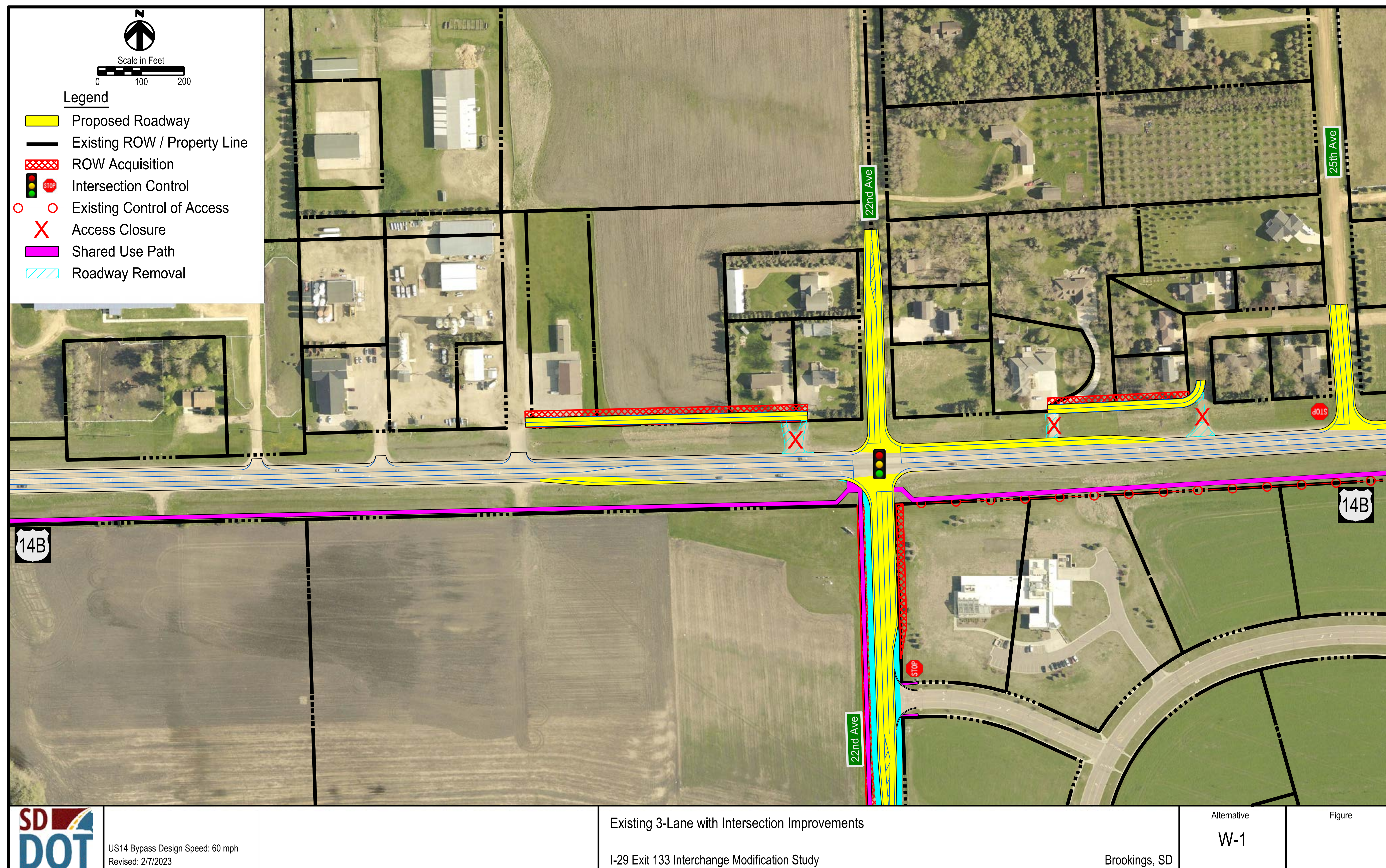




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U.S. 14 BYPASS (WEST)

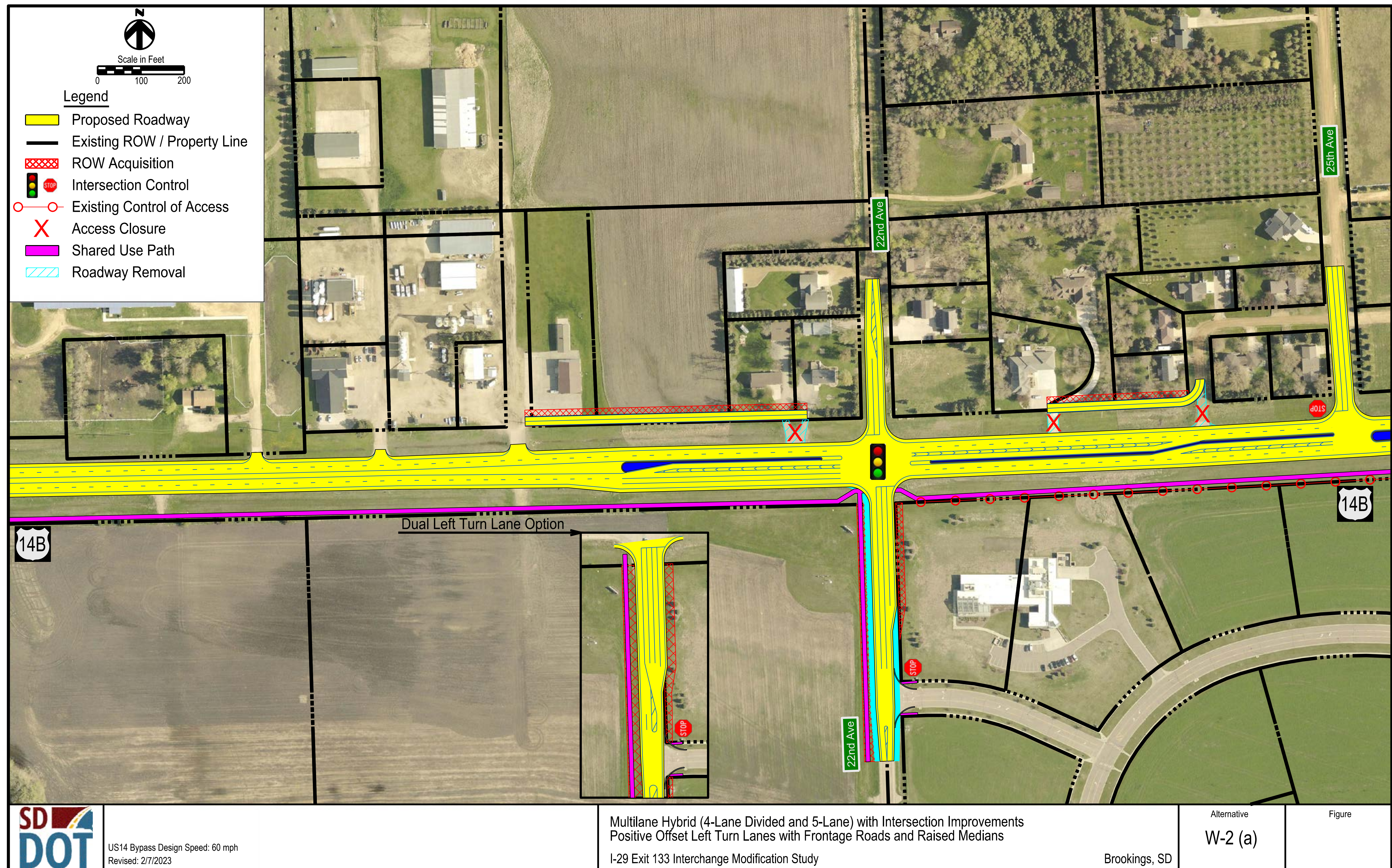




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Interchange Modification Study

U.S. 14 BYPASS (WEST)

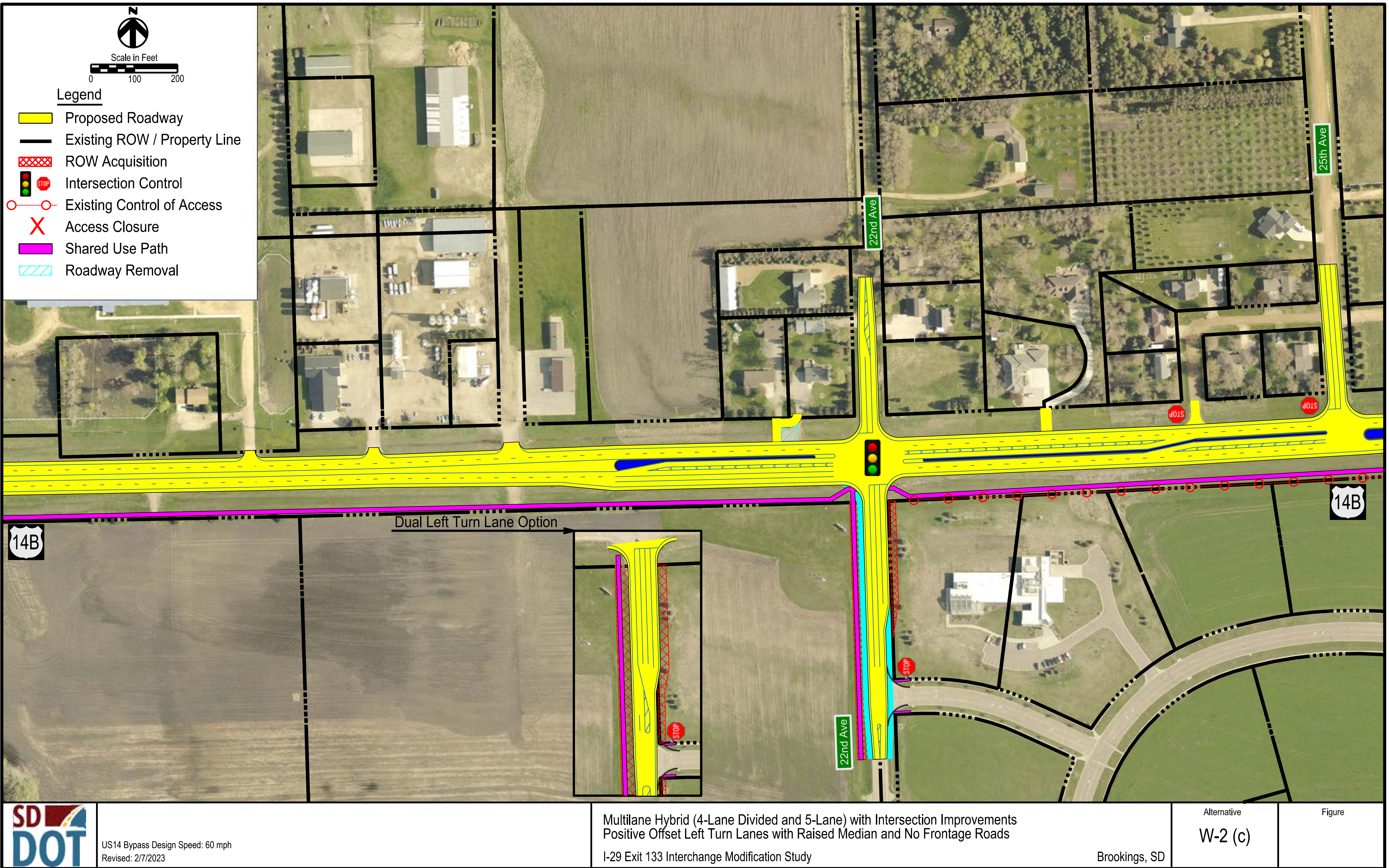
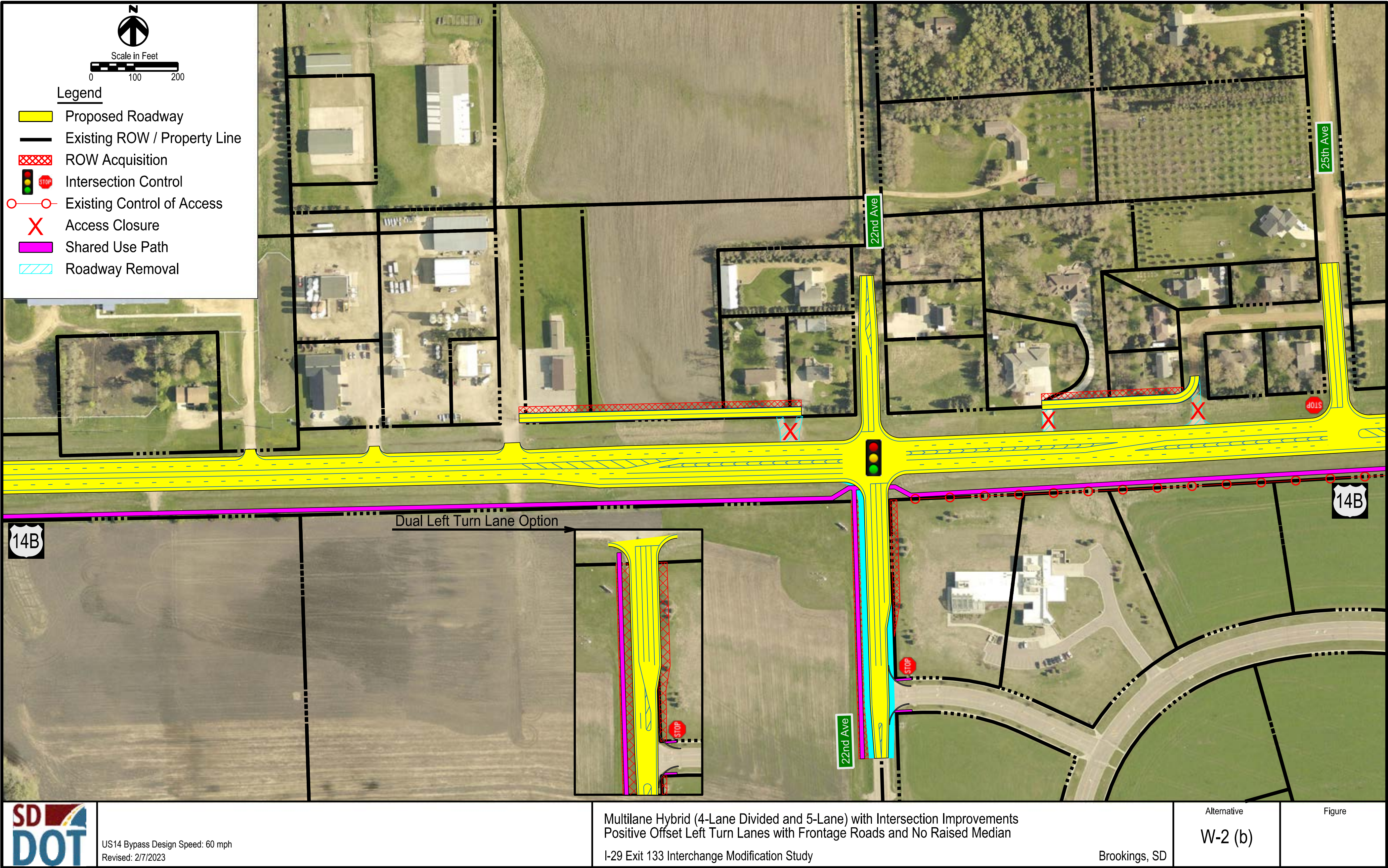




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Interchange Modification Study

U.S. 14 BYPASS (WEST)

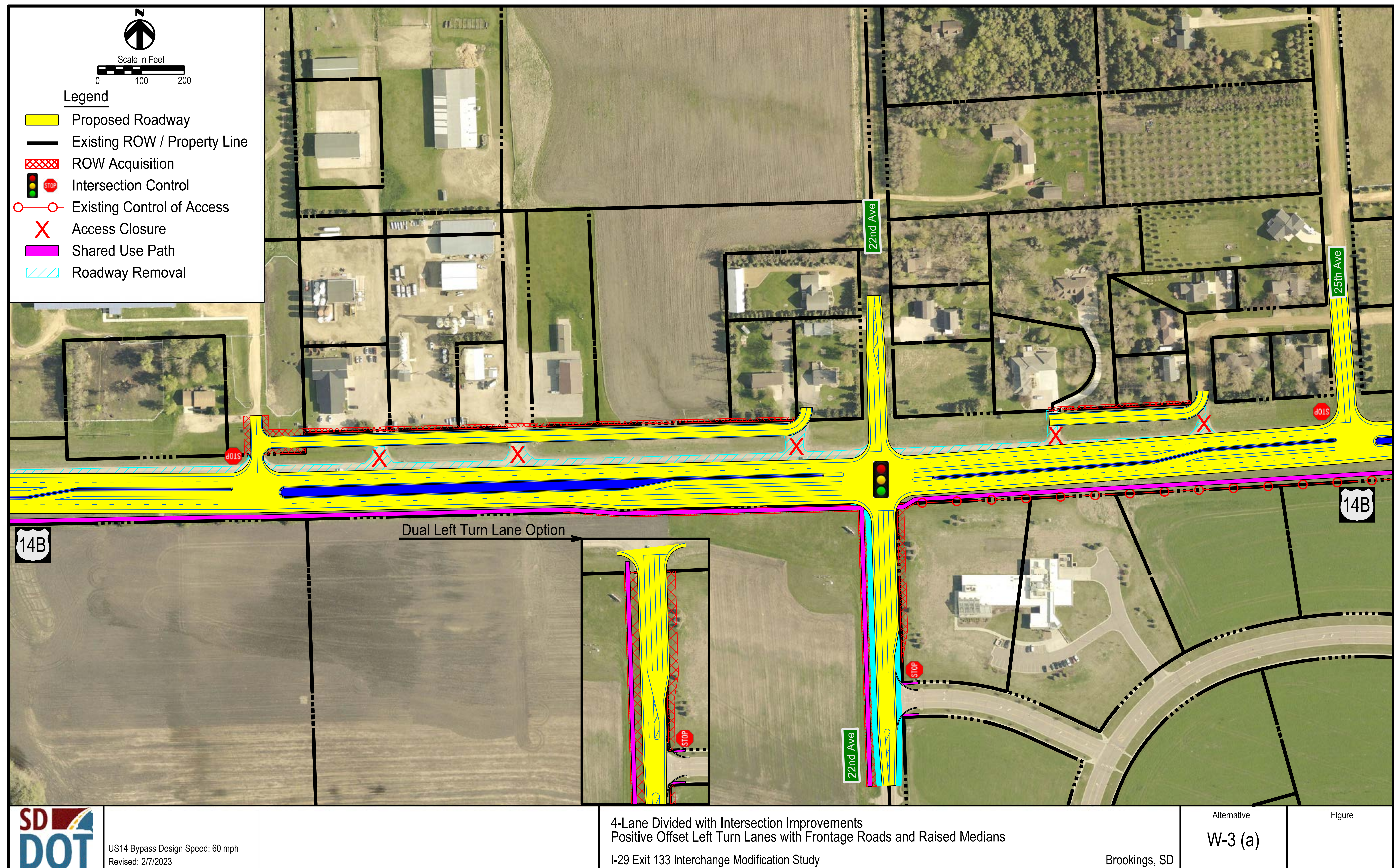




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U.S. 14 BYPASS (WEST)

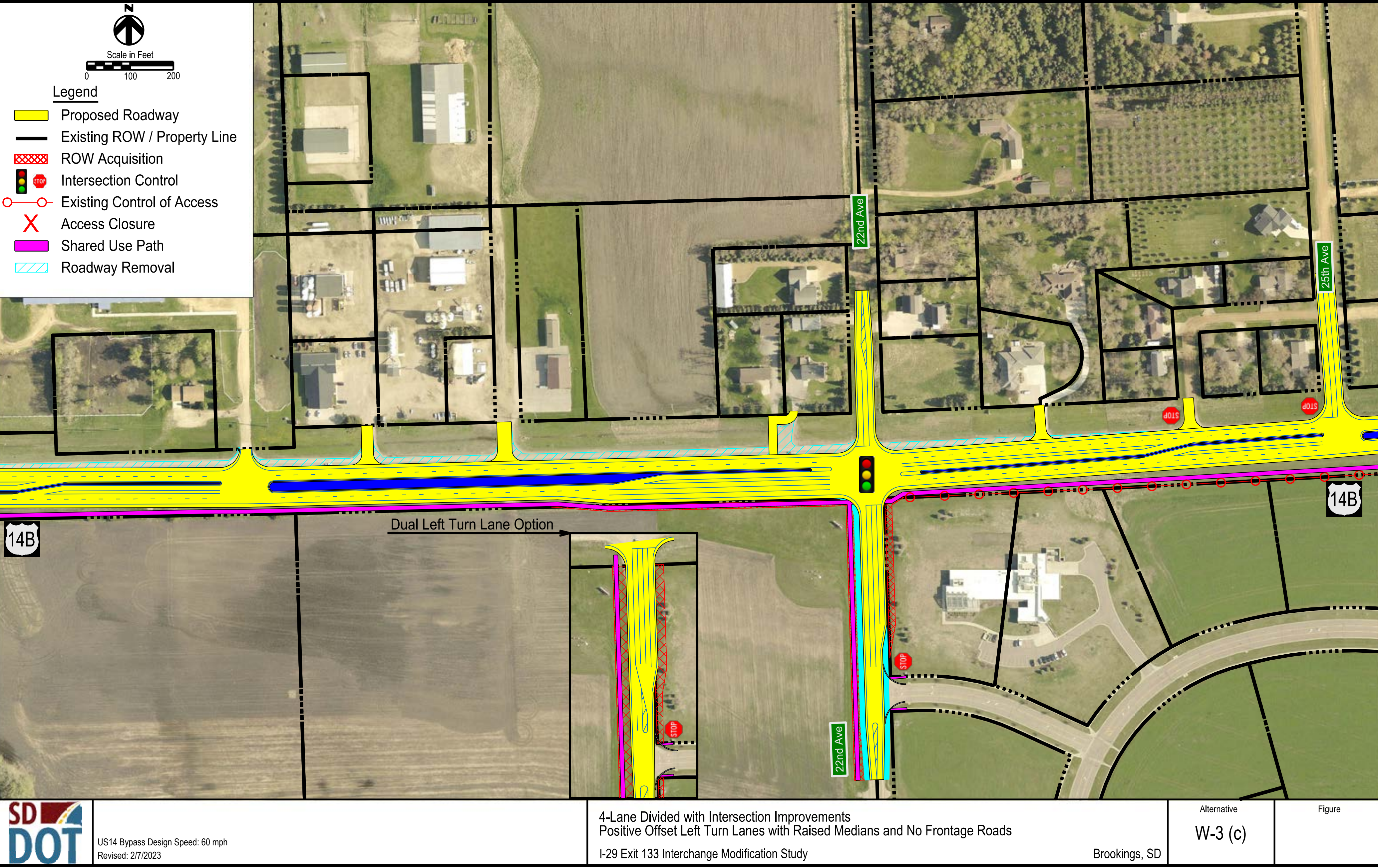
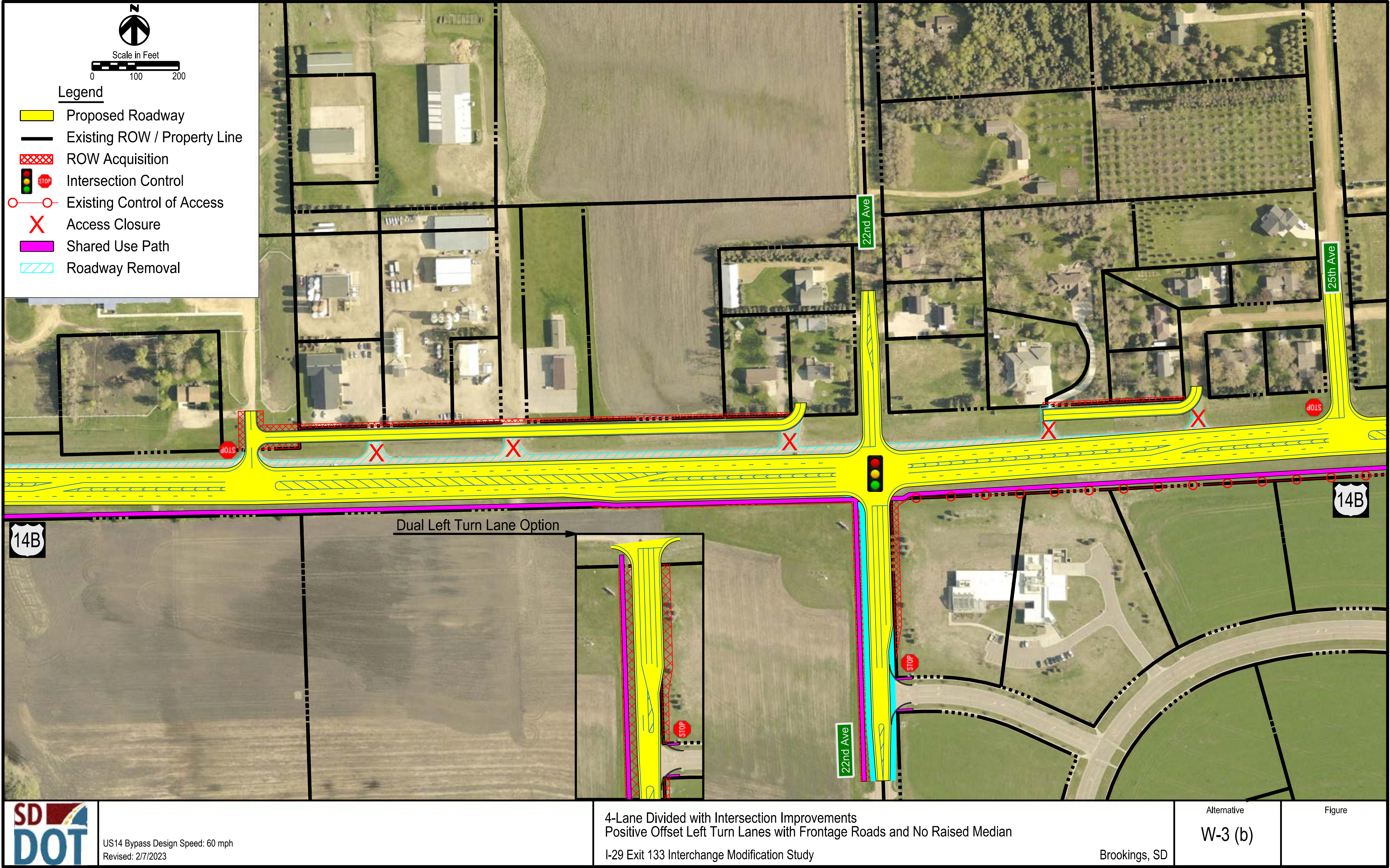




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U.S. 14 BYPASS (WEST)

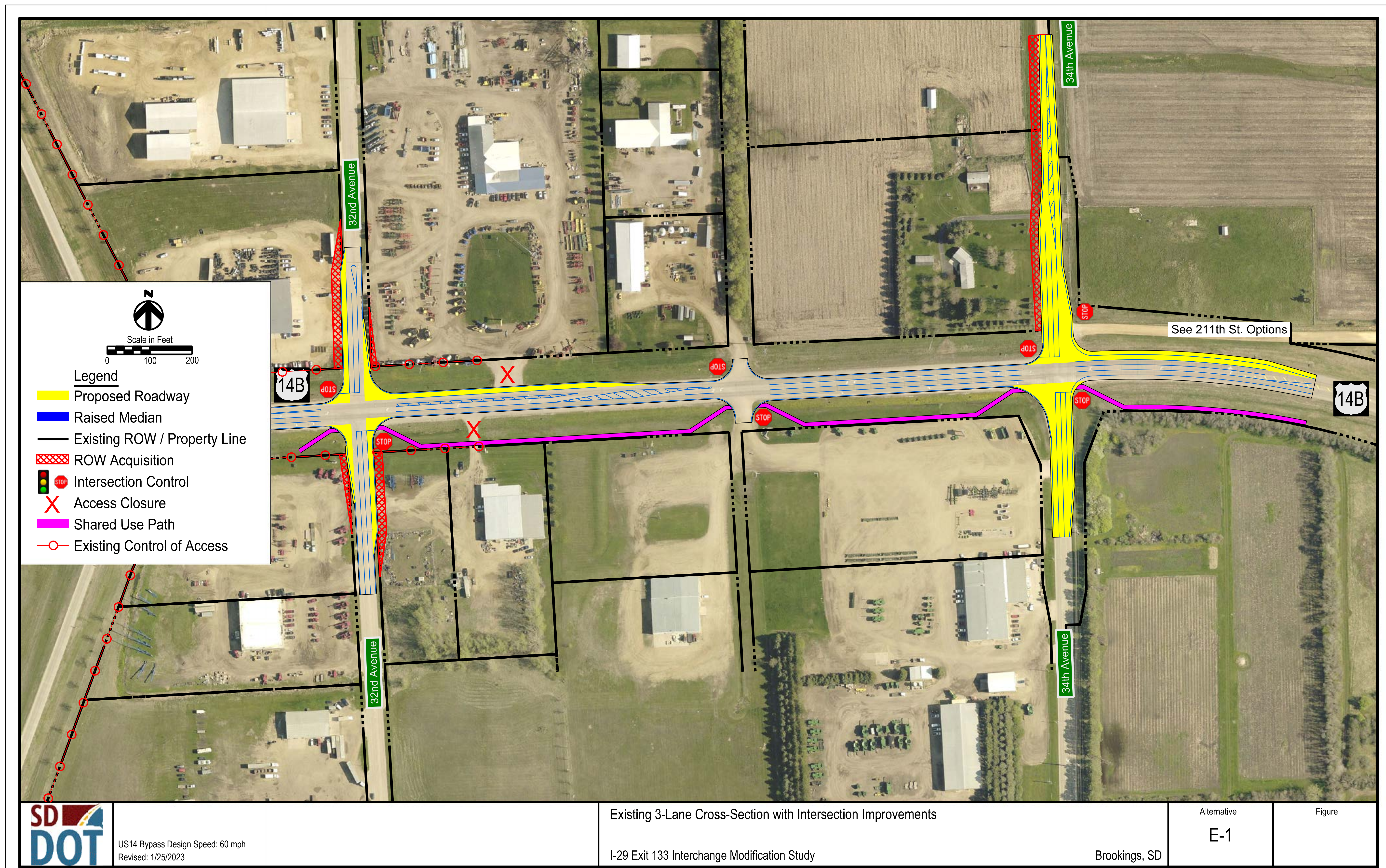




I-29 | Exit 133

Interchange Modification Study

U.S. 14 BYPASS (EAST)

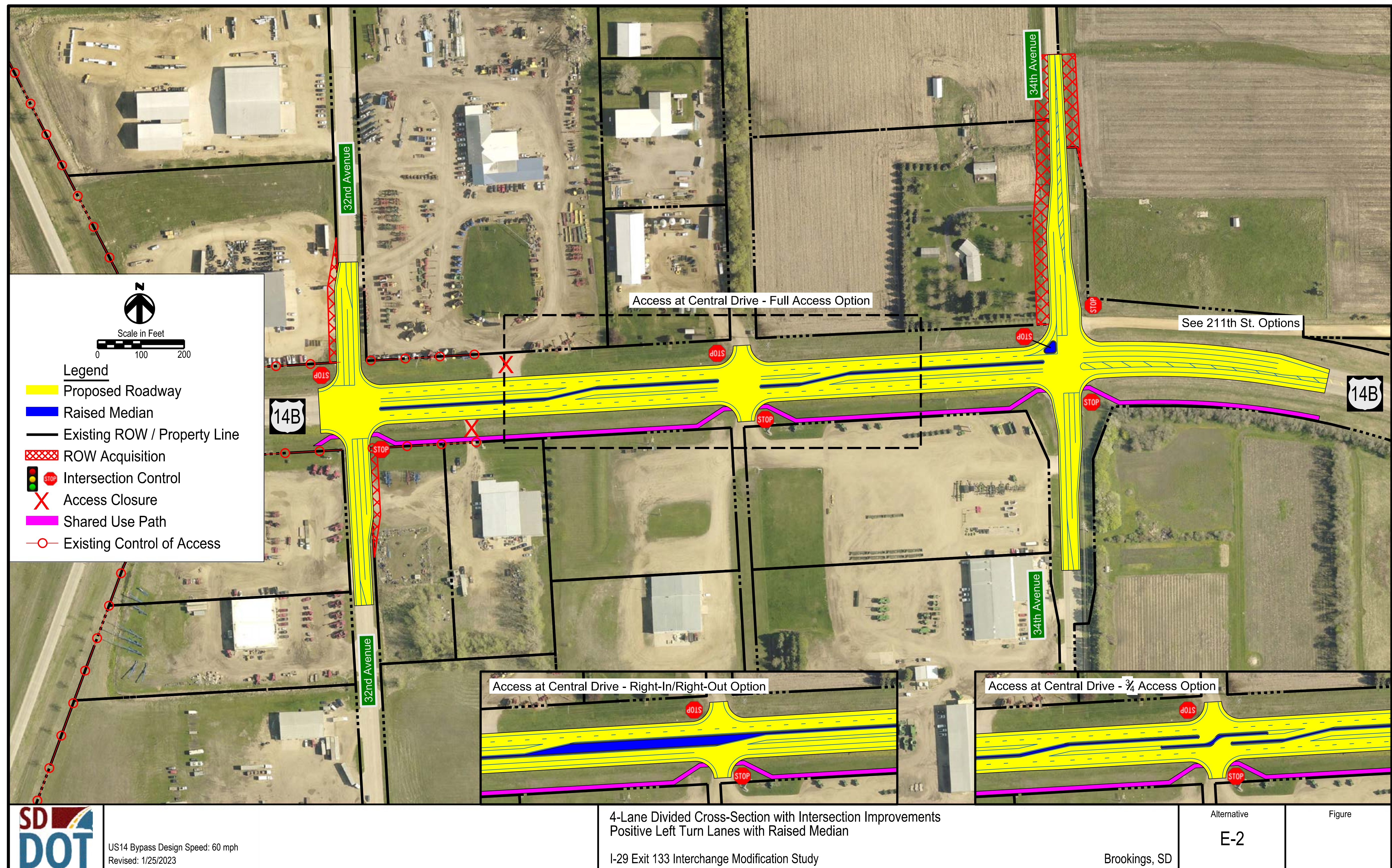




I-29 | Exit 133

Interchange Modification Study

U.S. 14 BYPASS (EAST)





I-29 | Exit 133

Interchange Modification Study

U.S. 14 BYPASS (EAST)

